

ASARCO EL PASO COPPER SMELTER PHASE II REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS

Prepared For:

ASARCO

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JUL 10 2000

REMEDIAL ACTION DIVISION
Corrective Action Section

Prepared By:



Hydrometrics, Inc.®

consulting scientists, engineers and contractors



VOLUME
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APPENDIX J

SOIL AND GROUNDWATER DATA VALIDATION REPORTS

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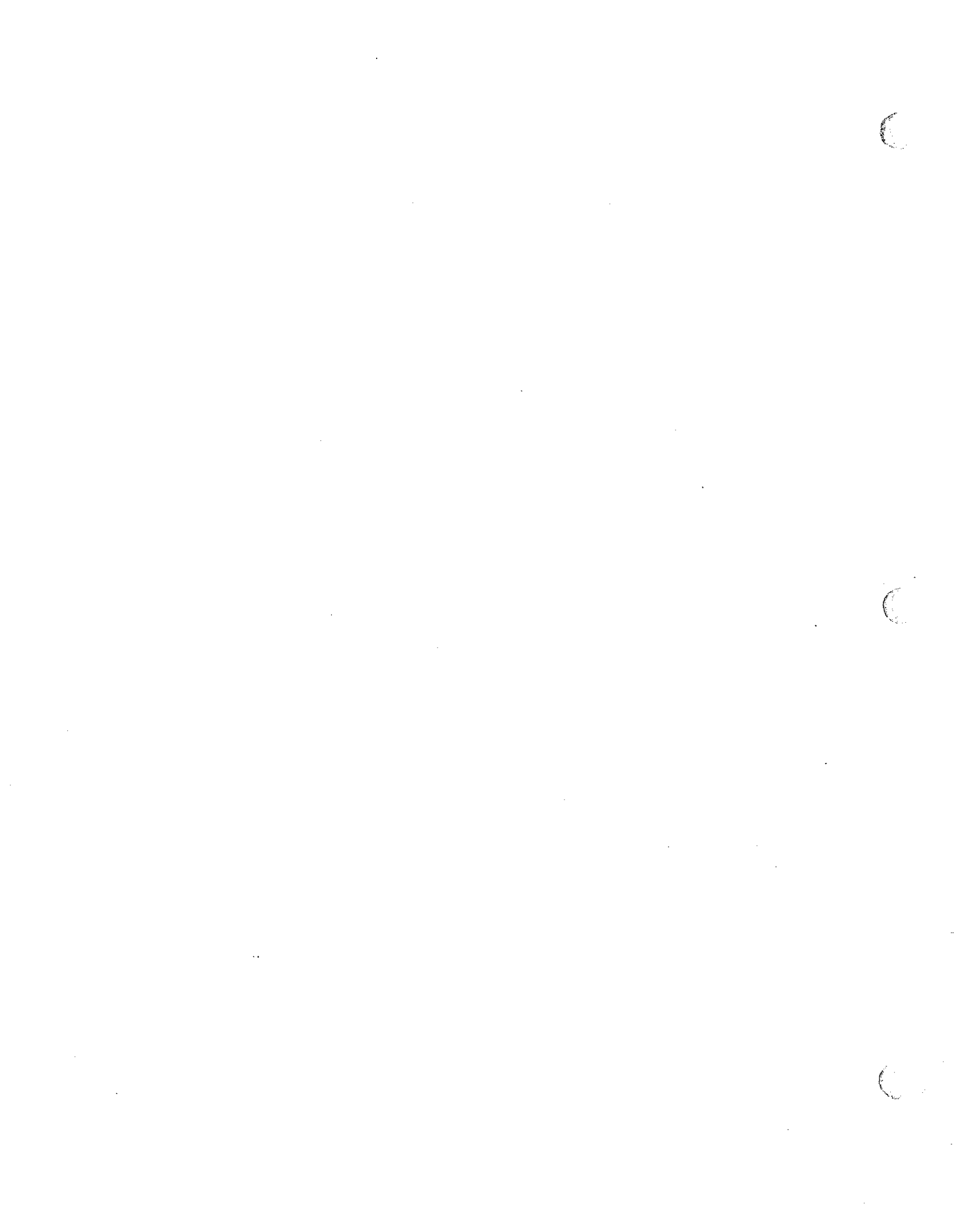
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APPENDIX J

SOIL AND GROUNDWATER DATA VALIDATION REPORTS

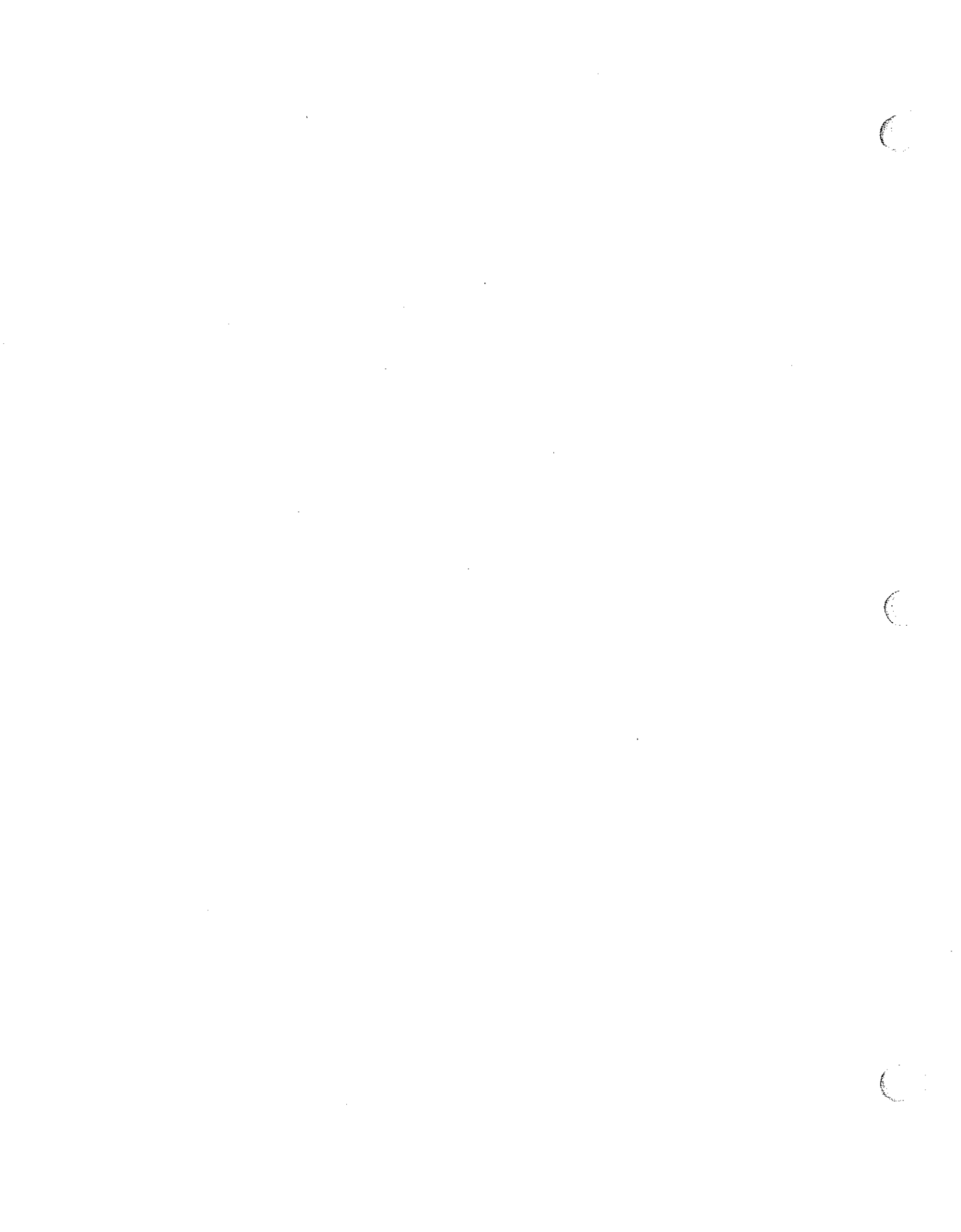


APPENDIX J

SOIL AND GROUNDWATER DATA VALIDATION REPORTS

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SECTION J-1

REMEDIAL INVESTIGATION WATER SAMPLES

SUMMER 1998

DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
SUMMER 1998

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November 1998

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GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP.....	Contract Laboratory Program
CRDL	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA	Graphite Furnace Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB	Initial Calibration Blank
ICP.....	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS.....	Laboratory Control Sample
MSA	Method of Standard Additions
PB	Preparation Blank
PRDL.....	Project Required Detection Limit
QAPP.....	Quality Assurance Project Plan
QC	Quality Control
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SOW	Statement of Work
TDS	Total Dissolved Solids

SUMMARY

This report covers groundwater samples collected during August 1998 for the Asarco El Paso Copper Smelter Remediation Investigation. This validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996), which are consistent with those given in the EPA's National Functional Guidelines for Inorganic Data Review (February 1994). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes a summary of flagged data (Table 2). Where there are 3 or more existing data points, a statistical historical comparison has been done. A summary of the historical comparison is in Appendix 1, Table 3. The validated database for this data set is in Appendix 2.

Field Quality Control Violations (discussion of these points will be found in Section 3):

⇒ As in the previous sampling events for this project, the required frequency for field quality control samples was not met for the August monitoring event.

- Twelve field duplicates were required, and only five were submitted.
- Twelve field blanks were required, and only one was submitted.

⇒ Flagging information is listed below:

- The field SC results from EM-4 and EP-7 were rejected. This is discussed in Section 10.
- Chloride (1.2 ppm) and TDS (19 ppm) were detected in the field blank submitted on 8/10/98. There were no flags.
- The field duplicate submitted on 8/12/98 was out of control limits for fluoride. Sixteen associated fluoride results were flagged to indicate a possible lack of reproducibility.
- The field duplicate submitted on 8/11/98 was out of control limits for carbonate. Four associated carbonate results were flagged to indicate a possible lack of reproducibility.

Given the failure to meet the required frequency of field quality control samples, it was not possible to evaluate the precision and accuracy of the data as set out in the project work plan. With the exception of two field SC results, however, the Asarco El Paso Copper Smelter Remedial Investigation water results for the August 1998 monitoring are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution.

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to inorganic analytes from 66 groundwater and 15 surface water samples collected during May of 1998 for the Asarco El Paso Copper Smelter Remedial Investigation.

- The total number of samples included one DI blank, two surface water field duplicates, and three groundwater field duplicates.
- No sample was collected at site EP-87 because it was dry.
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-25 or at EP-49.

- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other

- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual

Notes: The validation consisted of a visual check of lab and field data, a check of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
 - Yes
 - No

- Field measurements and field documentation were complete.
 - Yes
 - No

At EP-25 and EP-49, the following field parameters were not measured: pH (at EP-25), SC, dissolved oxygen, and water temperature. The sampler noted that there was heavy diesel in the well, and the above measurements were not taken for fear of damaging the probe.

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are 1 field blank (DI) and one field duplicate per day or per 20 samples, **whichever is more frequent**.

- **Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes

No

Notes: One field blank was submitted with the August 1998 samples. Samples for this monitoring event were collected on twelve different days, so twelve blanks were required.

A total of 80 samples plus one blank were collected. The blank and 8 other samples were collected on 8/10/98. Overall, 90% of the samples were not associated with a field blank.

The almost total lack of field blanks makes it impossible to evaluate the accuracy of low concentration results as was specified in the project work plan.

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified.

Yes

No

Notes: Both chloride (1.2 ppm) and TDS (16 ppm) were detected in the blank. All associated results were greater than 5 times the blank concentrations, so there were no flags.

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes

No

Notes: Samples were collected on twelve different days. The project work plan requires at least one field duplicate per day. Field duplicates were submitted on only five of the twelve sampling days. The field duplicates are listed in the following table:

<u>Site</u>	<u>Sample Number</u>	<u>Date</u>	<u>Number of Non-QC Samples</u>
EP-59	EPRI-9808-124/ 184	8/10/98	7
SEP-3	EPRI-9808-163/ 181	8/11/98	3
EP-52	EPRI-9808-176/ 182	8/12/98	7
EP-85	EPRI-9808-150/ 180	8/19/98	9
SEP-13	EPRI-9808-170/ 179	8/20/98	5

No results were flagged for the failure to meet the quality control sample frequency required by the project work plan. However, for the seven sampling days for which field duplicates were not submitted to the laboratory, it is not possible to assess the reproducibility of sample results as specified in the project work plan. Fifty-seven percent of non-QC samples were not covered by field duplicates.

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes
 No

Notes: Field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility.

- Fluoride results from samples collected on 8/12 and 8/13 were flagged.
- Carbonate results from samples collected on 8/11/98.

Sample Number/ Dup	Site	Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9808-176/ 182	EP-52	Fluoride	6.4	4.8	29% RPD	16
EPRI-9808-163/ 181	SEP-3	Carbonate	7	5	> \pm 1 ppm	4

Flagging: J₄/UJ₄

4. LABORATORY PROCEDURES

- **Laboratory procedures followed :**
 - CLP-SOW
 - SW-846
 - Methods for Chemical Analysis of Water and Wastes
 - XRF Standard Operating Procedures
- **Holding times met**
 - Yes
 - No

- **Consistency with project requirements**
Analyses were carried out as requested.
 Yes
 No

Project specified methods were used.
 Yes
 No

5. DETECTION LIMITS

- Reporting detection limits met project required detection limits (PRDLs).
 Yes
 No

Notes: The PRDL for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

- Instrument detection limits (IDLs) were provided by the laboratory.
 NA

Notes: IDL verifications are not required for the project.

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**
Preparation blanks were prepared and analyzed at the required frequency.
 Yes
 No

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

Yes
 No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.
 Yes
 No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes
 No

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes
 No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix, within \pm 2 times the PRDL for soil matrix.

Yes
 No

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency

Yes
 No

- LCS recoveries were within the required control limits (80-120% for water).

Yes
 No

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:

Total Recoverable vs Dissolved metals

Lab pH vs field pH.

TDS vs SC

Lab SC vs field SC

Arsenic speciation/dissolved arsenic

Total Recoverable vs Dissolved metals: This relationship was in order.

Lab pH vs field pH: This relationship was generally in order. All samples for which both lab and field pH were measured, all had percent differences less than 15% except for the sample collected at EP-49. At this well, a field pH

was taken, but the sampler noted that there was "heavy diesel" present in the well.

TDS vs SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. The exception was again for the sample collected at EP-49, where the ratio was equal to 146%. The ratios were distributed as follows:

less than 50%.....	0
50 to 59%.....	2
60 to 69%.....	25
70 to 79%.....	29
80 to 89%.....	20
90 to 99 %.....	3
over 100%.....	1

Lab SC vs field SC: This relationship was generally in order. However, for the samples collected at EP-7 and EM-4:

- Field SC values were respectively 22% and 44% of the laboratory SC values.
- Historical values were in line with laboratory SC values.
- TDS values were in line with laboratory SC values.

As a result, these two field SC values were rejected.

Flagging: R

11. HISTORICAL COMPARISON

Where there were more than 3 existing data points, the data for August 1998 were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

12. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQO's) met.**
 - Yes - for Laboratory Accuracy and Precision
 - No - for Field Accuracy and Precision
 - No - for Completeness

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

All laboratory quality control samples were within control limits, indicating good accuracy for the higher concentration results. However, only one field blank was submitted with the August 1998 samples, making it impossible to fully evaluate the accuracy of low level results.

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All of the laboratory duplicate measurements and 98% of the field duplicate measurements (124 out of 126) were within control limits. (Note, however, that only 42% of the required field duplicates were submitted for analysis.)

Completeness

One measure of completeness is the percentage of valid results obtained. For the Summer 1998 El Paso RI monitoring,

⇒ 1.0 percent of the data was flagged (22 out of 2256 results);

⇒ 0.1 percent of the data was rejected (2 out of 2256 results).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- **Field measurements were incomplete.** With the exception of pH at EP-49, field parameters were taken at 2 wells (EP-25, EP-49) because of hydrocarbon contamination and the possibility of damaging instrument probes.
- **Field quality control samples were not submitted at the required frequency.** The work plan sets the frequency of both field blanks (DI) and field duplicates at one in twenty samples or one per day, whichever is more frequent. As discussed in the field quality control sections, this frequency was not met, making it impossible to evaluate the accuracy and precision of the data to the extent set out in the work plan. For a total of twelve days on which samples were collected,
 - Only one field blank was submitted.
 - Only five field duplicates were submitted, 42 percent of the required number.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Linda Tangen

REFERENCES

(References appropriate to this project have been checked)

- X Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.
- X Hydrometrics, 1996. Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996
- ___ U.S. Environmental Protection Agency, 1990. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition.
- X U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983. (EPA, 1983)
- ___ U.S. Environmental Protection Agency, 1995. USEPA Contract Laboratory Program Statement of Work for Inorganics Analysis Document Number ILM04.0
- X U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ -	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R -	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E -	<p>Estimated. (Not an EPA code.)</p>
A -	<p>Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
El Paso RI Water, Summer 1998 Quarterly Monitoring

Site	Sample No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EM-2	EPRI-9808-156	08/13/98	FLUORIDE (F)	1.4	J4		Field duplicate RPD 29%
EM-4	EPRI-9808-157	08/13/98	SC (UMHOS/CM AT 25 C) (FLD) FLUORIDE (F)	4240 1.2	R J4		Historical, TDS ratio, lab SC. Field duplicate RPD 29%
EP-7	EPRI-9808-103	08/05/98	SC (UMHOS/CM AT 25 C) (FLD)	630	R		Historical, TDS ratio, lab SC.
EP-23	EPRI-9808-111	08/12/98	FLUORIDE (F)	3.2	J4		Field duplicate RPD 29%
EP-26	EPRI-9808-114	08/12/98	FLUORIDE (F)	0.56	J4		Field duplicate RPD 29%
EP-51	EPRI-9808-118	08/12/98	FLUORIDE (F)	1.4	J4		Field duplicate RPD 29%
EP-52	EPRI-9808-176	08/12/98	FLUORIDE (F)	6.4	J4		Field duplicate RPD 29%
EP-52	EPRI-9808-182	08/12/98	FLUORIDE (F)	4.8	J4		Field duplicate RPD 29%
EP-53	EPRI-9808-178	08/12/98	FLUORIDE (F)	5.9	J4		Field duplicate RPD 29%
EP-54	EPRI-9808-119	08/12/98	FLUORIDE (F)	12.0	J4		Field duplicate RPD 29%
EP-56	EPRI-9808-121	08/12/98	FLUORIDE (F)	2.0	J4		Field duplicate RPD 29%
EP-67	EPRI-9808-132	08/13/98	FLUORIDE (F)	0.74	J4		Field duplicate RPD 29%
EP-68	EPRI-9808-133	08/13/98	FLUORIDE (F)	0.64	J4		Field duplicate RPD 29%
EP-70	EPRI-9808-135	08/13/98	FLUORIDE (F)	1.1	J4		Field duplicate RPD 29%
EP-71	EPRI-9808-136	08/13/98	FLUORIDE (F)	0.86	J4		Field duplicate RPD 29%
EP-72	EPRI-9808-137	08/13/98	FLUORIDE (F)	1.3	J4		Field duplicate RPD 29%
EP-89	EPRI-9808-154	08/13/98	FLUORIDE (F)	0.72	J4		Field duplicate RPD 29%
SEP-1	EPRI-9808-161	08/11/98	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference >±PRDL
SEP-3	EPRI-9808-163	08/11/98	CARBONATE AS CO3	7.0	J4		Field duplicate difference >±PRDL
SEP-3	EPRI-9808-181	08/11/98	CARBONATE AS CO3	5.0	J4		Field duplicate difference >±PRDL
SEP-7	EPRI-9808-165	08/11/98	CARBONATE AS CO3	5.0	J4		Field duplicate difference >±PRDL

TABLE 3. Summary of the Comparison of August 1990 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period

DataMan Program

ASARCO, EL PASO

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE		MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N					
EM-6	08/17/98	36.6	DEPTH TO WATER LEVEL (FEET)	08/11/97-05/18/98	4	34.78	35.1275	35.55	4.17	HIGHEST
		22.0	POTASSIUM (K) DIS	08/11/97-05/18/98	4	11.0	13.2500	14.0	5.83	HIGHEST
EM-7	08/20/98	5240.0	SC (UMHOS/CM AT 25 C) (FLD)	11/17/97-05/07/98	3	6810	6946.6667	7070	> 10	LOWEST
		116.0	TOTAL SUSPENDED SOLIDS	11/17/97-05/07/98	3	9.2	33.4000	54.0	3.65	HIGHEST
		29.0	WATER TEMPERATURE (C) (FLD)	11/17/97-05/07/98	3	18.1	20.9667	23.0	3.15	HIGHEST
		174.0	CALCIUM (CA) DIS	11/17/97-05/07/98	3	215.0	221.6667	234.0	4.46	LOWEST
		33.0	MAGNESIUM (MG) DIS	11/17/97-05/07/98	3	42.0	44.3333	48.0	3.53	LOWEST
EP-5	08/05/98	0.86	IRON (FE) DIS	08/06/97-05/05/98	4	<0.10	0.1950	.31	6.18	HIGHEST
EP-7	08/05/98	8.9	TOTAL SUSPENDED SOLIDS	08/06/97-05/05/98	4	12.	14.0000	15.0	3.61	LOWEST
EP-12	08/27/98	174.0	TOTAL SUSPENDED SOLIDS	11/03/97-05/20/98	3	7.9	34.7333	88.0	3.02	HIGHEST
		0.62	ZINC (ZN) DIS	11/03/97-05/20/98	3	<0.020	0.0210	0.031	> 10	HIGHEST
EP-13	08/06/98	2468.0	SODIUM (NA) DIS	08/07/97-05/07/98	4	2776.0	2974.5000	3087.	3.67	LOWEST
		0.1	ZINC (ZN) DIS	08/07/97-05/07/98	4	0.025	0.0423	0.059	3.63	HIGHEST
EP-14	08/06/98	7.7	PH	11/05/97-05/07/98	3	7.4	7.4667	7.5	4.04	HIGHEST
		3590.0	SC (UMHOS/CM AT 25 C)	11/05/97-05/07/98	3	4430.0	4536.6667	4660.0	8.17	LOWEST
		3890.0	SC (UMHOS/CM AT 25 C) (FLD)	11/05/97-05/07/98	3	5020	5536.6667	6090	3.07	LOWEST
		2867.0	TDS (MEASURED AT 180 C)	11/05/97-05/07/98	3	3686.0	3764.0000	3852.0	> 10	LOWEST
		26.8	WATER TEMPERATURE (C) (FLD)	11/05/97-05/07/98	3	24.6	24.9667	25.4	4.54	HIGHEST
		211.0	CALCIUM (CA) DIS	11/05/97-05/07/98	3	164.0	378.3333	388.0	> 10	LOWEST
		54.0	MAGNESIUM (MG) DIS	11/05/97-05/07/98	3	92.0	95.3333	97.0	> 10	LOWEST
		35.0	POTASSIUM (K) DIS	11/05/97-05/07/98	3	51.0	55.6667	63.0	3.21	LOWEST
		1326.0	SULFATE (SO4)	11/05/97-05/07/98	3	1707.0	1857.3333	1989.0	3.74	LOWEST
		222.0	CHLORIDE (CL)	11/05/97-05/07/98	3	344.0	347.0000	350.0	> 10	LOWEST
		2.0	FLUORIDE (F)	11/05/97-05/07/98	3	1.5	1.5333	1.6	8.08	HIGHEST
		4.3	NITRATE + NITRITE AS N	11/05/97-05/07/98	3	13.0	16.3333	19.0	3.94	LOWEST
		2.5	ARSENIC (AS) DIS	11/05/97-05/07/98	3	1.1	1.2667	1.4	8.07	HIGHEST
		0.084	SELENIUM (SE) DIS	11/05/97-05/07/98	3	0.23	0.2967	0.36	3.27	LOWEST
EP-15	08/10/98	1.77	OXYGEN (O) (FLD) DIS	08/07/97-05/07/98	4	2.37	2.5325	2.84	3.64	LOWEST
		2810.0	SC (UMHOS/CM AT 25 C)	08/07/97-05/07/98	4	2960.0	3067.5000	3150	3.20	LOWEST
		34.0	MAGNESIUM (MG) DIS	08/07/97-05/07/98	4	39.0	42.0000	44.	3.70	LOWEST
		386.0	BICARBONATE (HCO3)	08/07/97-05/07/98	4	262.0	289.0000	325	3.64	HIGHEST
		715.0	SULFATE (SO4)	08/07/97-05/07/98	4	875.0	905.7500	974.0	4.16	LOWEST
		272.0	CHLORIDE (CL)	08/07/97-05/07/98	4	311.0	322.0000	333.0	4.70	LOWEST
EP-20	08/06/98	292.0	MAGNESIUM (MG) DIS	08/07/97-05/06/98	4	310.0	317.0000	323.	4.37	LOWEST
EP-21	08/24/98	7.41	PH (FLD)	02/18/98-05/21/98	2	7.26	7.2800	7.30	4.60	HIGHEST
		46.0	POTASSIUM (K) DIS	11/18/97-05/21/98	3	416.0	444.0000	466.0	> 10	LOWEST
		0.032	ARSENIC (AS) DIS	11/18/97-05/21/98	3	0.052	0.0603	0.067	3.71	LOWEST
EP-22	08/24/98	6840.0	SC (UMHOS/CM AT 25 C)	08/15/97-06/10/98	4	8540	9485.0000	9980.0	4.00	LOWEST
EP-23	08/12/98	204.0	TOTAL SUSPENDED SOLIDS	08/11/97-05/11/98	4	45.0	82.2500	124.	3.39	HIGHEST
		62.0	POTASSIUM (K) DIS	08/11/97-05/11/98	4	70.0	75.5000	80.	3.27	LOWEST
EP-25	08/24/98	3199.0	TOTAL SUSPENDED SOLIDS	08/15/97-02/18/98	3	43.0	209.0000	500.0	> 10	HIGHEST
		48.0	MAGNESIUM (MG) DIS	08/15/97-05/21/98	4	33.0	36.5000	40.	3.27	HIGHEST
		5.1	ARSENIC (AS) DIS	08/15/97-05/21/98	4	2.6	3.0500	3.5	5.55	HIGHEST
		9.7	IRON (FE) DIS	08/15/97-05/21/98	4	2.6	4.3000	5.8	4.00	HIGHEST
EP-29	08/06/98	8.68	PH (FLD)	08/07/97-05/06/98	4	7.09	7.3900	7.59	6.04	HIGHEST
		8.7	PH	08/07/97-05/06/98	4	7.9	7.9750	8.0	> 10	HIGHEST
		177.0	BICARBONATE (HCO3)	08/07/97-05/06/98	4	285.0	369.5000	417.0	3.30	LOWEST
		14.0	NITRATE + NITRITE AS N	08/07/97-05/06/98	4	6.3	7.3750	8.1	8.68	HIGHEST

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A & R Flags were excluded from Statistics

1/2 the detection limit was used in calculations.

TABLE 3. Summary of the Comparison of August 1990 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period

DataMan Program

ASARCO, EL PASO

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE			MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N						
EP-43	08/27/98	57.66	DEPTH TO WATER LEVEL (FEET)	11/03/97-05/20/98	3	59.63	60.4067	60.84	4.07	LOWEST	
		7.3	PH	11/03/97-05/20/98	3	7.5	7.5333	7.6	4.04	LOWEST	
EP-49	08/27/98	270.0	MAGNESIUM (MG) DIS	11/19/97-05/21/98	3	291.0	299.6667	305.0	3.92	LOWEST	
EP-51	08/12/98	10080.0	SC (UMHOS/CM AT 25 C)	08/26/97-05/11/98	4	11070.0	11585.0000	11890.0	4.32	LOWEST	
		12.0	TOTAL SUSPENDED SOLIDS	08/26/97-05/11/98	4	31.0	35.7500	41.0	5.77	LOWEST	
		1983.0	CHLORIDE (CL)	08/26/97-05/11/98	4	2369.0	2563.5000	2649.	4.44	LOWEST	
EP-52	08/12/98	51.15	DEPTH TO WATER LEVEL (FEET)	11/06/97-02/12/98	2	45.88	45.9000	45.92	> 10	HIGHEST	
		0.69	COPPER (CU) DIS	11/06/97-02/12/98	2	0.45	0.4900	0.53	3.54	HIGHEST	
		0.05	LEAD (PB) DIS	11/06/97-02/12/98	2	0.043	0.0435	0.044	9.19	HIGHEST	
EP-52	08/12/98	0.7	COPPER (CU) DIS	11/06/97-02/12/98	2	0.45	0.4900	0.53	3.71	HIGHEST	
		0.051	LEAD (PB) DIS	11/06/97-02/12/98	2	0.043	0.0435	0.044	> 10	HIGHEST	
EP-53	08/12/98	644.0	TOTAL SUSPENDED SOLIDS	08/11/97-06/10/98	3	239.	263.6667	277.0	> 10	HIGHEST	
		463.0	CHLORIDE (CL)	08/11/97-06/10/98	3	494.	509.6667	520.0	3.38	LOWEST	
EP-54	08/12/98	3.35	OXYGEN (O) (FLD) DIS	08/11/97-05/11/98	4	1.64	2.0050	2.51	3.69	HIGHEST	
		776.0	BICARBONATE (HCO3)	08/26/97-05/11/98	4	439	511.2500	566.0	4.72	HIGHEST	
EP-55	08/27/98	55.5	DEPTH TO WATER LEVEL (FEET)	08/15/97-05/20/98	4	53.96	54.2125	54.35	6.98	HIGHEST	
		6.4	PH	08/15/97-05/20/98	4	6.7	6.8750	7.0	3.77	LOWEST	
		9980.0	SC (UMHOS/CM AT 25 C)	08/15/97-05/20/98	4	10280.0	10455.0000	10550	3.95	LOWEST	
		1100.0	SODIUM (NA) DIS	08/15/97-05/20/98	4	1602.	1711.2500	1830.0	5.20	LOWEST	
		192.0	POTASSIUM (K) DIS	08/15/97-05/20/98	4	211.0	221.0000	229.0	3.42	LOWEST	
		0.068	SELENIUM (SE) DIS	08/15/97-05/20/98	4	0.18	0.2225	.28	3.33	LOWEST	
EP-56	08/12/98	4150.0	TOTAL SUSPENDED SOLIDS	08/26/97-05/07/98	4	243.	403.5000	565.0	> 10	HIGHEST	
		68.0	MAGNESIUM (MG) DIS	08/26/97-05/07/98	4	63.	63.7500	65.0	4.44	HIGHEST	
		732.0	BICARBONATE (HCO3)	08/26/97-05/07/98	4	303.0	330.2500	354.0	> 10	HIGHEST	
		0.036	SELENIUM (SE) DIS	08/26/97-05/07/98	4	.048	0.0528	0.058	3.05	LOWEST	
EP-58	08/24/98	1700.0	SODIUM (NA) DIS	08/16/97-05/18/98	4	2098.	2312.2500	2510.0	3.41	LOWEST	
EP-59	08/10/98	4.6	FLUORIDE (F)	08/09/97-05/08/98	4	4.8	4.8250	4.9	4.50	LOWEST	
EP-59	08/10/98	4.6	FLUORIDE (F)	08/09/97-05/08/98	4	4.8	4.8250	4.9	4.50	LOWEST	
EP-61	08/24/98	12.0	POTASSIUM (K) DIS	08/16/97-05/18/98	4	22.	24.2500	28.0	4.66	LOWEST	
		732.0	CHLORIDE (CL)	08/16/97-05/18/98	4	836.0	881.2500	941.0	3.26	LOWEST	
EP-62	08/10/98	418.0	BICARBONATE (HCO3)	08/09/97-05/08/98	4	393.0	396.5000	400.0	5.32	HIGHEST	
		0.069	ZINC (ZN) DIS	08/09/97-05/08/98	4	.023	0.0270	0.039	5.25	HIGHEST	
EP-63	08/10/98	8270.0	SC (UMHOS/CM AT 25 C) (FLD)	11/05/97-05/08/98	3	9220	9390.0000	9590	6.00	LOWEST	
EP-65	08/24/98	1000.0	SODIUM (NA) DIS	08/16/97-05/18/98	4	1349.0	1467.5000	1661.0	3.33	LOWEST	
		610.0	BICARBONATE (HCO3)	08/16/97-05/18/98	4	498	522.2500	555.0	3.67	HIGHEST	
EP-66	08/10/98	0.3	SELENIUM (SE) DIS	08/08/97-05/08/98	4	0.25	0.2575	0.26	8.50	HIGHEST	
		0.092	ZINC (ZN) DIS	08/08/97-05/08/98	4	0.024	0.0390	0.059	3.21	HIGHEST	
EP-67	08/13/98	557.0	SODIUM (NA) DIS	08/12/97-05/12/98	4	472.0	486.0000	511.0	3.90	HIGHEST	
		23.0	POTASSIUM (K) DIS	08/12/97-05/12/98	4	15.0	16.2500	19.	3.57	HIGHEST	

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TABLE 3. Summary of the Comparison of August 1990 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period

DataMan Program

ASARCO, EL PASO

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE		MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N					
EP-68	08/13/98	4260.0	SC (UMHOS/CM AT 25 C)	08/14/97-05/13/98	4	4980.0	5385.0000	5690.0	3.81	LOWEST
		3990.0	SC (UMHOS/CM AT 25 C) (FLD)	08/14/97-05/13/98	4	5290	5570.0000	6080	4.32	LOWEST
		3252.0	TDS (MEASURED AT 180 C)	08/14/97-05/13/98	4	3957.0	4169.5000	4350.0	5.43	LOWEST
		672.0	SODIUM (NA) DIS	08/14/97-05/13/98	4	765.0	801.2500	841.0	3.85	LOWEST
		1312.0	SULFATE (SO4)	08/14/97-05/13/98	4	1610.0	1730.0000	1845.0	4.35	LOWEST
		483.0	CHLORIDE (CL)	08/14/97-05/13/98	4	638.0	705.2500	751.0	4.65	LOWEST
		41.0	NITRATE + NITRITE AS N	08/14/97-05/13/98	4	23.0	26.0000	33.0	3.20	HIGHEST
EP-70	08/13/98	1.39	OXYGEN (O) (FLD) DIS	11/07/97-05/12/98	3	0.380	0.5633	0.750	4.47	HIGHEST
EP-72	08/13/98	1040.0	SODIUM (NA) DIS	08/12/97-05/13/98	4	985.0	998.2500	1016.0	3.23	HIGHEST
EP-76	08/17/98	985.0	SODIUM (NA) DIS	08/12/97-05/11/98	4	882.0	898.7500	937.	3.35	HIGHEST
EP-77	08/17/98	5800.0	SC (UMHOS/CM AT 25 C)	08/12/97-05/13/98	4	5070.0	5287.5000	5400	3.46	HIGHEST
		1199.0	SODIUM (NA) DIS	08/12/97-05/13/98	4	1030.0	1046.2500	1067.0	8.80	HIGHEST
		39.0	POTASSIUM (K) DIS	08/12/97-05/13/98	4	34.0	35.0000	36.0	4.90	HIGHEST
		684.0	CHLORIDE (CL)	08/12/97-05/13/98	4	608.0	617.0000	636.0	5.07	HIGHEST
EP-79	08/19/98	5330.0	SC (UMHOS/CM AT 25 C)	08/13/97-05/14/98	4	4890	4952.5000	5080.0	4.30	HIGHEST
		524.0	CHLORIDE (CL)	08/13/97-05/14/98	4	432.0	447.0000	468.0	4.77	HIGHEST
EP-80	08/19/98	0.014	ARSENIC (AS) DIS	08/13/97-05/13/98	4	0.018	0.0188	0.020	4.96	LOWEST
EP-81	08/19/98	0.7	OXYGEN (O) (FLD) DIS	08/13/97-05/14/98	4	2.82	3.0200	3.44	8.16	LOWEST
		0.26	SELENIUM (SE) DIS	08/13/97-05/14/98	4	0.21	0.2125	.22	9.50	HIGHEST
EP-83	08/19/98	29.15	DEPTH TO WATER LEVEL (FEET)	08/13/97-05/13/98	4	27.14	27.6425	28.00	3.82	HIGHEST
EP-84	08/19/98	9.25	DEPTH TO WATER LEVEL (FEET)	08/13/97-05/13/98	4	7.15	7.6475	8.38	3.07	HIGHEST
		0.027	LEAD (PB) DIS	08/13/97-05/13/98	4	0.006	0.0108	0.018	3.17	HIGHEST
EP-85	08/19/98	3340.0	SC (UMHOS/CM AT 25 C) (FLD)	08/13/97-05/14/98	4	2890	2997.5000	3140	3.20	HIGHEST
EP-86	08/19/98	782.0	SULFATE (SO4)	08/13/97-05/14/98	4	599.0	650.0000	679.0	3.76	HIGHEST
EP-88	08/17/98	15.0	POTASSIUM (K) DIS	08/12/97-05/11/98	4	4.9	7.6500	10.0	3.29	HIGHEST
		0.036	ZINC (ZN) DIS	08/12/97-05/11/98	4	.025	0.0273	0.031	3.33	HIGHEST
EP-89	08/13/98	2840.0	SC (UMHOS/CM AT 25 C)	08/12/97-05/13/98	4	2770.0	2775.0000	2780.0	> 10	HIGHEST
		433.0	SODIUM (NA) DIS	08/12/97-05/13/98	4	350.0	366.7500	379.	4.67	HIGHEST
EP-90	08/17/98	2380.0	SC (UMHOS/CM AT 25 C)	12/12/97-05/13/98	3	2900.0	2923.3333	2950.0	> 10	LOWEST
		1654.0	TDS (MEASURED AT 180 C)	12/12/97-05/13/98	3	1930.0	2066.6667	2138.0	3.49	LOWEST
		75.0	CALCIUM (CA) DIS	12/12/97-05/13/98	3	102.0	113.0000	120.0	3.94	LOWEST
		36.0	MAGNESIUM (MG) DIS	12/12/97-05/13/98	3	49.0	54.0000	58.0	3.93	LOWEST
		637.0	SULFATE (SO4)	12/12/97-05/13/98	3	828.0	856.0000	908.0	4.86	LOWEST
		234.0	CHLORIDE (CL)	12/12/97-05/13/98	3	281.0	304.0000	316.0	3.51	LOWEST
		0.76	FLUORIDE (F)	12/12/97-05/13/98	3	0.51	0.5567	0.60	4.51	HIGHEST
POND 1	08/18/98	126300.0	SC (UMHOS/CM AT 25 C)	12/22/97-05/19/98	3	25600.0	34300.0000	50100.0	6.71	HIGHEST
		78600.0	SC (UMHOS/CM AT 25 C) (FLD)	12/22/97-05/19/98	3	22900	32133.3333	49000	3.18	HIGHEST
		101290.0	TDS (MEASURED AT 180 C)	12/22/97-05/19/98	3	24898.0	34845.3333	53664.0	4.07	HIGHEST
		43.0	TOTAL SUSPENDED SOLIDS	12/22/97-05/19/98	3	6.9	12.2333	21.0	4.02	HIGHEST
		545.0	MAGNESIUM (MG) DIS	12/22/97-05/19/98	3	135.0	184.3333	274.0	4.64	HIGHEST
		36130.0	SODIUM (NA) DIS	12/22/97-05/19/98	3	7362.0	10408.6667	16140.0	5.18	HIGHEST
		1157.0	POTASSIUM (K) DIS	12/22/97-05/19/98	3	329.0	472.3333	715.0	3.24	HIGHEST
		59186.0	SULFATE (SO4)	12/22/97-05/19/98	3	14493.0	22287.3333	36326.0	3.03	HIGHEST
		5316.0	CHLORIDE (CL)	12/22/97-05/19/98	3	1002.0	1663.0000	2853.0	3.54	HIGHEST
		55.0	NITRATE + NITRITE AS N	12/22/97-05/19/98	3	20.0	25.6667	34.0	3.98	HIGHEST

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DataMan Program

ASARCO, EL PASO

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO
				DATABASE PERIOD	N	DATABASE PERIOD					DATABASE PERIOD
POND 5	08/18/98	35.0	CADMIUM (CD) DIS	12/22/97-05/19/98	3	15.0	17.6667	22.0	4.58	HIGHEST	
		0.49	LEAD (PB) DIS	12/22/97-05/19/98	3	0.090	0.1333	0.18	7.91	HIGHEST	
		2.9	SELENIUM (SE) DIS	12/22/97-05/19/98	3	0.74	1.1167	1.7	3.48	HIGHEST	
	5.28	OXYGEN (O) (FLD) DIS	02/19/98-05/19/98	2	7.33	7.7250	8.12	4.38	LOWEST		
	1970.0	SC (UMHOS/CM AT 25 C)	12/22/97-05/19/98	3	975.0	1159.3333	1351.0	4.31	HIGHEST		
	1972.0	SC (UMHOS/CM AT 25 C) (FLD)	12/22/97-05/19/98	3	1160	1262.3333	1338	7.72	HIGHEST		
	1277.0	TDS (MEASURED AT 180 C)	12/22/97-05/19/98	3	644.0	755.0000	846.0	5.09	HIGHEST		
	11.0	TOTAL SUSPENDED SOLIDS	12/22/97-05/19/98	3	1.8	3.5333	6.0	3.40	HIGHEST		
	275.0	SODIUM (NA) DIS	12/22/97-05/19/98	3	154.0	175.0000	195.0	4.87	HIGHEST		
	449.0	SULFATE (SO4)	12/22/97-05/19/98	3	193.0	249.3333	318.0	3.15	HIGHEST		
SEP-2	08/18/98	349.0	CHLORIDE (CL)	12/22/97-05/19/98	3	137.0	152.3333	176.0	9.46	HIGHEST	
		3.1	FLUORIDE (F)	12/22/97-05/19/98	3	0.91	0.9500	1.0	> 10	HIGHEST	
	0.21	ARSENIC (AS) DIS	12/22/97-05/19/98	3	0.081	0.1063	0.14	3.41	HIGHEST		
	8.7	PH	08/15/97-05/19/98	4	8.3	8.3750	8.5	3.39	HIGHEST		
	9.3	POTASSIUM (K) DIS	08/15/97-05/19/98	4	7.5	7.9500	8.4	3.21	HIGHEST		
	SEP-9	08/18/98	0.009	LEAD (PB) TRC	08/15/97-05/19/98	4	<0.003	0.0028	0.004	4.33	HIGHEST
	SEP-10	08/18/98	8.7	PH	08/15/97-05/19/98	4	8.3	8.3750	8.5	3.39	HIGHEST
	SEP-12	08/20/98	5.55	OXYGEN (O) (FLD) DIS	08/15/97-05/19/98	3	6.34	6.6167	6.87	4.01	LOWEST

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APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1	Groundwater		
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-21	EP-21	Groundwater		
6	EP-22	EP-22	Groundwater		
6	EP-23	EP-23	Groundwater		
7	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
8	EP-29	EP-29	Groundwater		
8	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
9	EP-49	EP-49	Groundwater		
9	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
10	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
11	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
12	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
13	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
14	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
15	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
16	EP-72	EP-72	Groundwater		
16	EP-73	EP-73	Groundwater		
16	EP-75	EP-75	Groundwater		
17	EP-76	EP-76	Groundwater		
17	EP-77	EP-77	Groundwater		
17	EP-78	EP-78	Groundwater		
18	EP-79	EP-79	Groundwater		
18	EP-80	EP-80	Groundwater		
18	EP-81	EP-81	Groundwater		
19	EP-82	EP-82	Groundwater		
19	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
20	EP-85	EP-85	Groundwater		
20	EP-86	EP-86	Groundwater		
20	EP-87	EP-87	Groundwater		
21	EP-88	EP-88	Groundwater		
21	EP-89	EP-89	Groundwater		
21	EP-90	EP-90	Groundwater		
22	DI	DI BLANK	Quality Control		
23	POND 1	POND 1	Surface Water		
23	POND 5	POND 5	Surface Water		
23	POND 6	POND 6	Surface Water		
24	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		

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24	SEP-3	SEP-3	Surface Water		
25	SEP-4	SEP-4	Surface Water		
25	SEP-7	SEP-7	Surface Water		
25	SEP-9	SEP-9	Surface Water		
26	SEP-10	SEP-10	Surface Water		
26	SEP-11	SEP-11	Surface Water		
26	SEP-12	SEP-12	Surface Water		
27	SEP-13	SEP-13	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

	EM-1	EM-2	EM-4
SITE CODE	EM-1	EM-2	EM-4
SAMPLE DATE	08/20/98	08/13/98	08/13/98
SAMPLE TIME	10:40	14:30	14:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981732-15	L981696-16	L981696-15
SAMPLE NUMBER	EPRI-9808-155	EPRI-9808-156	EPRI-9808-157
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	70.09	62.74	61.57
OXYGEN (O) (FLD) DIS	1.57	1.06	1.06
PH (FLD)	7.38	7.02	7.02
PH	7.8	7.8	7.8
SC (UMHOS/CM AT 25 C)	5560.0	4210.0	9560.0
SC (UMHOS/CM AT 25 C) (FLD)	5600.0	4240.0	4240.0 R
TDS (MEASURED AT 180 C)	4323.0	3115.0	6339.0
TOTAL SUSPENDED SOLIDS	67.0	15.0	5.6
WATER TEMPERATURE (C) (FLD)	25.8	24.9	24.9
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	201.0	187.0	417.0
MAGNESIUM (MG) DIS	115.0	71.0	183.0
SODIUM (NA) DIS	954.0	896.0	1640.0
POTASSIUM (K) DIS	31.0	16.0	33.0
BICARBONATE (HCO3)	227.0	344.0	156.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1808.0	1375.0	466.0
CHLORIDE (CL)	779.0	400.0	2862.0
FLUORIDE (F)	0.78	1.4 J4	1.2 J4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	19.0	0.22
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	<0.005	0.68	0.01
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.13	<0.005
ZINC (ZN) DIS	0.033	0.031	0.028

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-5	EM-6	EM-7
SAMPLE DATE	08/17/98	08/17/98	08/20/98
SAMPLE TIME	15:30	16:15	11:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981721-7	L981721-8	L981732-16
SAMPLE NUMBER	EPRI-9808-158	EPRI-9808-159	EPRI-9808-160

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	14.45	36.6	8.47
OXYGEN (O) (FLD) DIS	0.18	0.32	1.95
PH (FLD)	7.5	7.17	7.38
PH	7.8	7.6	7.7
SC (UMHOS/CM AT 25 C)	4970.0	4600.0	5220.0
SC (UMHOS/CM AT 25 C) (FLD)	5010.0	4610.0	5240.0
TDS (MEASURED AT 180 C)	3613.0	3324.0	3967.0
TOTAL SUSPENDED SOLIDS	3.7	2.6	116.0
WATER TEMPERATURE (C) (FLD)	23.5	25.2	29.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	159.0	124.0	174.0
MAGNESIUM (MG) DIS	34.0	77.0	33.0
SODIUM (NA) DIS	1071.0	912.0	1037.0
POTASSIUM (K) DIS	60.0	22.0	44.0
BICARBONATE (HCO3)	188.0	415.0	295.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1787.0	1539.0	1667.0
CHLORIDE (CL)	536.0	454.0	570.0
FLUORIDE (F)	9.0	2.1	7.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.19	7.5	0.18
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	1.8	0.021	2.3
CADMIUM (CD) DIS	0.055	<0.005	0.019
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.044	0.043	0.042
IRON (FE) DIS	0.49	<0.1	0.16
LEAD (PB) DIS	0.003	0.003	0.032
SELENIUM (SE) DIS	<0.005	0.12	0.037
ZINC (ZN) DIS	0.17	0.037	0.1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-4	EP-5	EP-6
SITE CODE			
SAMPLE DATE	08/05/98	08/05/98	08/05/98
SAMPLE TIME	14:30	14:45	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981626-1	L981626-2	L981626-3
SAMPLE NUMBER	EPRI-9808-100	EPRI-9808-101	EPRI-9808-102
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	5.21	5.78	6.54
OXYGEN (O) (FLD) DIS	1.34	1.14	1.24
PH (FLD)	7.36	7.36	7.3
PH	7.8	7.8	8.0
SC (UMHOS/CM AT 25 C)	1970.0	2900.0	6720.0
SC (UMHOS/CM AT 25 C) (FLD)	2190.0	3360.0	7440.0
TDS (MEASURED AT 180 C)	1345.0	1991.0	5241.0
TOTAL SUSPENDED SOLIDS	29.0	12.0	4.4
WATER TEMPERATURE (C) (FLD)	26.6	29.4	27.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	105.0	76.0	328.0
MAGNESIUM (MG) DIS	27.0	30.0	100.0
SODIUM (NA) DIS	303.0	594.0	1414.0
POTASSIUM (K) DIS	12.0	9.2	31.0
BICARBONATE (HCO3)	331.0	843.0	464.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	437.0	396.0	2258.0
CHLORIDE (CL)	242.0	353.0	897.0
FLUORIDE (F)	1.0	2.6	1.4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	<0.05	3.2
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.14	0.056	0.024
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	1.4	0.86	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	0.034
ZINC (ZN) DIS	0.025	0.028	0.046

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-7	EP-12	EP-13
SAMPLE DATE	08/05/98	08/27/98	08/06/98
SAMPLE TIME	15:20	10:15	15:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981626-4	L981792-11	L981626-9
SAMPLE NUMBER	EPRI-9808-103	EPRI-9808-104	EPRI-9808-105

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	5.87	60.88	59.45
OXYGEN (O) (PLD) DIS	0.69	1.12	2.8
PH (PLD)	7.28	6.79	6.98
PH	7.8	7.3	7.7
SC (UMHOS/CM AT 25 C)	2800.0	6360.0	11220.0
SC (UMHOS/CM AT 25 C) (PLD)	630.0	5650.0	11320.0
TDS (MEASURED AT 180 C)	1938.0	5362.0	9829.0
TOTAL SUSPENDED SOLIDS	8.9	174.0	7.3
WATER TEMPERATURE (C) (PLD)	26.9	24.9	29.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	106.0	428.0	359.0
MAGNESIUM (MG) DIS	34.0	147.0	70.0
SODIUM (NA) DIS	506.0	1172.0	2468.0
POTASSIUM (K) DIS	9.5	12.0	83.0
BICARBONATE (HCO3)	296.0	727.0	415.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	767.0	2229.0	5322.0
CHLORIDE (CL)	365.0	597.0	814.0
FLUORIDE (F)	1.7	1.0	1.4

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.05	33.0	83.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.065	1.5	36.0
CADMIUM (CD) DIS	<0.005	0.019	0.7
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	1.4	0.88	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.47	5.4
ZINC (ZN) DIS	0.024	0.62	0.1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-14	EP-15	EP-20
SAMPLE DATE	08/06/98	08/10/98	08/06/98
SAMPLE TIME	14:00	09:15	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981626-8	L981671-1	L981626-5
SAMPLE NUMBER	EPRI-9808-106	EPRI-9808-107	EPRI-9808-108

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	59.15	58.56	13.22
OXYGEN (O) (FLD) DIS	0.5	1.77	2.39
PH (FLD)	6.9	7.34	6.88
PH	7.7	7.9	7.6
SC (UMHOS/CM AT 25 C)	3590.0	2810.0	10210.0
SC (UMHOS/CM AT 25 C) (FLD)	3890.0	2750.0	10440.0
TDS (MEASURED AT 180 C)	2867.0	1987.0	9259.0
TOTAL SUSPENDED SOLIDS	3.9	282.0	129.0
WATER TEMPERATURE (C) (FLD)	26.8	24.6	21.9

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	211.0	99.0	520.0
MAGNESIUM (MG) DIS	54.0	34.0	292.0
SODIUM (NA) DIS	645.0	535.0	1664.0
POTASSIUM (K) DIS	35.0	8.4	57.0
BICARBONATE (HCO3)	467.0	386.0	376.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1326.0	715.0	4783.0
CHLORIDE (CL)	222.0	272.0	765.0
FLUORIDE (F)	2.0	0.94	2.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	4.3	13.0	163.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.5	0.009	0.87
CADMIUM (CD) DIS	<0.005	<0.005	0.038
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.11	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.084	0.17	0.35
ZINC (ZN) DIS	0.032	0.031	0.096

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-21	EP-22	EP-23
SAMPLE DATE	08/24/98	08/24/98	08/12/98
SAMPLE TIME	13:50	13:15	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981792-6	L981792-5	L981696-3
SAMPLE NUMBER	EPRI-9808-109	EPRI-9808-110	EPRI-9808-111

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	29.65	38.77	27.38
OXYGEN (O) (FLD) DIS	0.31	0.17	0.99
PH (FLD)	7.41	7.36	7.47
PH	8.0	7.8	7.7
SC (UMHOS/CM AT 25 C)	5680.0	6840.0	5620.0
SC (UMHOS/CM AT 25 C) (FLD)	5670.0	6850.0	5010.0
TDS (MEASURED AT 180 C)	3351.0	3958.0	3423.0
TOTAL SUSPENDED SOLIDS	47.0	1162.0	204.0
WATER TEMPERATURE (C) (FLD)	28.2	28.8	24.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	52.0	101.0	168.0
MAGNESIUM (MG) DIS	46.0	81.0	89.0
SODIUM (NA) DIS	1033.0	1226.0	874.0
POTASSIUM (K) DIS	46.0	104.0	62.0
BICARBONATE (HCO3)	2064.0	1161.0	436.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	321.0	1571.0	1790.0
CHLORIDE (CL)	653.0	691.0	429.0
FLUORIDE (F)	5.5	3.9	3.2 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.05	29.0	0.058
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.032	0.011	1.6
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.32	0.14	0.49
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.019	0.073	0.009
ZINC (ZN) DIS	0.02	0.089	0.023

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-24	EP-25	EP-26
SITE CODE	EP-24	EP-25	EP-26
SAMPLE DATE	08/24/98	08/24/98	08/12/98
SAMPLE TIME	14:30	15:00	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981792-7	L981792-8	L981696-1
SAMPLE NUMBER	EPRI-9808-112	EPRI-9808-113	EPRI-9808-114
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	35.73		49.5
OXYGEN (O) (FLD) DIS	0.501		5.59
PH (FLD)	6.79		7.21
PH	7.3	7.2	7.4
SC (UMHOS/CM AT 25 C)	5200.0	5420.0	188.0
SC (UMHOS/CM AT 25 C) (FLD)	5000.0		190.0
TDS (MEASURED AT 180 C)	3172.0	3362.0	130.0
TOTAL SUSPENDED SOLIDS	17.0	3199.0	85.0
WATER TEMPERATURE (C) (FLD)	27.6		22.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	180.0	114.0	13.0
MAGNESIUM (MG) DIS	56.0	48.0	2.1
SODIUM (NA) DIS	1064.0	1084.0	18.0
POTASSIUM (K) DIS	28.0	70.0	<5.0
BICARBONATE (HCO3)	1288.0	1354.0	44.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	264.0	522.0	35.0
CHLORIDE (CL)	970.0	853.0	10.0
FLUORIDE (F)	2.5	1.4	0.56 J4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	<0.05	2.1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.06	5.1	0.38
CADMIUM (CD) DIS	<0.005	<0.005	0.28
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	0.037
IRON (FE) DIS	0.35	9.7	<0.1
LEAD (PB) DIS	<0.003	<0.003	0.005
SELENIUM (SE) DIS	<0.01	0.051	0.065
ZINC (ZN) DIS	<0.02	<0.02	1.2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-29	EP-35	EP-43
SAMPLE DATE	08/06/98	08/06/98	08/27/98
SAMPLE TIME	08:50	08:40	11:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981626-7	L981626-6	L981792-12
SAMPLE NUMBER	EPRI-9808-115	EPRI-9808-115	EPRI-9808-175

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	13.35	17.48	57.66
OXYGEN (O) (FLD) DIS	5.67	1.89	1.01
PH (FLD)	8.68	6.91	6.94
PK	8.7	7.6	7.3
SC (UMHOS/CM AT 25 C)	3070.0	6300.0	4720.0
SC (UMHOS/CM AT 25 C) (FLD)	3140.0	5300.0	4780.0
TDS (MEASURED AT 180 C)	2129.0	5359.0	3157.0
TOTAL SUSPENDED SOLIDS	23.0	212.0	40.0
WATER TEMPERATURE (C) (FLD)	21.9	22.1	26.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	39.0	417.0	213.0
MAGNESIUM (MG) DIS	21.0	163.0	69.0
SODIUM (NA) DIS	681.0	1154.0	892.0
POTASSIUM (K) DIS	19.0	22.0	32.0
BICARBONATE (HCO3)	177.0	483.0	631.0
CARBONATE AS CO3	9.0	<1.0	<1.0
SULFATE (SO4)	939.0	2426.0	1242.0
CHLORIDE (CL)	339.0	555.0	615.0
FLUORIDE (F)	2.9	1.0	2.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	14.0	79.0	13.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.26	0.26	0.78
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.15
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.24	2.5	0.61
ZINC (ZN) DIS	0.028	0.025	0.04

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-49	EP-51	EP-52	EP-52
SITE CODE	EP-49	EP-51	EP-52	EP-52
SAMPLE DATE	08/27/98	08/12/98	08/12/98	08/12/98
SAMPLE TIME	09:30	13:45	14:30	14:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981792-10	L981696-5	L981696-6	L981696-7
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9808-117	EPRI-9808-118	EPRI-9808-176	EPRI-9808-182
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	66.63	49.1	51.15	
OXYGEN (O) (FLD) DIS		3.59	3.33	
PH (FLD)	5.3	6.71	6.17	
PH	3.8	7.2	7.0	7.1
SC (UMHOS/CM AT 25 C)	11000.0	10080.0	10580.0	10560.0
SC (UMHOS/CM AT 25 C) (FLD)		9720.0	10850.0	
TDS (MEASURED AT 180 C)	16111.0	8072.0	9183.0	9096.0
TOTAL SUSPENDED SOLIDS	254.0	12.0	14.0	12.0
WATER TEMPERATURE (C) (FLD)		27.4	28.3	
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	515.0	628.0	587.0	593.0
MAGNESIUM (MG) DIS	270.0	413.0	258.0	266.0
SODIUM (NA) DIS	1045.0	1304.0	1936.0	2099.0
POTASSIUM (K) DIS	205.0	42.0	33.0	35.0
BICARBONATE (HCO3)	<1.0	250.0	700.0	698.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	8448.0	2160.0	3566.0	3546.0
CHLORIDE (CL)	822.0	1983.0	1297.0	1238.0
FLUORIDE (F)	27.0	1.4 J4	6.4 J4	4.8 J4
-- NUTRIENTS --				
NITRATE + NITRITE AS N	<0.25	146.0	113.0	116.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	417.0	0.25	1.6	1.7
CADMIUM (CD) DIS	40.0	0.076	0.56	0.59
CHROMIUM (CR) DIS	<0.05	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.1	0.3	0.69	0.7
IRON (FE) DIS	1833.0	0.98	<0.1	<0.1
LEAD (PB) DIS	0.048	<0.003	0.05	0.051
SELENIUM (SE) DIS	<0.1	0.24	0.34	0.36
ZINC (ZN) DIS	1499.0	1.0	2.6	2.8

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-53	EP-54	EP-55
SAMPLE DATE	08/12/98	08/12/98	08/27/98
SAMPLE TIME	10:45	15:15	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981696-4	L981696-8	L981792-9
SAMPLE NUMBER	EPRI-9808-178	EPRI-9808-119	EPRI-9808-120

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	67.7	69.82	55.5
OXYGEN (O) (FLD) DIS	0.99	3.35	0.94
PH (FLD)	6.66	6.31	6.15
PH	7.2	7.2	6.4
SC (UMHOS/CM AT 25 C)	7550.0	10200.0	9980.0
SC (UMHOS/CM AT 25 C) (FLD)	5010.0	11320.0	10020.0
TDS (MEASURED AT 180 C)	6182.0	8465.0	8648.0
TOTAL SUSPENDED SOLIDS	644.0	25.0	413.0
WATER TEMPERATURE (C) (FLD)	24.3	28.7	25.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	469.0	515.0	523.0
MAGNESIUM (MG) DIS	86.0	320.0	318.0
SODIUM (NA) DIS	1270.0	1881.0	1100.0
POTASSIUM (K) DIS	120.0	320.0	192.0
BICARBONATE (HCO3)	348.0	776.0	732.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2723.0	4762.0	4465.0
CHLORIDE (CL)	463.0	708.0	755.0
FLUORIDE (F)	5.9 J4	12.0 J4	20.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	156.0	1.5	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	62.0	59.0	61.0
CADMIUM (CD) DIS	1.4	0.84	0.008
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	0.06	<0.025
IRON (FE) DIS	<0.1	2.1	77.0
LEAD (PB) DIS	<0.003	0.035	<0.003
SELENIUM (SE) DIS	1.2	0.065	0.068
ZINC (ZN) DIS	4.5	17.0	35.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-56	EP-57	EP-58
SAMPLE DATE	08/12/98	08/24/98	08/24/98
SAMPLE TIME	09:20	10:45	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981696-2	L981792-4	L981792-1
SAMPLE NUMBER	EPRI-9808-121	EPRI-9808-122	EPRI-9808-123

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	49.38	8.97	13.42
OXYGEN (O) (FLD) DIS	0.98	0.23	0.8
PH (FLD)	7.15	7.01	6.4
PH	7.6	7.7	7.0
SC (UMHOS/CM AT 25 C)	5520.0	3250.0	11600.0
SC (UMHOS/CM AT 25 C) (FLD)	5600.0	2840.0	11680.0
TDS (MEASURED AT 180 C)	3870.0	2176.0	9442.0
TOTAL SUSPENDED SOLIDS	4150.0	1172.0	17.0
WATER TEMPERATURE (C) (FLD)	25.0	27.0	26.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	269.0	152.0	486.0
MAGNESIUM (MG) DIS	68.0	95.0	193.0
SODIUM (NA) DIS	1125.0	614.0	1700.0
POTASSIUM (K) DIS	26.0	15.0	247.0
BICARBONATE (HCO3)	732.0	1293.0	1349.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1804.0	548.0	4867.0
CHLORIDE (CL)	618.0	269.0	922.0
FLUORIDE (F)	2.0 J4	0.99	5.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	1.5	1.8	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	1.5	0.6	4.1
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	0.28	1.4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.036	<0.01	0.046
ZINC (ZN) DIS	0.021	<0.02	0.03

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-59	EP-59	EP-60	EP-61
SAMPLE DATE	08/10/98	08/10/98	08/10/98	08/24/98
SAMPLE TIME	10:15	10:25	14:45	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981671-2	L981671-4	L981671-8	L981792-2
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9808-124	EPRI-9808-184	EPRI-9808-125	EPRI-9808-126

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	13.02		9.04	10.21
OXYGEN (O) (FLD) DIS	1.75		3.77	0.74
PH (FLD)	7.09		7.06	7.03
PH	7.4	7.4	7.7	7.5
SC (UMHOS/CM AT 25 C)	4850.0	4850.0	8700.0	8620.0
SC (UMHOS/CM AT 25 C) (FLD)	4750.0		8310.0	8710.0
TDS (MEASURED AT 180 C)	3678.0	3717.0	6865.0	7198.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	1.2	99.0
WATER TEMPERATURE (C) (FLD)	26.2		28.3	24.7

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	193.0	187.0	561.0	460.0
MAGNESIUM (MG) DIS	92.0	91.0	215.0	193.0
SODIUM (NA) DIS	920.0	859.0	1427.0	1300.0
POTASSIUM (K) DIS	107.0	104.0	18.0	12.0
BICARBONATE (HCO3)	427.0	428.0	298.0	447.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1643.0	1560.0	2931.0	3524.0
CHLORIDE (CL)	410.0	427.0	1171.0	732.0
FLUORIDE (F)	4.6	4.6	1.6	1.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	12.0	13.0	57.0	117.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	3.2	3.2	0.007	0.011
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.13	0.13
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.32	0.32	0.24	0.26
ZINC (ZN) DIS	0.046	0.059	0.055	0.022

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-62	EP-63	EP-64
SITE CODE	EP-62	EP-63	EP-64
SAMPLE DATE	08/10/98	08/10/98	08/10/98
SAMPLE TIME	11:30	14:10	10:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981671-6	L981671-7	L981671-5
SAMPLE NUMBER	EPRI-9808-127	EPRI-9808-128	EPRI-9808-129
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	7.31	6.67	10.2
OXYGEN (O) (FLD) DIS	4.33	1.86	3.0
PH (FLD)	7.16	7.16	7.4
PH	7.7	7.7	7.9
SC (UMHOS/CM AT 25 C)	4840.0	8470.0	9540.0
SC (UMHOS/CM AT 25 C) (FLD)	4770.0	8270.0	9410.0
TDS (MEASURED AT 180 C)	3665.0	6466.0	8077.0
TOTAL SUSPENDED SOLIDS	<1.0	6.1	6.7
WATER TEMPERATURE (C) (FLD)	26.9	27.2	27.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	204.0	251.0	383.0
MAGNESIUM (MG) DIS	84.0	151.0	124.0
SODIUM (NA) DIS	881.0	1740.0	2135.0
POTASSIUM (K) DIS	66.0	39.0	25.0
BICARBONATE (HCO3)	418.0	551.0	322.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1708.0	2759.0	3826.0
CHLORIDE (CL)	405.0	928.0	687.0
FLUORIDE (F)	3.0	2.2	1.8
-- NUTRIENTS --			
NITRATE + NITRITE AS N	8.6	13.0	71.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	1.2	0.02	0.04
CADMIUM (CD) DIS	<0.005	<0.005	0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.36	0.24	0.6
ZINC (ZN) DIS	0.069	0.066	0.067

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-65	EP-66	EP-67
SITE CODE	EP-65	EP-66	EP-67
SAMPLE DATE	08/24/98	08/10/98	08/13/98
SAMPLE TIME	10:25	15:20	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981792-3	L981671-9	L981696-11
SAMPLE NUMBER	EPRI-9808-130	EPRI-9808-131	EPRI-9808-132

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	8.32	10.09	41.67
OXYGEN (O) (PLD) DIS	0.27	6.54	1.09
PH (FLD)	7.02	6.95	6.79
PH	7.5	7.5	7.6
SC (UMHOS/CM AT 25 C)	7330.0	8130.0	4360.0
SC (UMHOS/CM AT 25 C) (PLD)	7390.0	7820.0	4310.0
TDS (MEASURED AT 180 C)	5862.0	7017.0	3985.0
TOTAL SUSPENDED SOLIDS	15.0	1.7	1.5
WATER TEMPERATURE (C) (FLD)	26.6	30.3	25.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	383.0	591.0	458.0
MAGNESIUM (MG) DIS	152.0	140.0	135.0
SODIUM (NA) DIS	1000.0	1551.0	557.0
POTASSIUM (K) DIS	22.0	58.0	23.0
BICARBONATE (HCO3)	610.0	536.0	261.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2837.0	3523.0	2017.0
CHLORIDE (CL)	651.0	606.0	362.0
FLUORIDE (F)	1.9	3.4	0.74 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	33.0	40.0	15.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.006	11.0	0.013
CADMIUM (CD) DIS	<0.005	0.007	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.27	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.14	0.3	0.15
ZINC (ZN) DIS	<0.02	0.092	0.031

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-68	EP-70	EP-71
SITE CODE	EP-68	EP-70	EP-71
SAMPLE DATE	08/13/98	08/13/98	08/13/98
SAMPLE TIME	09:40	11:30	10:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981696-10	L981696-13	L981696-12
SAMPLE NUMBER	EPRI-9808-13J	EPRI-9808-135	EPRI-9808-136

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	63.27	61.78	49.95
OXYGEN (O) (FLD) DIS	6.52	1.39	0.31
PH (FLD)	7.16	6.94	6.86
PH	7.8	7.6	7.5
SC (UMHOS/CM AT 25 C)	4260.0	6150.0	6290.0
SC (UMHOS/CM AT 25 C) (FLD)	3990.0	5960.0	6260.0
TDS (MEASURED AT 180 C)	3252.0	5053.0	5538.0
TOTAL SUSPENDED SOLIDS	25.0	6.3	<1.0
WATER TEMPERATURE (C) (FLD)	24.6	25.6	25.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	236.0	301.0	392.0
MAGNESIUM (MG) DIS	99.0	153.0	179.0
SODIUM (NA) DIS	672.0	1127.0	1256.0
POTASSIUM (K) DIS	16.0	30.0	22.0
BICARBONATE (HCO3)	259.0	295.0	307.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1312.0	2374.0	2424.0
CHLORIDE (CL)	483.0	516.0	498.0
FLUORIDE (F)	0.64 J4	1.1 J4	0.86 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	41.0	42.0	53.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.007	1.2	0.14
CADMIUM (CD) DIS	<0.005	0.013	<0.005
CHROMIUM (CR) DIS	0.016	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.25	0.22	0.29
ZINC (ZN) DIS	0.031	0.21	0.028

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-72	EP-73	EP-75
SAMPLE DATE	06/13/98	08/17/98	08/17/98
SAMPLE TIME	13:20	11:15	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981696-14	L981721-4	L981721-5
SAMPLE NUMBER	EPRI-9808-137	EPRI-9808-138	EPRI-9808-140

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	61.56	71.32	57.38
OXYGEN (O) (FLD) DIS	0.21	0.81	1.13
PH (FLD)	6.89	6.97	6.85
PH	7.5	7.5	7.4
SC (UMHOS/CM AT 25 C)	6050.0	6700.0	18700.0
SC (UMHOS/CM AT 25 C) (FLD)	6000.0	6610.0	17890.0
TDS (MEASURED AT 180 C)	5094.0	5365.0	17873.0
TOTAL SUSPENDED SOLIDS	4.5	2.9	16.0
WATER TEMPERATURE (C) (FLD)	25.3	30.2	28.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	361.0	286.0	421.0
MAGNESIUM (MG) DIS	165.0	121.0	401.0
SODIUM (NA) DIS	1040.0	1162.0	4249.0
POTASSIUM (K) DIS	29.0	394.0	661.0
BICARBONATE (HCO3)	293.0	285.0	758.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2303.0	2754.0	11607.0
CHLORIDE (CL)	552.0	469.0	203.0
FLUORIDE (F)	1.3 J4	2.7	1.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	49.0	21.0	176.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.49	0.031	18.0
CADMIUM (CD) DIS	0.2	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	0.042
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.43	1.2	3.7
ZINC (ZN) DIS	0.54	0.043	0.14

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-76	EP-77	EP-78
SAMPLE DATE	08/17/98	08/17/98	08/19/98
SAMPLE TIME	14:45	09:50	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981721-6	L981721-2	L981732-6
SAMPLE NUMBER	EPRI-9808-141	EPRI-9808-142	EPRI-9808-143

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	52.03	42.57	33.59
OXYGEN (O) (FLD) DIS	0.11	0.82	.24
PH (FLD)	7.21	7.09	7.73
PH	7.6	7.5	8.1
SC (UMHOS/CM AT 25 C)	5070.0	5800.0	3660.0
SC (UMHOS/CM AT 25 C) (FLD)	5090.0	5730.0	3740.0
TDS (MEASURED AT 180 C)	3737.0	4255.0	2561.0
TOTAL SUSPENDED SOLIDS	5.0	18.0	1.8
WATER TEMPERATURE (C) (FLD)	22.3	25.5	23.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	182.0	254.0	68.0
MAGNESIUM (MG) DIS	102.0	58.0	37.0
SODIUM (NA) DIS	985.0	1199.0	658.0
POTASSIUM (K) DIS	68.0	39.0	56.0
BICARBONATE (HCO3)	487.0	293.0	334.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1779.0	1996.0	1143.0
CHLORIDE (CL)	503.0	684.0	331.0
FLUORIDE (F)	1.9	2.6	3.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	5.7	0.42	9.4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.42	6.1	5.4
CADMIUM (CD) DIS	<0.005	0.018	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.008	0.005	<0.003
SELENIUM (SE) DIS	0.16	0.019	0.25
ZINC (ZN) DIS	0.073	0.037	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-79	EP-80	EP-81
SAMPLE DATE	08/19/98	08/19/98	08/19/98
SAMPLE TIME	10:00	14:30	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981732-4	L981732-8	L981732-1
SAMPLE NUMBER	EPRI-9808-144	EPRI-9808-145	EPRI-9808-146

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	47.89	10.78	18.19
OXYGEN (O) (FLD) DIS	.15	2.15	0.7
PH (FLD)	7.5	7.27	7.08
PH	8.0	8.0	7.6
SC (UMHOS/CM AT 25 C)	5330.0	5180.0	2630.0
SC (UMHOS/CM AT 25 C) (FLD)	5420.0	5300.0	2720.0
TDS (MEASURED AT 180 C)	3921.0	3949.0	2039.0
TOTAL SUSPENDED SOLIDS	<1.0	61.0	3.3
WATER TEMPERATURE (C) (FLD)	26.1	25.1	24.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	60.0	163.0	163.0
MAGNESIUM (MG) DIS	74.0	79.0	84.0
SODIUM (NA) DIS	1183.0	984.0	336.0
POTASSIUM (K) DIS	8.9	20.0	12.0
BICARBONATE (HCO3)	454.0	547.0	477.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1766.0	1880.0	987.0
CHLORIDE (CL)	524.0	435.0	142.0
FLUORIDE (F)	3.9	1.3	1.2

-- NUTRIENTS --

NITRATE + NITRITE AS N	9.5	0.084	6.9
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.01	0.014	0.25
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	0.012	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.17	<0.005	0.26
ZINC (ZN) DIS	0.026	0.03	0.038

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-82	EP-83	EP-84
SITE CODE	EP-82	EP-83	EP-84
SAMPLE DATE	08/19/98	08/19/98	08/19/98
SAMPLE TIME	13:45	16:15	15:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981732-7	L981732-10	L981732-9
SAMPLE NUMBER	EPRI-9808-147	EPRI-9808-148	EPRI-9808-149
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	18.24	29.15	9.25
OXYGEN (O) (FLD) DIS	.43	3.4	1.97
PH (FLD)	7.16	7.53	7.25
PH	7.7	8.0	7.8
SC (UMHOS/CM AT 25 C)	4880.0	3930.0	2780.0
SC (UMHOS/CM AT 25 C) (FLD)	5000.0	4040.0	2820.0
TDS (MEASURED AT 180 C)	3826.0	2847.0	2183.0
TOTAL SUSPENDED SOLIDS	12.0	1.0	<1.0
WATER TEMPERATURE (C) (FLD)	22.4	22.5	24.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	158.0	69.0	195.0
MAGNESIUM (MG) DIS	81.0	63.0	88.0
SODIUM (NA) DIS	889.0	758.0	268.0
POTASSIUM (K) DIS	27.0	8.6	7.2
BICARBONATE (HCO3)	390.0	376.0	295.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1604.0	1316.0	924.0
CHLORIDE (CL)	567.0	391.0	330.0
FLUORIDE (F)	2.7	2.9	0.66
-- NUTRIENTS --			
NITRATE + NITRITE AS N	8.7	7.5	6.6
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.009	0.006	0.03
CADMIUM (CD) DIS	<0.005	<0.005	0.006
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	0.027
SELENIUM (SE) DIS	0.18	0.044	0.024
ZINC (ZN) DIS	0.027	0.026	0.046

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-85	EP-85	EP-86	EP-87
SITE CODE	EP-85	EP-85	EP-86	EP-87
SAMPLE DATE	08/19/98	08/19/98	08/19/98	08/19/98
SAMPLE TIME	09:20	09:30	11:00	16:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	
LAB NUMBER	L981732-2	L981732-3	L981732-5	
REMARKS		DUPLICATE		NO SAMPLE
OTHER INFO				Dry
SAMPLE NUMBER	EPRI-9808-150	EPRI-9808-180	EPRI-9808-151	EPRI-9808-152

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	16.66		49.61
OXYGEN (O) (FLD) DIS	0.14		7.66
PH (FLD)	7.38		7.67
PH	7.8	7.8	8.1
SC (UMHOS/CM AT 25 C)	1240.0	3250.0	2660.0
SC (UMHOS/CM AT 25 C) (FLD)	1340.0		2690.0
TDS (MEASURED AT 180 C)	2432.0	2427.0	1823.0
TOTAL SUSPENDED SOLIDS	1.8	1.8	4.0
WATER TEMPERATURE (C) (FLD)	23.0		22.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	112.0	113.0	40.0
MAGNESIUM (MG) DIS	55.0	56.0	31.0
SODIUM (NA) DIS	550.0	553.0	501.0
POTASSIUM (K) DIS	29.0	28.0	7.7
BICARBONATE (HCO3)	364.0	366.0	351.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1158.0	1145.0	782.0
CHLORIDE (CL)	265.0	264.0	275.0
FLUORIDE (F)	3.3	3.2	2.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	6.8	6.7	5.8
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.7	2.7	0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.16	0.16	0.038
ZINC (ZN) DIS	0.019	0.032	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-88	EP-89	EP-90
SITE CODE	EP-88	EP-89	EP-90
SAMPLE DATE	08/17/98	08/13/98	08/17/98
SAMPLE TIME	10:30	08:50	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981721-3	L981696-9	L981721-1
SAMPLE NUMBER	EPRI-9808-153	EPRI-9808-154	EPRI-9808-139
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	30.25	14.93	54.4
OXYGEN (O) (FLD) DIS	0.85	3.55	1.91
PH (FLD)	7.31	7.17	7.42
PH	7.7	7.9	7.8
SC (UMHOS/CM AT 25 C)	5400.0	2840.0	2380.0
SC (UMHOS/CM AT 25 C) (FLD)	5460.0	2810.0	2390.0
TDS (MEASURED AT 180 C)	3832.0	2144.0	1654.0
TOTAL SUSPENDED SOLIDS	32.0	2.0	7.8
WATER TEMPERATURE (C) (FLD)	25.3	24.3	26.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	55.0	177.0	75.0
MAGNESIUM (MG) DIS	35.0	70.0	36.0
SODIUM (NA) DIS	1359.0	433.0	421.0
POTASSIUM (K) DIS	15.0	22.0	8.1
BICARBONATE (HCO3)	614.0	278.0	268.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1711.0	840.0	637.0
CHLORIDE (CL)	468.0	338.0	234.0
FLUORIDE (F)	2.2	0.72 J4	0.76
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.9	8.1	8.3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.027	0.009	0.21
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.024	0.028	0.51
ZINC (ZN) DIS	0.036	0.038	0.04

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI
SAMPLE DATE	08/10/98
SAMPLE TIME	12:00
LAB	TSC-SLC
LAB NUMBER	L981671-3
SAMPLE NUMBER	EPRI-9808-185

-- PHYSICAL PARAMETERS --

PH	6.0
SC (UMHOS/CM AT 25 C)	<5.0
TDS (MEASURED AT 180 C)	19.0
TOTAL SUSPENDED SOLIDS	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0
MAGNESIUM (MG) DIS	<1.0
SODIUM (NA) DIS	<2.0
POTASSIUM (K) DIS	<5.0
BICARBONATE (HCO3)	1.0
CARBONATE AS CO3	<1.0
SULFATE (SO4)	<1.0
CHLORIDE (CL)	1.2
FLUORIDE (F)	<0.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005
CADMIUM (CD) DIS	<0.005
CHROMIUM (CR) DIS	<0.01
COPPER (CU) DIS	<0.025
IRON (FE) DIS	<0.1
LEAD (PB) DIS	<0.003
SELENIUM (SE) DIS	<0.005
ZINC (ZN) DIS	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	POND 1	POND 5	POND 6
SAMPLE DATE	08/18/98	08/18/98	08/18/98
SAMPLE TIME	09:00	08:40	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981721-11	L981721-10	L981721-9
SAMPLE NUMBER	EPRI-9808-171	EPRI-9808-172	EPRI-9808-173

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	4.1	5.28	4.83
PH (FLD)	7.82	6.76	8.41
PH	8.1	6.7	8.6
SC (UMHOS/CM AT 25 C)	126300.0	1970.0	5390.0
SC (UMHOS/CM AT 25 C) (FLD)	78500.0	1972.0	5340.0
TDS (MEASURED AT 180 C)	101290.0	1277.0	4045.0
TOTAL SUSPENDED SOLIDS	43.0	11.0	17.0
WATER TEMPERATURE (C) (FLD)	26.0	24.1	28.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	585.0	108.0	267.0
MAGNESIUM (MG) DIS	545.0	25.0	56.0
SODIUM (NA) DIS	36130.0	275.0	950.0
POTASSIUM (K) DIS	1157.0	14.0	47.0
BICARBONATE (HCO3)	251.0	21.0	189.0
CARBONATE AS CO3	<1.0	<1.0	11.0
SULFATE (SO4)	59186.0	449.0	1846.0
CHLORIDE (CL)	5316.0	349.0	639.0
FLUORIDE (F)	38.0	3.1	4.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	55.0	0.098	0.84
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.22	0.21	0.88
ARSENIC (AS) TRC	0.29	0.27	0.87
CADMIUM (CD) DIS	35.0	0.067	0.12
CADMIUM (CD) TRC	32.0	0.074	0.14
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.75	0.33	0.22
COPPER (CU) TRC	1.1	1.4	0.75
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	0.16	1.7	0.35
LEAD (PB) DIS	0.49	0.019	0.066
LEAD (PB) TRC	0.37	0.58	0.13
SELENIUM (SE) DIS	2.9	0.032	0.058
SELENIUM (SE) TRC	2.8	0.028	0.051
ZINC (ZN) DIS	51.0	0.82	0.3
ZINC (ZN) TRC	51.0	1.0	0.46

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-1	SEP-2	SEP-3	SEP-3
SITE CODE				
SAMPLE DATE	08/11/98	08/18/98	08/11/98	08/11/98
SAMPLE TIME	13:15	14:25	13:45	13:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981671-10	L981721-15	L981671-11	L981671-12
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9808-161	EPRI-9808-162	EPRI-9808-163	EPRI-9808-161
-- PHYSICAL PARAMETERS --				
OXYGEN (O) (FLD) DIS	5.9	6.33	6.44	
PH (FLD)	8.46	8.6	8.45	
PH	8.3	8.7	8.5	8.5
SC (UMHOS/CM AT 25 C)	951.0	966.0	977.0	976.0
SC (UMHOS/CM AT 25 C) (FLD)	958.0	854.0	986.0	
TDS (MEASURED AT 180 C)	630.0	621.0	663.0	654.0
TOTAL SUSPENDED SOLIDS	242.0	202.0	230.0	218.0
WATER TEMPERATURE (C) (FLD)	29.9	30.0	32.1	
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	66.0	66.0	62.0	63.0
MAGNESIUM (MG) DIS	15.0	15.0	14.0	14.0
SODIUM (NA) DIS	113.0	116.0	112.0	113.0
POTASSIUM (K) DIS	8.1	9.3	7.5	7.0
BICARBONATE (HCO3)	237.0	206.0	217.0	214.0
CARBONATE AS CO3	<1.0 UJ4	11.0	7.0 J4	5.0 J4
SULFATE (SO4)	185.0	204.0	200.0	195.0
CHLORIDE (CL)	82.0	84.0	79.0	84.0
FLUORIDE (F)	0.64	0.62	0.64	0.64
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.17	0.13	0.33	0.34
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.006	<0.005	0.005	0.007
ARSENIC (AS) TRC	0.005	<0.005	<0.005	0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TRC	4.9	5.3	5.3	4.6
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.004	0.007	0.004	0.006
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TRC	<0.02	0.023	0.023	0.028

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SITE CODE	SEP-4	SEP-7	SEP-9
SAMPLE DATE		08/20/98	08/11/98	08/13/98
SAMPLE TIME		10:00	14:15	09:45
LAB		TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER		L981732-14	L981671-13	L981721-12
SAMPLE NUMBER		EPRI-9808-164	EPRI-9808-165	EPRI-9808-166

-- PHYSICAL PARAMETERS --

	SEP-4	SEP-7	SEP-9
OXYGEN (O) (FLD) DIS	5.99	6.47	5.61
PH (FLD)	8.58	8.45	8.26
PH	8.4	8.5	8.5
SC (UMHOS/CM AT 25 C)	954.0	976.0	1142.0
SC (UMHOS/CM AT 25 C) (FLD)	960.0	974.0	1166.0
TDS (MEASURED AT 180 C)	642.0	622.0	712.0
TOTAL SUSPENDED SOLIDS	198.0	209.0	169.0
WATER TEMPERATURE (C) (FLD)	25.7	31.1	26.0

-- MAJOR CONSTITUENTS --

	SEP-4	SEP-7	SEP-9
CALCIUM (CA) DIS	60.0	65.0	67.0
MAGNESIUM (MG) DIS	14.0	14.0	15.0
SODIUM (NA) DIS	111.0	117.0	154.0
POTASSIUM (K) DIS	7.8	6.0	10.0
BICARBONATE (HCO3)	222.0	214.0	214.0
CARBONATE AS CO3	2.0	5.0 J4	6.0
SULFATE (SO4)	176.0	195.0	236.0
CHLORIDE (CL)	82.0	85.0	115.0
FLUORIDE (F)	0.62	0.64	0.68

-- NUTRIENTS --

	SEP-4	SEP-7	SEP-9
NITRATE - NITRITE AS N	0.27	0.32	2.5

-- METALS & MINOR CONSTITUENTS --

	SEP-4	SEP-7	SEP-9
ARSENIC (AS) DIS	<0.005	0.007	0.006
ARSENIC (AS) TRC	0.006	0.005	0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	4.8	4.4	4.2
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.006	0.005	0.009
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	0.021
ZINC (ZN) TRC	0.03	0.033	0.043

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-10	SEP-11	SEP-12
SITE CODE	SEP-10	SEP-11	SEP-12
SAMPLE DATE	08/18/98	08/18/98	08/20/98
SAMPLE TIME	14:00	14:10	09:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L981721-13	L981721-14	L981732-11
SAMPLE NUMBER	EPRI-9808-167	EPRI-9808-168	EPRI-9808-169
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	6.5	6.43	5.55
PH (FLD)	8.58	8.59	8.6
PH	8.7	8.7	8.4
SC (UMHOS/CM AT 25 C)	969.0	968.0	952.0
SC (UMHOS/CM AT 25 C) (FLD)	875.0	869.0	974.0
TDS (MEASURED AT 180 C)	608.0	623.0	644.0
TOTAL SUSPENDED SOLIDS	190.0	202.0	204.0
WATER TEMPERATURE (C) (FLD)	29.3	29.7	24.8
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	64.0	65.0	60.0
MAGNESIUM (MG) DIS	14.0	15.0	14.0
SODIUM (NA) DIS	113.0	115.0	112.0
POTASSIUM (K) DIS	9.0	9.7	8.2
BICARBONATE (HCO3)	207.0	207.0	224.0
CARBONATE AS CO3	11.0	11.0	2.0
SULFATE (SO4)	207.0	203.0	180.0
CHLORIDE (CL)	85.0	86.0	81.0
FLUORIDE (F)	0.62	0.6	0.62
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.17	0.14	0.29
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.005	0.006	0.005
ARSENIC (AS) TRC	<0.005	<0.005	0.006
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	5.4	5.6	4.2
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.006	0.006	0.007
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02
ZINC (ZN) TRC	0.033	0.028	0.024

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-13	SEP-13
SAMPLE DATE	08/20/98	08/20/98
SAMPLE TIME	09:30	09:35
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L981732-12	L981732-13
REMARKS		DUPLICATE
SAMPLE NUMBER	EPRI-9808-170	EPRI-9808-179

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.37	
PH (FLD)	8.6	
PH	8.4	8.4
SC (UMHOS/CM AT 25 C)	954.0	954.0
SC (UMHOS/CM AT 25 C) (FLD)	965.0	
TDS (MEASURED AT 180 C)	671.0	642.0
TOTAL SUSPENDED SOLIDS	234.0	227.0
WATER TEMPERATURE (C) (FLD)	25.0	

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	61.0	61.0
MAGNESIUM (MG) DIS	14.0	14.0
SODIUM (NA) DIS	111.0	111.0
POTASSIUM (K) DIS	7.5	6.9
BICARBONATE (HCO3)	223.0	220.0
CARBONATE AS CO3	2.0	2.0
SULFATE (SO4)	179.0	177.0
CHLORIDE (CL)	80.0	81.0
FLUORIDE (F)	0.62	0.62

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.27	0.26
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.005	0.005
ARSENIC (AS) TRC	0.005	0.005
CADMIUM (CD) DIS	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1
IRON (FE) TRC	4.6	4.8
LEAD (PB) DIS	<0.003	<0.003
LEAD (PB) TRC	0.005	0.007
SELENIUM (SE) DIS	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02
ZINC (ZN) TRC	0.023	0.031

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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26	EPRI-9808-167	L981721-13	08/18/98	SEP-10	17	L981732-6	EPRI-9808-143	08/19/98	EP-78
26	EPRI-9808-168	L981721-14	08/18/98	SEP-11	19	L981732-7	EPRI-9808-147	08/19/98	EP-82
26	EPRI-9808-169	L981732-11	08/20/98	SEP-12	18	L981732-8	EPRI-9808-145	08/19/98	EP-80
27	EPRI-9808-170	L981732-12	08/20/98	SEP-13	19	L981732-9	EPRI-9808-149	08/19/98	EP-84



SECTION J-2

REMEDIAL INVESTIGATION WATER SAMPLES

FALL 1998

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
FALL 1998**

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GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA	Graphite Furnace Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA	Method of Standard Additions
PB	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC	Quality Control
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SOW	Statement of Work
TDS	Total Dissolved Solids

SUMMARY

This report covers groundwater samples collected during November 1998 for the Asarco El Paso Copper Smelter Remediation Investigation. This validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996), which are consistent with those given in the EPA's National Functional Guidelines for Inorganic Data Review (February 1994). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes a summary of flagged data (Table 2). Where there are three or more existing data points, a statistical historical comparison has been done. A summary of the historical comparison is in Appendix 1, Table 3. The validated database for this data set is in Appendix 2.

Completeness of field measurements:

- As in all previous sampling events for this project, the required frequency for field quality control samples was not met for the November 1998 monitoring event.
 - Nine field duplicates were required, and only four were submitted.
 - Nine field blanks were required, but **none** was submitted.
- Field measurements were not taken in duplicate for field duplicate samples.
- The field sampler noted that the dissolved oxygen probe was not functioning on November 12. Dissolved oxygen was not measured for the six samples collected on that day.
- For the last sample collected on November 18 (at SEP-9), the SC probe was not functioning. No field SC measurement was taken for this sample.

Laboratory Quality Control Violations:

- The laboratory matrix spike for batch L982304 was out of control limits for dissolved iron (72% recovery). Thirteen associated iron results were flagged to indicate a possible low bias.
- One TDS value was flagged for holding time exceedance.

Field Quality Control Violations:

- The field SC value for the sample collected at EP-90 was rejected for reasons discussed in Section 10.
- The field duplicate submitted on 11/5/98 was out of control limits for dissolved arsenic. Twenty-one dissolved arsenic results were flagged to indicate a possible lack of reproducibility.

- The field duplicate submitted on 11/10/98 was out of control limits for total suspended solids (TSS). Nineteen TSS results were flagged to indicate a possible lack of reproducibility.
- The field duplicate submitted on 11/18/98 was out of control limits for total recoverable iron. Ten total recoverable iron results were flagged to indicate a possible lack of reproducibility.

Overall, 93.6 percent of the data may be used without qualification (950 out of 1015 results). Sixty-four sample results were flagged for the quality control violations summarized above, including the one result that was rejected. Excluding this one field SC result, water data for the Asarco El Paso Copper Smelter Remedial Investigation for the November 1998 monitoring are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. Possible bias and/or lack of reproducibility indicated by the flags should be taken into account. Please note that the failure to meet the required frequency of field quality control samples made it impossible to evaluate the precision and accuracy of the data as set out in the project work plan.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Linda Tangen

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to inorganic analytes from 64 groundwater and 12 surface water samples collected during November of 1998 for the Asarco El Paso Copper Smelter Remedial Investigation.

- The total number of samples included one surface water field duplicates and three groundwater field duplicates.
- No samples were collected at the following sites:
 - EP-4 Damaged
 - EP-87 Dry
 - SEP-1 Construction
 - SEP-3 Construction
 - Pond 5 Dry
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-25, at EP-43 or at EP-49.
- Due to a non-functioning probe, no dissolved oxygen measurements were taken at EP-77 on November 11.
- Due to a non-functioning probe, no dissolved oxygen measurements were taken at the following five sites on November 12:
 - EP-77
 - EP-83
 - EP-84
 - EP-86
 - SEP-14
- Due to a non-functioning probe, no field SC measurement was taken at SEP-9 on November 18.
- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other
- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual

Notes: The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.

Yes
 No

- Field measurements and field documentation were complete.

Yes
 No

Notes: Duplicate field measurements were not taken

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are 1 field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes
 No

Notes: No field blanks were submitted with the November 1998 samples. The total lack of field blanks makes it impossible to evaluate the accuracy of low concentration results as was specified in the project work plan.

- Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes
 No

Notes: Samples were collected on nine different days. The project work plan requires at least one field duplicate per day. Field duplicates were submitted on only four of the nine sampling days. For flagging purposes, samples are considered to be associated if they were collected the same day as the field duplicate or if they were collected on days elapsed since the previous field duplicate. The field duplicates are listed in the following table:

<u>Site</u>	<u>Sample Number</u>	<u>Date</u>	<u>Number of Associated Non-OC Samples</u>
EP-51	EPRI-9811-118/ 178	11/05/99	20
EP-70	EPRI-9811-135/ 180	11/10/99	12
EP-86	EPRI-9811-151/ 181	11/12/99	18
SEP-11	EPRI-9811-168/ 182	11/18/99	22

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes
 No

Notes: Field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility.

- Dissolved arsenic from samples collected on 11/3/98, 11/4/98, and 11/5/98 were flagged for the exceedance on the duplicate collected on 11/5/98.
- TSS from samples collected 11/11/98 and 11/12/98 were flagged for the exceedance on the duplicate collected on 11/12/98.
- Total recoverable iron from surface water samples collected on 11/16/98.

Sample Number/ Dup	Site	Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9811-118/ 178	EP-51	Arsenic (Dis)	0.079	0.110	33% RPD	21
EPRI-9811-151/ 181	EP-86	TSS	183	146	22% RPD	19
EPRI-9811-168/ 182	SEP-11	Iron (TRC)	0.470	0.340	32% RPD	10

Flagging: J₄/UJ₄

4. LABORATORY PROCEDURES

- **Laboratory procedures followed**
 - CLP-SOW
 - SW-846
 - Methods for Chemical Analysis of Water and Wastes
 - XRF Standard Operating Procedures
- **Holding times met**
 - Yes
 - No

Notes: Reanalysis was requested on TDS for sample EPRI-9811-101, collected at EP-5. This result was used in the database, but it was flagged for holding time exceedance. (The original result was out of line historically and also considering the ratio of TDS to SC).

Flagging: J₃

- **Consistency with project requirements**
 Analyses were carried out as requested.
 Yes
 No

 Project specified methods were used.
 Yes
 No

5. DETECTION LIMITS

- Reporting detection limits met project required detection limits (PRDLs).
 Yes
 No

Notes: The PRDL for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

The PRDL for selenium is 0.005 ppm. For batch L982343, the reporting limit was raised to 0.100 ppm due to matrix interference. This affected selenium results for two samples: EPRI-9811-117 (collected at EP-49) and EPRI-9811-120 (collected at EP-55).

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**
 Preparation blanks were prepared and analyzed at the required frequency.
 Yes
 No

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

Yes
 No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.
 Yes
 No
- Matrix spike recoveries were within the required control limits (75-125%).
 Yes
 No

Notes: For laboratory batch L982304, the matrix spike was out of control limits for dissolved iron, with a recovery of 72 percent. Dissolved iron results for the thirteen samples in the batch were flagged to indicate the possibility of a low bias.

Flagging: J₄/UJ₄

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.
 Yes
 No
- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PRDL for water matrix.
 Yes
 No

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency
 Yes
 No
- LCS recoveries were within the required control limits (80-120% for water).
 Yes
 No

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:
 Total Recoverable vs Dissolved metals
 Lab pH vs field pH.
 TDS vs SC
 Lab SC vs field SC

Total Recoverable vs Dissolved metals: This relationship was in order.

Lab pH vs field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but five had percent differences less than ten percent. Samples collected at the following sites had percent differences greater than ten:

EP-24	11.1%	EP-58	12.7%	EP-56	14.4%
EP-26	19.9%	SEP-4	10.2%		

It is worth noting, however, that 94 percent (64 out of 68) of the field pH values were lower than those measured in the laboratory.

TDS vs SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. As in previous sampling events, the exception was for the sample collected at EP-49, where the ratio was equal to 142%. The ratios were distributed as follows:

less than 50%	0
50 to 59%	2
60 to 69%	26
70 to 79%	25
80 to 89%	21
90 to 99 %	1
over 100%	1

Lab SC vs field SC: This relationship was generally in order. Only four samples had percent differences greater than 15%. Of these, three had percent differences less than 25%. However, for the sample collected at EP-90, the field SC value was 512 μ mhos per cm compared to the laboratory SC value of 2660 μ mhos per cm.

- The laboratory SC value is in line with values previously obtained at this site.
- The TDS value is in line with laboratory SC.

As a result, the field SC value for EP-90 was rejected.

Flagging: R

11. HISTORICAL COMPARISON

Where there were more than three existing data points, the data for November 1998 were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

12. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQO's) met.**
 - Yes - for Laboratory Accuracy and Precision
 - No - for Field Accuracy and Precision
 - No - for Completeness

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

All laboratory quality control samples were within control limits, indicating good accuracy for the higher concentration results. However, no field blank were submitted with the November 1998 samples, making it impossible to fully evaluate the accuracy of low level results.

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All of the laboratory duplicate measurements and 97% of the field duplicate measurements (93 out of 96) were within control limits. (Note, however, that only 44% of the required field duplicates were submitted for analysis.)

Completeness

One measure of completeness is the percentage of valid results obtained. For the Summer 1998 El Paso RI monitoring,

⇒ 6.4 percent of the data were flagged (65 out of 1015 results);

⇒ 0.1 percent of the data were rejected (1 out of 1015 results).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- **Field measurements were incomplete.**
 - Field parameters were not taken at three wells (EP-25, EP-43, and EP-49) because of heavy hydrocarbon contamination and the possibility of damaging instrument probes.
 - Dissolved oxygen measurements were not taken for 6 wells due to a non-functioning probe.
 - Field SC was not measured at SEP-9 due to a non-functioning probe.

- **Field quality control samples were not submitted at the required frequency.** The work plan sets the frequency of both field blanks (DI) and field duplicates at one in twenty samples or one per day, whichever is more frequent. As discussed in the field quality control sections, this frequency was not met, making it impossible to evaluate the accuracy and precision of the data to the extent set out in the work plan. For a total of twelve days on which samples were collected,
 - No field blanks were submitted.
 - Only four field duplicates were submitted, 44 percent of the required number.
 - For the field duplicates that were submitted, duplicate field measurements were not taken.

REFERENCES

- Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.
- Hydrometrics, 1996. Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996
- U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983. (EPA, 1983)
- U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ -	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R -	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E -	<p>Estimated. (Not an EPA code.)</p>
A -	<p>Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

**Table 2. Summary of Flagged Data
El Paso Remedial Investigation, November 1998 Monitoring**

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EM-2	EPRI-9811-156	L982320-8	11/11/98	Total Suspended Solids	7.6	J4	Field duplicate RPD=22%
EM-4	EPRI-9811-157	L982320-7	11/11/98	Total Suspended Solids	<1.0	UJ4	Field duplicate RPD=22%
EM-5	EPRI-9811-158	L982320-10	11/11/98	Total Suspended Solids	4.7	J4	Field duplicate RPD=22%
EM-6	EPRI-9811-159	L982320-11	11/11/98	Total Suspended Solids	2.5	J4	Field duplicate RPD=22%
EM-7	EPRI-9811-160	L982320-12	11/11/98	Total Suspended Solids	294.0	J4	Field duplicate RPD=22%
EP-5	EPRI-9811-101	L982291-1	11/03/98	TDS (Measured at 180 C) Arsenic (As) (Dis)	1909.0 0.069	J3 J4	Holding time exceeded for reanalysis Field duplicate RPD=33%
EP-6	EPRI-9811-102	L982291-2	11/03/98	Arsenic (As) (Dis)	0.025	J4	Field duplicate RPD=33%
EP-7	EPRI-9811-103	L982291-3	11/03/98	Arsenic (As) (Dis)	0.049	J4	Field duplicate RPD=33%
EP-13	EPRI-9811-105	L982291-9	11/04/98	Arsenic (As) (Dis)	39.0	J4	Field duplicate RPD=33%
EP-14	EPRI-9811-106	L982291-10	11/04/98	Arsenic (As) (Dis)	2.2	J4	Field duplicate RPD=33%
EP-15	EPRI-9811-107	L982291-11	11/05/98	Arsenic (As) (Dis)	0.007	J4	Field duplicate RPD=33%
EP-20	EPRI-9811-108	L982291-4	11/04/98	Arsenic (As) (Dis)	0.92	J4	Field duplicate RPD=33%
EP-23	EPRI-9811-111	L982304-6	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	2.5 0.34	J4 J4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-26	EPRI-9811-114	L982291-7	11/04/98	Arsenic (As) (Dis)	0.28	J4	Field duplicate RPD=33%
EP-29	EPRI-9811-115	L982291-6	11/04/98	Arsenic (As) (Dis)	0.31	J4	Field duplicate RPD=33%
EP-35	EPRI-9811-116	L982291-5	11/04/98	Arsenic (As) (Dis)	0.59	J4	Field duplicate RPD=33%
EP-51	EPRI-9811-118	L982291-13	11/05/98	Arsenic (As) (Dis)	0.079	J4	Field duplicate RPD=33%
EP-51	EPRI-9811-178	L982291-14	11/05/98	Arsenic (As) (Dis)	0.11	J4	Field duplicate RPD=33%
EP-52	EPRI-9811-176	L982291-15	11/05/98	Arsenic (As) (Dis)	1.7	J4	Field duplicate RPD=33%
EP-53	EPRI-9811-179	L982304-4	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	56.0 <0.1	J4 UJ4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-54	EPRI-9811-119	L982304-1	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	50.0 0.24	J4 J4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-56	EPRI-9811-121	L982291-8	11/04/98	Arsenic (As) (Dis)	1.0	J4	Field duplicate RPD=33%
EP-59	EPRI-9811-124	L982304-7	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-60	EPRI-9811-125	L982304-11	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-62	EPRI-9811-127	L982304-9	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-63	EPRI-9811-128	L982304-10	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%

Table 2. Summary of Flagged Data
El Paso Remedial Investigation, November 1998 Monitoring

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-64	EPRI-9811-129	L982304-8	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-66	EPRI-9811-131	L982304-12	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-68	EPRI-9811-133	L982304-13	11/09/98	Iron (Fe) (Dis)	<0.1	UJ4	Matrix spike recovery 72%
EP-73	EPRI-9811-138	L982304-5	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	0.039 <0.1	J4 UJ4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-75	EPRI-9811-140	L982304-3	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	18.0 0.13	J4 J4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-76	EPRI-9811-141	L982304-2	11/05/98	Arsenic (As) (Dis) Iron (Fe) (Dis)	2.3 <0.1	J4 UJ4	Field duplicate RPD=33% Matrix spike recovery 72%
EP-77	EPRI-9811-142	L982320-13	11/11/98	Total Suspended Solids	412.0	J4	Field duplicate RPD=22%
EP-78	EPRI-9811-143	L982320-19	11/11/98	Total Suspended Solids	46.0	J4	Field duplicate RPD=22%
EP-79	EPRI-9811-144	L982320-17	11/11/98	Total Suspended Solids	47.0	J4	Field duplicate RPD=22%
EP-80	EPRI-9811-145	L982320-14	11/11/98	Total Suspended Solids	77.0	J4	Field duplicate RPD=22%
EP-81	EPRI-9811-146	L982320-15	11/11/98	Total Suspended Solids	43.0	J4	Field duplicate RPD=22%
EP-82	EPRI-9811-147	L982320-18	11/11/98	Total Suspended Solids	14.0	J4	Field duplicate RPD=22%
EP-83	EPRI-9811-148	L982320-24	11/12/98	Total Suspended Solids	17.0	J4	Field duplicate RPD=22%
EP-84	EPRI-9811-149	L982320-23	11/12/98	Total Suspended Solids	10.0	J4	Field duplicate RPD=22%
EP-85	EPRI-9811-150	L982320-16	11/11/98	Total Suspended Solids	13.0	J4	Field duplicate RPD=22%
EP-86	EPRI-9811-151	L982320-20	11/12/98	Total Suspended Solids	183.0	J4	Field duplicate RPD=22%
EP-86	EPRI-9811-181	L982320-21	11/12/98	Total Suspended Solids	146.0	J4	Field duplicate RPD=22%
EP-88	EPRI-9811-153	L982320-9	11/11/98	Total Suspended Solids	16.0	J4	Field duplicate RPD=22%
EP-90	EPRI-9811-139	L982291-12	11/05/98	Field Specific Conductivity (μ hos per cm) Arsenic (As) (Dis)	512 0.17	R J4	Historical values; TDS to SC ratio Field duplicate RPD=33%
POND 1	EPRI-9811-171	L982359-2	11/18/98	Iron (Fe) (TRC)	1.1	J4	Field duplicate RPD=32%
POND 6	EPRI-9811-173	L982320-25	11/12/98	Total Suspended Solids	44.0	J4	Field duplicate RPD=22%
SEP-2	EPRI-9811-162	L982359-6	11/18/98	Iron (Fe) (TRC)	0.31	J4	Field duplicate RPD=32%
SEP-4	EPRI-9811-164	L982359-3	11/18/98	Iron (Fe) (TRC)	0.38	J4	Field duplicate RPD=32%
SEP-7	EPRI-9811-165	L982359-10	11/18/98	Iron (Fe) (TRC)	0.25	J4	Field duplicate RPD=32%
SEP-9	EPRI-9811-166	L982359-11	11/18/98	Iron (Fe) (TRC)	0.19	J4	Field duplicate RPD=32%
SEP-10	EPRI-9811-167	L982359-9	11/18/98	Iron (Fe) (TRC)	0.27	J4	Field duplicate RPD=32%

Table 2. Summary of Flagged Data
El Paso Remedial Investigation, November 1998 Monitoring

Site	Sample No.	Lab No.	Date	Parameter	Result	Flag	Reason for Flag
SEP-11	EPRI-9811-168	L982359-7	11/18/98	Iron (Fe) (TRC)	0.47	J4	Field duplicate RPD=32%
SEP-11	EPRI-9811-182	L982359-8	11/18/98	Iron (Fe) (TRC)	0.34	J4	Field duplicate RPD=32%
SEP-12	EPRI-9811-169	L982359-5	11/18/98	Iron (Fe) (TRC)	0.3	J4	Field duplicate RPD=32%
SEP-13	EPRI-9811-170	L982359-4	11/18/98	Iron (Fe) (TRC)	0.27	J4	Field duplicate RPD=32%
SEP-14	EPRI-9811-174	L982320-22	11/12/98	Total Suspended Solids	50.0	J4	Field duplicate RPD=22%

TABLE 3.
SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR
OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

DataMan Program

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SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			RELATION TO DATABASE PERIOD		
				N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
EM-2	11/11/98	0.085	ZINC (ZN) DIS	08/26/97-08/13/98	5	<0.020	0.0238	0.031	> 10 HIGHEST
EM-4	11/11/98	0.13	ZINC (ZN) DIS	08/26/97-08/13/98	5	<0.020	0.0262	0.032	> 10 HIGHEST
EM-5	11/11/98	3.5	OXYGEN (O) (FLD) DIS	08/11/97-08/17/98	6	0.18	0.9960	1.84	4.13 HIGHEST
		2.0	ARSENIC (AS) DIS	08/26/97-08/17/98	5	1.6	1.6800	1.8	3.82 HIGHEST
EM-6	11/11/98	7.45	PH (FLD)	08/11/97-08/17/98	5	7.04	7.1640	7.25	3.61 HIGHEST
		3550.0	SC (UMHOS/CM AT 25 C)	08/11/97-08/17/98	5	4090.0	4408.0000	4600.0	4.22 LOWEST
		2462.0	TDS (MEASURED AT 180 C)	08/11/97-08/17/98	5	2874.0	3226.0000	3400.0	3.51 LOWEST
		108.0	CALCIUM (CA) DIS	08/11/97-08/17/98	5	117.0	122.4000	127.0	3.68 LOWEST
		60.0	MAGNESIUM (MG) DIS	08/11/97-08/17/98	5	71.0	76.6000	80.0	4.94 LOWEST
		688.0	SODIUM (NA) DIS	08/11/97-08/17/98	5	865.0	890.6000	912.0	> 10 LOWEST
		345.0	CHLORIDE (CL)	08/11/97-08/17/98	5	390.0	427.2000	454.0	3.13 LOWEST
		0.076	SELENIUM (SE) DIS	08/11/97-08/17/98	5	0.099	0.1078	0.12	3.69 LOWEST
		0.12	ZINC (ZN) DIS	08/11/97-08/17/98	5	.030	0.0406	0.052	9.54 HIGHEST
EM-7	11/11/98	294.0	TOTAL SUSPENDED SOLIDS	11/17/97-08/20/98	4	9.2	54.0500	116.0	5.30 HIGHEST
EP-5	11/03/98	7.04	PH (FLD)	08/06/97-08/05/98	5	7.36	7.5600	7.81	3.12 LOWEST
EP-6	11/03/98	7.7	PH	08/06/97-08/05/98	5	7.9	7.9600	8.0	4.75 LOWEST
EP-7	11/03/98	7.6	PH	08/06/97-08/05/98	5	7.8	7.8400	7.9	4.38 LOWEST
		1790.0	TDS (MEASURED AT 180 C)	08/06/97-08/05/98	5	1930.0	1952.4000	1978.0	7.38 LOWEST
		446.0	SODIUM (NA) DIS	08/06/97-08/05/98	5	484.0	498.8000	512.0	4.57 LOWEST
EP-12	11/16/98	329.0	TOTAL SUSPENDED SOLIDS	11/03/97-08/27/98	4	7.9	69.5500	174.0	3.28 HIGHEST
EP-13	11/04/98	7.4	PH	08/07/97-08/06/98	5	7.7	7.7200	7.8	7.16 LOWEST
		147.0	TOTAL SUSPENDED SOLIDS	08/07/97-08/06/98	5	3.4	19.9400	52.0	6.55 HIGHEST
EP-14	11/04/98	32.0	TOTAL SUSPENDED SOLIDS	11/05/97-08/06/98	4	1.1	2.8000	3.9	> 10 HIGHEST
EP-15	11/05/98	59.2	DEPTH TO WATER LEVEL (FEET)	08/07/97-08/10/98	5	58.22	58.5160	58.64	4.04 HIGHEST
		0.048	ZINC (ZN) DIS	08/07/97-08/10/98	5	<0.020	0.0250	0.031	4.16 HIGHEST
EP-20	11/04/98	274.0	MAGNESIUM (MG) DIS	08/07/97-08/06/98	5	292.0	312.0000	323.0	3.11 LOWEST
EP-21	11/16/98	7.57	PH (FLD)	02/18/98-08/24/98	3	7.26	7.3233	7.41	3.18 HIGHEST
EP-26	11/04/98	6.4	PH	08/11/97-08/12/98	5	7.0	7.2600	7.4	5.14 LOWEST
EP-29	11/04/98	3350.0	SC (UMHOS/CM AT 25 C)	08/07/97-08/06/98	5	2960.0	3080.0000	3180.0	3.42 HIGHEST
		89.0	TOTAL SUSPENDED SOLIDS	08/07/97-08/06/98	5	1.1	23.2200	56.0	3.22 HIGHEST
		372.0	CHLORIDE (CL)	08/07/97-08/06/98	5	289.0	313.0000	339.0	3.23 HIGHEST
EP-35	11/04/98	125.0	MAGNESIUM (MG) DIS	08/07/97-08/06/98	5	152.0	165.2000	176.0	4.50 LOWEST
		986.0	SODIUM (NA) DIS	08/07/97-08/06/98	5	1108.0	1138.8000	1192.0	4.43 LOWEST
EP-43	11/16/98	753.0	TOTAL SUSPENDED SOLIDS	11/03/97-08/27/98	4	14.0	25.7500	40.0	> 10 HIGHEST
		848.0	BICARBONATE (HCO3)	11/03/97-08/27/98	4	631.0	660.2500	720.0	4.54 HIGHEST
		7.0	ARSENIC (AS) DIS	11/03/97-08/27/98	4	0.72	0.8700	1.2	> 10 HIGHEST
		9.0	IRON (FE) DIS	11/03/97-08/27/98	4	0.15	0.7550	1.6	> 10 HIGHEST
EP-49	11/16/98	1549.0	SODIUM (NA) DIS	11/19/97-08/27/98	4	614.0	864.5000	1045.0	3.76 HIGHEST
		240.0	POTASSIUM (K) DIS	11/19/97-08/27/98	4	182.0	200.7500	209.0	3.11 HIGHEST
EP-51	11/05/98	535.0	CALCIUM (CA) DIS	08/26/97-08/12/98	5	628.0	656.8000	690.0	5.52 LOWEST
		1133.0	SODIUM (NA) DIS	08/26/97-08/12/98	5	1304.0	1396.0000	1501.0	3.20 LOWEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
A & R Plugs were excluded from Statistics The detection limit was used in calculations.

TABLE 3.
SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR
OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

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ASARCO, EL PASO Nov98 to all, >3

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N						
EP-51	11/05/98	7079.0	TDS (MEASURED AT 180 C)	08/26/97-08/12/98	5	8072.0	8850.2000	9539.	3.20	LOWEST	
		543.0	CALCIUM (CA) DIS	08/26/97-08/12/98	5	628.0	656.8000	690.0	5.15	LOWEST	
		1145.0	SODIUM (NA) DIS	08/26/97-08/12/98	5	1304.0	1396.0000	1501.0	3.05	LOWEST	
EP-52	11/05/98	6.6	PH	11/06/97-08/12/98	3	6.9	7.0000	7.1	4.00	LOWEST	
		0.13	LEAD (PB) DIS	11/06/97-08/12/98	3	0.043	0.0457	0.050	> 10	HIGHEST	
EP-53	11/05/98	7.08	PH (FLD)	08/11/97-08/12/98	4	6.43	6.5875	6.68	4.34	HIGHEST	
		1.6	CADMIUM (CD) DIS	08/11/97-08/12/98	4	1.3	1.3500	1.4	4.33	HIGHEST	
EP-54	11/05/98	5.8	OXYGEN (O) (FLD) DIS	08/11/97-08/12/98	5	1.64	2.2740	3.35	5.19	HIGHEST	
		9280.0	SC (UMHOS/CM AT 25 C) (FLD)	08/11/97-08/12/98	5	10470	11354.0000	12010	3.27	LOWEST	
		8.1	NITRATE + NITRITE AS N	08/26/97-08/12/98	5	.24	1.5880	3.1	4.84	HIGHEST	
		0.11	SELENIUM (SE) DIS	08/26/97-08/12/98	5	0.065	0.0716	0.082	5.34	HIGHEST	
EP-55	11/16/98	40.0	ARSENIC (AS) DIS	08/15/97-08/27/98	5	56.0	59.0000	62.	7.45	LOWEST	
EP-56	11/04/98	49.99	DEPTH TO WATER LEVEL (FEET)	08/11/97-08/12/98	6	48.51	48.9667	49.38	3.14	HIGHEST	
		6.38	PH (FLD)	08/11/97-08/12/98	6	7.03	7.1717	7.34	7.31	LOWEST	
		7.3	PH	08/26/97-08/12/98	5	7.6	7.6400	7.8	3.80	LOWEST	
		0.018	SELENIUM (SE) DIS	08/26/97-08/12/98	5	0.036	0.0494	0.058	3.54	LOWEST	
EP-57	11/16/98	2070.0	SC (UMHOS/CM AT 25 C)	08/16/97-08/24/98	5	2610.0	3032.0000	3330	3.33	LOWEST	
		174.0	CHLORIDE (CL)	08/16/97-08/24/98	5	258.0	270.0000	284.	8.71	LOWEST	
EP-58	11/16/98	7.2	PH	08/16/97-08/24/98	5	6.8	6.8800	7.0	3.82	HIGHEST	
EP-59	11/09/98	1762.0	SULFATE (SO4)	08/09/97-08/10/98	5	1551.0	1593.4000	1643.0	3.95	HIGHEST	
		0.22	ZINC (ZN) DIS	08/09/97-08/10/98	5	<0.020	0.0306	0.046	> 10	HIGHEST	
EP-60	11/09/98	0.15	ZINC (ZN) DIS	08/08/97-08/10/98	5	0.021	0.0362	0.055	7.12	HIGHEST	
EP-62	11/09/98	7.3	PH (FLD)	08/09/97-08/10/98	5	7.09	7.1440	7.21	3.16	HIGHEST	
		52.0	POTASSIUM (K) DIS	08/09/97-08/10/98	5	63.0	66.8000	72.	4.00	LOWEST	
		0.14	ZINC (ZN) DIS	08/09/97-08/10/98	5	.023	0.0354	0.069	5.22	HIGHEST	
EP-63	11/09/98	7.28	PH (FLD)	08/09/97-08/10/98	5	7.08	7.1360	7.16	4.28	HIGHEST	
		0.025	ARSENIC (AS) DIS	08/09/97-08/10/98	5	.019	0.0204	0.022	4.03	HIGHEST	
		0.11	ZINC (ZN) DIS	08/09/97-08/10/98	5	.022	0.0390	0.066	3.71	HIGHEST	
EP-64	11/09/98	0.32	ZINC (ZN) DIS	08/09/97-08/10/98	5	.023	0.0394	0.067	> 10	HIGHEST	
EP-66	11/09/98	31.0	NITRATE + NITRITE AS N	08/08/97-08/10/98	5	40.	42.6000	45.0	4.82	LOWEST	
		0.63	ZINC (ZN) DIS	08/08/97-08/10/98	5	0.024	0.0496	0.092	> 10	HIGHEST	
EP-67	11/10/98	0.08	ZINC (ZN) DIS	08/12/97-08/13/98	5	0.020	0.0278	0.038	7.22	HIGHEST	
EP-68	11/09/98	7.4	PH (FLD)	08/14/97-08/13/98	5	6.93	7.1020	7.17	3.01	HIGHEST	
		0.071	ZINC (ZN) DIS	08/14/97-08/13/98	5	<0.020	0.0236	0.031	> 10	HIGHEST	
EP-70	11/10/98	0.2	SELENIUM (SE) DIS	11/07/97-08/13/98	4	0.21	0.2175	0.22	3.50	LOWEST	
EP-71	11/10/98	5750.0	SC (UMHOS/CM AT 25 C)	11/07/97-08/13/98	4	6290.0	6492.5000	6770.0	3.69	LOWEST	
		285.0	BICARBONATE (HCO3)	11/07/97-08/13/98	4	298.0	302.5000	307.0	4.16	LOWEST	
		0.081	ZINC (ZN) DIS	11/07/97-08/13/98	4	0.023	0.0263	0.028	> 10	HIGHEST	
EP-72	11/10/98	24.5	WATER TEMPERATURE (C) (FLD)	08/12/97-08/13/98	5	25	25.3200	25.7	3.17	LOWEST	
		1086.0	SODIUM (NA) DIS	08/12/97-08/13/98	5	985.0	1006.6000	1040.0	3.65	HIGHEST	
		0.45	ARSENIC (AS) DIS	08/12/97-08/13/98	5	.48	0.4920	0.50	5.02	LOWEST	
EP-73	11/05/98	68.38	DEPTH TO WATER LEVEL (FEET)	08/12/97-08/17/98	5	70.20	70.9240	71.32	5.52	LOWEST	

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DataMan Program

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
					N						
EP-75	11/05/98	330.0	POTASSIUM (K) DIS	08/12/97-08/17/98	5	182.0	393.6000	417.0	4.62	LOWEST	
		15.0	NITRATE + NITRITE AS N	08/12/97-08/17/98	5	21.0	23.0000	25	5.06	LOWEST	
		5.0	OXYGEN (O) (FLD) DIS	08/12/97-08/17/98	5	1.11	1.6280	2.40	6.08	HIGHEST	
		111.0	NITRATE + NITRITE AS N	08/12/97-08/17/98	5	148.0	177.2000	193.0	3.68	LOWEST	
		0.007	LEAD (PB) DIS	08/12/97-08/17/98	5	.003	0.0034	0.005	4.02	HIGHEST	
EP-76	11/05/98	0.44	ZINC (ZN) DIS	08/12/97-08/17/98	5	0.14	0.1480	0.16	> 10	HIGHEST	
		7.61	PH (FLD)	08/12/97-08/17/98	5	7.21	7.2500	7.39	4.59	HIGHEST	
		5680.0	SC (UMHOS/CM AT 25 C)	08/12/97-08/17/98	5	4670.0	4930.0000	5110	3.99	HIGHEST	
		4278.0	TDS (MEASURED AT 180 C)	08/12/97-08/17/98	5	3497.0	3749.6000	3967.	3.03	HIGHEST	
		1084.0	SODIUM (NA) DIS	08/12/97-08/17/98	5	882.0	916.0000	985.0	3.77	HIGHEST	
		198.0	POTASSIUM (K) DIS	08/12/97-08/17/98	5	58.0	64.6000	72.	> 10	HIGHEST	
		2.4	FLUORIDE (F)	08/12/97-08/17/98	5	1.9	2.0200	2.1	3.47	HIGHEST	
		2.3	ARSENIC (AS) DIS	08/12/97-08/17/98	5	0.41	0.4660	0.54	> 10	HIGHEST	
		0.023	LEAD (PB) DIS	08/12/97-08/17/98	5	<0.003	0.0054	0.008	8.49	HIGHEST	
		0.51	SELENIUM (SE) DIS	08/12/97-08/17/98	5	0.13	0.1480	0.17	> 10	HIGHEST	
		EP-77	11/11/98	6.8	ARSENIC (AS) DIS	08/12/97-08/17/98	5	5.4	5.7600	6.1	3.61
<0.003	LEAD (PB) DIS			08/12/97-08/17/98	5	0.005	0.0052	.006	4.92	LOWEST	
0.063	ZINC (ZN) DIS			08/12/97-08/17/98	5	0.022	0.0278	0.037	5.73	HIGHEST	
EP-78	11/11/98	28.09	DEPTH TO WATER LEVEL (FEET)	08/13/97-08/19/98	5	31.10	32.0260	33.59	3.29	LOWEST	
		8.05	PH (FLD)	08/13/97-08/19/98	5	7.69	7.7340	7.78	7.83	HIGHEST	
		46.0	TOTAL SUSPENDED SOLIDS	08/13/97-08/19/98	5	1.8	9.1000	18.0	6.15	HIGHEST	
		0.74	SELENIUM (SE) DIS	08/13/97-08/19/98	5	0.21	0.2540	.35	8.69	HIGHEST	
EP-79	11/11/98	7.67	PH (FLD)	08/13/97-08/19/98	5	7.42	7.4680	7.52	4.67	HIGHEST	
		53.0	CALCIUM (CA) DIS	08/13/97-08/19/98	5	56.0	58.4000	60.0	3.56	LOWEST	
		62.0	MAGNESIUM (MG) DIS	08/13/97-08/19/98	5	69.0	71.8000	74.0	4.52	LOWEST	
EP-81	11/11/98	294.0	SODIUM (NA) DIS	08/13/97-08/19/98	5	311.0	327.0000	336.0	3.47	LOWEST	
		12.0	NITRATE + NITRITE AS N	08/13/97-08/19/98	5	6.2	7.7200	9.4	3.47	HIGHEST	
		0.089	ARSENIC (AS) DIS	08/13/97-08/19/98	5	0.19	0.2420	0.32	3.08	LOWEST	
		0.11	ZINC (ZN) DIS	08/13/97-08/19/98	5	<.020	0.0258	0.038	> 10	HIGHEST	
EP-82	11/11/98	7.33	PH (FLD)	08/13/97-08/19/98	5	6.94	7.0620	7.16	3.15	HIGHEST	
		0.042	ZINC (ZN) DIS	08/13/97-08/19/98	5	<.020	0.0226	0.027	6.54	HIGHEST	
EP-84	11/12/98	0.009	CADMIUM (CD) DIS	08/13/97-08/19/98	5	0.006	0.0066	0.007	4.38	HIGHEST	
		0.096	ZINC (ZN) DIS	08/13/97-08/19/98	5	0.035	0.0446	0.052	7.95	HIGHEST	
EP-85	11/11/98	1.5	OXYGEN (O) (FLD) DIS	08/13/97-08/19/98	5	0.140	0.3880	0.61	6.07	HIGHEST	
		7.51	PH (FLD)	08/13/97-08/19/98	5	7.30	7.3480	7.39	4.38	HIGHEST	
EP-88	11/11/98	4.9	OXYGEN (O) (FLD) DIS	08/12/97-08/17/98	5	0.430	0.9500	1.53	9.23	HIGHEST	
		4940.0	SC (UMHOS/CM AT 25 C)	08/12/97-08/17/98	5	5150	5296.0000	5400.0	3.50	LOWEST	
		2.2	NITRATE + NITRITE AS N	08/12/97-08/17/98	5	0.81	1.0720	1.7	3.15	HIGHEST	
		0.17	ZINC (ZN) DIS	08/12/97-08/17/98	5	.025	0.0290	0.036	> 10	HIGHEST	
EP-89	11/10/98	13.46	DEPTH TO WATER LEVEL (FEET)	08/12/97-08/13/98	5	14.93	15.0840	15.26	> 10	LOWEST	
EP-90	11/05/98	56.55	DEPTH TO WATER LEVEL (FEET)	12/12/97-08/17/98	4	53.59	54.1325	54.64	5.09	HIGHEST	
		512.0	SC (UMHOS/CM AT 25 C) (FLD)	12/12/97-08/17/98	4	2390	3187.5000	3920	3.62	LOWEST	
POND 1	11/18/98	7.38	PH (FLD)	12/22/97-08/18/98	4	7.58	7.7750	7.85	3.02	LOWEST	
POND 6	11/12/98	0.27	CADMIUM (CD) DIS	12/22/97-08/18/98	4	0.059	0.1148	0.15	3.96	HIGHEST	
SEP-2	11/18/98	8.4	OXYGEN (O) (FLD) DIS	08/15/97-08/18/98	4	6.25	6.5525	7.15	4.51	HIGHEST	
		12.0	POTASSIUM (K) DIS	08/15/97-08/18/98	5	7.5	8.2200	9.3	5.36	HIGHEST	

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The detection limit was used in calculations.

TABLE 3.

SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

DataMan Program

ASARCO, EL PASO Nov98 to all, >3

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE		MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	RELATION TO DATABASE	
				PERIOD	N				STD DEVS FROM MEAN	DATABASE PERIOD
SEP-4	11/18/98	7.71	PH (FLD)	08/15/97-08/20/98	5	8.39	8.5560	8.86	4.49	LOWEST
		12.0	POTASSIUM (K) DIS	08/15/97-08/20/98	5	7.8	8.1200	8.7	> 10	HIGHEST
SEP-9	11/18/98	12.0	POTASSIUM (K) DIS	08/15/97-08/18/98	5	8.7	9.4200	10.0	4.26	HIGHEST
SEP-11	11/18/98	12.0	POTASSIUM (K) DIS	08/15/97-08/18/98	5	8.2	8.9600	9.7	4.52	HIGHEST
SEP-11	11/18/98	12.0	POTASSIUM (K) DIS	08/15/97-08/18/98	5	8.2	8.9600	9.7	4.52	HIGHEST
SEP-13	11/18/98	8.06	PH (FLD)	08/15/97-08/20/98	5	8.39	8.5120	8.68	3.66	LOWEST
		12.0	POTASSIUM (K) DIS	08/15/97-08/20/98	5	7.5	8.4600	9.7	4.22	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics The detection limit was used in calculations.

APPENDIX 2
DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1	Groundwater		
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
3	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
4	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
5	EP-21	EP-21	Groundwater		
6	EP-22	EP-22	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
8	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
9	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
15	EP-72	EP-72	Groundwater		
16	EP-73	EP-73	Groundwater		
16	EP-75	EP-75	Groundwater		
16	EP-76	EP-76	Groundwater		
17	EP-77	EP-77	Groundwater		
17	EP-78	EP-78	Groundwater		
17	EP-79	EP-79	Groundwater		
18	EP-80	EP-80	Groundwater		
18	EP-81	EP-81	Groundwater		
18	EP-82	EP-82	Groundwater		
19	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
20	EP-86	EP-86	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
21	EP-90	EP-90	Groundwater		
22	POND 1	POND 1	Surface Water		
22	POND 6	POND 6	Surface Water		
22	SEP-2	SEP-2	Surface Water		
23	SEP-4	SEP-4	Surface Water		
23	SEP-7	SEP-7	Surface Water		
23	SEP-9	SEP-9	Surface Water		
24	SEP-10	SEP-10	Surface Water		
24	SEP-11	SEP-11	Surface Water		
24	SEP-12	SEP-12	Surface Water		

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
25	SEP-13	SEP-13	Surface Water		
25	SEP-14	EPHEMERAL PONDED AREA	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-1	EM-2	EM-4
SAMPLE DATE	11/18/98	11/11/98	11/11/98
SAMPLE TIME	08:30	08:40	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982359-1	L982320-8	L982320-7
SAMPLE NUMBER	EPRI-9811-155	EPRI-9811-156	EPRI-9811-157

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	67.32	63.92	62.0
OXYGEN (O) (FLD) DIS	2.2	3.5	1.9
PH (FLD)	7.06	7.23	6.95
PH	7.6	7.5	7.4
SC (UMHOS/CM AT 25 C)	5580.0	4260.0	10460.0
SC (UMHOS/CM AT 25 C) (FLD)	5540.0	4190.0	10370.0
TDS (MEASURED AT 180 C)	4258.0	3150.0	6473.0
TOTAL SUSPENDED SOLIDS	59.0	7.6 J4	<1.0 UJ4
WATER TEMPERATURE (C) (FLD)	20.7	22.3	21.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	220.0	185.0	440.0
MAGNESIUM (MG) DIS	121.0	71.0	196.0
SODIUM (NA) DIS	983.0	773.0	1551.0
POTASSIUM (K) DIS	30.0	15.0	34.0
BICARBONATE (HCO3)	234.0	332.0	168.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1948.0	1375.0	500.0
CHLORIDE (CL)	757.0	457.0	3268.0
FLUORIDE (F)	0.77	1.4	1.2

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.05	19.0	0.24
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.007	0.54	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	0.009
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.018	0.12	<0.005
ZINC (ZN) DIS	0.02	0.085	0.13

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EM-5	EM-6	EM-7
SITE CODE	EM-5	EM-6	EM-7
SAMPLE DATE	11/11/98	11/11/98	11/11/98
SAMPLE TIME	09:40	10:00	10:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982320-10	L982320-11	L982320-12
SAMPLE NUMBER	EPRI-9811-158	EPRI-9811-159	EPRI-9811-160
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	14.54	36.71	8.42
OXYGEN (O) (FLD) DIS	3.5	1.4	2.3
PH (FLD)	7.43	7.45	7.54
PH	7.6	7.8	7.6
SC (UMHOS/CM AT 25 C)	5090.0	3550.0	5310.0
SC (UMHOS/CM AT 25 C) (FLD)	5030.0	3590.0	5190.0
TDS (MEASURED AT 180 C)	3771.0	2462.0	3952.0
TOTAL SUSPENDED SOLIDS	4.7 J4	2.5 J4	294.0 J4
WATER TEMPERATURE (C) (FLD)	23.7	23.6	25.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	195.0	108.0	198.0
MAGNESIUM (MG) DIS	42.0	60.0	36.0
SODIUM (NA) DIS	1056.0	688.0	1139.0
POTASSIUM (K) DIS	55.0	13.0	43.0
BICARBONATE (HCO3)	203.0	317.0	348.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1718.0	1167.0	1731.0
CHLORIDE (CL)	586.0	345.0	546.0
FLUORIDE (F)	7.1	1.7	6.6
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.1	5.9	<0.1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	2.0	0.031	2.1
CADMIUM (CD) DIS	0.081	0.006	0.014
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.028	0.063	<0.025
IRON (FE) DIS	1.0	<0.1	0.29
LEAD (PB) DIS	<0.003	<0.003	0.019
SELENIUM (SE) DIS	<0.005	0.076	0.02
ZINC (ZN) DIS	0.3	0.12	0.079

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	BP-5	BP-6	BP-7
SITE CODE	BP-5	BP-6	BP-7
SAMPLE DATE	11/03/98	11/03/98	11/03/98
SAMPLE TIME	14:00	14:15	14:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982291-1	L982291-2	L982291-3
SAMPLE NUMBER	EPRI-9811-101	EPRI-9811-102	EPRI-9811-103
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	5.6	6.68	6.0
OXYGEN (O) (FLD) DIS	1.0	1.5	1.2
PH (FLD)	7.04	7.33	7.31
PH	7.6	7.7	7.6
SC (UMHOS/CM AT 25 C)	3010.0	7120.0	2660.0
SC (UMHOS/CM AT 25 C) (FLD)	2890.0	7030.0	2610.0
TDS (MEASURED AT 180 C)	1909.0 J3	5710.0	1790.0
TOTAL SUSPENDED SOLIDS	71.0	7.5	18.0
WATER TEMPERATURE (C) (FLD)	25.3	24.1	23.9
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	77.0	364.0	83.0
MAGNESIUM (MG) DIS	30.0	110.0	27.0
SODIUM (NA) DIS	577.0	1348.0	446.0
POTASSIUM (K) DIS	11.0	30.0	9.0
BICARBONATE (HCO3)	932.0	454.0	289.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	331.0	2205.0	567.0
CHLORIDE (CL)	328.0	860.0	322.0
FLUORIDE (F)	2.7	1.5	1.9
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	4.3	<0.05
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.069 J4	0.025 J4	0.049 J4
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.03	<0.025	<0.025
IRON (FE) DIS	0.16	<0.1	0.74
LEAD (PB) DIS	0.005	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.035	<0.005
ZINC (ZN) DIS	0.033	0.022	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-12	EP-13	EP-14
SITE CODE	EP-12	EP-13	EP-14
SAMPLE DATE	11/16/98	11/04/98	11/04/98
SAMPLE TIME	11:00	15:10	15:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982343-5	L982291-9	L982291-10
SAMPLE NUMBER	EPRI-9811-104	EPRI-9811-105	EPRI-9811-106
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	61.3	60.46	59.81
OXYGEN (O) (FLD) DIS	1.7	7.2	1.0
PH (FLD)	6.88	7.12	6.92
PH	7.5	7.4	7.2
SC (UMHOS/CM AT 25 C)	5580.0	11420.0	4230.0
SC (UMHOS/CM AT 25 C) (FLD)	5710.0	12670.0	4600.0
TDS (MEASURED AT 180 C)	4367.0	9662.0	3253.0
TOTAL SUSPENDED SOLIDS	329.0	147.0	32.0
WATER TEMPERATURE (C) (FLD)	21.7	25.1	25.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	334.0	359.0	248.0
MAGNESIUM (MG) DIS	115.0	65.0	62.0
SODIUM (NA) DIS	1024.0	2684.0	640.0
POTASSIUM (K) DIS	18.0	85.0	46.0
BICARBONATE (HCO3)	883.0	428.0	432.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2731.0	4881.0	1542.0
CHLORIDE (CL)	547.0	812.0	294.0
FLUORIDE (F)	1.0	1.4	2.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	16.0	73.0	10.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	1.6	39.0 J4	2.2 J4
CADMIUM (CD) DIS	<0.005	0.77	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.75	<0.1	0.18
LEAD (PB) DIS	<0.003	<0.003	0.003
SELENIUM (SE) DIS	0.29	5.7	0.18
ZINC (ZN) DIS	0.021	0.072	0.022

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-15	EP-20	EP-21
SITE CODE	EP-15	EP-20	EP-21
SAMPLE DATE	11/05/98	11/04/98	11/16/98
SAMPLE TIME	08:30	08:25	14:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982291-11	L982291-4	L982343-8
SAMPLE NUMBER	EPRI-9811-107	EPRI-9811-108	EPRI-9811-109
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	59.2	14.54	30.42
OXYGEN (O) (FLD) DIS	1.5	1.6	0.2
PH (FLD)	7.21	6.92	7.57
PH	7.6	7.1	8.0
SC (UMHOS/CM AT 25 C)	3090.0	10370.0	5690.0
SC (UMHOS/CM AT 25 C) (FLD)	3040.0	10130.0	5630.0
TDS (MEASURED AT 180 C)	2150.0	8932.0	3497.0
TOTAL SUSPENDED SOLIDS	110.0	90.0	34.0
WATER TEMPERATURE (C) (FLD)	22.2	23.0	25.0
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	121.0	493.0	60.0
MAGNESIUM (MG) DIS	41.0	274.0	46.0
SODIUM (NA) DIS	510.0	1816.0	1022.0
POTASSIUM (K) DIS	11.0	57.0	450.0
BICARBONATE (HCO3)	283.0	361.0	2084.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	869.0	4376.0	404.0
CHLORIDE (CL)	308.0	739.0	675.0
FLUORIDE (F)	0.93	2.5	5.5
-- NUTRIENTS --			
NITRATE + NITRITE AS N	18.0	148.0	<0.05
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.007 J4	0.92 J4	0.034
CADMIUM (CD) DIS	<0.005	0.034	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.2
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.14	0.37	0.016
ZINC (ZN) DIS	0.048	0.051	0.026

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-22	EP-23	EP-24
SITE CODE	EP-22	EP-23	EP-24
SAMPLE DATE	11/16/98	11/05/98	11/16/98
SAMPLE TIME	13:30	16:15	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982343-7	L982304-6	L982343-9
SAMPLE NUMBER	EPRI-9811-110	EPRI-9811-111	EPRI-9811-112
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	38.92	26.4	36.3
OXYGEN (O) (FLD) DIS	0.9	0.6	0.6
PH (FLD)	7.51	7.5	6.93
PH	8.0	7.5	7.7
SC (UMHOS/CM AT 25 C)	7480.0	5790.0	5390.0
SC (UMHOS/CM AT 25 C) (FLD)	7480.0	4650.0	5220.0
TDS (MEASURED AT 180 C)	4045.0	3517.0	3328.0
TOTAL SUSPENDED SOLIDS	441.0	176.0	12.0
WATER TEMPERATURE (C) (FLD)	23.7	22.6	23.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	54.0	115.0	179.0
MAGNESIUM (MG) DIS	78.0	64.0	53.0
SODIUM (NA) DIS	1292.0	829.0	1051.0
POTASSIUM (K) DIS	126.0	52.0	29.0
BICARBONATE (HCO3)	1742.0	414.0	1305.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1407.0	1925.0	298.0
CHLORIDE (CL)	777.0	484.0	1087.0
FLUORIDE (F)	5.2	2.9	2.4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	13.0	<0.05	<0.05
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.008	2.5 J4	0.062
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	0.34 J4	0.16
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.054	<0.005	<0.005
ZINC (ZN) DIS	0.083	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-25	EP-26	EP-29
SITE CODE	EP-25	EP-26	EP-29
SAMPLE DATE	11/16/98	11/04/98	11/04/98
SAMPLE TIME	15:10	10:15	09:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982343-10	L982291-7	L982291-6
REMARKS	HEAVY SHEEN		
SAMPLE NUMBER	EPRI-9811-113	EPRI-9811-114	EPRI-9811-115

-- PHYSICAL PARAMETERS --

	EP-25	EP-26	EP-29
DEPTH TO WATER LEVEL (FEET)	48.88	48.05	15.21
OXYGEN (O) (FLD) DIS		5.7	5.2
PH (FLD)		7.99	8.42
PH	7.5	6.4	8.5
SC (UMHOS/CM AT 25 C)	5470.0	412.0	3350.0
SC (UMHOS/CM AT 25 C) (FLD)		448.0	3150.0
TDS (MEASURED AT 180 C)	3422.0	282.0	2185.0
TOTAL SUSPENDED SOLIDS	166.0	146.0	89.0
WATER TEMPERATURE (C) (FLD)		22.1	21.3

-- MAJOR CONSTITUENTS --

	EP-25	EP-26	EP-29
CALCIUM (CA) DIS	113.0	21.0	40.0
MAGNESIUM (MG) DIS	35.0	3.1	23.0
SODIUM (NA) DIS	1134.0	44.0	646.0
POTASSIUM (K) DIS	128.0	7.3	22.0
BICARBONATE (HCO3)	1440.0	24.0	217.0
CARBONATE AS CO3	<1.0	<1.0	10.0
SULFATE (SO4)	515.0	104.0	981.0
CHLORIDE (CL)	852.0	19.0	372.0
FLUORIDE (F)	1.9	0.77	2.8

-- NUTRIENTS --

	EP-25	EP-26	EP-29
NITRATE + NITRITE AS N	0.055	3.8	8.9

-- METALS & MINOR CONSTITUENTS --

	EP-25	EP-26	EP-29
ARSENIC (AS) DIS	2.4	0.28 J4	0.31 J4
CADMIUM (CD) DIS	<0.005	0.44	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	0.026	<0.025
IRON (FE) DIS	1.3	<0.1	<0.1
LEAD (PB) DIS	<0.003	0.003	<0.003
SELENIUM (SE) DIS	0.063	0.23	0.22
ZINC (ZN) DIS	<0.02	1.5	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-35	EP-43	EP-49
SITE CODE	EP-35	EP-43	EP-49
SAMPLE DATE	11/04/98	11/16/98	11/16/98
SAMPLE TIME	08:50	11:15	16:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982291-5	L982343-6	L982343-12
REMARKS		HEAVY SHEEN	HEAVY DIESEL
SAMPLE NUMBER	EPRI-9811-116	EPRI-9811-175	EPRI-9811-117

-- PHYSICAL PARAMETERS --

	EP-35	EP-43	EP-49
DEPTH TO WATER LEVEL (FEET)	15.35	59.17	67.25
OXYGEN (O) (FLD) DIS	1.9		
PH (FLD)	7.11		
PH	7.2	7.2	3.7
SC (UMHOS/CM AT 25 C)	6220.0	5650.0	10800.0
SC (UMHOS/CM AT 25 C) (FLD)	6100.0		
TDS (MEASURED AT 180 C)	5032.0	3105.0	15347.0
TOTAL SUSPENDED SOLIDS	307.0	753.0	515.0
WATER TEMPERATURE (C) (FLD)	23.5		

-- MAJOR CONSTITUENTS --

	EP-35	EP-43	EP-49
CALCIUM (CA) DIS	374.0	218.0	470.0
MAGNESIUM (MG) DIS	125.0	74.0	258.0
SODIUM (NA) DIS	986.0	1118.0	1549.0
POTASSIUM (K) DIS	21.0	36.0	240.0
BICARBONATE (HCO3)	498.0	848.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2357.0	897.0	8976.0
CHLORIDE (CL)	539.0	1022.0	750.0
FLUORIDE (F)	1.0	2.1	27.0

-- NUTRIENTS --

	EP-35	EP-43	EP-49
NITRATE + NITRITE AS N	58.0	0.14	<0.05

-- METALS & MINOR CONSTITUENTS --

	EP-35	EP-43	EP-49
ARSENIC (AS) DIS	0.59 J4	7.0	294.0
CADMIUM (CD) DIS	<0.005	<0.005	38.0
CHROMIUM (CR) DIS	<0.01	<0.01	0.037
COPPER (CU) DIS	<0.025	<0.025	0.025
IRON (FE) DIS	<0.1	9.0	1541.0
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	1.5	0.094	<0.1
ZINC (ZN) DIS	0.024	0.02	975.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-51	EP-51	EP-52	EP-53
SAMPLE DATE	11/05/98	11/05/98	11/05/98	11/05/98
SAMPLE TIME	09:50	10:00	10:30	15:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982291-13	L982291-14	L982291-15	L982304-4
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9811-118	EPRI-9811-178	EPRI-9811-176	EPRI-9811-179
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FBET)	49.05		52.04	67.1
OXYGEN (O) (PLD) DIS	1.0		2.3	1.1
PH (PLD)	6.67		6.28	7.08
PH	6.8	6.9	6.6	6.8
SC (UMHOS/CM AT 25 C)	9840.0	9820.0	11100.0	7980.0
SC (UMHOS/CM AT 25 C) (PLD)	8180.0		9710.0	6540.0
TDS (MEASURED AT 180 C)	7364.0	7079.0	9241.0	6819.0
TOTAL SUSPENDED SOLIDS	22.0	21.0	51.0	177.0
WATER TEMPERATURE (C) (PLD)	24.2		23.5	25.3
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	535.0	543.0	563.0	516.0
MAGNESIUM (MG) DIS	355.0	354.0	253.0	90.0
SODIUM (NA) DIS	1133.0	1145.0	1931.0	1333.0
POTASSIUM (K) DIS	43.0	42.0	26.0	108.0
BICARBONATE (HCO3)	242.0	249.0	728.0	262.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1855.0	1966.0	3593.0	2915.0
CHLORIDE (CL)	1956.0	1953.0	1308.0	444.0
FLUORIDE (F)	1.2	1.2	6.4	5.0
-- NUTRIENTS --				
NITRATE + NITRITE AS N	136.0	134.0	99.0	183.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.079 J4	0.11 J4	1.7 J4	56.0 J4
CADMIUM (CD) DIS	0.062	0.061	0.6	1.6
CHROMIUM (CR) DIS	0.013	0.014	<0.01	<0.01
COPPER (CU) DIS	0.26	0.24	0.59	<0.025
IRON (FE) DIS	2.0	2.0	<0.1	<0.1 UJ4
LEAD (PB) DIS	<0.003	<0.003	0.13	<0.003
SELENIUM (SE) DIS	0.25	0.25	0.35	2.0
ZINC (ZN) DIS	0.97	0.96	2.9	5.2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (PLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-54	EP-55	EP-56
SITE CODE	EP-54	EP-55	EP-56
SAMPLE DATE	11/05/98	11/16/98	11/04/98
SAMPLE TIME	11:00	15:45	11:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982304-1	L982343-11	L982291-8
SAMPLE NUMBER	EPRI-9811-119	EPRI-9811-120	EPRI-9811-121

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	70.18	56.2	49.99
OXYGEN (O) (FLD) DIS	5.8	1.7	1.2
PH (FLD)	6.48	6.24	6.38
PH	6.7	6.5	7.3
SC (UMHOS/CM AT 25 C)	10680.0	9940.0	5600.0
SC (UMHOS/CM AT 25 C) (FLD)	9280.0	9850.0	7230.0
TDS (MEASURED AT 180 C)	8932.0	8458.0	4055.0
TOTAL SUSPENDED SOLIDS	127.0	1820.0	4339.0
WATER TEMPERATURE (C) (FLD)	21.7	23.9	23.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	448.0	523.0	246.0
MAGNESIUM (MG) DIS	272.0	314.0	63.0
SODIUM (NA) DIS	1811.0	1559.0	989.0
POTASSIUM (K) DIS	300.0	201.0	28.0
BICARBONATE (HCO3)	842.0	854.0	781.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	4911.0	4598.0	1762.0
CHLORIDE (CL)	754.0	842.0	624.0
FLUORIDE (F)	11.0	20.0	2.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	8.1	<0.05	0.42
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	50.0	J4	40.0	1.0	J4
CADMIUM (CD) DIS	0.7		<0.005	<0.005	
CHROMIUM (CR) DIS	<0.01		<0.01	<0.01	
COPPER (CU) DIS	0.086		0.025	<0.025	
IRON (FE) DIS	0.24	J4	71.0	<0.1	
LEAD (PB) DIS	0.007		<0.003	0.003	
SELENIUM (SE) DIS	0.11		<0.1	0.018	
ZINC (ZN) DIS	12.0		27.0	<0.02	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-57	EP-58	EP-59
SAMPLE DATE	11/16/98	11/16/98	11/09/98
SAMPLE TIME	10:30	09:00	09:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982343-4	L982343-1	L982304-7
SAMPLE NUMBER	EPRI-9811-123	EPRI-9811-123	EPRI-9811-124

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	8.72	12.38	12.8
OXYGEN (O) (FLD) DIS	0.3	1.3	2.7
PH (FLD)	7.07	6.39	7.04
PH	7.6	7.2	7.4
SC (UMHOS/CM AT 25 C)	2070.0	11580.0	4980.0
SC (UMHOS/CM AT 25 C) (FLD)	1913.0	11290.0	4980.0
TDS (MEASURED AT 180 C)	1323.0	9281.0	3831.0
TOTAL SUSPENDED SOLIDS	72.0	81.0	5.0
WATER TEMPERATURE (C) (FLD)	25.8	25.0	25.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	41.0	520.0	189.0
MAGNESIUM (MG) DIS	53.0	210.0	93.0
SODIUM (NA) DIS	346.0	2085.0	914.0
POTASSIUM (K) DIS	20.0	299.0	91.0
BICARBONATE (HCO3)	1049.0	1376.0	448.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	64.0	4912.0	1762.0
CHLORIDE (CL)	174.0	922.0	441.0
FLUORIDE (F)	0.89	5.0	4.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.054	<0.05	12.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.52	3.7	2.9
CADMIUM (CD) DIS	<0.005	<0.005	0.007
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.26	1.0	<0.1 UJ4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.036	0.33
ZINC (ZN) DIS	<0.02	<0.02	0.22

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-60	EP-61	EP-62
SAMPLE DATE	11/09/98	11/16/98	11/09/98
SAMPLE TIME	10:45	09:40	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982304-11	L982343-2	L982304-9
SAMPLE NUMBER	EPRI-9811-125	EPRI-9811-126	EPRI-9811-127

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	9.36	10.7	7.71
OXYGEN (O) (FLD) DIS	3.6	1.1	1.6
PH (FLD)	7.21	7.02	7.3
PH	7.7	7.6	7.5
SC (UMHOS/CM AT 25 C)	8480.0	8530.0	4680.0
SC (UMHOS/CM AT 25 C) (FLD)	8240.0	8320.0	4710.0
TDS (MEASURED AT 180 C)	6907.0	7453.0	3500.0
TOTAL SUSPENDED SOLIDS	6.7	66.0	1.9
WATER TEMPERATURE (C) (FLD)	24.2	21.8	22.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	506.0	455.0	191.0
MAGNESIUM (MG) DIS	191.0	192.0	79.0
SODIUM (NA) DIS	1403.0	1496.0	858.0
POTASSIUM (K) DIS	17.0	23.0	52.0
BICARBONATE (HCO3)	288.0	415.0	411.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3090.0	3377.0	1646.0
CHLORIDE (CL)	1149.0	747.0	432.0
FLUORIDE (F)	1.6	1.6	2.8

-- NUTRIENTS --

NITRATE + NITRITE AS N	40.0	131.0	6.4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.009	0.008	0.99
CADMIUM (CD) DIS	<0.005	<0.005	0.011
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1 UJ4	0.11	<0.1 UJ4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.23	0.29	0.36
ZINC (ZN) DIS	0.15	0.02	0.14

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-63	EP-64	EP-65
SAMPLE DATE	11/09/98	11/09/98	11/16/98
SAMPLE TIME	10:30	09:30	10:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982304-10	L982304-8	L982343-3
SAMPLE NUMBER	EPRI-9811-128	EPRI-9811-129	EPRI-9811-130

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	7.1	10.66	8.59
OXYGEN (O) (FLD) DIS	1.4	4.0	0.6
PH (FLD)	7.28	7.55	7.08
PH	7.6	7.7	7.6
SC (UMHOS/CM AT 25 C)	8480.0	9490.0	7280.0
SC (UMHOS/CM AT 25 C) (FLD)	8430.0	9450.0	7060.0
TDS (MEASURED AT 180 C)	6424.0	7863.0	6004.0
TOTAL SUSPENDED SOLIDS	4.6	4.2	13.0
WATER TEMPERATURE (C) (FLD)	23.1	23.5	23.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	237.0	376.0	368.0
MAGNESIUM (MG) DIS	146.0	115.0	150.0
SODIUM (NA) DIS	1695.0	2055.0	1270.0
POTASSIUM (K) DIS	35.0	23.0	25.0
BICARBONATE (HCO3)	593.0	292.0	639.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2941.0	3966.0	2778.0
CHLORIDE (CL)	1038.0	733.0	648.0
FLUORIDE (F)	2.2	1.9	1.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	6.4	66.0	31.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.025	0.045	0.007
CADMIUM (CD) DIS	<0.005	0.014	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1 UJ4	<0.1 UJ4	0.12
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.24	0.58	0.15
ZINC (ZN) DIS	0.11	0.32	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-66	EP-67	EP-68
SAMPLE DATE	11/09/98	11/10/98	11/09/98
SAMPLE TIME	11:00	10:00	11:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982304-12	L982320-1	L982304-13
SAMPLE NUMBER	EPRI-9811-131	EPRI-9811-132	EPRI-9811-133

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	10.44	40.97	63.19
OXYGEN (O) (FLD) DIS	5.3	1.6	6.4
PH (FLD)	7.09	6.77	7.4
PH	7.4	7.4	7.9
SC (UMHOS/CM AT 25 C)	7440.0	4370.0	4480.0
SC (UMHOS/CM AT 25 C) (PLD)	7530.0	4350.0	4130.0
TDS (MEASURED AT 180 C)	6344.0	3806.0	3329.0
TOTAL SUSPENDED SOLIDS	4.0	7.0	51.0
WATER TEMPERATURE (C) (FLD)	23.5	23.6	23.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	508.0	465.0	207.0
MAGNESIUM (MG) DIS	116.0	140.0	88.0
SODIUM (NA) DIS	1326.0	497.0	630.0
POTASSIUM (K) DIS	43.0	15.0	14.0
BICARBONATE (HCO3)	470.0	255.0	248.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3237.0	1823.0	1454.0
CHLORIDE (CL)	602.0	364.0	530.0
FLUORIDE (F)	3.2	0.75	0.71

-- NUTRIENTS --

NITRATE + NITRITE AS N	31.0	16.0	27.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	8.6	0.021	0.009
CADMIUM (CD) DIS	0.078	<0.005	0.005
CHROMIUM (CR) DIS	<0.01	<0.01	0.012
COPPER (CU) DIS	0.066	<0.025	<0.025
IRON (FE) DIS	<0.1 UJ4	<0.1	<0.1 UJ4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.24	0.12	0.26
ZINC (ZN) DIS	0.63	0.08	0.071

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-70	EP-70	EP-71	EP-72
SITE CODE	EP-70	EP-70	EP-71	EP-72
SAMPLE DATE	11/10/98	11/10/98	11/10/98	11/10/98
SAMPLE TIME	14:00	14:05	13:30	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982320-4	L982320-5	L982320-3	L982320-6
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9811-135	EPRI-9811-180	EPRI-9811-136	EPRI-9811-137
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	61.61		49.55	61.52
OXYGEN (O) (FLD) DIS	0.8		1.1	1.2
PH (FLD)	7.02		7.0	7.0
PH	7.4	7.3	7.3	7.3
SC (UMHOS/CM AT 25 C)	6320.0	6310.0	5750.0	6090.0
SC (UMHOS/CM AT 25 C) (FLD)	6230.0		5670.0	6080.0
TDS (MEASURED AT 180 C)	5136.0	5108.0	4741.0	5018.0
TOTAL SUSPENDED SOLIDS	2.1	1.9	6.0	9.0
WATER TEMPERATURE (C) (FLD)	23.7		23.7	24.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	314.0	310.0	348.0	365.0
MAGNESIUM (MG) DIS	157.0	157.0	159.0	165.0
SODIUM (NA) DIS	1182.0	1164.0	952.0	1086.0
POTASSIUM (K) DIS	24.0	24.0	19.0	23.0
BICARBONATE (HCO3)	285.0	292.0	285.0	287.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2674.0	2477.0	2506.0	2506.0
CHLORIDE (CL)	570.0	587.0	478.0	588.0
FLUORIDE (F)	1.1	1.1	0.85	1.4
-- NUTRIENTS --				
NITRATE + NITRITE AS N	52.0	55.0	79.0	68.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	1.0	1.0	0.13	0.45
CADMIUM (CD) DIS	0.015	0.014	0.006	0.2
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.21	0.2	0.23	0.42
ZINC (ZN) DIS	0.23	0.23	0.081	0.47

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-73	EP-75	EP-76
SITE CODE	EP-73	EP-75	EP-76
SAMPLE DATE	11/05/98	11/05/98	11/05/98
SAMPLE TIME	15:00	14:20	14:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982304-5	L982304-3	L982304-2
SAMPLE NUMBER	EPRI-9811-138	EPRI-9811-140	EPRI-9811-141
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FBET)	68.38	55.92	48.38
OXYGEN (O) (FLD) DIS	5.2	5.0	0.9
PH (FLD)	7.13	6.9	7.61
PH	7.4	7.2	7.7
SC (UMHOS/CM AT 25 C)	6580.0	19100.0	5680.0
SC (UMHOS/CM AT 25 C) (FLD)	5750.0	16900.0	5150.0
TDS (MEASURED AT 180 C)	5375.0	18662.0	4278.0
TOTAL SUSPENDED SOLIDS	1.6	11.0	4.2
WATER TEMPERATURE (C) (FLD)	27.4	24.1	21.9
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	262.0	455.0	151.0
MAGNESIUM (MG) DIS	112.0	477.0	86.0
SODIUM (NA) DIS	1126.0	4342.0	1084.0
POTASSIUM (K) DIS	330.0	590.0	198.0
BICARBONATE (HCO3)	290.0	744.0	477.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2776.0	12536.0	2157.0
CHLORIDE (CL)	466.0	302.0	466.0
FLUORIDE (F)	2.6	1.8	2.4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	15.0	111.0	3.8
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.039 J4	18.0 J4	2.3 J4
CADMIUM (CD) DIS	0.012	0.025	0.01
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	0.058	0.05
IRON (FE) DIS	<0.1 UJ4	0.13 J4	<0.1 UJ4
LEAD (PB) DIS	<0.003	0.007	0.023
SELENIUM (SE) DIS	1.1	5.4	0.51
ZINC (ZN) DIS	0.19	0.44	0.15

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-77	EP-78	EP-79
	SAMPLE DATE	11/11/98	11/11/98	11/11/98
	SAMPLE TIME	10:50	15:35	14:45
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L982320-13	L982320-19	L982320-17
	SAMPLE NUMBER	EPRI-9811-142	EPRI-9811-143	EPRI-9811-144
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	43.36	28.09	45.74
	OXYGEN (O) (FLD) DIS		1.0	1.6
	PH (FLD)	7.3	8.05	7.67
	PH	7.5	8.1	7.8
	SC (UMHOS/CM AT 25 C)	5770.0	2220.0	4710.0
	SC (UMHOS/CM AT 25 C) (FLD)	5600.0	2170.0	4650.0
	TDS (MEASURED AT 180 C)	4383.0	1422.0	3451.0
	TOTAL SUSPENDED SOLIDS	412.0 J4	46.0 J4	47.0 J4
	WATER TEMPERATURE (C) (FLD)	23.8	23.0	25.2
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	249.0	29.0	53.0
	MAGNESIUM (MG) DIS	56.0	16.0	62.0
	SODIUM (NA) DIS	1192.0	406.0	1077.0
	POTASSIUM (K) DIS	37.0	37.0	9.5
	BICARBONATE (HCO3)	303.0	366.0	470.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	2168.0	616.0	1517.0
	CHLORIDE (CL)	641.0	102.0	421.0
	FLUORIDE (F)	2.8	5.1	4.4
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	0.71	8.1	9.3
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	6.8	6.4	0.009
	CADMIUM (CD) DIS	0.02	<0.005	<0.005
	CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
	COPPER (CU) DIS	<0.025	<0.025	<0.025
	IRON (FE) DIS	<0.1	<0.1	<0.1
	LEAD (PB) DIS	<0.003	<0.003	<0.003
	SELENIUM (SE) DIS	0.014	0.74	0.15
	ZINC (ZN) DIS	0.063	0.033	0.05

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-80	EP-81	EP-82
SITE CODE	EP-80	EP-81	EP-82
SAMPLE DATE	11/11/98	11/11/98	11/11/98
SAMPLE TIME	13:30	14:00	15:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982320-14	L982320-15	L982320-18
SAMPLE NUMBER	EPRI-9811-145	EPRI-9811-146	EPRI-9811-147
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	11.44	17.79	15.35
OXYGEN (O) (FLD) DIS	1.9	3.6	1.6
PH (FLD)	7.38	7.1	7.33
PH	7.5	7.3	7.4
SC (UMHOS/CM AT 25 C)	5130.0	2430.0	4880.0
SC (UMHOS/CM AT 25 C) (FLD)	5040.0	2370.0	4820.0
TDS (MEASURED AT 180 C)	4016.0	1862.0	3614.0
TOTAL SUSPENDED SOLIDS	77.0 J4	43.0 J4	14.0 J4
WATER TEMPERATURE (C) (FLD)	25.3	25.4	23.4
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	218.0	174.0	152.0
MAGNESIUM (MG) DIS	91.0	85.0	78.0
SODIUM (NA) DIS	1045.0	294.0	987.0
POTASSIUM (K) DIS	18.0	11.0	25.0
BICARBONATE (HCO3)	525.0	550.0	412.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2048.0	952.0	1629.0
CHLORIDE (CL)	377.0	70.0	568.0
FLUORIDE (F)	1.4	1.2	2.8
-- NUTRIENTS --			
NITRATE + NITRITE AS N	5.1	12.0	9.5
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.016	0.089	0.01
CADMIUM (CD) DIS	<0.005	0.006	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.022	0.24	0.22
ZINC (ZN) DIS	0.08	0.11	0.042

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-83	EP-84	EP-85
SITE CODE	EP-83	EP-84	EP-85
SAMPLE DATE	11/12/98	11/12/98	11/11/98
SAMPLE TIME	10:20	09:30	14:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982320-24	L982320-23	L982320-16
SAMPLE NUMBER	EPRI-9811-148	EPRI-9811-149	EPRI-9811-150

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FBET)	27.45	7.65	10.71
OXYGEN (O) (FLD) DIS			1.5
PH (FLD)	7.6	7.31	7.51
PH	7.7	7.6	7.7
SC (UMHOS/CM AT 25 C)	3680.0	2980.0	2850.0
SC (UMHOS/CM AT 25 C) (FLD)	3470.0	2790.0	2800.0
TDS (MEASURED AT 180 C)	2641.0	2204.0	2011.0
TOTAL SUSPENDED SOLIDS	17.0 J4	10.0 J4	13.0 J4
WATER TEMPERATURE (C) (FLD)	21.9	21.4	23.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	75.0	223.0	93.0
MAGNESIUM (MG) DIS	63.0	101.0	45.0
SODIUM (NA) DIS	756.0	329.0	502.0
POTASSIUM (K) DIS	12.0	8.5	28.0
BICARBONATE (HCO3)	356.0	306.0	379.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1200.0	961.0	1021.0
CHLORIDE (CL)	353.0	346.0	170.0
FLUORIDE (F)	2.7	0.68	3.5

-- NUTRIENTS --

NITRATE + NITRITE AS N	7.9	9.7	7.6
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.008	0.031	3.1
CADMIUM (CD) DIS	0.009	0.009	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	0.016	<0.003
SELENIUM (SE) DIS	0.038	0.021	0.24
ZINC (ZN) DIS	0.14	0.096	0.033

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-86	EP-86	EP-88	EP-89
SAMPLE DATE	11/12/98	11/12/98	11/11/98	11/10/98
SAMPLE TIME	08:20	08:30	09:15	10:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982320-20	L982320-21	L982320-9	L982320-2
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9811-151	EPRI-9811-181	EPRI-9811-153	EPRI-9811-154
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	49.73		28.82	13.46
OXYGEN (O) (FLD) DIS			4.9	5.3
PH (FLD)	7.45		7.4	7.19
PH	7.9	7.9	7.6	7.5
SC (UMHOS/CM AT 25 C)	2640.0	2640.0	4940.0	2860.0
SC (UMHOS/CM AT 25 C) (FLD)	2480.0		4710.0	2830.0
TDS (MEASURED AT 180 C)	1762.0	1751.0	3660.0	2067.0
TOTAL SUSPENDED SOLIDS	183.0 J4	146.0 J4	15.0 J4	4.0
WATER TEMPERATURE (C) (FLD)	21.4		21.9	23.8
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	43.0	43.0	75.0	170.0
MAGNESIUM (MG) DIS	33.0	32.0	45.0	67.0
SODIUM (NA) DIS	522.0	531.0	1184.0	387.0
POTASSIUM (K) DIS	10.0	11.0	8.5	20.0
BICARBONATE (HCO3)	414.0	366.0	501.0	272.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	647.0	640.0	1633.0	860.0
CHLORIDE (CL)	271.0	271.0	416.0	336.0
FLUORIDE (F)	2.7	2.8	2.1	0.76
-- NUTRIENTS --				
NITRATE + NITRITE AS N	6.8	6.6	2.2	8.2
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.006	<0.005	0.016	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	0.012	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.033	0.027	0.055	0.015
ZINC (ZN) DIS	0.038	0.039	0.17	0.046

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	BP-90
SAMPLE DATE	11/05/98
SAMPLE TIME	09:05
LAB	TSC-SLC
LAB NUMBER	L982291-12
SAMPLE NUMBER	EPRI-9811-139

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	56.55	
OXYGEN (O) (FLD) DIS	1.7	
PH (FLD)	7.43	
PH	7.6	
SC (UMHOS/CM AT 25 C)	2660.0	
SC (UMHOS/CM AT 25 C) (FLD)	512.0	R
TDS (MEASURED AT 180 C)	1807.0	
TOTAL SUSPENDED SOLIDS	38.0	
WATER TEMPERATURE (C) (FLD)	22.4	

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	88.0
MAGNESIUM (MG) DIS	43.0
SODIUM (NA) DIS	419.0
POTASSIUM (K) DIS	7.8
BICARBONATE (HCO3)	287.0
CARBONATE AS CO3	<1.0
SULFATE (SO4)	732.0
CHLORIDE (CL)	244.0
FLUORIDE (F)	0.69

-- NUTRIENTS --

NITRATE + NITRITE AS N	11.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.17	J4
CADMIUM (CD) DIS	<0.005	
CHROMIUM (CR) DIS	<0.01	
COPPER (CU) DIS	<0.025	
IRON (FE) DIS	<0.1	
LEAD (PB) DIS	<0.003	
SELENIUM (SE) DIS	0.61	
ZINC (ZN) DIS	0.054	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SITE CODE	POND 1	POND 6	SEP-2
	SAMPLE DATE	11/18/98	11/12/98	11/18/98
	SAMPLE TIME	09:00	10:40	14:15
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L982359-2	L982320-25	L982359-6
	SAMPLE NUMBER	EPRI-9811-171	EPRI-9811-173	EPRI-9811-162
-- PHYSICAL PARAMETERS --				
	OXYGEN (O) (FLD) DIS	7.1	6.9	8.4
	PH (FLD)	7.38	8.1	8.46
	PH	8.0	8.2	8.5
	SC (UMHOS/CM AT 25 C)	8260.0	4540.0	1877.0
	SC (UMHOS/CM AT 25 C) (FLD)	8200.0	4270.0	1865.0
	TDS (MEASURED AT 180 C)	6712.0	3397.0	1269.0
	TOTAL SUSPENDED SOLIDS	22.0	44.0 J4	20.0
	WATER TEMPERATURE (C) (FLD)	15.9	15.7	19.7
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	266.0	198.0	102.0
	MAGNESIUM (MG) DIS	54.0	35.0	24.0
	SODIUM (NA) DIS	1865.0	887.0	275.0
	POTASSIUM (K) DIS	64.0	33.0	12.0
	BICARBONATE (HCO3)	140.0	166.0	264.0
	CARBONATE AS CO3	<1.0	<1.0	5.0
	SULFATE (SO4)	3866.0	1592.0	436.0
	CHLORIDE (CL)	630.0	559.0	234.0
	FLUORIDE (F)	7.5	3.6	0.72
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	6.9	1.4	2.1
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	0.34	1.5	0.007
	ARSENIC (AS) TRC	0.54	1.6	0.007
	CADMIUM (CD) DIS	1.9	0.27	<0.005
	CADMIUM (CD) TRC	2.0	0.37	<0.005
	CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
	CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
	COPPER (CU) DIS	0.51	0.54	<0.025
	COPPER (CU) TRC	1.4	2.2	<0.025
	IRON (FE) DIS	0.12	0.1	<0.1
	IRON (FE) TRC	1.1 J4	1.1	0.31 J4
	LEAD (PB) DIS	0.18	0.093	<0.003
	LEAD (PB) TRC	0.7	0.54	<0.003
	SELENIUM (SE) DIS	0.38	0.079	<0.005
	SELENIUM (SE) TRC	0.37	0.08	<0.005
	ZINC (ZN) DIS	3.6	0.98	<0.02
	ZINC (ZN) TRC	4.3	1.9	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-4	SEP-7	SEP-9
SITE CODE			
SAMPLE DATE	11/18/98	11/18/98	11/18/98
SAMPLE TIME	13:30	15:30	15:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982359-3	L982359-10	L982359-11
SAMPLE NUMBER	EPRI-9811-164	EPRI-9811-165	EPRI-9811-166
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	8.0	8.4	7.8
PH (FLD)	7.71	8.35	8.35
PH	8.5	8.4	8.3
SC (UMHOS/CM AT 25 C)	1893.0	1899.0	1950.0
SC (UMHOS/CM AT 25 C) (FLD)	1879.0	1892.0	
TDS (MEASURED AT 180 C)	1272.0	1269.0	1298.0
TOTAL SUSPENDED SOLIDS	25.0	12.0	7.5
WATER TEMPERATURE (C) (FLD)	18.7	19.2	21.1
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	105.0	100.0	85.0
MAGNESIUM (MG) DIS	25.0	24.0	19.0
SODIUM (NA) DIS	282.0	292.0	310.0
POTASSIUM (K) DIS	12.0	12.0	12.0
BICARBONATE (HCO3)	266.0	253.0	224.0
CARBONATE AS CO3	5.0	5.0	<1.0
SULFATE (SO4)	418.0	441.0	442.0
CHLORIDE (CL)	234.0	249.0	272.0
FLUORIDE (F)	0.72	0.74	0.77
-- NUTRIENTS --			
NITRATE + NITRITE AS N	1.9	2.6	5.5
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.007	0.007	0.01
ARSENIC (AS) TRC	0.008	0.007	0.01
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	0.38 J4	0.25 J4	0.19 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	0.024	0.034
ZINC (ZN) TRC	<0.02	<0.02	0.022

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-10	SEP-11	SEP-11	SEP-12
SITE CODE	SEP-10	SEP-11	SEP-11	SEP-12
SAMPLE DATE	11/18/98	11/18/98	11/18/98	11/18/98
SAMPLE TIME	15:00	14:30	14:35	14:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L982359-9	L982359-7	L982359-8	L982359-5
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9811-167	EPRI-9811-168	EPRI-9811-182	EPRI-9811-169
-- PHYSICAL PARAMETERS --				
OXYGEN (O) (FLD) DIS	7.5	7.8		8.0
PH (FLD)	8.32	8.53		8.24
PH	8.4	8.5	8.5	8.4
SC (UMHOS/CM AT 25 C)	1894.0	1877.0	1885.0	1877.0
SC (UMHOS/CM AT 25 C) (FLD)	1882.0	1860.0		1866.0
TDS (MEASURED AT 180 C)	1268.0	1219.0	1256.0	1283.0
TOTAL SUSPENDED SOLIDS	18.0	23.0	17.0	20.0
WATER TEMPERATURE (C) (FLD)	19.4	20.7		20.7
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	100.0	102.0	102.0	105.0
MAGNESIUM (MG) DIS	23.0	24.0	24.0	25.0
SODIUM (NA) DIS	278.0	276.0	275.0	277.0
POTASSIUM (K) DIS	12.0	12.0	12.0	12.0
BICARBONATE (HCO3)	259.0	261.0	261.0	266.0
CARBONATE AS CO3	5.0	5.0	5.0	5.0
SULFATE (SO4)	439.0	438.0	430.0	431.0
CHLORIDE (CL)	243.0	246.0	234.0	232.0
FLUORIDE (F)	0.73	0.74	0.73	0.72
-- NUTRIENTS --				
NITRATE + NITRITE AS N	2.3	2.0	2.1	1.9
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.007	0.007	0.007	0.006
ARSENIC (AS) TRC	0.007	0.007	0.007	0.007
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TRC	0.27 J4	0.47 J4	0.34 J4	0.3 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	<0.003	0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TRC	<0.02	0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-13	SEP-14
SAMPLE DATE	11/18/98	11/12/98
SAMPLE TIME	13:45	08:45
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L982359-4	L982320-22
SAMPLE NUMBER	EPRI-9811-170	EPRI-9811-174

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	8.8	
PH (FLD)	8.06	9.33
PH	8.5	8.9
SC (UMHOS/CM AT 25 C)	1884.0	272.0
SC (UMHOS/CM AT 25 C) (FLD)	1868.0	255.0
TDS (MEASURED AT 180 C)	1259.0	182.0
TOTAL SUSPENDED SOLIDS	19.0	50.0 J4
WATER TEMPERATURE (C) (FLD)	20.0	13.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	102.0	24.0
MAGNESIUM (MG) DIS	24.0	4.0
SODIUM (NA) DIS	273.0	22.0
POTASSIUM (K) DIS	12.0	<5.0
BICARBONATE (HCO3)	266.0	77.0
CARBONATE AS CO3	5.0	10.0
SULFATE (SO4)	443.0	65.0
CHLORIDE (CL)	238.0	7.6
FLUORIDE (F)	0.72	0.32

-- NUTRIENTS --

NITRATE + NITRITE AS N	1.9	<0.1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.007	0.057
ARSENIC (AS) TRC	0.007	0.055
CADMIUM (CD) DIS	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01
COPPER (CU) DIS	<0.025	0.04
COPPER (CU) TRC	<0.025	0.15
IRON (FE) DIS	<0.1	<0.1
IRON (FE) TRC	0.27 J4	2.8
LEAD (PB) DIS	<0.003	0.004
LEAD (PB) TRC	<0.003	0.054
SELENIUM (SE) DIS	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02
ZINC (ZN) TRC	<0.02	0.18

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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+-----+ SAMPLE NUMBER ORDER +-----+					+-----+ LAB NUMBER ORDER +-----+				
Page	Sample Number	Lab #	Date	Site Code	Page	Lab #	Sample Number	Date	Site Code
9	EPRI-9811-176	L982291-15	11/05/98	EP-52	25	L982359-4	EPRI-9811-170	11/18/98	SEP-13
9	EPRI-9811-178	L982291-14	11/05/98	EP-51	24	L982359-5	EPRI-9811-169	11/18/98	SEP-12
9	EPRI-9811-179	L982304-4	11/05/98	EP-53	22	L982359-6	EPRI-9811-162	11/18/98	SEP-2
15	EPRI-9811-180	L982320-5	11/10/98	EP-70	24	L982359-7	EPRI-9811-168	11/18/98	SEP-11
20	EPRI-9811-181	L982320-21	11/12/98	EP-86	24	L982359-8	EPRI-9811-182	11/18/98	SEP-11
24	EPRI-9811-182	L982359-8	11/18/98	SEP-11	24	L982359-9	EPRI-9811-167	11/18/98	SEP-10



SECTION J-3

REMEDIAL INVESTIGATION WATER SAMPLES

WINTER 1999

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
WINTER 1999**

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GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV.....	Continuing Calibration Verification
CLP.....	Contract Laboratory Program
CRDL	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA	Graphite Furnace Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB	Initial Calibration Blank
ICP.....	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS.....	Laboratory Control Sample
MSA	Method of Standard Additions
PB	Preparation Blank
PRDL.....	Project Required Detection Limit
QAPP.....	Quality Assurance Project Plan
QC	Quality Control
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SOW	Statement of Work
TDS	Total Dissolved Solids

SUMMARY

This report covers groundwater samples collected during February 1999 for the Asarco El Paso Copper Smelter Remediation Investigation. This validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996), which are consistent with those given in the EPA's National Functional Guidelines for Inorganic Data Review (February 1994). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes a summary of flagged data (Table 2). Where there are three or more existing data points, a statistical historical comparison has been done. A summary of the historical comparison is in Appendix 1, Table 3. The validated database for this data set is in Appendix 2.

Completeness of field measurements:

- The required frequency for field quality control samples was almost met for the February 1999 monitoring event.
 - The required eleven field duplicates were submitted.
 - Eleven field blanks were required, and ten were submitted.
- Field measurements were taken in duplicate for field duplicate samples.

All laboratory quality control was within control limits.

Field Quality Control Violations:

- Exceedances on field duplicates resulted in a total of 50 flags.
 - 10 dissolved arsenic
 - 7 dissolved iron
 - 6 nitrate + nitrite as nitrogen
 - 13 sulfate
 - 14 total suspended solids (TSS)
- Detections in the field blanks resulted in the flagging of 3 dissolved zinc results.

Overall, 97.8 percent of the data may be used without qualification (2408 out of 2461 results). Fifty-five sample results were flagged for the quality control violations summarized above. The data for the February 1999 monitoring for the Asarco El Paso Copper Smelter Remedial Investigation are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. The possible lack of reproducibility indicated by

the flags should be taken into account. For this sampling event, the much-improved performance on the submission of the required field quality control samples made it possible to evaluate the precision and accuracy of the data as set out in the project work plan.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Linda Tangen

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to inorganic analytes from 91 samples collected during February of 1999 for the Asarco El Paso Copper Smelter Remedial Investigation. The total number of samples included:
 - 10 DI blanks
 - 11 Field duplicates (1 surface water, 10 groundwater)
 - 11 Surface water field samples
 - 59 Groundwater field samples

- No samples were collected at the following sites:
 - EP-22..... Well has been abandoned
 - EP-25..... Well blocked by construction
 - EP-87..... Dry
 - SEP-3 Canal under construction

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-23, EP-24, EP-43, or EP-49.

- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other

- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual

Notes: The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
 - Yes
 - No

- Field measurements and field documentation were complete.

Yes
 No

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are 1 field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- **Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes - For groundwater samples.

No - For surface water samples.

Notes: Ten DI blanks were submitted for eleven days of sampling. No blank was submitted on February 19. All twelve surface water samples (including one field duplicate) were collected on this day.

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project-required detection limits (PRDL) if project detection limits have been specified.

Yes

No

Notes: When an analyte is detected in a blank, associated results up to 5 times the blank level are flagged to indicate that the results may be biased high due to contamination. Results "associated" with a field blank are generally results for samples collected on the same day as the blank.

Low-level sulfate was detected in three of the blanks, and low-level bicarbonate was detected in three other blanks. There were no flags for these detections.

Dissolved zinc was detected at 0.020 ppm in the field blank submitted on 2/4/99. Three associated results were flagged to indicate a possible high bias at concentrations below 0.1 ppm.

Flagging: UJ₁

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes

No

Notes: One field duplicate was submitted on each of the eleven days of sampling. The field duplicates are listed in the following table.

Sample/ Duplicate #	Site	Date	Matrix
EVT-9902-103/ 177	EP-7	02/03/99	Groundwater
EVT-9902-123/ 179	EP-56	02/04/99	Groundwater

Sample/ Duplicate #	Site	Date	Matrix
EVT-9902-107/ 181	EP-15	02/08/99	Groundwater
EVT-9902-118/ 183	EP-51	02/09/99	Groundwater
EVT-9902-126/ 185	EP-59	02/10/99	Groundwater
EVT-9902-170/ 187	EM-5	02/11/99	Groundwater
EVT-9902-150/ 189	EP-85	01/18/99	Groundwater
EVT-9902-157/ 191	SEP-2	02/19/99	Surface water
EVT-9902-148/ 192	EP-83	02/22/99	Groundwater
EVT-9902-132/ 194	EP-65	02/24/99	Groundwater
EVT-9902-176/ 196	EP-43	02/25/99	Groundwater

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes

No

Notes: Field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility.

Sample Number/ Dup	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9902-103/ 177	EP-7	02/03/99	Arsenic (Dis)	0.044/ 0.056	24% RPD	5
EPRI-9902-123/ 179	EP-56	02/04/99	TSS	1107/ 5485	133% RPD	6
EPRI-9902-123/ 179	EP-56	02/04/99	Arsenic (Dis)	0.74/ 1.3	55% RPD	5
EPRI-9902-107/ 181	EP-15	02/08/99	TSS	94/ 117	22% RPD	4
EPRI-9902-118/ 183	EP-51	02/09/99	Sulfate	1848/ 1340	32% RPD	5
EPRI-9902-118/ 183	EP-51	02/09/99	Iron (D)	3.2/ 2.6	21% RPD	5
EPRI-9902-148/ 192	EP-83	02/22/99	NO ₃ +NO ₂ as N	8.3/ 6.1	31% RPD	6
EPRI-9902-132/ 194	EP-65	02/24/99	Sulfate	1635/ 2309	34% RPD	8
EPRI-9902-176/ 196	EP-43	02/25/99	TSS	190/ 242	24% RPD	4
EPRI-9902-176/ 196	EP-43	02/25/99	Iron (Dis)	0.48/ 0.77	46% RPD	2

Flagging: J₄/UJ₄

4. LABORATORY PROCEDURES

- Laboratory procedures followed

CLP-SOW

SW-846

Methods for Chemical Analysis of Water and Wastes

XRF Standard Operating Procedures

- **Holding times met**

Yes
 No

Notes: Reanalysis was requested on TDS for sample EPRI-9811-101, collected at EP-5. This result was used in the database, but it was flagged for holding time exceedance. (The original result was out of line historically and also considering the ratio of TDS to SC).

Flagging: J₃

- **Consistency with project requirements**

Analyses were carried out as requested.

Yes
 No

Project specified methods were used.

Yes
 No

5. DETECTION LIMITS

- Reporting detection limits met project required detection limits (PRDLs).

Yes
 No

Notes: The PRDL for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

The PRDL for selenium is 0.005 ppm. For batch L982343, the reporting limit was raised to 0.100 ppm due to matrix interference. This affected selenium results for two samples: EPRI-9811-117 (collected at EP-49) and EPRI-9811-120 (collected at EP-55).

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

Preparation blanks were prepared and analyzed at the required frequency.

Yes
 No

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

Yes
 No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.

Yes

No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes

No

Notes: For laboratory batch L982304, the matrix spike was out of control limits for dissolved iron, with a recovery of 72 percent. Dissolved iron results for the thirteen samples in the batch were flagged to indicate the possibility of a low bias.

Flagging: J₄/UJ₄

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes

No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PRDL for water matrix.

Yes

No

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency

Yes

No

- LCS recoveries were within the required control limits (80-120% for water).

Yes

No

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:

Total Recoverable vs Dissolved metals

Lab pH vs field pH.

TDS vs SC

Lab SC vs field SC

Total Recoverable vs Dissolved metals: This relationship was in order.

Lab pH vs field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but nine had percent differences equal to or less than ten percent. The percent differences were distributed as follows:

less than 11%.....	67
11 to 15%.....	7
15 to 20%.....	2
> 20%	0

TDS vs SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. As in previous sampling events, the highest ratio (109%) was for the sample collected at EP-49. The ratios were distributed as follows:

less than 50%.....	0
50 to 59%.....	6
60 to 69%.....	22
70 to 79%.....	30
80 to 89%.....	19
90 to 99 %.....	1
over 100%.....	1

Lab SC vs field SC: This relationship was generally in order. Only six of the 64 groundwater samples with SC measurements had percent differences greater than 15%. Of the 12 surface water samples, however, ten had percent differences greater than 15%. Percent differences for the SEP sites along the Rio Grande ranged from 15% at SEP-1 to 32 % at SEP-11, SEP-12, and SEP-13. Field SC measurements for all of the SEP sites were lower than the corresponding SCs measured in the laboratory.

less than 11%.....	49
11 to 15%.....	11
16 to 20%.....	6
20 to 30%.....	6
30 to 40%.....	4

11. HISTORICAL COMPARISON

The data for February 1999 were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

- At EP-61, dissolved arsenic had increased to 0.73 ppm. This was the highest ever, and was almost 9 standard deviations above the mean.
- Selenium was the lowest ever at 7 sites by 3 to 7 standard deviations.
- Potassium was the lowest ever at 10 sites by 3 to 5 standard deviations. (Six of the sites were SEP sites--surface water from the Rio Grande.)
- Sodium was the lowest ever at 15 sites by 3 to 9 standard deviations.
- Sulfate was the lowest ever at 16 sites by 3 to 6 standard deviations, with one site greater than 10 standard deviations.
- At 1618 ppm, sulfate was the highest ever at EM-4 by more than 10 standard deviations.
- TSS was the highest ever at 5 sites; at two of these sites (EP-4 and EP-53), the February 1999 value was more the 10 standard deviations above the mean.
- Dissolved oxygen was the highest ever at 12 sites by 3 to more the 10 standard deviations. Nine of these sites were SEP sites--surface water from the Rio Grande.)

12. DATA QUALITY OBJECTIVES

- Project data quality objectives (DQO's) met.

Yes

No

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

All laboratory quality control samples were within control limits, indicating good accuracy for the higher concentration results. In general, results on the laboratory and field blanks also indicated good accuracy at lower concentrations. An exception was for three dissolved zinc results from 2/4/99; these were flagged to show possible lack of accuracy as indicated by dissolved zinc detected in the field blank.

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All of the laboratory duplicate measurements and 97% of the field duplicate measurements (280 out of 290) were within control limits.

Completeness

One measure of completeness is the percentage of valid results obtained. For the Winter 1999 El Paso RI monitoring,

- ⇒ 2.3 percent of the data were flagged (55 out of 2461 results);
- ⇒ None of the data were flagged as rejected (R) or anomalous (A).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- Field parameters were not taken at four wells (EP-23, EP-24, EP-43, and EP-49) because of heavy hydrocarbon contamination and the possibility of damaging instrument probes.
- The work plan sets the frequency of both field blanks (DI) and field duplicates at one in twenty samples or one per day, whichever is more frequent. As discussed in the field quality control sections, this frequency was met for field duplicates, and was almost met for field blanks. This makes it possible to evaluate the accuracy and precision of the data as set out in the work plan. For a total of eleven days on which samples were collected,
 - Ten field blanks were submitted.
 - Eleven field duplicates were submitted. Also, duplicate field measurements were taken.

REFERENCES

- Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.
- Hydrometrics, 1996. Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996
- U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983. (EPA, 1983)
- U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E	<p>Estimated. (Not an EPA code.)</p>
A	<p>Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
El Paso RI Monitoring, February 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Sample Type
EM-1	EPRI-9902-167	L990335-8	02/24/99	SULFATE (SO4)	1542.0	J4	Field duplicate, RDP = 34%
EM-2	EPRI-9902-168	L990309-16	02/22/99	NITRATE + NITRITE AS N	18.0	J4	Field duplicate, RDP = 31%
EM-4	EPRI-9902-169	L990309-17	02/22/99	NITRATE + NITRITE AS N	0.15	J4	Field duplicate, RDP = 31%
EM-7	EPRI-9902-172	L990335-7	02/24/99	SULFATE (SO4)	1111.0	J4	Field duplicate, RDP = 34%
EP-4	EPRI-9902-100	L990218-2	02/03/99	ARSENIC (AS)(DIS)	0.08	J4	Field duplicate, RDP = 26%
EP-5	EPRI-9902-101	L990218-3	02/03/99	ARSENIC (AS)(DIS)	0.037	J4	Field duplicate, RDP = 26%
EP-6	EPRI-9902-102	L990218-4	02/03/99	ARSENIC (AS)(DIS)	0.014	J4	Field duplicate, RDP = 26%
EP-7	EPRI-9902-103	L990218-5	02/03/99	ARSENIC (AS)(DIS)	0.044	J4	Field duplicate, RDP = 26%
EP-7	EPRI-9902-177	L990218-6	02/03/99	ARSENIC (AS)(DIS)	0.056	J4	Field duplicate, RDP = 26%
EP-12	EPRI-9902-104	L990335-10	02/25/99	TOTAL SUSPENDED SOLIDS	16.0	J4	Field duplicate, RDP = 24%
EP-13	EPRI-9902-105	L990255-2	02/08/99	TOTAL SUSPENDED SOLIDS	12.0	J4	Field duplicate, RDP = 22%
EP-14	EPRI-9902-106	L990255-1	02/08/99	TOTAL SUSPENDED SOLIDS	6.8	J4	Field duplicate, RDP = 22%
EP-15	EPRI-9902-107	L990255-3	02/08/99	TOTAL SUSPENDED SOLIDS	94.0	J4	Field duplicate, RDP = 22%
EP-15	EPRI-9902-181	L990255-4	02/08/99	TOTAL SUSPENDED SOLIDS	117.0	J4	Field duplicate, RDP = 22%
EP-20	EPRI-9902-108	L990218-9	02/04/99	TOTAL SUSPENDED SOLIDS	45.0	J4	Field duplicate, RDP = 133%
				ARSENIC (AS)(DIS)	0.79	J4	Field duplicate, RDP = 55%
				ZINC (ZN)(DIS)	0.039	UJ1	Field blank (0.020 ppm)
EP-21	EPRI-9902-109	L990335-6	02/24/99	SULFATE (SO4)	405.0	J4	Field duplicate, RDP = 34%
EP-26	EPRI-9902-114	L990218-10	02/04/99	TOTAL SUSPENDED SOLIDS	51.0	J4	Field duplicate, RDP = 133%
				ARSENIC (AS)(DIS)	0.38	J4	Field duplicate, RDP = 55%
EP-35	EPRI-9902-116	L990218-8	02/04/99	TOTAL SUSPENDED SOLIDS	93.0	J4	Field duplicate, RDP = 133%
				ARSENIC (AS)(DIS)	0.51	J4	Field duplicate, RDP = 55%
EP-43	EPRI-9902-176	L990335-11	02/25/99	TOTAL SUSPENDED SOLIDS	190.0	J4	Field duplicate, RDP = 24%
				IRON (FE)(DIS)	0.48	J4	Field duplicate, RDP = 46%
EP-43	EPRI-9902-196	L990335-13	02/25/99	TOTAL SUSPENDED SOLIDS	242.0	J4	Field duplicate, RDP = 24%
				IRON (FE)(DIS)	0.77	J4	Field duplicate, RDP = 46%
EP-49	EPRI-9902-117	L990335-12	02/25/99	TOTAL SUSPENDED SOLIDS	545.0	J4	Field duplicate, RDP = 24%
EP-51	EPRI-9902-118	L990255-6	02/09/99	SULFATE (SO4)	1848.0	J4	Field duplicate, RDP = 32%
				IRON (FE)(DIS)	3.2	J4	Field duplicate, RDP = 21%
EP-51	EPRI-9902-183	L990255-7	02/09/99	SULFATE (SO4)	1340.0	J4	Field duplicate, RDP = 32%
				IRON (FE)(DIS)	2.6	J4	Field duplicate, RDP = 21%
EP-52	EPRI-9902-119	L990255-8	02/09/99	SULFATE (SO4)	3665.0	J4	Field duplicate, RDP = 32%
				IRON (FE)(DIS)	1.7	J4	Field duplicate, RDP = 21%

Table 2. Summary of Flagged Data
El Paso RI Monitoring, February 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Sample Type
EP-53	EPRI-9902-120	L990218-13	02/04/99	TOTAL SUSPENDED SOLIDS	2356.0	J4	Field duplicate, RDP = 133%
EP-54	EPRI-9902-121	L990255-9	02/09/99	SULFATE (SO4)	3504.0	J4	Field duplicate, RDP = 32%
				IRON (FE)(DIS)	0.36	J4	Field duplicate, RDP = 21%
EP-56	EPRI-9902-123	L990218-11	02/04/99	TOTAL SUSPENDED SOLIDS	1107.0	J4	Field duplicate, RDP = 133%
				ARSENIC (AS)(DIS)	0.74	J4	Field duplicate, RDP = 55%
				ZINC (ZN)(DIS)	0.037	UJ1	Field blank (0.020 ppm)
EP-56	EPRI-9902-179	L990218-12	02/04/99	TOTAL SUSPENDED SOLIDS	5485.0	J4	Field duplicate, RDP = 133%
				ARSENIC (AS)(DIS)	1.3	J4	Field duplicate, RDP = 55%
				ZINC (ZN)(DIS)	0.032	UJ1	Field blank (0.020 ppm)
EP-57	EPRI-9902-124	L990335-5	02/24/99	SULFATE (SO4)	259.0	J4	Field duplicate, RDP = 34%
EP-58	EPRI-9902-125	L990335-1	02/24/99	SULFATE (SO4)	4560.0	J4	Field duplicate, RDP = 34%
EP-61	EPRI-9902-128	L990335-2	02/24/99	SULFATE (SO4)	2761.0	J4	Field duplicate, RDP = 34%
EP-65	EPRI-9902-132	L990335-3	02/24/99	SULFATE (SO4)	1635.0	J4	Field duplicate, RDP = 34%
EP-65	EPRI-9902-194	L990335-4	02/24/99	SULFATE (SO4)	2309.0	J4	Field duplicate, RDP = 34%
EP-73	EPRI-9902-139	L990255-10	02/09/99	SULFATE (SO4)	2155.0	J4	Field duplicate, RDP = 32%
				IRON (FE)(DIS)	<0.1	UJ4	Field duplicate, RDP = 21%
EP-76	EPRI-9902-141	L990309-19	02/22/99	NITRATE + NITRITE AS N	0.63	J4	Field duplicate, RDP = 31%
EP-83	EPRI-9902-148	L990309-14	02/22/99	NITRATE + NITRITE AS N	8.3	J4	Field duplicate, RDP = 31%
EP-83	EPRI-9902-192	L990309-15	02/22/99	NITRATE + NITRITE AS N	6.1	J4	Field duplicate, RDP = 31%
EP-84	EPRI-9902-149	L990309-13	02/22/99	NITRATE + NITRITE AS N	9.3	J4	Field duplicate, RDP = 31%

TABLE 3. SUMMARY OF HISTORICAL COMPARISON, ASARCO, EL PASO RI, February 1999 Monitoring

Summary of the Comparison of Sampling Period Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and Showing the Relationship to the Existing Data

DataMan Program

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE			RELATION TO DATABASE			
				PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	PERIOD
EM-2	02/22/99	23.0	POTASSIUM (K) DIS	08/26/97-11/11/98	6	11.0	15.0000	17.0	3.81	HIGHEST
		929.0	SULFATE (SO4)	08/26/97-11/11/98	6	1185.0	1304.5000	1448.	3.44	LOWEST
EM-4	02/22/99	8.3	OXYGEN (O) (FLD) DIS	08/11/97-11/11/98	6	1.06	1.8133	2.72	9.12	HIGHEST
		49.0	POTASSIUM (K) DIS	08/26/97-11/11/98	6	33.0	37.3333	42.0	3.39	HIGHEST
		1618.0	SULFATE (SO4)	08/26/97-11/11/98	6	376.0	473.6667	547.0	> 10	HIGHEST
EM-7	02/24/99	1111.0	SULFATE (SO4)	11/17/97-11/11/98	5	1667.0	1816.2000	2064.0	4.53	LOWEST
EP-4	02/03/99	3434.0	TOTAL SUSPENDED SOLIDS	08/06/97-08/05/98	5	14.	35.4000	58.0	> 10	HIGHEST
		778.0	BICARBONATE (HCO3)	08/06/97-08/05/98	5	300.0	338.2000	388	> 10	HIGHEST
		0.29	IRON (FE) DIS	08/06/97-08/05/98	5	0.85	1.1120	1.4	3.44	LOWEST
EP-7	02/03/99	570.0	SODIUM (NA) DIS	08/06/97-11/03/98	6	446.0	490.0000	512.0	3.35	HIGHEST
EP-12	02/25/99	775.0	SODIUM (NA) DIS	11/03/97-11/16/98	5	959.0	1048.6000	1172.0	3.23	LOWEST
		323.0	CHLORIDE (CL)	11/03/97-11/16/98	5	524.0	574.6000	666.0	4.34	LOWEST
		4.7	IRON (FE) DIS	11/03/97-11/16/98	5	<0.10	0.3960	0.88	> 10	HIGHEST
EP-13	02/08/99	2040.0	SODIUM (NA) DIS	08/07/97-11/04/98	6	2468.0	2841.6667	3087.	3.32	LOWEST
		1.6	FLUORIDE (F)	08/07/97-11/04/98	6	1.4	1.4333	1.5	3.23	HIGHEST
EP-14	02/08/99	0.29	IRON (FE) DIS	11/05/97-11/04/98	5	0.10	0.1420	0.18	4.15	HIGHEST
EP-15	02/08/99	3620.0	SC (UMHOS/CM AT 25 C)	08/07/97-11/05/98	6	2810.0	3028.3333	3150	4.77	HIGHEST
		2579.0	TDS (MEASURED AT 180 C)	08/07/97-11/05/98	6	1987.0	2151.0000	2299.0	3.37	HIGHEST
		166.0	CALCIUM (CA) DIS	08/07/97-11/05/98	6	99.0	115.5000	125.	5.23	HIGHEST
		59.0	MAGNESIUM (MG) DIS	08/07/97-11/05/98	6	34.0	40.5000	44.	5.11	HIGHEST
EP-15	02/08/99	3600.0	SC (UMHOS/CM AT 25 C)	08/07/97-11/05/98	6	2810.0	3028.3333	3150	4.60	HIGHEST
		2593.0	TDS (MEASURED AT 180 C)	08/07/97-11/05/98	6	1987.0	2151.0000	2299.0	3.48	HIGHEST
		161.0	CALCIUM (CA) DIS	08/07/97-11/05/98	6	99.0	115.5000	125.	4.72	HIGHEST
		58.0	MAGNESIUM (MG) DIS	08/07/97-11/05/98	6	34.0	40.5000	44.	4.84	HIGHEST
EP-20	02/04/99	3750.0	SULFATE (SO4)	08/07/97-11/04/98	6	4376.0	4674.5000	5063.0	4.01	LOWEST
		621.0	CHLORIDE (CL)	08/07/97-11/04/98	6	739.0	796.1667	890.0	3.33	LOWEST
EP-23	02/11/99	640.0	SODIUM (NA) DIS	08/11/97-11/05/98	6	821.0	864.0000	930.	5.68	LOWEST
EP-24	02/11/99	80.0	MAGNESIUM (MG) DIS	08/15/97-11/16/98	6	47.0	54.3333	59.0	6.29	HIGHEST
		1576.0	BICARBONATE (HCO3)	08/15/97-11/16/98	6	976	1156.8333	1305.0	3.15	HIGHEST
EP-29	02/03/99	211.0	TOTAL SUSPENDED SOLIDS	08/07/97-11/04/98	6	1.1	34.1833	89.0	5.44	HIGHEST
EP-35	02/04/99	455.0	CHLORIDE (CL)	08/07/97-11/04/98	6	527.0	548.8333	575.	5.77	LOWEST
EP-49	02/25/99	4.5	PH	11/19/97-11/16/98	5	3.5	3.7200	4.0	4.06	HIGHEST
		5907.0	SULFATE (SO4)	11/19/97-11/16/98	5	7869.0	8681.4000	9515.0	4.53	LOWEST
		26.0	CADMIUM (CD) DIS	11/19/97-11/16/98	5	38.0	41.4000	43.0	6.69	LOWEST
		0.25	SELENIUM (SE) DIS	11/19/97-11/16/98	5	<0.100	0.1280	0.19	3.18	HIGHEST
EP-51	02/09/99	880.0	SODIUM (NA) DIS	08/26/97-11/05/98	6	1133.0	1352.1667	1501.0	3.63	LOWEST
EP-51	02/09/99	870.0	SODIUM (NA) DIS	08/26/97-11/05/98	6	1133.0	1352.1667	1501.0	3.70	LOWEST
		1340.0	SULFATE (SO4)	08/26/97-11/05/98	6	1855.0	2261.0000	2550.0	3.52	LOWEST
EP-52	02/09/99	6.9	FLUORIDE (F)	11/06/97-11/05/98	4	6.3	6.3500	6.4	9.53	HIGHEST
		0.23	ARSENIC (AS) DIS	11/06/97-11/05/98	4	0.97	1.4675	1.7	3.69	LOWEST
		1.7	IRON (FE) DIS	11/06/97-11/05/98	4	<0.10	0.3250	0.55	5.29	HIGHEST
		0.25	SELENIUM (SE) DIS	11/06/97-11/05/98	4	0.30	0.3375	0.36	3.33	LOWEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics The detection limit was used in calculations.

TABLE 3.
SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR
OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

ASARCO, EL PASO Feb99 to all, >3

DataMan Program

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			RELATION TO DATABASE PERIOD			
				N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD	
EP-53	02/04/99	7040.0	SC (UMHOS/CM AT 25 C)	08/11/97-11/05/98	5	7470.0	7676.0000	7980.0	3.07	LOWEST
		2356.0	TOTAL SUSPENDED SOLIDS	08/11/97-11/05/98	5	177.0	322.4000	644.0	> 10	HIGHEST
EP-54	02/09/99	3504.0	SULFATE (SO4)	08/26/97-11/05/98	6	4548.0	4904.1667	5255.0	5.80	LOWEST
EP-55	02/11/99	3941.0	SULFATE (SO4)	08/15/97-11/16/98	6	4465.0	4755.1667	5186.0	3.25	LOWEST
EP-56	02/04/99	0.004	LEAD (PB) DIS	08/26/97-11/04/98	6	.003	0.0030	0.003	> 10	HIGHEST
EP-56	02/04/99	8.2	PH	08/26/97-11/04/98	6	7.3	7.5833	7.8	3.85	HIGHEST
		0.004	LEAD (PB) DIS	08/26/97-11/04/98	6	.003	0.0030	0.003	> 10	HIGHEST
EP-58	02/24/99	7.8	PH	08/16/97-11/16/98	6	6.8	6.9333	7.2	5.76	HIGHEST
EP-59	02/10/99	5260.0	SC (UMHOS/CM AT 25 C)	08/09/97-11/09/98	6	4640.0	4785.0000	4980.0	3.78	HIGHEST
		4083.0	TDS (MEASURED AT 180 C)	08/09/97-11/09/98	6	3594.0	3694.6667	3831.0	4.60	HIGHEST
		13.0	TOTAL SUSPENDED SOLIDS	08/09/97-11/09/98	6	<1.0	2.9000	6.0	4.74	HIGHEST
		104.0	MAGNESIUM (MG) DIS	08/09/97-11/09/98	6	83.0	89.1667	93.	3.27	HIGHEST
		720.0	SODIUM (NA) DIS	08/09/97-11/09/98	6	807.0	867.1667	920.0	3.12	LOWEST
EP-59	02/10/99	8.3	PH	08/09/97-11/09/98	6	7.3	7.5167	7.7	4.55	HIGHEST
		5270.0	SC (UMHOS/CM AT 25 C)	08/09/97-11/09/98	6	4640.0	4785.0000	4980.0	3.85	HIGHEST
		4065.0	TDS (MEASURED AT 180 C)	08/09/97-11/09/98	6	3594.0	3694.6667	3831.0	4.39	HIGHEST
		14.0	TOTAL SUSPENDED SOLIDS	08/09/97-11/09/98	6	<1.0	2.9000	6.0	5.21	HIGHEST
		105.0	MAGNESIUM (MG) DIS	08/09/97-11/09/98	6	83.0	89.1667	93.	3.49	HIGHEST
		700.0	SODIUM (NA) DIS	08/09/97-11/09/98	6	807.0	867.1667	920.0	3.55	LOWEST
		5.1	FLUORIDE (F)	08/09/97-11/09/98	6	4.6	4.7667	4.9	3.23	HIGHEST
EP-60	02/10/99	38.0	TOTAL SUSPENDED SOLIDS	08/08/97-11/09/98	6	1.2	9.5167	27.0	3.19	HIGHEST
		2540.0	SULFATE (SO4)	08/08/97-11/09/98	6	2931.0	3057.6667	3180.0	6.06	LOWEST
		1.3	IRON (FE) DIS	08/08/97-11/09/98	6	<0.10	0.3183	0.80	3.59	HIGHEST
EP-61	02/24/99	386.0	CALCIUM (CA) DIS	08/16/97-11/16/98	6	436.0	456.1667	477.0	5.34	LOWEST
		164.0	MAGNESIUM (MG) DIS	08/16/97-11/16/98	6	182.0	190.3333	201.0	3.94	LOWEST
		608.0	BICARBONATE (HCO3)	08/16/97-11/16/98	6	366	414.8333	447.0	6.05	HIGHEST
		2761.0	SULFATE (SO4)	08/16/97-11/16/98	6	3189.	3344.0000	3524.0	4.45	LOWEST
		0.073	ARSENIC (AS) DIS	08/16/97-11/16/98	6	<.005	0.0113	0.025	8.73	HIGHEST
EP-62	02/10/99	7.41	PH (FLD)	08/09/97-11/09/98	6	7.09	7.1700	7.30	3.10	HIGHEST
		8.5	PH	08/09/97-11/09/98	6	7.4	7.6167	7.7	6.65	HIGHEST
		660.0	SODIUM (NA) DIS	08/09/97-11/09/98	6	858.0	894.3333	935.0	8.82	LOWEST
		351.0	BICARBONATE (HCO3)	08/09/97-11/09/98	6	393.0	402.5000	418.0	5.12	LOWEST
		1074.0	SULFATE (SO4)	08/09/97-11/09/98	6	1646.0	1833.5000	2183.0	3.92	LOWEST
		0.27	SELENIUM (SE) DIS	08/09/97-11/09/98	6	0.36	0.3733	0.39	6.86	LOWEST
EP-63	02/10/99	1450.0	SODIUM (NA) DIS	08/09/97-11/09/98	6	1579.0	1667.1667	1747.0	3.07	LOWEST
EP-64	02/10/99	8.5	PH	08/09/97-11/09/98	6	7.7	7.8500	8.0	6.20	HIGHEST
EP-65	02/24/99	6980.0	SC (UMHOS/CM AT 25 C)	08/16/97-11/16/98	6	7280.0	7391.6667	7500.0	5.20	LOWEST
		728.0	BICARBONATE (HCO3)	08/16/97-11/16/98	6	498	556.3333	639.0	3.03	HIGHEST
		1635.0	SULFATE (SO4)	08/16/97-11/16/98	6	2651.	2762.5000	2892.0	> 10	LOWEST
		565.0	CHLORIDE (CL)	08/16/97-11/16/98	6	640.0	664.8333	690.0	4.16	LOWEST
EP-65	02/24/99	7010.0	SC (UMHOS/CM AT 25 C)	08/16/97-11/16/98	6	7280.0	7391.6667	7500.0	4.83	LOWEST
		761.0	BICARBONATE (HCO3)	08/16/97-11/16/98	6	498	556.3333	639.0	3.61	HIGHEST
		2309.0	SULFATE (SO4)	08/16/97-11/16/98	6	2651.	2762.5000	2892.0	5.01	LOWEST
		575.0	CHLORIDE (CL)	08/16/97-11/16/98	6	640.0	664.8333	690.0	3.92	LOWEST
EP-66	02/10/99	8.0	PH	08/08/97-11/09/98	6	7.4	7.5333	7.7	4.52	HIGHEST
		0.2	SELENIUM (SE) DIS	08/08/97-11/09/98	6	0.24	0.2617	0.30	3.02	LOWEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
A & R Flags were excluded from Statistics
The detection limit was used in calculations.

TABLE 3.

SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

DataMan Program

ASARCO, EL PASO Feb99 to all, >3

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N						
EP-67	02/10/99	49.4	DEPTH TO WATER LEVEL (FBET)	08/12/97-11/10/98	6	40.97	41.9250	43.95	7.26	HIGHEST	
		390.0	SODIUM (NA) DIS	08/12/97-11/10/98	6	472.0	499.6667	557.0	3.46	LOWEST	
		1343.0	SULFATE (SO4)	08/12/97-11/10/98	6	1823.0	1964.5000	2228.0	4.33	LOWEST	
EP-68	02/18/99	861.0	SULFATE (SO4)	08/14/97-11/09/98	6	1312.0	1614.3333	1845.0	3.78	LOWEST	
		0.16	SELENIUM (SE) DIS	08/14/97-11/09/98	6	0.25	0.2950	.33	3.73	LOWEST	
EP-70	02/10/99	790.0	SODIUM (NA) DIS	08/26/97-11/10/98	6	1097.0	1185.0000	1238.	6.48	LOWEST	
		1970.0	SULFATE (SO4)	08/26/97-11/10/98	6	2356.0	2491.6667	2674.0	4.25	LOWEST	
		0.18	SELENIUM (SE) DIS	08/26/97-11/10/98	6	0.21	0.2200	.24	3.65	LOWEST	
EP-71	02/10/99	730.0	SODIUM (NA) DIS	08/12/97-11/10/98	6	952.0	1095.1667	1256.0	3.47	LOWEST	
		1840.0	SULFATE (SO4)	08/12/97-11/10/98	6	2329.0	2519.6667	2720.	5.04	LOWEST	
		47.0	CHLORIDE (CL)	08/12/97-11/10/98	6	476.0	519.3333	574.0	> 10	LOWEST	
EP-73	02/09/99	830.0	SODIUM (NA) DIS	08/12/97-11/05/98	6	1048	1126.0000	1185.0	5.84	LOWEST	
		2155.0	SULFATE (SO4)	08/12/97-11/05/98	6	2584.0	2887.0000	3223.	3.03	LOWEST	
EP-75	02/22/99	59.24	DEPTH TO WATER LEVEL (FBET)	08/12/97-11/05/98	6	55.38	56.2417	57.38	3.58	HIGHEST	
		6.8	OXYGEN (O) (FLD) DIS	08/12/97-11/05/98	6	1.11	2.1900	5.00	3.15	HIGHEST	
EP-76	02/22/99	4.4	OXYGEN (O) (FLD) DIS	08/12/97-11/05/98	6	0.110	0.4833	1.04	> 10	HIGHEST	
		550.0	SODIUM (NA) DIS	08/12/97-11/05/98	6	882.0	944.0000	1084.0	4.97	LOWEST	
		0.63	NITRATE + NITRITE AS N	08/12/97-11/05/98	6	3.8	4.8333	5.7	6.56	LOWEST	
EP-77	02/11/99	850.0	SODIUM (NA) DIS	08/12/97-11/11/98	6	1030.0	1096.0000	1199.0	3.14	LOWEST	
		3.1	FLUORIDE (F)	08/12/97-11/11/98	6	2.4	2.5833	2.8	3.22	HIGHEST	
EP-78	02/18/99	77.0	POTASSIUM (K) DIS	08/13/97-11/11/98	6	37.0	48.3333	57.0	3.88	HIGHEST	
EP-79	02/18/99	48.0	CALCIUM (CA) DIS	08/13/97-11/11/98	6	53.0	57.5000	60.0	3.67	LOWEST	
		53.0	MAGNESIUM (MG) DIS	08/13/97-11/11/98	6	62.0	70.1667	74.0	3.86	LOWEST	
		1172.0	SULFATE (SO4)	08/13/97-11/11/98	6	1517.0	1657.8333	1802.0	3.75	LOWEST	
		0.092	SELENIUM (SE) DIS	08/13/97-11/11/98	6	0.15	0.1717	0.19	5.99	LOWEST	
EP-80	02/18/99	1573.0	SULFATE (SO4)	08/13/97-11/11/98	6	1757.0	1922.0000	2048.0	3.37	LOWEST	
		0.009	ARSENIC (AS) DIS	08/13/97-11/11/98	6	0.014	0.0175	0.020	3.92	LOWEST	
EP-85	02/18/99	36.0	POTASSIUM (K) DIS	08/13/97-11/11/98	6	26.0	28.8333	32.	3.51	HIGHEST	
		0.044	ZINC (ZN) DIS	08/13/97-11/11/98	6	0.019	0.0228	0.033	3.91	HIGHEST	
EP-86	02/18/99	2600.0	SC (UMHOS/CM AT 25 C)	08/13/97-11/12/98	6	2630	2643.3333	2660.0	4.20	LOWEST	
		28.0	MAGNESIUM (MG) DIS	08/13/97-11/12/98	6	30.0	32.0000	33.	3.16	LOWEST	
		390.0	SULFATE (SO4)	08/13/97-11/12/98	6	599.0	671.5000	782.0	4.65	LOWEST	
		250.0	CHLORIDE (CL)	08/13/97-11/12/98	6	271.0	280.5000	291.0	3.72	LOWEST	
		0.02	SELENIUM (SE) DIS	08/13/97-11/12/98	6	0.029	0.0370	.043	3.28	LOWEST	
		0.049	ZINC (ZN) DIS	08/13/97-11/12/98	6	<0.020	0.0238	0.038	3.48	HIGHEST	
POND 1	02/19/99	12.3	OXYGEN (O) (FLD) DIS	02/19/98-11/18/98	4	4.10	6.1600	8.15	3.39	HIGHEST	
POND 6	02/19/99	2610.0	SC (UMHOS/CM AT 25 C)	12/22/97-11/12/98	5	3960.0	4774.0000	5390.0	3.63	LOWEST	
		2290.0	SC (UMHOS/CM AT 25 C) (FLD)	12/22/97-11/12/98	5	4270	4910.0000	5870	3.88	LOWEST	
		1716.0	TDS (MEASURED AT 180 C)	12/22/97-11/12/98	5	2914.0	3531.4000	4045.0	3.99	LOWEST	
		507.0	SODIUM (NA) DIS	12/22/97-11/12/98	5	887.0	967.8000	1139.0	4.67	LOWEST	
		462.0	SULFATE (SO4)	12/22/97-11/12/98	5	1363.0	1661.8000	1874.0	5.75	LOWEST	
SEP-2	02/19/99	33.0	MAGNESIUM (MG) DIS	08/15/97-11/18/98	6	14.	18.8333	25.0	3.06	HIGHEST	
		18.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	7.5	8.8500	12.0	5.49	HIGHEST	
SEP-2	02/19/99	9.8	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	6.25	6.9220	8.40	3.20	HIGHEST	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).

N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.

A & R Flags were excluded from Statistics

The detection limit was used in calculations.

TABLE 3.
SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR
OR LOWEST OR THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

ASARCO, EL PASO Feb99 to all, >3

DataMan Program

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD		MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
					N					
		16.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	7.5	8.8500	12.0	4.29	HIGHEST
SEP-4	02/19/99	10.2	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	5.99	6.8960	8.00	4.13	HIGHEST
		16.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	7.8	8.7667	12.0	4.48	HIGHEST
SEP-7	02/19/99	16.5	OXYGEN (O) (FLD) DIS	08/18/97-11/18/98	5	4.97	6.6200	8.40	7.98	HIGHEST
SEP-9	02/19/99	10.9	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	5.61	6.7060	7.80	4.70	HIGHEST
		14.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	8.7	9.8500	12.0	3.50	HIGHEST
SEP-10	02/19/99	10.4	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	6.22	6.9940	7.50	5.77	HIGHEST
SEP-11	02/19/99	10.9	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	6.33	6.9440	7.80	6.60	HIGHEST
		15.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	8.2	9.4667	12.0	4.01	HIGHEST
SEP-12	02/19/99	9.9	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	5.55	6.6800	8.00	3.62	HIGHEST
SEP-13	02/19/99	11.4	OXYGEN (O) (FLD) DIS	08/15/97-11/18/98	5	5.37	6.9820	8.80	3.31	HIGHEST
		16.0	POTASSIUM (K) DIS	08/15/97-11/18/98	6	7.5	9.0500	12.0	4.27	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
A & R Flags were excluded from statistics
The detection limit was used in calculations.

Generated from s:\statout\lp734H20.001
Datatst2 v2.0 9/93

APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1			
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-21	EP-21	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
7	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
8	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
15	EP-73	EP-73	Groundwater		
16	EP-75	EP-75	Groundwater		
16	EP-76	EP-76	Groundwater		
16	EP-77	EP-77	Groundwater		
17	EP-78	EP-78	Groundwater		
17	EP-79	EP-79	Groundwater		
17	EP-80	EP-80	Groundwater		
18	EP-81	EP-81	Groundwater		
18	EP-82	EP-82	Groundwater		
18	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
19	EP-86	EP-86	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
20	EP-90	EP-90	Groundwater		
21	DI	DI BLANK	Quality Control		
23	POND 1	POND 1			
23	POND 6	POND 6	Surface Water		
23	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		
24	SEP-4	SEP-4	Surface Water		
24	SEP-7	SEP-7	Surface Water		
25	SEP-9	SEP-9	Surface Water		
25	SEP-10	SEP-10	Surface Water		
25	SEP-11	SEP-11	Surface Water		

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
26	SEP-12	SEP-12	Surface Water		
26	SEP-13	SEP-13	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

	EM-1	EM-2	EM-4
SITE CODE	EM-1	EM-2	EM-4
SAMPLE DATE	02/24/99	02/22/99	02/22/99
SAMPLE TIME	14:45	14:20	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990335-8	L990309-16	L990309-17
SAMPLE NUMBER	EPRI-9902-167	EPRI-9902-168	EPRI-9902-169
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	65.42	65.37	60.8
OXYGEN (O) (PLD) DIS	2.2	2.4	8.3
PH (PLD)	7.46	7.12	7.27
PH	7.6	7.6	7.5
SC (UMHOS/CM AT 25 C)	5600.0	4510.0	9940.0
SC (UMHOS/CM AT 25 C) (PLD)	6860.0	5330.0	11540.0
TDS (MEASURED AT 180 C)	4338.0	3338.0	5990.0
TOTAL SUSPENDED SOLIDS	63.0	16.0	3.2
WATER TEMPERATURE (C) (PLD)	23.6	23.5	22.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	213.0	196.0	391.0
MAGNESIUM (MG) DIS	115.0	77.0	175.0
SODIUM (NA) DIS	859.0	835.0	1572.0
POTASSIUM (K) DIS	30.0	23.0	49.0
BICARBONATE (HCO3)	226.0	336.0	146.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1542.0 J4	929.0	1618.0
CHLORIDE (CL)	714.0	442.0	3200.0
FLUORIDE (F)	0.87	1.4	1.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	18.0 J4	0.15 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	<0.005	0.45	<0.005
CADMIUM (CD) DIS	<0.005	0.007	0.006
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.15	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.1	<0.005
ZINC (ZN) DIS	<0.02	0.043	0.059

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and ars laboratory (LAB) unless field (PLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-5	EM-5	EM-6	EM-7
SAMPLE DATE	02/11/99	02/11/99	02/11/99	02/24/99
SAMPLE TIME	14:00	14:05	14:20	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-28	L990255-29	L990255-30	L990335-7
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9902-170	EPRI-9902-187	EPRI-9902-171	EPRI-9902-172
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (PSET)	14.41		36.98	8.53
OXYGEN (O) (FLD) DIS	0.9	0.9	3.6	2.0
PH (FLD)	7.47	7.48	7.3	7.69
PH	7.8	7.8	7.8	7.8
SC (UMHOS/CM AT 25 C)	4740.0	4770.0	4290.0	5110.0
SC (UMHOS/CM AT 25 C) (FLD)	4800.0	4800.0	4390.0	6320.0
TDS (MEASURED AT 180 C)	3460.0	3471.0	3129.0	3836.0
TOTAL SUSPENDED SOLIDS	5.0	5.1	1.7	125.0
WATER TEMPERATURE (C) (FLD)	23.9	24.0	23.3	23.6
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	173.0	171.0	124.0	195.0
MAGNESIUM (MG) DIS	39.0	38.0	75.0	36.0
SODIUM (NA) DIS	770.0	780.0	710.0	957.0
POTASSIUM (K) DIS	50.0	55.0	15.0	41.0
BICARBONATE (HCO3)	194.0	194.0	387.0	342.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1472.0	1563.0	903.0	1111.0 J4
CHLORIDE (CL)	565.0	571.0	414.0	530.0
FLUORIDE (F)	7.1	7.1	2.1	6.5
-- NUTRIENTS --				
NITRATE + NITRITE AS N	<0.05	<0.05	6.2	0.54
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	1.9	1.9	0.024	2.0
CADMIUM (CD) DIS	0.046	0.046	0.007	0.011
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	0.041	0.049
IRON (FE) DIS	1.2	1.2	<0.1	0.18
LEAD (PB) DIS	0.003	0.003	<0.003	0.025
SELENIUM (SE) DIS	0.007	0.006	0.097	0.051
ZINC (ZN) DIS	0.27	0.27	0.087	0.093

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-4	EP-5	EP-6
SITE CODE	EP-4	EP-5	EP-6
SAMPLE DATE	02/03/99	02/03/99	02/03/99
SAMPLE TIME	13:50	14:20	14:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990218-2	L990218-3	L990218-4
SAMPLE NUMBER	BPRI-9902-100	BPRI-9902-101	BPRI-9902-102
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	6.24	5.1	5.98
OXYGEN (O) (FLD) DIS	1.2	1.7	2.5
PH (FLD)	8.08	7.87	7.51
PH	8.1	8.0	7.9
SC (UMHOS/CM AT 25 C)	1965.0	2820.0	7270.0
SC (UMHOS/CM AT 25 C) (FLD)	1620.0	2800.0	6960.0
TDS (MEASURED AT 180 C)	1295.0	1818.0	5643.0
TOTAL SUSPENDED SOLIDS	3434.0	16.0	7.0
WATER TEMPERATURE (C) (FLD)	17.6	19.8	19.4
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	101.0	74.0	415.0
MAGNESIUM (MG) DIS	27.0	30.0	137.0
SODIUM (NA) DIS	321.0	570.0	1282.0
POTASSIUM (K) DIS	13.0	5.8	34.0
BICARBONATE (HCO3)	778.0	869.0	448.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	364.0	318.0	2348.0
CHLORIDE (CL)	222.0	302.0	844.0
FLUORIDE (F)	0.93	2.4	1.5
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.21	0.28	0.38
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.08 J4	0.037 J4	0.014 J4
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.29	0.11	0.23
LEAD (PB) DIS	<0.003	0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	0.008
ZINC (ZN) DIS	<0.02	0.029	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-7	EP-7	EP-12	EP-13
SAMPLE DATE	02/03/99	02/03/99	02/25/99	02/08/99
SAMPLE TIME	15:20	15:25	08:30	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990218-5	L990218-6	L990335-10	L990255-2
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9902-103	EPRI-9902-177	EPRI-9902-104	EPRI-9902-105
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	5.18		60.35	60.15
OXYGEN (O) (FLD) DIS	1.9	2.0	2.6	5.6
PH (FLD)	7.51	7.51	7.08	7.16
PH	7.9	7.8	7.4	7.6
SC (UMHOS/CM AT 25 C)	2960.0	2950.0	4890.0	11200.0
SC (UMHOS/CM AT 25 C) (FLD)	2790.0	2800.0	4980.0	11070.0
TDS (MEASURED AT 180 C)	1960.0	1998.0	3854.0	9447.0
TOTAL SUSPENDED SOLIDS	12.0	11.0	16.0	12.0
WATER TEMPERATURE (C) (FLD)	18.5	18.5	18.7	26.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	103.0	110.0	288.0	354.0
MAGNESIUM (MG) DIS	34.0	36.0	86.0	65.0
SODIUM (NA) DIS	553.0	570.0	775.0	2040.0
POTASSIUM (K) DIS	<5.0	<5.0	15.0	90.0
BICARBONATE (HCO3)	362.0	360.0	775.0	394.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	702.0	735.0	1412.0	4565.0
CHLORIDE (CL)	320.0	322.0	323.0	680.0
FLUORIDE (F)	1.8	1.7	1.0	1.6
-- NUTRIENTS --				
NITRATE + NITRITE AS N	<0.1	<0.1	13.0	82.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.044	0.056	1.8	36.0
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	0.74
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.98	0.85	4.7	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	0.53	5.1
ZINC (ZN) DIS	<0.02	<0.02	<0.02	0.1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TCT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-14	EP-15	EP-15	EP-20
SAMPLE DATE	02/08/99	02/08/99	02/08/99	02/04/99
SAMPLE TIME	13:45	15:45	15:50	11:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-1	L990255-3	L990255-4	L990218-9
REMARKS			DUPLICATE	
SAMPLE NUMBER	BPRI-9902-106	BPRI-9902-107	BPRI-9902-181	BPRI-9902-108

-- PHYSICAL PARAMETERS --

PARAMETER	EP-14	EP-15	EP-15	EP-20
DEPTH TO WATER LEVEL (FBET)	59.23	59.04		13.25
OXYGEN (O) (FLD) DIS	0.7	2.5	2.5	2.4
PH (FLD)	6.95	7.27	7.27	6.96
PH	7.6	7.8	8.0	7.4
SC (UMHOS/CM AT 25 C)	5070.0	3620.0	3600.0	9910.0
SC (UMHOS/CM AT 25 C) (FLD)	4950.0	3560.0	3560.0	10010.0
TDS (MEASURED AT 180 C)	4178.0	2579.0	2593.0	8707.0
TOTAL SUSPENDED SOLIDS	6.8 J4	94.0 J4	117.0 J4	45.0 J4
WATER TEMPERATURE (C) (FLD)	26.3	23.6	23.6	21.2

-- MAJOR CONSTITUENTS --

CONSTITUENT	EP-14	EP-15	EP-15	EP-20
CALCIUM (CA) DIS	383.0	166.0	161.0	447.0
MAGNESIUM (MG) DIS	98.0	59.0	58.0	260.0
SODIUM (NA) DIS	670.0	520.0	520.0	1801.0
POTASSIUM (K) DIS	60.0	13.0	13.0	76.0
BICARBONATE (HCO3)	381.0	268.0	268.0	359.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1537.0	958.0	967.0	3750.0
CHLORIDE (CL)	307.0	367.0	372.0	621.0
FLUORIDE (F)	2.0	0.88	0.87	2.3

-- NUTRIENTS --

NUTRIENT	EP-14	EP-15	EP-15	EP-20
NITRATE + NITRITE AS N	18.0	18.0	17.0	107.0

-- METALS & MINOR CONSTITUENTS --

METAL	EP-14	EP-15	EP-15	EP-20
ARSENIC (AS) DIS	1.7	0.025	0.028	0.79 J4
CADMIUM (CD) DIS	<0.005	0.015	0.014	0.039
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.29	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.3	0.12	0.12	0.33
ZINC (ZN) DIS	0.031	0.048	0.06	0.039 UJ1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-21	EP-23	EP-24
SITE CODE	EP-21	EP-23	EP-24
SAMPLE DATE	02/24/99	02/11/99	02/11/99
SAMPLE TIME	13:15	10:35	09:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990335-6	L990255-26	L990255-25
OTHER INFO		Heavy Sheen	Heavy Sheen
SAMPLE NUMBER	SPRI-9902-109	SPRI-9902-111	SPRI-9902-112
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	28.68	25.6	34.09
OXYGEN (O) (FLD) DIS	0.4		
PH (FLD)	7.56		
PH	8.1	7.8	7.8
SC (UMHOS/CM AT 25 C)	5670.0	5470.0	5800.0
SC (UMHOS/CM AT 25 C) (FLD)	5740.0		
TDS (MEASURED AT 180 C)	3486.0	3346.0	3336.0
TOTAL SUSPENDED SOLIDS	23.0	150.0	79.0
WATER TEMPERATURE (C) (FLD)	22.6		
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	44.0	152.0	206.0
MAGNESIUM (MG) DIS	40.0	80.0	80.0
SODIUM (NA) DIS	919.0	640.0	920.0
POTASSIUM (K) DIS	347.0	65.0	35.0
BICARBONATE (HCO3)	2142.0	443.0	1576.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	405.0 J4	1144.0	206.0
CHLORIDE (CL)	570.0	462.0	1021.0
FLUORIDE (F)	6.0	3.2	2.5
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.27	<0.05	0.2
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.033	0.81	0.17
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.21	0.33	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.015	0.011	0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-26	EP-29	EP-35
SITE CODE	EP-26	EP-29	EP-35
SAMPLE DATE	02/04/99	02/03/99	02/04/99
SAMPLE TIME	13:55	10:35	08:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990218-10	L990218-1	L990218-8
SAMPLE NUMBER	EPRI-9902-114	EPRI-9902-115	EPRI-9902-116
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	48.13	13.7	13.9
OXYGEN (O) (FLD) DIS	6.9	4.1	3.8
PH (FLD)	7.26	8.06	7.03
PH	7.4	8.1	7.4
SC (UMHOS/CM AT 25 C)	133.0	3130.0	6410.0
SC (UMHOS/CM AT 25 C) (FLD)	170.0	3410.0	6140.0
TDS (MEASURED AT 180 C)	78.0	2121.0	5282.0
TOTAL SUSPENDED SOLIDS	51.0 J4	211.0	93.0 J4
WATER TEMPERATURE (C) (FLD)	23.0	21.6	20.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	8.3	49.0	402.0
MAGNESIUM (MG) DIS	1.1	21.0	145.0
SODIUM (NA) DIS	14.0	660.0	1039.0
POTASSIUM (K) DIS	<5.0	22.0	22.0
BICARBONATE (HCO3)	20.0	337.0	539.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	29.0	743.0	2158.0
CHLORIDE (CL)	7.6	307.0	455.0
FLUORIDE (F)	0.56	2.9	1.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	1.4	8.7	66.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.38 J4	0.26	0.51 J4
CADMIUM (CD) DIS	0.15	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.004	<0.003	<0.003
SELENIUM (SE) DIS	0.057	0.15	2.9
ZINC (ZN) DIS	0.52	0.03	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-43	EP-43	EP-49	EP-51
SITE CODE	EP-43	EP-43	EP-49	EP-51
SAMPLE DATE	02/25/99	02/25/99	02/25/99	02/09/99
SAMPLE TIME	09:15	09:20	10:30	13:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990335-11	L990135-13	L990335-12	L990255-6
REMARKS		DUPLICATE		
OTHER INFO	Heavy Sheen	Heavy Sheen	Heavy Sheen	
SAMPLE NUMBER	EPRI-9902-176	EPRI-9902-196	EPRI-9902-117	EPRI-9902-118

-- PHYSICAL PARAMETERS --

	EP-43	EP-43	EP-49	EP-51
DEPTH TO WATER LEVEL (FEET)	57.85		66.37	48.9
OXYGEN (O) (FLD) DIS				2.1
PH (FLD)				6.86
PH	7.8	7.7	4.5	7.4
SC (UMHOS/CM AT 25 C)	7140.0	7090.0	12320.0	9060.0
SC (UMHOS/CM AT 25 C) (FLD)				8760.0
TDS (MEASURED AT 180 C)	4905.0	4876.0	13384.0	6783.0
TOTAL SUSPENDED SOLIDS	190.0 J4	242.0 J4	545.0 J4	24.0
WATER TEMPERATURE (C) (FLD)				26.3

-- MAJOR CONSTITUENTS --

	EP-43	EP-43	EP-49	EP-51
CALCIUM (CA) DIS	248.0	252.0	472.0	584.0
MAGNESIUM (MG) DIS	108.0	108.0	237.0	366.0
SODIUM (NA) DIS	1187.0	1220.0	794.0	880.0
POTASSIUM (K) DIS	37.0	36.0	240.0	45.0
BICARBONATE (HCO3)	683.0	670.0	<1.0	231.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1156.0	1066.0	5907.0	1848.0 J4
CHLORIDE (CL)	1269.0	1302.0	684.0	1671.0
FLUORIDE (F)	2.2	2.2	24.0	1.4

-- NUTRIENTS --

	EP-43	EP-43	EP-49	EP-51
NITRATE + NITRITE AS N	3.6	3.6	0.13	144.0

-- METALS & MINOR CONSTITUENTS --

	EP-43	EP-43	EP-49	EP-51
ARSENIC (AS) DIS	1.3	1.1	320.0	0.12
CADMIUM (CD) DIS	<0.005	<0.005	26.0	0.078
CHROMIUM (CR) DIS	<0.01	<0.01	<0.05	0.017
COPPER (CU) DIS	<0.025	<0.025	<0.025	0.094
IRON (FE) DIS	0.48 J4	0.77 J4	1266.0	3.2 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.17	0.19	0.25	0.23
ZINC (ZN) DIS	<0.02	<0.02	789.0	1.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-51	EP-52	EP-53
SITE CODE	EP-51	EP-52	EP-53
SAMPLE DATE	02/09/99	02/09/99	02/04/99
SAMPLE TIME	13:35	13:55	15:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-7	L990255-8	L990218-13
REMARKS	DUPLICATE		
SAMPLE NUMBER	EPRI-9902-183	EPRI-9902-119	EPRI-9902-120
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)		49.52	67.1
OXYGEN (O) (FLD) DIS	2.1	4.9	1.8
PH (FLD)	6.87	6.38	6.44
PH	7.4	7.1	7.1
SC (UMHOS/CM AT 25 C)	9140.0	11150.0	7040.0
SC (UMHOS/CM AT 25 C) (FLD)	8780.0	11040.0	7780.0
TDS (MEASURED AT 190 C)	7050.0	9559.0	6023.0
TOTAL SUSPENDED SOLIDS	22.0	51.0	2356.0 J4
WATER TEMPERATURE (C) (FLD)	26.3	25.2	25.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	561.0	552.0	509.0
MAGNESIUM (MG) DIS	363.0	275.0	83.0
SODIUM (NA) DIS	870.0	1730.0	1140.0
POTASSIUM (K) DIS	45.0	26.0	127.0
BICARBONATE (HCO3)	224.0	706.0	342.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1340.0 J4	3665.0 J4	2665.0
CHLORIDE (CL)	1641.0	1342.0	424.0
FLUORIDE (F)	1.3	6.9	6.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	141.0	112.0	93.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.11	0.23	55.0
CADMIUM (CD) DIS	0.075	0.59	1.7
CHROMIUM (CR) DIS	0.016	0.032	<0.01
COPPER (CU) DIS	0.077	0.41	<0.025
IRON (FE) DIS	2.6 J4	1.7 J4	<0.1
LEAD (PB) DIS	<0.003	0.021	<0.003
SELENIUM (SE) DIS	0.23	0.25	1.4
ZINC (ZN) DIS	1.0	3.9	5.7

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-54	EP-55	EP-56	EP-56
SITE CODE	EP-54	EP-55	EP-56	EP-56
SAMPLE DATE	02/09/99	02/11/99	02/04/99	02/04/99
SAMPLE TIME	14:25	09:00	14:25	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-9	L990255-24	L990218-11	L990218-12
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9902-121	EPRI-9902-122	EPRI-9902-123	EPRI-9902-179
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	70.4	55.0	50.13	
OXYGEN (O) (FLD) DIS	5.7	0.9	1.0	1.0
PH (FLD)	6.6	6.31	7.23	7.24
PH	7.4	6.7	7.6	8.2
SC (UMHOS/CM AT 25 C)	10500.0	10240.0	5600.0	5640.0
SC (UMHOS/CM AT 25 C) (FLD)	10150.0	10350.0	6130.0	6140.0
TDS (MEASURED AT 180 C)	8843.0	8827.0	4291.0	4173.0
TOTAL SUSPENDED SOLIDS	60.0	303.0	1107.0	5485.0 J4
WATER TEMPERATURE (C) (FLD)	25.5	21.9	24.9	25.0
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	455.0	527.0	254.0	260.0
MAGNESIUM (MG) DIS	284.0	362.0	67.0	67.0
SODIUM (NA) DIS	1410.0	1350.0	1073.0	1073.0
POTASSIUM (K) DIS	320.0	175.0	31.0	35.0
BICARBONATE (HCO3)	904.0	703.0	793.0	898.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	3504.0 J4	3941.0	1731.0	1751.0
CHLORIDE (CL)	756.0	819.0	597.0	717.0
FLUORIDE (F)	11.0	19.0	1.9	2.0
-- NUTRIENTS --				
NITRATE + NITRITE AS N	7.6	0.092	0.38	0.39
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	50.0	55.0	0.74	1.3 J4
CADMIUM (CD) DIS	0.55	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.066	<0.025	<0.025	<0.025
IRON (FE) DIS	0.36 J4	95.0	<0.1	<0.1
LEAD (PB) DIS	0.004	<0.003	0.004	0.004
SELENIUM (SE) DIS	0.098	0.079	0.011	0.013
ZINC (ZN) DIS	10.0	41.0	0.037	0.032 UJ1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-57	EP-58	EP-59	EP-59
SITE CODE	EP-57	EP-58	EP-59	EP-59
SAMPLE DATE	02/24/99	02/24/99	02/10/99	02/10/99
SAMPLE TIME	10:10	08:45	08:40	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990335-5	L990335-1	L990255-12	L990255-13
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9902-124	EPRI-9902-125	EPRI-9902-126	EPRI-9902-185
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FBET)	9.12	14.25	13.12	
OXYGEN (O) (FLD) DIS	0.2	1.0	0.7	0.7
PH (FLD)	7.15	6.53	7.13	7.14
PH	7.7	7.8	7.6	8.3
SC (UMHOS/CM AT 25 C)	3020.0	11510.0	5260.0	5270.0
SC (UMHOS/CM AT 25 C) (FLD)	3460.0	13950.0	5320.0	5230.0
TDS (MEASURED AT 180 C)	2078.0	9294.0	4083.0	4065.0
TOTAL SUSPENDED SOLIDS	529.0	58.0	13.0	14.0
WATER TEMPERATURE (C) (FLD)	26.1	23.1	22.9	22.8
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	101.0	510.0	203.0	214.0
MAGNESIUM (MG) DIS	71.0	203.0	104.0	105.0
SODIUM (NA) DIS	476.0	1913.0	720.0	700.0
POTASSIUM (K) DIS	17.0	224.0	100.0	100.0
BICARBONATE (HCO3)	1247.0	1359.0	406.0	407.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	259.0 J4	4560.0 J4	1593.0	1725.0
CHLORIDE (CL)	238.0	830.0	446.0	453.0
FLUORIDE (F)	1.0	5.2	5.0	5.1
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.8	0.057	15.0	15.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.56	3.7	2.6	2.6
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	1.0	<0.1	0.11
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.028	0.03	0.28	0.29
ZINC (ZN) DIS	<0.02	<0.02	0.045	0.055

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-60	EP-61	EP-62
SITE CODE	EP-60	EP-61	EP-62
SAMPLE DATE	02/10/99	02/24/99	02/10/99
SAMPLE TIME	10:15	09:15	09:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-17	L990335-2	L990255-15
SAMPLE NUMBER	EPRI-9902-127	EPRI-9902-128	EPRI-9902-129

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	9.1	10.75	7.3
OXYGEN (O) (FLD) DIS	1.9	0.6	4.8
PH (FLD)	7.0	7.17	7.41
PH	7.8	7.6	8.5
SC (UMHOS/CM AT 25 C)	8670.0	8320.0	4500.0
SC (UMHOS/CM AT 25 C) (FLD)	8650.0	9720.0	4600.0
TDS (MEASURED AT 180 C)	7317.0	6893.0	3379.0
TOTAL SUSPENDED SOLIDS	38.0	75.0	17.0
WATER TEMPERATURE (C) (FLD)	22.4	21.4	17.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	570.0	386.0	197.0
MAGNESIUM (MG) DIS	226.0	164.0	80.0
SODIUM (NA) DIS	1130.0	1313.0	660.0
POTASSIUM (K) DIS	17.0	22.0	55.0
BICARBONATE (HCO3)	305.0	608.0	351.0
CARBONATE AS CO3	<1.0	<1.0	19.0
SULFATE (SO4)	2540.0	2761.0 J4	1074.0
CHLORIDE (CL)	1135.0	688.0	399.0
FLUORIDE (F)	1.7	1.7	2.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	57.0	91.0	4.8
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.009	0.073	0.77
CADMIUM (CD) DIS	0.005	<0.005	0.024
CHROMIUM (CR) DIS	<0.01	0.011	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	1.3	0.18	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.25	0.22	0.27
ZINC (ZN) DIS	0.059	<0.02	0.13

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-63	EP-64	EP-65	EP-65
SITE CODE	EP-63	EP-64	EP-65	EP-65
SAMPLE DATE	02/10/99	02/10/99	02/24/99	02/24/99
SAMPLE TIME	09:50	08:55	09:45	09:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-16	L990255-14	L990335-3	L990335-4
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9902-130	EPRI-9902-131	EPRI-9902-132	EPRI-9902-194
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FBET)	6.58	10.34	8.67	
OXYGEN (O) (FLD) DIS	1.3	2.9	0.4	0.4
PH (FLD)	7.27	7.89	7.16	7.16
PH	7.8	8.5	7.7	7.7
SC (UMHOS/CM AT 25 C)	8440.0	9520.0	6980.0	7010.0
SC (UMHOS/CM AT 25 C) (FLD)	8590.0	9670.0	8290.0	8280.0
TDS (MEASURED AT 180 C)	6515.0	7962.0	5630.0	5730.0
TOTAL SUSPENDED SOLIDS	20.0	29.0	9.8	7.5
WATER TEMPERATURE (C) (FLD)	21.1	20.3	22.2	22.1
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	251.0	398.0	330.0	335.0
MAGNESIUM (MG) DIS	161.0	130.0	136.0	138.0
SODIUM (NA) DIS	1450.0	1480.0	1264.0	1253.0
POTASSIUM (K) DIS	45.0	30.0	24.0	24.0
BICARBONATE (HCO3)	531.0	226.0	728.0	761.0
CARBONATE AS CO3	<1.0	12.0	<1.0	<1.0
SULFATE (SO4)	2829.0	2783.0	1635.0	2309.0
CHLORIDE (CL)	1029.0	684.0	565.0	575.0
FLUORIDE (F)	2.2	1.9	2.0	2.0
-- NUTRIENTS --				
NITRATE + NITRITE AS N	7.3	86.0	27.0	31.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.027	0.039	0.007	0.008
CADMIUM (CD) DIS	<0.005	0.011	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.14	0.12
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.21	0.48	0.17	0.18
ZINC (ZN) DIS	0.039	0.084	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-66	EP-67	EP-68
SITE CODE	EP-66	EP-67	EP-68
SAMPLE DATE	02/10/99	02/10/99	02/18/99
SAMPLE TIME	10:35	14:10	13:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-18	L990255-20	L990290-7
SAMPLE NUMBER	EPRI-9902-133	EPRI-9902-134	EPRI-9902-135
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	9.99	49.4	63.26
OXYGEN (O) (FLD) DIS	5.3	1.7	5.6
PH (FLD)	7.17	6.91	7.31
PK	8.0	7.7	7.5
SC (UMHOS/CM AT 25 C)	7720.0	4340.0	3840.0
SC (UMHOS/CM AT 25 C) (FLD)	7700.0	4400.0	3690.0
TDS (MEASURED AT 180 C)	6808.0	3438.0	2926.0
TOTAL SUSPENDED SOLIDS	7.9	13.0	49.0
WATER TEMPERATURE (C) (FLD)	20.7	24.6	24.1
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	585.0	492.0	185.0
MAGNESIUM (MG) DIS	119.0	141.0	86.0
SODIUM (NA) DIS	1100.0	390.0	586.0
POTASSIUM (K) DIS	55.0	15.0	17.0
BICARBONATE (HCO3)	497.0	256.0	261.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3054.0	1343.0	861.0
CHLORIDE (CL)	622.0	346.0	436.0
FLUORIDE (F)	3.3	0.79	0.73
-- NUTRIENTS --			
NITRATE + NITRITE AS N	34.0	14.0	35.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	9.1	0.016	<0.005
CADMIUM (CD) DIS	0.034	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.2	0.13	0.16
ZINC (ZN) DIS	0.22	0.043	0.062

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-70	EP-71	EP-73
SITE CODE	EP-70	EP-71	EP-73
SAMPLE DATE	02/10/99	02/10/99	02/09/99
SAMPLE TIME	15:00	14:40	14:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-22	L990255-21	L990255-10
SAMPLE NUMBER	EPRI-9902-136	EPRI-9902-137	EPRI-9902-139
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	61.5	49.95	71.19
OXYGEN (O) (FLD) DIS	0.9	1.0	2.7
PH (FLD)	7.04	7.01	7.13
PH	7.7	7.7	7.7
SC (UMHOS/CM AT 25 C)	6080.0	5940.0	6540.0
SC (UMHOS/CM AT 25 C) (FLD)	6080.0	5970.0	6340.0
TDS (MEASURED AT 180 C)	4910.0	5085.0	5245.0
TOTAL SUSPENDED SOLIDS	1.7	4.5	10.0
WATER TEMPERATURE (C) (FLD)	24.3	24.2	27.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	309.0	344.0	278.0
MAGNESIUM (MG) DIS	158.0	172.0	119.0
SODIUM (NA) DIS	790.0	730.0	830.0
POTASSIUM (K) DIS	30.0	20.0	400.0
BICARBONATE (HCO3)	282.0	287.0	287.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1970.0	1840.0	2155.0 J4
CHLORIDE (CL)	518.0	47.0	434.0
FLUORIDE (F)	1.1	0.89	2.9
-- NUTRIENTS --			
NITRATE + NITRITE AS N	20.0	34.0	16.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.83	0.12	0.038
CADMIUM (CD) DIS	0.014	<0.005	0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1 UJ4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.18	0.21	0.93
ZINC (ZN) DIS	0.24	0.025	0.067

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-75	EP-76	EP-77
SITE CODE	EP-75	EP-76	EP-77
SAMPLE DATE	02/22/99	02/22/99	02/11/99
SAMPLE TIME	15:40	16:40	15:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-18	L990309-19	L990255-32
SAMPLE NUMBER	EPRI-9902-140	EPRI-9902-141	EPRI-9902-142
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	59.24	53.67	43.75
OXYGEN (O) (FLD) DIS	6.8	4.4	0.9
PH (FLD)	6.94	7.34	7.23
PH	7.3	7.6	7.8
SC (UMHOS/CM AT 25 C)	18720.0	5120.0	5450.0
SC (UMHOS/CM AT 25 C) (FLD)	22000.0	5860.0	5450.0
TDS (MEASURED AT 180 C)	17691.0	3717.0	4029.0
TOTAL SUSPENDED SOLIDS	46.0	6.2	256.0
WATER TEMPERATURE (C) (FLD)	24.9	21.7	23.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	382.0	169.0	227.0
MAGNESIUM (MG) DIS	364.0	94.0	50.0
SODIUM (NA) DIS	3962.0	550.0	850.0
POTASSIUM (K) DIS	858.0	135.0	40.0
BICARBONATE (HCO3)	664.0	478.0	296.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	9087.0	1477.0	1798.0
CHLORIDE (CL)	238.0	451.0	579.0
FLUORIDE (F)	1.7	2.1	3.1
-- NUTRIENTS --			
NITRATE + NITRITE AS N	161.0	0.63 J4	0.59
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	17.0	0.77	6.2
CADMIUM (CD) DIS	0.01	<0.005	0.016
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.061	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.003	0.005	0.005
SELENIUM (SE) DIS	3.8	0.16	0.025
ZINC (ZN) DIS	0.21	0.054	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-78	EP-79	EP-80
SITE CODE	EP-78	EP-79	EP-80
SAMPLE DATE	02/18/99	02/18/99	02/18/99
SAMPLE TIME	10:20	14:30	08:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990290-5	L990290-9	L990290-1
SAMPLE NUMBER	EPRI-9902-143	EPRI-9902-144	EPRI-9902-145
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	32.44	46.5	12.1
OXYGEN (O) (FLD) DIS	0.5	1.0	1.9
PH (FLD)	7.74	7.61	7.3
PH	7.9	7.8	7.5
SC (UMHOS/CM AT 25 C)	3450.0	4650.0	5290.0
SC (UMHOS/CM AT 25 C) (FLD)	3420.0	4660.0	5230.0
TDS (MEASURED AT 180 C)	2315.0	3360.0	4048.0
TOTAL SUSPENDED SOLIDS	22.0	12.0	45.0
WATER TEMPERATURE (C) (PLD)	23.0	25.5	23.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	72.0	48.0	220.0
MAGNESIUM (MG) DIS	38.0	53.0	92.0
SODIUM (NA) DIS	606.0	1016.0	1016.0
POTASSIUM (K) DIS	77.0	12.0	23.0
BICARBONATE (HCO3)	362.0	471.0	494.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	760.0	1172.0	1573.0
CHLORIDE (CL)	298.0	397.0	373.0
FLUORIDE (F)	4.0	4.6	1.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	10.0	10.0	9.8
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	4.7	<0.005	0.009
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.2	0.092	0.046
ZINC (ZN) DIS	0.029	0.041	0.052

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-81	EP-82	EP-83	EP-83
SITE CODE	EP-81	EP-82	EP-83	EP-83
SAMPLE DATE	02/18/99	02/18/99	02/22/99	02/22/99
SAMPLE TIME	09:15	10:45	10:20	10:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990290-2	L990290-6	L990309-14	L990309-15
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9902-146	EPRI-9902-147	EPRI-9902-148	EPRI-9902-192
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	18.79	16.21	27.56	
OXYGEN (O) (FLD) DIS	4.7	0.5	6.0	5.8
PH (FLD)	7.19	7.28	7.58	7.57
PH	7.4	7.6	7.8	7.8
SC (UMHOS/CM AT 25 C)	2550.0	4720.0	3880.0	3870.0
SC (UMHOS/CM AT 25 C) (FLD)	2590.0	4770.0	4510.0	4510.0
TDS (MEASURED AT 180 C)	2018.0	3490.0	2740.0	2663.0
TOTAL SUSPENDED SOLIDS	16.0	22.0	7.0	5.8
WATER TEMPERATURE (C) (FLD)	22.0	21.7	22.6	22.7
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	164.0	136.0	71.0	73.0
MAGNESIUM (MG) DIS	84.0	70.0	64.0	66.0
SODIUM (NA) DIS	364.0	930.0	740.0	747.0
POTASSIUM (K) DIS	17.0	33.0	8.5	11.0
BICARBONATE (HCO3)	501.0	421.0	354.0	371.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	658.0	825.0	1040.0	997.0
CHLORIDE (CL)	97.0	513.0	347.0	341.0
FLUORIDE (F)	1.4	3.0	3.0	3.1
-- NUTRIENTS --				
NITRATE + NITRITE AS N	9.7	10.0	8.3 J4	6.1 J4
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.21	0.005	<0.005	<0.005
CADMIUM (CD) DIS	0.007	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.19	0.13	0.039	0.04
ZINC (ZN) DIS	0.11	0.038	0.035	0.033

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-84	EP-85	EP-85	EP-86
SITE CODE	EP-84	EP-85	EP-85	EP-86
SAMPLE DATE	02/22/99	02/18/99	02/18/99	02/18/99
SAMPLE TIME	09:20	09:50	09:55	14:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-13	L990290-3	L990290-4	L990290-8
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9902-149	EPRI-9902-150	EPRI-9902-189	EPRI-9902-151
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	7.52	15.21		49.11
OXYGEN (O) (FLD) DIS	3.3	0.4	0.4	6.5
PH (FLD)	7.21	7.45	7.45	7.74
PH	7.5	7.6	7.7	7.9
SC (UMHOS/CM AT 25 C)	3070.0	2770.0	2770.0	2600.0
SC (UMHOS/CM AT 25 C) (FLD)	3370.0	2780.0	2780.0	2600.0
TDS (MEASURED AT 180 C)	2276.0	1998.0	1724.0	1759.0
TOTAL SUSPENDED SOLIDS	3.1	7.3	5.6	42.0
WATER TEMPERATURE (C) (FLD)	20.0	23.3	23.1	22.1
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	212.0	91.0	92.0	40.0
MAGNESIUM (MG) DIS	103.0	42.0	44.0	28.0
SODIUM (NA) DIS	345.0	483.0	500.0	516.0
POTASSIUM (K) DIS	45.0	34.0	36.0	12.0
BICARBONATE (HCO3)	301.0	366.0	371.0	355.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	687.0	584.0	623.0	390.0
CHLORIDE (CL)	326.0	193.0	200.0	250.0
FLUORIDE (F)	0.69	3.7	3.8	2.8
-- NUTRIENTS --				
NITRATE + NITRITE AS N	9.3 J4	7.2	6.6	6.2
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.022	2.5	2.6	<0.005
CADMIUM (CD) DIS	0.008	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.013	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.021	0.16	0.16	0.02
ZINC (ZN) DIS	0.046	0.029	0.044	0.049

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-88	EP-89	EP-90
SAMPLE DATE	02/11/99	02/10/99	02/11/99
SAMPLE TIME	10:45	13:55	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990255-27	L990255-19	L990255-31
SAMPLE NUMBER	EPRI-9902-153	EPRI-9902-154	EPRI-9902-155

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	29.2	14.2	56.41
OXYGEN (O) (FLD) DIS	1.3	3.7	1.2
PH (FLD)	7.53	7.32	7.41
PH	8.2	8.0	7.9
SC (UMHOS/CM AT 25 C)	5350.0	2770.0	3340.0
SC (UMHOS/CM AT 25 C) (FLD)	5360.0	2810.0	3320.0
TDS (MEASURED AT 180 C)	3822.0	1978.0	2434.0
TOTAL SUSPENDED SOLIDS	143.0	7.5	260.0
WATER TEMPERATURE (C) (FLD)	22.4	24.6	23.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	50.0	167.0	132.0
MAGNESIUM (MG) DIS	31.0	57.0	67.0
SODIUM (NA) DIS	1060.0	330.0	500.0
POTASSIUM (K) DIS	9.0	19.0	10.0
BICARBONATE (HCO3)	655.0	256.0	299.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1720.0	686.0	808.0
CHLORIDE (CL)	454.0	292.0	321.0
FLUORIDE (F)	2.4	0.79	0.65

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.51	7.6	12.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.028	0.007	0.15
CADMIUM (CD) DIS	0.008	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.018	0.023	0.42
ZINC (ZN) DIS	0.077	0.037	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI	DI	DI
SAMPLE DATE	02/03/99	02/04/99	02/08/99	02/09/99	02/10/99	02/11/99
SAMPLE TIME	16:20	15:45	16:30	15:30	15:30	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990218-7	L990218-14	L990255-5	L990255-11	L990255-23	L990255-33
REMARKS	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9902-178	EPRI-9902-180	EPRI-9902-182	EPRI-9902-184	EPRI-9902-186	EPRI-9902-188

-- PHYSICAL PARAMETERS --

	6.0	5.9	6.0	5.5	6.0	5.8
PH						
SC (UMHOS/CM AT 25 C)	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	1.0	<1.0	<1.0	<1.0	2.0	1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1.1	1.1	<2.0	<2.0	<2.0	<2.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	0.02	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI
SAMPLE DATE	02/18/99	02/22/99	02/24/99	02/25/99
SAMPLE TIME	15:00	16:45	15:00	11:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990290-10	L990309-20	L990335-9	L990335-14
REMARKS	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9902-190	EPRI-9902-193	EPRI-9902-195	EPRI-9902-197

-- PHYSICAL PARAMETERS --

PH	5.9	5.9	5.9	5.8
SC (UMHOS/CM AT 25 C)	<10.0	<10.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<2.0	<2.0
POTASSIUM (K) DIS	<5.0	<5.0	<2.0	<2.0
BICARBONATE (HCO3)	<1.0	<1.0	1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	<1.0	1.5	<2.0	<2.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.1	<0.05	<0.05	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	0.021

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	POND 1	POND 6	SEP-1
SAMPLE DATE	02/19/99	02/19/99	02/19/99
SAMPLE TIME	13:45	13:30	14:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-10	L990309-9	L990109-12
SAMPLE NUMBER	EPRI-9902-173	EPRI-9902-175	EPRI-9902-156

-- PHYSICAL PARAMETERS --

PARAMETER	POND 1	POND 6	SEP-1
OXYGEN (O) (FLD) DIS	12.3	10.8	10.9
PH (FLD)	8.12	8.75	8.54
PH	8.1	8.5	8.3
SC (UMHOS/CM AT 25 C)	19330.0	2610.0	2100.0
SC (UMHOS/CM AT 25 C) (FLD)	15540.0	2290.0	1631.0
TDS (MEASURED AT 180 C)	16995.0	1716.0	1363.0
TOTAL SUSPENDED SOLIDS	48.0	15.0	28.0
WATER TEMPRATURE (C) (FLD)	15.9	19.6	19.8

-- MAJOR CONSTITUENTS --

CONSTITUENT	POND 1	POND 6	SEP-1
CALCIUM (CA) DIS	397.0	82.0	109.0
MAGNESIUM (MG) DIS	95.0	7.6	26.0
SODIUM (NA) DIS	5144.0	507.0	315.0
POTASSIUM (K) DIS	211.0	15.0	13.0
BICARBONATE (HCO3)	168.0	62.0	275.0
CARBONATE AS CO3	<1.0	5.0	<1.0
SULFATE (SO4)	7894.0	462.0	313.0
CHLORIDE (CL)	1340.0	286.0	248.0
FLUORIDE (F)	14.0	1.9	0.83

-- NUTRIENTS --

NUTRIENT	POND 1	POND 6	SEP-1
NITRATE + NITRITE AS N	18.0	<0.05	2.6

-- METALS & MINOR CONSTITUENTS --

METAL	POND 1	POND 6	SEP-1
ARSENIC (AS) DIS	0.19	0.59	0.008
ARSENIC (AS) TRC	0.44	0.68	0.011
CADMIUM (CD) DIS	6.2	0.041	<0.005
CADMIUM (CD) TRC	6.6	0.056	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.49	0.27	<0.025
COPPER (CU) TRC	1.8	0.6	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	1.4	0.5	0.71
LEAD (PB) DIS	0.11	0.065	<0.003
LEAD (PB) TRC	0.75	0.21	0.01
SELENIUM (SE) DIS	0.97	0.035	<0.005
SELENIUM (SE) TRC	0.99	0.035	<0.005
ZINC (ZN) DIS	7.0	0.19	0.025
ZINC (ZN) TRC	8.6	0.36	0.021

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-2	SEP-2	SEP-4	SEP-7
SAMPLE DATE	02/19/99	02/19/99	02/19/99	02/19/99
SAMPLE TIME	10:10	10:12	09:15	14:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-4	L990309-5	L990309-1	L990309-11
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9902-157	EPRI-9902-191	EPRI-9902-159	EPRI-9902-160
-- PHYSICAL PARAMETERS --				
OXYGEN (O) (FLD) DIS	9.4	9.8	10.2	16.5
PH (FLD)	8.48	8.5	8.28	8.41
PH	8.3	8.3	8.3	8.3
SC (UMHOS/CM AT 25 C)	2080.0	2070.0	2100.0	2100.0
SC (UMHOS/CM AT 25 C) (FLD)	1576.0	1571.0	1643.0	1775.0
TDS (MEASURED AT 180 C)	1252.0	1195.0	1116.0	1351.0
TOTAL SUSPENDED SOLIDS	31.0	32.0	24.0	17.0
WATER TEMPERATURE (C) (FLD)	13.3	12.4	14.5	18.6
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	115.0	115.0	116.0	112.0
MAGNESIUM (MG) DIS	33.0	30.0	31.0	27.0
SODIUM (NA) DIS	299.0	300.0	310.0	315.0
POTASSIUM (K) DIS	18.0	16.0	16.0	14.0
BICARBONATE (HCO3)	295.0	293.0	306.0	289.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	294.0	246.0	288.0	325.0
CHLORIDE (CL)	237.0	247.0	247.0	241.0
FLUORIDE (F)	0.79	0.8	0.78	0.83
-- NUTRIENTS --				
NITRATE + NITRITE AS N	1.5	1.4	1.5	1.5
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.005	0.006	0.006	0.006
ARSENIC (AS) TRC	0.005	0.005	0.005	0.007
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TRC	0.75	0.77	0.58	0.38
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.003	0.003	<0.003	0.005
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	0.028	<0.02	<0.02	0.022
ZINC (ZN) TRC	<0.02	<0.02 UJ4	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-9	SEP-10	SEP-11
SAMPLE DATE	02/19/99	02/19/99	02/19/99
SAMPLE TIME	11:10	10:45	10:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-8	L990309-7	L990309-6
SAMPLE NUMBER	EPRI-9902-161	EPRI-9902-162	EPRI-9902-163
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	10.9	10.4	10.9
PH (FLD)	8.31	8.41	8.47
PH	8.1	8.2	8.3
SC (UMHOS/CM AT 25 C)	2050.0	2060.0	2060.0
SC (UMHOS/CM AT 25 C) (FLD)	1763.0	1675.0	1633.0
TDS (MEASURED AT 180 C)	1342.0	1282.0	1390.0
TOTAL SUSPENDED SOLIDS	14.0	28.0	31.0
WATER TEMPERATURE (C) (FLD)	18.3	16.5	14.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	86.0	110.0	112.0
MAGNESIUM (MG) DIS	20.0	27.0	28.0
SODIUM (NA) DIS	323.0	307.0	292.0
POTASSIUM (K) DIS	14.0	15.0	15.0
BICARBONATE (HCO3)	226.0	293.0	289.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	331.0	290.0	299.0
CHLORIDE (CL)	261.0	239.0	237.0
FLUORIDE (F)	0.8	0.77	0.79
-- NUTRIENTS --			
NITRATE + NITRITE AS N	5.0	2.7	1.9
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.009	0.005	0.005
ARSENIC (AS) TRC	0.008	0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	0.25	0.77	1.0
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	<0.003	<0.003	0.004
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	0.033	<0.02	0.02
ZINC (ZN) TRC	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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R: Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-12	SEP-13
SAMPLE DATE	02/19/99	02/19/99
SAMPLE TIME	09:55	09:40
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L990309-3	L990309-2
SAMPLE NUMBER	EPRI-9902-164	EPRI-9902-165

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	9.9	11.4
PH (FLD)	8.39	7.92
PH	8.3	8.3
SC (UMHOS/CM AT 25 C)	2070.0	2090.0
SC (UMHOS/CM AT 25 C) (FLD)	1573.0	1584.0
TDS (MEASURED AT 180 C)	1100.0	1169.0
TOTAL SUSPENDED SOLIDS	26.0	24.0
WATER TEMPERATURE (C) (FLD)	14.4	14.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	113.0	117.0
MAGNESIUM (MG) DIS	30.0	32.0
SODIUM (NA) DIS	303.0	300.0
POTASSIUM (K) DIS	16.0	16.0
BICARBONATE (HCO3)	295.0	304.0
CARBONATE AS CO3	<1.0	<1.0
SULFATE (SO4)	301.0	309.0
CHLORIDE (CL)	238.0	238.0
FLUORIDE (F)	0.78	0.8

-- NUTRIENTS --

NITRATE + NITRITE AS N	1.5	1.4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.005	0.006
ARSENIC (AS) TRC	0.005	0.006
CADMIUM (CD) DIS	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1
IRON (FE) TRC	0.71	0.62
LEAD (PB) DIS	<0.003	<0.003
LEAD (PB) TRC	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02
ZINC (ZN) TRC	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
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 R:Rejected.

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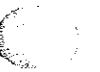
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18	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
19	EP-86	EP-86	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
20	EP-90	EP-90	Groundwater		
23	POND 1	POND 1	Surface Water		
23	POND 6	POND 6	Surface Water		
23	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		
24	SEP-4	SEP-4	Surface Water		
24	SEP-7	SEP-7	Surface Water		
25	SEP-9	SEP-9	Surface Water		
25	SEP-10	SEP-10	Surface Water		
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26	SEP-13	SEP-13	Surface Water		

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3	EPRI-9902-101	L990218-3	02/03/99	EP-5	7	L990218-10	EPRI-9902-114	02/04/99	EP-26
3	EPRI-9902-102	L990218-4	02/03/99	EP-6	10	L990218-11	EPRI-9902-123	02/04/99	EP-56
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6	EPRI-9902-109	L990335-6	02/24/99	EP-21	4	L990218-5	EPRI-9902-103	02/03/99	EP-7
6	EPRI-9902-111	L990255-26	02/11/99	EP-23	4	L990218-6	EPRI-9902-177	02/03/99	EP-7
6	EPRI-9902-112	L990255-25	02/11/99	EP-24	21	L990218-7	EPRI-9902-178	02/03/99	DI
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7	EPRI-9902-115	L990218-1	02/03/99	EP-29	5	L990218-9	EPRI-9902-108	02/04/99	EP-20
7	EPRI-9902-116	L990218-8	02/04/99	EP-35	5	L990255-1	EPRI-9902-106	02/08/99	EP-14
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15	EPRI-9902-136	L990255-22	02/10/99	EP-70	2	L990255-28	EPRI-9902-170	02/11/99	EM-5
15	EPRI-9902-137	L990255-21	02/10/99	EP-71	2	L990255-29	EPRI-9902-187	02/11/99	EM-5
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17	EPRI-9902-144	L990290-9	02/18/99	EP-79	5	L990255-4	EPRI-9902-181	02/08/99	EP-15
17	EPRI-9902-145	L990290-1	02/18/99	EP-80	21	L990255-5	EPRI-9902-182	02/08/99	DI
18	EPRI-9902-146	L990290-2	02/18/99	EP-81	8	L990255-6	EPRI-9902-118	02/09/99	EP-51
18	EPRI-9902-147	L990290-6	02/18/99	EP-82	9	L990255-7	EPRI-9902-183	02/09/99	EP-51
18	EPRI-9902-148	L990309-14	02/22/99	EP-83	9	L990255-8	EPRI-9902-119	02/09/99	EP-52
19	EPRI-9902-149	L990309-13	02/22/99	EP-84	10	L990255-9	EPRI-9902-121	02/09/99	EP-54
19	EPRI-9902-150	L990290-3	02/18/99	EP-85	17	L990290-1	EPRI-9902-145	02/18/99	EP-80
19	EPRI-9902-151	L990290-8	02/18/99	EP-86	22	L990290-10	EPRI-9902-190	02/18/99	DI
20	EPRI-9902-153	L990255-27	02/11/99	EP-88	18	L990290-2	EPRI-9902-146	02/18/99	EP-81
20	EPRI-9902-154	L990255-19	02/10/99	EP-89	19	L990290-3	EPRI-9902-150	02/18/99	EP-85
20	EPRI-9902-155	L990255-31	02/11/99	EP-90	19	L990290-4	EPRI-9902-189	02/18/99	EP-85
23	EPRI-9902-156	L990309-12	02/19/99	SEP-1	17	L990290-5	EPRI-9902-143	02/18/99	EP-78
24	EPRI-9902-157	L990309-4	02/19/99	SEP-2	18	L990290-6	EPRI-9902-147	02/18/99	EP-82
24	EPRI-9902-159	L990309-1	02/19/99	SEP-4	14	L990290-7	EPRI-9902-135	02/18/99	EP-68
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25	EPRI-9902-162	L990309-7	02/19/99	SEP-10	24	L990309-1	EPRI-9902-159	02/19/99	SEP-4
25	EPRI-9902-163	L990309-6	02/19/99	SEP-11	23	L990309-10	EPRI-9902-173	02/19/99	POND 1
26	EPRI-9902-164	L990309-3	02/19/99	SEP-12	24	L990309-11	EPRI-9902-160	02/19/99	SEP-7
26	EPRI-9902-165	L990309-2	02/19/99	SEP-13	23	L990309-12	EPRI-9902-156	02/19/99	SEP-1
1	EPRI-9902-167	L990335-8	02/24/99	EM-1	19	L990309-13	EPRI-9902-149	02/22/99	EP-84
1	EPRI-9902-168	L990309-16	02/22/99	EM-2	18	L990309-14	EPRI-9902-148	02/22/99	EP-83
1	EPRI-9902-169	L990309-17	02/22/99	EM-4	1	L990309-15	EPRI-9902-192	02/22/99	EP-83
2	EPRI-9902-170	L990255-28	02/11/99	EM-5	1	L990309-16	EPRI-9902-168	02/22/99	EM-2
2	EPRI-9902-171	L990255-30	02/11/99	EM-6	1	L990309-17	EPRI-9902-169	02/22/99	EM-4
2	EPRI-9902-172	L990335-7	02/24/99	EM-7	16	L990309-18	EPRI-9902-140	02/22/99	EP-75
23	EPRI-9902-173	L990309-10	02/19/99	POND 1	16	L990309-19	EPRI-9902-141	02/22/99	EP-76
23	EPRI-9902-175	L990309-9	02/19/99	POND 6	26	L990309-2	EPRI-9902-165	02/19/99	SEP-13
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2	EPRI-9902-187	L990255-29	02/11/99	EM-5	8	L990335-12	EPRI-9902-117	02/25/99	EP-49
21	EPRI-9902-188	L990255-33	02/11/99	DI	8	L990335-13	EPRI-9902-196	02/25/99	EP-43
19	EPRI-9902-189	L990290-4	02/18/99	EP-85	22	L990335-14	EPRI-9902-197	02/25/99	DI
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22	EPRI-9902-193	L990309-20	02/22/99	DI	11	L990335-5	EPRI-9902-124	02/24/99	EP-57
13	EPRI-9902-194	L990335-4	02/24/99	EP-65	6	L990335-6	EPRI-9902-109	02/24/99	EP-21
22	EPRI-9902-195	L990335-9	02/24/99	DI	2	L990335-7	EPRI-9902-172	02/24/99	EM-7
8	EPRI-9902-196	L990335-13	02/25/99	EP-43	1	L990335-8	EPRI-9902-167	02/24/99	EM-1
22	EPRI-9902-197	L990335-14	02/25/99	DI	22	L990335-9	EPRI-9902-195	02/24/99	DI



SECTION J-4

REMEDIAL INVESTIGATION WATER SAMPLES

SPRING 1999

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
SPRING 1999**

Prepared by
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July 1999

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APPENDIX 1: TABLES

- Table 1. Data Validation Codes and Definitions
- Table 2. Summary of Flagged Data
- Table 3. Summary of Historical Comparison

APPENDIX 2: DATABASE

GLOSSARY OF TERMS

CCB.....	Continuing Calibration Blank
CCV.....	Continuing Calibration Verification
CLP.....	Contract Laboratory Program
CRDL	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA	Graphite Furnace Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB	Initial Calibration Blank
ICP.....	Inductively Coupled Plasma
ICV.....	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS.....	Laboratory Control Sample
MSA	Method of Standard Additions
PB.....	Preparation Blank
PRDL.....	Project Required Detection Limit
QAPP.....	Quality Assurance Project Plan
QC	Quality Control
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SOW	Statement of Work
TDS	Total Dissolved Solids

SUMMARY

This report covers the validation of data for groundwater and surface water samples collected during May 1999 for the Asarco El Paso Copper Smelter Remediation Investigation. The validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes the summary of flagged data (Table 2) and the summary of a statistical historical comparison (Table 3). The validated database for this data set is in Appendix 2.

Due to a plant shut down, water levels and some other water conditions have changed at the following sites: EP-26, EP-56, and EP-77.

Completeness of field measurements:

- The required frequency for field quality control samples was met for the May 1999 monitoring event.
 - The required nine field duplicates were submitted.
 - The required nine field blanks were submitted.
- Field measurements were taken in duplicate for all field duplicate samples.
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-24, EP-25, EP-43, or EP-49.

Laboratory Quality Control Violations:

- Holding time exceedances resulted in the flagging of 100 flags to indicate that the results may not be representative of the true sample values. There were 30 flags for laboratory specific conductivity, 22 flags for sulfate; 21 flags each for bicarbonate and carbonate, and 6 flags for fluoride.
- The ICP laboratory duplicate for batch L990882 was out of control limits for selenium, resulting in 5 flags to indicate a possible lack of reproducibility.
- The laboratory matrix spike for batch L990799 was out of control limits for dissolved iron (128% recovery). One associated result was flagged to indicate the possibility of a high bias.
- The laboratory matrix spike for batch L990800 was out of control limits for dissolved zinc (74% recovery). Twenty-one associated results were flagged to indicate the possibility of a low bias.

Field Quality Control Violations:

- Three field SC results (from samples collected at EP-15, EP-26, and EP-53) were rejected due to the following considerations (this is discussed further in Section 10, Interparameter Relationships):
 - The percent difference between the lab and field SC.
 - The ratio of TDS to lab and field SC.
 - Laboratory and field SC values observed historically at the respective sites.
- Nitrate + nitrite as N detected in the field blank submitted On 5/12/99 resulted in 3 flags to indicate a possible high bias.
- Thirteen of the field duplicate measurements were out of control limits resulting in a total of 100 flags to indicate a possible lack of reproducibility. Results were flagged as follows:

Analyte	Number of Flags
TSS	9
Bicarbonate	8
Chloride	20
Fluoride	10
Potassium	11
Sulfate	3
NO ₃ + NO ₂ as N	31
Selenium	8

Ninety-two percent of the data may be used without qualification (2283 out of 2468 results). Quality control violations resulted in the flagging of 185 values; of these flagged values, three were considered not valid, and were rejected (flagged R). Overall, the data for the May 1999 monitoring for the Asarco El Paso Copper Smelter Remedial Investigation are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. Any possible bias and/or lack of reproducibility indicated by the flags should be taken into account. For this sampling event, the continued-improved performance on the submission of the required field quality control samples made it possible to evaluate the precision and accuracy of the data as set out in the project work plan.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Jennifer Vanek

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to inorganic analytes from 90 samples collected during May of 1999 for the Asarco El Paso Copper Smelter Remedial Investigation. The total number of samples included:
 - 9..... DI blanks
 - 9..... Field duplicates (2 surface water, 7 groundwater)
 - 12..... Surface water field samples
 - 60..... Groundwater field samples
 - (Two non-QC samples were collected at EP-23 and at EP-54.)
 - No samples were collected at the following sites:
 - EP-71..... Blocked by construction
 - EP-87..... Dry
 - Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-24, EP-25, EP-43, or EP-49.
 - Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other
 - Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual
- Notes:** The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
 - Yes
 - No
- Field measurements and field documentation were complete.
 - Yes
 - No

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are 1 field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- **Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes

No

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project-required detection limits (PRDL) if project detection limits have been specified.

Yes

No

Notes: When an analyte is detected in a blank, associated results up to 5 times the blank level are flagged to indicate that the results may be biased high due to contamination. Results "associated" with a field blank are generally results for samples collected on the same day as the blank.

- One or more blanks had low-level sulfate and/or chloride and/or fluoride. There were no flags, as all associated results were greater than 5 times the blank levels.
- Low-level nitrate + nitrite as N was detected in the blank submitted on 5/12/99. Three results were flagged to indicate a possible high bias.

Site	Sample Number	Date	Result (ppm)
DI	EPRI-9905-189	5/12/99	0.10
SEP-1	EPRI-9905-157	5/12/99	0.14
SEP-3	EPRI-9905-159	5/12/99	0.38
SEP-7	EPRI-9905-161	5/12/99	0.13

Flagging: UJ₁

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes

No

Notes: One field duplicate was submitted on each of the nine days of sampling. The field duplicates are listed in the following table.

Sample/ Duplicate #	Site	Date	Matrix
EVT-9905-103/ 177	EP-29	05/04/99	Groundwater
EVT-9905-123/ 179	EP-6	05/05/99	Groundwater
EVT-9905-107/ 181	EP-63	05/06/99	Groundwater
EVT-9905-118/ 183	EP-73	05/07/99	Groundwater
EVT-9905-126/ 185	EM-4	05/10/99	Groundwater

Sample/ Duplicate #	Site	Date	Matrix
EVT-9905-170/ 187	EP-78	05/11/99	Groundwater
EVT-9905-157/ 191	SEP-3	05/12/99	Surface water
EVT-9905-148/ 192	SEP-11	05/13/99	Surface water
EVT-9905-150/ 189	EP-12	05/14/99	Groundwater

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes
 No

Notes: Field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility.

- Thirteen of the field duplicate measurements were out of control limits resulting in a total of 100 flags.

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9905-115/ 177	EP-29	05/04/99	TSS	170/ 280	49% RPD	4
EPRI-9905-115/ 177	EP-29	05/04/99	Sulfate	1049/ 812	25% RPD	3
EPRI-9905-131/ 181	EP-63	05/06/99	Chloride	1163/ 870	29% RPD	11
EPRI-9905-131/ 181	EP-63	05/06/99	Potassium	37/ 46	22% RPD	11
EPRI-9905-131/ 181	EP-63	05/06/99	NO ₃ /NO ₂ as N	6.4/ 7.9	21% RPD	4
EPRI-9905-140/ 183	EP-73	05/07/99	NO ₃ /NO ₂ as N	16/ 21	27% RPD	9
EPRI-9905-170/ 185	EM-4	05/10/99	Chloride	3348/ 2718	21% RPD	9
EPRI-9905-144/ 186	EP-78	05/11/99	Fluoride	2.6/ 9.2	112% RPD	10
EPRI-9905-159/ 190	SEP-3	05/12/99	NO ₃ +NO ₂ as N	0.38/ 1.0	> \pm 0.1 ppm	9
EPRI-9905-164/ 191	SEP-11	05/13/99	NO ₃ +NO ₂ as N	0.25/ <0.10	> \pm 0.1 ppm	9
EPRI-9905-104/ 193	EP-12	05/14/99	TSS	41/ 66	47% RPD	5
EPRI-9905-104/ 193	EP-12	05/14/99	HCO ₃	2013/ 1037	64% RPD	8
EPRI-9905-104/ 193	EP-12	05/14/99	Selenium	0.260/ 0.320	21% RPD	8

Flagging: J₄/UJ₄

4. LABORATORY PROCEDURES

- Laboratory procedures followed
 - CLP-SOW
 - SW-846
 - Methods for Chemical Analysis of Water and Wastes
 - XRF Standard Operating Procedures

- Holding times met
 - Yes
 - No

Notes: A total of 118 results were flagged for holding time exceedances. These are detailed in the following table.

Lab Batch	Analyte	# Results Flagged	Holding Limit (Days)	Time Held (Days)
L990776	Fluoride	6	28	29
L990776	Sulfate	20	28	29 to 31
L990800	Sulfate	2	28	29
L990819	Conductivity	17	28	29 to 30
L990819	Bicarbonate	17	14	15 to 16
L990819	Carbonate	17	14	15 to 16
L990820	Conductivity	4	28	29
L990820	Bicarbonate	4	14	15
L990820	Carbonate	4	14	15
L990882	Conductivity	9	28	34

Flagging: J₃/UJ₃

- Consistency with project requirements
 - Analyses were carried out as requested.
 - Yes
 - No
 - Project specified methods were used.
 - Yes
 - No

5. DETECTION LIMITS

- Reporting detection limits met project required detection limits (PRDLs).
 - Yes
 - No

Notes: The PRDL for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

• Preparation blanks

Preparation blanks were prepared and analyzed at the required frequency.

Yes

No

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

Yes

No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.

Yes

No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes

No

Notes: For laboratory batch L990800, the ICP-MS matrix spike recovery (74%) was out of control limits for dissolved zinc. Dissolved zinc results for 21 samples in the batch were flagged to indicate the possibility of a low bias. (The remaining zinc sample was analyzed by ICP.)

For laboratory batch L990799, the matrix spike recovery (128%) was out of control limits for dissolved iron analyzed by ICP. One associated result was flagged to indicate the possibility of a high bias. All other dissolved iron results were below the reporting limit.

Flagging: J₄/UJ₄

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes

No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PRDL for water matrix.

Yes
 No

Notes: The ICP selenium lab duplicate for laboratory batch L990882 was out of control limits with an RPD of 54%. The analyst noted that this was possibly due to high sodium in the sample matrix. Normally the lab would have chosen to report the ICP-MS analysis results for selenium. In this case, however, the ICP-MS results were suspect because of matrix interference for samples with high chloride. Five selenium results from this batch were reported from the ICP analysis, and were therefore flagged to indicate a possible lack of reproducibility.

Flagging: J₄/UJ₄

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency
 Yes
 No
- LCS recoveries were within the required control limits (80-120% for water).
 Yes
 No

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:
 Total Recoverable vs. Dissolved metals
 Lab pH vs. field pH.
 TDS vs. SC
 Lab SC vs. field SC

Total Recoverable vs. Dissolved metals: With the exception of the following 2 results, this relationship was in order.

Site	Sample Number	Sample Date	Analyte	Dissolved/ Total Recoverable	RPD
POND-6	EPRI-9905-176	5/12/99	Selenium	0.034/ 0.025 ppm	30%
POND-1	EPRI-9905-174	5/12/99	Zinc	33/ 20 ppm	49%

Lab pH vs. field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but nine had percent differences equal to or less than ten percent. Rounding off to the nearest percent, the percent differences were distributed as follows:

less than 10% 55
 10 to 15% 9
 15 to 20% 8
 > 20% 5

The samples with percent differences greater than 20% are listed in the following table:

Site	Sample Number	Sample Date	Field pH/ Lab pH	Percent Difference
SEP-3	EPRI-9905-159	5/12/99	7.77/ 9.4	21%
SEP-3 (Dup)	EPRI-9905-190	5/12/99	7.77/ 9.5	22%
SEP-4	EPRI-9905-160	5/13/99	6.84/ 8.5	24%
SEP-12	EPRI-9905-165	5/13/99	6.94/ 8.4	21%
SEP-13	EPRI-9905-166	5/13/99	6.89/ 8.6	25%

TDS vs. SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. As in previous sampling events, the highest ratio (133%) was for the sample collected at EP-49. The ratios were distributed as follows:

less than 50% 0
 50 to 75% 49
 75 to 100% 31
 over 100% 1

Lab SC vs. field SC: This relationship was generally in order. The distribution of the percent differences was as follows:

less than 10% 62
 11 to 20% 12
 over 20% 3

Only three samples had percent differences greater than 20%. Note, however, that the field SC results have been rejected in all three cases. For the sample collected at EP-26, the field SC value appeared to be high by a factor of ten. For the other two samples, the field SC measurements were about twice what

had been previously observed. In both cases the ratio of TDS to SC was acceptable using the laboratory SC. The three samples are listed in the following table.

Site	Sample Number	Sample Date	Field SC/ Lab SC	Percent Difference	TDS/ field SC	TDS/lab SC	Flag
EP-15	EPRI—9905-107	5/5/99	8580/ 4170	51%	36%	74%	R
EP-26	EPRI—9905-114	5/5/99	362/ 4440	92%	5%	66%	R
EP-53	EPRI—9905-121	5/5/99	7120/ 15650	54%	37%	82%	R

11. HISTORICAL COMPARISON

The data for May 1999 were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

12. DATA QUALITY OBJECTIVES

- Project data quality objectives (DQOs) met.

Yes

No

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

Except for 2 matrix spikes, all laboratory quality control samples were within control limits, indicating good accuracy for the higher concentration results. One dissolved iron result was flagged to indicate a possible high bias, and 21 nitrate + nitrite as N results were flagged to indicate a possible low bias.

In general, results on the laboratory and field blanks also indicated good accuracy at lower concentrations. An exception was for three nitrate + nitrite as N results from 5/12/99; these were flagged to show possible lack of accuracy as indicated by nitrate + nitrite as N detected in the field blank.

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All but one of the laboratory duplicate measurements and 95% of the field duplicate measurements (237 out of 250) were within control limits.

Completeness

One measure of completeness is the percentage of valid results obtained. For the Spring 1999 El Paso RI monitoring,

⇒ 7.5 percent of the data were flagged (185 out of 2468 results);

⇒ Three of the field SC results were rejected and flagged (R).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- Field parameters were not taken at four wells (EP-24, EP-25, EP-43, and EP-49) because of heavy hydrocarbon contamination and the possibility of damaging instrument probes.
- The required frequency for field quality control samples was met, making it possible to evaluate the accuracy and precision of the data as set out in the work plan.
- Duplicate field measurements were taken for the field duplicates, making it possible to evaluate the precision of field measurements.

REFERENCES

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- Hydrometrics, 1996. Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996
- U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983. (EPA, 1983)
- U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ -	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R -	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E -	<p>Estimated. (Not an EPA code.)</p>
A -	<p>Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
El Paso RI Quarterly Monitoring, May 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EP-4	EPRI-9905-100	L990776-6	05/05/99	SULFATE (SO4)	418.0	J3		Holding time 30 days
EP-5	EPRI-9905-101	L990776-7	05/05/99	SULFATE (SO4)	444.0	J3		Holding time 30 days
EP-6	EPRI-9905-102	L990776-8	05/05/99	SULFATE (SO4)	2807.0	J3		Holding time 30 days
EP-7	EPRI-9905-103	L990776-10	05/05/99	SULFATE (SO4)	829.0	J3		Holding time 30 days
EP-12	EPRI-9905-104	L990882-6	05/14/99	SC (UMHOS/CM AT 25 C)	6020.0	J3		Holding time 34 days
				TOTAL SUSPENDED SOLIDS	41.0	J4		Field duplicate difference > ± 10 ppm
				BICARBONATE (HCO3)	2013.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.26	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.26	J4		Lab duplicate RPD = 54%
EP-13	EPRI-9905-105	L990776-17	05/06/99	POTASSIUM (K) DIS	76.0	J4		Field duplicate RPD = 22%
				SULFATE (SO4)	4552.0	J3		Holding time 29 days
				CHLORIDE (CL)	644.0	J4		Field duplicate RPD = 29%
EP-14	EPRI-9905-106	L990776-16	05/06/99	POTASSIUM (K) DIS	55.0	J4		Field duplicate RPD = 22%
				SULFATE (SO4)	1906.0	J3		Holding time 29 days
				CHLORIDE (CL)	295.0	J4		Field duplicate RPD = 29%
EP-15	EPRI-9905-107	L990776-14	05/05/99	SULFATE (SO4)	1212.0	J3		Holding time 30 days
				SC (UMHOS/CM AT 25 C)(FLD)	8580	R		Historical, TDS/SC ratio, lab SC % difference
EP-20	EPRI-9905-108	L990776-1	05/04/99	TOTAL SUSPENDED SOLIDS	53.0	J4		Field duplicate RPD = 49%
				SULFATE (SO4)	4861.0	J3		Holding time 31 days
				FLUORIDE (F)	2.1	J3		Holding time 29 days
EP-23	EPRI-9905-111	L990800-6	05/07/99	NITRATE + NITRITE AS N	0.14	J4		Field duplicate RPD = 27%
				ZINC (ZN)(DIS)	0.02	J4	-26%	Spike recovery 74%
EP-23	EPRI-9905-111A	L990882-2	05/14/99	SC (UMHOS/CM AT 25 C)	4190.0	J3		Holding time 34 days
				TOTAL SUSPENDED SOLIDS	47.0	J4		Field duplicate difference > ± 10 ppm
				BICARBONATE (HCO3)	717.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.008	J4		Field duplicate RPD = 21%
EP-24	EPRI-9905-112	L990882-1	05/14/99	SC (UMHOS/CM AT 25 C)	6410.0	J3		Holding time 34 days
				TOTAL SUSPENDED SOLIDS	31.0	J4		Field duplicate difference > ± 10 ppm
				BICARBONATE (HCO3)	1642.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.33	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.33	J4		Lab duplicate RPD = 54%
EP-25	EPRI-9905-113	L990882-3	05/14/99	SC (UMHOS/CM AT 25 C)	7880.0	J3		Holding time 34 days
				BICARBONATE (HCO3)	771.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.84	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.84	J4		Lab duplicate RPD = 54%
EP-26	EPRI-9905-114	L990776-11	05/05/99	SULFATE (SO4)	89.0	J3		Holding time 30 days
				SC (UMHOS/CM AT 25 C)(FLD)	4440	R		Historical, TDS/SC ratio, lab SC % difference
EP-29	EPRI-9905-115	L990776-3	05/04/99	TOTAL SUSPENDED SOLIDS	170.0	J4		Field duplicate RPD = 49%
				SULFATE (SO4)	1049.0	J3		Holding time 31 days
				SULFATE (SO4)	1049.0	J4		Field duplicate RPD = 25%
				FLUORIDE (F)	3.0	J3		Holding time 29 days
EP-35	EPRI-9905-116	L990776-2	05/04/99	TOTAL SUSPENDED SOLIDS	266.0	J4		Field duplicate RPD = 49%
				SULFATE (SO4)	2822.0	J3		Holding time 31 days
				FLUORIDE (F)	1.1	J3		Holding time 29 days
EP-43	EPRI-9905-117	L990882-8	05/14/99	SC (UMHOS/CM AT 25 C)	8600.0	J3		Holding time 34 days
				TOTAL SUSPENDED SOLIDS	52.0	J4		Field duplicate difference > ± 10 ppm
				BICARBONATE (HCO3)	854.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.34	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.34	J4		Lab duplicate RPD = 54%
EP-49	EPRI-9905-118	L990882-5	05/14/99	SC (UMHOS/CM AT 25 C)	10570.0	J3		Holding time 34 days
				BICARBONATE (HCO3)	<1.0	UJ4		Field duplicate RPD = 64%

Table 2. Summary of Flagged Data
El Paso RI Quarterly Monitoring, May 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EP-49	EPRI-9905-118	L990882-5	05/14/99	SELENIUM (SE)(DIS)	0.12	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.12	J4		Lab duplicate RPD = 54%
EP-51	EPRI-9905-119	L990776-19	05/06/99	POTASSIUM (K) DIS	41.0	J4		Field duplicate RPD = 22%
				SULFATE (SO4)	1940.0	J3		Holding time 29 days
EP-52	EPRI-9905-120	L990776-18	05/06/99	POTASSIUM (K) DIS	25.0	J4		Field duplicate RPD = 22%
				SULFATE (SO4)	4484.0	J3		Holding time 29 days
				CHLORIDE (CL)	1290.0	J4		Field duplicate RPD = 29%
EP-53	EPRI-9905-121	L990776-13	05/05/99	SULFATE (SO4)	3166.0	J3		Holding time 30 days
				SC (UMHOS/CM AT 25 C)(FLD)	15650	R		Historical, TDS/SC ratio, lab SC % difference
EP-54	EPRI-9905-122	L990776-20	05/06/99	SULFATE (SO4)	4250.0	J3		Holding time 29 days
				CHLORIDE (CL)	704.0	J4		Field duplicate RPD = 29%
				NITRATE + NITRITE AS N	6.6	J4		Field duplicate RPD = 21%
EP-54	EPRI-9905-122A	L990800-3	05/07/99	NITRATE + NITRITE AS N	3.6	J4		Field duplicate RPD = 27%
EP-55	EPRI-9905-123	L990882-4	05/14/99	SC (UMHOS/CM AT 25 C)	10510.0	J3		Holding time 34 days
				BICARBONATE (HCO3)	854.0	J4		Field duplicate RPD = 64%
				SELENIUM (SE)(DIS)	0.1	J4		Field duplicate RPD = 21%
				SELENIUM (SE)(DIS)	0.1	J4		Lab duplicate RPD = 54%
EP-56	EPRI-9905-124	L990776-12	05/04/99	SULFATE (SO4)	2085.0	J3		Holding time 30 days
				FLUORIDE (F)	2.1	J3		Holding time 29 days
EP-57	EPRI-9905-125	L990820-16	05/13/99	NITRATE + NITRITE AS N	0.45	J4		Field duplicate difference > ± 0.1 ppm
EP-58	EPRI-9905-126	L990820-13	05/13/99	NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
EP-59	EPRI-9905-127	L990799-1	05/06/99	POTASSIUM (K) DIS	91.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	515.0	J4		Field duplicate RPD = 29%
EP-64	EPRI-9905-128	L990799-2	05/06/99	POTASSIUM (K) DIS	24.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	830.0	J4		Field duplicate RPD = 29%
EP-62	EPRI-9905-130	L990799-3	05/06/99	POTASSIUM (K) DIS	48.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	431.0	J4		Field duplicate RPD = 29%
				NITRATE + NITRITE AS N	5.8	J4		Field duplicate RPD = 21%
EP-63	EPRI-9905-131	L990799-4	05/06/99	POTASSIUM (K) DIS	37.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	1163.0	J4		Field duplicate RPD = 29%
				NITRATE + NITRITE AS N	6.4	J4		Field duplicate RPD = 21%
EP-60	EPRI-9905-132	L990799-5	05/06/99	POTASSIUM (K) DIS	14.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	1366.0	J4		Field duplicate RPD = 29%
				IRON (FE)(DIS)	0.16	J4	+28%	Spike recovery 128%
EP-66	EPRI-9905-134	L990799-6	05/06/99	POTASSIUM (K) DIS	43.0	J4		Field duplicate RPD = 22%
				CHLORIDE (CL)	687.0	J4		Field duplicate RPD = 29%
EP-67	EPRI-9905-135	L990800-9	05/07/99	NITRATE + NITRITE AS N	15.0	J4		Field duplicate RPD = 27%
				ZINC (ZN)(DIS)	0.031	J4	-26%	Spike recovery 74%
EP-68	EPRI-9905-136	L990800-21	05/10/99	CHLORIDE (CL)	407.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.03	J4	-26%	Spike recovery 74%
EP-70	EPRI-9905-137	L990800-11	05/07/99	ZINC (ZN)(DIS)	0.14	J4	-26%	Spike recovery 74%
EP-73	EPRI-9905-140	L990800-4	05/07/99	NITRATE + NITRITE AS N	16.0	J4		Field duplicate RPD = 27%
				ZINC (ZN)(DIS)	0.04	J4	-26%	Spike recovery 74%
EP-75	EPRI-9905-141	L990800-13	05/10/99	CHLORIDE (CL)	277.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.062	J4	-26%	Spike recovery 74%
EP-76	EPRI-9905-142	L990800-14	05/10/99	CHLORIDE (CL)	455.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.057	J4	-26%	Spike recovery 74%

Table 2. Summary of Flagged Data
El Paso RI Quarterly Monitoring, May 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EP-77	EPRI-9905-143	L990800-8	05/07/99	NITRATE + NITRITE AS N ZINC (ZN)(DIS)	0.32 0.025	J4 J4	-26%	Field duplicate RPD = 27% Spike recovery 74%
EP-78	EPRI-9905-144	L990819-6	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	3750.0 295.0 <1.0 2.6	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-79	EPRI-9905-145	L990819-5	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	4900.0 447.0 <1.0 4.6	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-80	EPRI-9905-146	L990819-1	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	5170.0 500.0 <1.0 1.3	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-81	EPRI-9905-147	L990819-2	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	2530.0 517.0 <1.0 1.3	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-82	EPRI-9905-148	L990819-8	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	4870.0 398.0 <1.0 3.0	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-83	EPRI-9905-149	L990819-10	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	3710.0 361.0 <1.0 3.0	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-84	EPRI-9905-150	L990819-9	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	3030.0 303.0 <1.0 0.7	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-85	EPRI-9905-151	L990819-3	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	3070.0 356.0 <1.0 3.4	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-86	EPRI-9905-152	L990819-4	05/11/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 FLUORIDE (F)	2570.0 354.0 <1.0 2.6	J3 J3 UJ3 J4		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
EP-88	EPRI-9905-154	L990800-7	05/07/99	NITRATE + NITRITE AS N ZINC (ZN)(DIS)	2.3 0.037	J4 J4	-26%	Field duplicate RPD = 27% Spike recovery 74%
EP-89	EPRI-9905-155	L990800-10	05/07/99	NITRATE + NITRITE AS N ZINC (ZN)(DIS)	7.1 0.022	J4 J4	-26%	Field duplicate RPD = 27% Spike recovery 74%
EP-90	EPRI-9905-156	L990800-17	05/10/99	CHLORIDE (CL) ZINC (ZN)(DIS)	377.0 0.038	J4 J4	-26%	Field duplicate RPD = 21% Spike recovery 74%
SEP-1	EPRI-9905-157	L990820-1	05/12/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3) CARBONATE AS CO3 NITRATE + NITRITE AS N NITRATE + NITRITE AS N	1172.0 190.0 5.0 0.14 0.14	J3 J3 J3 UJ1 J4		Holding time 29 days Holding time 15 days Holding time 15 days Blank detection 0.1 ppm Field duplicate difference > ± 0.1 ppm
SEP-2	EPRI-9905-158	L990820-8	05/13/99	NITRATE + NITRITE AS N	0.23	J4		Field duplicate difference > ± 0.1 ppm
SEP-3	EPRI-9905-159	L990820-2	05/12/99	SC (UMHOS/CM AT 25 C) BICARBONATE (HCO3)	1168.0 224.0	J3 J3		Holding time 29 days Holding time 15 days

Table 2. Summary of Flagged Data
El Paso RI Quarterly Monitoring, May 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
SEP-3	EPRI-9905-159	L990820-2	05/12/99	CARBONATE AS CO3	5.0	J3		Holding time 15 days
				NITRATE + NITRITE AS N	0.38	UJ1		Blank detection 0.1 ppm
				NITRATE + NITRITE AS N	0.38	J4		Field duplicate difference > ± 0.1 ppm
SEP-4	EPRI-9905-160	L990820-5	05/13/99	NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
SEP-7	EPRI-9905-161	L990819-17	05/12/99	SC (UMHOS/CM AT 25 C)	1158.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	281.0	J3		Holding time 15 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 15 days
				NITRATE + NITRITE AS N	0.13	UJ1		Blank detection 0.1 ppm
				NITRATE + NITRITE AS N	0.13	J4		Field duplicate difference > ± 0.1 ppm
SEP-9	EPRI-9905-162	L990820-4	05/12/99	SC (UMHOS/CM AT 25 C)	1156.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	227.0	J3		Holding time 15 days
				CARBONATE AS CO3	5.0	J3		Holding time 15 days
				NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
SEP-10	EPRI-9905-163	L990820-11	05/13/99	NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
SEP-11	EPRI-9905-164	L990820-9	05/13/99	NITRATE + NITRITE AS N	0.25	J4		Field duplicate difference > ± 0.1 ppm
SEP-12	EPRI-9905-165	L990820-7	05/13/99	NITRATE + NITRITE AS N	0.16	J4		Field duplicate difference > ± 0.1 ppm
SEP-13	EPRI-9905-166	L990820-6	05/13/99	NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
EM-1	EPRI-9905-168	L990819-15	05/12/99	SC (UMHOS/CM AT 25 C)	5670.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	222.0	J3		Holding time 15 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 15 days
				NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
EM-2	EPRI-9905-169	L990800-18	05/10/99	CHLORIDE (CL)	405.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.033	J4	-26%	Spike recovery 74%
EM-4	EPRI-9905-170	L990800-19	05/10/99	CHLORIDE (CL)	3348.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.031	J4	-26%	Spike recovery 74%
EM-5	EPRI-9905-171	L990800-15	05/10/99	CHLORIDE (CL)	410.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.1	J4	-26%	Spike recovery 74%
EM-6	EPRI-9905-172	L990800-16	05/10/99	CHLORIDE (CL)	318.0	J4		Field duplicate RPD = 21%
				ZINC (ZN)(DIS)	0.099	J4	-26%	Spike recovery 74%
EM-7	EPRI-9905-173	L990819-14	05/12/99	SC (UMHOS/CM AT 25 C)	4540.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	246.0	J3		Holding time 15 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 15 days
				NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
POND 1	EPRI-9905-174	L990819-12	05/12/99	SC (UMHOS/CM AT 25 C)	34600.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	159.0	J3		Holding time 15 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 15 days
POND 6	EPRI-9905-176	L990819-13	05/12/99	SC (UMHOS/CM AT 25 C)	2450.0	J3		Holding time 29 days
				BICARBONATE (HCO3)	144.0	J3		Holding time 15 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 15 days
				NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
EP-29	EPRI-9905-177	L990776-4	05/04/99	TOTAL SUSPENDED SOLIDS	280.0	J4		Field duplicate RPD = 49%
				SULFATE (SO4)	812.0	J3		Holding time 31 days
				SULFATE (SO4)	812.0	J4		Field duplicate RPD = 25%
				FLUORIDE (F)	3.2	J3		Holding time 29 days
DI	EPRI-9905-178	L990776-5	05/04/99	SULFATE (SO4)	1.3	J3		Holding time 31 days
				SULFATE (SO4)	1.3	J4		Field duplicate RPD = 25%
				FLUORIDE (F)	<0.05	UJ3		Holding time 29 days
EP-6	EPRI-9905-179	L990776-9	05/05/99	SULFATE (SO4)	3168.0	J3		Holding time 30 days
DI	EPRI-9905-180	L990776-15	05/05/99	SULFATE (SO4)	1.7	J3		Holding time 30 days

Table 2. Summary of Flagged Data
 El Paso RI Quarterly Monitoring, May 1999

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EP-63 (Dup)	EPRI-9905-181	L990800-1	05/06/99	POTASSIUM (K) DIS	46.0	J4		Field duplicate RPD = 22% Holding time 29 days Field duplicate RPD = 29% Field duplicate RPD = 21% Spike recovery 74%
				SULFATE (SO4)	2927.0	J3		
				CHLORIDE (CL)	870.0	J4		
				NITRATE + NITRITE AS N	7.9	J4		
				ZINC (ZN)(DIS)	0.022	J4	-26%	
DI	EPRI-9905-182	L990800-2	05/06/99	SULFATE (SO4)	1.8	J3		Holding time 29 days Spike recovery 74%
				ZINC (ZN)(DIS)	<0.02	UJ4	-26%	
EP-73 (Dup)	EPRI-9905-183	L990800-5	05/07/99	NITRATE + NITRITE AS N	21.0	J4		Field duplicate RPD = 27% Spike recovery 74%
				ZINC (ZN)(DIS)	0.038	J4	-26%	
DI	EPRI-9905-184	L990800-12	05/07/99	NITRATE + NITRITE AS N	0.11	J4		Field duplicate RPD = 27% Spike recovery 74%
				ZINC (ZN)(DIS)	0.021	J4	-26%	
(Dup)	EPRI-9905-185	L990800-20	05/10/99	CHLORIDE (CL)	2718.0	J4		Field duplicate RPD = 21% Spike recovery 74%
				ZINC (ZN)(DIS)	0.035	J4	-26%	
EP-78 (Dup)	EPRI-9905-186	L990819-7	05/11/99	SC (UMHOS/CM AT 25 C)	3740.0	J3		Holding time 30 days Holding time 16 days Holding time 16 days Field duplicate RPD = 112%
				BICARBONATE (HCO3)	296.0	J3		
				CARBONATE AS CO3	<1.0	UJ3		
				FLUORIDE (F)	9.2	J4		
DI	EPRI-9905-187	L990800-22	05/10/99	ZINC (ZN)(DIS)	0.026	J4	-26%	Spike recovery 74%
DI	EPRI-9905-188	L990819-11	05/11/99	SC (UMHOS/CM AT 25 C)	<5.0	UJ3		Holding time 30 days Holding time 16 days Holding time 16 days
				BICARBONATE (HCO3)	<1.0	UJ3		
				CARBONATE AS CO3	<1.0	UJ3		
DI	EPRI-9905-189	L990819-16	05/12/99	SC (UMHOS/CM AT 25 C)	<5.0	UJ3		Holding time 29 days Holding time 15 days Holding time 15 days Field duplicate difference > ± 0.1 ppm
				BICARBONATE (HCO3)	<1.0	UJ3		
				CARBONATE AS CO3	<1.0	UJ3		
				NITRATE + NITRITE AS N	0.1	J4		
SEP-3 (Dup)	EPRI-9905-190	L990820-3	05/12/99	SC (UMHOS/CM AT 25 C)	1175.0	J3		Holding time 29 days Holding time 15 days Holding time 15 days Field duplicate difference > ± 0.1 ppm
				BICARBONATE (HCO3)	227.0	J3		
				CARBONATE AS CO3	5.0	J3		
				NITRATE + NITRITE AS N	1.0	J4		
SEP-11 (Dup)	EPRI-9905-191	L990820-10	05/13/99	NITRATE + NITRITE AS N	<0.1	UJ4		Field duplicate difference > ± 0.1 ppm
EP-12 (Dup)	EPRI-9905-193	L990882-7	05/14/99	SC (UMHOS/CM AT 25 C)	5900.0	J3		Holding time 34 days Field duplicate difference > ± 10 ppm Field duplicate RPD = 64% Field duplicate RPD = 21%
				TOTAL SUSPENDED SOLIDS	66.0	J4		
				BICARBONATE (HCO3)	1037.0	J4		
				SELENIUM (SE)(DIS)	0.32	J4		
DI	EPRI-9905-194	L990882-9	05/14/99	SC (UMHOS/CM AT 25 C)	<5.0	UJ3		Holding time 34 days

TABLE 1. SUMMARY OF HISTORICAL COMPARISON

Comparison of Sampling Period Data to the Database Period Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and the Relationship to these Data

DataMan Program

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SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO			
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	DATABASE PERIOD
EM-1	05/12/99	158.0	MAGNESIUM (MG) DIS	08/13/97-02/24/99	7	95.0	111.8571	122.0	4.46	HIGHEST
		46.0	POTASSIUM (K) DIS	08/13/97-02/24/99	7	28.0	29.8571	32.	> 10	HIGHEST
		358.0	CHLORIDE (CL)	08/13/97-02/24/99	7	564.0	709.1429	779.0	4.96	LOWEST
EM-2	05/10/99	6050.0	SC (UMHOS/CM AT 25 C)	08/26/97-02/22/99	7	3960.0	4261.4286	4550	8.66	HIGHEST
		6480.0	SC (UMHOS/CM AT 25 C) (FLD)	08/11/97-02/22/99	7	4180	4738.5714	5450	3.10	HIGHEST
		4816.0	TDS (MEASURED AT 180 C)	08/26/97-02/22/99	7	2917.0	3174.2857	3589.	7.12	HIGHEST
		362.0	CALCIUM (CA) DIS	08/26/97-02/22/99	7	173.0	185.7143	204.	> 10	HIGHEST
		146.0	MAGNESIUM (MG) DIS	08/26/97-02/22/99	7	65.0	71.1429	77.0	> 10	HIGHEST
		2124.0	SULFATE (SO4)	08/26/97-02/22/99	7	929.0	1250.8571	1448.	5.03	HIGHEST
		99.0	NITRATE + NITRITE AS N	08/26/97-02/22/99	7	17.0	20.0000	28.	> 10	HIGHEST
EM-4	05/10/99	0.43	NITRATE + NITRITE AS N	08/26/97-02/22/99	7	0.15	0.2257	.30	4.33	HIGHEST
EM-5	05/10/99	137.0	BICARBONATE (HCO3)	08/26/97-02/11/99	7	156.0	192.2857	212.0	3.12	LOWEST
EM-7	05/12/99	9.07	DEPTH TO WATER LEVEL (FBET)	11/17/97-02/24/99	7	8.42	8.5183	8.63	7.55	HIGHEST
		3.6	OXYGEN (O) (FLD) DIS	11/17/97-02/24/99	6	1.30	1.9433	2.33	4.36	HIGHEST
		3133.0	TDS (MEASURED AT 180 C)	11/17/97-02/24/99	6	3836.0	4106.0000	4588.0	3.53	LOWEST
		241.0	CHLORIDE (CL)	11/17/97-02/24/99	6	530.0	608.8333	714.0	4.94	LOWEST
EM-7	05/12/99	0.039	ZINC (ZN) DIS	11/17/97-02/24/99	6	0.078	0.0950	0.11	3.91	LOWEST
EP-4	05/05/99	10.48	DEPTH TO WATER LEVEL (FEET)	08/06/97-02/03/99	6	5	5.6333	6.32	8.68	HIGHEST
EP-6	05/05/99	3168.0	SULFATE (SO4)	08/06/97-02/03/99	7	1664.0	2184.4286	2632.	3.02	HIGHEST
EP-7	05/05/99	3110.0	SC (UMHOS/CM AT 25 C)	08/06/97-02/03/99	7	2660.0	2805.7143	2960.0	3.01	HIGHEST
EP-12	05/14/99	2013.0	BICARBONATE (HCO3)	11/03/97-02/25/99	6	612.0	774.5000	886.0	> 10	HIGHEST
		0.8	FLUORIDE (F)	11/03/97-02/25/99	6	0.92	1.0033	1.1	3.56	LOWEST
		2.4	ARSENIC (AS) DIS	11/03/97-02/25/99	6	1.0	1.4000	1.8	3.45	HIGHEST
EP-12	05/14/99	0.76	FLUORIDE (F)	11/03/97-02/25/99	6	0.92	1.0033	1.1	4.26	LOWEST
		2.7	ARSENIC (AS) DIS	11/03/97-02/25/99	6	1.0	1.4000	1.8	4.49	HIGHEST
EP-14	05/06/99	6.0	OXYGEN (O) (FLD) DIS	11/05/97-02/08/99	6	0.350	0.7583	1.60	> 10	HIGHEST
EP-15	05/05/99	7.3	OXYGEN (O) (FLD) DIS	08/07/97-02/08/99	7	1.5	2.2714	2.84	> 10	HIGHEST
		4170.0	SC (UMHOS/CM AT 25 C)	08/07/97-02/08/99	7	2810.0	3112.8571	3620.0	4.22	HIGHEST
		3083.0	TDS (MEASURED AT 180 C)	08/07/97-02/08/99	7	1987.0	2212.1429	2579.0	4.38	HIGHEST
		197.0	CALCIUM (CA) DIS	08/07/97-02/08/99	7	99.0	122.7143	166.0	3.53	HIGHEST
		77.0	MAGNESIUM (MG) DIS	08/07/97-02/08/99	7	34.0	43.1429	59.0	4.38	HIGHEST
		710.0	SODIUM (NA) DIS	08/07/97-02/08/99	7	510.0	530.5714	557.0	> 10	HIGHEST
		1212.0	SULFATE (SO4)	08/07/97-02/08/99	7	715.0	880.7143	974.0	3.94	HIGHEST
EP-23	05/07/99	4310.0	SC (UMHOS/CM AT 25 C)	08/11/97-02/11/99	7	5470.0	5927.1429	6790	3.40	LOWEST
		676.0	BICARBONATE (HCO3)	08/11/97-02/11/99	7	259	369.1429	443.0	4.25	HIGHEST
		330.0	CHLORIDE (CL)	08/11/97-02/11/99	7	420.0	474.7143	541.0	3.47	LOWEST
EP-23	05/14/99	1.9	OXYGEN (O) (FLD) DIS	08/11/97-11/05/98	6	0.600	0.9700	1.45	3.02	HIGHEST
		4190.0	SC (UMHOS/CM AT 25 C)	08/11/97-02/11/99	7	5470.0	5927.1429	6790	3.65	LOWEST
		717.0	BICARBONATE (HCO3)	08/11/97-02/11/99	7	259	369.1429	443.0	4.82	HIGHEST
		290.0	CHLORIDE (CL)	08/11/97-02/11/99	7	420.0	474.7143	541.0	4.43	LOWEST
		2.0	FLUORIDE (F)	08/11/97-02/11/99	7	2.6	3.0714	3.3	4.41	LOWEST
EP-24	05/14/99	6410.0	SC (UMHOS/CM AT 25 C)	08/15/97-02/11/99	7	5130.0	5427.1429	5940.0	3.05	HIGHEST
		92.0	MAGNESIUM (MG) DIS	08/15/97-02/11/99	7	47.0	58.0000	80.0	3.27	HIGHEST
EP-25	05/14/99	7880.0	SC (UMHOS/CM AT 25 C)	08/15/97-11/16/98	6	5420.0	5588.3333	5990	9.76	HIGHEST
		6245.0	TDS (MEASURED AT 180 C)	08/15/97-11/16/98	6	3194.0	3400.6667	3995.	9.31	HIGHEST
		12081.0	TOTAL SUSPENDED SOLIDS	08/15/97-11/16/98	5	43.0	798.4000	3199.0	8.33	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics 1/2 the detection limit was used in calculations.

TABLE 3. SUMMARY OF HISTORICAL COMPARISON

Comparison of Sampling Period Data to the Database Period Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and the Relationship to these Data

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SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO			
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	DATABASE PERIOD
		675.0	CALCIUM (CA) DIS	08/15/97-11/16/98	6	74.0	102.8333	125.0	> 10	HIGHEST
		700.0	SODIUM (NA) DIS	08/15/97-11/16/98	6	1040.	1120.6667	1232.0	6.46	LOWEST
		738.0	POTASSIUM (K) DIS	08/15/97-11/16/98	6	53.0	91.0000	166.0	> 10	HIGHEST
		771.0	BICARBONATE (HCO3)	08/15/97-11/16/98	6	1208	1404.5000	1588.0	4.19	LOWEST
		2996.0	SULFATE (SO4)	08/15/97-11/16/98	6	147.0	459.1667	695.	> 10	HIGHEST
		5.0	FLUORIDE (F)	08/15/97-11/16/98	6	1.4	1.6833	1.9	> 10	HIGHEST
		26.0	IRON (FE) DIS	08/15/97-11/16/98	6	1.3	4.7000	9.7	7.29	HIGHEST
		0.84	SELENIUM (SE) DIS	08/15/97-11/16/98	6	0.044	0.0817	.17	> 10	HIGHEST
EP-26	05/05/99	2.1	OXYGEN (O) (FLD) DIS	08/11/97-02/04/99	7	5.05	5.7914	6.90	5.87	LOWEST
		244.0	TOTAL SUSPENDED SOLIDS	08/11/97-02/04/99	7	51.0	102.0000	163.	3.55	HIGHEST
		27.9	WATER TEMPERATURE (C) (FLD)	08/11/97-02/04/99	7	21.8	23.1000	25.5	3.99	HIGHEST
EP-29	05/04/99	1771.0	TDS (MEASURED AT 180 C)	08/07/97-02/03/99	7	2073.0	2121.1429	2185.0	8.65	LOWEST
		280.0	TOTAL SUSPENDED SOLIDS	08/07/97-02/03/99	7	1.1	59.4429	211.0	3.02	HIGHEST
EP-43	05/14/99	385.0	CALCIUM (CA) DIS	11/03/97-02/25/99	6	118.0	207.6667	261.0	3.47	HIGHEST
EP-49	05/14/99	804.0	TOTAL SUSPENDED SOLIDS	11/19/97-02/25/99	6	254.0	420.6667	545.0	3.35	HIGHEST
		342.0	POTASSIUM (K) DIS	11/19/97-02/25/99	6	182.0	213.8333	240.0	5.70	HIGHEST
EP-52	05/06/99	4484.0	SULFATE (SO4)	11/06/97-02/09/99	5	2953.0	3463.0000	3665.0	3.53	HIGHEST
		1.9	CADMIUM (CD) DIS	11/06/97-02/09/99	5	0.56	0.6200	0.71	> 10	HIGHEST
EP-54	05/07/99	72.03	DEPTH TO WATER LEVEL (FEET)	08/11/97-02/09/99	8	68.58	69.4713	70.40	3.64	HIGHEST
EP-55	05/14/99	26.0	ARSENIC (AS) DIS	08/15/97-02/11/99	7	40.0	55.7143	62.	4.02	LOWEST
EP-58	05/13/99	244.0	MAGNESIUM (MG) DIS	08/16/97-02/24/99	7	161.	190.2857	210.0	3.26	HIGHEST
		3585.0	SULFATE (SO4)	08/16/97-02/24/99	7	4006.0	4571.7143	4912.0	3.18	LOWEST
EP-59	05/06/99	515.0	CHLORIDE (CL)	08/09/97-02/10/99	7	369.0	422.2857	450.0	3.32	HIGHEST
		5.6	FLUORIDE (F)	08/09/97-02/10/99	7	4.6	4.8000	5.0	6.20	HIGHEST
EP-60	05/06/99	0.2	SELENIUM (SE) DIS	08/08/97-02/10/99	7	0.23	0.2429	0.26	4.51	LOWEST
EP-63	05/06/99	6237.0	TDS (MEASURED AT 180 C)	08/09/97-02/10/99	7	6381.0	6453.1429	6532.0	3.94	LOWEST
		176.0	MAGNESIUM (MG) DIS	08/09/97-02/10/99	7	146.0	155.1429	166.0	3.10	HIGHEST
		1163.0	CHLORIDE (CL)	08/09/97-02/10/99	7	928.0	1014.0000	1067.0	3.12	HIGHEST
		0.16	SELENIUM (SE) DIS	08/09/97-02/10/99	7	0.20	0.2214	0.24	3.90	LOWEST
EP-63	05/06/99	6255.0	TDS (MEASURED AT 180 C)	08/09/97-02/10/99	7	6381.0	6453.1429	6532.0	3.61	LOWEST
		870.0	CHLORIDE (CL)	08/09/97-02/10/99	7	928.0	1014.0000	1067.0	3.02	LOWEST
		2.0	FLUORIDE (F)	08/09/97-02/10/99	7	2.1	2.2143	2.3	3.11	LOWEST
		0.17	SELENIUM (SE) DIS	08/09/97-02/10/99	7	0.20	0.2214	0.24	3.27	LOWEST
EP-65	05/13/99	6740.0	SC (UMHOS/CM AT 25 C)	08/16/97-02/24/99	7	6980.0	7332.8571	7500.0	3.46	LOWEST
		511.0	CHLORIDE (CL)	08/16/97-02/24/99	7	565.0	650.5714	690.0	3.23	LOWEST
		1.3	SELENIUM (SE) DIS	08/16/97-02/24/99	7	0.14	0.2057	.33	> 10	HIGHEST
EP-67	05/07/99	29.0	TOTAL SUSPENDED SOLIDS	08/12/97-02/10/99	7	1.5	6.2857	13.0	4.98	HIGHEST
		33.0	POTASSIUM (K) DIS	08/12/97-02/10/99	7	15.0	16.8571	23.0	5.24	HIGHEST
EP-70	05/07/99	50.0	POTASSIUM (K) DIS	08/26/97-02/10/99	7	20.0	26.5714	31.	5.87	HIGHEST
EP-76	05/10/99	60.41	DEPTH TO WATER LEVEL (FEET)	08/12/97-02/22/99	7	48.38	50.7600	53.67	5.41	HIGHEST
EP-77	05/07/99	55.0	POTASSIUM (K) DIS	08/12/97-02/11/99	7	34.0	36.5714	40.0	8.28	HIGHEST
		370.0	CHLORIDE (CL)	08/12/97-02/11/99	7	579.0	624.5714	684.0	7.66	LOWEST
		7.6	ARSENIC (AS) DIS	08/12/97-02/11/99	7	5.4	5.9714	6.8	3.51	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics
 1/2 the detection limit was used in calculations.

TABLE 3. SUMMARY OF HISTORICAL COMPARISON

Comparison of Sampling Period Data to the Database Period Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and the Relationship to these Data

DataMan Program

ASARCO, EL PASO EPRI May99 to all, >3

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO			
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	DATABASE PERIOD
EP-78	05/11/99	2.3	OXYGEN (O) (FLD) DIS	08/13/97-02/18/99	7	.240	0.6114	1.00	5.81	HIGHEST
		7.3	PH	08/13/97-02/18/99	7	7.9	7.9857	8.1	7.62	LOWEST
		2.6	FLUORIDE (F)	08/13/97-02/18/99	7	3.7	4.3714	5.1	3.20	LOWEST
EP-78	05/11/99	2.2	OXYGEN (O) (FLD) DIS	08/13/97-02/18/99	7	.240	0.6114	1.00	5.47	HIGHEST
		7.5	PH	08/13/97-02/18/99	7	7.9	7.9857	8.1	5.40	LOWEST
		9.2	FLUORIDE (F)	08/13/97-02/18/99	7	3.7	4.3714	5.1	8.73	HIGHEST
EP-79	05/11/99	6.7	OXYGEN (O) (FLD) DIS	08/13/97-02/18/99	7	.150	0.8057	1.60	> 10	HIGHEST
		0.026	ARSENIC (AS) DIS	08/13/97-02/18/99	7	<0.005	0.0082	.011	6.23	HIGHEST
EP-81	05/11/99	6.8	OXYGEN (O) (FLD) DIS	08/13/97-02/18/99	7	0.700	3.0114	4.70	3.13	HIGHEST
EP-83	05/11/99	550.0	SODIUM (NA) DIS	08/13/97-02/22/99	7	735.0	757.0000	799.0	9.84	LOWEST
		205.0	CHLORIDE (CL)	08/13/97-02/22/99	7	347.0	366.1429	399.0	7.81	LOWEST
EP-86	05/11/99	2570.0	SC (UMHOS/CM AT 25 C)	08/13/97-02/18/99	7	2600.0	2637.1429	2660.0	3.55	LOWEST
		224.0	CHLORIDE (CL)	08/13/97-02/18/99	7	250.0	276.1429	291.0	3.79	LOWEST
EP-89	05/07/99	45.0	POTASSIUM (K) DIS	08/12/97-02/10/99	7	15.0	19.5714	22.0	> 10	HIGHEST
EP-90	05/10/99	4090.0	SC (UMHOS/CM AT 25 C)	12/12/97-02/11/99	6	2380.0	2858.3333	3340.0	3.84	HIGHEST
		3026.0	TDS (MEASURED AT 180 C)	12/12/97-02/11/99	6	1654.0	2015.8333	2434.0	3.64	HIGHEST
		184.0	CALCIUM (CA) DIS	12/12/97-02/11/99	6	75.0	105.6667	132.0	3.66	HIGHEST
		100.0	MAGNESIUM (MG) DIS	12/12/97-02/11/99	6	36.0	51.3333	67.0	4.39	HIGHEST
		1202.0	SULFATE (SO4)	12/12/97-02/11/99	6	637.0	790.8333	908.0	4.37	HIGHEST
		32.0	NITRATE + NITRITE AS N	12/12/97-02/11/99	6	8.3	11.2167	14.0	> 10	HIGHEST
POND 1	05/12/99	6.75	PH (FLD)	12/22/97-02/19/99	6	7.38	7.7667	8.12	3.98	LOWEST
		88.0	NITRATE + NITRITE AS N	12/22/97-02/19/99	6	6.9	26.1500	55.0	3.72	HIGHEST
SEP-2	05/13/99	7.04	PH (FLD)	08/15/97-02/19/99	7	8.38	8.5057	8.83	9.06	LOWEST
SEP-3	05/12/99	9.4	PH	08/18/97-08/11/98	5	7.6	8.1600	8.5	3.54	HIGHEST
SEP-3	05/12/99	9.5	PH	08/18/97-08/11/98	5	7.6	8.1600	8.5	3.82	HIGHEST
SEP-4	05/13/99	6.84	PH (FLD)	08/15/97-02/19/99	7	7.71	8.3957	8.86	4.39	LOWEST
SEP-7	05/12/99	7.54	PH (FLD)	08/18/97-02/19/99	7	8.16	8.4286	8.79	4.64	LOWEST
		567.0	CHLORIDE (CL)	08/18/97-02/19/99	7	75.	168.5714	249.0	4.99	HIGHEST
		0.009	LEAD (PB) TRC	08/18/97-02/19/99	7	<0.003	0.0036	0.005	3.03	HIGHEST
SEP-9	05/12/99	7.65	PH (FLD)	08/15/97-02/19/99	7	8.14	8.2800	8.49	5.38	LOWEST
SEP-10	05/13/99	7.14	PH (FLD)	08/15/97-02/19/99	7	8.29	8.4600	8.84	6.90	LOWEST
SEP-11	05/13/99	7.06	PH (FLD)	08/15/97-02/19/99	7	8.30	8.4886	8.79	8.44	LOWEST
SEP-11	05/13/99	7.07	PH (FLD)	08/15/97-02/19/99	7	8.30	8.4886	8.79	8.38	LOWEST
SEP-12	05/13/99	6.94	PH (FLD)	08/15/97-02/19/99	7	8.24	8.4686	8.82	8.07	LOWEST
SEP-13	05/13/99	6.89	PH (FLD)	08/15/97-02/19/99	7	7.92	8.3629	8.68	5.32	LOWEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics 1/2 the detection limit was used in calculations.

APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1	Groundwater		
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
6	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
7	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
8	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
9	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
10	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
11	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
12	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
13	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
14	EP-70	EP-70	Groundwater		
15	EP-73	EP-73	Groundwater		
15	EP-75	EP-75	Groundwater		
15	EP-76	EP-76	Groundwater		
16	EP-77	EP-77	Groundwater		
16	EP-78	EP-78	Groundwater		
16	EP-79	EP-79	Groundwater		
17	EP-80	EP-80	Groundwater		
17	EP-81	EP-81	Groundwater		
17	EP-82	EP-82	Groundwater		
18	EP-83	EP-83	Groundwater		
18	EP-84	EP-84	Groundwater		
18	EP-85	EP-85	Groundwater		
19	EP-86	EP-86	Groundwater		
19	EP-88	EP-88	Groundwater		
19	EP-89	EP-89	Groundwater		
20	EP-90	EP-90	Groundwater		
21	DI	DI BLANK	Quality Control		
23	POND 1	POND 1	Surface Water		
23	POND 6	POND 6	Surface Water		
23	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		
24	SEP-3	SEP-3	Surface Water		
24	SEP-4	SEP-4	Surface Water		
25	SEP-7	SEP-7	Surface Water		
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25	SEP-10	SEP-10	Surface Water		
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TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
26	SEP-12	SEP-12	Surface Water		
26	SEP-13	SEP-13	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-1	EM-2	EM-4	EM-4
SAMPLE DATE	05/12/99	05/10/99	05/10/99	05/10/99
SAMPLE TIME	10:15	13:45	14:15	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-15	L990800-18	L990800-19	L990800-20
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9905-168	EPRI-9905-169	EPRI-9905-170	EPRI-9905-185
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	65.64	64.09	59.45	
OXYGEN (O) (FLD) DIS	2.3	1.3	0.9	1.0
PH (FLD)	6.94	6.71	7.01	7.01
PH	7.9	7.4	7.6	7.7
SC (UMHOS/CM AT 25 C)	5670.0 J3	6050.0	10270.0	10270.0
SC (UMHOS/CM AT 25 C) (FLD)	5740.0	6480.0	10850.0	10780.0
TDS (MEASURED AT 180 C)	4225.0	4816.0	6081.0	6091.0
TOTAL SUSPENDED SOLIDS	6.9	19.0	3.6	5.0
WATER TEMPERATURE (C) (FLD)	24.0	25.4	23.2	23.3
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	226.0	362.0	425.0	425.0
MAGNESIUM (MG) DIS	158.0	146.0	198.0	199.0
SODIUM (NA) DIS	950.0	971.0	1487.0	1526.0
POTASSIUM (K) DIS	46.0	26.0	40.0	40.0
BICARBONATE (HCO3)	222.0 J3	342.0	143.0	154.0
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0	<1.0
SULFATE (SO4)	1880.0	2124.0	411.0	446.0
CHLORIDE (CL)	358.0	405.0 J4	3348.0 J4	2718.0 J4
FLUORIDE (F)	0.82	1.3	1.3	1.3
-- NUTRIENTS --				
NITRATE + NITRITE AS N	<0.1 UJ4	99.0	0.43	0.35
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	<0.005	0.95	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.008	0.11	<0.005	<0.005
ZINC (ZN) DIS	0.029	0.033 J4	0.031 J4	0.035 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE; GROUNDWATER --

	EM-5	EM-6	EM-7
SITE CODE	EM-5	EM-6	EM-7
SAMPLE DATE	05/10/99	05/10/99	05/12/99
SAMPLE TIME	10:20	10:40	09:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990800-15	L990800-16	L990819-14
SAMPLE NUMBER	EPRI-9905-171	EPRI-9905-172	EPRI-9905-173

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	14.43	37.72	9.07
OXYGEN (O) (FLD) DIS	0.7	0.6	3.6
PH (FLD)	7.35	7.06	7.66
PH	7.7	7.7	7.4
SC (UMHOS/CM AT 25 C)	3700.0	3810.0	4540.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	3800.0	4290.0	4560.0
TDS (MEASURED AT 180 C)	2554.0	2682.0	3133.0
TOTAL SUSPENDED SOLIDS	5.0	2.5	347.0
WATER TEMPERATURE (C) (FLD)	23.4	25.6	24.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	111.0	112.0	147.0
MAGNESIUM (MG) DIS	27.0	70.0	34.0
SODIUM (NA) DIS	692.0	716.0	850.0
POTASSIUM (K) DIS	31.0	16.0	49.0
BICARBONATE (HCO3)	137.0	351.0	246.0 J3
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	1111.0	989.0	1419.0
CHLORIDE (CL) J4	410.0	318.0 J4	241.0
FLUORIDE (F)	5.8	1.8	6.8

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.1	5.3	<0.1 UJ4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.2	0.025	2.4
CADMIUM (CD) DIS	0.009	0.007	0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	0.052	<0.025
IRON (FE) DIS	1.5	<0.1	0.27
LEAD (PB) DIS	0.003	0.005	0.011
SELENIUM (SE) DIS	<0.005	0.07	0.006
ZINC (ZN) DIS	0.1 J4	0.099 J4	0.039

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

--- SAMPLE TYPE: GROUNDWATER ---

	EP-4	EP-5	EP-6	EP-6
SITE CODE	EP-4	EP-5	EP-6	EP-6
SAMPLE DATE	05/05/99	05/05/99	05/05/99	05/05/99
SAMPLE TIME	07:50	08:10	08:45	08:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-6	L990776-7	L990776-8	L990776-9
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9905-100	EPRI-9905-101	EPRI-9905-102	EPRI-9905-179
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	10.48	6.28	7.28	
OXYGEN (O) (FLD) DIS	2.1	2.2	1.4	1.6
PH (FLD)	7.6	7.52	7.39	7.43
PH	7.9	8.1	8.1	7.9
SC (UMHOS/CM AT 25 C)	2170.0	2780.0	7400.0	7400.0
SC (UMHOS/CM AT 25 C) (FLD)	2050.0	2600.0	7100.0	6810.0
TDS (MEASURED AT 180 C)	1423.0	1804.0	5803.0	5894.0
TOTAL SUSPENDED SOLIDS	696.0	14.0	5.1	3.8
WATER TEMPERATURE (C) (FLD)	18.5	18.1	19.1	17.1
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	113.0	71.0	387.0	380.0
MAGNESIUM (MG) DIS	31.0	30.0	141.0	139.0
SODIUM (NA) DIS	282.0	585.0	1462.0	1440.0
POTASSIUM (K) DIS	14.0	7.5	26.0	24.0
BICARBONATE (HCO3)	439.0	805.0	455.0	454.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	418.0 J3	444.0 J3	2807.0 J3	3168.0 J3
CHLORIDE (CL)	206.0	285.0	882.0	879.0
FLUORIDE (F)	0.88	2.6	1.5	1.5
-- NUTRIENTS --				
NITRATE + NITRITE AS N	<0.1	<0.1	0.19	<0.1
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.086	0.054	0.023	0.023
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.88	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	0.005	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	0.007	0.007
ZINC (ZN) DIS	<0.02	0.032	0.025	0.029

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-7	EP-12	EP-12	EP-13
SAMPLE DATE	05/05/99	05/14/99	05/14/99	05/06/99
SAMPLE TIME	09:10	13:30	13:40	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-10	L990882-6	L990882-7	L990776-17
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9905-103	EPRI-9905-104	EPRI-9905-193	EPRI-9905-105

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	8.72	59.39		60.37
OXYGEN (O) (FLD) DIS	2.5	1.3	2.1	5.9
PH (FLD)	7.5	6.86	7.0	7.08
PH	7.9	7.7	7.7	7.7
SC (UMHOS/CM AT 25 C)	3110.0	6020.0 J3	5900.0 J3	10640.0
SC (UMHOS/CM AT 25 C) (FLD)	3030.0	5910.0	5950.0	11480.0
TDS (MEASURED AT 180 C)	2119.0	4936.0	4840.0	8889.0
TOTAL SUSPENDED SOLIDS	10.0	41.0 J4	66.0	6.8
WATER TEMPERATURE (C) (FLD)	18.8	26.3	24.8	25.7

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	112.0	340.0	328.0	309.0
MAGNESIUM (MG) DIS	39.0	134.0	134.0	61.0
SODIUM (NA) DIS	551.0	1096.0	1063.0	2555.0
POTASSIUM (K) DIS	7.5	27.0	26.0	76.0 J4
BICARBONATE (HCO3)	390.0	2013.0 J4	1037.0 J4	411.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	829.0 J3	2121.0	2093.0	4552.0 J3
CHLORIDE (CL)	334.0	372.0	376.0	644.0 J4
FLUORIDE (F)	1.7	0.8	0.76	1.5

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.41	10.0	14.0	119.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.065	2.4	2.7	38.0
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	0.65
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	1.4	0.74	0.76	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	0.007
SELENIUM (SE) DIS	<0.005	0.26 J4	0.32 J4	5.1
ZINC (ZN) DIS	0.025	0.024	0.035	0.077

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-14	EP-15	EP-20
SITE CODE	EP-14	EP-15	EP-20
SAMPLE DATE	05/06/99	05/05/99	05/04/99
SAMPLE TIME	08:10	16:00	08:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-16	L990776-14	L990776-1
SAMPLE NUMBER	EPRI-9905-106	EPRI-9905-107	EPRI-9905-108
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	58.79	58.42	14.01
OXYGEN (O) (FLD) DIS	6.0	7.3	2.3
PH (FLD)	6.85	7.12	6.95
PH	7.4	7.7	7.4
SC (UMHOS/CM AT 25 C)	4900.0	4170.0	10320.0
SC (UMHOS/CM AT 25 C) (FLD)	5240.0	8580.0 R	10220.0
TDS (MEASURED AT 180 C)	3939.0	3083.0	9135.0
TOTAL SUSPENDED SOLIDS	5.6	75.0	53.0 J4
WATER TEMPERATURE (C) (FLD)	24.6	25.7	21.0
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	339.0	197.0	474.0
MAGNESIUM (MG) DIS	91.0	77.0	302.0
SODIUM (NA) DIS	730.0	710.0	2014.0
POTASSIUM (K) DIS	55.0 J4	11.0	56.0
BICARBONATE (HCO3)	443.0	299.0	351.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1906.0 J3	1212.0 J3	4861.0 J3
CHLORIDE (CL)	295.0 J4	381.0	773.0
FLUORIDE (F)	1.9	0.8	2.1 J3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	29.0	21.0	172.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	1.7	0.008	0.92
CADMIUM (CD) DIS	<0.005	0.005	0.048
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.18	<0.1	<0.1
LEAD (PB) DIS	0.006	<0.003	<0.003
SELENIUM (SE) DIS	0.25	0.15	0.37
ZINC (ZN) DIS	<0.02	0.066	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-23	EP-23	EP-24	EP-25
SITE CODE	EP-23	EP-23	EP-24	EP-25
SAMPLE DATE	05/07/99	05/14/99	05/14/99	05/14/99
SAMPLE TIME	10:00	09:30	08:40	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990800-6	L990882-2	L990882-1	L990882-3
OTHER INFO			Heavy Sheen	Heavy Diesel
SAMPLE NUMBER	EPRI-9905-111	EPRI-9905-111A	EPRI-9905-112	EPRI-9905-113

-- PHYSICAL PARAMETERS --

	EP-23	EP-23	EP-24	EP-25
DEPTH TO WATER LEVEL (FEET)	23.42	23.82	34.04	46.79
OXYGEN (O) (FLD) DIS	0.9	1.9		
PH (FLD)	7.41	7.29		
PH	7.8	7.8	7.4	7.0
SC (UMHOS/CM AT 25 C)	4310.0	4190.0 J3	6410.0 J3	7880.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	4420.0	4200.0		
TDS (MEASURED AT 180 C)	2374.0	2388.0	4137.0	6245.0
TOTAL SUSPENDED SOLIDS	87.0	47.0 J4	31.0 J4	12081.0
WATER TEMPERATURE (C) (FLD)	23.0	25.7		

-- MAJOR CONSTITUENTS --

	EP-23	EP-23	EP-24	EP-25
CALCIUM (CA) DIS	74.0	69.0	212.0	675.0
MAGNESIUM (MG) DIS	44.0	49.0	92.0	50.0
SODIUM (NA) DIS	580.0	599.0	1096.0	700.0
POTASSIUM (K) DIS	57.0	97.0	50.0	738.0
BICARBONATE (HCO3)	576.0	717.0 J4	1642.0 J4	771.0 J4
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	901.0	1403.0	1132.0	2996.0
CHLORIDE (CL)	330.0	290.0	1195.0	885.0
FLUORIDE (F)	3.8	2.0	2.2	5.0

-- NUTRIENTS --

	EP-23	EP-23	EP-24	EP-25
NITRATE + NITRITE AS N	0.14 J4	<0.1	<0.1	0.67

-- METALS & MINOR CONSTITUENTS --

	EP-23	EP-23	EP-24	EP-25
ARSENIC (AS) DIS	1.9	4.9	0.097	1.0
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.26	0.34	0.69	26.0
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	0.008 J4	0.33 J4	0.84 J4
ZINC (ZN) DIS	0.02 J4	<0.02	<0.02	0.022

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-26	EP-29	EP-29	EP-35
SITE CODE	EP-26	EP-29	EP-29	EP-35
SAMPLE DATE	05/05/99	05/04/99	05/04/99	05/04/99
SAMPLE TIME	14:00	09:45	09:50	09:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-11	L990776-3	L990776-4	L990776-2
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9905-114	EPRI-9905-115	EPRI-9905-177	EPRI-9905-116
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	57.15	13.74		13.9
OXYGEN (O) (FLD) DIS	2.1	2.3	2.3	1.9
PH (FLD)	7.02	7.68	7.69	6.98
PH	7.3	8.2	8.1	7.4
SC (UMHOS/CM AT 25 C)	362.0	3160.0	3140.0	6810.0
SC (UMHOS/CM AT 25 C) (FLD)	4440.0 R	3120.0	3130.0	6730.0
TDS (MEASURED AT 180 C)	239.0	2079.0	1771.0	5702.0
TOTAL SUSPENDED SOLIDS	244.0	170.0 J4	280.0 J4	266.0 J4
WATER TEMPERATURE (C) (FLD)	27.9	22.2	22.2	21.9
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	30.0	49.0	49.0	426.0
MAGNESIUM (MG) DIS	4.1	22.0	22.0	166.0
SODIUM (NA) DIS	25.0	732.0	714.0	1119.0
POTASSIUM (K) DIS	5.0	16.0	15.0	18.0
BICARBONATE (HCO3)	41.0	317.0	294.0	567.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	89.0 J3	1049.0 J3	812.0 J3	2822.0 J3
		J4	J4	
CHLORIDE (CL)	18.0	326.0	289.0	561.0
FLUORIDE (F)	0.5	3.0 J3	3.2 J3	1.1 J3
-- NUTRIENTS --				
NITRATE + NITRITE AS N	3.0	4.4	4.5	82.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.31	0.3	0.31	0.58
CADMIUM (CD) DIS	0.73	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.039	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.01	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.23	0.13	0.12	2.0
ZINC (ZN) DIS	2.3	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-43	EP-49	EP-51
SITE CODE	EP-43	EP-49	EP-51
SAMPLE DATE	05/14/99	05/14/99	05/06/99
SAMPLE TIME	14:25	11:05	10:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990882-8	L990882-5	L990776-19
OTHER INFO	Heavy Sheen		
SAMPLE NUMBER	EPRI-9905-117	EPRI-9905-118	EPRI-9905-119

-- PHYSICAL PARAMETERS --

	EP-43	EP-49	EP-51
DEPTH TO WATER LEVEL (FEET)	56.31	66.69	48.86
OXYGEN (O) (FLD) DIS			1.2
PH (FLD)			6.63
PH	7.4	4.2	7.3
SC (UMHOS/CM AT 25 C)	8600.0 J3	10570.0 J3	9870.0
SC (UMHOS/CM AT 25 C) (FLD)			9760.0
TDS (MEASURED AT 180 C)	6257.0	14083.0	7314.0
TOTAL SUSPENDED SOLIDS	52.0 J4	804.0	27.0
WATER TEMPERATURE (C) (FLD)			24.3

-- MAJOR CONSTITUENTS --

	EP-43	EP-49	EP-51
CALCIUM (CA) DIS	385.0	493.0	547.0
MAGNESIUM (MG) DIS	133.0	288.0	409.0
SODIUM (NA) DIS	1374.0	819.0	1158.0
POTASSIUM (K) DIS	77.0	342.0	41.0 J4
BICARBONATE (HCO3)	854.0 J4	<1.0 UJ4	244.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1484.0	7140.0	1940.0 J3
CHLORIDE (CL)	1535.0	727.0	2024.0
FLUORIDE (F)	2.0	23.0	1.2

-- NUTRIENTS --

	EP-43	EP-49	EP-51
NITRATE + NITRITE AS N	2.9	0.72	158.0

-- METALS & MINOR CONSTITUENTS --

	EP-43	EP-49	EP-51
ARSENIC (AS) DIS	0.37	354.0	0.3
CADMIUM (CD) DIS	<0.005	29.0	0.049
CHROMIUM (CR) DIS	<0.01	0.011	<0.01
COPPER (CU) DIS	<0.025	0.031	0.098
IRON (FE) DIS	0.96	1548.0	1.5
LEAD (PB) DIS	<0.003	0.005	<0.003
SELENIUM (SE) DIS	0.34 J4	0.12 J4	0.25
ZINC (ZN) DIS	0.029	1063.0	0.71

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-52	EP-53	EP-54	EP-54
SITE CODE	EP-52	EP-53	EP-54	EP-54
SAMPLE DATE	05/06/99	05/06/99	05/06/99	05/07/99
SAMPLE TIME	10:00	15:00	11:00	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-18	L990776-13	L990776-20	L990800-3
SAMPLE NUMBER	EPRI-9905-120	EPRI-9905-121	EPRI-9905-122	EPRI-9905-122A
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	50.24	67.73	70.89	72.03
OXYGEN (O) (FLD) DIS	1.7	1.6	5.9	2.6
PH (FLD)	6.2	6.63	6.35	6.43
PH	7.3	7.3	7.1	7.7
SC (UMHOS/CM AT 25 C)	11250.0	7120.0	9540.0	8980.0
SC (UMHOS/CM AT 25 C) (FLD)	11880.0	15650.0	11490.0	9300.0
TDS (MEASURED AT 180 C)	9489.0	5804.0	7806.0	7303.0
TOTAL SUSPENDED SOLIDS	30.0	238.0	57.0	58.0
WATER TEMPERATURE (C) (FLD)	24.9	26.7	25.5	22.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	522.0	443.0	432.0	395.0
MAGNESIUM (MG) DIS	276.0	86.0	286.0	226.0
SODIUM (NA) DIS	2170.0	1245.0	1484.0	1411.0
POTASSIUM (K) DIS	25.0 J4	92.0	367.0	261.0
BICARBONATE (HCO3)	716.0	311.0	908.0	847.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	4484.0 J3	3166.0 J3	4250.0 J3	4217.0
CHLORIDE (CL)	1290.0 J4	421.0	704.0 J4	648.0
FLUORIDE (F)	6.6	6.2	9.4	9.2
-- NUTRIENTS --				
NITRATE + NITRITE AS N	144.0	112.0	6.6 J4	3.6 J4
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.81	54.0	56.0	47.0
CADMIUM (CD) DIS	1.9	1.4	0.53	0.47
CHROMIUM (CR) DIS	0.057	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.35	<0.025	0.059	0.089
IRON (FE) DIS	2.5	<0.1	0.22	<0.1
LEAD (PB) DIS	0.031	<0.003	0.005	<0.003
SELENIUM (SE) DIS	0.38	1.1	0.07	0.11
ZINC (ZN) DIS	3.1	4.6	9.2	8.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-55	EP-56	EP-57
SITE CODE	EP-55	EP-56	EP-57
SAMPLE DATE	05/14/99	05/04/99	05/13/99
SAMPLE TIME	10:30	14:30	15:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990882-4	L990776-12	L990820-16
SAMPLE NUMBER	EPRI-9905-123	EPRI-9905-124	EPRI-9905-125
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	55.51	50.56	8.76
OXYGEN (O) (FLD) DIS	1.0	1.9	0.6
PH (FLD)	6.25	7.13	7.11
PH	7.1	7.6	7.8
SC (UMHOS/CM AT 25 C)	10510.0 J3	5580.0	2340.0
SC (UMHOS/CM AT 25 C) (FLD)	10850.0	5850.0	2120.0
TDS (MEASURED AT 180 C)	8951.0	4141.0	1459.0
TOTAL SUSPENDED SOLIDS	447.0	1607.0	20.0
WATER TEMPERATURE (C) (FLD)	26.1	24.2	25.8
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	541.0	241.0	62.0
MAGNESIUM (MG) DIS	374.0	68.0	63.0
SODIUM (NA) DIS	1654.0	1051.0	335.0
POTASSIUM (K) DIS	192.0	23.0	17.0
BICARBONATE (HCO3)	854.0 J4	561.0	1282.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3651.0	2085.0 J3	56.0
CHLORIDE (CL)	909.0	565.0	142.0
FLUORIDE (F)	14.0	2.1 J3	0.94
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.13	<0.1	0.45 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	26.0	1.3	0.35
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	52.0	<0.1	<0.1
LEAD (PB) DIS	<0.003	0.005	<0.003
SELENIUM (SE) DIS	0.1 J4	0.015	0.64
ZINC (ZN) DIS	20.0	0.037	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-58	EP-59	EP-60
SITE CODE	EP-58	EP-59	EP-60
SAMPLE DATE	05/13/99	05/06/99	05/06/99
SAMPLE TIME	13:40	14:20	16:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990820-13	L990799-1	L990799-5
SAMPLE NUMBER	EPRI-9905-126	EPRI-9905-127	EPRI-9905-132
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	12.41	13.26	9.38
OXYGEN (O) (FLD) DIS	0.9	0.8	0.7
PH (FLD)	6.38	7.01	6.8
PH	7.2	7.4	7.4
SC (UMHOS/CM AT 25 C)	11660.0	5060.0	8670.0
SC (UMHOS/CM AT 25 C) (FLD)	10090.0	5400.0	9010.0
TDS (MEASURED AT 180 C)	9162.0	3749.0	7149.0
TOTAL SUSPENDED SOLIDS	83.0	8.2	11.0
WATER TEMPERATURE (C) (FLD)	27.0	24.5	23.9
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	499.0	190.0	551.0
MAGNESIUM (MG) DIS	244.0	103.0	250.0
SODIUM (NA) DIS	2100.0	825.0	1311.0
POTASSIUM (K) DIS	250.0	91.0 J4	14.0 J4
BICARBONATE (HCO3)	1220.0	434.0	312.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3585.0	1724.0	2802.0
CHLORIDE (CL)	709.0	515.0 J4	1366.0 J4
FLUORIDE (F)	4.8	5.6	1.7
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.1 UJ4	14.0	83.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	5.1	3.1	0.007
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	0.91	<0.1	0.16 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.034	0.29	0.2
ZINC (ZN) DIS	<0.02	0.039	0.027

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-61	EP-62	EP-63	EP-63
SITE CODE	EP-61	EP-62	EP-63	EP-63
SAMPLE DATE	05/13/99	05/06/99	05/06/99	05/06/99
SAMPLE TIME	14:20	15:30	16:00	16:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990820-14	L990799-3	L990799-4	L990800-1
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9905-129	EPRI-9905-130	EPRI-9905-131	EPRI-9905-181
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	10.51	7.45	6.83	
OXYGEN (O) (FLD) DIS	0.9	3.8	1.0	0.9
PH (FLD)	6.78	7.1	7.04	7.04
PH	8.0	7.6	7.6	7.7
SC (UMHOS/CM AT 25 C)	8240.0	4420.0	8300.0	8210.0
SC (UMHOS/CM AT 25 C) (FLD)	7360.0	4600.0	8450.0	8450.0
TDS (MEASURED AT 180 C)	6722.0	3220.0	6237.0	6255.0
TOTAL SUSPENDED SOLIDS	12.0	6.3	19.0	16.0
WATER TEMPERATURE (C) (FLD)	26.2	22.7	22.7	22.8
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	399.0	169.0	253.0	243.0
MAGNESIUM (MG) DIS	197.0	82.0	176.0	156.0
SODIUM (NA) DIS	1600.0	776.0	1570.0	1519.0
POTASSIUM (K) DIS	23.0	48.0 J4	37.0 J4	46.0 J4
BICARBONATE (HCO3)	529.0	439.0	594.0	628.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2824.0	1328.0	2544.0	2927.0 J3
CHLORIDE (CL)	619.0	431.0 J4	1163.0 J4	870.0 J4
FLUORIDE (F)	1.7	3.2	2.2	2.0
-- NUTRIENTS --				
NITRATE + NITRITE AS N	166.0	5.8 J4	6.4 J4	7.9 J4
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.011	0.83	0.02	0.018
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	0.015	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.26	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.29	0.28	0.16	0.17
ZINC (ZN) DIS	<0.02	0.039	0.028	0.022 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-64	EP-65	EP-66
SITE CODE	EP-64	EP-65	EP-66
SAMPLE DATE	05/06/99	05/13/99	05/06/99
SAMPLE TIME	14:50	14:50	17:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990799-2	L990820-15	L990799-6
SAMPLE NUMBER	EPRI-9905-128	EPRI-9905-133	EPRI-9905-134

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	10.35	8.54	9.42
OXYGEN (O) (FLD) DIS	2.3	1.0	5.5
PH (FLD)	7.57	6.98	6.98
PH	7.9	7.7	7.5
SC (UMHOS/CM AT 25 C)	9280.0	6740.0	7620.0
SC (UMHOS/CM AT 25 C) (FLD)	9910.0	5010.0	8660.0
TDS (MEASURED AT 180 C)	7607.0	5324.0	6479.0
TOTAL SUSPENDED SOLIDS	22.0	10.0	7.4
WATER TEMPERATURE (C) (FLD)	24.7	28.0	27.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	360.0	297.0	521.0
MAGNESIUM (MG) DIS	133.0	149.0	141.0
SODIUM (NA) DIS	1952.0	1250.0	1298.0
POTASSIUM (K) DIS	24.0 J4	26.0	43.0 J4
BICARBONATE (HCO3)	224.0	716.0	488.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1748.0	2280.0	2864.0
CHLORIDE (CL)	830.0 J4	511.0	687.0 J4
FLUORIDE (F)	1.9	1.9	3.2

-- NUTRIENTS --

NITRATE + NITRITE AS N	73.0	24.0	38.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.038	0.006	9.9
CADMIUM (CD) DIS	<0.005	<0.005	0.011
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.49	1.3	0.2
ZINC (ZN) DIS	0.043	<0.02	0.094

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-67	EP-68	EP-70
SAMPLE DATE	05/07/99	05/10/99	05/07/99
SAMPLE TIME	13:45	15:05	15:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990800-9	L990800-21	L990800-11
SAMPLE NUMBER	EPRI-9905-135	EPRI-9905-136	EPRI-9905-137

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	41.74	63.55	62.12
OXYGEN (O) (FLD) DIS	1.3	6.0	0.7
PH (FLD)	6.82	7.08	6.92
PH	7.3	7.6	7.5
SC (UMHOS/CM AT 25 C)	4440.0	4030.0	6230.0
SC (UMHOS/CM AT 25 C) (FLD)	4820.0	3990.0	6630.0
TDS (MEASURED AT 180 C)	3837.0	2940.0	4827.0
TOTAL SUSPENDED SOLIDS	29.0	38.0	3.5
WATER TEMPERATURE (C) (FLD)	25.0	24.6	24.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	438.0	193.0	291.0
MAGNESIUM (MG) DIS	139.0	88.0	157.0
SODIUM (NA) DIS	483.0	580.0	1009.0
POTASSIUM (K) DIS	33.0	16.0	50.0
BICARBONATE (HCO3)	261.0	268.0	289.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1959.0	1064.0	2210.0
CHLORIDE (CL)	324.0	407.0 J4	546.0
FLUORIDE (F)	0.8	0.74	1.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	15.0 J4	42.0	43.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.02	<0.005	0.83
CADMIUM (CD) DIS	<0.005	<0.005	0.009
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.11	0.17	0.19
ZINC (ZN) DIS	0.031 J4	0.03 J4	0.14 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-73	EP-73	EP-75	EP-76
SAMPLE DATE	05/07/99	05/07/99	05/10/99	05/10/99
SAMPLE TIME	09:15	09:20	08:55	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990800-4	L990800-5	L990800-13	L990800-14
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9905-140	EPRI-9905-183	EPRI-9905-141	EPRI-9905-142

-- PHYSICAL PARAMETERS --

	EPRI-9905-140	EPRI-9905-183	EPRI-9905-141	EPRI-9905-142
DEPTH TO WATER LEVEL (FEET)	71.49		55.49	60.41
OXYGEN (O) (FLD) DIS	0.8	0.8	0.3	0.7
PH (FLD)	6.97	6.96	6.87	7.05
PH	7.5	7.7	7.6	7.6
SC (UMHOS/CM AT 25 C)	6700.0	6700.0	19390.0	5490.0
SC (UMHOS/CM AT 25 C) (FLD)	7670.0	7680.0	20100.0	5550.0
TDS (MEASURED AT 180 C)	5284.0	5239.0	18775.0	4026.0
TOTAL SUSPENDED SOLIDS	7.4	6.0	102.0	2.3
WATER TEMPERATURE (C) (FLD)	28.1	28.2	24.3	23.4

-- MAJOR CONSTITUENTS --

	EPRI-9905-140	EPRI-9905-183	EPRI-9905-141	EPRI-9905-142
CALCIUM (CA) DIS	264.0	263.0	447.0	187.0
MAGNESIUM (MG) DIS	122.0	121.0	472.0	112.0
SODIUM (NA) DIS	977.0	1009.0	4325.0	922.0
POTASSIUM (K) DIS	365.0	382.0	682.0	113.0
BICARBONATE (HCO3)	293.0	287.0	769.0	486.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	3116.0	3079.0	11378.0	1852.0
CHLORIDE (CL)	410.0	430.0	277.0 J4	455.0 J4
FLUORIDE (F)	2.7	2.7	1.8	2.1

-- NUTRIENTS --

	EPRI-9905-140	EPRI-9905-183	EPRI-9905-141	EPRI-9905-142
NITRATE + NITRITE AS N	16.0 J4	21.0 J4	160.0	4.5

-- METALS & MINOR CONSTITUENTS --

	EPRI-9905-140	EPRI-9905-183	EPRI-9905-141	EPRI-9905-142
ARSENIC (AS) DIS	0.037	0.034	18.0	1.7
CADMIUM (CD) DIS	<0.005	<0.005	0.009	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	0.075	<0.025
IRON (FE) DIS	<0.1	<0.1	1.2	0.56
LEAD (PB) DIS	<0.003	<0.003	<0.003	0.004
SELENIUM (SE) DIS	1.0	1.0	4.0	0.26
ZINC (ZN) DIS	0.04 J4	0.038 J4	0.062 J4	0.057 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-77	EP-78	EP-78	EP-79
SITE CODE	EP-77	EP-78	EP-78	EP-79
SAMPLE DATE	05/07/99	05/11/99	05/11/99	05/11/99
SAMPLE TIME	10:50	10:35	10:40	09:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990800-8	L990819-6	L990819-7	L990819-5
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9905-143	EPRI-9905-144	EPRI-9905-186	EPRI-9905-145
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	44.35	33.69		47.79
OXYGEN (O) (FLD) DIS	1.1	2.3	2.2	6.7
PH (FLD)	7.08	7.62	7.62	7.41
PH	7.6	7.3	7.5	8.2
SC (UMHOS/CM AT 25 C)	5350.0	3750.0 J3	3740.0 J3	4900.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	5800.0	3770.0	3830.0	4790.0
TDS (MEASURED AT 180 C)	3880.0	2549.0	2558.0	3447.0
TOTAL SUSPENDED SOLIDS	177.0	14.0	16.0	80.0
WATER TEMPERATURE (C) (FLD)	25.2	24.1	24.1	27.2
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	200.0	76.0	76.0	54.0
MAGNESIUM (MG) DIS	50.0	43.0	44.0	71.0
SODIUM (NA) DIS	940.0	600.0	600.0	1050.0
POTASSIUM (K) DIS	55.0	71.0	74.0	10.0
BICARBONATE (HCO3)	333.0	295.0 J3	296.0 J3	447.0 J3
CARBONATE AS CO3	<1.0	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	1790.0	1042.0	1079.0	1477.0
CHLORIDE (CL)	370.0	317.0	320.0	453.0
FLUORIDE (F)	3.0	2.6 J4	9.2 J4	4.6 J4
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.32 J4	9.8	9.1	9.2
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	7.6	5.5	5.9	0.025
CADMIUM (CD) DIS	0.011	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	0.004	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.015	0.22	0.22	0.14
ZINC (ZN) DIS	0.025 J4	0.026	0.028	0.024

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-80	EP-81	EP-82
SITE CODE	EP-80	EP-81	EP-82
SAMPLE DATE	05/11/99	05/11/99	05/11/99
SAMPLE TIME	08:15	08:50	11:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-1	L990819-2	L990819-8
SAMPLE NUMBER	EPRI-9905-146	EPRI-9905-147	EPRI-9905-148

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	11.22	18.53	17.68
OXYGEN (O) (FLD) DIS	0.6	6.8	1.5
PH (FLD)	7.19	7.0	7.15
PH	7.9	7.8	7.8
SC (UMHOS/CM AT 25 C)	5170.0 J3	2530.0 J3	4870.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	5240.0	2570.0	4970.0
TDS (MEASURED AT 180 C)	3976.0	1955.0	3576.0
TOTAL SUSPENDED SOLIDS	20.0	14.0	13.0
WATER TEMPERATURE (C) (FLD)	23.1	24.0	22.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	202.0	159.0	144.0
MAGNESIUM (MG) DIS	96.0	92.0	86.0
SODIUM (NA) DIS	900.0	330.0	850.0
POTASSIUM (K) DIS	21.0	15.0	33.0
BICARBONATE (HCO3)	500.0 J3	517.0 J3	398.0 J3
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	1686.0	823.0	1050.0
CHLORIDE (CL)	385.0	79.0	520.0
FLUORIDE (F)	1.3 J4	1.3 J4	3.0 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	5.6	9.5	10.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.015	0.24	0.01
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.039	0.24	0.18
ZINC (ZN) DIS	0.022	0.071	0.058

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-83	EP-84	EP-85
SAMPLE DATE	05/11/99	05/11/99	05/11/99
SAMPLE TIME	16:20	15:35	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-10	L990819-9	L990819-3
SAMPLE NUMBER	EPRI-9905-149	EPRI-9905-150	EPRI-9905-151

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	28.52	8.8	16.39
OXYGEN (O) (FLD) DIS	5.6	2.9	0.5
PH (FLD)	7.51	7.23	7.32
PH	8.0	7.9	8.0
SC (UMHOS/CM AT 25 C)	3710.0 J3	3030.0 J3	3070.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	3850.0	3080.0	3120.0
TDS (MEASURED AT 180 C)	2525.0	2174.0	2061.0
TOTAL SUSPENDED SOLIDS	9.4	3.5	<1.0
WATER TEMPERATURE (C) (FLD)	23.0	23.0	23.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	76.0	220.0	107.0
MAGNESIUM (MG) DIS	75.0	117.0	57.0
SODIUM (NA) DIS	550.0	370.0	540.0
POTASSIUM (K) DIS	13.0	12.0	34.0
BICARBONATE (HCO3)	361.0 J3	303.0 J3	356.0 J3
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	1156.0	838.0	949.0
CHLORIDE (CL)	205.0	329.0	230.0
FLUORIDE (F)	3.0 J4	0.7 J4	3.4 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	8.2	9.4	6.8
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.005	0.024	2.9
CADMIUM (CD) DIS	<0.005	0.006	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	0.013	<0.003
SELENIUM (SE) DIS	0.045	0.024	0.17
ZINC (ZN) DIS	0.026	0.044	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC).
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-86	EP-88	EP-89
SITE CODE			
SAMPLE DATE	05/11/99	05/07/99	05/07/99
SAMPLE TIME	14:45	10:20	14:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-4	L990800-7	L990800-10
SAMPLE NUMBER	EPRI-9905-152	EPRI-9905-154	EPRI-9905-155
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	49.24	30.39	14.87
OXYGEN (O) (FLD) DIS	8.7	0.9	4.2
PH (FLD)	7.69	7.34	7.17
PH	8.2	7.9	7.8
SC (UMHOS/CM AT 25 C)	2570.0 J3	5340.0	2790.0
SC (UMHOS/CM AT 25 C) (PLD)	2600.0	5810.0	2990.0
TDS (MEASURED AT 180 C)	1689.0	3800.0	1941.0
TOTAL SUSPENDED SOLIDS	12.0	90.0	3.0
WATER TEMPERATURE (C) (FLD)	23.6	24.5	24.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	42.0	57.0	154.0
MAGNESIUM (MG) DIS	33.0	39.0	63.0
SODIUM (NA) DIS	520.0	1139.0	378.0
POTASSIUM (K) DIS	8.8	10.0	45.0
BICARBONATE (HCO3)	354.0 J3	572.0	264.0
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0
SULFATE (SO4)	622.0	1677.0	818.0
CHLORIDE (CL)	224.0	426.0	294.0
FLUORIDE (F)	2.6 J4	2.2	0.76
-- NUTRIENTS --			
NITRATE + NITRITE AS N	5.6	2.3 J4	7.1 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.007	0.017	0.006
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.031	0.032	0.016
ZINC (ZN) DIS	0.025	0.037 J4	0.022 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-90
SAMPLE DATE	05/10/99
SAMPLE TIME	13:00
LAB	TSC-SLC
LAB NUMBER	L990800-17
SAMPLE NUMBER	EPRI-9905-156

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	56.77
OXYGEN (O) (FLD) DIS	4.4
PH (FLD)	7.01
PH	7.7
SC (UMHOS/CM AT 25 C)	4090.0
SC (UMHOS/CM AT 25 C) (FLD)	4360.0
TDS (MEASURED AT 180 C)	3026.0
TOTAL SUSPENDED SOLIDS	21.0
WATER TEMPERATURE (C) (FLD)	26.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	184.0
MAGNESIUM (MG) DIS	100.0
SODIUM (NA) DIS	665.0
POTASSIUM (K) DIS	13.0
BICARBONATE (HCO3)	281.0
CARBONATE AS CO3	<1.0
SULFATE (SO4)	1202.0
CHLORIDE (CL)	377.0 J4
FLUORIDE (F)	0.58

-- NUTRIENTS --

NITRATE + NITRITE AS N	32.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.13
CADMIUM (CD) DIS	<0.005
CHROMIUM (CR) DIS	<0.01
COPPER (CU) DIS	<0.025
IRON (FE) DIS	<0.1
LEAD (PB) DIS	<0.003
SELENIUM (SE) DIS	0.86
ZINC (ZN) DIS	0.038 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect; Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI	DI	DI
SAMPLE DATE	05/04/99	05/05/99	05/06/99	05/07/99	05/10/99	05/11/99
SAMPLE TIME	11:05	16:00	15:15	16:00	16:00	16:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990776-5	L990776-15	L990800-2	L990800-12	L990800-22	L990819-11
REMARKS	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9905-178	EPRI-9905-180	EPRI-9905-182	EPRI-9905-184	EPRI-9905-187	EPRI-9905-188

-- PHYSICAL PARAMETERS --

PH	5.8	5.8	5.9	6.0	6.1	5.7
SC (UMHOS/CM AT 25 C)	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0 UJ3
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ3
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	1.3 J3 J4	1.7 J3	1.8 J3	1.8	<1.0	1.6
CHLORIDE (CL)	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05 UJ3	<0.05	<0.05	0.058	0.068	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.1	<0.1	<0.1	0.11 J4	<0.1	<0.1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02 UJ4	0.021 J4	0.026 J4	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI
SAMPLE DATE	05/12/99	05/13/99	05/14/99
SAMPLE TIME	10:30	10:50	15:02
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-16	L990820-12	L990882-9
REMARKS	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9905-189	EPRI-9905-192	EPRI-9905-194

-- PHYSICAL PARAMETERS --

PH	6.0	5.7	5.8
SC (UMHOS/CN AT 25 C)	<5.0 UJ3	<5.0	<5.0 UJ3
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<1.0	<5.0
BICARBONATE (HCO3)	<1.0 UJ3	<1.0	<1.0
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0
SULFATE (SO4)	1.2	<1.0	<1.0
CHLORIDE (CL)	<1.0	<1.0	1.7
FLUORIDE (F)	0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.1 J4	<0.1	<0.1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005
ARSENIC (AS) TRC		<0.005	
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC		<0.005	
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC		<0.01	
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC		<0.025	
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC		<0.1	
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC		<0.003	
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC		<0.005	
ZINC (ZN) DIS	<0.02	<0.02	<0.02
ZINC (ZN) TRC		<0.02	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	POND 1	POND 6	SEP-1
SITE CODE			
SAMPLE DATE	05/12/99	05/12/99	05/12/99
SAMPLE TIME	09:10	09:35	13:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-12	L990819-13	L990820-1
SAMPLE NUMBER	EPRI-9905-174	EPRI-9905-176	EPRI-9905-157
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	7.0	9.2	5.0
PH (FLD)	6.75	8.85	7.48
PH	7.9	8.9	8.0
SC (UMHOS/CM AT 25 C)	34600.0 J3	2450.0 J3	1172.0 J3
SC (UMHOS/CM AT 25 C) (FLD)	35000.0	2540.0	1319.0
TDS (MEASURED AT 180 C)	34222.0	1632.0	746.0
TOTAL SUSPENDED SOLIDS	69.0	23.0	76.0
WATER TEMPERATURE (C) (FLD)	19.8	20.8	25.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	548.0	115.0	73.0
MAGNESIUM (MG) DIS	198.0	23.0	18.0
SODIUM (NA) DIS	10500.0	420.0	140.0
POTASSIUM (K) DIS	460.0	20.0	7.6
BICARBONATE (HCO3)	159.0 J3	144.0 J3	190.0 J3
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	5.0 J3
SULFATE (SO4)	20254.0	691.0	216.0
CHLORIDE (CL)	292.0	278.0	92.0
FLUORIDE (F)	12.0	2.2	0.72
-- NUTRIENTS --			
NITRATE + NITRITE AS N	88.0	<0.1 UJ4	0.14 UJ1 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.082	0.9	0.005
ARSENIC (AS) TRC	0.27	0.83	0.007
CADMIUM (CD) DIS	19.0	0.064	<0.005
CADMIUM (CD) TRC	16.0	0.074	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	0.41	0.18	<0.025
COPPER (CU) TRC	0.92	0.35	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	0.41	0.29	1.6
LEAD (PB) DIS	0.049	0.054	<0.003
LEAD (PB) TRC	0.35	0.16	0.003
SELENIUM (SE) DIS	1.4	0.034	<0.005
SELENIUM (SE) TRC	1.3	0.025	<0.005
ZINC (ZN) DIS	33.0	0.12	<0.02
ZINC (ZN) TRC	20.0	0.33	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-2	SEP-3	SEP-3	SEP-4
SAMPLE DATE	05/13/99	05/12/99	05/12/99	05/13/99
SAMPLE TIME	09:30	13:30	13:35	08:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990820-8	L990820-2	L990820-3	L990820-5
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9905-158	EPRI-9905-159	EPRI-9905-190	EPRI-9905-160

-- PHYSICAL PARAMETERS --

	SEP-2	SEP-3	SEP-3	SEP-4
OXYGEN (O) (FLD) DIS	6.0	5.0	3.6	5.6
PH (FLD)	7.04	7.77	7.77	6.84
PH	8.4	9.4	9.5	8.5
SC (UMHOS/CM AT 25 C)	1179.0	1168.0 J3	1175.0 J3	1194.0
SC (UMHOS/CM AT 25 C) (FLD)	1116.0	1319.0	1265.0	1279.0
TDS (MEASURED AT 180 C)	746.0	746.0	709.0	776.0
TOTAL SUSPENDED SOLIDS	63.0	83.0	90.0	55.0
WATER TEMPERATURE (C) (FLD)	21.9	25.5	25.5	20.4

-- MAJOR CONSTITUENTS --

	SEP-2	SEP-3	SEP-3	SEP-4
CALCIUM (CA) DIS	77.0	73.0	74.0	76.0
MAGNESIUM (MG) DIS	19.0	18.0	19.0	20.0
SODIUM (NA) DIS	140.0	140.0	140.0	140.0
POTASSIUM (K) DIS	7.7	7.5	7.6	7.1
BICARBONATE (HCO3)	227.0	224.0 J3	227.0 J3	229.0
CARBONATE AS CO3	5.0	5.0 J3	5.0 J3	7.0
SULFATE (SO4)	226.0	232.0	230.0	239.0
CHLORIDE (CL)	95.0	98.0	101.0	97.0
FLUORIDE (F)	0.72	0.73	0.7	0.7

-- NUTRIENTS --

	SEP-2	SEP-3	SEP-3	SEP-4
NITRATE + NITRITE AS N	0.23 J4	0.38 UJ1 J4	1.0 J4	<0.1 UJ4

-- METALS & MINOR CONSTITUENTS --

	SEP-2	SEP-3	SEP-3	SEP-4
ARSENIC (AS) DIS	0.005	0.005	0.005	0.005
ARSENIC (AS) TRC	<0.005	0.005	0.005	0.006
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TRC	1.4	1.6	1.4	1.3
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	<0.003	<0.003	<0.003	0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TRC	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
R: Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-7	SEP-9	SEP-10
SAMPLE DATE	05/12/99	05/12/99	05/13/99
SAMPLE TIME	13:20	15:15	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990819-17	L990820-4	L990820-11
SAMPLE NUMBER	EPRI-9905-161	EPRI-9905-162	EPRI-9905-163

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.2	3.7	6.0
PH (FLD)	7.54	7.65	7.14
PH	8.3	8.4	8.3
SC (UMHOS/CM AT 25 C)	1158.0 J3	1156.0 J3	1153.0
SC (UMHOS/CM AT 25 C) (FLD)	1380.0	1267.0	1068.0
TDS (MEASURED AT 180 C)	698.0	639.0	748.0
TOTAL SUSPENDED SOLIDS	93.0	70.0	62.0
WATER TEMPERATURE (C) (FLD)	25.1	25.9	23.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	77.0	74.0	77.0
MAGNESIUM (MG) DIS	20.0	19.0	20.0
SODIUM (NA) DIS	140.0	140.0	135.0
POTASSIUM (K) DIS	10.0	6.6	8.1
BICARBONATE (HCO3)	281.0 J3	227.0 J3	242.0
CARBONATE AS CO3	<1.0 UJ3	5.0 J3	<1.0
SULFATE (SO4)	207.0	221.0	204.0
CHLORIDE (CL)	567.0	97.0	92.0
FLUORIDE (F)	0.7	0.72	0.72

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.13 UJ1 J4	<0.1 UJ4	<0.1 UJ4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.005	0.005	0.005
ARSENIC (AS) TRC	0.011	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	1.7	1.6	0.82
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.009	0.004	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02
ZINC (ZN) TRC	0.032	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-11	SEP-11	SEP-12	SEP-13
SAMPLE DATE	05/13/99	05/13/99	05/13/99	05/13/99
SAMPLE TIME	09:50	10:00	09:10	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L990820-9	L990820-10	L990820-7	L990820-6
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9905-164	EPRI-9905-191	EPRI-9905-165	EPRI-9905-166

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.8	5.7	5.8	5.8
PH (FLD)	7.06	7.07	6.94	6.89
PH	8.4	8.4	8.4	8.6
SC (UMHOS/CM AT 25 C)	1151.0	1154.0	1166.0	1182.0
SC (UMHOS/CM AT 25 C) (FLD)	1099.0	1101.0	1214.0	1321.0
TDS (MEASURED AT 180 C)	755.0	727.0	735.0	735.0
TOTAL SUSPENDED SOLIDS	70.0	65.0	57.0	55.0
WATER TEMPERATURE (C) (FLD)	22.9	23.0	21.3	20.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	75.0	75.0	76.0	75.0
MAGNESIUM (MG) DIS	19.0	19.0	20.0	19.0
SODIUM (NA) DIS	140.0	140.0	145.0	140.0
POTASSIUM (K) DIS	7.8	7.6	7.5	7.8
BICARBONATE (HCO3)	239.0	227.0	239.0	249.0
CARBONATE AS CO3	5.0	5.0	1.0	7.0
SULFATE (SO4)	204.0	192.0	220.0	217.0
CHLORIDE (CL)	98.0	103.0	97.0	99.0
FLUORIDE (F)	0.72	0.72	0.69	0.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.25 J4	<0.1 UJ4	0.16 J4	<0.1 UJ4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.005	0.005	0.005	0.005
ARSENIC (AS) TRC	<0.005	<0.005	0.005	0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TRC	1.5	1.3	0.99	1.2
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	<0.003	<0.003	0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TRC	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank; parameter not tested.
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

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2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-23	EP-23	Groundwater		
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8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
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19	EP-88	EP-88	Groundwater		
19	EP-89	EP-89	Groundwater		
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23	POND 6	POND 6	Surface Water		
23	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		
24	SEP-3	SEP-3	Surface Water		
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25	SEP-9	SEP-9	Surface Water		
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1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
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23	POND 1	POND 1	Surface Water		
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11	EPRI-9905-132	L990799-5	05/06/99	EP-60	2	L990800-15	EPRI-9905-171	05/10/99	EM-5
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17	EPRI-9905-147	L990819-2	05/11/99	EP-81	19	L990800-7	EPRI-9905-154	05/07/99	EP-88
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18	EPRI-9905-149	L990819-10	05/11/99	EP-83	14	L990800-9	EPRI-9905-135	05/07/99	EP-67
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18	EPRI-9905-151	L990819-3	05/11/99	EP-85	18	L990819-10	EPRI-9905-149	05/11/99	EP-83
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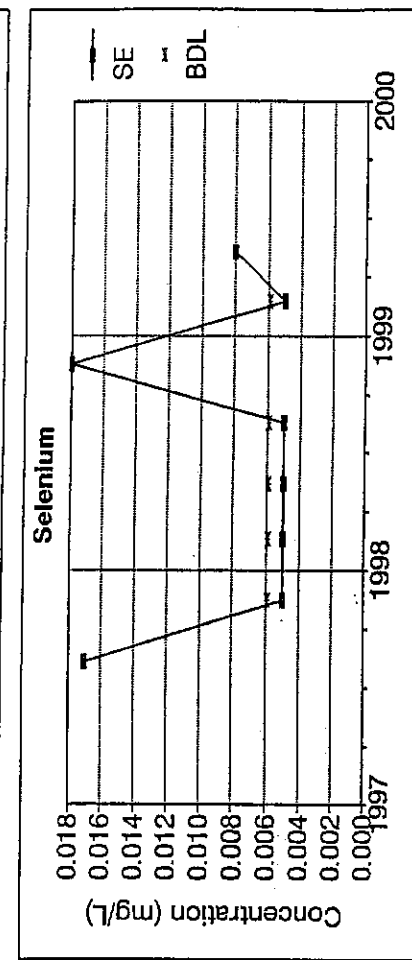
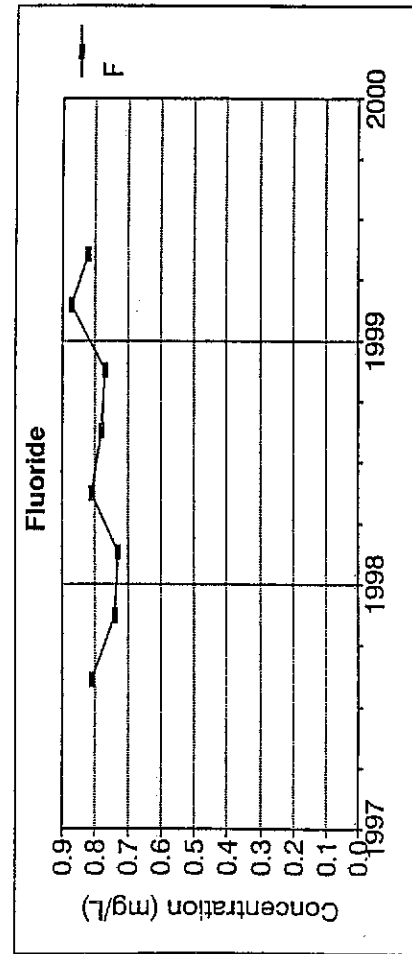
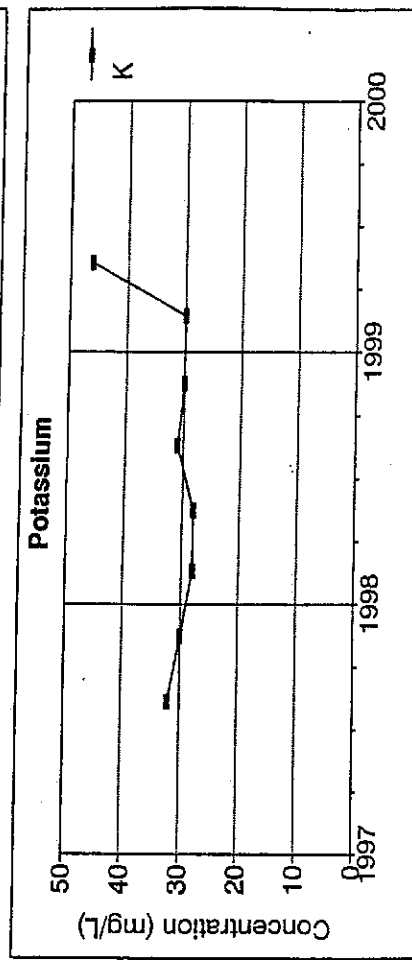
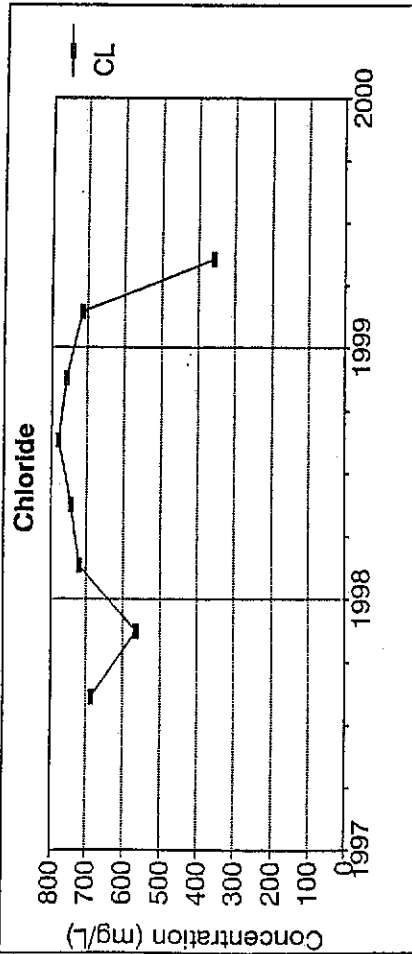
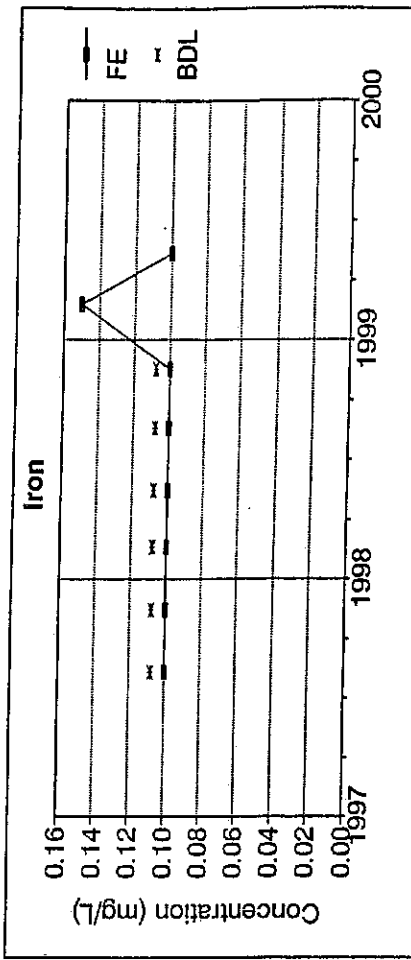
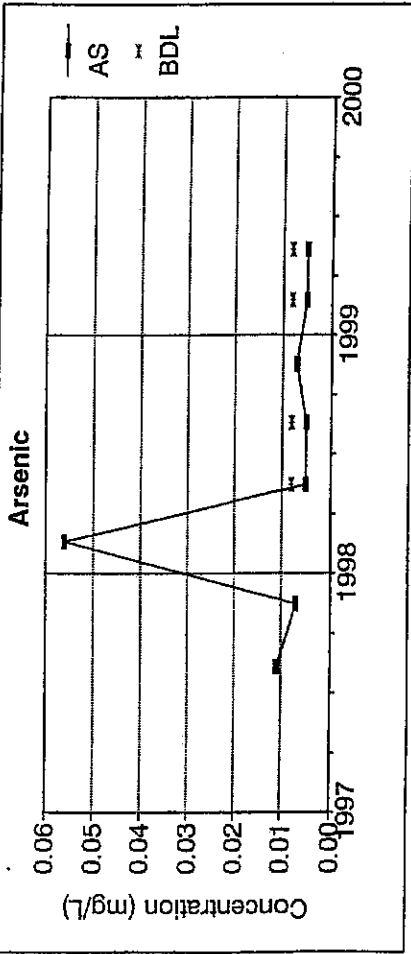
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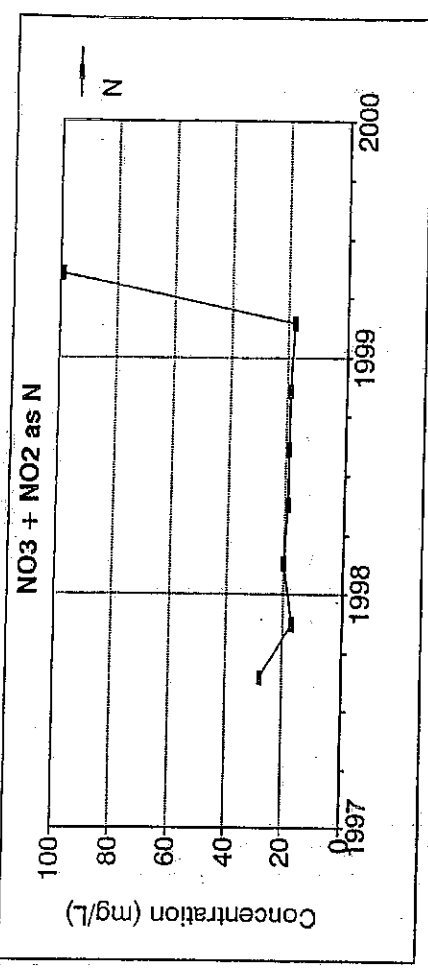
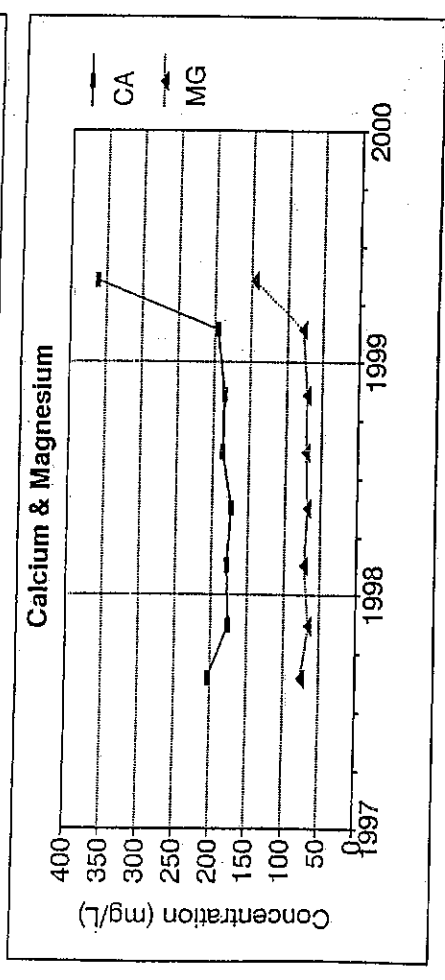
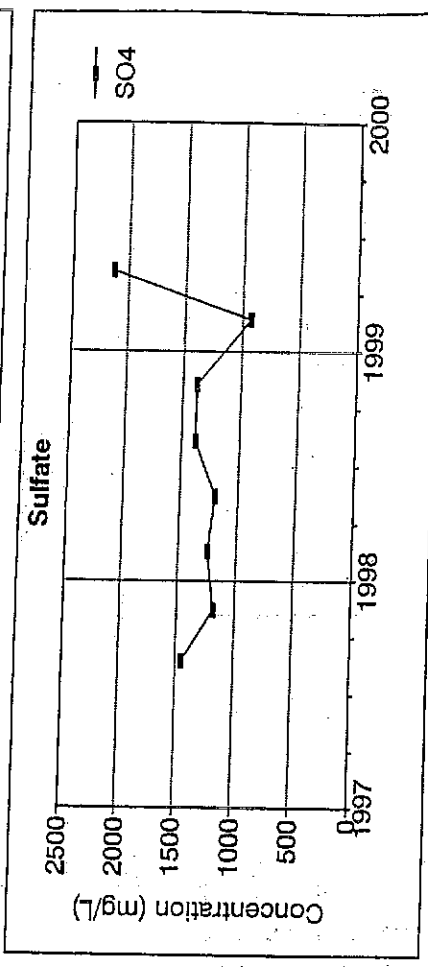
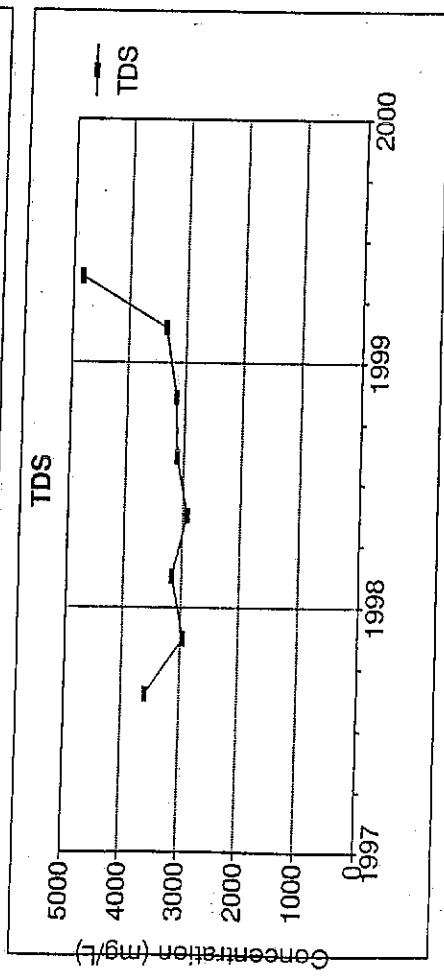
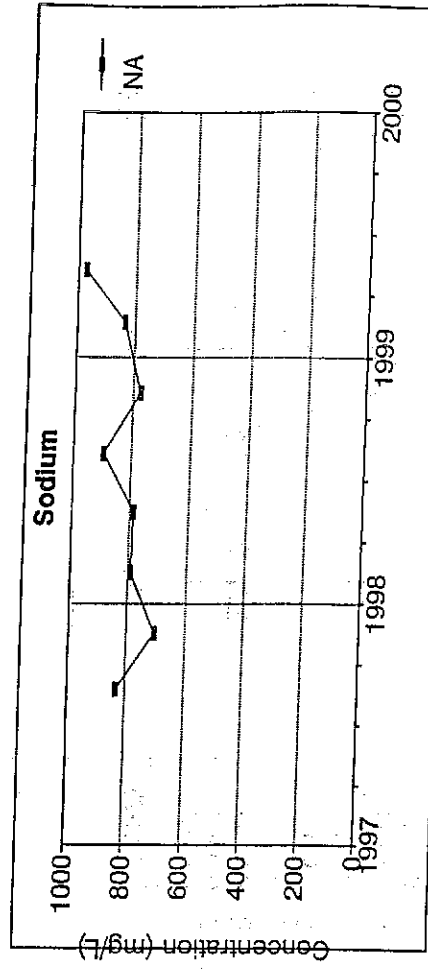
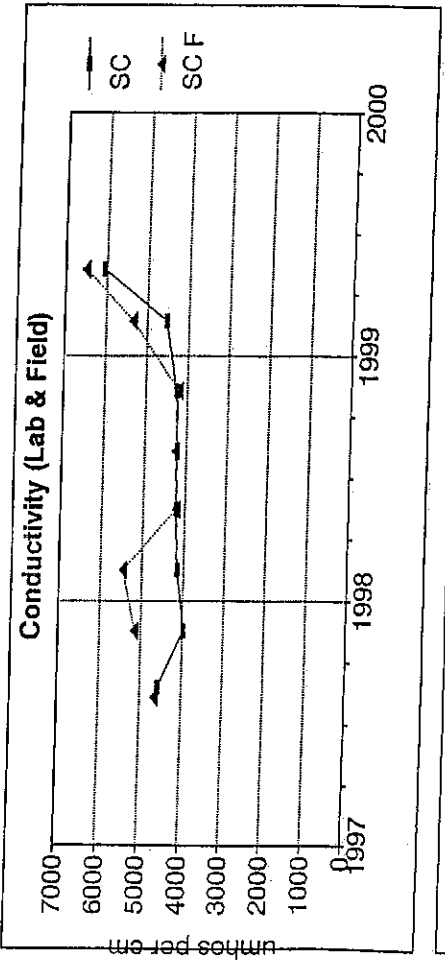


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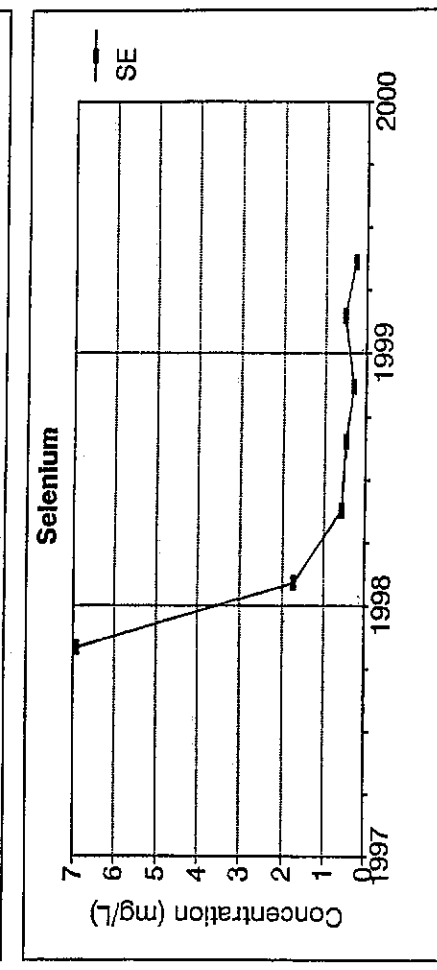
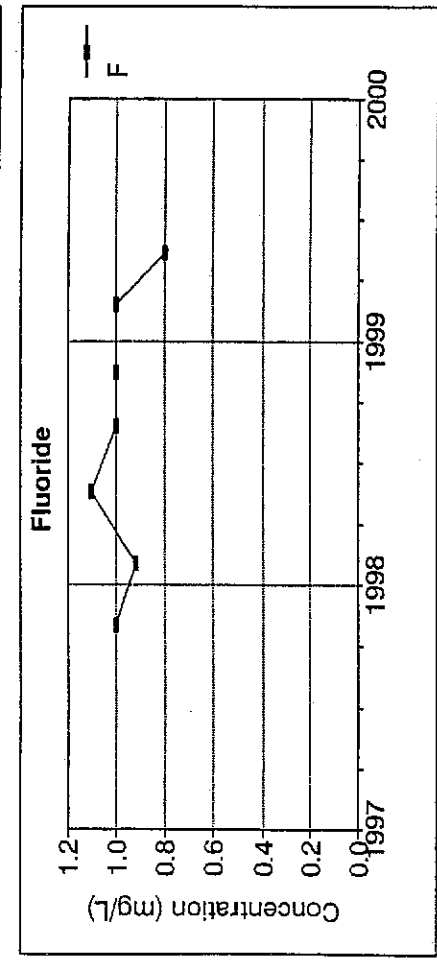
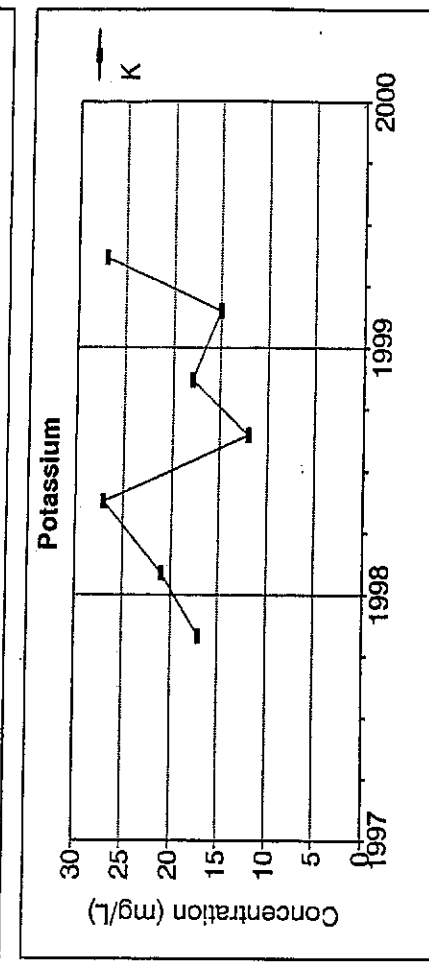
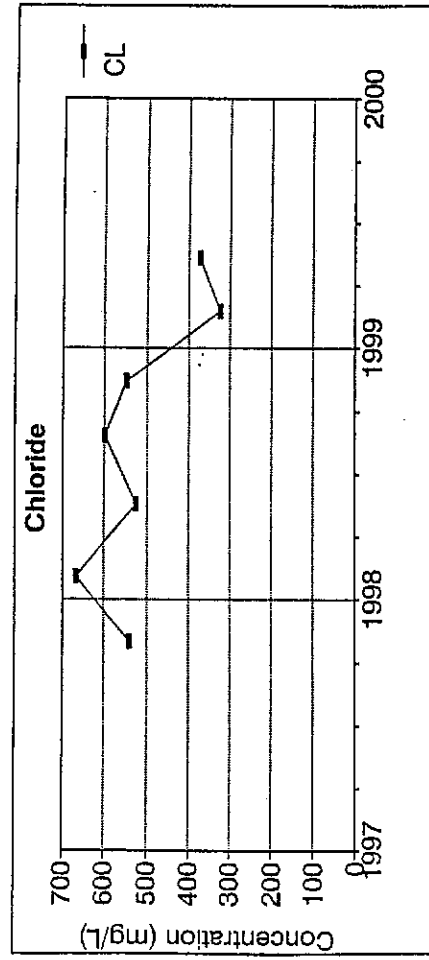
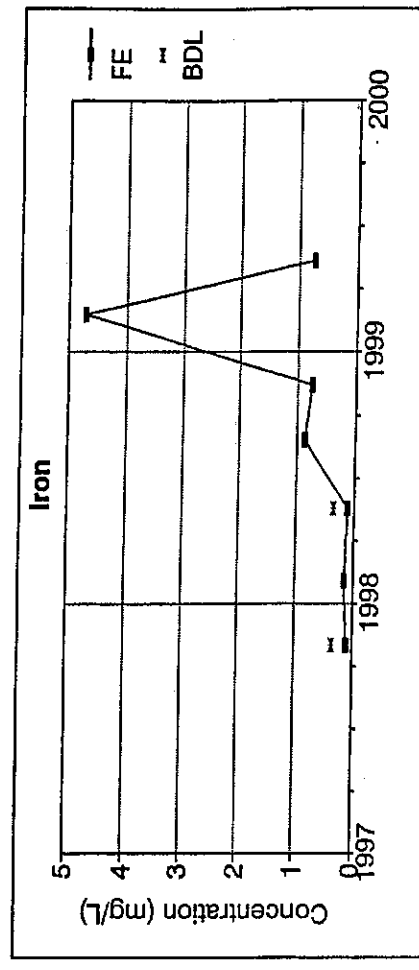
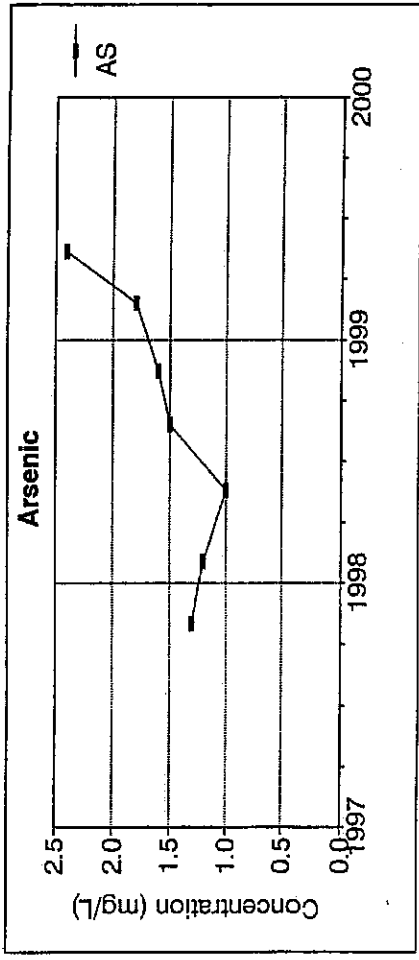


BDL - Below Analytical Detection Limit

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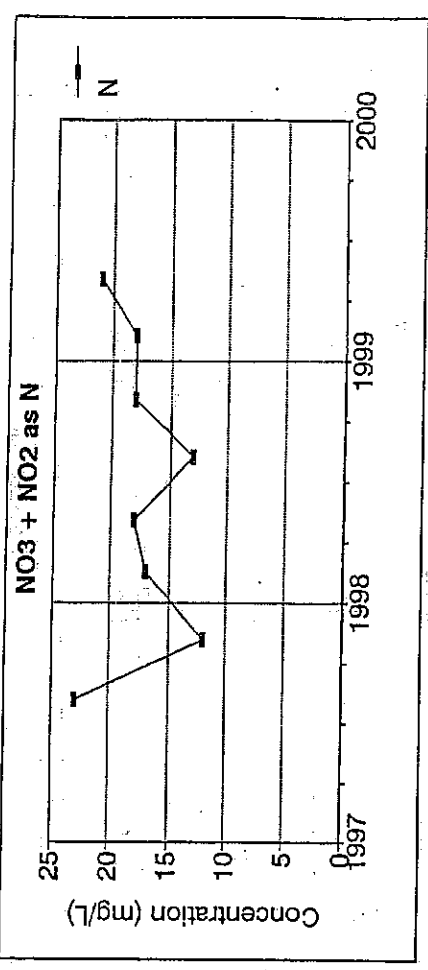
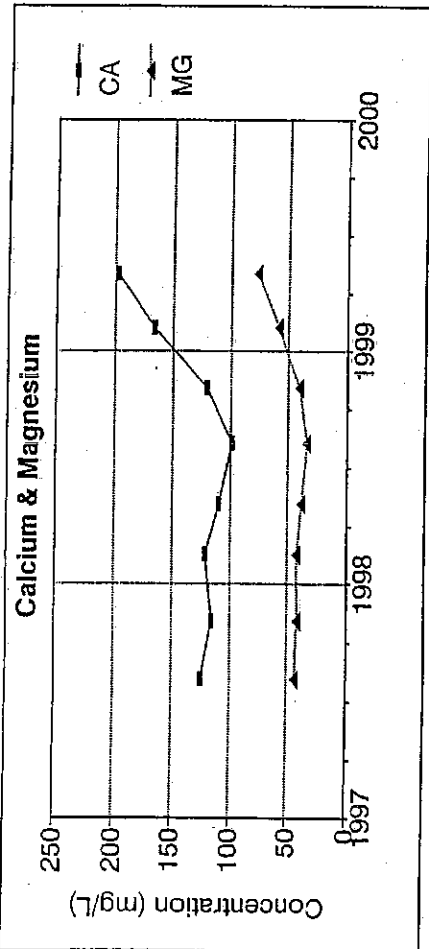
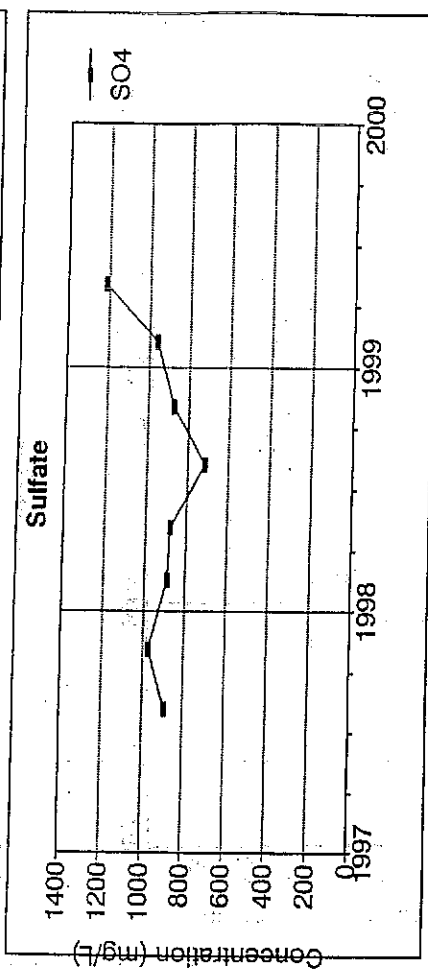
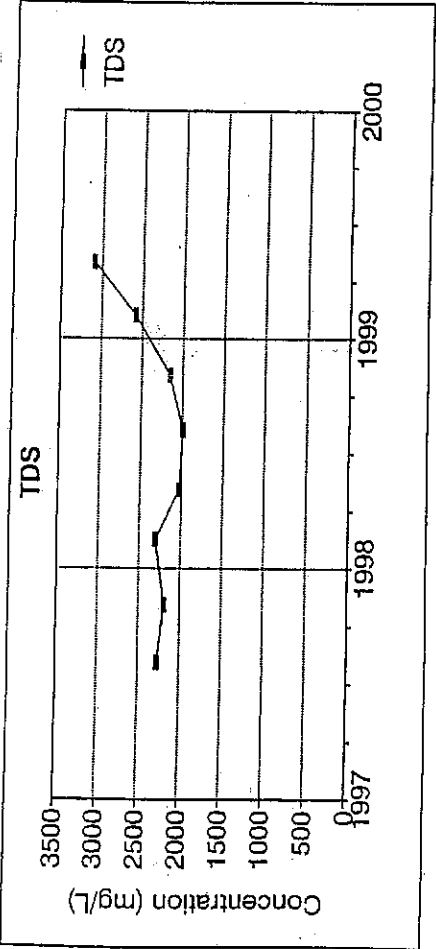
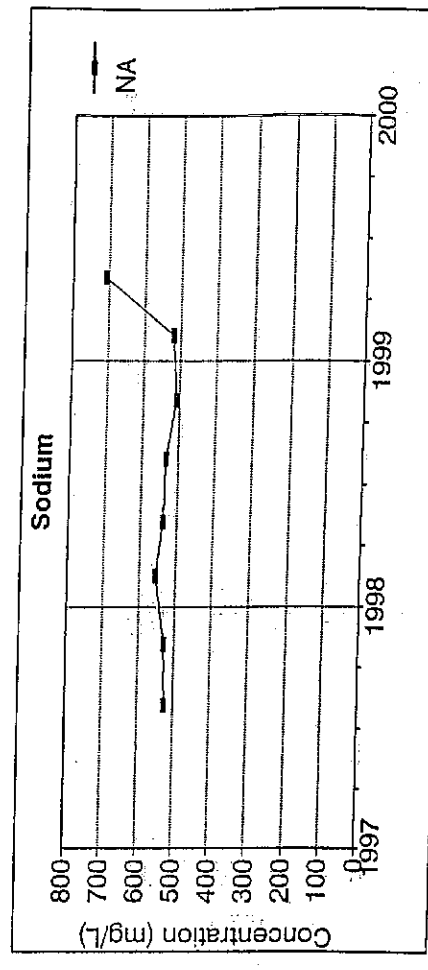
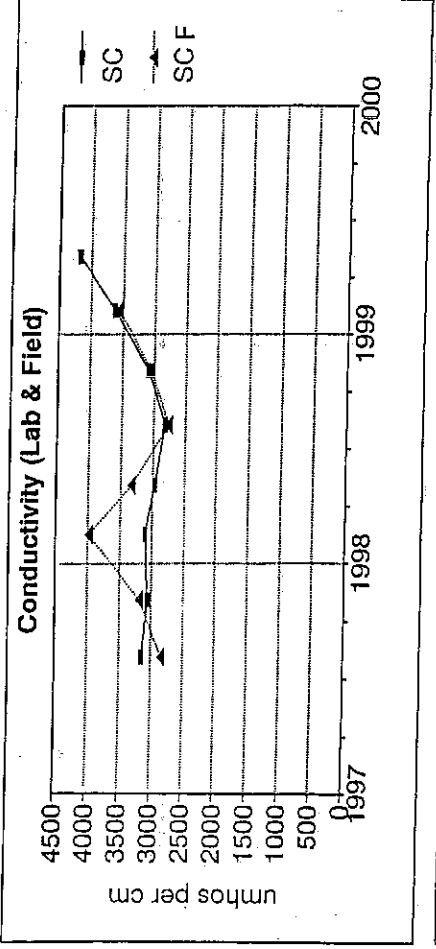


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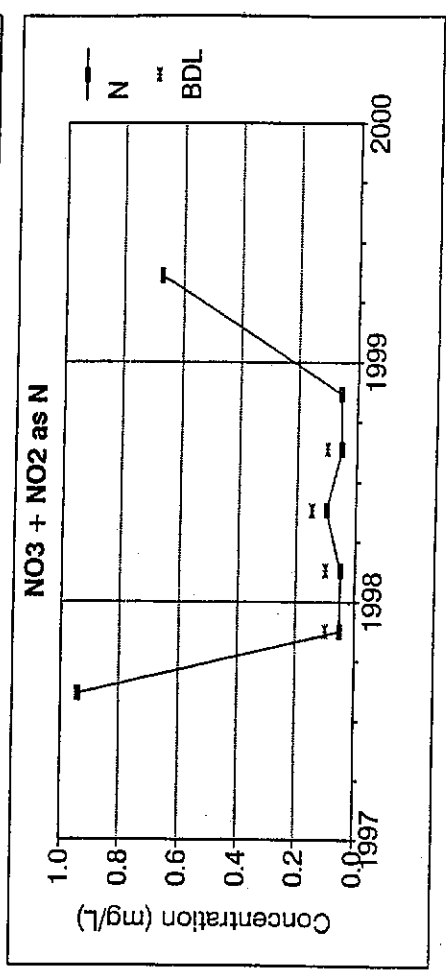
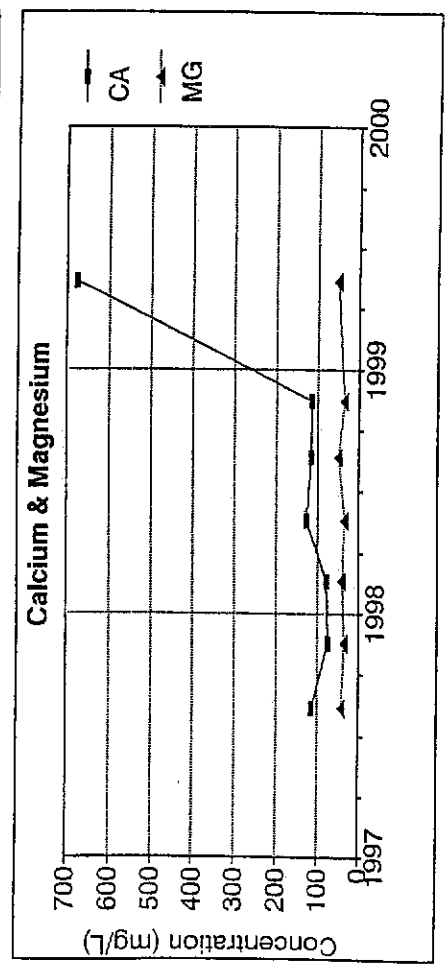
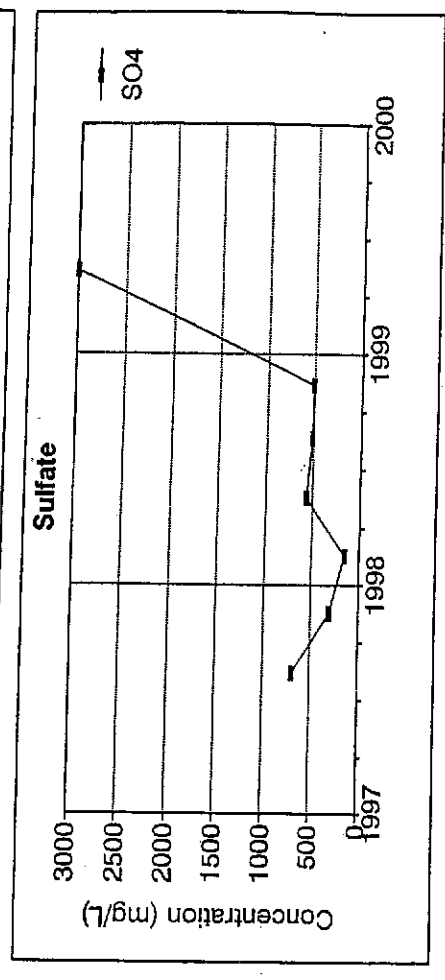
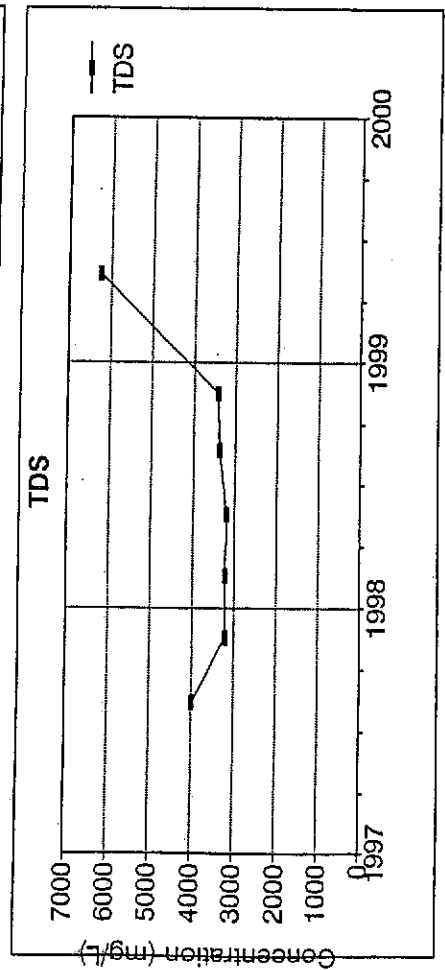
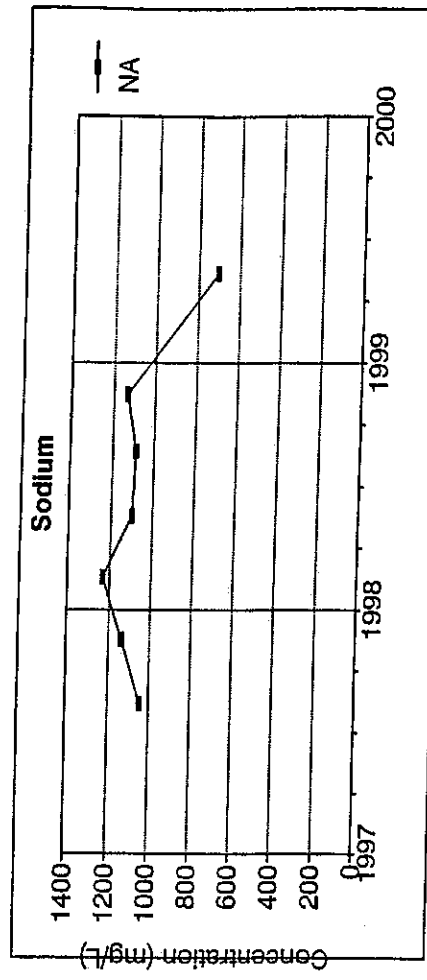
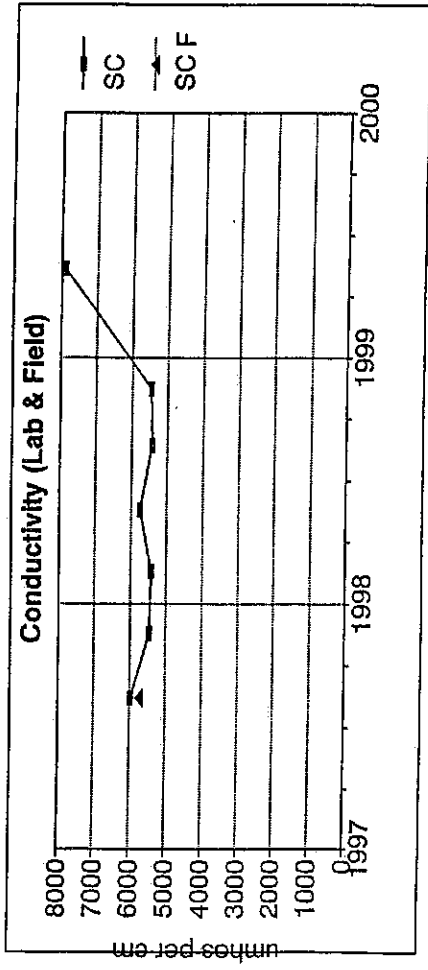


BDL - Below Analytical Detection Limit

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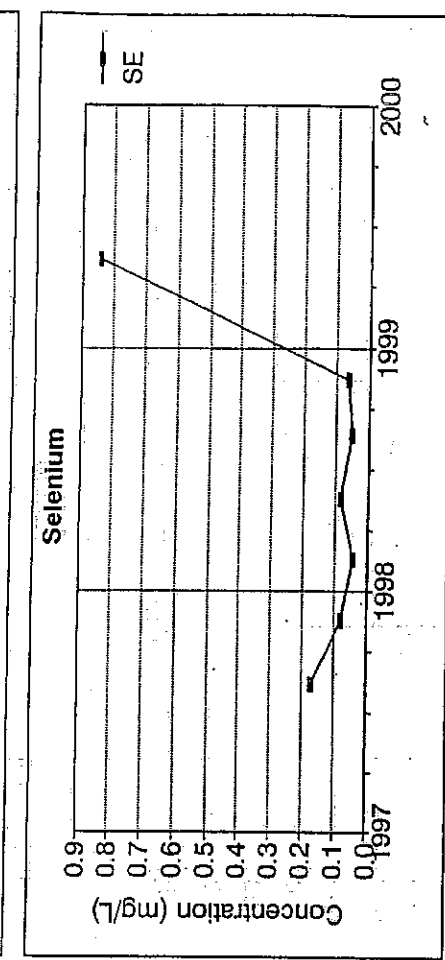
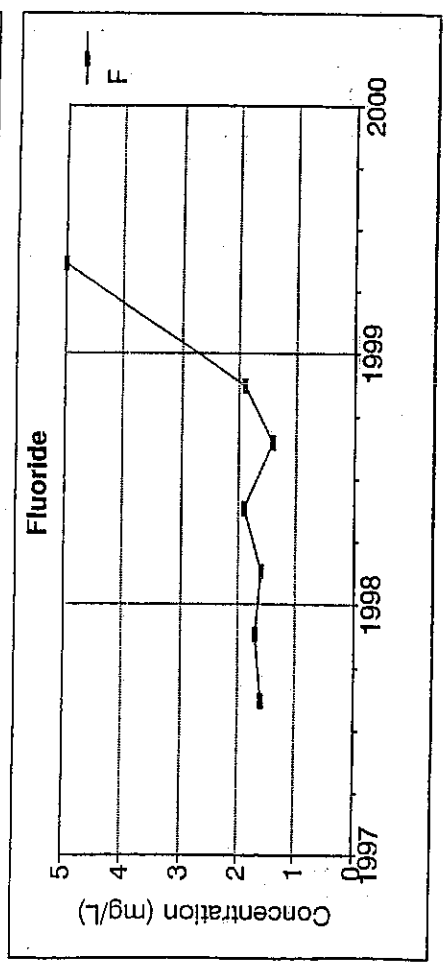
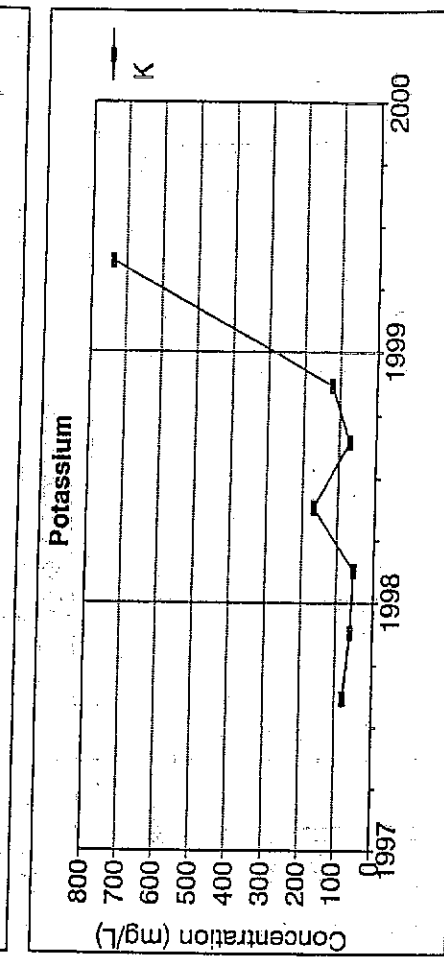
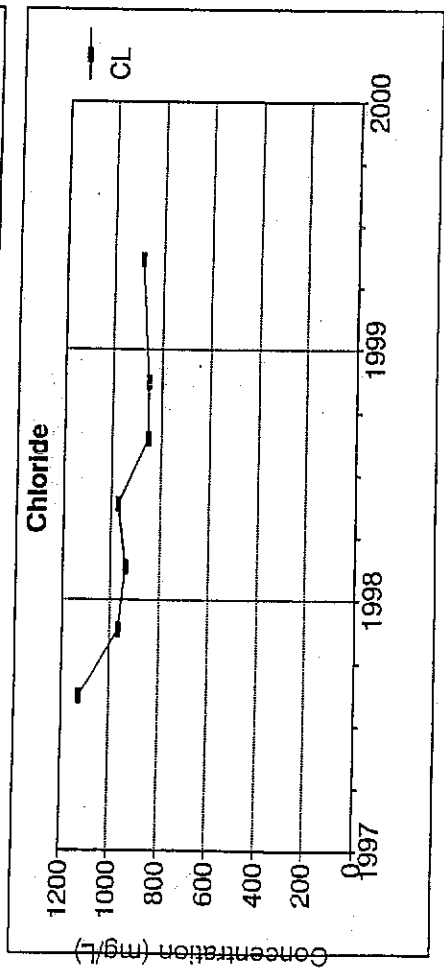
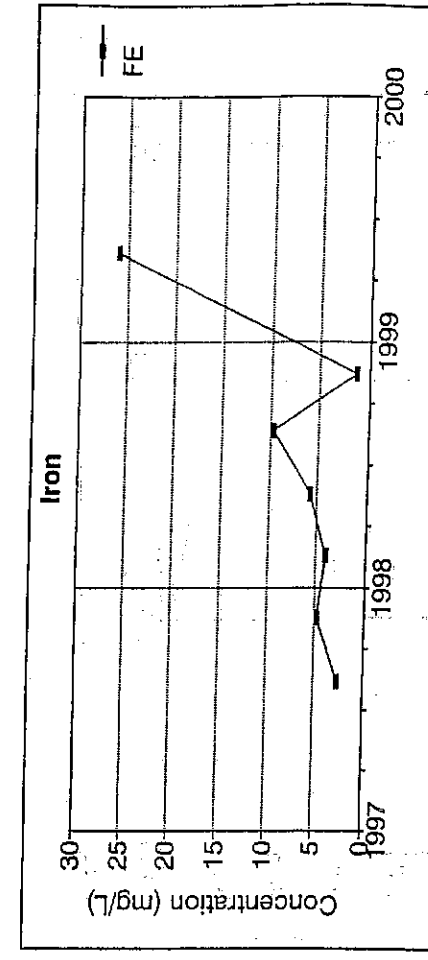
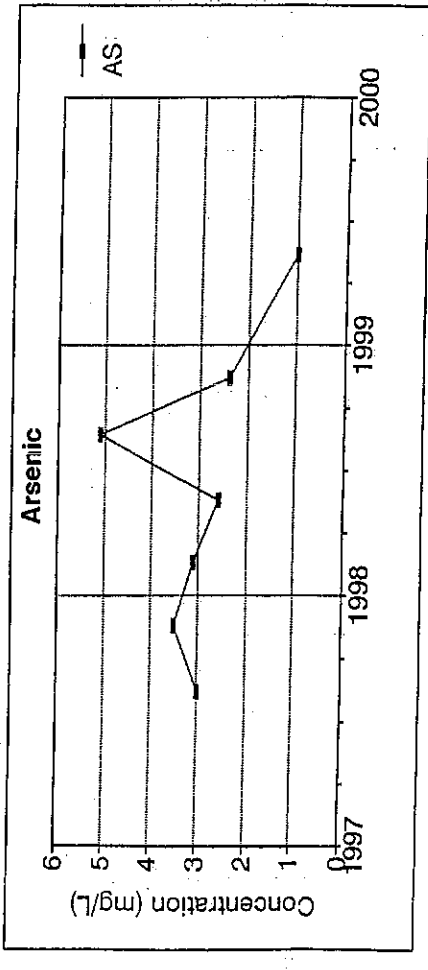


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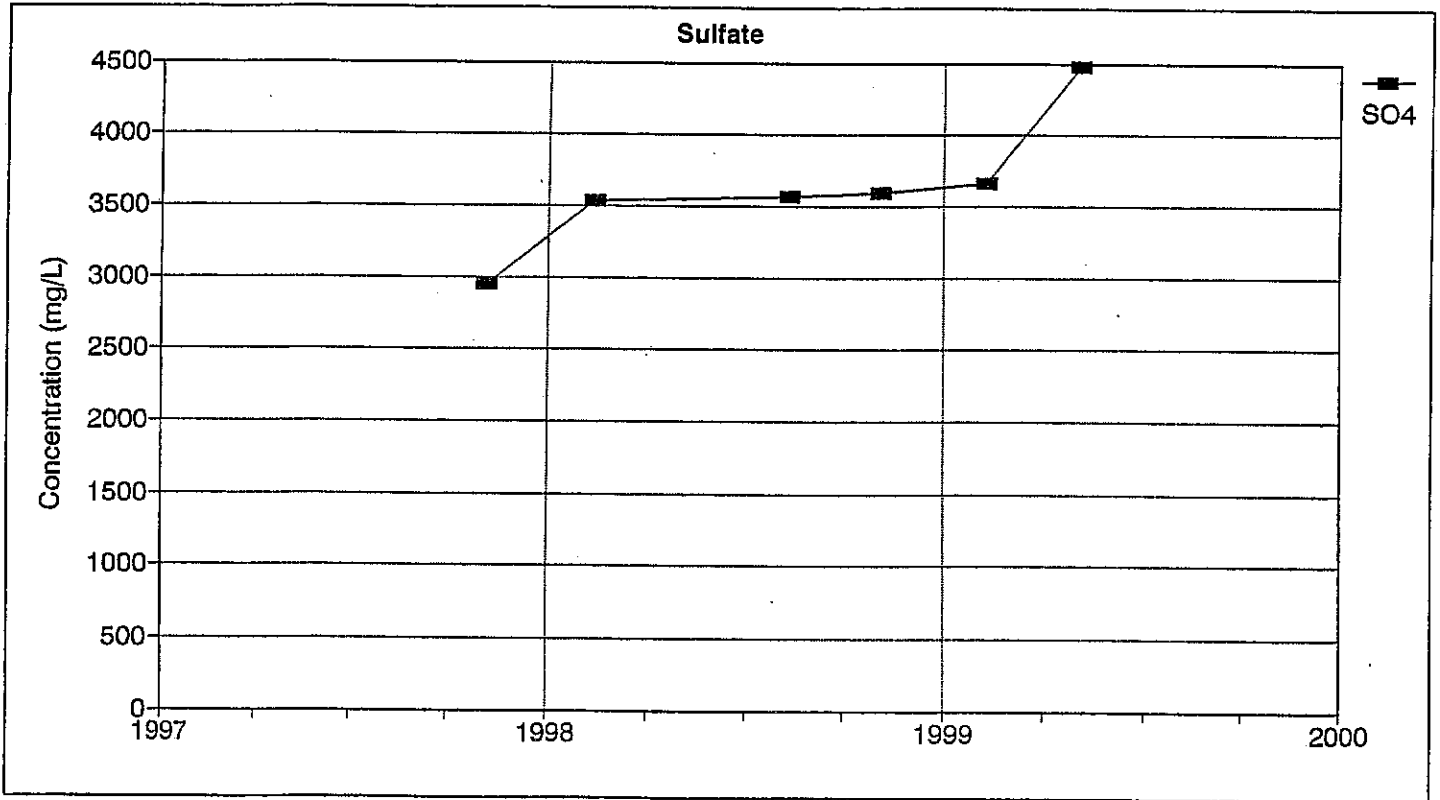
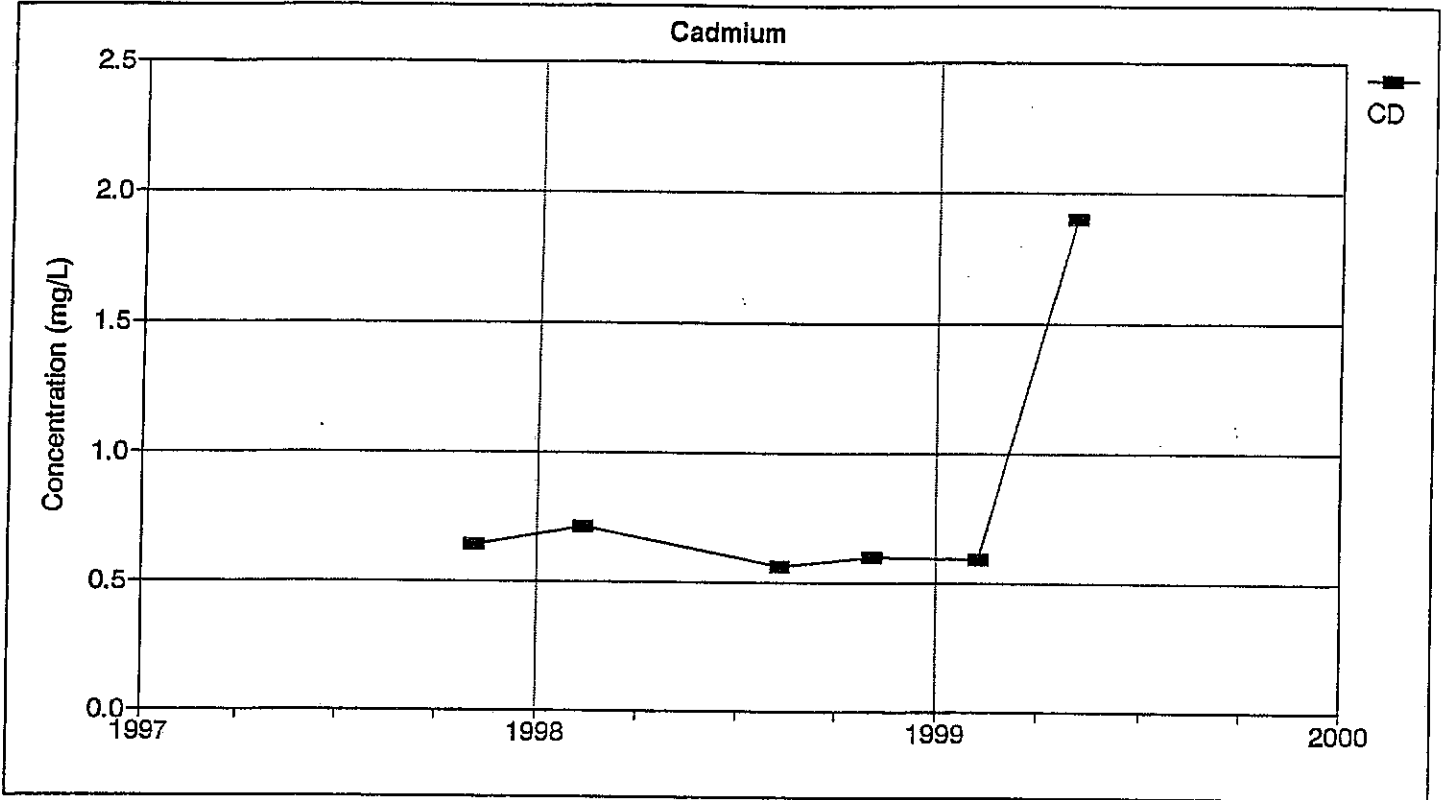


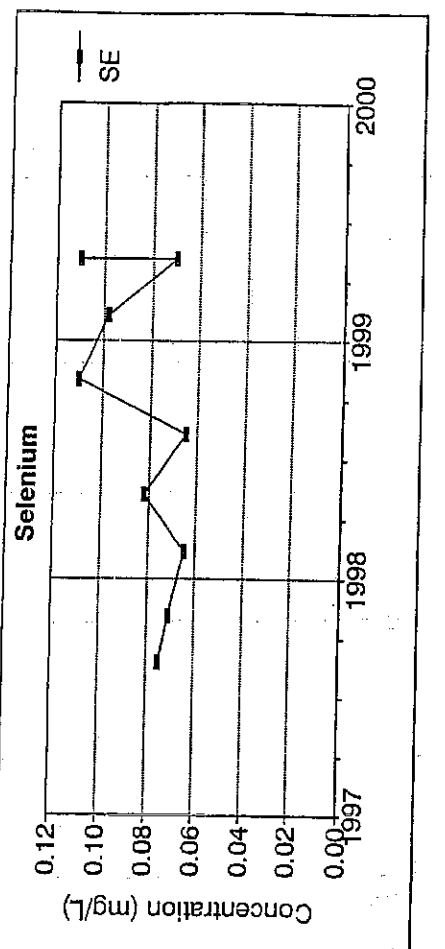
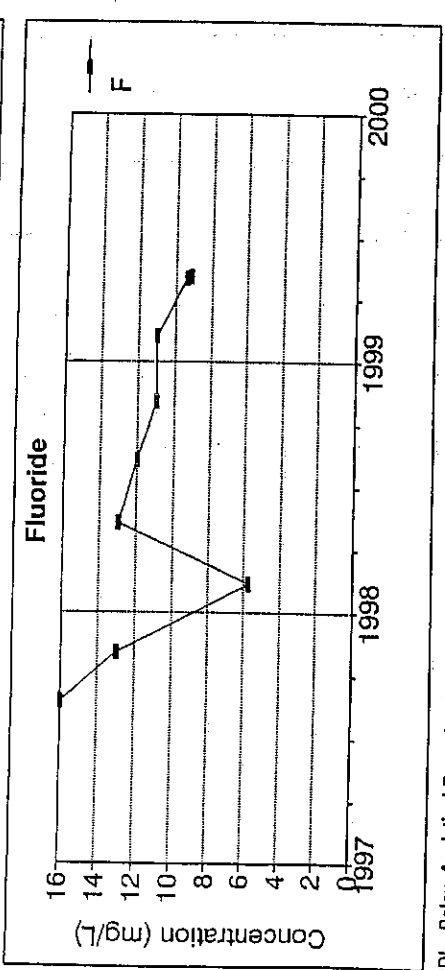
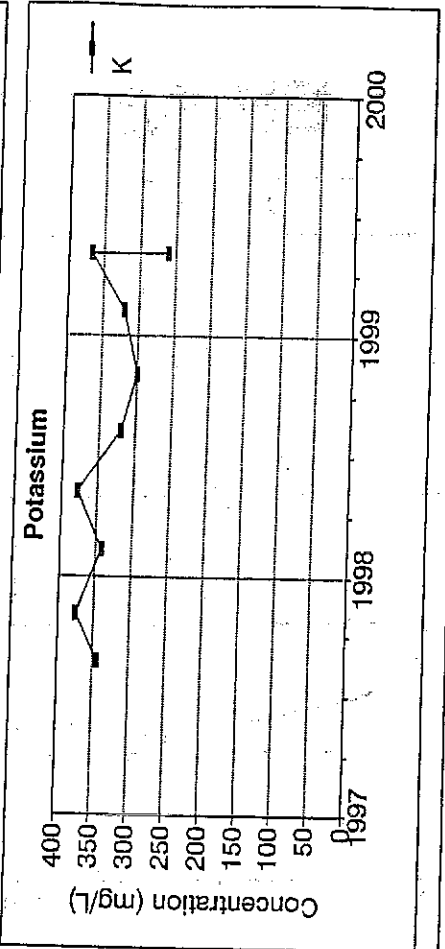
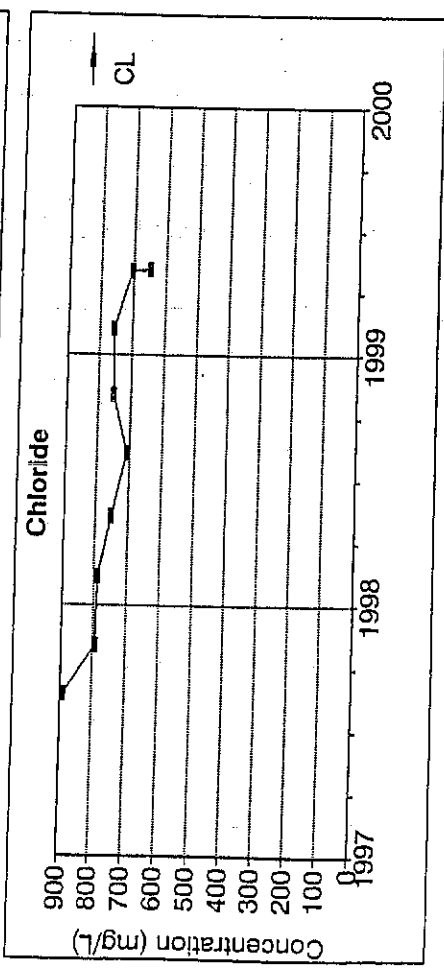
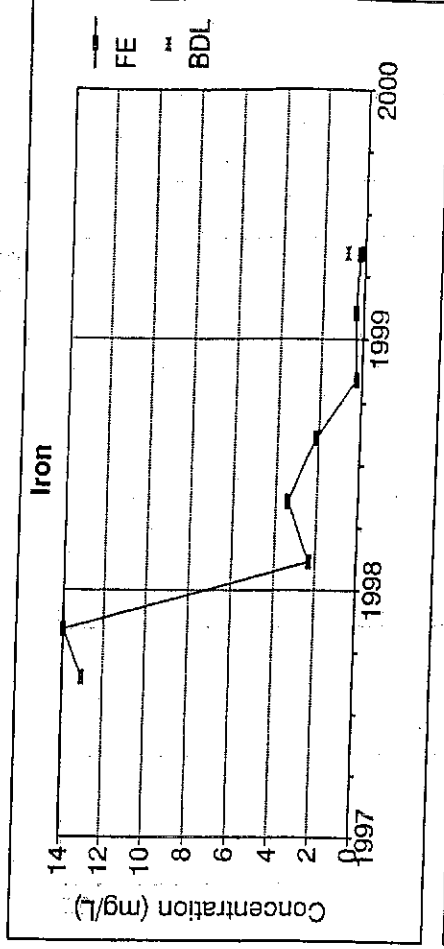
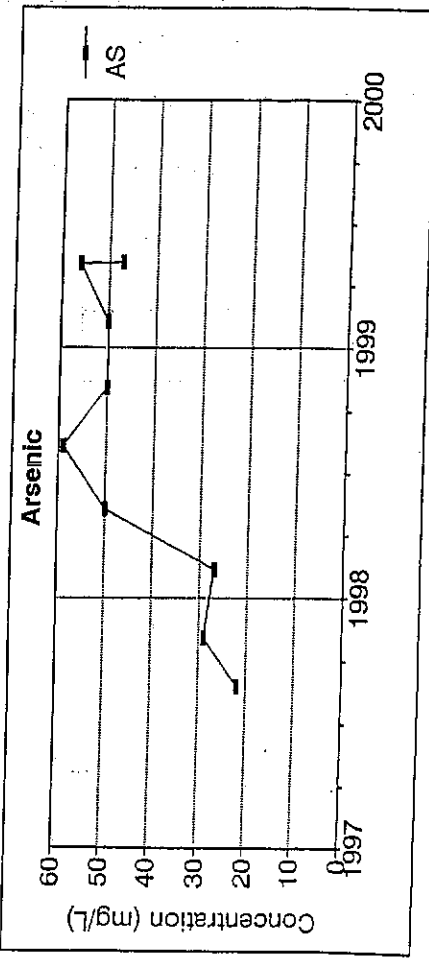
BDL - Below Analytical Detection Limit

EP-25



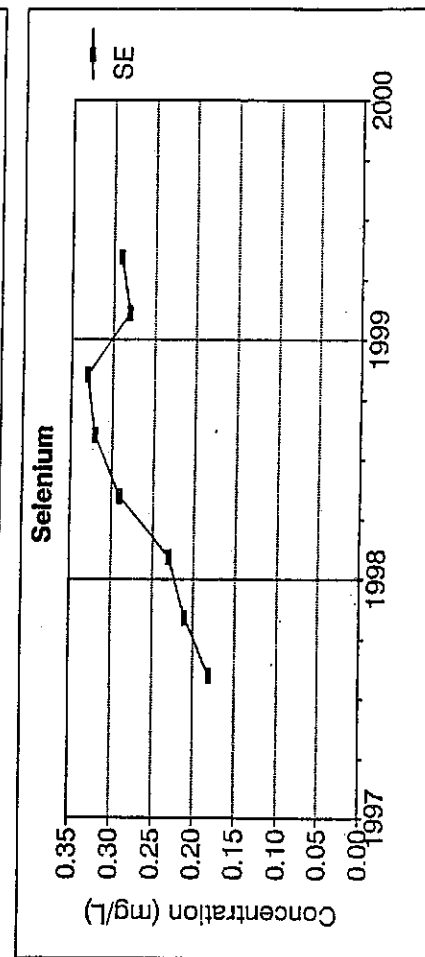
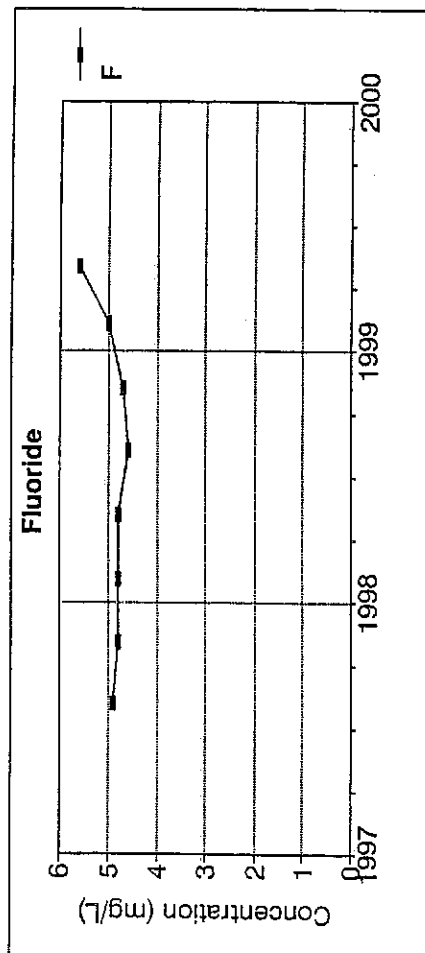
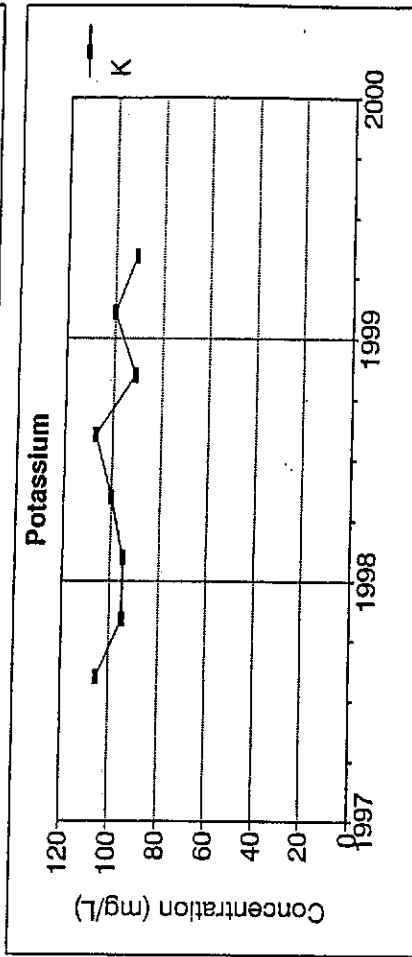
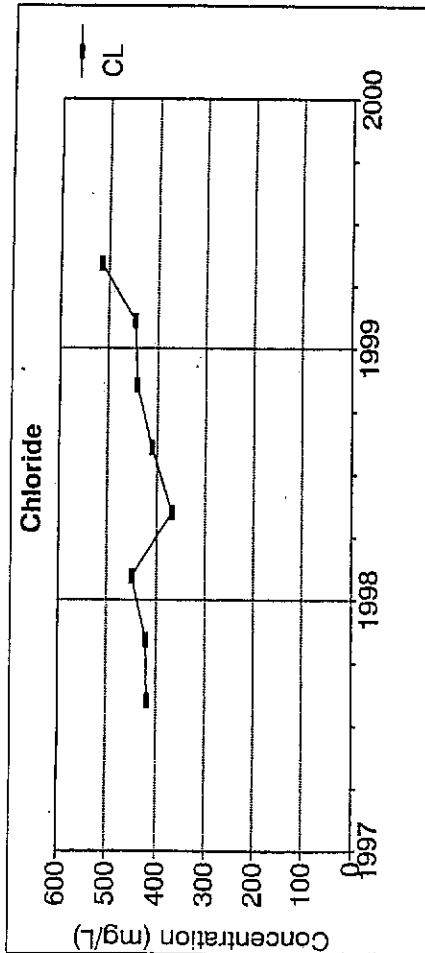
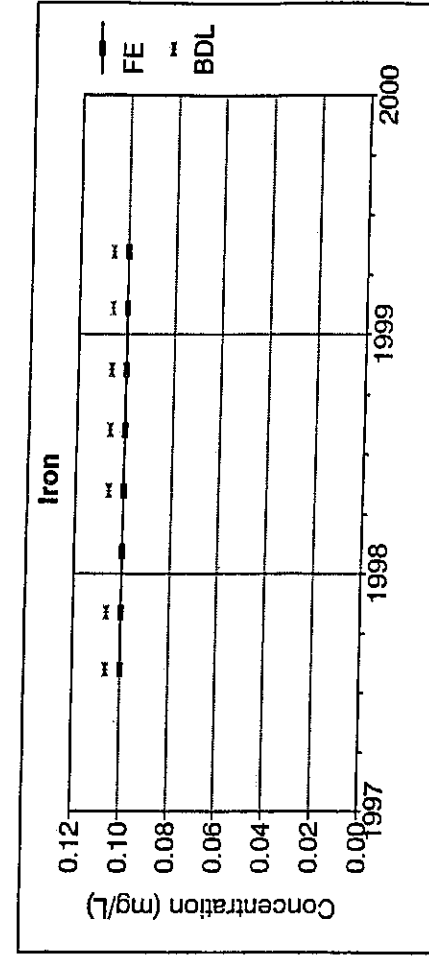
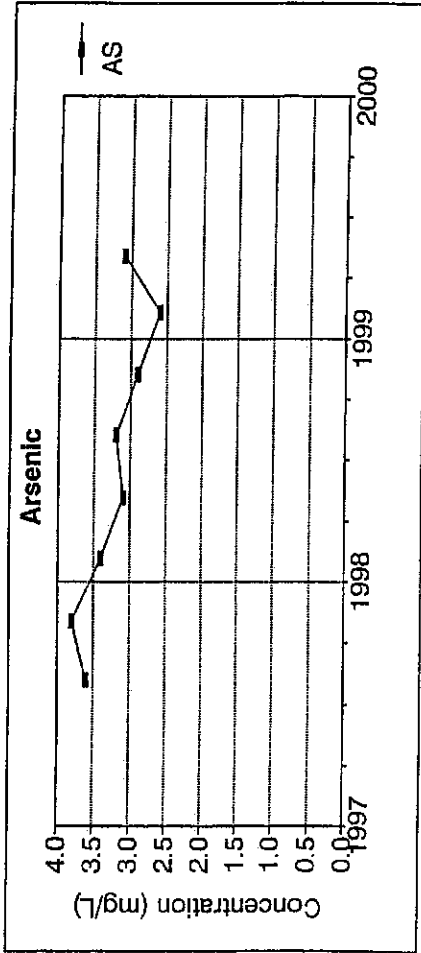
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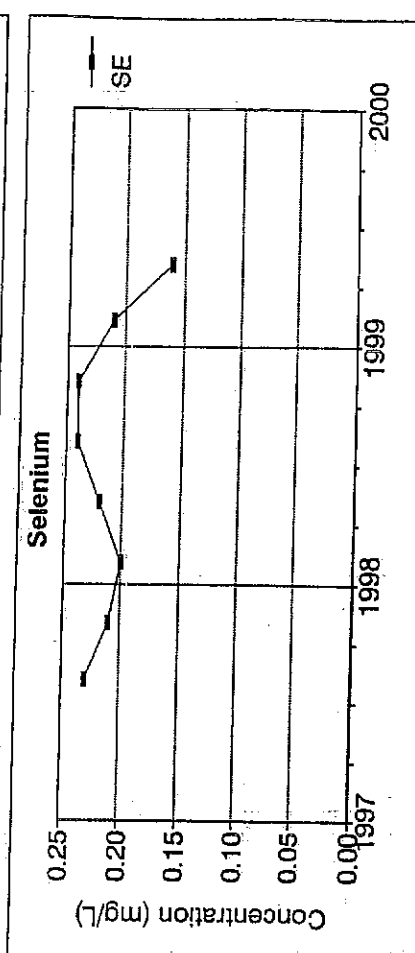
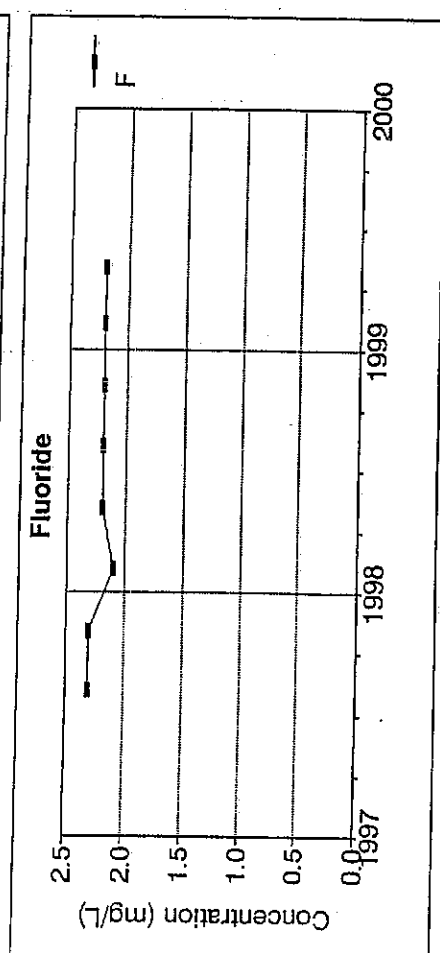
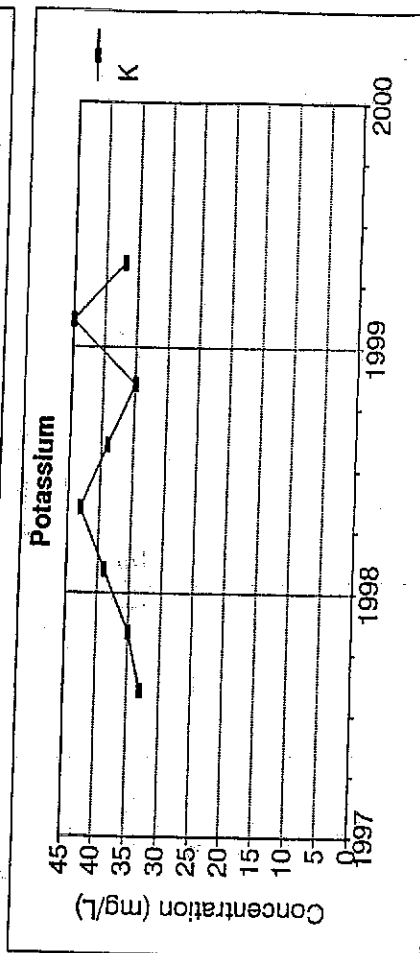
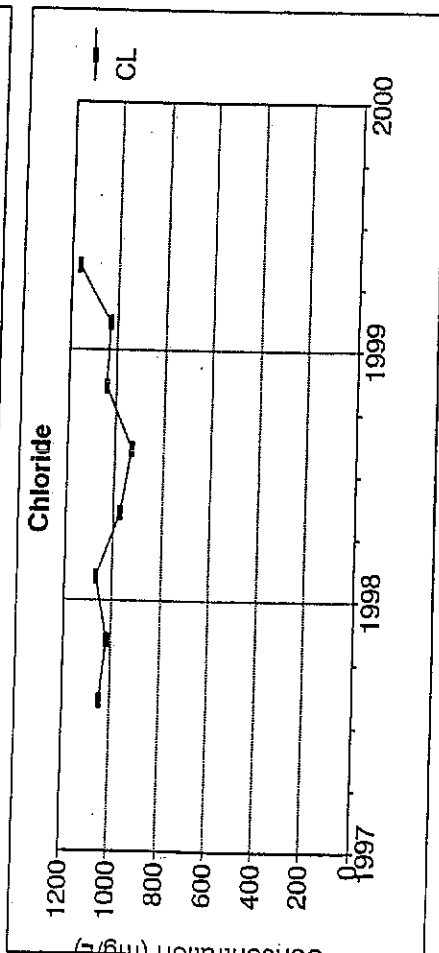
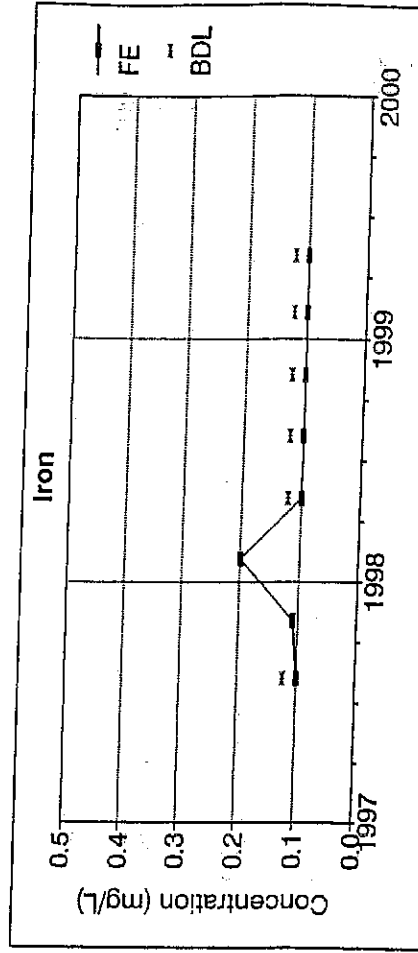
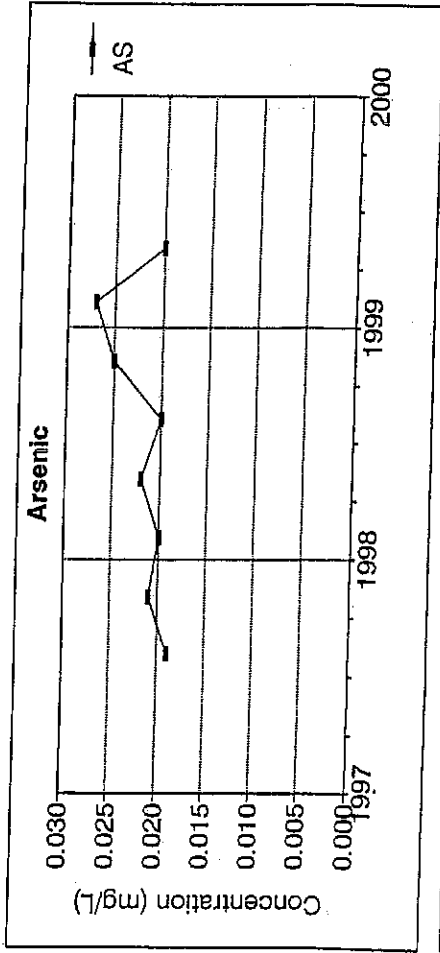


BDL - Below Analytical Detection Limit

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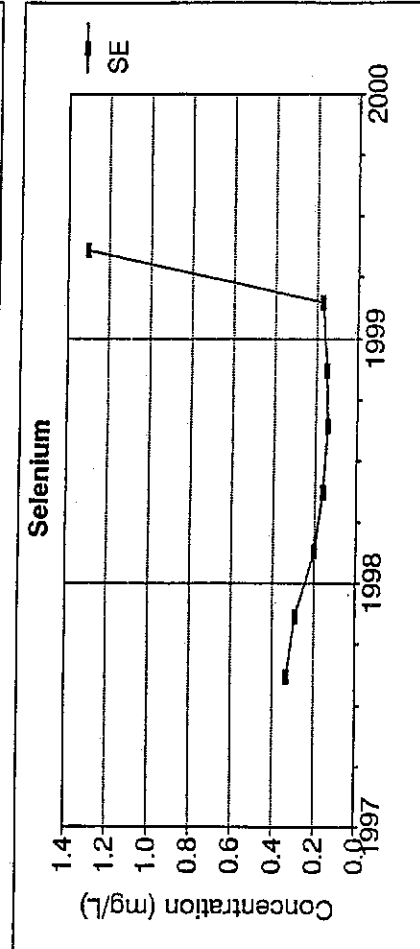
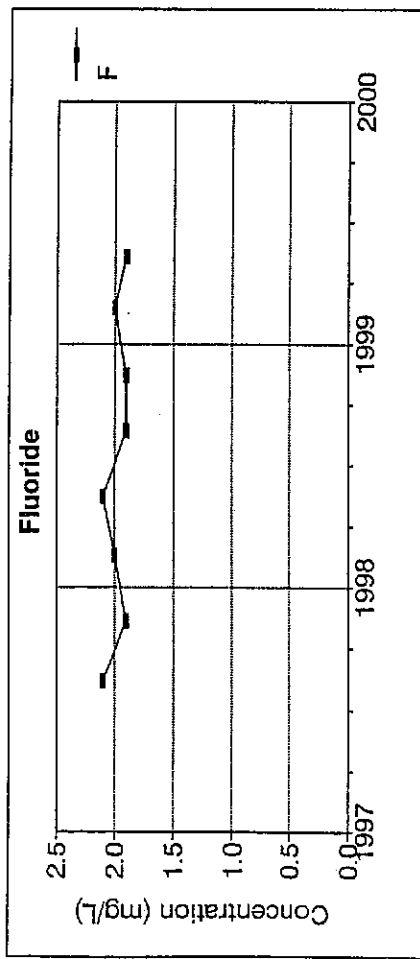
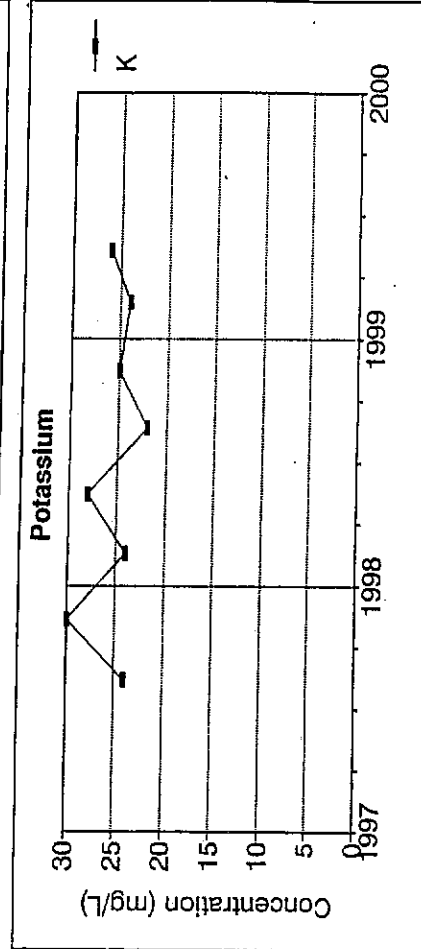
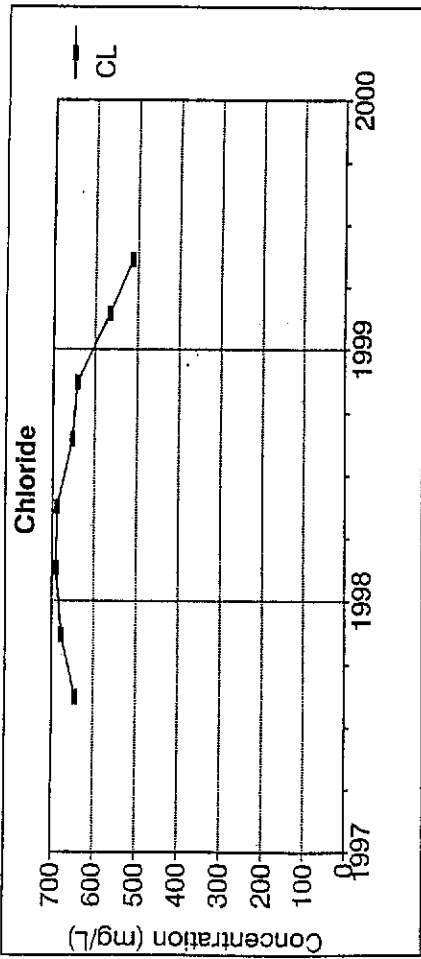
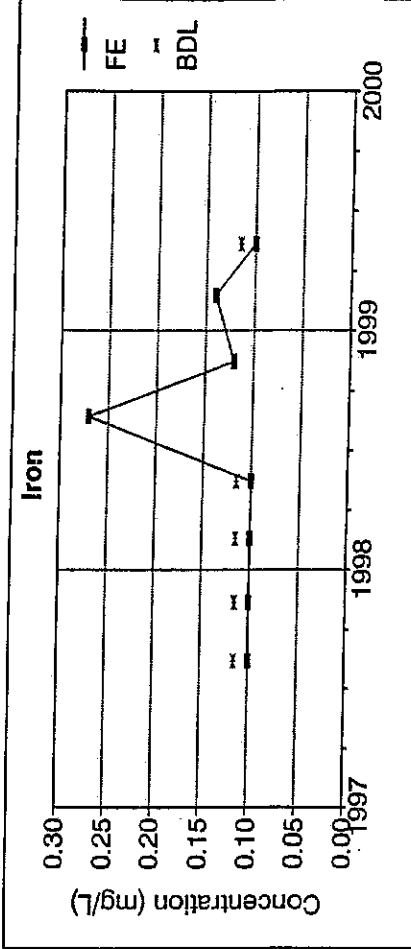
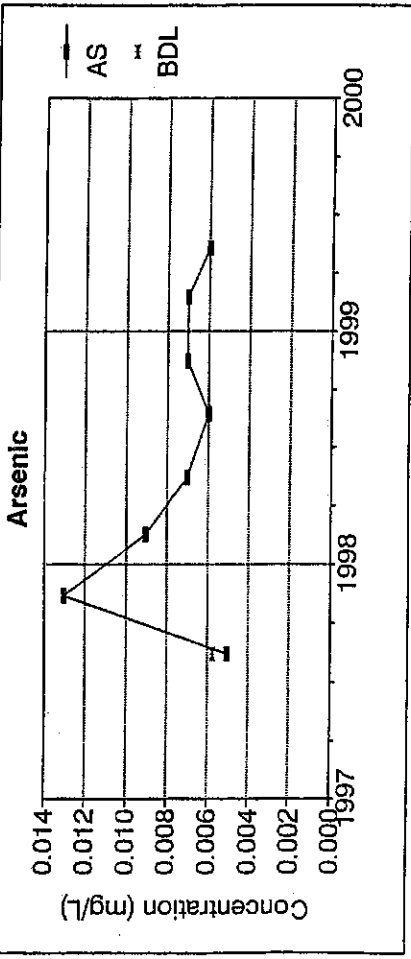


BDL - Below Analytical Detection Limit

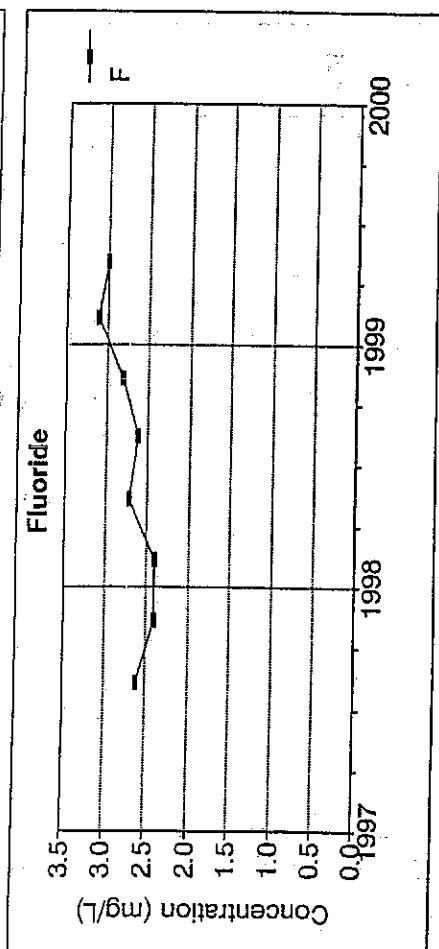
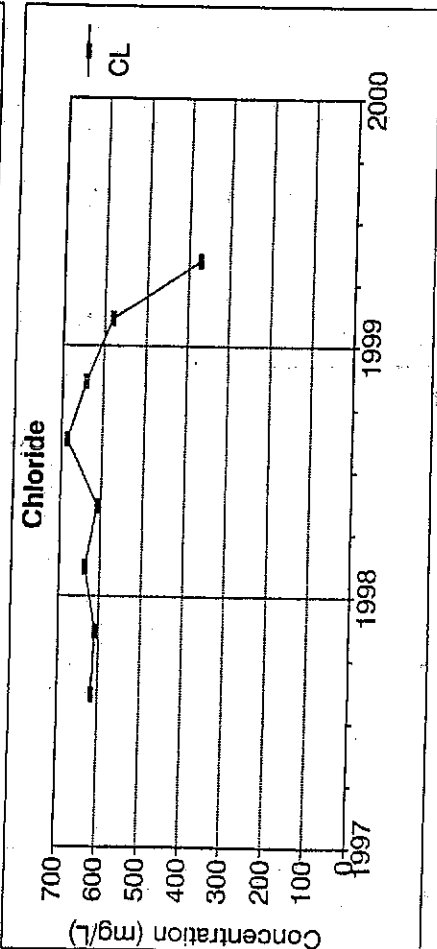
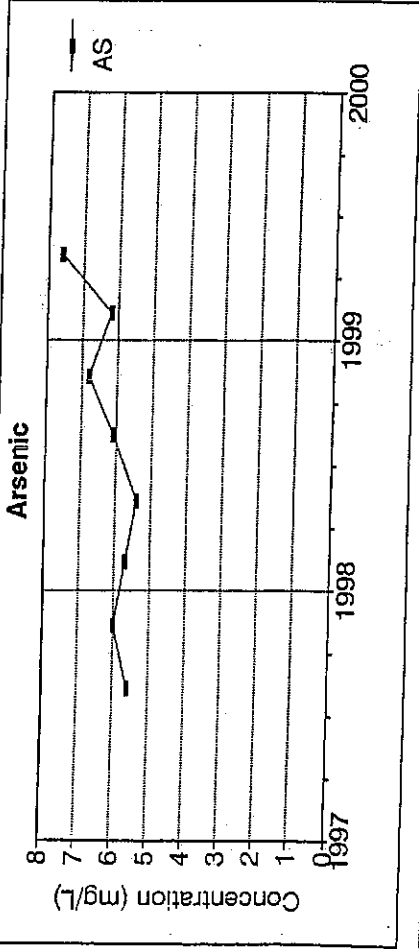


BDL - Below Analytical Detection Limit

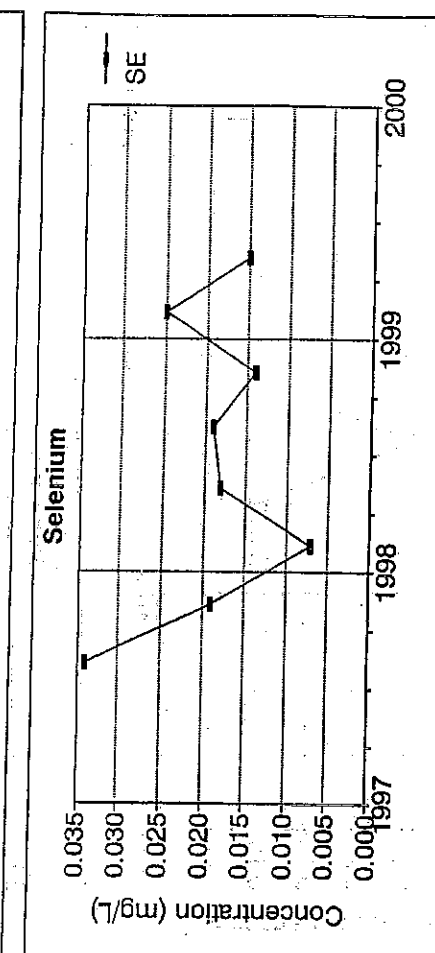
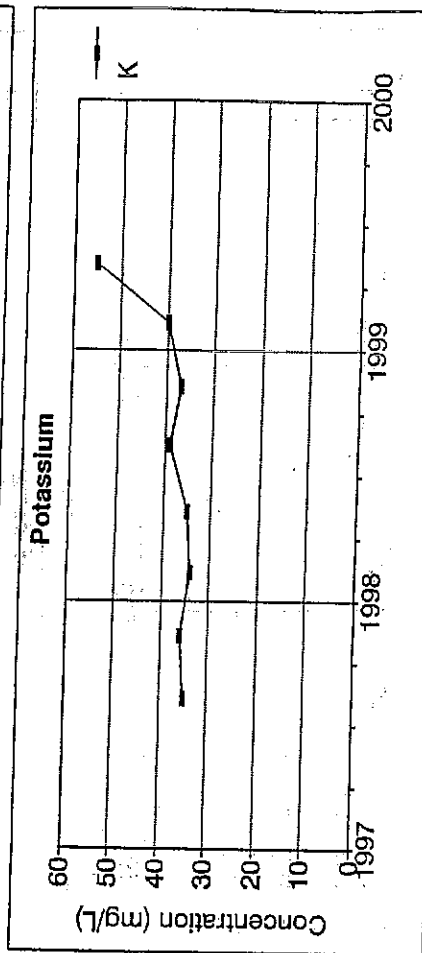
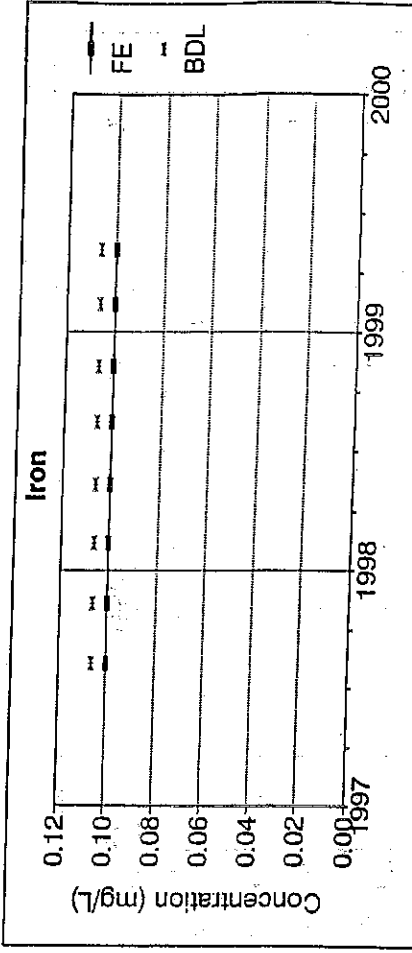
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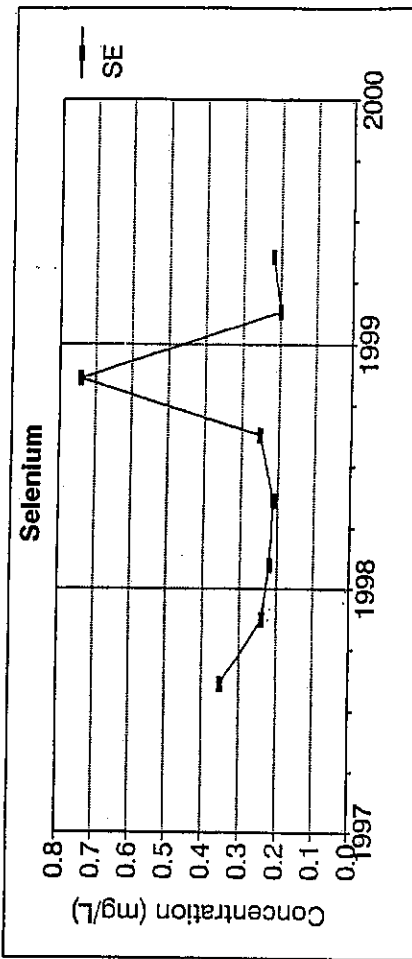
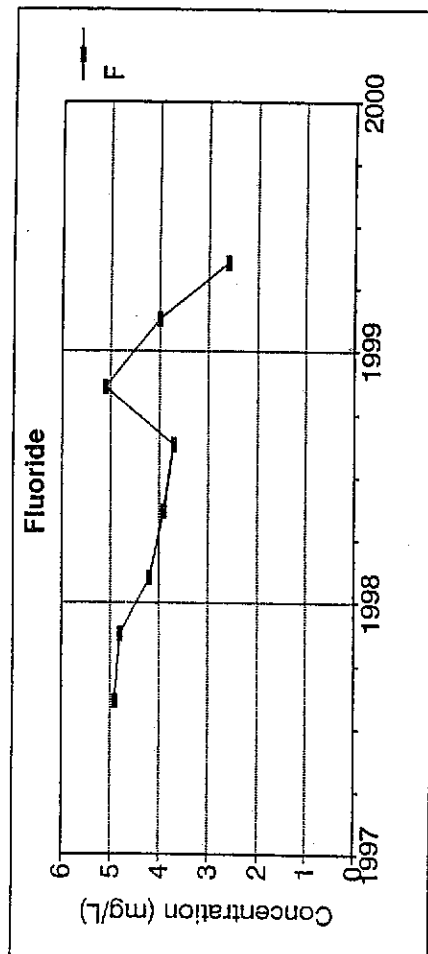
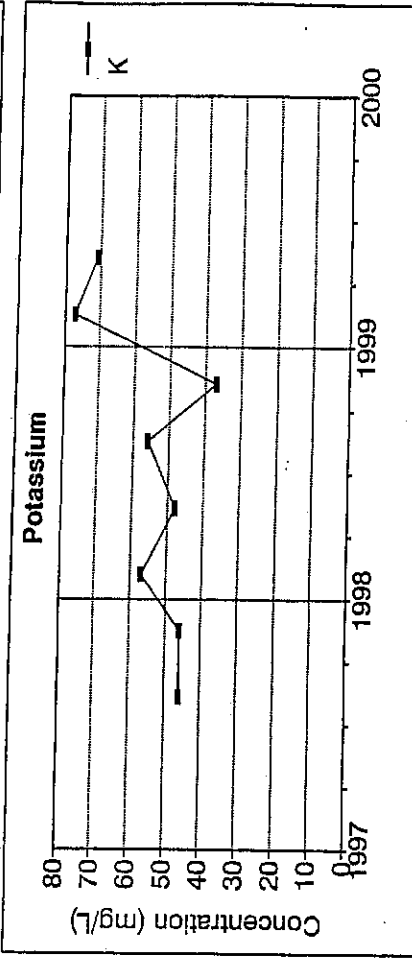
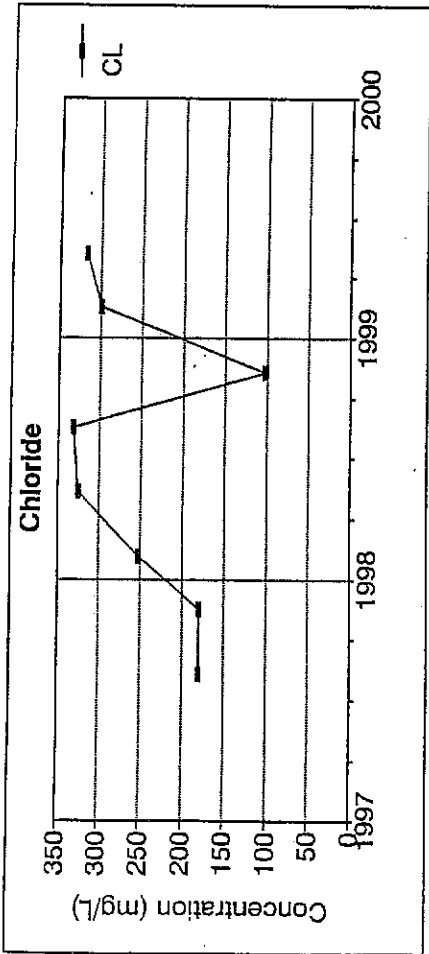
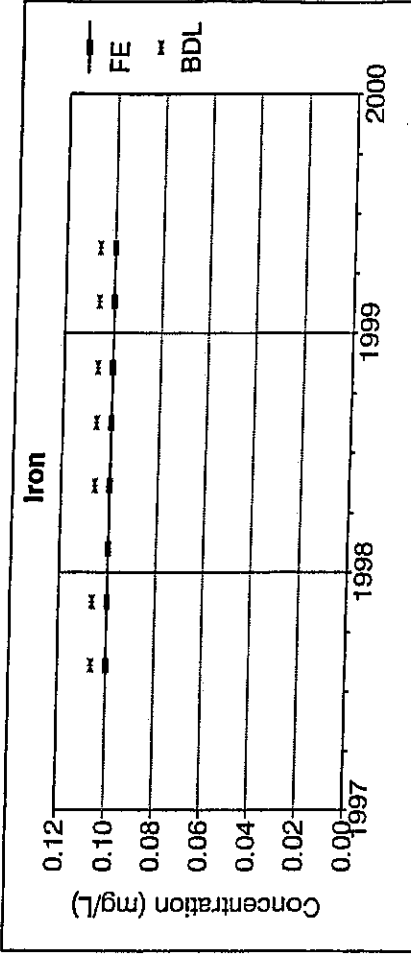
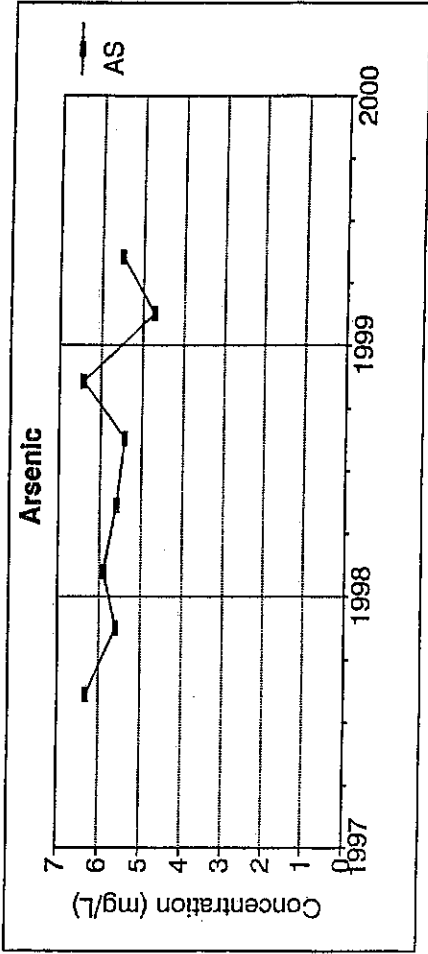
BDL - Below Analytical Detection Limit



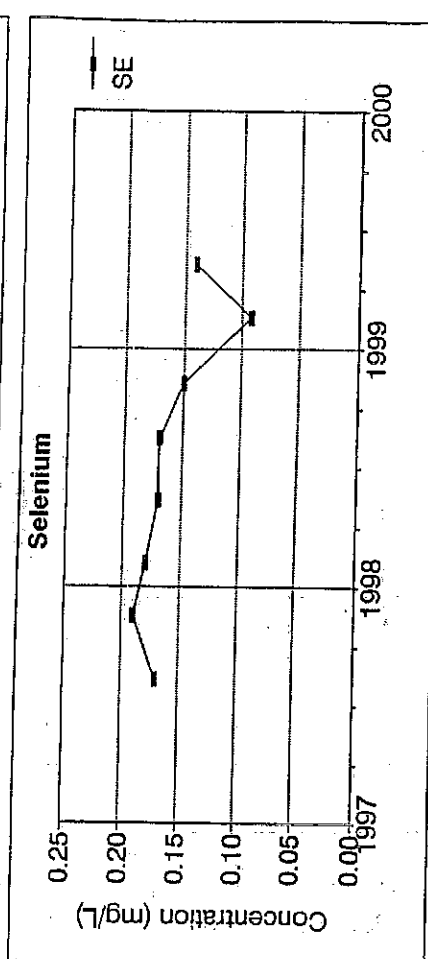
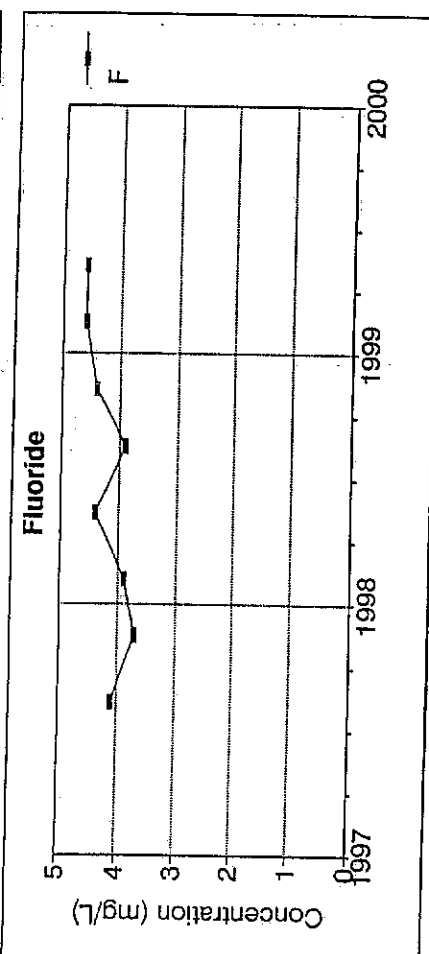
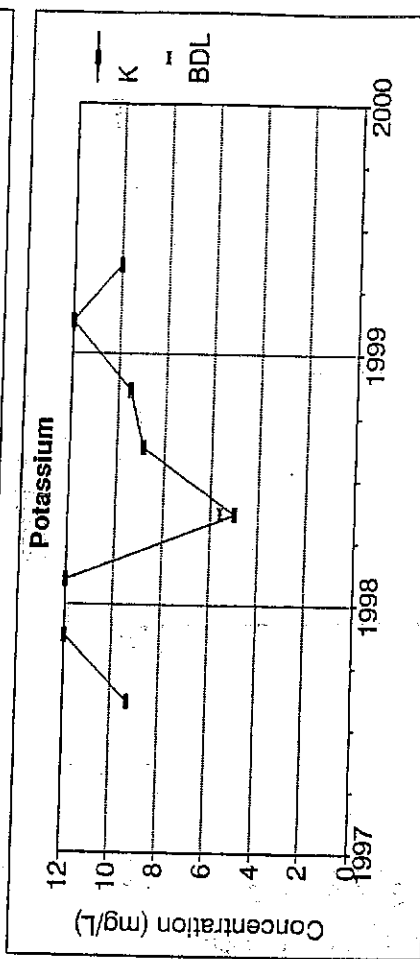
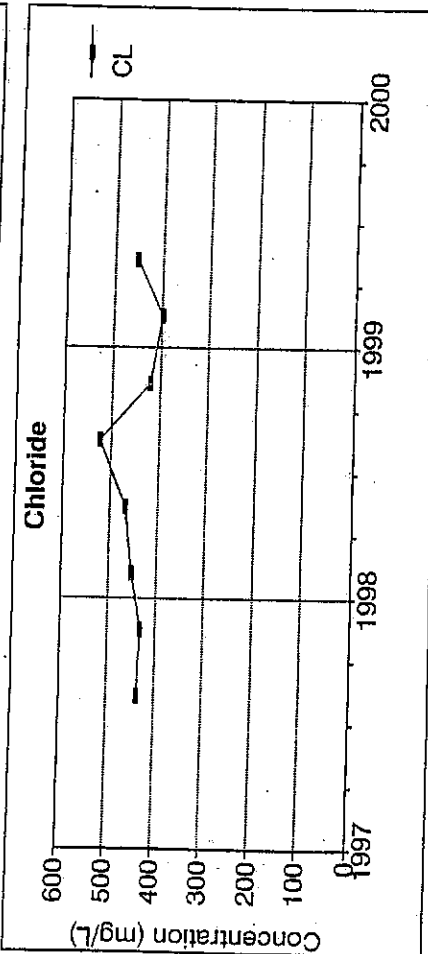
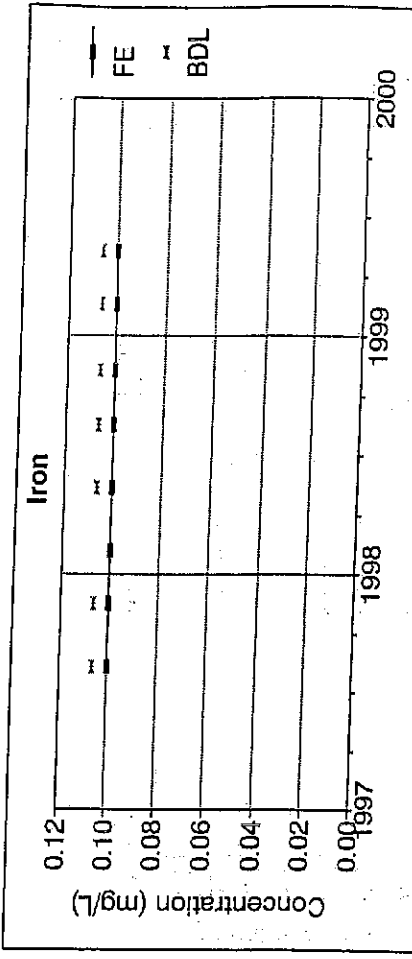
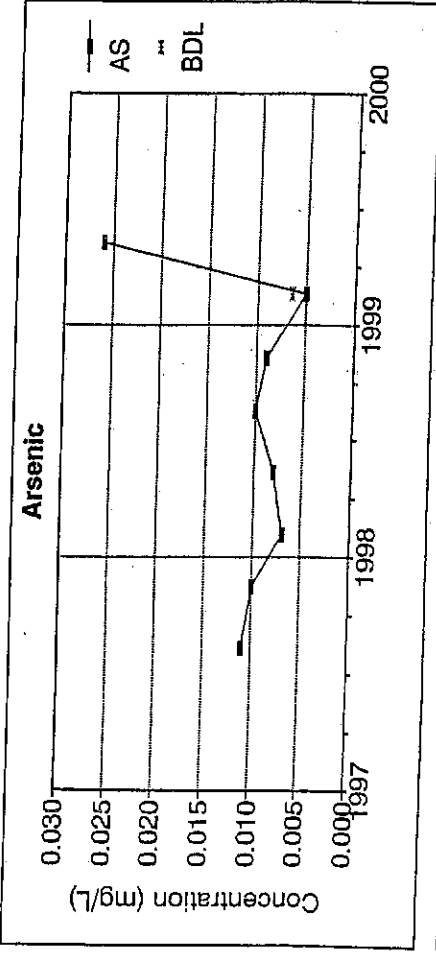
BDL - Below Analytical Detection Limit



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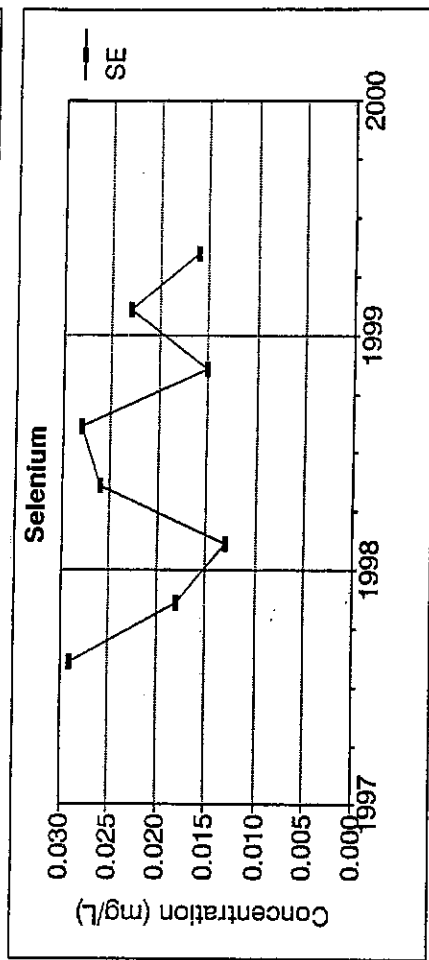
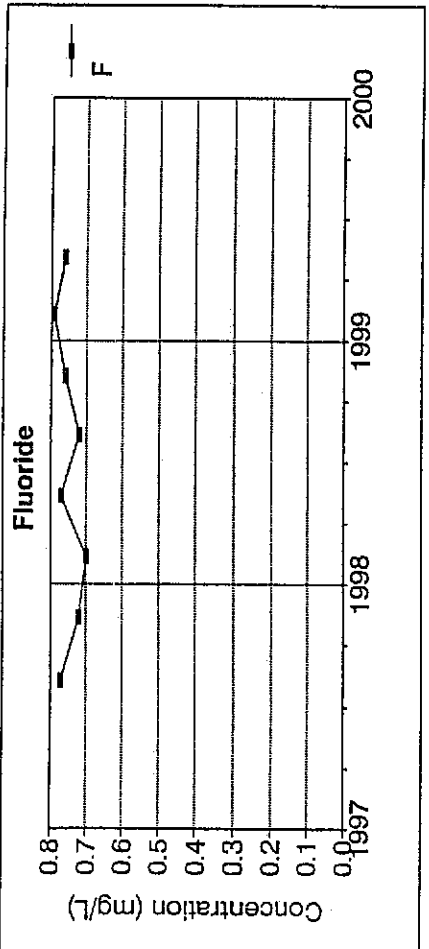
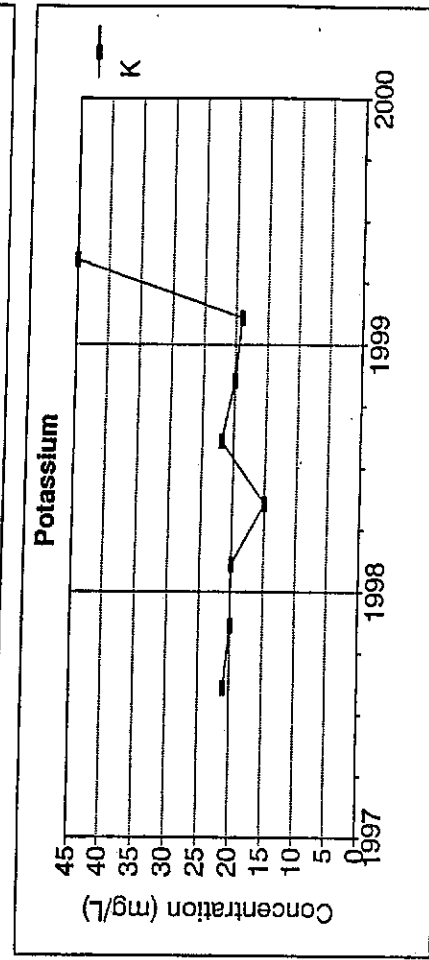
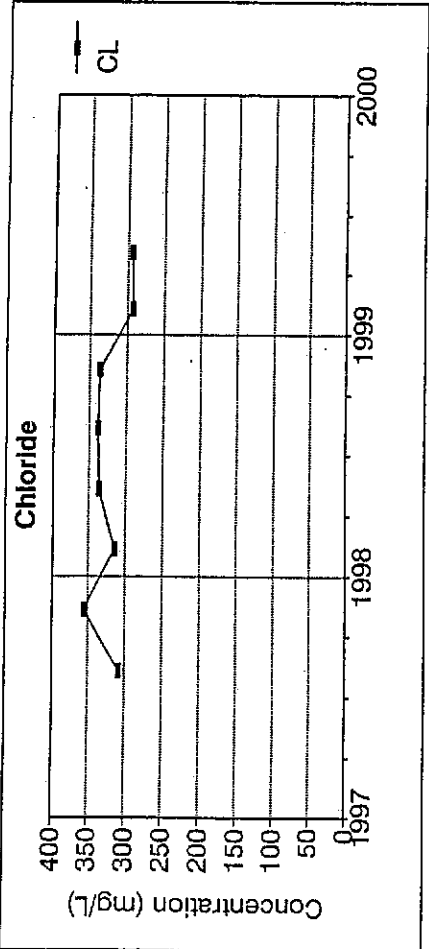
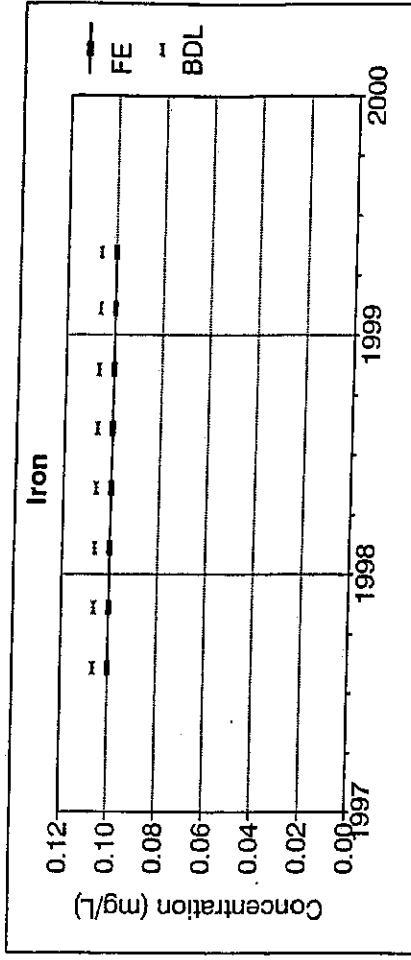
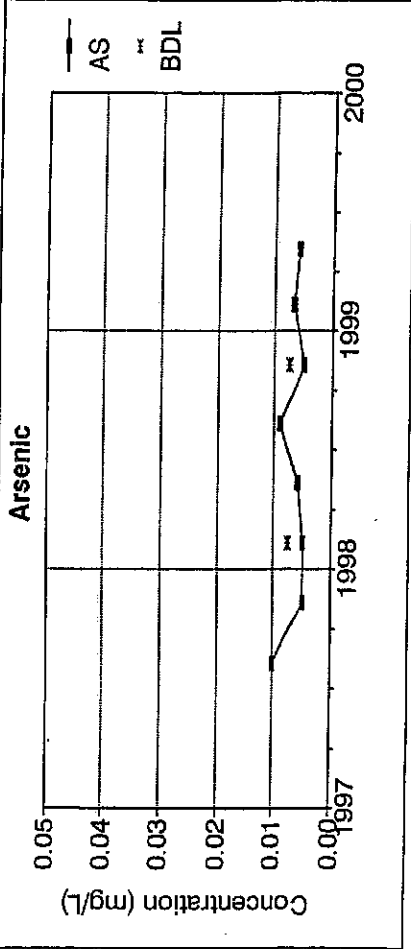


BDL - Below Analytical Detection Limit



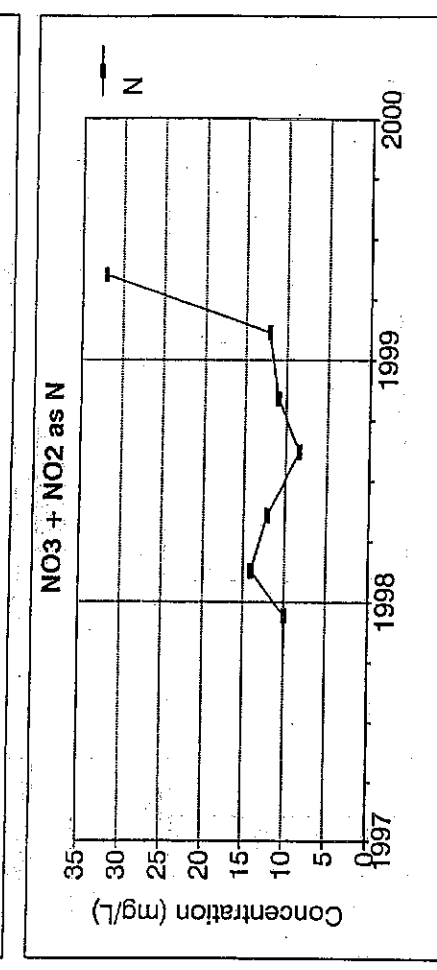
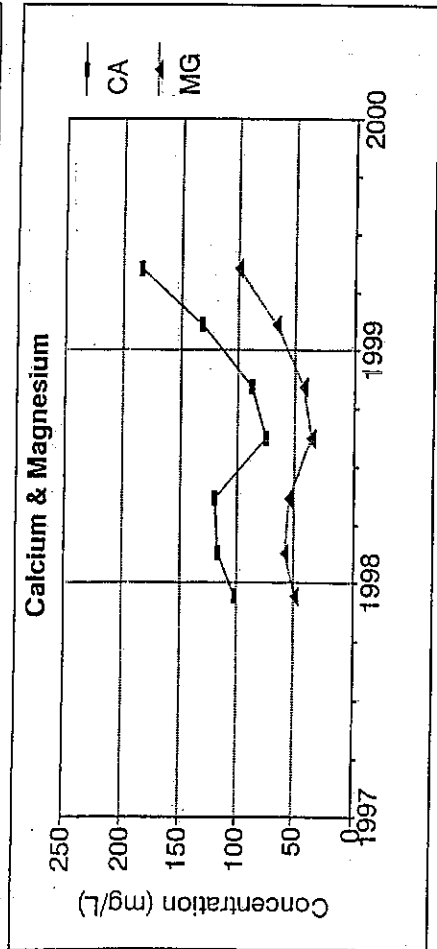
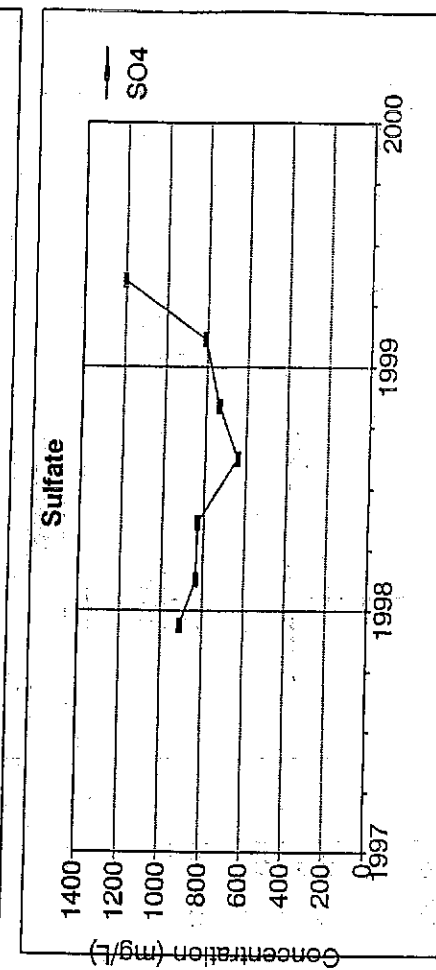
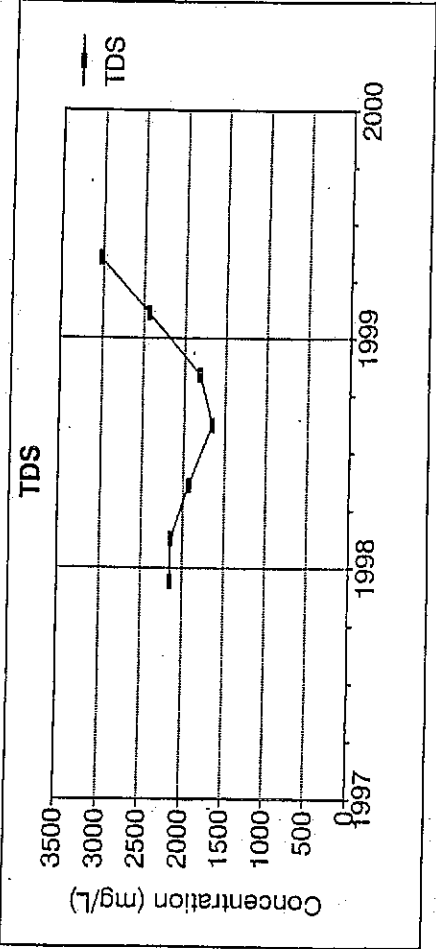
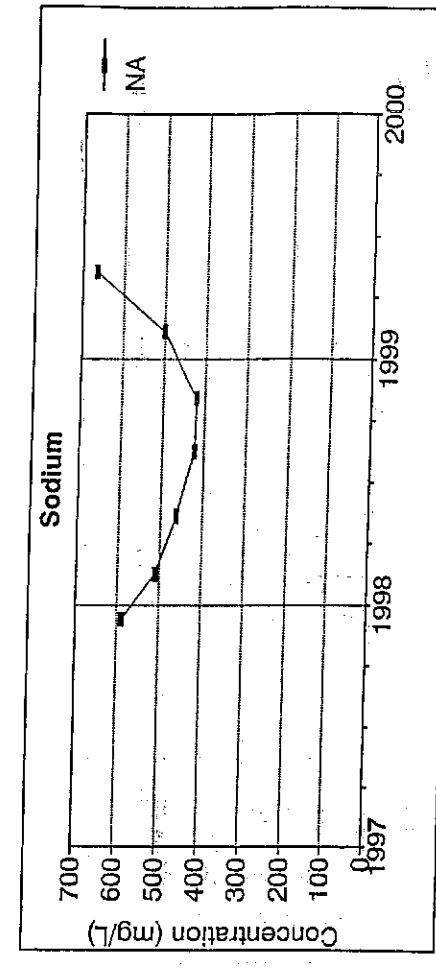
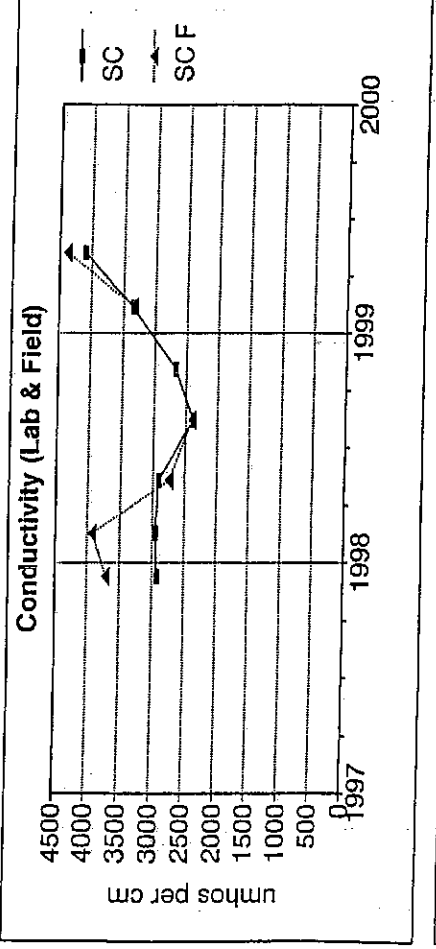
BDL - Below Analytical Detection Limit

EP-89



BDL - Below Analytical Detection Limit

EP-90



SECTION J-5

REMEDIAL INVESTIGATION WATER SAMPLES

SUMMER 1999

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
SUMMER 1999**

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November 1999

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GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV.....	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB.....	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC.....	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

SUMMARY

This report covers the validation of data for groundwater and surface water samples collected during August 1999 for the Asarco El Paso Copper Smelter Remediation Investigation. The validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes the summary of flagged data (Table 2) and the summary of a statistical historical comparison (Table 3). The validated database for this data set is in Appendix 2.

For this monitoring event, sediment samples were collected at eleven of the surface water sites. These sediment samples were analyzed by XRF using a matrix-specific calibration for arsenic and lead, and using a fundamental parameters calibration for cadmium, chromium, copper, iron, selenium, and zinc. The matrix-specific calibration, however, was for sandy soils from Murray, Utah rather than being specific to soils from El Paso. All laboratory quality control information that was provided for the XRF analyses was within control limits.

- For arsenic and lead only, information was provided for calibration verification samples (1 in 10) and laboratory control samples (1 in 20).
- No information was provided for recoveries on reference standards for the analyses using the fundamental parameters calibration. According to the analyst, results on these analyses can only be regarded as semi-quantitative, and it would not be meaningful to try to evaluate the accuracy of the results by extrapolating from recoveries on the reference standards.
- Information was provided for all analytes for laboratory duplicates, which were performed at a frequency of 1 in 20.

Completeness of field measurements:

- The required frequency for field quality control samples was not met for the August 1999 monitoring event. No field duplicate was submitted on August 2, and seven non-QC samples were collected on that day.
- Seven sediment samples were submitted on 8/20/99, but no field duplicate was submitted for this matrix. The only field duplicate for this day was a surface water sample.
- Four sediment samples were submitted on 8/11/99, but no field duplicate was submitted for this matrix. The only field duplicate for this day was a groundwater sample.

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-25.
- Due to construction, no sample was collected at EP-76.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at ten sites on 8/4/99 and 8/5/99

Laboratory Quality Control Violations resulted in a total of 30 flags:

- In batch L991431, the laboratory duplicate for total iron measured by ICP was out of control limits with an RPD of 26 percent. Fourteen associated total iron results were flagged to indicate a possible lack of reproducibility.
- In batch L991431, the laboratory duplicate for total recoverable iron measured by ICP was out of control limits with an RPD of 22 percent. Three associated total recoverable iron results were flagged to indicate a possible lack of reproducibility.
- In batch L991377, the ICP laboratory control standard for total zinc was out of control limits with a recovery of 125 percent. Nine associated total zinc results were flagged to indicate the possibility of a high bias.
- Total zinc was detected in the ICP laboratory preparation blank for batch L991431. One associated total zinc result was flagged to indicate the possibility of a high bias
- Total recoverable iron was detected in the ICP laboratory preparation blank for batch L991431. Two associated total recoverable iron results were flagged to indicate the possibility of a high bias.
- One chloride result was flagged for holding time exceedance.

Field Quality Control Violations resulted in a total of 121 flags:

- Detections in 4 of the field blanks resulted in a total of 16 flags: 2 flags for nitrate + nitrite measured as N, 5 flags for total lead, and 9 flags for dissolved zinc.
- Thirteen of the field duplicate measurements were out of control limits resulting in a total of 105 flags to indicate a possible lack of reproducibility.

Ninety-five percent of the data may be used without qualification (3124 out of 3275 results). Overall, the data for the August 1999 monitoring for the Asarco El Paso Copper Smelter Remedial Investigation are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. Any possible bias and/or lack of reproducibility indicated by the flags should be taken into account. For this sampling event, the continued-improved performance on the submission of the required field quality control samples made it possible to evaluate the precision and accuracy of the data as set out in the project work plan.

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to inorganic analytes from 101 samples collected during August of 1999 for the Asarco El Paso Copper Smelter Remedial Investigation. The total number of samples included:

- 9DI blanks
- 8Field duplicates (1 surface water, 7 groundwater)
- 14Surface water field samples
- 59Groundwater field samples
- 11Sediment samples

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-25.
- Due to construction, no sample was collected at EP-76.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at ten sites on 8/4/99 and 8/5/99:

<u>8/4/99</u>	<u>8/5/99</u>
EP-26	EP-67
EP-51	EP-68
EP-53	EP-70
EP-54	EP-71
EP-56	
EP-66	

- Validation procedures used are generally consistent with:
(Check all that apply)

- EPA CLP National Functional Guidelines for Inorganics Data Review
- Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
- Other

- Overall level of validation:

- Contract Laboratory Program (CLP)
- Standard
- Visual

Notes: The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.

Yes
 No

- Field measurements and field documentation were complete.

Yes - Exceptions are listed in Section 1, Introduction.
 No

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are one field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes
 No

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project-required detection limits (PRDL) if project detection limits have been specified.

Yes
 No

Notes: When an analyte is detected in a blank, associated results up to 5 times the blank level are flagged to indicate that the results may be biased high due to contamination. Results "associated" with a field blank are generally results for samples collected on the same day as the blank.

- The following table lists blank detections that did not result in flagging.

Sample Number	Date	Analyte	Result (ppm)	Reporting Limit (ppm)	PRDL (ppm)
EPRI-9908-193	8/2/99	TSS	1.1	1	10
EPRI-9908-193	8/2/99	Sulfate	2.4	2	1
EPRI-9908-193	8/2/99	Chloride	1.3	1	1
EPRI-9908-197	8/4/99	TSS	5.5	1	10
EPRI-9908-199	8/5/99	Bicarbonate	2.2	1	1
EPRI-9908-199	8/5/99	Sulfate	2.3	2	1
EPRI-9908-201	8/6/99	TSS	1.2	1	10
EPRI-9908-203	8/9/99	TSS	1.8	1	10

- Note that for TSS, the reporting level was much less than the PRDL. No results were qualified due to blank detections for the following reasons:
 - Results less than 10 ppm can be ignored for the project.
 - Results greater than 10 ppm probably represent real values and should not be flagged as possibly non-detect.
- The blank submitted on 8/2/99 (EPRI-9908-193) contained nitrate + nitrite as N and total lead. The blanks submitted on 8/10 and on 8/11/99 contained dissolved zinc. The detections and the resulting flagging are summarized in the following table.

Sample Number of Blank	Date of Blank	Analyte	Result (ppm)	5 times Blank Level (ppm)	Sample, Site (Result in ppm) Flagged
EPRI-9908-193	8/2/99	NO ₂ + NO ₃ as N	0.055	0.275	EPRI-9908-100, EP-4 (0.076) EPRI-9908-103, EP-7 (0.130)
EPRI-9908-193	8/2/99	Lead (Tot)	0.004	0.020	EPRI-9908-100, EP-4 (0.015) EPRI-9908-101, EP-5 (0.018) EPRI-9908-108, EP-20 (0.005) EPRI-9908-115, EP-29 (0.008) EPRI-9908-116, EP-35 (0.009)
EPRI-9908-205	8/10/99	Zinc (Dis)	0.021	0.105	EPRI-9908-109, EP-21 (0.031) EPRI-9908-133, EP-65 (0.021) EPRI-9908-153, EP-87 (0.032)
EPRI-9908-207	8/11/99	Zinc (Dis)	0.022	0.110	EPRI-9908-168, EM-1 (0.033) EPRI-9908-104, EP-12 (0.024) EPRI-9908-113, EP-25 (0.024) EPRI-9908-206, EP-43 (0.023) EPRI-9908-176, Pond 6 (0.092) EPRI-9908-167, Sep-14 (0.025)

Flagging: UJ₁

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes
 No

Notes: Eight field duplicates were submitted for a total of nine days of sampling. No duplicate was submitted on 8/2/99. No duplicate was submitted for sediment samples. The field duplicates are listed in the following table.

Sample/ Duplicate #	Site	Date	Matrix
EPRI-9908-107/ 194	EP-15	08/03/99	Groundwater
EPRI-9908-119/ 196	EP-51	08/04/99	Groundwater
EPRI-9908-155/ 198	EP-89	08/05/99	Groundwater
EPRI-9908-172/ 200	EM-6	08/06/99	Groundwater
EPRI-9908-151/ 202	EP-85	08/09/99	Groundwater
EPRI-9908-133/ 204	EP-65	08/10/99	Groundwater

Sample/ Duplicate #	Site	Date	Matrix
EPRI-9908-117/ 206	EP-43	08/11/99	Groundwater
EPRI-9908-177/ 208	SEP-6	08/20/99	Surface water

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes
 No

Notes: The thirteen field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility. Samples collected the same day as the duplicate are generally considered to be associated. In this case, however, the field duplicate collected on 8/3/99 was applied to samples from 8/2/99 as well as to those from 8/3/99. The reasons were as follows:

- No field duplicate was collected on 8/2/99.
- The 8/3/99 field duplicate sample pair was submitted to the laboratory in the same sample delivery group as samples collected on 8/2/99.
- The 8/3/99 field duplicate sample pair was analyzed in the same laboratory batch as the samples collected on 8/2/99.

Over the entire sampling event, thirteen of the field duplicate measurements were out of control limits resulting in a total of 113 flags. Note that historical values were taken into account when flagging dissolved iron results for the field duplicate submitted on 8/20/99. Only results that were above the detection limit were flagged.

Flagging: J4/UJ4

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9908-107/ 194	EP-15	08/03/99	TSS	83/ 49	52% RPD	16
EPRI-9908-119/ 196	EP-51	08/04/99	Arsenic (Tot)	0.37/ 0.55	39% RPD	4
EPRI-9908-119/ 196	EP-51	08/04/99	Chromium	0.10/ 0.51	134% RPD	8
EPRI-9908-119/ 196	EP-51	08/04/99	Copper (Tot)	0.051/ 0.084	> \pm 0.025 ppm	8
EPRI-9908-119/ 196	EP-51	08/04/99	Iron (Tot)	0.31/ 1.3	> \pm 0.1 ppm	8
EPRI-9908-119/ 196	EP-51	08/04/99	Lead (Tot)	0.004/ 0.012	> \pm 0.003 ppm	6
EPRI-9908-172/ 200	EM-6	08/06/99	Arsenic (Dis)	0.042/ 0.033	24% RPD	3
EPRI-9908-151/ 202	EP-85	08/09/99	Lead (Tot)	0.015/ 0.004	> \pm 0.003 ppm	10
EPRI-9908-151/ 202	EP-85	08/09/99	Selenium (Tot)	0.18/ 0.46	88% RPD	10
EPRI-9908-133/ 204	EP-65	08/10/99	Fluoride	1.1/ 1.9	53% RPD	8

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9908-133/204	EP-65	08/10/99	NO ₃ /NO ₂	36/29	22% RPD	9
EPRI-9908-177/208	SEP-6	08/20/99	Carbonate	<1/22	> ± 1 ppm	12
EPRI-9908-177/208	SEP-6	08/20/99	Iron (Dis)	0.46/0.10	> ± 0.1 ppm	3

4. LABORATORY PROCEDURES

- Laboratory procedures followed

CLP-SOW

SW-846

Methods for Chemical Analysis of Water and Wastes

XRF Standard Operating Procedures

- Holding times met

Yes - See Notes for the one exception.

No

Notes: Reanalysis of chloride was requested for sample EPRI-9908-106 collected at EP-14 on 8/3/99. As indicated by chloride values previously obtained at this site, the reanalysis value from 10/22/99 was accepted as more representative of the true value. However, since the holding time for the reanalysis value was 80 days, the result has been flagged.

Flagging: J₃

- Consistency with project requirements

Analyses were carried out as requested.

Yes

No

Project specified methods were used.

Yes

No

5. DETECTION LIMITS

- Reporting detection limits met project detection limit goals (PDLGs).

Yes

No

Notes:

Water--The PDLG for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

Sediment: As shown in the following table, the PDLG was not met for chromium, copper, or iron in the XRF analyses.

Analyte	Reporting Detection Limit	PDGL
Chromium	80 ppm	20 ppm
Copper	20 ppm	10 ppm
Iron	50 ppm	20 ppm

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

Preparation blanks were prepared and analyzed at the required frequency.

Yes

No

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

Yes

No

Notes: Total zinc was detected at 0.020 ppm in the ICP laboratory preparation blank for batch L991431. Associated total zinc results up to 0.1 ppm were flagged to indicate the possibility of a high bias (one result, EPRI-9908-10).

Total recoverable iron was detected at 0.11 ppm in the ICP laboratory preparation blank for batch L991431. Associated total recoverable iron results up to 0.55 ppm were flagged to indicate the possibility of a high bias (two results, (EPRI-9908-174 & 176).

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.

Yes

No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes

No

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes

No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PRDL for water matrix.

Yes
 No

Notes: The laboratory duplicate for batch L991431 total iron measured by ICP was out of control limits with an RPD of 26 percent. Fourteen associated total iron results were flagged to indicate a possible lack of reproducibility.

The laboratory duplicate for batch L991431 total recoverable iron measured by ICP was out of control limits with an RPD of 22 percent. Three associated total recoverable iron results were flagged to indicate a possible lack of reproducibility.

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency

Yes
 No

- LCS recoveries were within the required control limits (80-120% for water).

Yes
 No

Notes: The ICP laboratory control standard for batch L991377 total zinc was out of control limits with a recovery of 125 percent. Nine associated total zinc results were flagged to indicate the possibility of a high bias.

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:

Total (or Total Recoverable) vs. Dissolved metals
 Lab pH vs. field pH.
 TDS vs. SC
 Lab SC vs. field SC

Total Recoverable vs. Dissolved metals: With the exception of the following 7 results, this relationship was in order.

Site	Sample Number	Sample Date	Analyte	Dissolved/ Total (or Total Recoverable)	RPD
EP-56	EPRI-9908-124	08/04/99	Arsenic	2.8/ 2.2 ppm	24%
EP-26	EPRI-9908-114	08/04/99	Cadmium	3.5/ 2.5 ppm	33%
EP-26	EPRI-9908-114	08/04/99	Zinc	7.1/ 5.4 ppm	27%

EP-54	EPRI—9908-122	08/04/99	Selenium	0.17/ 0.13 ppm	27%
EP-6	EPRI—9908-102	08/02/99	Selenium	0.043/ 0.028 ppm	42%
EP-70	EPRI—9908-137	08/05/99	Zinc	0.16/ 0.13 ppm	21%
POND-1	EPRI—9908-174	08/11/99	Zinc	9.8/ 2.1 ppm	129%

Lab pH vs. field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but eight had percent differences equal to or less than ten percent. Rounded off to the nearest percent, the percent differences were distributed as follows:

equal to or less than 10%.....72
 11 to 15%.....6
 16 to 20%.....2
 > 20%.....1

The sample with a percent difference greater than 20% is listed in the following table:

Site	Sample Number	Sample Date	Field pH/ Lab pH	Percent Difference
EP-58	EPRI—9908-126	08/10/99	6.49/ 8	23%

TDS vs. SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. The TDS to SC ratios ranged from 56.8% at EP-23 to 106.6% at Pond 1. The ratios were distributed as follows:

less than 55%..... 0
 55 to 75% 46
 75 to 100% 34
 over 100% 1

Lab SC vs. field SC: This relationship was generally in order. Rounded to the nearest percent, only eleven samples had percent differences greater than ten percent. The distribution of the percent differences was as follows:

less than 10%..... 70
 11 to 15% 8
 16 to 20% 3

11. HISTORICAL COMPARISON

The data for August 1999 were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

12. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQOs) met.**

Yes
 No

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy for water matrix is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

All laboratory quality control samples were within control limits, indicating good accuracy for the higher concentration results.

In general, results on the laboratory and field blanks also indicated good accuracy at lower concentrations. An exception was for the field blank submitted on 8/9/99: low level nitrate + nitrite as N and total lead were detected in this blank. In all, 8 results were flagged to show possible high bias.

Accuracy for sediment matrix is evaluated by recoveries on laboratory reference standards, which in this case included calibration standards and laboratory control standards for arsenic and lead only since these were analyzed using a matrix-specific calibration. Recoveries on these QC samples were all within control limits. No information was provided for evaluation of accuracy for the other parameters analyzed by XRF (cadmium, chromium, copper, iron, selenium, and zinc).

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All but one of the laboratory duplicate measurements and 95% of the field duplicate measurements (257 out of 270) were within control limits.

Completeness

One measure of completeness is the percentage of valid results obtained. For the Summer 1999 El Paso RI monitoring,

- ⇒ 4.6 percent of the data were flagged (151 out of 3275 results).
- ⇒ Ninety-five percent of the data may be used without qualification (3124 out of 3275 results).
- ⇒ No results were flagged as anomalous (A) or rejected (R).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- Due to construction, no sample was collected at EP-76.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at ten sites on 8/4/99 and 8/5/99.
- Field parameters were not taken at EP-25 because of heavy hydrocarbon contamination and the possibility of damaging instrument probes.
- The required frequency for field quality control samples was nearly met, making it possible to evaluate the accuracy and precision of the data as set out in the work plan.
- Duplicate field measurements were taken for the field duplicates, making it possible to evaluate the precision of field measurements.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Jennifer Vanek

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- Standard Operating Procedure-Spectrace 500 EDXRF Routine Soil Analysis (HL_SOP_53-1/95).
- U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983. (EPA, 1983).
- U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ -	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R -	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E -	<p>Estimated. (Not an EPA code.)</p>
A -	<p>Anomalous data.. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
El Paso RI Water Quarterly Monitoring, August 1999
 (All values are in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
DI	EPRI-9908-193	L991377008	08/02/99	TOTAL SUSPENDED SOLIDS	1.1	J4		Field duplicate RPD=52%
EM-1	EPRI-9908-168	L991431015	08/11/99	IRON (FE)(TOT) ZINC (ZN)(DIS)	0.23 0.033	J4 UJ1		Lab duplicate RPD=26% Detection in the field blank (0.022 ppm)
EM-4	EPRI-9908-170	L991394001	08/06/99	ARSENIC (AS)(DIS)	.009	J4		Field duplicate RPD=24%
EM-6	EPRI-9908-172	L991394004	08/06/99	ARSENIC (AS)(DIS)	.042	J4		Field duplicate RPD=24%
EM-6 (Dup)	EPRI-9908-200	L991394005	08/06/99	ARSENIC (AS)(DIS)	.033	J4		Field duplicate RPD=24%
EP-4	EPRI-9908-100	L991377004	08/02/99	TOTAL SUSPENDED SOLIDS NITRATE + NITRITE AS N LEAD (PB)(TOT) ZINC (ZN)(TOT)	358.0 0.076 0.015 0.025	J4 UJ1 UJ1 J2		Field duplicate RPD=52% Detection in the field blank (0.055 ppm) Detection in the field blank (0.004 ppm) LCS recovery=125%
EP-5	EPRI-9908-101	L991377005	08/02/99	TOTAL SUSPENDED SOLIDS LEAD (PB)(TOT) ZINC (ZN)(TOT)	149.0 0.018 0.057	J4 UJ1 J2		Field duplicate RPD=52% Detection in the field blank (0.004 ppm) LCS recovery=125%
EP-6	EPRI-9908-102	L991377006	08/02/99	TOTAL SUSPENDED SOLIDS	6.0	J4		Field duplicate RPD=52%
EP-7	EPRI-9908-103	L991377007	08/02/99	TOTAL SUSPENDED SOLIDS NITRATE + NITRITE AS N	15.0 0.13	J4 UJ1		Field duplicate RPD=52% Detection in the field blank (0.055 ppm)
EP-12	EPRI-9908-104	L991431012	08/11/99	IRON (FE)(TOT) ZINC (ZN)(DIS)	1.4 0.024	J4 UJ1		Lab duplicate RPD=26% Detection in the field blank (0.022 ppm)
EP-13	EPRI-9908-105	L991377009	08/03/99	TOTAL SUSPENDED SOLIDS ZINC (ZN)(TOT)	4.3 0.068	J4 J2		Field duplicate RPD=52% LCS recovery=125%
EP-14	EPRI-9908-106	L991377010	08/03/99	TOTAL SUSPENDED SOLIDS CHLORIDE (CL) ZINC (ZN)(TOT)	16.0 358 0.055	J4 J3 J2		Field duplicate RPD=52% Holding time 80 days LCS recovery=125%
EP-15	EPRI-9908-107	L991377011	08/03/99	TOTAL SUSPENDED SOLIDS ZINC (ZN)(TOT)	83.0 0.021	J4 J2		Field duplicate RPD=52% LCS recovery=125%
EP-15 (Dup)	EPRI-9908-194	L991377012	08/03/99	TOTAL SUSPENDED SOLIDS ZINC (ZN)(TOT)	49.0 0.022	J4 J2		Field duplicate RPD=52% LCS recovery=125%
EP-20	EPRI-9908-108	L991377001	08/02/99	TOTAL SUSPENDED SOLIDS LEAD (PB)(TOT) ZINC (ZN)(TOT)	35.0 0.005 0.046	J4 UJ1 J2		Field duplicate RPD=52% Detection in the field blank (0.004 ppm) LCS recovery=125%
EP-21	EPRI-9908-109	L991431008	08/10/99	FLUORIDE (F) NITRATE + NITRITE AS N IRON (FE)(TOT) ZINC (ZN)(DIS) ZINC (ZN)(TOT)	6.3 0.05 1.3 0.031 0.079	J4 J4 J4 UJ1 UJ1		Field duplicate RPD=53% Field duplicate RPD=22% Lab duplicate RPD=26% Detection in the field blank (0.021 ppm) Detection in lab prep blank (0.020 ppm)
EP-23	EPRI-9908-111	L991393014	08/04/99	CHROMIUM (CR)(TOT) COPPER (CU)(TOT) IRON (FE)(TOT) LEAD (PB)(TOT)	<0.01 .039 .78 .02	UJ4 J4 J4 J4		Field duplicate RPD=134% Field duplicate difference > ± 0.025 ppm Field duplicate difference > ± 0.10 ppm Field duplicate difference > ± 0.003 ppm
EP-24	EPRI-9908-112	L991431009	08/10/99	FLUORIDE (F) NITRATE + NITRITE AS N IRON (FE)(TOT)	2.4 0.08 0.17	J4 J4 J4		Field duplicate RPD=53% Field duplicate RPD=22% Lab duplicate RPD=26%
EP-25	EPRI-9908-113	L991431011	08/11/99	IRON (FE)(TOT) ZINC (ZN)(DIS)	8.2 0.024	J4 UJ1		Lab duplicate RPD=26% Detection in the field blank (0.022 ppm)
EP-26	EPRI-9908-114	L991393008	08/04/99	ARSENIC (AS)(TOT) CHROMIUM (CR)(TOT) COPPER (CU)(TOT) IRON (FE)(TOT)	.28 <.01 .28 2.2	J4 UJ4 J4 J4		Field duplicate RPD=39% Field duplicate RPD=134% Field duplicate difference > ± 0.025 ppm Field duplicate difference > ± 0.10 ppm

Table 2. Summary of Flagged Data
El Paso RI Water Quarterly Monitoring, August 1999
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Site	Sample No	Lab No	Date	Parameter	Result	Flag	Bias	Reason for Flag
EP-29	EPRI-9908-115	L991377003	08/02/99	LEAD (PB)(TOT)	0.008	UJ1		Detection in the field blank (0.004 ppm) +25% LCS recovery=125%
				ZINC (ZN)(TOT)	0.029	J2		
EP-35	EPRI-9908-116	L991377002	08/02/99	TOTAL SUSPENDED SOLIDS	398.0	J4		Field duplicate RPD=52%
EP-35	EPRI-9908-116	L991377002	08/02/99	LEAD (PB)(TOT)	0.009	UJ1		Detection in the field blank (0.004 ppm) +25% LCS recovery=125%
				ZINC (ZN)(TOT)	0.027	J2		
EP-43	EPRI-9908-117	L991431013	08/11/99	IRON (FE)(TOT)	1.7	J4		Lab duplicate RPD=26%
EP-43 (Dup)	EPRI-9908-206	L991431014	08/11/99	IRON (FE)(TOT)	1.7	J4		Lab duplicate RPD=26%
				ZINC (ZN)(DIS)	0.023	UJ1		
EP-51	EPRI-9908-119	L991393011	08/04/99	ARSENIC (AS)(TOT)	.37	J4		Field duplicate RPD=39%
				CHROMIUM (CR)(TOT)	.1	J4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	.051	J4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	.31	J4		Field duplicate difference > ± 0.10 ppm
				LEAD (PB)(TOT)	.004	J4		Field duplicate difference > ± 0.003 ppm
EP-51 (Dup)	EPRI-9908-196	L991393012	08/04/99	ARSENIC (AS)(TOT)	.55	J4		Field duplicate RPD=39%
				CHROMIUM (CR)(TOT)	.51	J4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	.084	UJ4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	1.3	J4		Field duplicate difference > ± 0.10 ppm
				LEAD (PB)(TOT)	.012	J4		Field duplicate difference > ± 0.003 ppm
EP-53	EPRI-9908-121	L991393010	08/04/99	CHROMIUM (CR)(TOT)	<.01	UJ4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	<.025	UJ4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	1.7	J4		Field duplicate difference > ± 0.10 ppm
				LEAD (PB)(TOT)	.004	J4		Field duplicate difference > ± 0.003 ppm
EP-54	EPRI-9908-122	L991393013	08/04/99	CHROMIUM (CR)(TOT)	.015	J4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	.12	J4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	2.9	J4		Field duplicate difference > ± 0.10 ppm
				LEAD (PB)(TOT)	.007	J4		Field duplicate difference > ± 0.003 ppm
EP-55	EPRI-9908-123	L991431010	08/10/99	NITRATE + NITRITE AS N	0.09	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	45.0	J4		Lab duplicate RPD=26%
EP-56	EPRI-9908-124	L991393009	08/04/99	ARSENIC (AS)(TOT)	2.2	J4		Field duplicate RPD=39%
				CHROMIUM (CR)(TOT)	<.01	UJ4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	<.025	UJ4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	2.9	J4		Field duplicate difference > ± 0.10 ppm
				LEAD (PB)(TOT)	.01	J4		Field duplicate difference > ± 0.003 ppm
EP-57	EPRI-9908-125	L991431006	08/10/99	FLUORIDE (F)	0.92	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	0.14	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	3.1	J4		Lab duplicate RPD=26%
EP-58	EPRI-9908-126	L991431002	08/10/99	FLUORIDE (F)	5.7	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	0.06	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	2.1	J4		Lab duplicate RPD=26%
EP-59	EPRI-9908-127	L991393001	08/03/99	TOTAL SUSPENDED SOLIDS	4.6	J4		Field duplicate RPD=52%
EP-60	EPRI-9908-128	L991393005	08/03/99	TOTAL SUSPENDED SOLIDS	2.5	J4		Field duplicate RPD=52%
EP-61	EPRI-9908-129	L991431003	08/10/99	FLUORIDE (F)	1.6	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	82.0	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	1.9	J4		Lab duplicate RPD=26%
EP-62	EPRI-9908-130	L991393003	08/03/99	TOTAL SUSPENDED SOLIDS	2.2	J4		Field duplicate RPD=52%
EP-63	EPRI-9908-131	L991393004	08/03/99	TOTAL SUSPENDED SOLIDS	8.3	J4		Field duplicate RPD=52%
EP-64	EPRI-9908-132	L991393002	08/03/99	TOTAL SUSPENDED SOLIDS	11.0	J4		Field duplicate RPD=52%
EP-65	EPRI-9908-133	L991431004	08/10/99	FLUORIDE (F)	1.1	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	36.0	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	0.57	J4		Lab duplicate RPD=26%

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				ZINC (ZN)(DIS)	0.021	UJ1		Detection in the field blank (0.021 ppm)
EP-65 (Dup)	EPRI-9908-204	L991431005	08/10/99	FLUORIDE (F)	1.9	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	29.0	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	0.56	J4		Lab duplicate RPD=26%
EP-66	EPRI-9908-134	L991393007	08/04/99	CHROMIUM (CR)(TOT)	<.01	UJ4		Field duplicate RPD=134%
				COPPER (CU)(TOT)	.026	J4		Field duplicate difference > ± 0.025 ppm
				IRON (FE)(TOT)	.22	J4		Field duplicate difference > ± 0.10 ppm
EP-78	EPRI-9908-144	L991394015	08/09/99	LEAD (PB)(TOT)	.007	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.57	J4		Field duplicate RPD=88%
EP-79	EPRI-9908-145	L991394014	08/09/99	LEAD (PB)(TOT)	<.003	UJ4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.12	J4		Field duplicate RPD=88%
EP-80	EPRI-9908-146	L991394009	08/09/99	LEAD (PB)(TOT)	<.003	UJ4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	<.005	UJ4		Field duplicate RPD=88%
EP-81	EPRI-9908-147	L991394010	08/09/99	LEAD (PB)(TOT)	.005	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.26	J4		Field duplicate RPD=88%
EP-82	EPRI-9908-148	L991394016	08/09/99	LEAD (PB)(TOT)	<.003	UJ4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.15	J4		Field duplicate RPD=88%
EP-83	EPRI-9908-149	L991394018	08/09/99	LEAD (PB)(TOT)	<.003	UJ4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.042	J4		Field duplicate RPD=88%
EP-84	EPRI-9908-150	L991394017	08/09/99	LEAD (PB)(TOT)	.025	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.017	J4		Field duplicate RPD=88%
EP-85	EPRI-9908-151	L991394011	08/09/99	LEAD (PB)(TOT)	.015	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.18	J4		Field duplicate RPD=88%
EP-85 (Dup)	EPRI-9908-202	L991394012	08/09/99	LEAD (PB)(TOT)	.004	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.46	J4		Field duplicate RPD=88%
EP-86	EPRI-9908-152	L991394013	08/09/99	LEAD (PB)(TOT)	.004	J4		Field duplicate difference > ± 0.003 ppm
				SELENIUM (SE)(TOT)	.03	J4		Field duplicate RPD=88%
EP-87	EPRI-9908-153	L991431001	08/10/99	FLUORIDE (F)	0.64	J4		Field duplicate RPD=53%
				NITRATE + NITRITE AS N	0.77	J4		Field duplicate RPD=22%
				IRON (FE)(TOT)	3.0	J4		Lab duplicate RPD=26%
				ZINC (ZN)(DIS)	0.032	UJ1		Detection in the field blank (0.021 ppm)
POND 1	EPRI-9908-174	L991431017	08/11/99	IRON (FE)(TRC)	0.53	UJ1		Detection in lab prep blank (0.11 ppm)
				IRON (FE)(TRC)	0.53	J4		Lab duplicate RPD=22%
POND 6	EPRI-9908-176	L991431018	08/11/99	IRON (FE)(TRC)	0.33	UJ1		Detection in lab prep blank (0.11 ppm)
				IRON (FE)(TRC)	0.33	J4		Lab duplicate RPD=22%
				ZINC (ZN)(DIS)	0.092	UJ1		Detection in the field blank (0.022 ppm)
SEP-1	EPRI-9908-157	L991509002	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-2	EPRI-9908-158	L991509008	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-3	EPRI-9908-139	L991509003	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-4	EPRI-9908-160	L991509009	08/20/99	CARBONATE AS CO3	16	J4		Field duplicate difference > ± 1 ppm
SEP-6	EPRI-9908-177	L991509004	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
				IRON (FE)(DIS)	0.46	J4		Field duplicate difference > ± 0.10 ppm
SEP-6 (Dup)	EPRI-9908-208	L991509005	08/20/99	CARBONATE AS CO3	13	J4		Field duplicate difference > ± 1 ppm
				IRON (FE)(DIS)	0.1	J4		Field duplicate difference > ± 0.10 ppm
SEP-7	EPRI-9908-161	L991509001	08/20/99	CARBONATE AS CO3	6	J4		Field duplicate difference > ± 1 ppm

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SEP-9	EPRI-9908-162	L991509007	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-10	EPRI-9908-163	L991509013	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-11	EPRI-9908-164	L991509012	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-12	EPRI-9908-165	L991509011	08/20/99	CARBONATE AS CO3 IRON (FE)(DIS)	<1.0 0.18	UJ4 J4		Field duplicate difference > ± 1 ppm Field duplicate difference > ± 0.10 ppm
SEP-13	EPRI-9908-166	L991509010	08/20/99	CARBONATE AS CO3	<1.0	UJ4		Field duplicate difference > ± 1 ppm
SEP-14	EPRI-9908-167	L991431019	08/11/99	IRON (FE)(TRC) ZINC (ZN)(DIS)	3.6 0.025	J4 UJ1		Lab duplicate RPD=22% Detection in the field blank (0.022 ppm)

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO		
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN
EM-2	08/06/99	2.1	ARSENIC (AS) DIS	08/26/97-05/10/99	8	0.45	0.6450	0.95	8.60 HIGHEST
EM-6	08/06/99	0.042	ARSENIC (AS) DIS	08/11/97-05/10/99	8	0.021	0.0263	0.031	4.80 HIGHEST
EP-4	08/02/99	603.0	SULFATE (SO4)	08/06/97-05/05/99	7	287.0	383.2857	454.	3.79 HIGHEST
EP-6	08/02/99	8.4	PH	08/06/97-05/05/99	8	7.7	7.9375	8.1	3.89 HIGHEST
EP-7	08/02/99	3790.0	SC (UMHOS/CM AT 25 C)	08/06/97-05/05/99	8	2660.0	2843.7500	3110.0	6.63 HIGHEST
		3800.0	SC (UMHOS/CM AT 25 C) (FLD)	08/06/97-05/05/99	6	2500	2726.6667	3030	5.40 HIGHEST
		2664.0	TDS (MEASURED AT 180 C)	08/06/97-05/05/99	8	1790.0	1953.8750	2119.0	7.93 HIGHEST
		467.0	CHLORIDE (CL)	08/06/97-05/05/99	8	311.0	333.0000	365.0	7.37 HIGHEST
EP-12	08/11/99	7.31	PH (FLD)	11/03/97-05/14/99	7	6.76	6.8886	7.08	3.30 HIGHEST
EP-14	08/03/99	7.11	PH (FLD)	11/05/97-05/06/99	7	6.76	6.8786	6.95	3.70 HIGHEST
		621.0	BICARBONATE (HCO3)	11/05/97-05/06/99	7	323.0	400.4286	467.0	3.93 HIGHEST
		0.57	IRON (FE) DIS	11/05/97-05/06/99	7	0.10	0.1686	0.29	6.42 HIGHEST
EP-15	08/03/99	3400.0	TDS (MEASURED AT 180 C)	08/07/97-05/05/99	8	1987.0	2321.0000	3083.0	3.01 HIGHEST
		452.0	CHLORIDE (CL)	08/07/97-05/05/99	8	272.0	327.0000	381.0	3.62 HIGHEST
		0.73	FLUORIDE (F)	08/07/97-05/05/99	8	0.80	0.8900	0.94	3.27 LOWEST
		32.0	NITRATE + NITRITE AS N	08/07/97-05/05/99	8	12.0	17.5000	23.	3.96 HIGHEST
EP-15 (Dup)	08/03/99	3408.0	TDS (MEASURED AT 180 C)	08/07/97-05/05/99	8	1987.0	2321.0000	3083.0	3.03 HIGHEST
		1363.0	SULFATE (SO4)	08/07/97-05/05/99	8	715.0	922.1250	1212.0	3.14 HIGHEST
		432.0	CHLORIDE (CL)	08/07/97-05/05/99	8	272.0	327.0000	381.0	3.04 HIGHEST
		0.74	FLUORIDE (F)	08/07/97-05/05/99	8	0.80	0.8900	0.94	3.06 LOWEST
		30.0	NITRATE + NITRITE AS N	08/07/97-05/05/99	8	12.0	17.5000	23.	3.41 HIGHEST
EP-21	08/10/99	805.0	SODIUM (NA) DIS	11/18/97-02/24/99	6	919.0	1012.1667	1108.0	3.15 LOWEST
		0.83	IRON (FE) DIS	11/18/97-02/24/99	6	0.17	0.2717	0.39	6.22 HIGHEST
EP-23	08/04/99	8.8	ARSENIC (AS) DIS	08/11/97-05/14/99	9	0.81	2.6567	4.9	4.38 HIGHEST
EP-25	08/11/99	68.0	MAGNESIUM (MG) DIS	08/15/97-05/14/99	7	33.0	39.8571	50.0	4.16 HIGHEST
EP-26	08/04/99	1466.0	TDS (MEASURED AT 180 C)	08/11/97-05/05/99	8	78.0	320.2500	1191.0	3.12 HIGHEST
		176.0	CALCIUM (CA) DIS	08/11/97-05/05/99	8	8.3	22.0375	62.0	8.59 HIGHEST
		24.0	MAGNESIUM (MG) DIS	08/11/97-05/05/99	8	1.1	3.8250	13.0	5.24 HIGHEST
		738.0	SULFATE (SO4)	08/11/97-05/05/99	8	26.0	130.8750	561.0	3.38 HIGHEST
		14.0	NITRATE + NITRITE AS N	08/11/97-05/05/99	8	1.4	2.4625	3.9	> 10 HIGHEST
		3.5	CADMIUM (CD) DIS	08/11/97-05/05/99	8	0.15	0.5100	1.5	6.58 HIGHEST
		0.64	SELENIUM (SE) DIS	08/11/97-05/05/99	8	0.050	0.1300	0.27	5.37 HIGHEST
		7.1	ZINC (ZN) DIS	08/11/97-05/05/99	8	0.52	1.5938	4.2	4.43 HIGHEST
EP-29	08/02/99	1160.0	TOTAL SUSPENDED SOLIDS	08/07/97-05/04/99	8	1.1	73.2625	211.0	> 10 HIGHEST
EP-35	08/02/99	900.0	SODIUM (NA) DIS	08/07/97-05/04/99	8	986.0	1104.7500	1192.0	3.17 LOWEST
		1986.0	CHLORIDE (CL)	08/07/97-05/04/99	8	455.0	538.6250	975.	> 10 HIGHEST
EP-43	08/11/99	7.57	PH (FLD)	11/03/97-08/27/98	4	6.94	7.1025	7.31	3.05 HIGHEST
EP-43 (Dup)	08/11/99	7.61	PH (FLD)	11/03/97-08/27/98	4	6.94	7.1025	7.31	3.31 HIGHEST
EP-51	08/04/99	48.15	DEPTH TO WATER LEVEL (FBET)	08/11/97-05/06/99	9	48.56	48.8822	49.12	3.98 LOWEST
		192.0	NITRATE + NITRITE AS N	08/26/97-05/06/99	8	115.	139.5000	158.0	4.18 HIGHEST
EP-51 (Dup)	08/04/99	227.0	NITRATE + NITRITE AS N	08/26/97-05/06/99	8	115.	139.5000	158.0	6.97 HIGHEST
EP-53	08/04/99	330.0	CALCIUM (CA) DIS	08/11/97-05/05/99	7	394.	476.1429	527.0	3.12 LOWEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
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 A & R Flags were excluded from Statistics The detection limit was used in calculations.

TABLE 3. SUMMARY OF THE COMPARISON OF AUGUST 1999 DATA TO EXISTING DATA, SHOWING PARAMETERS THAT ARE THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

DataMan Program

ASARCO, EL PASO -- EPRI

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE			RELATION TO DATABASE			
				PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	PERIOD
EP-53	08/04/99	937.0	SODIUM (NA) DIS	08/11/97-05/05/99	7	1140.0	1295.2857	1450.	3.63	LOWEST
		0.46	CADMIUM (CD) DIS	08/11/97-05/05/99	7	1.3	1.4429	1.7	6.50	LOWEST
		1.2	ZINC (ZN) DIS	08/11/97-05/05/99	7	3.6	4.5857	5.7	4.93	LOWEST
EP-54	08/04/99	0.17	SELENIUM (SE) DIS	08/26/97-05/07/99	9	0.065	0.0829	0.11	4.73	HIGHEST
EP-55	08/10/99	119.0	POTASSIUM (K) DIS	08/15/97-05/14/99	8	175.0	205.5000	229.0	4.58	LOWEST
EP-56	08/04/99	5390.0	SC (UMHOS/CM AT 25 C)	08/26/97-05/04/99	8	5500.0	5555.0000	5600.0	3.77	LOWEST
		227.0	CALCIUM (CA) DIS	08/26/97-05/04/99	8	241.0	254.8750	269.0	3.07	LOWEST
		55.0	MAGNESIUM (MG) DIS	08/26/97-05/04/99	8	63.	65.1250	68.0	4.54	LOWEST
		928.0	SODIUM (NA) DIS	08/26/97-05/04/99	8	989.0	1059.7500	1125.0	3.14	LOWEST
EP-58	08/10/99	5.7	FLUORIDE (F)	08/16/97-05/13/99	8	4.7	4.9125	5.2	4.56	HIGHEST
EP-59	08/03/99	1871.0	SULFATE (SO4)	08/09/97-05/06/99	8	1551.0	1630.7500	1762.0	3.12	HIGHEST
EP-63	08/03/99	7.1	PH	08/09/97-05/06/99	8	7.4	7.6625	7.8	4.00	LOWEST
EP-65	08/10/99	1.1	FLUORIDE (F)	08/16/97-05/13/99	8	1.9	1.9750	2.1	9.87	LOWEST
EP-66	08/04/99	3.7	FLUORIDE (F)	08/08/97-05/06/99	8	3.0	3.2250	3.4	4.08	HIGHEST
EP-70	08/05/99	7.0	PH	08/26/97-05/07/99	8	7.4	7.5500	7.9	3.10	LOWEST
		220.0	BICARBONATE (HCO3)	08/26/97-05/07/99	8	282.0	291.3750	307	8.14	LOWEST
EP-73	08/05/99	10.0	DEPTH TO WATER LEVEL (FEET)	08/12/97-05/07/99	8	68.38	70.7100	71.49	> 10	LOWEST
EP-75	08/06/99	70.09	DEPTH TO WATER LEVEL (FEET)	08/12/97-05/10/99	8	55.38	56.5225	59.24	> 10	HIGHEST
		16010.0	SC (UMHOS/CM AT 25 C)	08/12/97-05/10/99	8	18340.0	19138.7500	20000.0	5.78	LOWEST
		14853.0	TDS (MEASURED AT 180 C)	08/12/97-05/10/99	8	17691.0	18812.8750	20923.	3.89	LOWEST
		4626.0	SULFATE (SO4)	08/12/97-05/10/99	8	9087.0	11478.2500	13167.	4.93	LOWEST
EP-81	08/09/99	17.26	DEPTH TO WATER LEVEL (FEET)	08/13/97-05/11/99	8	17.79	18.3625	18.81	3.00	LOWEST
		2830.0	SC (UMHOS/CM AT 25 C)	08/13/97-05/11/99	8	2390.0	2522.5000	2630.0	4.02	HIGHEST
		389.0	SODIUM (NA) DIS	08/13/97-05/11/99	8	294.0	327.8750	364.0	3.04	HIGHEST
		2.1	FLUORIDE (F)	08/13/97-05/11/99	8	1.2	1.3375	1.6	5.42	HIGHEST
EP-84	08/09/99	1288.0	TDS (MEASURED AT 180 C)	08/13/97-05/11/99	8	1525.	2090.1250	2293.0	3.21	LOWEST
		126.0	CALCIUM (CA) DIS	08/13/97-05/11/99	8	148.	203.2500	223.0	3.18	LOWEST
		229.0	BICARBONATE (HCO3)	08/13/97-05/11/99	8	273	294.3750	306.0	6.00	LOWEST
		0.9	FLUORIDE (F)	08/13/97-05/11/99	8	0.63	0.7025	.80	3.53	HIGHEST
EP-87	08/10/99	666.0	SC (UMHOS/CM AT 25 C)	09/15/97-11/18/97	2	546	553.0000	560.0	> 10	HIGHEST
		405.0	TDS (MEASURED AT 180 C)	09/15/97-11/18/97	2	361.0	363.0000	365.0	> 10	HIGHEST
		458.0	TOTAL SUSPENDED SOLIDS	09/15/97-11/18/97	2	<1.0	10.5000	20.0	> 10	HIGHEST
		23.0	SODIUM (NA) DIS	09/15/97-11/18/97	2	16.0	17.0000	18.0	4.24	HIGHEST
		537.0	BICARBONATE (HCO3)	09/15/97-11/18/97	2	283	286.0000	289.0	> 10	HIGHEST
		48.0	SULFATE (SO4)	09/15/97-11/18/97	2	39.0	40.0000	41.0	5.66	HIGHEST
EP-90	08/05/99	4960.0	SC (UMHOS/CM AT 25 C)	12/12/97-05/10/99	7	2380.0	3034.2857	4090.0	3.50	HIGHEST
		3789.0	TDS (MEASURED AT 180 C)	12/12/97-05/10/99	7	1654.0	2160.1429	3026.0	3.55	HIGHEST
		1834.0	SULFATE (SO4)	12/12/97-05/10/99	7	637.0	849.5714	1202.0	5.54	HIGHEST
		480.0	CHLORIDE (CL)	12/12/97-05/10/99	7	234.0	298.2857	377.0	3.67	HIGHEST
POND 1	08/11/99	134.0	NITRATE + NITRITE AS N	12/22/97-05/12/99	7	6.9	34.9857	88.0	3.55	HIGHEST
		1.5	COPPER (CU) DIS	12/22/97-05/12/99	7	0.41	0.5586	0.76	6.78	HIGHEST
SHP-1	08/20/99	522.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/12/99	7	13.0	107.5714	275.	3.83	HIGHEST
		14.0	IRON (FE) TRC	08/15/97-05/12/99	7	<0.10	1.9771	4.9	6.13	HIGHEST

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TABLE 3. SUMMARY OF THE COMPARISON OF AUGUST 1999 DATA TO EXISTING DATA, SHOWING PARAMETERS THAT ARE THREE OR MORE STANDARD DEVIATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

ASARCO, EL PASO -- EPRI

DataMan Program

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD			MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
				PERIOD	N	MIN (mg/L)			
SEP-2	08/20/99	339.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/13/99	8	20.0	88.5000	202.0	3.59 HIGHEST
		13.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.31	1.9700	5.3	6.22 HIGHEST
SEP-3	08/20/99	522.0	TOTAL SUSPENDED SOLIDS	08/18/97-05/12/99	6	14.0	112.5000	230.0	4.24 HIGHEST
		14.0	IRON (FE) TRC	08/18/97-05/12/99	6	<0.10	2.3000	5.3	5.39 HIGHEST
SEP-4	08/20/99	475.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/13/99	8	24.0	105.2500	321.	3.53 HIGHEST
		16.0	CARBONATE AS CO3	08/15/97-05/13/99	8	<1.0	4.1250	8.0	4.03 HIGHEST
		13.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.38	2.0588	5.6	5.41 HIGHEST
SEP-7	08/20/99	565.0	TOTAL SUSPENDED SOLIDS	08/18/97-05/12/99	8	12.0	96.8750	257.	5.15 HIGHEST
		14.0	IRON (FE) TRC	08/18/97-05/12/99	8	0.25	1.8238	4.7	6.68 HIGHEST
SEP-9	08/20/99	485.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/12/99	8	7.5	77.9375	223.	5.17 HIGHEST
		8.1	IRON (FE) TRC	08/15/97-05/12/99	8	0.15	1.4863	4.2	4.36 HIGHEST
SEP-10	08/20/99	481.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/13/99	8	16.0	97.7500	286.	4.02 HIGHEST
		15.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.25	2.1388	5.9	5.69 HIGHEST
		0.051	ZINC (ZN) TRC	08/15/97-05/13/99	8	<0.020	0.0265	.040	3.37 HIGHEST
SEP-11	08/20/99	14.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.17	2.1675	5.6	5.81 HIGHEST
SEP-12	08/20/99	476.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/13/99	8	20.0	94.7500	224.	4.78 HIGHEST
		13.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.30	1.9438	5.2	6.07 HIGHEST
SEP-13	08/20/99	455.0	TOTAL SUSPENDED SOLIDS	08/15/97-05/13/99	8	19.0	106.1250	305.	3.30 HIGHEST
		13.0	IRON (FE) TRC	08/15/97-05/13/99	8	0.27	1.9838	5.4	5.70 HIGHEST

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APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1			
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-21	EP-21	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
8	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
15	EP-73	EP-73	Groundwater		
16	EP-75	EP-75	Groundwater		
16	EP-77	EP-77	Groundwater		
16	EP-78	EP-78	Groundwater		
17	EP-79	EP-79	Groundwater		
17	EP-80	EP-80	Groundwater		
17	EP-81	EP-81	Groundwater		
18	EP-82	EP-82	Groundwater		
18	EP-83	EP-83	Groundwater		
18	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
19	EP-86	EP-86	Groundwater		
19	EP-87	EP-87	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
20	EP-90	EP-90	Groundwater		
21	DI	DI BLANK	Quality Control		
28	POND 1-SED	POND 1 SOIL SEDIMENT	SEDIMENT/SOIL		
28	POND 5-SED	POND 5 SOIL SEDIMENT	SEDIMENT/SOIL		
28	POND 6-SED	POND 6 SOIL SEDIMENT	SEDIMENT/SOIL		
29	SEP-2-SED	SEP-2 SOIL SEDIMENT	SEDIMENT/SOIL		
29	SEP-4-SED	SEP-4 SOIL SEDIMENT	SEDIMENT/SOIL		
29	SEP-9-SED	SEP-9 SOIL SEDIMENT	SEDIMENT/SOIL		
30	SEP-10-SED	SEP-10 SOIL SEDIMENT	SEDIMENT/SOIL		
30	SEP-11-SED	SEP-11 SOIL SEDIMENT	SEDIMENT/SOIL		
30	SEP-12-SED	SEP-12 SOIL SEDIMENT	SEDIMENT/SOIL		

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
31	SEP-13-SED	SEP-13 SOIL SEDIMENT	SEDIMENT/SOIL		
31	SEP-14-SED	SEP-14 SOIL SEDIMENT	SEDIMENT/SOIL		
23	POND 1	POND 1	Surface Water		
23	POND 6	POND 6	Surface Water		
23	SEP-1	SEP-1	Surface Water		
24	SEP-2	SEP-2	Surface Water		
24	SEP-3	SEP-3	Surface Water		
24	SEP-4	SEP-4	Surface Water		
25	SEP-6	SEP-6	Surface Water		
25	SEP-7	SEP-7	Surface Water		
25	SEP-9	SEP-9	Surface Water		
26	SEP-10	SEP-10	Surface Water		
26	SEP-11	SEP-11	Surface Water		
26	SEP-12	SEP-12	Surface Water		
27	SEP-13	SEP-13	Surface Water		
27	SEP-14	EPHEMERAL PONDED AREA	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

	EM-1	EM-2	EM-4
SITE CODE	EM-1	EM-2	EM-4
SAMPLE DATE	08/11/99	08/06/99	08/06/99
SAMPLE TIME	10:15	09:00	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991431015	L991394002	L991394001
SAMPLE NUMBER	EPRI-9908-168	EPRI-9908-169	EPRI-9908-170
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	65.19	61.79	58.27
OXYGEN (O) (FLD) DIS	1.5	1.6	0.8
PH (FLD)	7.38	6.81	7.21
PH	7.8	7.5	7.9
SC (UMHOS/CM AT 25 C)	5610.0	5740.0	10440.0
SC (UMHOS/CM AT 25 C) (FLD)	5500.0	6320.0	10600.0
TDS (MEASURED AT 180 C)	4175.0	4758.0	6683.0
TOTAL SUSPENDED SOLIDS	7.6	76.0	3.0
TURBIDITY (NTU)	8.5	2.8	0.5
WATER TEMPERATURE (C) (FLD)	25.6	24.5	22.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	221.0	382.0	403.0
MAGNESIUM (MG) DIS	127.0	123.0	188.0
SODIUM (NA) DIS	839.0	919.0	1443.0
POTASSIUM (K) DIS	28.0	20.0	35.0
BICARBONATE (HCO3)	220.0	290.0	151.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1858.0	2107.0	463.0
CHLORIDE (CL)	759.0	366.0	3029.0
FLUORIDE (F)	0.86	1.5	1.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	<0.05	102.0	0.16
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	<0.005	2.1	0.009 J4
ARSENIC (AS) TOT	<0.005	1.9	0.007
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	0.03	<0.025
IRON (FE) DIS	0.27	<0.1	<0.1
IRON (FE) TOT	0.23 J4	2.4	0.18
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.007	0.013	0.003
SELENIUM (SE) DIS	<0.005	0.12	<0.005
SELENIUM (SE) TOT	<0.005	0.11	<0.005
ZINC (ZN) DIS	0.033 UJ1	0.034	0.033
ZINC (ZN) TOT	0.042	0.038	0.022

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-5	EM-6	EM-6	EM-7
SAMPLE DATE	08/06/99	08/06/99	08/06/99	08/06/99
SAMPLE TIME	10:40	09:50	10:00	10:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991394003	L991394004	L991394005	L991394006
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9908-171	EPRI-9908-172	EPRI-9908-200	EPRI-9908-173

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	14.35	36.92		8.38
OXYGEN (O) (FLD) DIS	0.7	0.5	0.4	3.9
PH (FLD)	7.46	7.3	7.3	7.54
PK	7.8	8.0	8.0	7.7
SC (UMHOS/CM AT 25 C)	2660.0	3640.0	3640.0	4410.0
SC (UMHOS/CM AT 25 C) (FLD)	2630.0	3840.0	3850.0	4420.0
TDS (MEASURED AT 180 C)	1786.0	2567.0	2608.0	3121.0
TOTAL SUSPENDED SOLIDS	1.4	2.4	2.6	139.0
TURBIDITY (NTU)	0.75	1.6		OFFSCALE
WATER TEMPERATURE (C) (FLD)	23.6	24.8	24.8	26.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	78.0	102.0	100.0	142.0
MAGNESIUM (MG) DIS	16.0	60.0	60.0	27.0
SODIUM (NA) DIS	479.0	697.0	675.0	834.0
POTASSIUM (K) DIS	27.0	12.0	12.0	37.0
BICARBONATE (HCO3)	159.0	311.0	310.0	287.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	715.0	1121.0	1221.0	1419.0
CHLORIDE (CL)	296.0	321.0	322.0	446.0
FLUORIDE (F)	4.8	1.8	1.8	6.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.36	4.7	5.7	0.23
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.4	0.042 J4	0.033 J4	2.4
ARSENIC (AS) TOT	2.3	0.033	0.032	2.2
CADMIUM (CD) DIS	0.016	0.007	0.007	0.023
CADMIUM (CD) TOT	0.017	0.007	0.007	0.073
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	0.018
COPPER (CU) DIS	<0.025	0.059	0.06	0.056
COPPER (CU) TOT	<0.025	0.067	0.065	0.16
IRON (FE) DIS	0.64	<0.1	<0.1	0.17
IRON (FE) TOT	0.72	<0.1	<0.1	1.4
LEAD (PB) DIS	<0.003	0.004	0.004	0.034
LEAD (PB) TOT	0.003	0.008	0.009	0.63
SELENIUM (SE) DIS	0.008	0.067	0.076	0.03
SELENIUM (SE) TOT	0.007	0.071	0.07	0.037
ZINC (ZN) DIS	0.11	0.1	0.099	0.073
ZINC (ZN) TOT	0.11	0.1	0.1	0.31

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-4	EP-5	EP-6
SITE CODE	EP-4	EP-5	EP-6
SAMPLE DATE	08/02/99	08/02/99	08/02/99
SAMPLE TIME	13:40	14:00	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991377004	L991377005	L991377006
SAMPLE NUMBER	EPRI-9908-100	EPRI-9908-101	EPRI-9908-102

-- PHYSICAL PARAMETERS --

	EP-4	EP-5	EP-6
DEPTH TO WATER LEVEL (FEET)	6.99	5.72	6.53
OXYGEN (O) (FLD) DIS	1.3	1.8	1.6
PH (FLD)	7.61	7.44	7.37
PH	7.8	7.9	8.4
SC (UMHOS/CM AT 25 C)	2440.0	3300.0	7760.0
SC (UMHOS/CM AT 25 C) (FLD)	2490.0	3550.0	7630.0
TDS (MEASURED AT 180 C)	1650.0	2288.0	6252.0
TOTAL SUSPENDED SOLIDS	358.0 J4	149.0 J4	6.0 J4
TURBIDITY (NTU)	72.3	10.68	4.0
WATER TEMPERATURE (C) (FLD)	25.8	28.0	26.9

-- MAJOR CONSTITUENTS --

	EP-4	EP-5	EP-6
CALCIUM (CA) DIS	117.0	87.0	409.0
MAGNESIUM (MG) DIS	30.0	36.0	143.0
SODIUM (NA) DIS	350.0	550.0	1100.0
POTASSIUM (K) DIS	16.0	11.0	27.0
BICARBONATE (HCO3)	401.0	743.0	360.0
CARBONATE AS CO3	<1.0	<1.0	20.0
SULFATE (SO4)	603.0	577.0	2975.0
CHLORIDE (CL)	273.0	352.0	1013.0
FLUORIDE (F)	1.1	2.9	1.6

-- NUTRIENTS --

	EP-4	EP-5	EP-6
NITRATE + NITRITE AS N	0.076 UJ1	<0.05	6.6

-- METALS & MINOR CONSTITUENTS --

	EP-4	EP-5	EP-6
ARSENIC (AS) DIS	0.15	0.061	0.021
ARSENIC (AS) TOT	0.13	0.057	0.027
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	0.012	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) DIS	0.9	0.1	<0.1
IRON (FE) TOT	2.2	1.5	0.12
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.015 UJ1	0.018 UJ1	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	0.043
SELENIUM (SE) TOT	<0.005	0.005	0.028
ZINC (ZN) DIS	<0.02	<0.02	<0.02
ZINC (ZN) TOT	0.025 J2	0.057 J2	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-7	EP-12	EP-13
SITE CODE	EP-7	EP-12	EP-13
SAMPLE DATE	08/02/99	08/11/99	08/03/99
SAMPLE TIME	14:45	09:00	09:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991377007	L991431012	L991377009
SAMPLE NUMBER	EPRI-9908-103	EPRI-9908-104	EPRI-9908-105

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FBET)	5.79	58.12	59.88
OXYGEN (O) (FLD) DIS	1.9	0.1	2.6
PH (FLD)	7.33	7.31	7.19
PH	7.7	7.6	7.5
SC (UMHOS/CM AT 25 C)	3790.0	6110.0	11200.0
SC (UMHOS/CM AT 25 C) (FLD)	3800.0	6070.0	11300.0
TDS (MEASURED AT 180 C)	2664.0	4756.0	9509.0
TOTAL SUSPENDED SOLIDS	15.0 J4	36.0	4.3 J4
TURBIDITY (NTU)	9.0		3.14
WATER TEMPERATURE (C) (FLD)	24.8	23.5	25.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	146.0	360.0	354.0
MAGNESIUM (MG) DIS	47.0	126.0	62.0
SODIUM (NA) DIS	500.0	945.0	2000.0
POTASSIUM (K) DIS	11.0	15.0	77.0
BICARBONATE (HCO3)	366.0	1147.0	407.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	907.0	1900.0	4734.0
CHLORIDE (CL)	467.0	425.0	770.0
FLUORIDE (F)	1.7	0.78	1.5

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.13 UJ1	12.0	96.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.064	1.7	39.0
ARSENIC (AS) TOT	0.063	2.0	38.0
CADMIUM (CD) DIS	<0.005	<0.005	0.66
CADMIUM (CD) TOT	<0.005	<0.005	0.66
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	0.048
COPPER (CU) TOT	<0.025	<0.025	0.053
IRON (FE) DIS	1.5	0.75	<0.1
IRON (FE) TOT	1.6	1.4 J4	0.4
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	<0.003	0.004	0.009
SELENIUM (SE) DIS	<0.005	0.2	5.9
SELENIUM (SE) TOT	<0.005	0.48	5.7
ZINC (ZN) DIS	<0.02	0.024 UJ1	0.067
ZINC (ZN) TOT	<0.02	<0.02	0.068 J2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-14	EP-15	EP-15	EP-20
SITE CODE	EP-14	EP-15	EP-15	EP-20
SAMPLE DATE	08/03/99	08/03/99	08/03/99	08/02/99
SAMPLE TIME	10:45	11:20	11:25	09:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991377010	L991377011	L991377012	L991377001
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9908-106	EPRI-9908-107	EPRI-9908-194	EPRI-9908-108

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FHET)	58.43	58.24		13.01
OXYGEN (O) (FLD) DIS	0.4	2.0	2.0	1.6
PH (FLD)	7.11	7.19	7.19	6.89
PH	7.5	7.5	7.6	7.2
SC (UMHOS/CM AT 25 C)	4300.0	4460.0	4460.0	9930.0
SC (UMHOS/CM AT 25 C) (FLD)	4340.0	4500.0	4520.0	10090.0
TDS (MEASURED AT 180 C)	3349.0	3400.0	3408.0	8709.0
TOTAL SUSPENDED SOLIDS	16.0 J4	83.0 J4	49.0 J4	35.0 J4
TURBIDITY (NTU)	19.0	68.9		22.8
WATER TEMPERATURE (C) (FLD)	25.6	24.3	24.3	23.2

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	244.0	217.0	220.0	498.0
MAGNESIUM (MG) DIS	67.0	76.0	78.0	287.0
SODIUM (NA) DIS	550.0	600.0	600.0	1600.0
POTASSIUM (K) DIS	44.0	12.0	12.0	53.0
BICARBONATE (HCO3)	621.0	295.0	298.0	372.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1229.0	1233.0	1363.0	4935.0
CHLORIDE (CL)	358.0 J3	452.0	432.0	754.0
FLUORIDE (F)	2.0	0.73	0.74	2.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	31.0	32.0	30.0	143.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.1	0.012	0.012	1.0
ARSENIC (AS) TOT	2.1	0.014	0.014	1.1
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	0.03
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	0.03
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025	0.026
IRON (FE) DIS	0.57	<0.1	<0.1	<0.1
IRON (FE) TOT	0.9	0.74	0.74	0.9
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.008	<0.003	<0.003	0.005 UJ1
SELENIUM (SE) DIS	0.22	0.17	0.17	0.37
SELENIUM (SE) TOT	0.19	0.15	0.15	0.35
ZINC (ZN) DIS	0.038	<0.02	<0.02	0.04
ZINC (ZN) TOT	0.055 J2	0.021 J2	0.022 J2	0.046 J2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split; Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-21	EP-23	EP-24
SITE CODE	EP-21	EP-23	EP-24
SAMPLE DATE	08/10/99	08/04/99	08/10/99
SAMPLE TIME	14:00	15:00	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991431008	L991393014	L991431009
SAMPLE NUMBER	EPRI-9908-109	EPRI-9908-111	EPRI-9908-112
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	27.57	22.12	32.92
OXYGEN (O) (FLD) DIS	0.8		0.6
PH (FLD)	7.66	7.49	7.05
PH	8.0	7.8	7.8
SC (UMHOS/CM AT 25 C)	5140.0	3750.0	5680.0
SC (UMHOS/CM AT 25 C) (FLD)	5160.0	3840.0	5640.0
TDS (MEASURED AT 180 C)	2974.0	2130.0	3538.0
TOTAL SUSPENDED SOLIDS	19.0	23.0	23.0
TURBIDITY (NTU)		13.0	
WATER TEMPERATURE (C) (FLD)	26.8	24.6	27.4
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	32.0	49.0	213.0
MAGNESIUM (MG) DIS	39.0	31.0	55.0
SODIUM (NA) DIS	805.0	618.0	894.0
POTASSIUM (K) DIS	282.0	37.0	30.0
BICARBONATE (HCO3)	2111.0	766.0	1379.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	88.0	838.0	273.0
CHLORIDE (CL)	608.0	257.0	1044.0
FLUORIDE (F)	6.3 J4	4.2	2.4 J4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.05 J4	0.1	0.08 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.022	8.8	0.006
ARSENIC (AS) TOT	0.042	9.4	0.013
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01 UJ4	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	0.03	0.039 J4	<0.025
IRON (FE) DIS	0.83	0.49	<0.1
IRON (FE) TOT	1.3 J4	0.78 J4	0.17 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.016	0.02 J4	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TOT	0.017	0.009	<0.005
ZINC (ZN) DIS	0.031 UJ1	<0.02	<0.02
ZINC (ZN) TOT	0.079 UJ1	0.099	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-25	EP-26	EP-29
SITE CODE	EP-25	EP-26	EP-29
SAMPLE DATE	08/11/99	08/04/99	08/02/99
SAMPLE TIME	08:00	08:30	10:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991431011	L991393008	L991377003
SAMPLE NUMBER	EPRI-9908-113	EPRI-9908-114	EPRI-9908-115
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	48.35	56.5	13.19
OXYGEN (O) (FLD) DIS			3.5
PH (FLD)		7.07	7.59
PH	7.1	7.4	7.8
SC (UMHOS/CM AT 25 C)	7210.0	2000.0	3180.0
SC (UMHOS/CM AT 25 C) (FLD)		2200.0	3220.0
TDS (MEASURED AT 180 C)	5465.0	1466.0	2143.0
TOTAL SUSPENDED SOLIDS	378.0	29.0	1160.0
TURBIDITY (NTU)		9.7	>200
WATER TEMPERATURE (C) (FLD)		23.3	24.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	584.0	176.0	57.0
MAGNESIUM (MG) DIS	68.0	24.0	22.0
SODIUM (NA) DIS	706.0	204.0	500.0
POTASSIUM (K) DIS	555.0	21.0	18.0
BICARBONATE (HCO3)	677.0	56.0	464.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1860.0	738.0	741.0
CHLORIDE (CL)	955.0	147.0	302.0
FLUORIDE (F)	1.9	0.66	3.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	1.0	14.0	3.3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.82	0.23	0.26
ARSENIC (AS) TOT	1.1	0.28 J4	0.26
CADMIUM (CD) DIS	<0.005	3.5	<0.005
CADMIUM (CD) TOT	<0.005	2.5	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01 UJ4	0.014
COPPER (CU) DIS	<0.025	0.082	<0.025
COPPER (CU) TOT	<0.025	0.28 J4	<0.025
IRON (FE) DIS	8.0	<0.1	<0.1
IRON (FE) TOT	8.2 J4	2.2 J4	7.2
LEAD (PB) DIS	<0.003	0.015	<0.003
LEAD (PB) TOT	0.009	0.1	0.008 UJ1
SELENIUM (SE) DIS	0.073	0.64	0.12
SELENIUM (SE) TOT	0.15	0.56	0.11
ZINC (ZN) DIS	0.024 UJ1	7.1	<0.02
ZINC (ZN) TOT	0.033	5.4	0.029 J2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-35	EP-43	EP-43	EP-51
SITE CODE	EP-35	EP-43	EP-43	EP-51
SAMPLE DATE	08/02/99	08/11/99	08/11/99	08/04/99
SAMPLE TIME	10:10	09:45	09:45	13:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991377002	L991431013	L991431014	L991393011
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9908-116	EPRI-9908-117	EPRI-9908-206	EPRI-9908-119
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	12.9	56.54		48.15
OXYGEN (O) (FLD) DIS	2.9	2.00	1.3	
PH (FLD)	6.92	7.57	7.61	6.87
PH	7.1	7.5	7.5	7.2
SC (UMHOS/CM AT 25 C)	6920.0	8070.0	8060.0	11840.0
SC (UMHOS/CM AT 25 C) (FLD)	7000.0	6880.0	6890.0	9560.0
TDS (MEASURED AT 180 C)	6040.0	5598.0	5560.0	8470.0
TOTAL SUSPENDED SOLIDS	398.0 J4	15.0	14.0	22.0
TURBIDITY (NTU)	136.5			
WATER TEMPERATURE (C) (FLD)	23.4	25.8	25.8	25.9
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	476.0	354.0	371.0	590.0
MAGNESIUM (MG) DIS	160.0	125.0	129.0	400.0
SODIUM (NA) DIS	900.0	1246.0	1266.0	1028.0
POTASSIUM (K) DIS	19.0	47.0	47.0	39.0
BICARBONATE (HCO3)	610.0	804.0	800.0	228.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2620.0	1790.0	1774.0	2458.0
CHLORIDE (CL)	1086.0	1601.0	1528.0	2357.0
FLUORIDE (F)	1.0	2.3	2.3	1.8
-- NUTRIENTS --				
NITRATE + NITRITE AS N	88.0	6.2	6.9	192.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.82	0.33	0.32	0.44
ARSENIC (AS) TOT	0.78	0.32	0.33	0.37 J4
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	0.034
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	0.035
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	0.015	<0.01	<0.01	0.1 J4
COPPER (CU) DIS	<0.025	<0.025	<0.025	0.049
COPPER (CU) TOT	<0.025	<0.025	<0.025	0.051 J4
IRON (FE) DIS	<0.1	1.8	1.7	<0.1
IRON (FE) TOT	1.6	1.7 J4	1.7 J4	0.31 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.009 UJ1	<0.003	<0.003	0.004 J4
SELENIUM (SE) DIS	2.0	0.27	0.26	0.23
SELENIUM (SE) TOT	1.7	0.27	0.28	0.23
ZINC (ZN) DIS	<0.02	<0.02	0.023 UJ1	0.35
ZINC (ZN) TOT	0.027 J2	<0.02	<0.02	0.35

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-51	EP-52	EP-53
SITE CODE	EP-51	EP-52	EP-53
SAMPLE DATE	08/04/99	08/05/99	08/04/99
SAMPLE TIME	13:45	15:30	11:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991393012	L991393027	L991393010
REMARKS	DUPLICATE		
SAMPLE NUMBER	EPRI-9908-196	EPRI-9908-120	EPRI-9908-121

-- PHYSICAL PARAMETERS --

	EP-51	EP-52	EP-53
DEPTH TO WATER LEVEL (FEET)		51.25	67.74
OXYGEN (O) (FLD) DIS		0.7	
PH (FLD)	6.88	6.21	6.85
PH	7.2	7.2	7.1
SC (UMHOS/CM AT 25 C)	11020.0	11190.0	7190.0
SC (UMHOS/CM AT 25 C) (FLD)	9570.0	12290.0	7240.0
TDS (MEASURED AT 180 C)	8498.0	9637.0	5354.0
TOTAL SUSPENDED SOLIDS	25.0	15.0	428.0
TURBIDITY (NTU)		21.0	163.0
WATER TEMPERATURE (C) (FLD)	25.9	27.4	28.4

-- MAJOR CONSTITUENTS --

	EP-51	EP-52	EP-53
CALCIUM (CA) DIS	600.0	512.0	330.0
MAGNESIUM (MG) DIS	400.0	267.0	96.0
SODIUM (NA) DIS	1068.0	1823.0	937.0
POTASSIUM (K) DIS	40.0	21.0	76.0
BICARBONATE (HCO3)	218.0	683.0	315.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2598.0	4606.0	2905.0
CHLORIDE (CL)	2327.0	1269.0	447.0
FLUORIDE (F)	1.8	6.3	5.6

-- NUTRIENTS --

	EP-51	EP-52	EP-53
NITRATE + NITRITE AS N	227.0	130.0	31.0

-- METALS & MINOR CONSTITUENTS --

	EP-51	EP-52	EP-53
ARSENIC (AS) DIS	0.46	1.0	44.0
ARSENIC (AS) TOT	0.55 J4	1.4	42.0
CADMIUM (CD) DIS	0.033	0.51	0.46
CADMIUM (CD) TOT	0.033	0.51	0.46
CHROMIUM (CR) DIS	<0.01	0.024	<0.01
CHROMIUM (CR) TOT	0.51 J4	0.16	<0.01 UJ4
COPPER (CU) DIS	0.047	0.36	<0.025
COPPER (CU) TOT	0.084 UJ4	0.39	<0.025 UJ4
IRON (FE) DIS	<0.1	0.59	<0.1
IRON (FE) TOT	1.3 J4	2.2	1.7 J4
LEAD (PB) DIS	<0.003	0.041	<0.003
LEAD (PB) TOT	0.012 J4	0.44	0.004 J4
SELENIUM (SE) DIS	0.24	0.28	0.75
SELENIUM (SE) TOT	0.24	0.29	0.62
ZINC (ZN) DIS	0.34	2.1	1.2
ZINC (ZN) TOT	0.33	2.7	1.1

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-54	EP-55	EP-56
	SAMPLE DATE	08/04/99	08/10/99	08/04/99
	SAMPLE TIME	14:20	16:00	09:00
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991393013	L991431010	L991393009
	SAMPLE NUMBER	EPRI-9908-122	EPRI-9908-123	EPRI-9908-124
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	70.24	56.02	49.83
	OXYGEN (O) (FLD) DIS		0.5	
	PH (FLD)	6.37	6.33	7.17
	PH	7.0	6.9	7.5
	SC (UMHOS/CM AT 25 C)	11000.0	10470.0	5390.0
	SC (UMHOS/CM AT 25 C) (FLD)	11260.0	10550.0	5460.0
	TDS (MEASURED AT 180 C)	9098.0	8634.0	3978.0
	TOTAL SUSPENDED SOLIDS	17.0	362.0	224.0
	TURBIDITY (NTU)	88.0		>200
	WATER TEMPERATURE (C) (FLD)	29.0	27.9	24.1
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	497.0	502.0	227.0
	MAGNESIUM (MG) DIS	295.0	332.0	55.0
	SODIUM (NA) DIS	1884.0	1441.0	928.0
	POTASSIUM (K) DIS	330.0	119.0	28.0
	BICARBONATE (HCO3)	996.0	867.0	289.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	4971.0	4066.0	2310.0
	CHLORIDE (CL)	727.0	931.0	546.0
	FLUORIDE (F)	11.0	16.0	2.5
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	8.6	0.09 J4	.91
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	50.0	25.0	2.8
	ARSENIC (AS) TOT	45.0	29.0	2.2 J4
	CADMIUM (CD) DIS	0.49	<0.005	<0.005
	CADMIUM (CD) TOT	0.47	0.19	<0.005
	CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
	CHROMIUM (CR) TOT	0.015 J4	<0.01	<0.01 UJ4
	COPPER (CU) DIS	0.1	<0.025	<0.025
	COPPER (CU) TOT	0.12 J4	0.033	<0.025 UJ4
	IRON (FE) DIS	0.16	35.0	<0.1
	IRON (FE) TOT	2.9 J4	45.0 J4	2.9 J4
	LEAD (PB) DIS	<0.003	<0.003	0.004
	LEAD (PB) TOT	0.007 J4	0.028	0.01 J4
	SELENIUM (SE) DIS	0.17	0.026	0.026
	SELENIUM (SE) TOT	0.13	0.052	0.024
	ZINC (ZN) DIS	9.8	12.0	<0.02
	ZINC (ZN) TOT	9.4	27.0	0.049

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-57	EP-58	EP-59
SITE CODE	EP-57	EP-58	EP-59
SAMPLE DATE	08/10/99	08/10/99	08/03/99
SAMPLE TIME	11:00	09:20	13:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991431006	L991431002	L991393001
SAMPLE NUMBER	EPRI-9908-125	EPRI-9908-126	EPRI-9908-127
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	8.06	11.44	12.72
OXYGEN (O) (FLD) DIS	0.3	0.5	0.4
PH (FLD)	7.07	6.49	7.18
PH	7.6	8.0	7.4
SC (UMHOS/CM AT 25 C)	2670.0	11590.0	4920.0
SC (UMHOS/CM AT 25 C) (FLD)	2560.0	11610.0	4950.0
TDS (MEASURED AT 180 C)	1745.0	9236.0	3779.0
TOTAL SUSPENDED SOLIDS	39.0	39.0	4.6 J4
TURBIDITY (NTU)			5.11
WATER TEMPERATURE (C) (FLD)	26.0	24.7	25.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	85.0	531.0	189.0
MAGNESIUM (MG) DIS	79.0	226.0	96.0
SODIUM (NA) DIS	391.0	1832.0	809.0
POTASSIUM (K) DIS	20.0	203.0	95.0
BICARBONATE (HCO3)	1293.0	1313.0	368.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	168.0	4036.0	1871.0
CHLORIDE (CL)	206.0	990.0	422.0
FLUORIDE (F)	0.92 J4	5.7 J4	5.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.14 J4	0.06 J4	12.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	0.25	4.1	2.8
ARSENIC (AS) TOT	0.29	4.0	2.7
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	0.012
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) DIS	0.27	1.7	<0.1
IRON (FE) TOT	3.1 J4	2.1 J4	0.22
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.003	0.004	<0.003
SELENIUM (SE) DIS	<0.005	0.019	0.31
SELENIUM (SE) TOT	0.006	0.037	0.28
ZINC (ZN) DIS	<0.02	<0.02	0.02
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC).
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-60	EP-61	EP-62
	SAMPLE DATE	08/03/99	08/10/99	08/03/99
	SAMPLE TIME	16:00	09:45	14:50
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991393005	L991431003	L991393003
	SAMPLE NUMBER	EPRI-9908-128	EPRI-9908-129	EPRI-9908-130
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (PRET)	9.09	9.27	7.04
	OXYGEN (O) (FLD) DIS	3.0	1.1	2.1
	PH (PLD)	7.18	7.15	7.29
	PH	7.6	7.7	7.4
	SC (UMHOS/CM AT 25 C)	8570.0	8070.0	4410.0
	SC (UMHOS/CM AT 25 C) (FLD)	8410.0	8060.0	4470.0
	TDS (MEASURED AT 180 C)	7299.0	6549.0	3315.0
	TOTAL SUSPENDED SOLIDS	2.5 J4	65.0	2.2 J4
	TURBIDITY (NTU)			1.0
	WATER TEMPERATURE (C) (FLD)	25.8	24.3	29.0
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	545.0	368.0	161.0
	MAGNESIUM (MG) DIS	222.0	167.0	80.0
	SODIUM (NA) DIS	1233.0	1357.0	690.0
	POTASSIUM (K) DIS	15.0	17.0	54.0
	BICARBONATE (HCO3)	299.0	472.0	361.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	3184.0	2802.0	1519.0
	CHLORIDE (CL)	1073.0	780.0	382.0
	FLUORIDE (F)	1.7	1.6 J4	3.2
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	68.0	82.0 J4	5.5
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	0.006	0.014	0.77
	ARSENIC (AS) TOT	0.008	0.014	0.75
	CADMIUM (CD) DIS	<0.005	<0.005	<0.005
	CADMIUM (CD) TOT	<0.005	<0.005	<0.005
	CHROMIUM (CR) DIS	<0.01	0.014	<0.01
	CHROMIUM (CR) TOT	0.05	0.02	<0.01
	COPPER (CU) DIS	<0.025	<0.025	<0.025
	COPPER (CU) TOT	<0.025	<0.025	<0.025
	IRON (FE) DIS	0.18	0.3	<0.1
	IRON (FE) TOT	0.46	1.9 J4	0.14
	LEAD (PB) DIS	<0.003	<0.003	<0.003
	LEAD (PB) TOT	<0.003	<0.003	<0.003
	SELENIUM (SE) DIS	0.22	0.3	0.31
	SELENIUM (SE) TOT	0.21	0.31	0.29
	ZINC (ZN) DIS	<0.02	<0.02	0.028
	ZINC (ZN) TOT	0.029	<0.02	0.031

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-63	EP-64	EP-65	EP-65
SITE CODE	EP-63	EP-64	EP-65	EP-65
SAMPLE DATE	08/03/99	08/03/99	08/10/99	08/10/99
SAMPLE TIME	15:20	14:20	10:15	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991393004	L991393002	L991431004	L991431005
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9908-131	EPRI-9908-132	EPRI-9908-133	EPRI-9908-204
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	6.4	9.69	7.8	
OXYGEN (O) (FLD) DIS	1.2	5.0	0.3	0.3
PH (FLD)	7.18	7.48	7.14	7.14
PH	7.1	7.8	7.8	7.7
SC (UMHOS/CM AT 25 C)	8140.0	8380.0	6610.0	6610.0
SC (UMHOS/CM AT 25 C) (FLD)	8240.0	9420.0	6660.0	6660.0
TDS (MEASURED AT 180 C)	6267.0	6922.0	5163.0	5176.0
TOTAL SUSPENDED SOLIDS	8.3 J4	11.0 J4	20.0	19.0
TURBIDITY (NTU)		5.8		
WATER TEMPERATURE (C) (FLD)	24.8	27.5	25.5	25.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	261.0	332.0	307.0	304.0
MAGNESIUM (MG) DIS	172.0	113.0	132.0	131.0
SODIUM (NA) DIS	1420.0	1578.0	1078.0	1107.0
POTASSIUM (K) DIS	35.0	18.0	20.0	21.0
BICARBONATE (HCO3)	439.0	309.0	667.0	639.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	3102.0	4129.0	2577.0	2577.0
CHLORIDE (CL)	893.0	594.0	570.0	651.0
FLUORIDE (F)	2.1	1.9	1.1 J4	1.9 J4
-- NUTRIENTS --				
NITRATE + NITRITE AS N	7.6	77.0	36.0 J4	29.0 J4
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.021	0.036	0.006	0.005
ARSENIC (AS) TOT	0.022	0.038	0.012	0.012
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	0.012	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.3	0.3
IRON (FE) TOT	0.55	0.51	0.57 J4	0.56 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.007	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.23	0.51	0.17	0.17
SELENIUM (SE) TOT	0.24	0.48	0.18	0.19
ZINC (ZN) DIS	0.023	0.026	0.021 UJ1	<0.02
ZINC (ZN) TOT	0.041	0.027	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-66	EP-67	EP-68
SAMPLE DATE	08/04/99	08/05/99	08/05/99
SAMPLE TIME	10:20	10:00	10:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991393007	L991393020	L991393021
SAMPLE NUMBER	EPRI-9908-134	EPRI-9908-135	EPRI-9908-136

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	9.96	41.29	63.42
PH (FLD)	7.0	6.86	7.17
PH	7.8	7.7	7.9
SC (UMHOS/CM AT 25 C)	8000.0	4330.0	4780.0
SC (UMHOS/CM AT 25 C) (FLD)	7680.0	4860.0	4790.0
TDS (MEASURED AT 180 C)	6952.0	3756.0	3666.0
TOTAL SUSPENDED SOLIDS	8.9	10.0	19.0
TURBIDITY (NTU)	6.35	9.0	9.99
WATER TEMPERATURE (C) (FLD)	26.7	24.6	24.2

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	594.0	433.0	246.0
MAGNESIUM (MG) DIS	147.0	132.0	108.0
SODIUM (NA) DIS	1230.0	414.0	608.0
POTASSIUM (K) DIS	51.0	13.0	14.0
BICARBONATE (HCO3)	488.0	239.0	240.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3404.0	2117.0	1609.0
CHLORIDE (CL)	564.0	356.0	555.0
FLUORIDE (F)	3.7	.8	.75

-- NUTRIENTS --

NITRATE + NITRITE AS N	47.0	17.0	39.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	10.0	0.02	0.005
ARSENIC (AS) TOT	9.6	0.023	0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	0.012	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	0.013
CHROMIUM (CR) TOT	<0.01 UJ4	<0.01	0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	0.026 J4	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TOT	0.22 J4	0.21	0.42
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.004	<0.003	<0.003
SELENIUM (SE) DIS	0.28	0.12	0.25
SELENIUM (SE) TOT	0.28	0.11	0.24
ZINC (ZN) DIS	0.022	0.037	0.02
ZINC (ZN) TOT	0.045	0.023	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-70	EP-71	EP-73
SAMPLE DATE	08/05/99	08/05/99	08/05/99
SAMPLE TIME	09:00	09:30	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991393018	L991393019	L991393026
SAMPLE NUMBER	EPRI-9908-137	EPRI-9908-138	EPRI-9908-140

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	61.59	49.57	10.0
OXYGEN (O) (FLD) DIS			5.2
PH (FLD)	7.01	6.92	7.01
PH	7.0	7.5	7.5
SC (UMHOS/CM AT 25 C)	6020.0	5850.0	6550.0
SC (UMHOS/CM AT 25 C) (FLD)	6660.0	6560.0	7280.0
TDS (MEASURED AT 180 C)	4798.0	4857.0	5277.0
TOTAL SUSPENDED SOLIDS	3.1	4.0	6.9
TURBIDITY (NTU)	4.5	1.7	8.88
WATER TEMPERATURE (C) (FLD)	24.2	24.2	28.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	291.0	348.0	262.0
MAGNESIUM (MG) DIS	151.0	164.0	117.0
SODIUM (NA) DIS	930.0	856.0	1066.0
POTASSIUM (K) DIS	20.0	17.0	348.0
BICARBONATE (HCO3)	220.0	281.0	268.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2600.0	2329.0	3032.0
CHLORIDE (CL)	488.0	475.0	439.0
FLUORIDE (F)	1.1	.92	2.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	53.0	92.0	19.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.72	0.13	0.027
ARSENIC (AS) TOT	0.75	0.12	0.026
CADMIUM (CD) DIS	0.009	<0.005	<0.005
CADMIUM (CD) TOT	0.009	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	<0.1	0.15
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	0.18	0.24	1.1
SELENIUM (SE) TOT	0.19	0.24	0.96
ZINC (ZN) DIS	0.16	0.026	0.029
ZINC (ZN) TOT	0.13	0.02	0.024

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-75	EP-77	EP-78
	SAMPLE DATE	08/06/99	08/05/99	08/09/99
	SAMPLE TIME	11:00	14:00	11:15
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991394007	L991393024	L991394015
	SAMPLE NUMBER	EPRI-9908-141	EPRI-9908-143	EPRI-9908-144
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	70.09	43.62	29.24
	OXYGEN (O) (FLD) DIS	0.4	1.2	0.9
	PH (FLD)	6.86	7.14	7.86
	PH	7.2	7.4	7.8
	SC (UMHOS/CM AT 25 C)	16010.0	5110.0	2520.0
	SC (UMHOS/CM AT 25 C) (FLD)	18110.0	5640.0	2440.0
	TDS (MEASURED AT 180 C)	14853.0	3766.0	1664.0
	TOTAL SUSPENDED SOLIDS	6.7	22.0	12.0
	TURBIDITY (NTU)	6.3	18.0	15.5
	WATER TEMPERATURE (C) (FLD)	26.6	25.5	23.8
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	380.0	182.0	31.0
	MAGNESIUM (MG) DIS	372.0	42.0	18.0
	SODIUM (NA) DIS	3775.0	823.0	447.0
	POTASSIUM (K) DIS	672.0	32.0	39.0
	BICARBONATE (HCO3)	510.0	230.0	331.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	4626.0	2045.0	705.0
	CHLORIDE (CL)	192.0	553.0	117.0
	FLUORIDE (F)	1.5	3.4	4.5
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	124.0	1.8	6.7
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	17.0	7.2	5.9
	ARSENIC (AS) TOT	16.0	6.0	5.2
	CADMIUM (CD) DIS	0.005	0.01	<0.005
	CADMIUM (CD) TOT	0.005	0.01	<0.005
	CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
	CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
	COPPER (CU) DIS	0.066	<0.025	<0.025
	COPPER (CU) TOT	0.066	<0.025	<0.025
	IRON (FE) DIS	<0.1	<0.1	<0.1
	IRON (FE) TOT	0.37	0.55	0.26
	LEAD (PB) DIS	0.003	0.003	<0.003
	LEAD (PB) TOT	0.01	0.011	0.007 J4
	SELENIUM (SE) DIS	3.8	0.025	0.68
	SELENIUM (SE) TOT	3.6	0.023	0.57 J4
	ZINC (ZN) DIS	0.11	0.024	<0.02
	ZINC (ZN) TOT	0.094	0.036	0.03

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; S:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-79	EP-80	EP-81
SAMPLE DATE	08/05/99	08/09/99	08/09/99
SAMPLE TIME	10:45	08:45	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991394014	L991394009	L991394010
SAMPLE NUMBER	EPRI-9908-145	EPRI-9908-146	EPRI-9908-147

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	46.99	10.37	17.26
OXYGEN (O) (FLD) DIS	0.4	0.2	3.6
PH (FLD)	7.53	7.27	7.12
PH	8.0	7.8	7.7
SC (UMHOS/CM AT 25 C)	4730.0	5240.0	2830.0
SC (UMHOS/CM AT 25 C) (FLD)	4770.0	5250.0	3150.0
TDS (MEASURED AT 180 C)	3360.0	3934.0	2169.0
TOTAL SUSPENDED SOLIDS	6.3	18.0	6.0
TURBIDITY (NTU)	5.4	9.68	9.3
WATER TEMPERATURE (C) (FLD)	26.6	24.9	26.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	50.0	196.0	176.0
MAGNESIUM (MG) DIS	62.0	94.0	77.0
SODIUM (NA) DIS	974.0	961.0	389.0
POTASSIUM (K) DIS	8.7	20.0	21.0
BICARBONATE (HCO3)	437.0	510.0	465.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1509.0	1991.0	1011.0
CHLORIDE (CL)	396.0	432.0	103.0
FLUORIDE (F)	4.6	1.3	2.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	9.5	0.073	7.9
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.008	0.016	0.4
ARSENIC (AS) TOT	0.007	0.015	0.36
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	0.46	0.15
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	<0.003 UJ4	<0.003 UJ4	0.005 J4
SELENIUM (SE) DIS	0.14	0.006	0.25
SELENIUM (SE) TOT	0.12 J4	<0.005 UJ4	0.26 J4
ZINC (ZN) DIS	<0.02	0.027	0.045
ZINC (ZN) TOT	<0.02	<0.02	0.032

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <;Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-82	EP-83	EP-84
SITE CODE	EP-82	EP-83	EP-84
SAMPLE DATE	08/09/99	08/09/99	08/09/99
SAMPLE TIME	11:45	14:00	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991394016	L991394018	L991394017
SAMPLE NUMBER	EPRI-9908-148	EPRI-9908-149	EPRI-9908-150

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	15.74	27.07	7.19
OXYGEN (O) (FLD) DIS	0.4	4.9	2.7
PH (FLD)	7.23	7.48	7.44
PH	7.7	7.9	7.9
SC (UMHOS/CM AT 25 C)	4490.0	3870.0	1838.0
SC (UMHOS/CM AT 25 C) (FLD)	4560.0	3910.0	1854.0
TDS (MEASURED AT 180 C)	3217.0	2725.0	1288.0
TOTAL SUSPENDED SOLIDS	7.2	6.2	4.5
TURBIDITY (NTU)	7.9	6.8	5.0
WATER TEMPERATURE (C) (FLD)	23.1	23.6	27.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	118.0	71.0	126.0
MAGNESIUM (MG) DIS	69.0	65.0	56.0
SODIUM (NA) DIS	877.0	717.0	195.0
POTASSIUM (K) DIS	24.0	10.0	6.2
BICARBONATE (HCO3)	476.0	354.0	229.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1478.0	1266.0	506.0
CHLORIDE (CL)	367.0	336.0	157.0
FLUORIDE (F)	3.2	3.1	0.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	7.8	8.0	6.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	0.01	0.006	0.097
ARSENIC (AS) TOT	0.009	0.005	0.095
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	<0.1	0.11
LEAD (PB) DIS	<0.003	<0.003	0.008
LEAD (PB) TOT	<0.003 UJ4	<0.003 UJ4	0.025 J4
SELENIUM (SE) DIS	0.17	0.047	0.019
SELENIUM (SE) TOT	0.15 J4	0.042 J4	0.017 J4
ZINC (ZN) DIS	0.022	0.02	0.025
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-85	EP-85	EP-86	EP-87
SAMPLE DATE	08/09/99	08/09/99	08/09/99	08/10/99
SAMPLE TIME	09:45	09:50	10:15	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991394011	L991394012	L991394013	L991431001
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9908-151	EPRI-9908-202	EPRI-9908-152	EPRI-9908-153

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	9.92		49.91	10.99
OXYGEN (O) (FLD) DIS	0.5	0.5	6.9	3.4
PH (FLD)	7.38	7.38	7.66	7.34
PH	7.8	7.8	8.1	7.8
SC (UMHOS/CM AT 25 C)	3200.0	3190.0	2600.0	666.0
SC (UMHOS/CM AT 25 C) (FLD)	3230.0	3220.0	2600.0	688.0
TDS (MEASURED AT 180 C)	2276.0	2282.0	1716.0	405.0
TOTAL SUSPENDED SOLIDS	2.7	2.7	15.0	458.0
TURBIDITY (NTU)	1.1		7.9	
WATER TEMPERATURE (C) (FLD)	24.0	23.9	22.9	24.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	105.0	107.0	42.0	77.0
MAGNESIUM (MG) DIS	53.0	54.0	32.0	26.0
SODIUM (NA) DIS	524.0	542.0	490.0	23.0
POTASSIUM (K) DIS	29.0	30.0	9.2	<5.0
BICARBONATE (HCO3)	343.0	337.0	331.0	537.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1119.0	1106.0	652.0	48.0
CHLORIDE (CL)	224.0	216.0	228.0	15.0
FLUORIDE (F)	3.7	3.7	2.7	0.64 J4

-- NUTRIENTS --

NITRATE + NITRITE AS N	6.7	7.7	5.8	0.77 J4

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	2.8	2.8	0.008	0.029
ARSENIC (AS) TOT	2.6	2.6	0.007	0.027
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	<0.1	0.41	3.0 J4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.015 J4	0.004 J4	0.004 J4	0.007
SELENIUM (SE) DIS	0.2	0.2	0.034	<0.005
SELENIUM (SE) TOT	0.18 J4	0.46 J4	0.03 J4	<0.005
ZINC (ZN) DIS	0.02	<0.02	<0.02	0.032 UJ1
ZINC (ZN) TOT	<0.02	0.023	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total, DIS: Dissolved, TRC: Total Recoverable, E: Estimated, <: Less Than Detect, Blank: parameter not tested
 Validation Flags: A: Anomalous, UJ1: Blank, J2, UJ2: Standard, J3: Hold Time, J4, UJ4: Duplicate, Spike, or Split Exceedance,
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-88	EP-89	EP-89	EP-90
SITE CODE	EP-88	EP-89	EP-89	EP-90
SAMPLE DATE	08/05/99	08/05/99	08/05/99	08/05/99
SAMPLE TIME	14:30	08:15	08:20	13:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991393025	L991393016	L991393017	L991393023
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-9908-154	EPRI-9908-155	EPRI-9908-198	EPRI-9908-156
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	29.43	14.4		56.4
OXYGEN (O) (FLD) DIS	4.4			1.1
PH (FLD)	7.34	7.24	7.24	7.19
PH	8.1	7.9	8.0	7.8
SC (UMHOS/CM AT 25 C)	5070.0	2850.0	2860.0	4960.0
SC (UMHOS/CM AT 25 C) (FLD)	5930.0	3220.0	3220.0	4960.0
TDS (MEASURED AT 180 C)	3742.0	2030.0	2045.0	3789.0
TOTAL SUSPENDED SOLIDS	61.0	2.5	8.1	186.0
TURBIDITY (NTU)	18.0	4.5		25.5
WATER TEMPERATURE (C) (FLD)	24.9	23.8	23.8	25.4
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	59.0	169.0	168.0	191.0
MAGNESIUM (MG) DIS	37.0	68.0	67.0	100.0
SODIUM (NA) DIS	1031.0	326.0	368.0	687.0
POTASSIUM (K) DIS	6.7	19.0	18.0	10.0
BICARBONATE (HCO3)	500.0	259.0	261.0	331.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1865.0	763.0	811.0	1834.0
CHLORIDE (CL)	407.0	326.0	316.0	480.0
FLUORIDE (F)	2.2	.77	.8	0.56
-- NUTRIENTS --				
NITRATE + NITRITE AS N	1.7	9.8	9.4	38.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) DIS	0.021	0.009	0.009	0.16
ARSENIC (AS) TOT	0.024	0.012	0.011	0.17
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025	0.048
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1
IRON (FE) TOT	0.7	<0.1	<0.1	1.4
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.01	0.005	0.004	0.019
SELENIUM (SE) DIS	0.038	0.02	0.019	1.1
SELENIUM (SE) TOT	0.035	0.024	0.024	1.0
ZINC (ZN) DIS	0.025	0.026	0.022	0.025
ZINC (ZN) TOT	0.062	0.029	0.025	0.054

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

	DI	DI	DI	DI	DI	DI
SITE CODE						
SAMPLE DATE	08/02/99	08/03/99	08/04/99	08/05/99	08/06/99	08/09/99
SAMPLE TIME	15:45	17:00	10:15	13:00	16:00	14:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991377008	L991393006	L991393015	L991393022	L991394008	L991394019
REMARKS	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9908-193	EPRI-9908-195	EPRI-9908-197	EPRI-9908-199	EPRI-9908-201	EPRI-9908-203

-- PHYSICAL PARAMETERS --

	PH					
PH	6.0	6.1	5.9	6.3	5.7	6.1
SC (UMHOS/CM AT 25 C)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	1.1 J4	<1.0	5.5	<1.0	1.2	1.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0
POTASSIUM (K) DIS	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0
BICARBONATE (HCO3)	<1.0	<1.0	<1.0	2.7	<1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2.4	<2.0	<2.0	2.3	<2.0	<2.0
CHLORIDE (CL)	1.3	<1.0	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.055	<0.05	<0.05	<0.05	<0.05	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ARSENIC (AS) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TOT	0.004	<0.003	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; U1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spikes, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI
SAMPLE DATE	08/10/99	08/11/99	08/20/99
SAMPLE TIME	12:00	10:30	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991431007	L991431016	L991509006
REMARKS	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9908-205	EPRI-9908-207	EPRI-9908-209

-- PHYSICAL PARAMETERS --

PH	6.0	6.1	5.7
SC (UMHOS/CM AT 25 C)	<10.0	<10.0	<10.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	<1.0	<1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2.2	1.2	<1.0
CHLORIDE (CL)	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.05	<0.05	<0.1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005
ARSENIC (AS) TOT	<0.005	<0.005	
ARSENIC (AS) TRC			<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	
CADMIUM (CD) TRC			<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TOT	<0.01	<0.01	
CHROMIUM (CR) TRC			<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TOT	<0.025	<0.025	
COPPER (CU) TRC			<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TOT	<0.1	<0.1	
IRON (FE) TRC			<0.1
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TOT	<0.003	<0.003	
LEAD (PB) TRC			<0.003
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TOT	<0.005	<0.005	
SELENIUM (SE) TRC			<0.005
ZINC (ZN) DIS	0.021	0.022	<0.02
ZINC (ZN) TOT	<0.02	<0.02	
ZINC (ZN) TRC			<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SITE CODE	POND 1	POND 6	SEP-1
	SAMPLE DATE	08/11/99	08/11/99	08/20/99
	SAMPLE TIME		14:05	08:25
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991431017	L991431018	L991509002
	SAMPLE NUMBER	EPRI-9908-174	EPRI-9908-176	EPRI-9908-157
-- PHYSICAL PARAMETERS --				
	OXYGEN (O) (FLD) DIS	4.2	7.0	5.1
	PH (FLD)	7.68	8.79	8.05
	PH	7.9	8.8	8.3
	SC (UMHOS/CM AT 25 C)	46400.0	1773.0	918.0
	SC (UMHOS/CM AT 25 C) (FLD)	48700.0	1726.0	913.0
	TDS (MEASURED AT 180 C)	49470.0	1186.0	572.0
	TOTAL SUSPENDED SOLIDS	56.0	17.0	522.0
	WATER TEMPERATURE (C) (FLD)	33.7	33.7	23.4
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	537.0	97.0	59.0
	MAGNESIUM (MG) DIS	329.0	18.0	12.0
	SODIUM (NA) DIS	13740.0	218.0	102.0
	POTASSIUM (K) DIS	409.0	11.0	6.9
	BICARBONATE (HCO3)	131.0	112.0	242.0
	CARBONATE AS CO3	<1.0	19.0	<1.0 UJ4
	SULFATE (SO4)	32369.0	377.0	196.0
	CHLORIDE (CL)	3406.0	250.0	76.0
	FLUORIDE (F)	35.0	1.6	0.64
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	134.0	0.08	0.58
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) DIS	0.42	0.4	<0.005
	ARSENIC (AS) TRC	0.45	0.4	<0.005
	CADMIUM (CD) DIS	18.0	0.047	<0.005
	CADMIUM (CD) TRC	18.0	0.065	<0.005
	CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
	CHROMIUM (CR) TRC	<0.01	<0.01	0.011
	COPPER (CU) DIS	1.5	0.25	<0.025
	COPPER (CU) TRC	1.9	0.56	<0.025
	IRON (FE) DIS	0.11	<0.1	<0.1
	IRON (FE) TRC	0.53 UJ1 J4	0.33 UJ1 J4	14.0
	LEAD (PB) DIS	0.35	0.052	<0.003
	LEAD (PB) TRC	0.46	0.21	0.008
	SELENIUM (SE) DIS	2.1	0.022	<0.005
	SELENIUM (SE) TRC	2.1	0.024	<0.005
	ZINC (ZN) DIS	9.8	0.092 UJ1	<0.02
	ZINC (ZN) TRC	2.1	0.34	0.037

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-2	SEP-3	SEP-4
SAMPLE DATE	08/20/99	08/20/99	08/20/99
SAMPLE TIME	10:30	08:45	13:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991509008	L991509003	L991509009
SAMPLE NUMBER	EPRI-9908-158	EPRI-9908-159	EPRI-9908-160
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	5.9	5.6	6.1
PH (PLD)	8.12	8.22	8.14
PH	8.3	8.3	8.6
SC (UMHOS/CM AT 25 C)	887.0	915.0	898.0
SC (UMHOS/CM AT 25 C) (FLD)	887.0	921.0	896.0
TDS (MEASURED AT 180 C)	556.0	582.0	588.0
TOTAL SUSPENDED SOLIDS	339.0	522.0	475.0
WATER TEMPERATURE (C) (FLD)	25.6	25.1	28.1
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	58.0	60.0	59.0
MAGNESIUM (MG) DIS	12.0	12.0	12.0
SODIUM (NA) DIS	97.0	104.0	98.0
POTASSIUM (K) DIS	7.0	7.1	7.1
BICARBONATE (HCO3)	234.0	251.0	218.0
CARBONATE AS CO3	<1.0 UJ4	<1.0 UJ4	16.0 J4
SULFATE (SO4)	185.0	197.0	188.0
CHLORIDE (CL)	77.0	76.0	74.0
FLUORIDE (F)	0.64	0.64	0.66
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.45	0.57	0.54
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) DIS	<0.005	<0.005	<0.005
ARSENIC (AS) TRC	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	0.01	0.01	0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	<0.1
IRON (FE) TRC	13.0	14.0	13.0
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.009	0.008	0.009
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	0.025
ZINC (ZN) TRC	0.033	0.032	0.033

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-6	SEP-6	SEP-7	SEP-9
SAMPLE DATE	08/20/99	08/20/99	08/20/99	08/20/99
SAMPLE TIME	09:00	09:05	08:00	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991509004	L991509005	L991509001	L991509007
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9908-177	EPRI-9908-208	EPRI-9908-161	EPRI-9908-162

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.4	5.4	5.8	5.6
PH (FLD)	8.24	8.25	8.14	7.92
PH	8.2	8.6	8.4	8.3
SC (UMHOS/CM AT 25 C)	915.0	915.0	894.0	1303.0
SC (UMHOS/CM AT 25 C) (FLD)	914.0	914.0	896.0	1301.0
TDS (MEASURED AT 180 C)	566.0	594.0	603.0	836.0
TOTAL SUSPENDED SOLIDS	521.0	488.0	565.0	485.0
WATER TEMPERATURE (C) (FLD)	24.6	24.9	24.4	26.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	59.0	61.0	60.0	63.0
MAGNESIUM (MG) DIS	12.0	12.0	12.0	13.0
SODIUM (NA) DIS	102.0	102.0	101.0	176.0
POTASSIUM (K) DIS	7.2	7.1	7.3	8.5
BICARBONATE (HCO3)	250.0	214.0	217.0	216.0
CARBONATE AS CO3	<1.0 UJ4	13.0 J4	6.0 J4	<1.0 UJ4
SULFATE (SO4)	191.0	188.0	166.0	268.0
CHLORIDE (CL)	73.0	70.0	64.0	150.0
FLUORIDE (F)	0.66	0.66	0.64	0.74

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.57	0.57	0.52	3.5
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005	<0.005
ARSENIC (AS) TRC	<0.005	<0.005	<0.005	0.006
CADMIUM (CD) DIS	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	0.011	0.011	0.011	<0.01
COPPER (CU) DIS	<0.025	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025	<0.025
IRON (FE) DIS	0.46 J4	0.1 J4	<0.1	<0.1
IRON (FE) TRC	15.0	15.0	14.0	8.1
LEAD (PB) DIS	<0.003	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.009	0.008	0.009	0.007
SELENIUM (SE) DIS	<0.005	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	<0.02	<0.02
ZINC (ZN) TRC	0.039	0.038	0.034	0.04

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-10	SEP-11	SEP-12
SITE CODE	SEP-10	SEP-11	SEP-12
SAMPLE DATE	08/20/99	08/20/99	08/20/99
SAMPLE TIME	15:00	14:40	14:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991509013	L991509012	L991509011
SAMPLE NUMBER	EPRI-9908-163	EPRI-9908-164	EPRI-9908-165

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.3	5.4	5.5
PH (FLD)	8.17	8.18	8.15
PH	8.2	8.3	8.3
SC (UMHOS/CM AT 25 C)	892.0	895.0	902.0
SC (UMHOS/CM AT 25 C) (FLD)	889.0	887.0	900.0
TDS (MEASURED AT 180 C)	592.0	581.0	597.0
TOTAL SUSPENDED SOLIDS	481.0	500.0	476.0
WATER TEMPERATURE (C) (FLD)	27.9	28.5	27.2

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	62.0	63.0	62.0
MAGNESIUM (MG) DIS	12.0	13.0	13.0
SODIUM (NA) DIS	99.0	100.0	97.0
POTASSIUM (K) DIS	7.2	7.3	7.2
BICARBONATE (HCO3)	239.0	244.0	237.0
CARBONATE AS CO3	<1.0 UJ4	<1.0 UJ4	<1.0 UJ4
SULFATE (SO4)	180.0	191.0	195.0
CHLORIDE (CL)	67.0	69.0	69.0
FLUORIDE (F)	0.68	0.64	0.66

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.53	0.51	0.53
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	<0.005	<0.005
ARSENIC (AS) TRC	<0.005	<0.005	<0.005
CADMIUM (CD) DIS	<0.005	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01	<0.01
CHROMIUM (CR) TRC	0.012	0.01	0.011
COPPER (CU) DIS	<0.025	<0.025	<0.025
COPPER (CU) TRC	<0.025	<0.025	<0.025
IRON (FE) DIS	<0.1	<0.1	0.18 J4
IRON (FE) TRC	15.0	14.0	13.0
LEAD (PB) DIS	<0.003	<0.003	<0.003
LEAD (PB) TRC	0.008	0.009	0.009
SELENIUM (SE) DIS	<0.005	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005	<0.005
ZINC (ZN) DIS	<0.02	<0.02	0.02
ZINC (ZN) TRC	0.051	0.031	0.036

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-13	SEP-14
SAMPLE DATE	08/20/99	08/11/99
SAMPLE TIME	13:45	14:45
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L991509010	L991431019
SAMPLE NUMBER	EPRI-9908-166	EPRI-9908-167

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	5.5	6.4
PH (FLD)	8.17	9.03
PH	8.3	7.8
SC (UMHOS/CM AT 25 C)	889.0	160.0
SC (UMHOS/CM AT 25 C) (FLD)	880.0	165.0
TDS (MEASURED AT 180 C)	614.0	103.0
TOTAL SUSPENDED SOLIDS	455.0	53.0
WATER TEMPERATURE (C) (PLD)	28.9	31.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	58.0	15.0
MAGNESIUM (MG) DIS	12.0	2.7
SODIUM (NA) DIS	99.0	12.0
POTASSIUM (K) DIS	7.1	<5.0
BICARBONATE (HCO3)	220.0	51.0
CARBONATE AS CO3	<1.0 UJ4	<1.0
SULFATE (SO4)	182.0	20.0
CHLORIDE (CL)	67.0	1.1
FLUORIDE (F)	0.66	0.28

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.5	0.09
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) DIS	<0.005	0.045
ARSENIC (AS) TRC	<0.005	0.049
CADMIUM (CD) DIS	<0.005	<0.005
CADMIUM (CD) TRC	<0.005	<0.005
CHROMIUM (CR) DIS	<0.01	<0.01
CHROMIUM (CR) TRC	0.01	<0.01
COPPER (CU) DIS	<0.025	0.065
COPPER (CU) TRC	<0.025	0.31
IRON (FE) DIS	<0.1	0.14
IRON (FE) TRC	13.0	3.6 J4
LEAD (PB) DIS	<0.003	0.011
LEAD (PB) TRC	0.008	0.096
SELENIUM (SE) DIS	<0.005	<0.005
SELENIUM (SE) TRC	<0.005	<0.005
ZINC (ZN) DIS	<0.02	0.025 UJ1
ZINC (ZN) TRC	0.042	0.22

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	POND 1-SED	POND 5-SED	POND 6-SED
SAMPLE DATE	08/11/99	08/11/99	08/11/99
SAMPLE TIME	13:45	14:00	14:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991434001	L991434002	L991434003
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-9908-190	EPRI-9908-191	EPRI-9908-192

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1200.0	1400.0	190.0
CADMIUM (CD) TOT	480.0	1300.0	170.0
CHROMIUM (CR) TOT	<80.0	130.0	93.0
COPPER (CU) TOT	5900.0	61000.0	3200.0
IRON (FE) TOT	15000.0	69000.0	21000.0
LEAD (PB) TOT	1900.0	31000.0	1500.0
SELENIUM (SE) TOT	57.0	240.0	15.0
ZINC (ZN) TOT	3700.0	28000.0	980.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-2-SED	SEP-4-SED	SEP-9-SED
SAMPLE DATE	08/20/99	08/20/99	08/20/99
SAMPLE TIME	10:35	13:35	10:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991508007	L991508002	L991508006
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-9908-179	EPRI-9908-181	EPRI-9908-184

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	12.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0
COPPER (CU) TOT	110.0	<20.0	69.0
IRON (FE) TOT	18000.0	19000.0	21000.0
LEAD (PB) TOT	160.0	28.0	29.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	67.0	26.0	53.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-10-SED	SEP-11-SED	SEP-12-SED
SAMPLE DATE	08/20/99	08/20/99	08/20/99
SAMPLE TIME	15:05	14:40	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991508005	L991508004	L991508003
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-9908-185	EPRI-9908-186	EPRI-9908-187

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	10.0	17.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	98.0	67.0
IRON (FE) TOT	23000.0	25000.0	23000.0
LEAD (PB) TOT	21.0	40.0	24.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	42.0	47.0	54.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; JJ:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-13-SED	SEP-14-SED
SAMPLE DATE	08/20/99	08/11/99
SAMPLE TIME	13:50	14:50
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L991508001	L991434004
TYPE	XRF	XRF
SAMPLE NUMBER	EPRI-9908-188	EPRI-9908-189

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	1100.0
CADMIUM (CD) TOT	<10.0	42.0
CHROMIUM (CR) TOT	<80.0	130.0
COPPER (CU) TOT	37.0	14000.0
IRON (FE) TOT	20000.0	220000.0
LEAD (PB) TOT	31.0	4500.0
SELENIUM (SE) TOT	<10.0	17.0
ZINC (ZN) TOT	46.0	13000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
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3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
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5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
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13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
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SECTION J-6

REMEDIAL INVESTIGATION WATER SAMPLES

FALL 1999

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
FALL 1999**

Prepared by
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GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
FAA	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA.....	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV.....	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB.....	Preparation Blank
PRDL	Project Required Detection Limit
PDLG.....	Project Detection Limit Goals
QAPP	Quality Assurance Project Plan
QC	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

SUMMARY

This report covers the validation of data for quarterly monitoring water and sediment samples collected during October and November of 1999 for the Asarco El Paso Copper Smelter Remediation Investigation. The validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes the summary of flagged data (Table 2) and the summary of a statistical historical comparison (Table 3). The validated database for this data set is in Appendix 2.

For this monitoring event, sediment samples were collected at ten of the surface water sites. These sediment samples were analyzed by XRF using a matrix-specific calibration for arsenic and lead, and using a fundamental parameters calibration for cadmium, chromium, copper, iron, selenium, and zinc. The matrix-specific calibration, however, was for sandy soils from Murray, Utah rather than being specific to soils from El Paso.

For the sediment XRF analyses all laboratory quality control information that was provided was within control limits.

- For arsenic and lead only, information was provided for calibration verification samples (at a frequency of 1 in 10) and laboratory control samples (1 in 20).
- Reference standard analyses were not conducted for the analyses using the fundamental parameters calibration.
- Information was provided for all analytes for laboratory duplicates, which were performed at a frequency of 1 in 20.

For water, laboratory quality control violations resulted in a total of 158 flags:

- In batch L991925, the ICP laboratory control sample for total iron was out of control limits with a recovery of 122 percent. Twenty-five total iron results from the batch were flagged to indicate a possible high bias.
- In batch L991925, the ICP-MS laboratory control sample for total selenium was out of control limits with a recovery of 75 percent. Thirty-three total selenium results from this batch were flagged to indicate the possibility of a low bias.
- In batch L991936, the ICP-MS laboratory control sample for total zinc was out of control limits with a recovery of 122 percent. Fifteen total zinc results from the batch were flagged to indicate the possibility of a high bias.

- In batch L991938, the laboratory control sample for total iron measured by ICP was out of control limits with a recovery of 122 percent. Nineteen total iron results from the batch were flagged to indicate a possible high bias.
- Thirty-three bicarbonate, and thirty-three carbonate results were flagged for holding time exceedance.

Field Quality Control Violations resulted in a total of 180 flags:

- The field SC results from EP-115 and from Pond 1 were considered to be unusable and were rejected. This is discussed in detail in Section 10.
- Detections in eight of the ten field blanks resulted in a total of 26 flags to indicate possible high bias.
- Eighteen of the field duplicate measurements were out of control limits resulting in a total of 152 flags to indicate a possible lack of reproducibility.

Completeness of field measurements:

- The required frequency for field quality control samples was not met for the Fall 1999 monitoring event. Samples were collected on fifteen days; for five of these days, no field QC samples were submitted.
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-49.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at fourteen sites on 10/26, 10/30, and 10/31/99.

Ninety-one percent of the data may be used without qualification (3160 out of 3460 results). Overall, the data for the Fall 1999 monitoring for the Asarco El Paso Copper Smelter Remedial Investigation are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. Any possible bias and/or lack of reproducibility indicated by the flags should be taken into account. Note that 18 percent of the samples were not associated with any field QC samples.

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to inorganic analytes from 117 water samples and 11 sediment samples collected during October and November of 1999 for the Asarco El Paso Copper Smelter Remedial Investigation. The total number of samples included:

10	DI blanks
11	Field duplicates (1 surface water, 9 groundwater, 1 sediment)
13	Surface water field samples
84	Groundwater field samples
10	Sediment samples

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-49.
- No sample was collected at EP-76; it appeared to have been buried.
- Due to difficulty of access, no sample was collected at EP-75.
- No sample was collected at EP-87; it was dry.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at fourteen sites on 10/26, 10/30, and 10/31/99:

10/26/99	10/30/99	10/31/99
EP-95	EP-23	EP-78
EP-108	EP-83	EP-79
EP-109	EP-84	EP-82
	EP-88	EP-86
	EP-90	
	EM-1	
	EM-7	

- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other
- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual

Notes: The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.

Yes
 No

- Field measurements and field documentation were complete.

Yes
 No

Notes: In addition to the exceptions listed under the bulleted items in Section 1, the following items were noted.

- One field turbidity measurement was recorded on 10/26/99, but no calibration of the turbidity meter was recorded for that day.
- Duplicate field measurements were not recorded for the duplicates listed in the following table:

Site	Date
EP-7	10/25/99
EP-56	10/26/99
EP-77	10/29/99
EP-83	10/30/99
EP-87	10/31/99

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are one field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- **Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes
 No

Notes: Out of 15 days on which samples were collected, there were 5 days on which no DI blank was submitted (10/13, 10/18, 10/21, 11/18, and 11/22). A total of 18 non-QC samples were collected on these days. For these 18 samples, accuracy at low concentrations cannot be evaluated as intended by the project work plan.

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project-required detection limits (PRDL) if project detection limits have been specified.

Yes
 No

Notes: When an analyte is detected in a blank, associated results up to 5 times the blank level are flagged to indicate that the results may be biased high due to contamination. Results "associated" with a field blank are generally results for samples collected on the same day as the blank. For this sampling event, 5 total lead and 21 nitrate+nitrite as N results were flagged due to detections in the field blanks.

- The following table lists blank detections. Note that for the three TDS detections that are in boldface, the results seemed totally out of line for blanks. Samples collected on the same days had results that were consistent with historical values and also had reasonable ratios of TDS to SC. Therefore, no flags were applied to the associated data.

Sample Number	Date	Analyte	Result (ppm)	5 times Blank (ppm)	PRDL (ppm)	# of Flags
EPRI-9911-222	10/26/99	TDS	1909	9545	10	0
EPRI-9911-223	10/27/99	Pb	0.004	0.020	0.003	5
EPRI-9911-226	10/28/99	TDS	2.6	13	10	0
EPRI-9911-226	10/28/99	N	0.11	0.55	0.1	3
EPRI-9911-228	10/29/99	TDS	423	2115	10	0
EPRI-9911-228	10/29/99	N	0.17	0.85	0.1	5
EPRI-9911-230	10/30/99	TDS	84	420	10	0
EPRI-9911-230	10/30/99	N	0.15	0.75	0.1	3
EPRI-9911-232	10/31/99	N	0.34	1.7	0.1	0
EPRI-9911-234	11/01/99	TDS	817	4085	10	0
EPRI-9911-234	11/01/99	SO4	2.2	11	1	0
EPRI-9911-234	11/01/99	N	0.26	1.3	0.1	10
EPRI-9911-237	11/02/99	TDS	54	270	10	0

Flagging: UJ₁

- Field duplicates**

Field duplicates have been collected at the proper frequency.

 Yes
 X No

Notes: Eleven field duplicates were submitted for the fifteen days of sampling. No duplicates were submitted on 10/13, 10/18, 10/21, 11/18, and 11/22. For the eighteen samples collected on these days, precision could not be evaluated as intended in the work plan.

The field duplicates are listed in the following table. Duplicate field measurements were not taken for six of the ten water duplicates (marked with *).

Sample/ Duplicate #	Site	Date	Matrix
EPRI-9911-103/ 206	EP-7*	10/25/99	Groundwater
EPRI-9911-124/ 220	EP-56*	10/26/99	Groundwater
EPRI-9911-151/ 224	EP-85	10/27/99	Groundwater
EPRI-9911-155/ 225	EP-89	10/28/99	Groundwater
EPRI-9911-143/ 227	EP-77*	10/29/99	Groundwater

Sample/ Duplicate #	Site	Date	Matrix
EPRI-9911-149/ 229	EP-83*	10/30/99	Groundwater
EPRI-9911-152/ 231	EP-86*	10/31/99	Groundwater
EPRI-9911-160/ 223	SEP-12	11/01/99	Surface water
EPRI-9911-165/ 236	EM-5*	11/02/99	Groundwater
EPRI-9911-216/ 235	SEP-2-SED	11/02/99	Sediment
EPRI-9911-113/ 238	EP-25	11/03/99	Groundwater

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes
 No

Notes: Eighteen, or approximately seven percent, of the 247 field duplicate measurements were out of control limits. The field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility. Samples collected the same day as the duplicate are generally considered to be associated. A total of 152 results were flagged to indicate a possible lack of reproducibility.

Flagging: J4/UJ4

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9911-124/ 220	EP-56	10/26/99	TSS	2079/ 1395	39% RPD	10
EPRI-9911-124/ 220	EP-56	10/26/99	HCO ₃	430/ 350	21% RPD	10
EPRI-9911-124/ 220	EP-56	10/26/99	Arsenic(T)	0.33/ 0.43	26% RPD	8
EPRI-9911-124/ 220	EP-56	10/26/99	Chromium(T)	0.010/ 0.022	> \pm 0.010	10
EPRI-9911-124/ 220	EP-56	10/26/99	Iron(T)	14/ 28	67% RPD	10
EPRI-9911-124/ 220	EP-56	10/26/99	Lead(T)	0.016/ 0.026	> \pm 0.003	10
EPRI-9911-124/ 220	EP-56	10/26/99	Selenium(T)	0.041/ 0.031	28% RPD	6
EPRI-9911-143/ 227	EP-77	10/29/99	TDS	3006/ 2121	35% RPD	9
EPRI-9911-143/ 227	EP-77	10/29/99	TSS	3006/ 2121	24% RPD	11
EPRI-9911-143/ 227	EP-77	10/29/99	NO ₃ +NO ₂ as N	0.58/ 0.47	21% RPD	7
EPRI-9911-149/ 229	EP-83	10/30/99	TSS	102/ 79	25% RPD	8
EPRI-9911-160/ 223	SEP-12	11/01/99	Zinc(T)	0.061/ 0.026	> \pm 0.020	11
EPRI-9911-113/ 238	EP-25	11/03/99	TDS	4373/ 3270	29% RPD	5
EPRI-9911-113/ 238	EP-25	11/03/99	TSS	169/ 126	29% RPD	5
EPRI-9911-113/ 238	EP-25	11/03/99	HCO ₃	885/ 1311	39% RPD	8
EPRI-9911-113/ 238	EP-25	11/03/99	Sulfate	1507/ 554	92% RPD	8
EPRI-9911-113/ 238	EP-25	11/03/99	Chloride	893/ 683	27% RPD	8

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-9911-113/ 238	EP-25	11/03/99	Lead(T)	0.052/ 0.034	42% RPD	8

4. LABORATORY PROCEDURES

- Laboratory procedures followed

CLP-SOW
 SW-846
 Methods for Chemical Analysis of Water and Wastes
 XRF Standard Operating Procedures

- Holding times met

Yes
 No

Notes: Holding times were exceeded for batch L991925 carbonate and bicarbonate results. A total of 66 flags were applied to the data to indicate that the results may not be representative of the true sample values.

Flagging: J3/UJ3

- Consistency with project requirements

Analyses were carried out as requested.

Yes
 No

Project specified methods were used.

Yes
 No

5. DETECTION LIMITS

- Reporting detection limits met project detection limit goals (PDLGs).

Yes
 No

Notes:

Water--The PDLG for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

Due to matrix interference, the reporting detection limit for chromium for the sample collected at POND 1 (EPRI-9911-168) was raised from 0.010 ppm to 0.050 ppm.

Sediment: As shown in the following table, the PDLG was not met for chromium, copper, or iron in the XRF analyses.

Analyte	Reporting Detection Limit	PDGL
Chromium	80 ppm	20 ppm
Copper	20 ppm	10 ppm
Iron	50 ppm	20 ppm

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

• **Preparation blanks**

Preparation blanks were prepared and analyzed at the required frequency.

Yes

No

All the analytes in the preparation blank were less than the CRDL (or the PRDL/PDLG if a project detection limit has been specified).

Yes

No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.

Yes

No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes

No

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes

No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PRDL for water matrix.

Yes

No

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency

Yes

No

- LCS recoveries were within the required control limits (80-120% for water).

 Yes
 X No

Notes: Recoveries on four laboratory control standards were out of control limits. Information for these LCSs is summarized in the following table. In all, associated batch results were flagged to indicate the possibility of bias.

Laboratory Batch	Analyte	LCS Recovery	# of Flags	Possible Bias of Associated Samples
L991925	Iron	122%	25	Possible high bias
L991925	Selenium	75%	33	Possible low bias
L991936	Zinc	122%	15	Possible high bias
L991938	Iron	122%	19	Possible high bias

Flagging: J₂/UJ₂

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:

 X Lab pH vs. field pH.
 X Lab SC vs. field SC
 X TDS vs. SC

Lab pH vs. field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but eight had percent differences equal to or less than ten percent. Rounded off to the nearest percent, the percent differences were distributed as follows:

equal to or less than 10%.....58
11 to 15%.....23
16 to 20%.....14
21 to 31%.....6

Lab SC vs. field SC: This relationship was generally in order. Rounded to the nearest percent, only eleven samples had percent differences greater than ten percent. The distribution of the percent differences was as follows:

less than 10%..... 83
11 to 15% 14
16 to 20% 1
> 20% 3

The samples for which the percent difference between the lab and field SC was greater than 20% are listed in the following table. Note that the Field SC results for EP-54 and EP-115 have been rejected and flagged R: The field SC

from EP-115 was almost ten times less than the laboratory SC, the field SC from Pond 1 was almost seventeen and a half times less than the laboratory SC, and the TDS measurements were consistent with the laboratory SC results.

Site	Sample #	Lab SC	Field SC	% Difference	Ratio of TDS to SC	Flag
EP-54	EPRI-9911-122	10500	8290	26.7%	73.1%	----
EP-115	EPRI-9911-179	17800	1842	866.3%	78.5%	R
POND 1	EPRI-9911-168	215000	12370	1638.1%	68.6%	R

TDS vs. SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was generally in order. The TDS to laboratory SC ratios ranged from 42.2% at EP-77 to 102.1% at EP-65. The ratios were distributed as follows:

less than 55%..... 5
 55 to 75% 75
 75 to 100% 26
 over 100% 1

Site	Sample #	Date	Lab SC	TDS	Ratio of TDS to SC
EP-65	EPRI-9911-133	11/3/99	6440	6536	102.1%

11. HISTORICAL COMPARISON

The data for the Fall 1999 monitoring were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 3 standard deviations from the comparison period mean.

12. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQOs).**

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy. Accuracy for water matrix is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PRDL.

Overall, all the laboratory matrix spikes and 95 percent of the laboratory control samples were within control limits, indicating good accuracy for the higher concentration results. There were nine laboratory control standards measured for each parameter.

- Two iron LCSs had recoveries of 122 percent;
- One zinc LCS had a recovery of 122 percent;
- One selenium LCS had a recovery of 75 percent.

In general, results on the laboratory and field blanks also indicated good accuracy at lower concentrations. Note, however, that the required frequency for field blanks was not met. Field blank detections are listed in the following bulleted items.

- TDS was detected in 5 of the ten field blanks.
- Nitrate+nitrite as N was detected in five of the ten field blanks.
- Sulfate was detected in one of the field blanks.
- Lead was detected in one of the field blanks

Accuracy for sediment matrix is evaluated by recoveries on laboratory reference standards, which in this case included calibration standards and laboratory control standards for arsenic and lead only since these were analyzed using a matrix-specific calibration. Recoveries on these QC samples were all within control limits. No information was provided for evaluation of accuracy for the other parameters analyzed by XRF (cadmium, chromium, copper, iron, selenium, and zinc).

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

All of the laboratory duplicate measurements and 93% of the field duplicate measurements (229 out of 247) were within control limits. Note, however, that the required frequency for field duplicates was not met.

Completeness

One measure of completeness is the percentage of valid results obtained. For the Fall 1999 El Paso RI monitoring,

- ⇒ Ninety-one percent of the data may be used without qualification (3160 out of 3460 results).
- ⇒ Two field SC results were considered to be unusable, and were rejected (flagged R).

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site. The quality of sample analyses is assessed indirectly through the analysis of associated quality control samples.

- The required frequency for field quality control samples was not met for the Fall 1999 monitoring event. Samples were collected on fifteen days; for five of these days, no field QC samples were submitted. Eighteen samples were not associated with field quality control.
- Due to a non-functional oxygen probe, dissolved oxygen was not measured at fourteen sites on 10/26, 10/30, and 10/31/99.
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-49.
- No sample was collected at EP-76; it appeared to have been buried.
- Due to difficulty of access, no sample was collected at EP-75.
- No sample was collected at EP-87; it was dry.

DATA VALIDATION REPORT

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- Hem, J. D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.
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APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	<p>The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ -	<p>The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R -	<p>Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E -	<p>Estimated. (Not an EPA code.)</p>
A -	<p>Anomalous data.. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
 El Paso RI Quarterly Monitoring, Fall 1999
 (All values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Parameter	Result	Code	Bias	Reason for Flag
DI	EPRI-9911-221	L991925004	10/25/99	BICARBONATE (HCO3)	<1.0	UJ3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				SELENIUM (SE)(TOT)	<0.005	UJ2	-25	LCS recovery 75%
DI	EPRI-9911-222	L991925016	10/26/99	BICARBONATE (HCO3)	<1.0	UJ3		Holding time 24 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				SELENIUM (SE)(TOT)	<0.005	UJ2	-25	LCS recovery 75%
DI	EPRI-9911-223	L991925026	10/27/99	BICARBONATE (HCO3)	<1.0	UJ3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				SELENIUM (SE)(TOT)	<0.005	UJ2	-25	LCS recovery 75%
DI	EPRI-9911-228	L991938012	10/29/99	TDS (MEASURED AT 180 C)	423.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.17	J4		Field duplicate RPD=21%
EM-1	EPRI-9911-161	L991938013	10/30/99	TOTAL SUSPENDED SOLIDS	12	J4		Field duplicate RPD=25%
				NITRATE + NITRITE AS N	0.17	UJ1		Detection in field blank (0.15 ppm)
				IRON (FE)(TOT)	0.59	J2	+22	LCS recovery 122%
EM-2	EPRI-9911-262	L991938005	10/29/99	TDS (MEASURED AT 180 C)	4494.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	3.3	J4		Field duplicate RPD=24%
EM-4	EPRI-9911-164	L991938002	10/29/99	TDS (MEASURED AT 180 C)	5290.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	<1.0	UJ4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.23	UJ1		Detection in field blank (0.17 ppm)
				NITRATE + NITRITE AS N	0.23	J4		Field duplicate RPD=21%
EM-5	EPRI-9911-165	L991938022	11/02/99	IRON (FE)(TOT)	0.87	J2	+22	LCS recovery 122%
EM-5 (Dup)	EPRI-9911-236	L991938023	11/02/99	IRON (FE)(TOT)	0.83	J2	+22	LCS recovery 122%
EM-6	EPRI-9911-166	L991938024	11/02/99	IRON (FE)(TOT)	0.12	J2	+22	LCS recovery 122%
EM-7	EPRI-9911-167	L991936014	10/30/99	TOTAL SUSPENDED SOLIDS	97	J4		Field duplicate RPD=25%
				NITRATE + NITRITE AS N	0.16	UJ1		Detection in field blank (0.15 ppm)
				ZINC (ZN)(TOT)	0.8	J2	+22	LCS recovery 122%
EP-4	EPRI-9911-100	L991925001	10/25/99	BICARBONATE (HCO3)	338.0	J3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				IRON (FE)(TOT)	13.0	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.005	J2	-25	LCS recovery 75%
EP-5	EPRI-9911-101	L991925002	10/25/99	BICARBONATE (HCO3)	532.0	J3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				IRON (FE)(TOT)	0.43	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.15	J2	-25	LCS recovery 75%
EP-6	EPRI-9911-102	L991925003	10/25/99	BICARBONATE (HCO3)	464.0	J3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				SELENIUM (SE)(TOT)	0.039	J2	-25	LCS recovery 75%
EP-7	EPRI-9911-103	L991925005	10/25/99	BICARBONATE (HCO3)	460.0	J3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				IRON (FE)(TOT)	5.8	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	<0.005	UJ2	-25	LCS recovery 75%
EP-7 Dup)	EPRI-9911-206	L991925006	10/25/99	BICARBONATE (HCO3)	454.0	J3		Holding time 25 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 25 days
				IRON (FE)(TOT)	5.5	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	<0.005	UJ2	-25	LCS recovery 75%
EP-12	EPRI-9911-104	L991938006	10/29/99	TDS (MEASURED AT 180 C)	1881.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	47.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.86	J4		Field duplicate RPD=21%
				IRON (FE)(TOT)	0.44	J2	+22	LCS recovery 122%
EP-13	EPRI-9911-105	L991925030	10/28/99	BICARBONATE (HCO3)	327.0	J3		Holding time 22 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 22 days

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Site	Sample No	Lab No	Date	Parameter	Result	Code	Bias	Reason for Flag
				IRON (FE)(TOT)	0.47	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	4.4	J2	-25	LCS recovery 75%
EP-14	EPRI-9911-106	L991925029	10/28/99	BICARBONATE (HCO3)	394.0	J3		Holding time 22 days
EP-14	EPRI-9911-106	L991925029	10/28/99	CARBONATE AS CO3	<1.0	UJ3		Holding time 22 days
				IRON (FE)(TOT)	0.18	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.2	J2	-25	LCS recovery 75%
EP-15	EPRI-9911-107	L991925031	10/28/99	BICARBONATE (HCO3)	266.0	J3		Holding time 22 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 22 days
				IRON (FE)(TOT)	1.2	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.12	J2	-25	LCS recovery 75%
EP-20	EPRI-9911-108	L991925007	10/26/99	TOTAL SUSPENDED SOLIDS	106.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO3)	250.0	J3		Holding time 24 days
				BICARBONATE (HCO3)	250.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.75	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	1.6	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	1.6	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.003	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.27	J2	-25	LCS recovery 75%
EP-21	EPRI-9911-109	L991962010	11/03/99	TDS (MEASURED AT 180 C)	2963.0	J4		Field duplicate RPD=29%
				TOTAL SUSPENDED SOLIDS	177.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	1940.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	114.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	586.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.078	J4		Field duplicate RPD=42%
EP-23	EPRI-9911-111	L991936008	10/30/99	TOTAL SUSPENDED SOLIDS	18	J4		Field duplicate RPD=25%
				NITRATE + NITRITE AS N	0.32	UJ1		Detection in field blank (0.15 ppm)
				ZINC (ZN)(TOT)	0.14	J2	+22	LCS recovery 122%
EP-24	EPRI-9911-112	L991962009	11/03/99	TDS (MEASURED AT 180 C)	3092.0	J4		Field duplicate RPD=29%
				TOTAL SUSPENDED SOLIDS	73.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	1425.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	266.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	1006.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.009	J4		Field duplicate RPD=42%
EP-25	EPRI-9911-113	L991962011	11/03/99	TDS (MEASURED AT 180 C)	4373.0	J4		Field duplicate RPD=29%
				TOTAL SUSPENDED SOLIDS	169.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	1080.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	1507.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	893.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.052	J4		Field duplicate RPD=42%
EP-25 Dup)	EPRI-9911-238	L991962008	11/03/99	TDS (MEASURED AT 180 C)	3270.0	J4		Field duplicate RPD=29%
				TOTAL SUSPENDED SOLIDS	126.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	1599.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	554.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	683.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.034	J4		Field duplicate RPD=42%
EP-29	EPRI-9911-115	L991925009	10/26/99	TOTAL SUSPENDED SOLIDS	572.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO3)	364.0	J3		Holding time 24 days
				BICARBONATE (HCO3)	364.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.27	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	0.03	J4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	14.0	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	14.0	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.013	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.13	J2	-25	LCS recovery 75%
EP-35	EPRI-9911-116	L991925008	10/26/99	TOTAL SUSPENDED SOLIDS	454.0	J4		Field duplicate RPD=39%

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				BICARBONATE (HCO ₃)	630.0	J3		Holding time 24 days
				BICARBONATE (HCO ₃)	630.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO ₃	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.67	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	0.011	J4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	2.8	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	2.8	J4		Field duplicate RPD=67%
EP-35	EPRI-9911-116	L991925008	10/26/99	LEAD (PB)(TOT)	0.011	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	1.3	J2	-25	LCS recovery 75%
EP-43	EPRI-9911-117	L991938001	10/29/99	TDS (MEASURED AT 180 C)	4692.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	30.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.18	UJ1		Detection in field blank (0.17 ppm)
				NITRATE + NITRITE AS N	0.18	J4		Field duplicate RPD=21%
				IRON (FE)(TOT)	1.7	J2	+22	LCS recovery 122%
EP-44	EPRI-9911-162	L991925015	10/26/99	TOTAL SUSPENDED SOLIDS	848.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO ₃)	406.0	J3		Holding time 24 days
				BICARBONATE (HCO ₃)	406.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO ₃	<1.0	UJ3		Holding time 24 days
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	1.1	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	1.1	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.028	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.089	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.089	J4		Field duplicate RPD=28%
EP-49	EPRI-9911-118	L991938026	11/02/99	IRON (FE)(TOT)	631.0	J2	+22	LCS recovery 122%
EP-52	EPRI-9911-120	L991938004	10/29/99	TOTAL SUSPENDED SOLIDS	12.0	J4		Field duplicate RPD=24%
				IRON (FE)(TOT)	2.1	J2	+22	LCS recovery 122%
EP-53	EPRI-9911-121	L991925017	10/26/99	TOTAL SUSPENDED SOLIDS	440.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO ₃)	157.0	J3		Holding time 24 days
				BICARBONATE (HCO ₃)	157.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO ₃	<1.0	UJ3		Holding time 24 days
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	7.0	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	7.0	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.006	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	1.7	J2	-25	LCS recovery 75%
EP-54	EPRI-9911-122	L991938010	10/29/99	TOTAL SUSPENDED SOLIDS	60.0	J4		Field duplicate RPD=24%
				IRON (FE)(TOT)	11.0	J2	+22	LCS recovery 122%
EP-55	EPRI-9911-123	L991938003	10/29/99	TOTAL SUSPENDED SOLIDS	567.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.23	UJ1		Detection in field blank (0.17 ppm)
				NITRATE + NITRITE AS N	0.23	J4		Field duplicate RPD=21%
				IRON (FE)(TOT)	57.0	J2	+22	LCS recovery 122%
EP-56	EPRI-9911-124	L991925010	10/26/99	TOTAL SUSPENDED SOLIDS	2079.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO ₃)	525.0	J3		Holding time 24 days
				BICARBONATE (HCO ₃)	525.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO ₃	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.33	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	0.01	J4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	14.0	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	14.0	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.016	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.041	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.041	J4		Field duplicate RPD=28%
EP-56 Dup)	EPRI-9911-220	L991925011	10/26/99	TOTAL SUSPENDED SOLIDS	1395.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO ₃)	427.0	J3		Holding time 24 days
				BICARBONATE (HCO ₃)	427.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO ₃	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.43	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	0.022	J4		Field duplicate difference >±0.010 ppm

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				IRON (FE)(TOT)	28.0	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	28.0	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.026	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.031	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.031	J4		Field duplicate RPD=28%
EP-57	EPRI-9911-125	L991962003	11/03/99	TDS (MEASURED AT 180 C)	2124.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	1714.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	426.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	244.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.012	J4		Field duplicate RPD=42%
EP-58	EPRI-9911-126	L991962004	11/03/99	BICARBONATE (HCO3)	2054.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	4936.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	960.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.082	J4		Field duplicate RPD=42%
EP-59	EPRI-9911-127	L991925018	10/27/99	BICARBONATE (HCO3)	390.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	2.1	J2	+22	LCS recovery 122%
				LEAD (PB)(TOT)	0.004	UJ1		Detection in field blank (0.004 ppm)
				SELENIUM (SE)(TOT)	0.22	J2	-25	LCS recovery 75%
EP-60	EPRI-9911-128	L991925022	10/27/99	BICARBONATE (HCO3)	316.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	2.0	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.18	J2	-25	LCS recovery 75%
EP-61	EPRI-9911-129	L991962005	11/03/99	BICARBONATE (HCO3)	484.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	3023.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	708.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.035	J4		Field duplicate RPD=42%
EP-62	EPRI-9911-130	L991925020	10/27/99	BICARBONATE (HCO3)	339.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	0.57	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.19	J2	-25	LCS recovery 75%
EP-63	EPRI-9911-131	L991925021	10/27/99	BICARBONATE (HCO3)	420.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	0.64	J2	+22	LCS recovery 122%
				LEAD (PB)(TOT)	0.009	UJ1		Detection in field blank (0.004 ppm)
				SELENIUM (SE)(TOT)	0.14	J2	-25	LCS recovery 75%
EP-64	EPRI-9911-132	L991925019	10/27/99	BICARBONATE (HCO3)	304.0	J3		Holding time 23 days
				CARBONATE AS CO3	8.4	J3		Holding time 23 days
				IRON (FE)(TOT)	0.39	J2	+22	LCS recovery 122%
				LEAD (PB)(TOT)	0.004	UJ1		Detection in field blank (0.004 ppm)
				SELENIUM (SE)(TOT)	0.39	J2	-25	LCS recovery 75%
EP-65	EPRI-9911-133	L991962006	11/03/99	TOTAL SUSPENDED SOLIDS	64.0	J4		Field duplicate RPD=29%
				BICARBONATE (HCO3)	544.0	J4		Field duplicate RPD=39%
				SULFATE (SO4)	2545.0	J4		Field duplicate RPD=92%
				CHLORIDE (CL)	473.0	J4		Field duplicate RPD=27%
				LEAD (PB)(TOT)	0.007	J4		Field duplicate RPD=42%
EP-66	EPRI-9911-134	L991925023	10/27/99	BICARBONATE (HCO3)	345.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	0.82	J2	+22	LCS recovery 122%
				LEAD (PB)(TOT)	0.004	UJ1		Detection in field blank (0.004 ppm)
				SELENIUM (SE)(TOT)	0.22	J2	-25	LCS recovery 75%
EP-70	EPRI-9911-137	L991936002	10/28/99	ZINC (ZN)(TOT)	0.14	J2	+22	LCS recovery 122%
EP-73	EPRI-9911-140	L991938011	10/29/99	TDS (MEASURED AT 180 C)	4302.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	2.1	J4		Field duplicate RPD=24%
EP-77	EPRI-9911-143	L991938007	10/29/99	TDS (MEASURED AT 180 C)	3006.0	J4		Field duplicate RPD=35%

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				TOTAL SUSPENDED SOLIDS	879.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.58	UJ1		Detection in field blank (0.17 ppm)
				NITRATE + NITRITE AS N	0.58	J4		Field duplicate RPD=21%
				IRON (FE)(TOT)	7.4	J2	+22	LCS recovery 122%
EP-77 (Dup)	EPRI-9911-227	L991938009	10/29/99	TDS (MEASURED AT 180 C)	2121.0	J4		Field duplicate RPD=35%
				TOTAL SUSPENDED SOLIDS	692.0	J4		Field duplicate RPD=24%
				NITRATE + NITRITE AS N	0.47	UJ1		Detection in field blank (0.17 ppm)
				NITRATE + NITRITE AS N	0.47	J4		Field duplicate RPD=21%
				IRON (FE)(TOT)	6.2	J2	+22	LCS recovery 122%
EP-80	EPRI-9911-146	L991925024	10/27/99	BICARBONATE (HCO3)	494.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	0.54	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.032	J2	-25	LCS recovery 75%
EP-81	EPRI-9911-147	L991925025	10/27/99	BICARBONATE (HCO3)	428.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				IRON (FE)(TOT)	0.38	J2	+22	LCS recovery 122%
				SELENIUM (SE)(TOT)	0.21	J2	-25	LCS recovery 75%
EP-83	EPRI-9911-149	L991936011	10/30/99	TOTAL SUSPENDED SOLIDS	102	J4		Field duplicate RPD=25%
EP-83 (Dup)	EPRI-9911-229	L991936012	10/30/99	TOTAL SUSPENDED SOLIDS	79	J4		Field duplicate RPD=25%
				ZINC (ZN)(TOT)	0.023	J2	+22	LCS recovery 122%
EP-84	EPRI-9911-150	L991936010	10/30/99	TOTAL SUSPENDED SOLIDS	4	J4		Field duplicate RPD=25%
				ZINC (ZN)(TOT)	0.035	J2	+22	LCS recovery 122%
EP-85	EPRI-9911-151	L991925027	10/27/99	BICARBONATE (HCO3)	364.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				LEAD (PB)(TOT)	0.004	UJ1		Detection in field blank (0.004 ppm)
				SELENIUM (SE)(TOT)	0.18	J2	-25	LCS recovery 75%
EP-85 (Dup)	EPRI-9911-224	L991925028	10/27/99	BICARBONATE (HCO3)	370.0	J3		Holding time 23 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 23 days
				SELENIUM (SE)(TOT)	0.19	J2	-25	LCS recovery 75%
EP-88	EPRI-9911-154	L991936009	10/30/99	TOTAL SUSPENDED SOLIDS	17	J4		Field duplicate RPD=25%
				ZINC (ZN)(TOT)	0.021	J2	+22	LCS recovery 122%
EP-89	EPRI-9911-155	L991925032	10/28/99	BICARBONATE (HCO3)	244.0	J3		Holding time 22 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 22 days
				SELENIUM (SE)(TOT)	0.016	J2	-25	LCS recovery 75%
EP-89 (Dup)	EPRI-9911-225	L991925033	10/28/99	BICARBONATE (HCO3)	277.0	J3		Holding time 22 days
				CARBONATE AS CO3	<1.0	UJ3		Holding time 22 days
				SELENIUM (SE)(TOT)	0.016	J2	-25	LCS recovery 75%
EP-90	EPRI-9911-156	L991936013	10/30/99	TOTAL SUSPENDED SOLIDS	9.7	J4		Field duplicate RPD=25%
EP-95	EPRI-9911-159	L991925012	10/26/99	TOTAL SUSPENDED SOLIDS	26.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO3)	377.0	J3		Holding time 24 days
				BICARBONATE (HCO3)	377.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.006	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference >±0.010 ppm
				IRON (FE)(TOT)	1.2	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	1.2	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.003	J4		Field duplicate difference >±0.003 ppm
				SELENIUM (SE)(TOT)	0.022	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.022	J4		Field duplicate RPD=28%
EP-108	EPRI-9911-172	L991925013	10/26/99	TOTAL SUSPENDED SOLIDS	29.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO3)	359.0	J3		Holding time 24 days
				BICARBONATE (HCO3)	359.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.7	J4		Field duplicate RPD=26%

Table 2. Summary of Flagged Data
EJ Paso RI Quarterly Monitoring, Fall 1999
 (All values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Parameter	Result	Code	Bias	Reason for Flag
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference $\geq \pm 0.010$ ppm
				IRON (FE)(TOT)	2.3	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	2.3	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	0.004	J4		Field duplicate difference $\geq \pm 0.003$ ppm
				SELENIUM (SE)(TOT)	0.037	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.037	J4		Field duplicate RPD=28%
EP-109	EPRI-9911-173	L991925014	10/26/99	TOTAL SUSPENDED SOLIDS	64.0	J4		Field duplicate RPD=39%
				BICARBONATE (HCO3)	361.0	J3		Holding time 24 days
				BICARBONATE (HCO3)	361.0	J4		Field duplicate RPD=21%
				CARBONATE AS CO3	<1.0	UJ3		Holding time 24 days
				ARSENIC (AS)(TOT)	0.007	J4		Field duplicate RPD=26%
				CHROMIUM (CR)(TOT)	<0.01	UJ4		Field duplicate difference $\geq \pm 0.010$ ppm
				IRON (FE)(TOT)	0.91	J2	+22	LCS recovery 122%
				IRON (FE)(TOT)	0.91	J4		Field duplicate RPD=67%
				LEAD (PB)(TOT)	<0.003	UJ4		Field duplicate difference $\geq \pm 0.003$ ppm
				SELENIUM (SE)(TOT)	0.063	J2	-25	LCS recovery 75%
				SELENIUM (SE)(TOT)	0.063	J4		Field duplicate RPD=28%
EP-110	EPRI-9911-174	L991938008	10/29/99	TDS (MEASURED AT 180 C)	1790.0	J4		Field duplicate RPD=35%
EP-110	EPRI-9911-174	L991938008	10/29/99	TOTAL SUSPENDED SOLIDS	149.0	J4		Field duplicate RPD=24%
				IRON (FE)(TOT)	1.3	J2	+22	LCS recovery 122%
EP-111	EPRI-9911-175	L991936007	10/28/99	NITRATE + NITRITE AS N	0.2	UJ1		Detection in field blank (0.11 ppm)
				ZINC (ZN)(TOT)	0.13	J2	+22	LCS recovery 122%
EP-112	EPRI-9911-176	L991936005	10/28/99	NITRATE + NITRITE AS N	0.095	UJ1		Detection in field blank (0.11 ppm)
				ZINC (ZN)(TOT)	0.096	J2	+22	LCS recovery 122%
EP-113	EPRI-9911-177	L991938015	10/28/99	NITRATE + NITRITE AS N	0.22	UJ1		Detection in field blank (0.11 ppm)
				IRON (FE)(TOT)	4.5	J2	+22	LCS recovery 122%
EP-115	EPRI-9911-179	L992050001	11/22/99	FIELD SC (umhos per cm)	1842	R		Comparison with lab SC and TDS
POND 1	EPRI-9911-168	L991938021	11/02/99	FIELD SC (umhos per cm)	12370	R		Comparison with lab SC and TDS
POND 6	EPRI-9911-169	L991938025	11/02/99	IRON (FE)(TOT)	0.55	J2	+22	LCS recovery 122%
SEP-1	EPRI-9911-183	L991936023	11/01/99	NITRATE + NITRITE AS N	1.3	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.067	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.067	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-2	EPRI-9911-184	L991936025	11/01/99	NITRATE + NITRITE AS N	0.75	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.056	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.056	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-3	EPRI-9911-185	L991938019	11/01/99	NITRATE + NITRITE AS N	1.3	UJ1		Detection in field blank (0.26 ppm)
				IRON (FE)(TOT)	0.27	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.067	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-4	EPRI-9911-186	L991938016	11/01/99	NITRATE + NITRITE AS N	0.81	UJ1		Detection in field blank (0.26 ppm)
				IRON (FE)(TOT)	0.54	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.064	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-6	EPRI-9911-187	L991938018	11/01/99	NITRATE + NITRITE AS N	1.3	UJ1		Detection in field blank (0.26 ppm)
				IRON (FE)(TOT)	0.2	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.062	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-7	EPRI-9911-188	L991936022	11/01/99	NITRATE + NITRITE AS N	0.9	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.049	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.049	J4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-9	EPRI-9911-190	L991936021	11/01/99	NITRATE + NITRITE AS N	1.4	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	<0.02	UJ4		Field duplicate difference $\geq \pm 0.020$ ppm
SEP-10	EPRI-9911-191	L991936024	11/01/99	NITRATE + NITRITE AS N	0.75	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.045	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.045	J4		Field duplicate difference $\geq \pm 0.020$ ppm

Table 2. Summary of Flagged Data
El Paso RI Quarterly Monitoring, Fall 1999
 (All values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Parameter	Result	Code	Bias	Reason for Flag
SEP-11	EPRI-9911-157	L991938020	11/02/99	IRON (FE)(TOT)	0.73	J2	+22	LCS recovery 122%
SEP-12	EPRI-9911-160	L991936026	11/01/99	NITRATE + NITRITE AS N	0.8	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.061	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.061	J4		Field duplicate difference >±0.020 ppm
SEP-12 (Dup)	EPRI-9911-233	L991936027	11/01/99	ZINC (ZN)(TOT)	0.026	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.026	J4		Field duplicate difference >±0.020 ppm
SEP-13	EPRI-9911-158	L991936028	11/01/99	NITRATE + NITRITE AS N	0.74	UJ1		Detection in field blank (0.26 ppm)
				ZINC (ZN)(TOT)	0.079	J2	+22	LCS recovery 122%
				ZINC (ZN)(TOT)	0.079	J4		Field duplicate difference >±0.020 ppm

TABLE 3. HISTORICAL SUMMARY: Summary of the Comparison of Fall 1999 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and Showing the Relationship to these Data

ASARCO, EL PASO -- EPRI

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE			RELATION TO DATABASE					
				PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	PERIOD		
EM-2	10/29/1999	554.0	CHLORIDE (CL)	08/26/1997-08/06/1999	9	366.	431.8889	497.	3.20	HIGHEST		
EM-4	10/29/1999	2341.0	CHLORIDE (CL)	08/26/1997-08/06/1999	9	2795.0	3199.2222	3507.	3.43	LOWEST		
EM-6	11/02/1999	91.0	CALCIUM (CA) DIS	08/11/1997-08/06/1999	9	102.	117.5556	127.	3.11	LOWEST		
EM-7	10/30/1999	9.59	DEPTH TO WATER LEVEL (FEET)	11/17/1997-08/06/1999	8	8.38	8.5700	9.07	4.71	HIGHEST		
		2520.0	SC (UMHOS/CM AT 25 C)	11/17/1997-08/06/1999	8	4410.	5233.7500	6020.0	4.93	LOWEST		
		2410.0	SC (UMHOS/CM AT 25 C) (FLD)	11/17/1997-08/06/1999	8	4420	5821.2500	7070	3.12	LOWEST		
		1565.0	TDS (MEASURED AT 180 C)	11/17/1997-08/06/1999	8	3121.	3861.2500	4588.0	4.51	LOWEST		
		61.0	CALCIUM (CA) DIS	11/17/1997-08/06/1999	8	142.	190.1250	234.0	3.88	LOWEST		
		11.0	MAGNESIUM (MG) DIS	11/17/1997-08/06/1999	8	27.	37.3750	48.0	3.98	LOWEST		
		370.0	SODIUM (NA) DIS	11/17/1997-08/06/1999	8	834.	1072.6250	1349.0	3.81	LOWEST		
		20.0	POTASSIUM (K) DIS	11/17/1997-08/06/1999	8	37.	44.0000	51.0	4.81	LOWEST		
		486.0	SULFATE (SO4)	11/17/1997-08/06/1999	8	1111.0	1628.7500	2064.0	3.81	LOWEST		
EP-4	10/25/1999	8.3	PH	08/06/1997-08/02/1999	8	7.7	7.8750	8.1	3.32	HIGHEST		
EP-5	10/25/1999	7.02	DEPTH TO WATER LEVEL (FEET)	08/06/1997-08/02/1999	9	5.10	5.7667	6.31	3.38	HIGHEST		
		8230.0	SC (UMHOS/CM AT 25 C)	08/06/1997-08/02/1999	9	2780.0	3034.4444	3350	> 10	HIGHEST		
		8380.0	SC (UMHOS/CM AT 25 C) (FLD)	08/06/1997-08/02/1999	9	2560	3094.4444	3700	> 10	HIGHEST		
		5867.0	TDS (MEASURED AT 180 C)	08/06/1997-08/02/1999	9	1804.0	2057.2222	2342.	> 10	HIGHEST		
		323.0	CALCIUM (CA) DIS	08/06/1997-08/02/1999	9	71.0	80.4444	96.	> 10	HIGHEST		
		124.0	MAGNESIUM (MG) DIS	08/06/1997-08/02/1999	9	30.0	33.0000	39.	> 10	HIGHEST		
		1497.0	SODIUM (NA) DIS	08/06/1997-08/02/1999	9	550	605.4444	671.0	> 10	HIGHEST		
		25.0	POTASSIUM (K) DIS	08/06/1997-08/02/1999	9	5.8	11.0556	18.0	3.64	HIGHEST		
		532.0	BICARBONATE (HCO3)	08/06/1997-08/02/1999	9	743	857.5556	935	4.78	LOWEST		
		2066.0	SULFATE (SO4)	08/06/1997-08/02/1999	9	318.0	441.4444	577	> 10	HIGHEST		
		1337.0	CHLORIDE (CL)	08/06/1997-08/02/1999	9	285.0	342.6667	424.	> 10	HIGHEST		
		EP-6	10/25/1999	43.0	TOTAL SUSPENDED SOLIDS	08/06/1997-08/02/1999	9	1.9	6.2889	10.0	> 10	HIGHEST
		EP-7	10/25/1999	6700.0	SC (UMHOS/CM AT 25 C)	08/06/1997-08/02/1999	9	2660.0	2948.8889	3790	> 10	HIGHEST
				6910.0	SC (UMHOS/CM AT 25 C) (FLD)	08/06/1997-08/02/1999	7	2500	2880.0000	3800	9.07	HIGHEST
4506.0	TDS (MEASURED AT 180 C)			08/06/1997-08/02/1999	9	1790.0	2032.7778	2664	9.85	HIGHEST		
23.0	TOTAL SUSPENDED SOLIDS			08/06/1997-08/02/1999	9	8.9	13.3222	18.0	3.40	HIGHEST		
330.0	CALCIUM (CA) DIS			08/06/1997-08/02/1999	9	83.0	110.5556	146	> 10	HIGHEST		
103.0	MAGNESIUM (MG) DIS			08/06/1997-08/02/1999	9	27.0	36.2222	47	> 10	HIGHEST		
1223.0	SODIUM (NA) DIS			08/06/1997-08/02/1999	9	446.0	504.8889	553.0	> 10	HIGHEST		
1517.0	SULFATE (SO4)			08/06/1997-08/02/1999	9	567.0	736.8889	907	7.63	HIGHEST		
1197.0	CHLORIDE (CL)			08/06/1997-08/02/1999	9	311.0	347.8889	467	> 10	HIGHEST		
EP-7	10/25/1999			6700.0	SC (UMHOS/CM AT 25 C)	08/06/1997-08/02/1999	9	2660.0	2948.8889	3790	> 10	HIGHEST
EP-12	10/29/1999	8.0	PH (FLD)	11/03/1997-08/11/1999	8	6.76	6.9413	7.31	5.57	HIGHEST		
		8.3	PH	11/03/1997-08/11/1999	8	7.3	7.4750	7.7	5.54	HIGHEST		
		1881.0	TDS (MEASURED AT 180 C)	11/03/1997-08/11/1999	8	3854.0	4693.7500	5491.0	4.66	LOWEST		
		138.0	CALCIUM (CA) DIS	11/03/1997-08/11/1999	8	288.0	359.7500	437.0	4.32	LOWEST		
		740.0	SULFATE (SO4)	11/03/1997-08/11/1999	8	1412.0	1935.8750	2603.0	3.13	LOWEST		
		0.51	FLUORIDE (F)	11/03/1997-08/11/1999	8	0.78	0.9500	1.1	4.00	LOWEST		
		EP-13	10/28/1999	8960.0	SC (UMHOS/CM AT 25 C)	08/07/1997-08/03/1999	9	10640.0	11526.6667	12500	4.44	LOWEST
8160.0	SC (UMHOS/CM AT 25 C) (FLD)	08/07/1997-08/03/1999	9	10900	12174.4444	14320	3.10	LOWEST				
6935.0	TDS (MEASURED AT 180 C)	08/07/1997-08/03/1999	9	8869.0	9907.3333	11243.	3.97	LOWEST				
42.0	MAGNESIUM (MG) DIS	08/07/1997-08/03/1999	9	59.0	66.1111	73.	4.96	LOWEST				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics The detection limit was used in calculations.

TABLE 3. HISTORICAL SUMMARY: Summary of the Comparison of Fall 1999 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and Showing the Relationship to these Data

ASARCO, EL PASO -- BPRI

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO			
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	DATABASE PERIOD
		327.0	BICARBONATE (HCO3)	08/07/1997-08/03/1999	9	394.0	413.5556	429	7.14	LOWEST
EP-14	10/28/1999	8.1	PH	11/05/1997-08/03/1999	8	7.2	7.4750	7.7	4.20	HIGHEST
EP-15	10/28/1999	6.85	PH (FLD)	08/07/1997-08/03/1999	9	7.12	7.2333	7.35	4.43	LOWEST
		509.0	CHLORIDE (CL)	08/07/1997-08/03/1999	9	272.0	340.8889	452	3.19	HIGHEST
EP-20	10/26/1999	250.0	BICARBONATE (HCO3)	08/07/1997-08/02/1999	9	349.0	372.4444	403.0	6.22	LOWEST
EP-21	11/03/1999	1.3	OXYGEN (O) (FLD) DIS	02/18/1998-08/10/1999	6	0.20	0.4617	0.800	3.77	HIGHEST
EP-35	10/26/1999	3387.0	SULFATE (SO4)	08/07/1997-08/02/1999	9	2158.0	2483.1111	2822.0	4.54	HIGHEST
EP-43	10/29/1999	7.7	OXYGEN (O) (FLD) DIS	11/03/1997-08/27/1998	5	2.00	0.7650	1.50	> 10	HIGHEST
EP-49	11/02/1999	5.4	PH	11/19/1997-05/14/1999	7	3.5	3.9000	4.5	4.21	HIGHEST
		10031.0	TDS (MEASURED AT 180 C)	11/19/1997-05/14/1999	7	13384.0	15452.2857	17442.0	3.52	LOWEST
		15.0	FLUORIDE (F)	11/19/1997-05/14/1999	7	23.0	27.0000	33.0	3.42	LOWEST
EP-51	11/02/1999	43.43	DEPTH TO WATER LEVEL (FEET)	08/11/1997-08/04/1999	10	48.15	48.8090	49.12	> 10	LOWEST
EP-52	10/29/1999	454.0	CALCIUM (CA) DIS	11/06/1997-08/05/1999	7	512	550.5714	587.0	3.38	LOWEST
EP-53	10/26/1999	157.0	BICARBONATE (HCO3)	08/11/1997-08/04/1999	8	256.0	304.8750	348.0	4.47	LOWEST
EP-55	10/29/1999	8.1	PH	08/15/1997-08/10/1999	9	6.4	6.7889	7.1	5.66	HIGHEST
EP-56	10/26/1999	8.1	PH	08/26/1997-08/04/1999	9	7.3	7.5778	7.8	4.01	HIGHEST
		5290.0	SC (UMHOS/CM AT 25 C)	08/26/1997-08/04/1999	9	5390	5536.6667	5600.0	3.60	LOWEST
EP-56	10/26/1999	8.2	PH	08/26/1997-08/04/1999	9	7.3	7.5778	7.8	4.78	HIGHEST
		5300.0	SC (UMHOS/CM AT 25 C)	08/26/1997-08/04/1999	9	5390	5536.6667	5600.0	3.45	LOWEST
		301.0	CALCIUM (CA) DIS	08/26/1997-08/04/1999	9	227	251.7778	269.0	3.91	HIGHEST
EP-57	11/03/1999	2811.0	TOTAL SUSPENDED SOLIDS	08/16/1997-08/10/1999	9	14.0	379.5556	1172.0	5.23	HIGHEST
		1714.0	BICARBONATE (HCO3)	08/16/1997-08/10/1999	9	1049.0	1231.7778	1344.0	5.23	HIGHEST
EP-59	10/27/1999	3.9	OXYGEN (O) (FLD) DIS	08/09/1997-08/03/1999	9	0.200	1.2244	2.70	3.25	HIGHEST
		8.1	PH	08/09/1997-08/03/1999	9	7.3	7.5000	7.7	4.00	HIGHEST
EP-60	10/27/1999	8.1	PH	08/08/1997-08/03/1999	9	7.3	7.5667	7.8	3.37	HIGHEST
EP-61	11/03/1999	1608.0	TOTAL SUSPENDED SOLIDS	08/16/1997-08/10/1999	9	12.0	116.4444	562	8.78	HIGHEST
EP-63	10/27/1999	7680.0	SC (UMHOS/CM AT 25 C)	08/09/1997-08/03/1999	9	8100	8310.0000	8480.0	4.41	LOWEST
		5687.0	TDS (MEASURED AT 180 C)	08/09/1997-08/03/1999	9	6237.0	6408.4444	6532.0	7.15	LOWEST
EP-65	11/03/1999	2.3	OXYGEN (O) (FLD) DIS	08/16/1997-08/10/1999	9	0.270	0.6356	1.40	4.39	HIGHEST
EP-66	10/27/1999	8.3	PH	08/08/1997-08/04/1999	9	7.4	7.6111	8.0	3.63	HIGHEST
		5910.0	SC (UMHOS/CM AT 25 C)	08/08/1997-08/04/1999	9	7220.0	7792.2222	8390	5.25	LOWEST
		5920.0	SC (UMHOS/CM AT 25 C) (FLD)	08/08/1997-08/04/1999	9	7530	8227.7778	9020	4.02	LOWEST
		4908.0	TDS (MEASURED AT 180 C)	08/08/1997-08/04/1999	9	6329.0	6863.2222	7776	4.28	LOWEST
		97.0	MAGNESIUM (MG) DIS	08/08/1997-08/04/1999	9	116.0	137.6667	161	3.02	LOWEST
		345.0	BICARBONATE (HCO3)	08/08/1997-08/04/1999	9	443.0	495.2222	559	4.36	LOWEST
		420.0	CHLORIDE (CL)	08/08/1997-08/04/1999	9	564	633.0000	699.0	4.32	LOWEST
EP-68	10/28/1999	12.1	OXYGEN (O) (FLD) DIS	08/14/1997-05/10/1999	8	5.60	6.3063	7.59	9.62	HIGHEST
EP-71	10/28/1999	7.9	PH	08/12/1997-08/05/1999	8	7.3	7.4750	7.7	3.32	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics
 The detection limit was used in calculations.

TABLE 3. HISTORICAL SUMMARY: Summary of the Comparison of Fall 1999 Data to Existing Data, Showing Parameters that are Three or More Standard Deviations from the Mean of the Database Period and Showing the Relationship to these Data

ASARCO, EL PASO -- EPRI

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON			RELATION TO			
				DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	DATABASE PERIOD
EP-73	10/29/1999	4302.0	TDS (MEASURED AT 180 C)	08/12/1997-08/05/1999	9	5245.0	5450.7778	5763.0	5.40	LOWEST
EP-77	10/29/1999	3006.0	TDS (MEASURED AT 180 C)	08/12/1997-08/05/1999	9	3502.0	3999.1111	4383.0	3.74	LOWEST
		500.0	BICARBONATE (HCO3)	08/12/1997-08/05/1999	9	230.0	303.3333	364.0	5.14	HIGHEST
EP-77	10/29/1999	2121.0	TDS (MEASURED AT 180 C)	08/12/1997-08/05/1999	9	3502.0	3999.1111	4383.0	7.07	LOWEST
		479.0	BICARBONATE (HCO3)	08/12/1997-08/05/1999	9	230.0	303.3333	364.0	4.59	HIGHEST
EP-79	10/31/1999	7.5	NITRATE + NITRITE AS N	08/13/1997-08/09/1999	9	9.2	9.7667	11.0	4.14	LOWEST
EP-80	10/27/1999	1.2	FLUORIDE (F)	08/13/1997-08/09/1999	9	1.3	1.3111	1.4	3.33	LOWEST
EP-83	10/30/1999	7.22	PH (FLD)	08/13/1997-08/09/1999	9	7.36	7.5056	7.60	4.13	LOWEST
EP-84	10/30/1999	6.88	PH (FLD)	08/13/1997-08/09/1999	9	7.16	7.2656	7.44	4.04	LOWEST
EP-85	10/27/1999	7.15	PH (FLD)	08/13/1997-08/09/1999	9	7.30	7.3778	7.51	3.40	LOWEST
EP-85	10/27/1999	7.15	PH (FLD)	08/13/1997-08/09/1999	9	7.30	7.3778	7.51	3.40	LOWEST
		452.0	SODIUM (NA) DIS	08/13/1997-08/09/1999	9	490.0	507.2222	522.0	4.44	LOWEST
EP-86	10/31/1999	351.0	CHLORIDE (CL)	08/13/1997-08/09/1999	9	224.0	265.0000	291.0	3.42	HIGHEST
		452.0	SODIUM (NA) DIS	08/13/1997-08/09/1999	9	490.0	507.2222	522.0	4.44	LOWEST
POND 1	11/02/1999	215000.0	SC (UMHOS/CM AT 25 C)	12/22/1997-08/11/1999	8	8260.0	42223.7500	126300.0	4.72	HIGHEST
		147412.0	TDS (MEASURED AT 180 C)	12/22/1997-08/11/1999	8	6712.0	39153.1250	101290.0	3.66	HIGHEST
		1703.0	TOTAL SUSPENDED SOLIDS	12/22/1997-08/11/1999	8	6.9	34.3375	69.0	> 10	HIGHEST
		850.0	CALCIUM (CA) DIS	12/22/1997-08/11/1999	8	266.0	463.6250	585.0	3.66	HIGHEST
		3445.0	MAGNESIUM (MG) DIS	12/22/1997-08/11/1999	8	54.0	221.7500	545.0	> 10	HIGHEST
		4074.0	POTASSIUM (K) DIS	12/22/1997-08/11/1999	8	64.0	464.7500	1157.0	> 10	HIGHEST
		587.0	BICARBONATE (HCO3)	12/22/1997-08/11/1999	8	131.0	179.3750	256.0	8.50	HIGHEST
		80035.0	SULFATE (SO4)	12/22/1997-08/11/1999	8	3866.0	23803.8750	59186.0	3.11	HIGHEST
		24148.0	CHLORIDE (CL)	12/22/1997-08/11/1999	8	292.0	1996.6250	5316.0	> 10	HIGHEST
		121.0	FLUORIDE (F)	12/22/1997-08/11/1999	8	7.5	22.5625	38.0	8.87	HIGHEST
		1112.0	NITRATE + NITRITE AS N	12/22/1997-08/11/1999	8	6.9	47.1625	134.0	> 10	HIGHEST
SEP-4	11/01/1999	2069.0	TDS (MEASURED AT 180 C)	08/15/1997-08/20/1999	9	571.0	863.5556	1289.0	4.13	HIGHEST
SEP-6	11/01/1999	6.7	OXYGEN (O) (FLD) DIS	08/18/1997-08/20/1999	4	5.33	5.3650	5.40	> 10	HIGHEST
		1830.0	SC (UMHOS/CM AT 25 C)	08/18/1997-08/20/1999	4	915.0	938.0000	961.0	> 10	HIGHEST
		1871.0	SC (UMHOS/CM AT 25 C) (FLD)	08/18/1997-08/20/1999	4	914.0	928.5000	943.0	> 10	HIGHEST
		833.0	TDS (MEASURED AT 180 C)	08/18/1997-08/20/1999	4	566.0	604.5000	643.0	5.14	HIGHEST
		18.1	WATER TEMPERATURE (C) (FLD)	08/18/1997-08/20/1999	4	24.6	25.3000	26.0	8.91	LOWEST
		107.0	CALCIUM (CA) DIS	08/18/1997-08/20/1999	4	59.0	62.0000	65.0	> 10	HIGHEST
		27.0	MAGNESIUM (MG) DIS	08/18/1997-08/20/1999	4	12.0	13.5000	15.0	7.79	HIGHEST
		235.0	SODIUM (NA) DIS	08/18/1997-08/20/1999	4	102.0	111.5000	121.0	> 10	HIGHEST
		11.0	POTASSIUM (K) DIS	08/18/1997-08/20/1999	4	7.2	7.7500	8.3	5.12	HIGHEST
		416.0	SULFATE (SO4)	08/18/1997-08/20/1999	4	176.0	183.5000	191.0	> 10	HIGHEST
		215.0	CHLORIDE (CL)	08/18/1997-08/20/1999	4	73.0	79.0000	85.0	> 10	HIGHEST
1.3	NITRATE + NITRITE AS N	08/18/1997-08/20/1999	4	0.57	0.6650	.76	5.79	HIGHEST		
SEP-9	11/01/1999	282.0	BICARBONATE (HCO3)	08/15/1997-08/20/1999	9	195.0	218.6667	254.0	3.67	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
 N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
 A & R Flags were excluded from Statistics The detection limit was used in calculations.

APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MF	Well Depth
1	EM-1	EM-1	Groundwater		
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-5	EP-5	Groundwater		
3	EP-6	EP-6	Groundwater		
4	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
5	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
6	EP-21	EP-21	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-29	EP-29	Groundwater		
7	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-44	EP-44	Groundwater		
8	EP-49	EP-49	Groundwater		
9	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
15	EP-73	EP-73	Groundwater		
16	EP-77	EP-77	Groundwater		
16	EP-78	EP-78	Groundwater		
16	EP-79	EP-79	Groundwater		
17	EP-80	EP-80	Groundwater		
17	EP-81	EP-81	Groundwater		
17	EP-82	EP-82	Groundwater		
18	EP-83	EP-83	Groundwater		
18	EP-84	EP-84	Groundwater		
18	EP-85	EP-85	Groundwater		
19	EP-86	EP-86	Groundwater		
19	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
20	EP-90	EP-90	Groundwater		
20	EP-93	EP-93	Groundwater		
21	EP-94	EP-94	Groundwater		
21	EP-95	EP-95	Groundwater		
21	EP-96	EP-96	Groundwater		
22	EP-97	EP-97	Groundwater		
22	EP-98	EP-98	Groundwater		
22	EP-99	EP-99	Groundwater		
23	EP-100	EP-100	Groundwater		
23	EP-101	EP-101	Groundwater		
23	EP-102	EP-102	Groundwater		
24	EP-103	EP-103	Groundwater		
24	EP-104	EP-104	Groundwater		
24	EP-105	EP-105	Groundwater		

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
25	EP-106	EP-106	Groundwater		
25	EP-107	EP-107	Groundwater		
25	EP-108	EP-108	Groundwater		
26	EP-109	EP-109	Groundwater		
26	EP-110	EP-110	Groundwater		
26	EP-111	EP-111	Groundwater		
27	EP-112	EP-112	Groundwater		
27	EP-113	EP-113	Groundwater		
27	EP-114	EP-114	Groundwater		
28	EP-115	EP-115	Groundwater		
28	EP-116	EP-116	Groundwater		
28	EP-117	EP-117	Groundwater		
29	EP-118	EP-118	Groundwater		
30	DI	DI BLANK	Quality Control		
37	POND 1-SED	POND 1 SOIL SEDIMENT	SEDIMENT/SOIL		
37	POND 6-SED	POND 6 SOIL SEDIMENT	SEDIMENT/SOIL		
37	SEP-2-SED	SEP-2 SOIL SEDIMENT	SEDIMENT/SOIL		
38	SEP-4-SED	SEP-4 SOIL SEDIMENT	SEDIMENT/SOIL		
38	SEP-9-SED	SEP-9 SOIL SEDIMENT	SEDIMENT/SOIL		
38	SEP-10-SED	SEP-10 SOIL SEDIMENT	SEDIMENT/SOIL		
39	SEP-11-SED	SEP-11 SOIL SEDIMENT	SEDIMENT/SOIL		
39	SEP-12-SED	SEP-12 SOIL SEDIMENT	SEDIMENT/SOIL		
39	SEP-13-SED	SEP-13 SOIL SEDIMENT	SEDIMENT/SOIL		
40	SEP-14-SED	SEP-14 SOIL SEDIMENT	SEDIMENT/SOIL		
32	POND 1	POND 1	Surface Water		
32	POND 6	POND 6	Surface Water		
32	SEP-1	SEP-1	Surface Water		
33	SEP-2	SEP-2	Surface Water		
33	SEP-3	SEP-3	Surface Water		
33	SEP-4	SEP-4	Surface Water		
34	SEP-6	SEP-6	Surface Water		
34	SEP-7	SEP-7	Surface Water		
34	SEP-9	SEP-9	Surface Water		
35	SEP-10	SEP-10	Surface Water		
35	SEP-11	SEP-11	Surface Water		
35	SEP-12	SEP-12	Surface Water		
36	SEP-13	SEP-13	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EM-1	EM-2	EM-4
	SAMPLE DATE	10/30/1999	10/29/1999	10/29/1999
	SAMPLE TIME	16:45	11:45	11:15
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991938013	L991938005	L991938002
	SAMPLE NUMBER	EPRI-9911-161	EPRI-9911-262	EPRI-9911-164
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	66.76	64.83	60.98
	OXYGEN (O) (FLD) DIS		1.1	2.1
	PH (FLD)	7.16	6.6	6.96
	PH	7.8	7.7	7.8
	SC (UMHOS/CM AT 25 C)	5600.0	6040.0	9400.0
	SC (UMHOS/CM AT 25 C) (FLD)	5050.0	5360.0	8720.0
	TDS (MEASURED AT 180 C)	4061.0	4494.0 J4	5290.0 J4
	TOTAL SUSPENDED SOLIDS	12.0 J4	3.3 J4	<1.0 UJ4
	TURBIDITY (NTU)		3.46	
	WATER TEMPERATURE (C) (FLD)	21.2	25.5	23.6
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	210.0	351.0	357.0
	MAGNESIUM (MG) DIS	122.0	126.0	159.0
	SODIUM (NA) DIS	801.0	788.0	1188.0
	POTASSIUM (K) DIS	27.0	18.0	27.0
	BICARBONATE (HCO3)	216.0	348.0	146.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	1554.0	2354.0	186.0
	CHLORIDE (CL)	797.0	554.0	2341.0
	FLUORIDE (F)	0.81	1.3	1.2
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	0.17 UJ1	72.0	0.23 UJ1 J4
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) TOT	<0.005	1.4	0.012
	CADMIUM (CD) TOT	<0.005	<0.005	<0.005
	CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
	COPPER (CU) TOT	<0.025	<0.025	<0.025
	IRON (FE) TOT	0.59 J2	<0.1	<0.1
	LEAD (PB) TOT	0.004	<0.003	0.004
	SELENIUM (SE) TOT	<0.005	0.17	<0.005
	ZINC (ZN) TOT	<0.02	<0.02	0.037

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EM-5	EM-5	EM-6	EM-7
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999	10/30/1999
SAMPLE TIME	10:45	11:00	11:30	16:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991938022	L991938023	L991938024	L991936014
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-165	EPRI-9911-236	EPRI-9911-166	EPRI-9911-167

-- PHYSICAL PARAMETERS --

PARAMETER	EM-5	EM-5	EM-6	EM-7
DEPTH TO WATER LEVEL (FEET)	14.34		37.5	9.59
OXYGEN (O) (FLD) DIS	4.1	4.0	2.2	
PH (FLD)	7.38	7.39	7.3	7.41
PH	7.9	8.0	8.0	7.8
SC (UMHOS/CM AT 25 C)	3010.0	3020.0	3300.0	2520.0
SC (UMHOS/CM AT 25 C) (FLD)	3210.0	3190.0	3660.0	2410.0
TDS (MEASURED AT 180 C)	1980.0	1976.0	2281.0	1565.0
TOTAL SUSPENDED SOLIDS	1.5	1.1	4.1	97.0 J4
TURBIDITY (NTU)	1.46	1.38	1.37	
WATER TEMPERATURE (C) (FLD)	22.8	23.3	21.8	22.8

-- MAJOR CONSTITUENTS --

CONSTITUENT	EM-5	EM-5	EM-6	EM-7
CALCIUM (CA) DIS	79.0	75.0	91.0	61.0
MAGNESIUM (MG) DIS	18.0	17.0	51.0	11.0
SODIUM (NA) DIS	495.0	482.0	539.0	370.0
POTASSIUM (K) DIS	29.0	28.0	9.6	20.0
BICARBONATE (HCO3)	199.0	198.0	304.0	275.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<3.0
SULFATE (SO4)	827.0	835.0	1058.0	486.0
CHLORIDE (CL)	146.0	309.0	342.0	322.0
FLUORIDE (F)	6.4	6.5	1.7	6.3

-- NUTRIENTS --

NUTRIENT	EM-5	EM-5	EM-6	EM-7
NITRATE + NITRITE AS N	0.17	0.11	4.7	0.16 UJ1

-- METALS & MINOR CONSTITUENTS --

METAL	EM-5	EM-5	EM-6	EM-7
ARSENIC (AS) TOT	2.4	2.3	0.037	3.3
CADMIUM (CD) TOT	0.005	0.006	0.007	0.26
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	0.036
COPPER (CU) TOT	<0.025	<0.025	0.069	0.81
IRON (FE) TOT	0.87 J2	0.83 J2	0.12 J2	2.9
LEAD (PB) TOT	0.006	0.009	0.013	1.5
SELENIUM (SE) TOT	<0.005	<0.005	0.056	0.077
ZINC (ZN) TOT	0.061	0.063	0.11	0.8 J2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-4	EP-5	EP-6
	SAMPLE DATE	10/25/1999	10/25/1999	10/25/1999
	SAMPLE TIME	14:30	15:30	16:15
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991925001	L991925002	L991925003
	SAMPLE NUMBER	EPRI-9911-100	EPRI-9911-101	EPRI-9911-102
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	8.23	7.02	8.09
	PH (FLD)	7.28	7.18	7.15
	PH	8.3	8.1	8.0
	SC (UMHOS/CM AT 25 C)	2660.0	8230.0	8070.0
	SC (UMHOS/CM AT 25 C) (FLD)	2650.0	8380.0	8090.0
	TDS (MEASURED AT 180 C)	1767.0	5867.0	6040.0
	TOTAL SUSPENDED SOLIDS	257.0	39.0	43.0
	WATER TEMPERATURE (C) (FLD)	25.2	25.2	25.1
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	129.0	323.0	411.0
	MAGNESIUM (MG) DIS	36.0	124.0	140.0
	SODIUM (NA) DIS	390.0	1497.0	1383.0
	POTASSIUM (K) DIS	20.0	25.0	27.0
	BICARBONATE (HCO3)	338.0 J3	532.0 J3	464.0 J3
	CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3
	SULFATE (SO4)	654.0	2066.0	3357.0
	CHLORIDE (CL)	272.0	1337.0	912.0
	FLUORIDE (F)	1.1	2.2	1.3
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	0.11	0.36	3.5
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) TOT	0.16	0.042	0.018
	CADMIUM (CD) TOT	<0.005	<0.005	<0.005
	CHROMIUM (CR) TOT	0.012	<0.01	<0.01
	COPPER (CU) TOT	0.18	0.055	<0.025
	IRON (FE) TOT	13.0 J2	0.43 J2	<0.1
	LEAD (PB) TOT	0.086	0.013	<0.003
	SELENIUM (SE) TOT	0.005 J2	0.15 J2	0.039 J2
	ZINC (ZN) TOT	0.14	0.04	0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-7	EP-7	EP-12	EP-13
SITE CODE	EP-7	EP-7	EP-12	EP-13
SAMPLE DATE	10/25/1999	10/25/1999	10/29/1999	10/28/1999
SAMPLE TIME	16:40	16:50	10:30	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925005	L991925006	L991938006	L991925030
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-103	EPRI-9911-206	EPRI-9911-104	EPRI-9911-105

-- PHYSICAL PARAMETERS --

	EP-7	EP-7	EP-12	EP-13
DEPTH TO WATER LEVEL (FEET)	7.53		61.12	60.84
OXYGEN (O) (FLD) DIS			2.5	3.7
PH (FLD)	6.97		8.0	7.03
PH	7.8	7.9	8.3	8.0
SC (UMHOS/CM AT 25 C)	6700.0	6700.0	4400.0	8960.0
SC (UMHOS/CM AT 25 C) (FLD)	6910.0		4180.0	8160.0
TDS (MEASURED AT 180 C)	4586.0	4531.0	1881.0 J4	6935.0
TOTAL SUSPENDED SOLIDS	23.0	19.0	47.0 J4	3.9
TURBIDITY (NTU)				4.02
WATER TEMPERATURE (C) (FLD)	23.7		21.7	22.2

-- MAJOR CONSTITUENTS --

	EP-7	EP-7	EP-12	EP-13
CALCIUM (CA) DIS	330.0	321.0	138.0	265.0
MAGNESIUM (MG) DIS	103.0	98.0	68.0	42.0
SODIUM (NA) DIS	1223.0	1168.0	809.0	1797.0
POTASSIUM (K) DIS	16.0	15.0	10.0	63.0
BICARBONATE (HCO3)	460.0 J3	454.0 J3	1557.0	327.0 J3
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0	<1.0 UJ3
SULFATE (SO4)	1517.0	1503.0	740.0	4164.0
CHLORIDE (CL)	1197.0	1133.0	375.0	596.0
FLUORIDE (F)	1.7	1.7	0.51	1.4

-- NUTRIENTS --

	EP-7	EP-7	EP-12	EP-13
NITRATE + NITRITE AS N	0.11	0.1	0.86 J4	81.0

-- METALS & MINOR CONSTITUENTS --

	EP-7	EP-7	EP-12	EP-13
ARSENIC (AS) TOT	0.12	0.12	3.3	31.0
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	0.38
CHROMIUM (CR) TOT	<0.01	<0.01	0.015	<0.01
COPPER (CU) TOT	<0.025	<0.025	0.031	<0.025
IRON (FE) TOT	5.8 J2	5.5 J2	0.44 J2	0.47 J2
LEAD (PB) TOT	<0.003	<0.003	0.021	0.01
SELENIUM (SE) TOT	<0.005 UJ2	<0.005 UJ2	0.42	4.4 J2
ZINC (ZN) TOT	0.03	0.02	<0.02	0.03

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-14	EP-15	EP-20
SITE CODE	EP-14	EP-15	EP-20
SAMPLE DATE	10/28/1999	10/28/1999	10/26/1999
SAMPLE TIME	08:30	10:15	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925029	L991925031	L991925007
SAMPLE NUMBER	EPRI-9911-106	EPRI-9911-107	EPRI-9911-108
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	59.61	59.33	14.86
OXYGEN (O) (FLD) DIS	0.2	1.3	2.2
PH (FLD)	6.87	6.85	6.73
PH	8.1	8.1	7.2
SC (UMHOS/CM AT 25 C)	4750.0	4400.0	9800.0
SC (UMHOS/CM AT 25 C) (FLD)	5400.0	3960.0	9770.0
TDS (MEASURED AT 180 C)	3667.0	3250.0	8197.0
TOTAL SUSPENDED SOLIDS	4.2	60.0	106.0 J4
TURBIDITY (NTU)	3.08	34.6	
WATER TEMPERATURE (C) (PLD)	24.6	24.0	22.4
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	336.0	230.0	483.0
MAGNESIUM (MG) DIS	86.0	81.0	266.0
SODIUM (NA) DIS	688.0	671.0	1596.0
POTASSIUM (K) DIS	55.0	13.0	48.0
BICARBONATE (HCO3)	394.0 J3	266.0 J3	250.0 J3 J4
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	1537.0	1356.0	4216.0
CHLORIDE (CL)	405.0	509.0	686.0
FLUORIDE (F)	1.7	0.71	2.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	39.0	20.0	143.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	1.4	0.021	0.75 J4
CADMIUM (CD) TOT	<0.005	0.012	0.03
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01 UJ4
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.18 J2	1.2 J2	1.6 J2 J4
LEAD (PB) TOT	<0.003	0.004	0.003 J4
SELENIUM (SE) TOT	0.2 J2	0.12 J2	0.27 J2
ZINC (ZN) TOT	<0.02	<0.02	0.04

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-21	EP-23	EP-24
SITE CODE	EP-21	EP-23	EP-24
SAMPLE DATE	11/03/1999	10/30/1999	11/03/1999
SAMPLE TIME	15:30	09:30	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991962010	L991936008	L991962009
SAMPLE NUMBER	EPRI-9911-109	EPRI-9911-111	EPRI-9911-112
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	25.11	20.61	32.01
OXYGEN (O) (FLD) DIS	1.3		1.0
PH (FLD)	7.28	7.35	6.96
PH	7.9	7.9	7.7
SC (UMHOS/CM AT 25 C)	5240.0	3340.0	5200.0
SC (UMHOS/CM AT 25 C) (FLD)	5760.0	3320.0	5990.0
TDS (MEASURED AT 180 C)	2963.0 J4	1706.0	3092.0 J4
TOTAL SUSPENDED SOLIDS	177.0 J4	18.0 J4	73.0 J4
WATER TEMPERATURE (C) (FLD)	23.9	22.1	23.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	35.0	37.0	174.0
MAGNESIUM (MG) DIS	40.0	23.0	42.0
SODIUM (NA) DIS	768.0	491.0	853.0
POTASSIUM (K) DIS	294.0	32.0	28.0
BICARBONATE (HCO3)	1940.0 J4	938.0	1425.0 J4
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	114.0 J4	540.0	266.0 J4
CHLORIDE (CL)	586.0 J4	267.0	1006.0 J4
FLUORIDE (F)	6.8	4.6	2.5
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.12	0.32 UJ1	0.13
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.15	11.0	0.007
CADMIUM (CD) TOT	0.012	0.008	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.13	0.24	0.022
IRON (FE) TOT	8.7	0.93	1.4
LEAD (PB) TOT	0.078 J4	0.088	0.009 J4
SELENIUM (SE) TOT	0.015	0.013	<0.005
ZINC (ZN) TOT	1.0	0.14 J2	0.024

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-25	EP-25	EP-25	EP-35
SAMPLE DATE	11/03/1999	11/03/1999	10/26/1999	10/26/1999
SAMPLE TIME	16:30	16:45	12:00	11:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991962011	L991962008	L991925009	L991925008
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-113	EPRI-9911-238	EPRI-9911-115	EPRI-9911-116
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	47.48		14.64	15.0
OXYGEN (O) (FLD) DIS	3.3	3.3	2.4	1.7
PH (FLD)	6.87	6.82	7.42	6.71
PH	7.3	7.5	8.2	7.8
SC (UMHOS/CM AT 25 C)	6580.0	5640.0	3160.0	6770.0
SC (UMHOS/CM AT 25 C) (FLD)	5750.0	5970.0	3130.0	6740.0
TDS (MEASURED AT 180 C)	4373.0 J4	3270.0 J4	2052.0	5791.0
TOTAL SUSPENDED SOLIDS	169.0 J4	126.0 J4	572.0 J4	454.0 J4
WATER TEMPERATURE (C) (FLD)	22.4	22.8	24.5	24.6
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	202.0	198.0	76.0	441.0
MAGNESIUM (MG) DIS	32.0	31.0	23.0	148.0
SODIUM (NA) DIS	757.0	757.0	597.0	1018.0
POTASSIUM (K) DIS	290.0	287.0	22.0	18.0
BICARBONATE (HCO3)	1080.0 J4	1599.0 J4	364.0 J3 J4	630.0 J3 J4
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	1507.0 J4	554.0 J4	829.0	3387.0
CHLORIDE (CL)	893.0 J4	683.0 J4	313.0	475.0
FLUORIDE (F)	1.9	2.1	3.1	1.0
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.12	0.12	3.8	67.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	7.8	6.7	0.27 J4	0.67 J4
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	0.03 J4	0.011 J4
COPPER (CU) TOT	0.06	0.041	0.027	0.026
IRON (FE) TOT	6.7	6.2	14.0 J2 J4	2.8 J2 J4
LEAD (PB) TOT	0.052 J4	0.034 J4	0.013 J4	0.011 J4
SELENIUM (SE) TOT	0.3	0.25	0.13 J2	1.3 J2
ZINC (ZN) TOT	0.038	0.026	0.03	0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-43	EP-44	EP-49
SITE CODE	EP-43	EP-44	EP-49
SAMPLE DATE	10/29/1999	10/26/1999	11/02/1999
SAMPLE TIME	10:00	16:00	14:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991938001	L991925015	L991938026
SAMPLE NUMBER	EPRI-9911-117	EPRI-9911-162	EPRI-9911-118
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	58.67	72.81	67.81
OXYGEN (O) (FLD) DIS	7.7	1.4	
PH (FLD)	7.72	7.02	
PH	7.8	8.0	5.4
SC (UMHOS/CM AT 25 C)	8130.0	5740.0	10440.0
SC (UMHOS/CM AT 25 C) (FLD)	7320.0	5710.0	
TDS (MEASURED AT 180 C)	4692.0 J4	4586.0	10031.0
TOTAL SUSPENDED SOLIDS	30.0 J4	848.0 J4	329.0
WATER TEMPERATURE (C) (FLD)	24.2	25.5	
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	294.0	413.0	462.0
MAGNESIUM (MG) DIS	123.0	165.0	231.0
SODIUM (NA) DIS	1206.0	735.0	1070.0
POTASSIUM (K) DIS	36.0	65.0	265.0
BICARBONATE (HCO3)	683.0	406.0 J3	41.0
		J4	
CARBONATE AS CO3	<1.0	<1.0 UJ3	<1.0
SULFATE (SO4)	1183.0	2466.0	4941.0
CHLORIDE (CL)	1628.0	368.0	840.0
FLUORIDE (F)	1.9	3.0	15.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.18 UJ1	56.0	0.85
	J4		
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	1.0	3.1	221.0
CADMIUM (CD) TOT	<0.005	<0.005	13.0
CHROMIUM (CR) TOT	<0.01	<0.01 UJ4	0.023
COPPER (CU) TOT	0.027	0.036	1.2
IRON (FE) TOT	1.7 J2	1.1 J2	631.0 J2
		J4	
LEAD (PB) TOT	0.015	0.028 J4	0.78
SELENIUM (SE) TOT	0.15	0.089 J2	0.11
		J4	
ZINC (ZN) TOT	0.03	0.12	420.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	BP-51	BP-52	BP-53
SITE CODE	BP-51	BP-52	BP-53
SAMPLE DATE	11/02/1999	10/29/1999	10/26/1999
SAMPLE TIME	15:00	15:15	17:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991962001	L991938004	L991925017
SAMPLE NUMBER	EPRI-9911-119	EPRI-9911-120	EPRI-9911-121
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	43.43	51.73	67.46
OXYGEN (O) (FLD) DIS	1.6	1.5	1.0
PH (FLD)	6.71	6.07	6.38
PH	7.3	7.0	6.8
SC (UMHOS/CM AT 25 C)	9920.0	11250.0	7380.0
SC (UMHOS/CM AT 25 C) (FLD)	9840.0	9900.0	7350.0
TDS (MEASURED AT 180 C)	6873.0	8587.0	6050.0
TOTAL SUSPENDED SOLIDS	31.0	12.0 J4	440.0 J4
TURBIDITY (NTU)	25.3	22.91	
WATER TEMPERATURE (C) (FLD)	23.5	26.0	26.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	582.0	454.0	534.0
MAGNESIUM (MG) DIS	378.0	243.0	95.0
SODIUM (NA) DIS	958.0	1709.0	1093.0
POTASSIUM (K) DIS	34.0	19.0	92.0
BICARBONATE (HCO3)	221.0	736.0	157.0 J3
			J4
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	2133.0	3893.0	3108.0
CHLORIDE (CL)	1759.0	1308.0	472.0
FLUORIDE (F)	1.9	6.0	6.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	202.0	103.0	104.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.97	1.6	55.0
CADMIUM (CD) TOT	0.034	0.45	1.8
CHROMIUM (CR) TOT	3.0	0.097	<0.01 UJ4
COPPER (CU) TOT	0.25	0.5	0.041
IRON (FE) TOT	4.2	2.1 J2	7.0 J2
			J4
LEAD (PB) TOT	0.038	0.75	0.006 J4
SELENIUM (SE) TOT	0.29	0.25	1.7 J2
ZINC (ZN) TOT	0.5	2.2	5.5

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-54	EP-55	EP-56	EP-56
SITE CODE	EP-54	EP-55	EP-56	EP-56
SAMPLE DATE	10/29/1999	10/29/1999	10/26/1999	10/26/1999
SAMPLE TIME	16:00	17:30	14:15	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991938010	L991938003	L991925010	L991925011
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9911-122	EPRI-9911-123	EPRI-9911-124	EPRI-9911-220
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	71.02	56.19	50.47	
OXYGEN (O) (FLD) DIS	7.4	1.6	1.9	
PH (FLD)	6.57	6.2	7.04	
PH	7.4	8.1	8.1	8.2
SC (UMHOS/CM AT 25 C)	10500.0	10240.0	5290.0	5300.0
SC (UMHOS/CM AT 25 C) (FLD)	8290.0	10290.0	5320.0	
TDS (MEASURED AT 180 C)	7671.0	7364.0	3862.0	3835.0
TOTAL SUSPENDED SOLIDS	60.0 J4	567.0 J4	2079.0 J4	1395.0 J4
TURBIDITY (NTU)			19.8	
WATER TEMPERATURE (C) (FLD)	27.0	24.0	25.0	
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	430.0	493.0	259.0	301.0
MAGNESIUM (MG) DIS	230.0	315.0	63.0	69.0
SODIUM (NA) DIS	1441.0	1347.0	927.0	952.0
POTASSIUM (K) DIS	258.0	115.0	25.0	28.0
BICARBONATE (HCO3)	1110.0	903.0	525.0 J3	427.0 J3
			J4	J4
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3	<1.0 UJ3
SULFATE (SO4)	3713.0	4550.0	1915.0	1960.0
CHLORIDE (CL)	769.0	890.0	592.0	592.0
FLUORIDE (F)	12.0	15.0	2.3	2.2
-- NUTRIENTS --				
NITRATE + NITRITE AS N	5.3	0.23 UJ1	0.63	0.63
		J4		
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	49.0	36.0	0.33 J4	0.43 J4
CADMIUM (CD) TOT	0.85	0.58	<0.005	<0.005
CHROMIUM (CR) TOT	0.013	0.011	0.01 J4	0.022 J4
COPPER (CU) TOT	0.62	0.11	0.047	0.064
IRON (FE) TOT	11.0 J2	57.0 J2	14.0 J2	28.0 J2
			J4	J4
LEAD (PB) TOT	0.019	0.13	0.016 J4	0.026 J4
SELENIUM (SE) TOT	0.21	0.17	0.041 J2	0.031 J2
			J4	J4
ZINC (ZN) TOT	10.0	51.0	0.05	0.06

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-57	EP-58	EP-59
SITE CODE	EP-57	EP-58	EP-59
SAMPLE DATE	11/03/1999	11/03/1999	10/27/1999
SAMPLE TIME	08:45	10:30	09:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991962003	L991962004	L991925018
SAMPLE NUMBER	EPRI-9911-125	EPRI-9911-126	EPRI-9911-127
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	9.41	12.77	13.78
OXYGEN (O) (FLD) DIS	1.3	1.1	3.9
PH (FLD)	6.67	6.36	6.99
PH	7.5	7.0	8.1
SC (UMHOS/CM AT 25 C)	3230.0	11310.0	4740.0
SC (UMHOS/CM AT 25 C) (FLD)	3210.0	12590.0	4780.0
TDS (MEASURED AT 180 C)	2124.0 J4	8727.0	3474.0
TOTAL SUSPENDED SOLIDS	2811.0	3932.0	9.8
TURBIDITY (NTU)			15.01
WATER TEMPERATURE (C) (FLD)	23.1	24.5	26.0
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	116.0	518.0	182.0
MAGNESIUM (MG) DIS	94.0	215.0	91.0
SODIUM (NA) DIS	413.0	1678.0	779.0
POTASSIUM (K) DIS	21.0	192.0	92.0
BICARBONATE (HCO3)	1714.0 J4	2054.0 J4	390.0 J3
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	426.0 J4	4936.0 J4	1498.0
CHLORIDE (CL)	244.0 J4	960.0 J4	438.0
FLUORIDE (F)	1.0	5.2	5.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.11	0.071	11.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.5	4.2	2.6
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	0.02	0.12
COPPER (CU) TOT	<0.025	0.11	0.062
IRON (FE) TOT	6.7	30.0	2.1 J2
LEAD (PB) TOT	0.012 J4	0.082 J4	0.016
SELENIUM (SE) TOT	<0.005	0.1	0.22 J2
ZINC (ZN) TOT	0.03	0.15	0.05

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-60	EP-61	EP-62
SITE CODE	EP-60	EP-61	EP-62
SAMPLE DATE	10/27/1999	11/03/1999	10/27/1999
SAMPLE TIME	12:15	11:00	11:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925022	L991962005	L991925020
SAMPLE NUMBER	EPRI-9911-128	EPRI-9911-129	EPRI-9911-130

-- PHYSICAL PARAMETERS --

	EP-60	EP-61	EP-62
DEPTH TO WATER LEVEL (FEET)	10.2	11.14	8.52
OXYGEN (O) (FLD) DIS	0.7	1.8	4.3
PH (FLD)	6.82	6.96	7.04
PH	8.1	7.8	8.2
SC (UMHOS/CM AT 25 C)	8280.0	8180.0	4000.0
SC (UMHOS/CM AT 25 C) (FLD)	8130.0	8990.0	3830.0
TDS (MEASURED AT 180 C)	6884.0	6418.0	2801.0
TOTAL SUSPENDED SOLIDS	9.2	1608.0	6.2
TURBIDITY (NTU)	20.3		
WATER TEMPERATURE (C) (FLD)	26.1	23.7	24.8

-- MAJOR CONSTITUENTS --

	EP-60	EP-61	EP-62
CALCIUM (CA) DIS	560.0	397.0	146.0
MAGNESIUM (MG) DIS	224.0	176.0	64.0
SODIUM (NA) DIS	1160.0	1367.0	599.0
POTASSIUM (K) DIS	15.0	20.0	38.0
BICARBONATE (HCO3)	316.0 J3	484.0 J4	339.0 J3
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0 UJ3
SULFATE (SO4)	3085.0	3023.0 J4	1278.0
CHLORIDE (CL)	1003.0	708.0 J4	359.0
FLUORIDE (F)	1.6	1.8	2.9

-- NUTRIENTS --

	EP-60	EP-61	EP-62
NITRATE + NITRITE AS N	63.0	100.0	4.7

-- METALS & MINOR CONSTITUENTS --

	EP-60	EP-61	EP-62
ARSENIC (AS) TOT	0.01	0.039	0.56
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	0.26	0.021	<0.01
COPPER (CU) TOT	<0.025	0.091	<0.025
IRON (FE) TOT	2.0 J2	14.0	0.57 J2
LEAD (PB) TOT	<0.003	0.035 J4	<0.003
SELENIUM (SE) TOT	0.18 J2	0.37	0.19 J2
ZINC (ZN) TOT	<0.02	0.065	0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-63	EP-64	EP-65
SITE CODE	EP-63	EP-64	EP-65
SAMPLE DATE	10/27/1999	10/27/1999	11/03/1999
SAMPLE TIME	11:45	10:30	11:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925021	L991925019	L991962006
SAMPLE NUMBER	EPRI-9911-131	EPRI-9911-132	EPRI-9911-133
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	7.87	11.26	9.53
OXYGEN (O) (FLD) DIS	1.0	4.3	2.3
PH (FLD)	6.95	7.39	6.93
PH	7.7	8.4	7.6
SC (UMHOS/CM AT 25 C)	7680.0	9080.0	6400.0
SC (UMHOS/CM AT 25 C) (FLD)	7710.0	9070.0	7130.0
TDS (MEASURED AT 180 C)	5687.0	7580.0	6536.0
TOTAL SUSPENDED SOLIDS	11.0	14.0	64.0 J4
TURBIDITY (NTU)	13.97	8.51	
WATER TEMPERATURE (C) (FLD)	25.3	25.5	24.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	244.0	409.0	283.0
MAGNESIUM (MG) DIS	150.0	125.0	126.0
SODIUM (NA) DIS	1265.0	1739.0	1080.0
POTASSIUM (K) DIS	32.0	21.0	19.0
BICARBONATE (HCO3)	420.0 J3	304.0 J3	544.0 J4
CARBONATE AS CO3	<1.0 UJ3	8.4 J3	<1.0
SULFATE (SO4)	2488.0	3930.0	2545.0 J4
CHLORIDE (CL)	879.0	703.0	473.0 J4
FLUORIDE (F)	2.0	1.8	2.1
-- NUTRIENTS --			
NITRATE + NITRITE AS N	4.3	76.0	25.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.024	0.049	0.033
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.035	0.03	0.026
IRON (FE) TOT	0.64 J2	0.39 J2	0.67
LEAD (PB) TOT	0.009	0.004	0.007 J4
SELENIUM (SE) TOT	0.14 J2	0.39 J2	0.24
ZINC (ZN) TOT	0.02	0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-66	EP-67	EP-68
SAMPLE DATE	10/27/1999	10/28/1999	10/28/1999
SAMPLE TIME	14:30	14:50	15:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925023	L991936004	L991936003
SAMPLE NUMBER	EPRI-9911-134	EPRI-9911-135	EPRI-9911-136

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FBST)	11.3	41.43	63.5
OXYGEN (O) (FLD) DIS	6.0	2.0	12.1
PH (FLD)	6.92	6.64	6.88
PH	8.3	7.3	7.4
SC (UMHOS/CM AT 25 C)	5910.0	4400.0	5900.0
SC (UMHOS/CM AT 25 C) (FLD)	5920.0	4410.0	5340.0
TDS (MEASURED AT 180 C)	4908.0	3730.0	4467.0
TOTAL SUSPENDED SOLIDS	57.0	2.2	42.0
TURBIDITY (NTU)	3.81	4.36	
WATER TEMPERATURE (C) (FLD)	29.5	24.5	23.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	432.0	425.0	296.0
MAGNESIUM (MG) DIS	97.0	130.0	125.0
SODIUM (NA) DIS	879.0	416.0	677.0
POTASSIUM (K) DIS	40.0	12.0	14.0
BICARBONATE (HCO3)	345.0 J3	244.0	224.0
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0
SULFATE (SO4)	2631.0	1925.0	1885.0
CHLORIDE (CL)	420.0	400.0	848.0
FLUORIDE (F)	3.0	0.76	0.74

-- NUTRIENTS --

NITRATE + NITRITE AS N	30.0	13.0	27.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	6.1	0.017	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.82 J2	<0.1	0.36
LEAD (PB) TOT	0.004	<0.003	<0.003
SELENIUM (SE) TOT	0.22 J2	0.12	0.29
ZINC (ZN) TOT	0.03	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-70	EP-71	EP-73
SAMPLE DATE	10/28/1999	10/28/1999	10/29/1999
SAMPLE TIME	14:25	14:00	16:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936002	L991936006	L991938011
SAMPLE NUMBER	EPRI-9911-137	EPRI-9911-138	EPRI-9911-140

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	62.15	50.2	71.2
OXYGEN (O) (FLD) DIS	0.2	0.2	1.2
PH (FLD)	6.76	6.71	6.8
PH	7.2	7.9	7.6
SC (UMHOS/CM AT 25 C)	6220.0	5800.0	6520.0
SC (UMHOS/CM AT 25 C) (FLD)	6220.0	5800.0	5760.0
TDS (MEASURED AT 180 C)	4909.0	4623.0	4302.0 J4
TOTAL SUSPENDED SOLIDS	<1.0	1.4	2.1 J4
TURBIDITY (NTU)	0.71	4.04	6.48
WATER TEMPERATURE (C) (FLD)	24.3	24.4	28.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	279.0	320.0	247.0
MAGNESIUM (MG) DIS	143.0	150.0	111.0
SODIUM (NA) DIS	852.0	741.0	901.0
POTASSIUM (K) DIS	17.0	15.0	315.0
BICARBONATE (HCO3)	288.0	294.0	296.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2057.0	2117.0	2596.0
CHLORIDE (CL)	614.0	528.0	468.0
FLUORIDE (F)	1.1	0.86	2.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	39.0	64.0	19.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.8	0.12	0.061
CADMIUM (CD) TOT	0.009	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	<0.1
LEAD (PB) TOT	<0.003	<0.003	0.039
SELENIUM (SE) TOT	0.22	0.23	1.1
ZINC (ZN) TOT	0.14 J2	<0.02	0.054

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-77	EP-77	EP-78	EP-79
SAMPLE DATE	10/29/1999	10/29/1999	10/31/1999	10/31/1999
SAMPLE TIME	14:30	14:40	11:00	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991938007	L991938009	L991936018	L991936015
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-143	EPRI-9911-227	EPRI-9911-144	EPRI-9911-145

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	44.15		31.55	45.81
OXYGEN (O) (FLD) DIS	0.6			
PH (FLD)	6.94		7.43	7.27
PH	8.4	7.9	8.0	8.0
SC (UMHOS/CM AT 25 C)	5080.0	5030.0	2620.0	4500.0
SC (UMHOS/CM AT 25 C) (FLD)	4300.0		2610.0	4480.0
TDS (MEASURED AT 180 C)	3006.0 J4	2121.0 J4	1604.0	2989.0
TOTAL SUSPENDED SOLIDS	879.0 J4	692.0 J4	4.3	<1.0
TURBIDITY (NTU)	33.1		1.55	1.4
WATER TEMPERATURE (C) (FLD)	24.5		23.2	25.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	190.0	184.0	51.0	46.0
MAGNESIUM (MG) DIS	45.0	44.0	29.0	55.0
SODIUM (NA) DIS	809.0	735.0	393.0	895.0
POTASSIUM (K) DIS	26.0	25.0	47.0	8.0
BICARBONATE (HCO3)	500.0	479.0	346.0	455.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1565.0	1586.0	750.0	1362.0
CHLORIDE (CL)	557.0	530.0	208.0	445.0
FLUORIDE (F)	2.1	2.4	4.3	4.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.58 UJ1	0.47 UJ1	6.3	7.5
	J4	J4		

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	5.8	6.0	4.6	0.009
CADMIUM (CD) TOT	0.008	0.008	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.029	<0.025	<0.025	<0.025
IRON (FE) TOT	7.4 J2	6.2 J2	<0.1	<0.1
LEAD (PB) TOT	0.015	0.012	<0.003	<0.003
SELENIUM (SE) TOT	0.022	0.022	0.3	0.12
ZINC (ZN) TOT	0.03	0.027	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-80	EP-81	EP-82
SITE CODE	EP-80	EP-81	EP-82
SAMPLE DATE	10/27/1999	10/27/1999	10/31/1999
SAMPLE TIME	15:15	15:45	11:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925024	L991925025	L991936019
SAMPLE NUMBER	EPRI-9911-146	EPRI-9911-147	EPRI-9911-148
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	11.42	18.71	17.02
OXYGEN (O) (FLD) DIS	0.6	4.9	
PH (FLD)	6.96	6.83	7.01
PH	8.3	8.1	7.7
SC (UMHOS/CM AT 25 C)	5320.0	2750.0	3600.0
SC (UMHOS/CM AT 25 C) (FLD)	5280.0	2710.0	3580.0
TDS (MEASURED AT 180 C)	4080.0	2090.0	2369.0
TOTAL SUSPENDED SOLIDS	27.0	16.0	<1.0
TURBIDITY (NTU)	9.48		1.6
WATER TEMPERATURE (C) (FLD)	26.3	27.7	23.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	242.0	180.0	72.0
MAGNESIUM (MG) DIS	95.0	93.0	43.0
SODIUM (NA) DIS	896.0	340.0	624.0
POTASSIUM (K) DIS	17.0	14.0	19.0
BICARBONATE (HCO3)	494.0 J3	428.0 J3	522.0
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0
SULFATE (SO4)	2117.0	959.0	872.0
CHLORIDE (CL)	406.0	135.0	392.0
FLUORIDE (F)	1.2	1.4	3.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	7.4	8.0	6.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.015	0.26	0.011
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.54 J2	0.38 J2	<0.1
LEAD (PB) TOT	<0.003	<0.003	<0.003
SELENIUM (SR) TOT	0.032 J2	0.21 J2	0.11
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-83	EP-83	EP-84	EP-85
SITE CODE	EP-83	EP-83	EP-84	EP-85
SAMPLE DATE	10/30/1999	10/30/1999	10/30/1999	10/27/1999
SAMPLE TIME	12:20	12:30	11:15	16:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936011	L991936012	L991936010	L991925027
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-149	EPRI-9911-229	EPRI-9911-150	EPRI-9911-151

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	28.64		8.19	14.81
OXYGEN (O) (FLD) DIS				0.5
PH (FLD)	7.22		6.88	7.15
PH	7.8	7.8	7.4	8.1
SC (UMHOS/CM AT 25 C)	3900.0	3910.0	3080.0	2700.0
SC (UMHOS/CM AT 25 C) (FLD)	3920.0		3070.0	2700.0
TDS (MEASURED AT 180 C)	2562.0	2642.0	2234.0	1831.0
TOTAL SUSPENDED SOLIDS	102.0 J4	79.0 J4	4.0 J4	1.2
TURBIDITY (NTU)			6.45	1.21
WATER TEMPERATURE (C) (FLD)	22.1		23.1	24.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	83.0	83.0	198.0	82.0
MAGNESIUM (MG) DIS	63.0	64.0	95.0	39.0
SODIUM (NA) DIS	636.0	621.0	292.0	444.0
POTASSIUM (K) DIS	9.5	9.5	7.7	26.0
BICARBONATE (HCO3)	403.0	379.0	318.0	364.0 J3
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	1280.0	1172.0	872.0	773.0
CHLORIDE (CL)	443.0	392.0	393.0	172.0
FLUORIDE (F)	3.0	3.0	0.66	3.7

-- NUTRIENTS --

NITRATE + NITRITE AS N	7.1	6.8	7.1	6.6
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.007	0.008	0.031	2.4
CADMIUM (CD) TOT	<0.005	<0.005	0.006	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	1.8	2.0	<0.1	<0.1
LEAD (PB) TOT	0.003	0.003	0.027	0.004
SELENIUM (SE) TOT	0.044	0.046	0.026	0.18 J2
ZINC (ZN) TOT	<0.02	0.023 J2	0.035 J2	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-85	EP-86	EP-86	EP-88
SITE CODE	EP-85	EP-86	EP-86	EP-88
SAMPLE DATE	10/27/1999	10/31/1999	10/31/1999	10/30/1999
SAMPLE TIME	17:00	10:15	10:30	10:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925028	L991936016	L991936017	L991936009
REMARKS	DUPLICATE		DUPLICATE	
SAMPLE NUMBER	EPRI-9911-224	EPRI-9911-152	EPRI-9911-231	EPRI-9911-154
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)		50.06		29.98
OXYGEN (O) (FLD) DIS	0.5			
PH (FLD)	7.15	7.34		7.13
PH	8.2	7.9	8.0	7.7
SC (UMHOS/CM AT 25 C)	2700.0	2640.0	2650.0	5300.0
SC (UMHOS/CM AT 25 C) (FLD)	2700.0	2620.0		5360.0
TDS (MEASURED AT 180 C)	1821.0	1687.0	1665.0	3576.0
TOTAL SUSPENDED SOLIDS	<1.0	11.0	8.8	17.0 J4
TURBIDITY (NTU)	1.42	5.41		7.33
WATER TEMPERATURE (C) (FLD)	24.5	22.0		23.9
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	84.0	39.0	39.0	60.0
MAGNESIUM (MG) DIS	41.0	29.0	30.0	38.0
SODIUM (NA) DIS	458.0	452.0	452.0	932.0
POTASSIUM (K) DIS	27.0	8.5	8.6	6.7
BICARBONATE (HCO3)	370.0 J3	366.0	355.0	595.0
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0	<1.0
SULFATE (SO4)	742.0	550.0	575.0	1726.0
CHLORIDE (CL)	173.0	351.0	309.0	493.0
FLUORIDE (F)	3.7	2.7	2.7	2.2
-- NUTRIENTS --				
NITRATE + NITRITE AS N	5.8	4.9	4.9	2.4
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	2.5	<0.005	<0.005	0.022
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	0.17	0.16	0.51
LEAD (PB) TOT	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	0.19 J2	0.033	0.034	0.055
ZINC (ZN) TOT	<0.02	<0.02	<0.02	0.021 J2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-89	EP-89	EP-90	EP-93
SITE CODE	EP-89	EP-89	EP-90	EP-93
SAMPLE DATE	10/28/1999	10/28/1999	10/30/1999	10/13/1999
SAMPLE TIME	11:11	11:15	15:30	09:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925032	L991925033	L991936013	L991825001
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-9911-155	EPRI-9911-225	EPRI-9911-156	EPRI-9911-192

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FBET)	15.33		57.22	48.35
OXYGEN (O) (FLD) DIS	2.8	2.8		4.6
PH (FLD)	6.92	6.92	6.92	7.33
PH	8.1	8.1	7.6	7.7
SC (UMHOS/CM AT 25 C)	2880.0	2880.0	4660.0	5100.0
SC (UMHOS/CM AT 25 C) (FLD)	2580.0	2580.0	4680.0	5180.0
TDS (MEASURED AT 180 C)	2022.0	2016.0	3464.0	3728.0
TOTAL SUSPENDED SOLIDS	4.1	5.2	9.7 J4	1251.0
TURBIDITY (NTU)	4.8	4.76	7.91	
WATER TEMPERATURE (C) (PLD)	24.2	24.2	24.7	21.7

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	171.0	175.0	193.0	143.0
MAGNESIUM (MG) DIS	66.0	70.0	101.0	86.0
SODIUM (NA) DIS	357.0	365.0	680.0	1008.0
POTASSIUM (K) DIS	18.0	18.0	9.8	19.0
BICARBONATE (HCO3)	244.0 J3	277.0 J3	311.0	942.0
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0	<1.0
SULFATE (SO4)	832.0	838.0	1551.0	1252.0
CHLORIDE (CL)	351.0	345.0	532.0	602.0
FLUORIDE (F)	0.72	0.71	0.54	1.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	7.6	7.3	28.0	11.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.007	0.007	0.14	0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	0.22	11.0
LEAD (PB) TOT	<0.003	0.004	<0.003	0.008
SELENIUM (SE) TOT	0.016 J2	0.016 J2	1.1	0.017
ZINC (ZN) TOT	<0.02	<0.02	<0.02	0.053

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect; Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-94	EP-95	EP-96
SITE CODE	EP-94	EP-95	EP-96
SAMPLE DATE	10/13/1999	10/26/1999	10/13/1999
SAMPLE TIME	13:30	14:56	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991825003	L991925012	L991825002
SAMPLE NUMBER	EPRI-9911-194	EPRI-9911-189	EPRI-9911-193
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	51.06	23.5	68.8
OXYGEN (O) (FLD) DIS	5.9		6.6
PH (FLD)	7.18	6.67	7.27
PH	7.6	8.3	7.7
SC (UMHOS/CM AT 25 C)	5040.0	3340.0	4960.0
SC (UMHOS/CM AT 25 C) (FLD)	5110.0	3110.0	5090.0
TDS (MEASURED AT 180 C)	3609.0	2200.0	3692.0
TOTAL SUSPENDED SOLIDS	94.0	26.0 J4	349.0
WATER TEMPERATURE (C) (FLD)	24.1	25.5	20.8
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	134.0	48.0	257.0
MAGNESIUM (MG) DIS	117.0	63.0	118.0
SODIUM (NA) DIS	928.0	582.0	874.0
POTASSIUM (K) DIS	21.0	4.9	24.0
BICARBONATE (HCO3)	436.0	377.0 J3	561.0
		J4	
CARBONATE AS CO3	<1.0	<1.0 UJ3	<1.0
SULFATE (SO4)	1290.0	817.0	1416.0
CHLORIDE (CL)	655.0	336.0	573.0
FLUORIDE (F)	1.3	3.4	1.1
-- NUTRIENTS --			
NITRATE + NITRITE AS N	14.0	7.8	15.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.007	0.006 J4	0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01 UJ4	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	2.2	1.2 J2	12.0
		J4	
LEAD (PB) TOT	0.008	0.003 J4	0.017
SELENIUM (SE) TOT	0.027	0.022 J2	0.019
		J4	
ZINC (ZN) TOT	0.075	<0.02	0.053

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-97	EP-98	EP-99
SAMPLE DATE	10/18/1999	10/18/1999	10/18/1999
SAMPLE TIME	14:15	15:15	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991881002	L991881003	L991881001
SAMPLE NUMBER	EPRI-9911-196	EPRI-9911-197	EPRI-9911-195

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	5.35	26.91	72.5
OXYGEN (O) (FLD) DIS	6.8	4.9	9.1
PH (FLD)	7.16	7.66	7.03
PH	7.8	8.1	7.6
SC (UMHOS/CM AT 25 C)	4940.0	6370.0	5600.0
SC (UMHOS/CM AT 25 C) (PLD)	5030.0	6930.0	5660.0
TDS (MEASURED AT 180 C)	3689.0	4659.0	4758.0
TOTAL SUSPENDED SOLIDS	42.0	235.0	473.0
WATER TEMPERATURE (C) (FLD)	17.7	21.7	21.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	198.0	162.0	387.0
MAGNESIUM (MG) DIS	123.0	92.0	156.0
SODIUM (NA) DIS	847.0	1290.0	713.0
POTASSIUM (K) DIS	15.0	134.0	75.0
BICARBONATE (HCO3)	599.0	467.0	451.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1310.0	2293.0	2587.0
CHLORIDE (CL)	545.0	571.0	354.0
FLUORIDE (F)	1.5	2.7	3.0

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.37	12.0	68.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.16	0.018	5.4
CADMIUM (CD) TOT	0.019	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.23	0.035	0.042
IRON (FE) TOT	8.3	11.0	13.0
LEAD (PB) TOT	0.085	0.026	0.15
SELENIUM (SE) TOT	0.02	0.36	0.99
ZINC (ZN) TOT	0.16	0.044	0.29

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-100	EP-101	EP-102
SAMPLE DATE	10/20/1999	10/21/1999	10/21/1999
SAMPLE TIME	14:00	09:30	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991881004	L991881005	L991881006
SAMPLE NUMBER	EPRI-9911-198	EPRI-9911-199	EPRI-9911-200

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	39.36	63.81	56.11
OXYGEN (O) (FLD) DIS	3.7	2.7	3.2
PH (FLD)	6.63	6.99	7.05
PH	8.0	7.7	7.8
SC (UMHOS/CM AT 25 C)	8830.0	7220.0	2760.0
SC (UMHOS/CM AT 25 C) (FLD)	9410.0	7270.0	2860.0
TDS (MEASURED AT 180 C)	6895.0	5334.0	1936.0
TOTAL SUSPENDED SOLIDS	162.0	4245.0	21.0
WATER TEMPERATURE (C) (FLD)	24.9	24.4	21.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	548.0	132.0	128.0
MAGNESIUM (MG) DIS	286.0	40.0	28.0
SODIUM (NA) DIS	1116.0	1387.0	360.0
POTASSIUM (K) DIS	42.0	66.0	107.0
BICARBONATE (HCO3)	344.0	483.0	366.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2588.0	2856.0	949.0
CHLORIDE (CL)	1601.0	670.0	197.0
FLUORIDE (F)	1.3	1.8	1.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	142.0	64.0	10.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.008	7.2	0.21
CADMIUM (CD) TOT	0.022	0.78	0.05
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	0.028	<0.025
IRON (FE) TOT	0.34	2.6	<0.1
LEAD (PB) TOT	0.007	0.015	0.004
SELENIUM (SE) TOT	0.42	2.3	5.0
ZINC (ZN) TOT	0.13	0.16	0.094

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-103	EP-104	EP-105
SITE CODE	EP-103	EP-104	EP-105
SAMPLE DATE	10/21/1999	10/21/1999	10/21/1999
SAMPLE TIME	10:15	10:45	14:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991881007	L991881008	L991881010
SAMPLE NUMBER	EPRI-9911-201	EPRI-9911-202	EPRI-9911-204

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	60.43	66.48	65.61
OXYGEN (O) (FLD) DIS	4.6	2.1	4.0
PH (FLD)	7.21	7.11	7.15
PH	8.0	7.8	8.0
SC (UMHOS/CM AT 25 C)	1590.0	4600.0	4460.0
SC (UMHOS/CM AT 25 C) (FLD)	1618.0	4650.0	4600.0
TDS (MEASURED AT 180 C)	1057.0	2449.0	3410.0
TOTAL SUSPENDED SOLIDS	46.0	154.0	216.0
WATER TEMPERATURE (C) (FLD)	23.6	21.7	26.4

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	81.0	139.0	196.0
MAGNESIUM (MG) DIS	24.0	76.0	80.0
SODIUM (NA) DIS	211.0	782.0	692.0
POTASSIUM (K) DIS	8.2	28.0	28.0
BICARBONATE (HCO3)	223.0	407.0	344.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	397.0	1671.0	1896.0
CHLORIDE (CL)	181.0	503.0	479.0
FLUORIDE (F)	0.6	2.1	2.2

-- NUTRIENTS --

NITRATE + NITRITE AS N	3.4	10.0	4.5
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.005	0.071	0.3
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.15	0.41	0.91
LEAD (PB) TOT	<0.003	0.006	0.012
SELENIUM (SE) TOT	0.22	0.11	0.068
ZINC (ZN) TOT	0.027	<0.02	0.055

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect; Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-106	EP-107	EP-108
SITE CODE	EP-106	EP-107	EP-108
SAMPLE DATE	10/21/1999	10/21/1999	10/26/1999
SAMPLE TIME	14:15	11:15	15:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991881011	L991881009	L991925013
SAMPLE NUMBER	EPRI-9911-205	EPRI-9911-203	EPRI-9911-172
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	61.15	63.68	20.82
OXYGEN (O) (PLD) DIS	5.6	5.2	
PH (FLD)	7.14	6.99	6.64
PH	7.7	7.8	8.3
SC (UMHOS/CM AT 25 C)	4180.0	6450.0	2810.0
SC (UMHOS/CM AT 25 C) (FLD)	4300.0	6500.0	2850.0
TDS (MEASURED AT 180 C)	3328.0	4821.0	1835.0
TOTAL SUSPENDED SOLIDS	130.0	22.0	29.0 J4
WATER TEMPERATURE (C) (FLD)	26.4	24.6	26.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	232.0	436.0	59.0
MAGNESIUM (MG) DIS	99.0	211.0	40.0
SODIUM (NA) DIS	595.0	733.0	507.0
POTASSIUM (K) DIS	19.0	26.0	15.0
BICARBONATE (HCO3)	309.0	195.0	359.0 J3
			J4
CARBONATE AS CO3	<1.0	<1.0	<1.0 UJ3
SULFATE (SO4)	1893.0	1912.0	686.0
CHLORIDE (CL)	355.0	1085.0	244.0
FLUORIDE (F)	1.2	0.89	2.5
-- NUTRIENTS --			
NITRATE + NITRITE AS N	6.6	90.0	4.2
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	<0.005	0.015	0.7 J4
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01 UJ4
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	3.1	0.18	2.3 J2
			J4
LEAD (PB) TOT	0.004	<0.003	0.004 J4
SELENIUM (SE) TOT	0.087	0.49	0.037 J2
			J4
ZINC (ZN) TOT	0.053	0.027	0.06

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-109	EP-110	EP-111
SITE CODE	EP-109	EP-110	EP-111
SAMPLE DATE	10/26/1999	10/29/1999	10/28/1999
SAMPLE TIME	15:30	08:30	16:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925014	L991938008	L991936007
SAMPLE NUMBER	EPRI-9911-173	EPRI-9911-174	EPRI-9911-175
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	19.85	7.96	8.04
OXYGEN (O) (FLD) DIS		4.0	3.5
PH (FLD)	6.53	6.99	7.11
PH	8.3	8.4	7.7
SC (UMHOS/CM AT 25 C)	3470.0	2780.0	5450.0
SC (UMHOS/CM AT 25 C) (FLD)	3330.0	2510.0	5410.0
TDS (MEASURED AT 180 C)	2269.0	1790.0 J4	3963.0
TOTAL SUSPENDED SOLIDS	64.0 J4	149.0 J4	303.0
TURBIDITY (NTU)		32.41	
WATER TEMPERATURE (C) (FLD)	25.3	20.7	24.0
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	115.0	158.0	285.0
MAGNESIUM (MG) DIS	68.0	65.0	79.0
SODIUM (NA) DIS	563.0	334.0	836.0
POTASSIUM (K) DIS	32.0	19.0	66.0
BICARBONATE (HCO3)	361.0 J3	281.0	436.0
	J4		
CARBONATE AS CO3	<1.0 UJ3	<1.0	<1.0
SULFATE (SO4)	1006.0	805.0	1800.0
CHLORIDE (CL)	337.0	327.0	562.0
FLUORIDE (F)	2.2	0.74	2.4
-- NUTRIENTS --			
NITRATE + NITRITE AS N	5.2	7.1	0.2 UJ1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.007 J4	<0.005	0.97
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01 UJ4	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	0.039
IRON (FE) TOT	0.91 J2	1.3 J2	15.0
	J4		
LEAD (PB) TOT	<0.003 UJ4	0.013	0.047
SELENIUM (SE) TOT	0.063 J2	0.017	0.01
	J4		
ZINC (ZN) TOT	0.02	<0.02	0.13 J2

NOTES: All results in mg/L (Water) or mg/Kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-112	EP-113	EP-114
SITE CODE	EP-112	EP-113	EP-114
SAMPLE DATE	10/28/1999	10/28/1999	11/18/1999
SAMPLE TIME	17:00	17:15	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936005	L991938015	L992035001
SAMPLE NUMBER	EPRI-9911-176	EPRI-9911-177	EPRI-9911-178

-- PHYSICAL PARAMETERS --

	EP-112	EP-113	EP-114
DEPTH TO WATER LEVEL (FBET)	7.88	7.22	13.9
OXYGEN (O) (FLD) DIS	8.5	7.5	4.4
PH (FLD)	7.32	7.41	6.19
PH	7.8	8.0	6.7
SC (UMHOS/CM AT 25 C)	5250.0	4060.0	9800.0
SC (UMHOS/CM AT 25 C) (FLD)	5090.0	4080.0	10820.0
TDS (MEASURED AT 180 C)	3209.0	2624.0	8176.0
TOTAL SUSPENDED SOLIDS	296.0	203.0	730.0
WATER TEMPERATURE (C) (FLD)	22.9	22.4	24.5

-- MAJOR CONSTITUENTS --

	EP-112	EP-113	EP-114
CALCIUM (CA) DIS	137.0	158.0	547.0
MAGNESIUM (MG) DIS	71.0	69.0	243.0
SODIUM (NA) DIS	639.0	613.0	1400.0
POTASSIUM (K) DIS	69.0	42.0	231.0
BICARBONATE (HCO3)	515.0	411.0	969.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1570.0	1358.0	4272.0
CHLORIDE (CL)	562.0	408.0	937.0
FLUORIDE (F)	1.5	2.8	13.0

-- NUTRIENTS --

	EP-112	EP-113	EP-114
NITRATE + NITRITE AS N	0.095 UJ1	0.22 UJ1	0.19

-- METALS & MINOR CONSTITUENTS --

	EP-112	EP-113	EP-114
ARSENIC (AS) TOT	0.012	0.005	118.0
CADMIUM (CD) TOT	<0.005	<0.005	0.13
CHROMIUM (CR) TOT	<0.01	<0.01	0.019
COPPER (CU) TOT	<0.025	<0.025	0.044
IRON (FE) TOT	11.0	4.5 J2	58.0
LEAD (PB) TOT	0.015	0.009	0.02
SELENIUM (SE) TOT	0.012	<0.005	0.06
ZINC (ZN) TOT	0.096 J2	0.051	35.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-115	EP-116	EP-117
SITE CODE	EP-115	EP-116	EP-117
SAMPLE DATE	11/22/1999	11/18/1999	11/18/1999
SAMPLE TIME	14:05	11:00	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992050001	L992035002	L992035003
SAMPLE NUMBER	EPRI-9911-179	EPRI-9911-180	EPRI-9911-181
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	13.58	13.7	15.44
OXYGEN (O) (FLD) DIS	3.3	2.4	1.4
PH (FLD)	7.08	6.56	7.23
PH	7.7	7.3	7.8
SC (UMHOS/CM AT 25 C)	17800.0	6280.0	2580.0
SC (UMHOS/CM AT 25 C) (FLD)	1842.0	6460.0	2810.0
TDS (MEASURED AT 180 C)	13965.0	4652.0	1916.0
TOTAL SUSPENDED SOLIDS	8.2	1529.0	236.0
WATER TEMPERATURE (C) (FLD)	23.0	27.3	23.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	711.0	406.0	165.0
MAGNESIUM (MG) DIS	449.0	92.0	28.0
SODIUM (NA) DIS	3200.0	800.0	400.0
POTASSIUM (K) DIS	126.0	65.0	60.0
BICARBONATE (HCO3)	601.0	569.0	229.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	4440.0	2515.0	930.0
CHLORIDE (CL)	3600.0	534.0	187.0
FLUORIDE (F)	4.6	5.4	6.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	60.0	9.6	7.8
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.28	2.3	6.0
CADMIUM (CD) TOT	1.1	1.2	0.2
CHROMIUM (CR) TOT	<0.01	0.032	<0.01
COPPER (CU) TOT	0.49	3.7	0.086
IRON (FE) TOT	2.8	41.0	5.4
LEAD (PB) TOT	0.18	2.0	0.28
SELENIUM (SE) TOT	0.38	0.47	1.1
ZINC (ZN) TOT	0.8	6.0	0.2

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS,Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-118
SAMPLE DATE	11/18/1999
SAMPLE TIME	13:40
LAB	TSC-SLC
LAB NUMBER	L992035004
SAMPLE NUMBER	EPRI-9911-182

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	11.64
OXYGEN (O) (FLD) DIS	3.6
PH (FLD)	7.46
PH	8.0
SC (UMHOS/CM AT 25 C)	3460.0
SC (UMHOS/CM AT 25 C) (FLD)	3780.0
TDS (MEASURED AT 180 C)	2405.0
TOTAL SUSPENDED SOLIDS	5852.0
WATER TEMPERATURE (C) (FLD)	26.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	179.0
MAGNESIUM (MG) DIS	93.0
SODIUM (NA) DIS	600.0
POTASSIUM (K) DIS	49.0
BICARBONATE (HCO3)	581.0
CARBONATE AS CO3	<1.0
SULFATE (SO4)	1080.0
CHLORIDE (CL)	341.0
FLUORIDE (F)	1.8

-- NUTRIENTS --

NITRATE + NITRITE AS N	13.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.22
CADMIUM (CD) TOT	0.009
CHROMIUM (CR) TOT	0.052
COPPER (CU) TOT	0.14
IRON (FE) TOT	184.0
LEAD (PB) TOT	0.17
SELENIUM (SE) TOT	0.29
ZINC (ZN) TOT	0.46

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI	DI	DI
SAMPLE DATE	10/25/1999	10/26/1999	10/27/1999	10/28/1999	10/29/1999	10/30/1999
SAMPLE TIME	16:35	17:00	16:30	17:30	18:00	17:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991925004	L991925016	L991925026	L991936001	L991938012	L991938014
REMARKS	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9911-221	EPRI-9911-222	EPRI-9911-223	EPRI-9911-226	EPRI-9911-228	EPRI-9911-230

-- PHYSICAL PARAMETERS --

	5.8	6.1	6.1	5.8	6.1	6.1
PH	5.8	6.1	6.1	5.8	6.1	6.1
SC (UMHOS/CM AT 25 C)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	1909.0	<10.0	2.6	423.0	84.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3	<1.0	<1.0	<1.0
CARBONATE AS CO3	<1.0 UJ3	<1.0 UJ3	<1.0 UJ3	<1.0	<1.0	<1.0
SULFATE (SO4)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

	<0.1	<0.1	<0.1	0.11	0.17	0.15
NITRATE + NITRITE AS N	<0.1	<0.1	<0.1	0.11	0.17	0.15

-- METALS & MINOR CONSTITUENTS --

	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ARSENIC (AS) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD (PB) TOT	<0.003	<0.003	0.004	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	<0.005 UJ2	<0.005 UJ2	<0.005 UJ2	<0.005	<0.005	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; UJ3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI
SAMPLE DATE	10/31/1999	11/01/1999	11/02/1999	11/03/1999
SAMPLE TIME	12:15	17:00	17:00	13:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936020	L991938017	L991962002	L991962007
REMARKS	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-9911-232	EPRI-9911-234	EPRI-9911-237	EPRI-9911-239

-- PHYSICAL PARAMETERS --

PH	6.0	6.2	6.2	5.7
SC (UMHOS/CM AT 25 C)	<5.0	<5.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	817.0	54.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	<1.0	<1.0	<1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	<2.0	2.2	<2.0	<2.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.34	0.26	<0.05	<0.05
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	<0.1	<0.1
LEAD (PB) TOT	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SITE CODE	POND 1	POND 6	SEP-1
	SAMPLE DATE	11/02/1999	11/02/1999	11/01/1999
	SAMPLE TIME	09:35	11:45	11:20
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L991938021	L991938025	L991936023
	SAMPLE NUMBER	EPRI-9911-168	EPRI-9911-169	EPRI-9911-183
-- PHYSICAL PARAMETERS --				
	OXYGEN (O) (FLD) DIS	9.9	9.5	7.2
	PH (FLD)	7.74	9.14	8.15
	PH	8.1	9.2	8.3
	SC (UMHOS/CM AT 25 C)	215000.0	1702.0	1803.0
	SC (UMHOS/CM AT 25 C) (FLD)	12370.0 R	1756.0	1808.0
	TDS (MEASURED AT 180 C)	147412.0	1032.0	1135.0
	TOTAL SUSPENDED SOLIDS	1703.0	34.0	29.0
	TURBIDITY (NTU)		13.91	12.65
	WATER TEMPERATURE (C) (FLD)	13.5	15.5	16.2
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	850.0	95.0	99.0
	MAGNESIUM (MG) DIS	3445.0	17.0	25.0
	SODIUM (NA) DIS	42350.0	222.0	215.0
	POTASSIUM (K) DIS	4074.0	11.0	11.0
	BICARBONATE (HCO3)	587.0	165.0	276.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	80035.0	338.0	423.0
	CHLORIDE (CL)	24148.0	243.0	220.0
	FLUORIDE (F)	121.0	1.7	0.73
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	1112.0	0.16	1.3 UJ1
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) TOT	2.1	0.45	0.007
	CADMIUM (CD) TOT	286.0	0.17	<0.005
	CHROMIUM (CR) TOT	<0.05	<0.01	<0.01
	COPPER (CU) TOT	7.1	0.56	<0.025
	IRON (FE) TOT	<0.1	0.55 J2	0.2
	LEAD (PB) TOT	1.8	0.12	0.005
	SELENIUM (SE) TOT	11.0	0.012	<0.005
	ZINC (ZN) TOT	58.0	0.44	0.067 J2
				J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-2	SEP-3	SEP-4
SITE CODE			
SAMPLE DATE	11/01/1999	11/01/1999	11/01/1999
SAMPLE TIME	14:10	17:45	16:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936025	L991938019	L991938016
SAMPLE NUMBER	EPRI-9911-184	EPRI-9911-185	EPRI-9911-186

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	10.2	6.2	10.2
PH (FLD)	8.32	8.19	8.37
PH	8.5	8.4	8.4
SC (UMHOS/CM AT 25 C)	2110.0	1826.0	2120.0
SC (UMHOS/CM AT 25 C) (FLD)	2120.0	1889.0	2390.0
TDS (MEASURED AT 180 C)	1345.0	1186.0	2069.0
TOTAL SUSPENDED SOLIDS	36.0	33.0	33.0
TURBIDITY (NTU)	26.9	17.2	50.5
WATER TEMPERATURE (C) (FLD)	21.4	17.1	20.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	103.0	104.0	96.0
MAGNESIUM (MG) DIS	30.0	25.0	29.0
SODIUM (NA) DIS	261.0	223.0	263.0
POTASSIUM (K) DIS	13.0	11.0	12.0
BICARBONATE (HCO3)	249.0	271.0	246.0
CARBONATE AS CO3	8.4	<1.0	<1.0
SULFATE (SO4)	516.0	417.0	450.0
CHLORIDE (CL)	244.0	188.0	217.0
FLUORIDE (F)	0.82	0.73	0.8

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.75 UJ1	1.3 UJ1	0.81 UJ1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.024	0.006	0.018
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.74	0.27 J2	0.54 J2
LEAD (PB) TOT	0.012	0.005	0.007
SELENIUM (SE) TOT	0.008	<0.005	<0.005
ZINC (ZN) TOT	0.056 J2	0.067 J4	0.064 J4
	J4		

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-6	SEP-7	SEP-9
SAMPLE DATE	11/01/1999	11/01/1999	11/01/1999
SAMPLE TIME	17:15	11:00	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991938018	L991936022	L991936021
SAMPLE NUMBER	EPRI-9911-187	EPRI-9911-188	EPRI-9911-190

-- PHYSICAL PARAMETERS --

PARAMETER	SEP-6	SEP-7	SEP-9
OXYGEN (O) (FLD) DIS	6.7	7.0	7.6
PH (FLD)	8.25	8.15	7.8
PH	8.4	8.3	8.3
SC (UMHOS/CM AT 25 C)	1830.0	1800.0	1804.0
SC (UMHOS/CM AT 25 C) (FLD)	1871.0	1836.0	1846.0
TDS (MEASURED AT 180 C)	833.0	1133.0	1145.0
TOTAL SUSPENDED SOLIDS	33.0	31.0	24.0
TURBIDITY (NTU)	16.8	14.15	12.65
WATER TEMPERATURE (C) (FLD)	18.1	14.7	13.2

-- MAJOR CONSTITUENTS --

CONSTITUENT	SEP-6	SEP-7	SEP-9
CALCIUM (CA) DIS	107.0	92.0	96.0
MAGNESIUM (MG) DIS	27.0	23.0	24.0
SODIUM (NA) DIS	235.0	193.0	204.0
POTASSIUM (K) DIS	11.0	9.6	10.0
BICARBONATE (HCO3)	271.0	273.0	282.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	416.0	379.0	381.0
CHLORIDE (CL)	215.0	224.0	211.0
FLUORIDE (F)	0.73	0.7	0.71

-- NUTRIENTS --

NUTRIENT	SEP-6	SEP-7	SEP-9
NITRATE + NITRITE AS N	1.3 UJ1	0.9 UJ1	1.4 UJ1

-- METALS & MINOR CONSTITUENTS --

METAL	SEP-6	SEP-7	SEP-9
ARSENIC (AS) TOT	0.006	0.007	0.006
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.2 J2	0.19	0.17
LEAD (PB) TOT	0.005	0.006	0.006
SELENIUM (SE) TOT	<0.005	<0.005	<0.005
ZINC (ZN) TOT	0.062 J4	0.049 J2	<0.02 UJ4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total, DIS:Dissolved, TRC:Total Recoverable, E:Estimated, <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous, UJ1:Blank, J2,UJ2: Standard, J3:Hold Time, J4,UJ4:Duplicate, Spike, or Split Exceedance,
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-10	SEP-11	SEP-12	SEP-12
SAMPLE DATE	11/01/1999	11/02/1999	11/01/1999	11/01/1999
SAMPLE TIME	13:45	08:35	14:30	14:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991936024	L991938020	L991936026	L991936027
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-9911-191	EPRI-9911-157	EPRI-9911-160	EPRI-9911-233

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	9.3	7.8	7.8	9.1
PH (FLD)	8.21	7.63	8.34	8.36
PH	8.3	8.4	8.5	8.5
SC (UMHOS/CM AT 25 C)	2120.0	1972.0	2060.0	2060.0
SC (UMHOS/CM AT 25 C) (FLD)	2080.0	2110.0	2070.0	2070.0
TDS (MEASURED AT 180 C)	1342.0	1294.0	1316.0	1311.0
TOTAL SUSPENDED SOLIDS	41.0	37.0	31.0	30.0
TURBIDITY (NTU)	28.9	22.9	22.1	25.3
WATER TEMPERATURE (C) (FLD)	21.6	10.0	21.3	20.3

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	105.0	106.0	100.0	101.0
MAGNESIUM (MG) DIS	29.0	28.0	30.0	29.0
SODIUM (NA) DIS	261.0	240.0	254.0	256.0
POTASSIUM (K) DIS	12.0	11.0	12.0	12.0
BICARBONATE (HCO3)	282.0	289.0	251.0	253.0
CARBONATE AS CO3	<1.0	<1.0	8.4	8.4
SULFATE (SO4)	512.0	415.0	479.0	450.0
CHLORIDE (CL)	251.0	206.0	259.0	250.0
FLUORIDE (F)	0.86	0.78	0.8	0.78

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.75 UJ1	0.62	0.8 UJ1	0.89
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.013	0.01	0.019	0.019
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	0.59	0.73 J2	0.54	0.44
LEAD (PB) TOT	0.008	0.005	0.005	0.003
SELENIUM (SE) TOT	<0.005	<0.005	<0.005	0.006
ZINC (ZN) TOT	0.045 J2	<0.02	0.061 J2	0.026 J2
	J4		J4	J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-13
SAMPLE DATE	11/01/1999
SAMPLE TIME	15:00
LAB	TSC-SLC
LAB NUMBER	L991936028
SAMPLE NUMBER	EPRI-9911-158

-- PHYSICAL PARAMETERS --

OXYGEN (O) (FLD) DIS	9.7
PH (FLD)	8.34
PH	8.5
SC (UMHOS/CM AT 25 C)	2070.0
SC (UMHOS/CM AT 25 C) (FLD)	2070.0
TDS (MEASURED AT 180 C)	1299.0
TOTAL SUSPENDED SOLIDS	33.0
TURBIDITY (NTU)	22.6
WATER TEMPERATURE (C) (FLD)	21.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	99.0
MAGNESIUM (MG) DIS	30.0
SODIUM (NA) DIS	263.0
POTASSIUM (K) DIS	12.0
BICARBONATE (HCO3)	238.0
CARBONATE AS CO3	10.8
SULFATE (SO4)	444.0
CHLORIDE (CL)	240.0
FLUORIDE (F)	0.79

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.74	UJ1
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.02	
CADMIUM (CD) TOT	<0.005	
CHROMIUM (CR) TOT	<0.01	
COPPER (CU) TOT	<0.025	
IRON (FE) TOT	0.53	
LEAD (PB) TOT	0.006	
SELENIUM (SE) TOT	0.006	
ZINC (ZN) TOT	0.079	J2
		J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

	POND 1-SED	POND 6-SED	SEP-2-SED
SITE CODE			
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	09:40	11:50	08:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991948010	L991948011	L991948002
SAMPLE NUMBER	EPRI-9911-217	EPRI-9911-209	EPRI-9911-306

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	2000.0	12000.0	<10.0
CADMIUM (CD) TOT	920.0	3400.0	<10.0
CHROMIUM (CR) TOT	93.0	1300.0	<80.0
COPPER (CU) TOT	8200.0	65000.0	<20.0
IRON (FE) TOT	20000.0	66000.0	22000.0
LEAD (PB) TOT	4900.0	35000.0	57.0
SELENIUM (SE) TOT	89.0	410.0	<10.0
ZINC (ZN) TOT	6400.0	32000.0	13.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-4-SED	SEP-9-SED	SEP-10-SED
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	08:20	09:05	08:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991948005	L991948009	L991948006
SAMPLE NUMBER	EPRI-9911-208	EPRI-9911-211	EPRI-9911-212

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	21.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0
COPPER (CU) TOT	21.0	<20.0	27.0
IRON (FE) TOT	17000.0	16000.0	29000.0
LEAD (PB) TOT	66.0	64.0	35.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	20.0	57.0	41.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-11-SED	SEP-12-SED	SEP-13-SED
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	08:35	08:10	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991948007	L991948003	L991948004
SAMPLE NUMBER	EPRI-9911-213	EPRI-9911-214	EPRI-9911-215

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	11.0	<10.0	21.0
CADMIUM (CD) TOT	<10.0	<10.0	13.0
CHROMIUM (CR) TOT	<80.0	96.0	<80.0
COPPER (CU) TOT	140.0	24.0	61.0
IRON (FE) TOT	23000.0	22000.0	28000.0
LEAD (PB) TOT	140.0	54.0	51.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	110.0	43.0	15.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-14-SED	SEP-14-SED
SAMPLE DATE	11/02/1999	11/02/1999
SAMPLE TIME	09:00	09:00
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L991948008	L991948001
REMARKS		DUPLICATE
SAMPLE NUMBER	EPRI-9911-216	EPRI-9911-235

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1400.0	1500.0
CADMIUM (CD) TOT	36.0	39.0
CHROMIUM (CR) TOT	81.0	100.0
COPPER (CU) TOT	14000.0	15000.0
IRON (FE) TOT	250000.0	250000.0
LEAD (PB) TOT	5900.0	6200.0
SELENIUM (SE) TOT	15.0	14.0
ZINC (ZN) TOT	16000.0	17000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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18	EPRI-9911-151	L991925027	10/27/1999EP-85		20	L991925033	EPRI-9911-225	10/28/1999EP-89	
19	EPRI-9911-152	L991936016	10/31/1999EP-86		30	L991936001	EPRI-9911-226	10/28/1999DI	
19	EPRI-9911-154	L991936009	10/30/1999EP-88		15	L991936002	EPRI-9911-137	10/28/1999EP-70	
20	EPRI-9911-155	L991925032	10/28/1999EP-89		14	L991936003	EPRI-9911-136	10/28/1999EP-68	
20	EPRI-9911-156	L991936013	10/30/1999EP-90		14	L991936004	EPRI-9911-135	10/28/1999EP-67	
35	EPRI-9911-157	L991938020	11/02/1999SEP-11		27	L991936005	EPRI-9911-176	10/28/1999EP-112	
36	EPRI-9911-158	L991936028	11/01/1999SEP-13		15	L991936006	EPRI-9911-138	10/28/1999EP-71	
21	EPRI-9911-159	L991925012	10/26/1999EP-95		26	L991936007	EPRI-9911-175	10/28/1999EP-111	
35	EPRI-9911-160	L991936026	11/01/1999SEP-12		6	L991936008	EPRI-9911-111	10/30/1999EP-23	
1	EPRI-9911-161	L991938013	10/30/1999EM-1		19	L991936009	EPRI-9911-154	10/30/1999EP-88	
8	EPRI-9911-162	L991925015	10/26/1999EP-44		18	L991936010	EPRI-9911-150	10/30/1999EP-84	
1	EPRI-9911-164	L991938002	10/29/1999EM-4		18	L991936011	EPRI-9911-149	10/30/1999EP-83	
2	EPRI-9911-165	L991938022	11/02/1999EM-5		18	L991936012	EPRI-9911-229	10/30/1999EP-83	
2	EPRI-9911-166	L991938024	11/02/1999EM-6		20	L991936013	EPRI-9911-156	10/30/1999EP-90	
2	EPRI-9911-167	L991936014	10/30/1999EM-7		2	L991936014	EPRI-9911-167	10/30/1999EM-7	
32	EPRI-9911-168	L991938021	11/02/1999POND 1		16	L991936015	EPRI-9911-145	10/31/1999EP-79	
32	EPRI-9911-169	L991938025	11/02/1999POND 6		19	L991936016	EPRI-9911-152	10/31/1999EP-86	
25	EPRI-9911-172	L991925013	10/26/1999EP-108		19	L991936017	EPRI-9911-231	10/31/1999EP-86	
26	EPRI-9911-173	L991925014	10/26/1999EP-109		16	L991936018	EPRI-9911-144	10/31/1999EP-78	
26	EPRI-9911-174	L991938008	10/29/1999EP-110		17	L991936019	EPRI-9911-148	10/31/1999EP-82	
26	EPRI-9911-175	L991936007	10/28/1999EP-111		31	L991936020	EPRI-9911-232	10/31/1999DI	
27	EPRI-9911-176	L991936005	10/28/1999EP-112		34	L991936021	EPRI-9911-190	11/01/1999SEP-9	
27	EPRI-9911-177	L991938015	10/28/1999EP-113		34	L991936022	EPRI-9911-188	11/01/1999SEP-7	
27	EPRI-9911-178	L992035001	11/18/1999EP-114		32	L991936023	EPRI-9911-183	11/01/1999SEP-1	

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28	EPRI-9911-179	L992050001	11/22/1999EP-115		35	L991936024	EPRI-9911-191	11/01/1999SEP-10	
28	EPRI-9911-180	L992035002	11/18/1999EP-116		33	L991936025	EPRI-9911-184	11/01/1999SEP-2	
28	EPRI-9911-181	L992035003	11/18/1999EP-117		35	L991936026	EPRI-9911-160	11/01/1999SEP-12	
29	EPRI-9911-182	L992035004	11/18/1999EP-118		35	L991936027	EPRI-9911-233	11/01/1999SEP-12	
32	EPRI-9911-183	L991936023	11/01/1999SEP-1		36	L991936028	EPRI-9911-158	11/01/1999SEP-13	
33	EPRI-9911-184	L991936025	11/01/1999SEP-2		8	L991938001	EPRI-9911-117	10/29/1999EP-43	
33	EPRI-9911-185	L991938019	11/01/1999SEP-3		1	L991938002	EPRI-9911-164	10/29/1999EM-4	
33	EPRI-9911-186	L991938016	11/01/1999SEP-4		10	L991938003	EPRI-9911-123	10/29/1999EP-55	
34	EPRI-9911-187	L991938018	11/01/1999SEP-6		9	L991938004	EPRI-9911-120	10/29/1999EP-52	
34	EPRI-9911-188	L991936022	11/01/1999SEP-7		1	L991938005	EPRI-9911-262	10/29/1999EM-2	
34	EPRI-9911-190	L991936021	11/01/1999SEP-9		4	L991938006	EPRI-9911-104	10/29/1999EP-12	
35	EPRI-9911-191	L991936024	11/01/1999SEP-10		16	L991938007	EPRI-9911-143	10/29/1999EP-77	
20	EPRI-9911-192	L991825001	10/13/1999EP-93		26	L991938008	EPRI-9911-174	10/29/1999EP-110	
21	EPRI-9911-193	L991825002	10/13/1999EP-96		16	L991938009	EPRI-9911-227	10/29/1999EP-77	
21	EPRI-9911-194	L991825003	10/13/1999EP-94		10	L991938010	EPRI-9911-122	10/29/1999EP-54	
22	EPRI-9911-195	L991881001	10/18/1999EP-99		15	L991938011	EPRI-9911-140	10/29/1999EP-73	
22	EPRI-9911-196	L991881002	10/18/1999EP-97		30	L991938012	EPRI-9911-228	10/29/1999DI	
22	EPRI-9911-197	L991881003	10/18/1999EP-98		1	L991938013	EPRI-9911-161	10/30/1999EM-1	
23	EPRI-9911-198	L991881004	10/20/1999EP-100		30	L991938014	EPRI-9911-230	10/30/1999DI	
23	EPRI-9911-199	L991881005	10/21/1999EP-101		27	L991938015	EPRI-9911-177	10/28/1999EP-113	
23	EPRI-9911-200	L991881006	10/21/1999EP-102		33	L991938016	EPRI-9911-186	11/01/1999SEP-4	
24	EPRI-9911-201	L991881007	10/21/1999EP-103		31	L991938017	EPRI-9911-234	11/01/1999DI	
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25	EPRI-9911-205	L991881011	10/21/1999EP-106		32	L991938021	EPRI-9911-168	11/02/1999POND 1	
4	EPRI-9911-206	L991925006	10/25/1999EP-7		2	L991938022	EPRI-9911-165	11/02/1999EM-5	
38	EPRI-9911-208	L991948005	11/02/1999SEP-4-SED		2	L991938023	EPRI-9911-236	11/02/1999EM-5	
37	EPRI-9911-209	L991948011	11/02/1999POND 6-SED		2	L991938024	EPRI-9911-166	11/02/1999EM-6	
38	EPRI-9911-211	L991948009	11/02/1999SEP-9-SED		32	L991938025	EPRI-9911-169	11/02/1999POND 6	
38	EPRI-9911-212	L991948006	11/02/1999SEP-10-SED		8	L991938026	EPRI-9911-118	11/02/1999EP-49	
39	EPRI-9911-213	L991948007	11/02/1999SEP-11-SED		40	L991948001	EPRI-9911-235	11/02/1999SEP-14-SED	
39	EPRI-9911-214	L991948003	11/02/1999SEP-12-SED		37	L991948002	EPRI-9911-306	11/02/1999SEP-2-SED	
39	EPRI-9911-215	L991948004	11/02/1999SEP-13-SED		39	L991948003	EPRI-9911-214	11/02/1999SEP-12-SED	
40	EPRI-9911-216	L991948008	11/02/1999SEP-14-SED		39	L991948004	EPRI-9911-215	11/02/1999SEP-13-SED	
37	EPRI-9911-217	L991948010	11/02/1999POND 1-SED		38	L991948005	EPRI-9911-208	11/02/1999SEP-4-SED	
10	EPRI-9911-220	L991925011	10/26/1999EP-56		38	L991948006	EPRI-9911-212	11/02/1999SEP-10-SED	
30	EPRI-9911-221	L991925004	10/25/1999DI		39	L991948007	EPRI-9911-213	11/02/1999SEP-11-SED	
30	EPRI-9911-222	L991925016	10/26/1999DI		40	L991948008	EPRI-9911-216	11/02/1999SEP-14-SED	
30	EPRI-9911-223	L991925026	10/27/1999DI		38	L991948009	EPRI-9911-211	11/02/1999SEP-9-SED	
19	EPRI-9911-224	L991925028	10/27/1999EP-85		37	L991948010	EPRI-9911-217	11/02/1999POND 1-SED	
20	EPRI-9911-225	L991925033	10/28/1999EP-89		37	L991948011	EPRI-9911-209	11/02/1999POND 6-SED	
30	EPRI-9911-226	L991936001	10/28/1999DI		9	L991962001	EPRI-9911-119	11/02/1999EP-51	
16	EPRI-9911-227	L991938009	10/29/1999EP-77		31	L991962002	EPRI-9911-237	11/02/1999DI	
30	EPRI-9911-228	L991938012	10/29/1999DI		11	L991962003	EPRI-9911-125	11/03/1999EP-57	
18	EPRI-9911-229	L991936012	10/30/1999EP-83		11	L991962004	EPRI-9911-126	11/03/1999EP-58	
30	EPRI-9911-230	L991938014	10/30/1999DI		12	L991962005	EPRI-9911-129	11/03/1999EP-61	
19	EPRI-9911-231	L991936017	10/31/1999EP-86		13	L991962006	EPRI-9911-133	11/03/1999EP-65	
31	EPRI-9911-232	L991936020	10/31/1999DI		31	L991962007	EPRI-9911-239	11/03/1999DI	
35	EPRI-9911-233	L991936027	11/01/1999SEP-12		7	L991962008	EPRI-9911-238	11/03/1999EP-25	
31	EPRI-9911-234	L991938017	11/01/1999DI		6	L991962009	EPRI-9911-112	11/03/1999EP-24	
40	EPRI-9911-235	L991948001	11/02/1999SEP-14-SED		6	L991962010	EPRI-9911-109	11/03/1999EP-21	
2	EPRI-9911-236	L991938023	11/02/1999EM-5		7	L991962011	EPRI-9911-113	11/03/1999EP-25	
31	EPRI-9911-237	L991962002	11/02/1999DI		27	L992035001	EPRI-9911-178	11/18/1999EP-114	
7	EPRI-9911-238	L991962008	11/03/1999EP-25		28	L992035002	EPRI-9911-180	11/18/1999EP-116	
31	EPRI-9911-239	L991962007	11/03/1999DI		28	L992035003	EPRI-9911-181	11/18/1999EP-117	
1	EPRI-9911-262	L991938005	10/29/1999EM-2		29	L992035004	EPRI-9911-182	11/18/1999EP-118	
37	EPRI-9911-306	L991948002	11/02/1999SEP-2-SED		28	L992050001	EPRI-9911-179	11/22/1999EP-115	

SECTION J-7

REMEDIAL INVESTIGATION WATER SAMPLES

WINTER 2000

**DATA VALIDATION REPORT
ASARCO EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION
WATER SAMPLES
WINTER 2000**

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April 2000

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APPENDIX 2: DATABASE

GLOSSARY OF TERMS

CCB.....	Continuing Calibration Blank
CCV.....	Continuing Calibration Verification
CLP.....	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
% D.....	Percent difference
FAA.....	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA.....	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP.....	Inductively Coupled Plasma
ICV.....	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS.....	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB.....	Preparation Blank
PRDL.....	Project Required Detection Limit
PDLG.....	Project Detection Limit Goals
QAPP.....	Quality Assurance Project Plan
QC.....	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

SUMMARY

This report covers the validation of data for quarterly monitoring water and sediment samples collected during January and February of 2000 for the Asarco El Paso Copper Smelter Remediation Investigation. The validation has been carried out according to requirements spelled out in the work plan (Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996). Deviations from prescribed quality control procedures and/or exceedances of quality control samples have been noted, and results have been flagged in the database. Data validation codes are defined in Appendix 1, Table 1. Appendix 1 also includes the summary of flagged data (Table 2) and the summary of a statistical historical comparison (Table 3). The validated database for this data set is in Appendix 2.

The following measurements were taken in the field: static water levels, dissolved oxygen, pH, conductivity, turbidity, and water temperature. Samples were then sent to Asarco's Technical Services laboratory in Salt Lake City for the following analyses:

Physical Parameters	Major Constituents	Metals
pH	Calcium	Arsenic (Tot)
Conductivity	Magnesium	Cadmium (Tot)
TDS	Sodium	Chromium (Tot)
TSS	Potassium	Copper (Tot)
	Bicarbonate	Iron (Tot)
	Carbonate	Lead (Tot)
	Sulfate	Zinc (Tot)
	Chloride	
	Fluoride	
	NO ₃ +NO ₂ as N	

Note that as for the Fall 1999 monitoring, both groundwater and surface water samples from the Winter 2000 monitoring event were analyzed for total metals only. Turbidity was measured in the field. Where the turbidity was less than 10 NTU, the total metals portion submitted to the laboratory was unfiltered; for turbidities greater than 10 NTU, the total metals portion was filtered. For the statistics calculations summarized in Table 3, the total metals results were combined with the existing data. (For example at EM-1, nine dissolved arsenic results and two total arsenic results were used to calculate the statistics for arsenic with an N value of eleven; at SEP-1, one total arsenic, eight dissolved arsenic, eight total recoverable arsenic results were used to calculate the statistics for arsenic with an N value of seventeen.)

For this monitoring event, sediment samples were collected at eleven of the surface water sites, and were analyzed for the metals. The sediment samples were analyzed by XRF using a matrix-specific calibration for arsenic and lead, and using a fundamental parameters calibration for cadmium, chromium, copper, iron, selenium, and zinc. (The matrix-specific calibration, however, was for sandy soils from the Asarco site in Murray, Utah rather than being specific to soils from El Paso.)

Laboratory quality control violations for the sediment XRF analyses resulted in a total of eight flags:

- For arsenic and lead only, information was provided for calibration verification samples (at a frequency of 1 in 10) and laboratory control samples (1 in 20). Recoveries on these standards were all within control limits.
- Reference standard analyses were not conducted for the analyses using the fundamental parameters calibration.
- Information was provided for all analytes for laboratory duplicates, which were performed at a frequency of 1 in 20. The duplicate for cadmium was out of control limits, resulting in 8 flags.

For water, laboratory quality control violations resulted in a total of 54 flags:

- Fifty-four results were flagged for holding time exceedances. These flags indicate that the result may not be representative of the true sample value.

Field Quality Control Violations resulted in a total of 133 flags:

- Four field SC results from February 1st were considered to be unusable and were rejected. This is discussed in more detail in Section 10.
- Detections in eight of the ten field blanks resulted in a total of 48 flags to indicate possible high bias.
- Twelve of the 312 field duplicate measurements were out of control limits resulting in a total of 81 flags to indicate a possible lack of reproducibility.

Completeness of field measurements:

- The required frequency for field quality control samples was not met for the February 2000 monitoring event. On February 14, seven surface water samples were collected, but no DI blank was submitted. Also, sediment samples were submitted on two different days, but no sediment duplicate was submitted.
- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-12, at EP-25, or at EP-43.

- Turbidity was not recorded at EP-23 or at EP-53 on 2/1. Consequently, it was not known whether the total metals portions were filtered or unfiltered.
- Due to a non-functional probe, turbidity was not measured at five sites. For these five samples, the total metals portion was filtered.
- EP-87 was dry; no sample was taken.
- No samples were collected at EP-5 or at EP-99. The wells went dry during pumping and did not recover.

Ninety-four percent of the data may be used without qualification (3139 out of 3327 results). Overall, the data for the Winter 2000 monitoring for the Asarco El Paso Copper Smelter Remedial Investigation are deemed acceptable for the purposes of the project, provided that the flagged data are considered with appropriate caution. Any possible bias and/or lack of reproducibility indicated by the flags should be taken into account.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Linda Tangen

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to inorganic analytes from 119 water samples and 11 sediment samples collected during January and February of 2000 for the Asarco El Paso Copper Smelter Remedial Investigation. The total number of samples included:

10	DI blanks
11	Field duplicates (1 surface water, 10 groundwater)
12	Surface water samples (not counting duplicate)
86	Groundwater samples (not counting duplicates)
11	Sediment samples

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-12, at EP-25, or at EP-43.
- No sample was collected at EP-87; it was dry.
- No samples were collected at EP-5 or at EP-99. The wells went dry and did not recover.
- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - Asarco El Paso Copper Smelter Remedial Investigation Work Plan, El Paso, Texas (November 1996)
 - Other
- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard
 - Visual

Notes: The validation consisted of a visual check of lab and field data, and an evaluation of laboratory and field quality control samples with flagging for any QC samples that were out of control limits.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
 - Yes
 - No
- Field measurements and field documentation were complete.
 - Yes
 - No

3. FIELD QUALITY CONTROL SAMPLES

The field quality control samples required by the work plan are one field blank (DI) and one field duplicate per day or per 20 samples, whichever is more frequent.

- **Field Blanks:** Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

Yes

No

Notes: For eleven sampling days, ten DI blanks were submitted. No DI blank was submitted on February 14; but seven surface water samples were collected on this day. For these samples, accuracy at low concentrations cannot be evaluated as intended by the project work plan.

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project-required detection limits (PRDL) if project detection limits have been specified.

Yes

No

Notes: When an analyte is detected in a blank, associated results up to 5 times the blank level are flagged to indicate that the results may be biased high due to contamination. Results "associated" with a field blank are generally results for samples collected on the same day as the blank.

For this sampling event, 24 total lead, 2 total selenium, 2 total iron and 20 nitrate+nitrite as N results were flagged due to detections in the field blanks.

- The following table lists blank detections.

Sample Number	Date	Analyte	Result (ppm)	5 times Blank (ppm)	PRDL (ppm)	# of Flags
EPRI-0002-220	01/24/00	HCO3	3.4	17	1	0
EPRI-0002-220	01/24/00	Pb	0.009	0.045	0.003	12
EPRI-0002-220	01/24/00	Se	0.005	0.025	10	2
EPRI-0002-222	01/25/00	N	0.11	0.55	0.1	2
EPRI-0002-222	01/25/00	Pb	0.008	0.040	0.003	12
EPRI-0002-224	01/26/00	HCO3	1.22	6.1	1	0
EPRI-0002-224	01/26/00	N	0.10	0.50	0.1	0
EPRI-0002-225	01/27/00	HCO3	2.9	14.5	1	0
EPRI-0002-225	01/27/00	N	0.26	1.3	0.1	1
EPRI-0002-231	01/31/00	N	0.19	0.95	0.1	9
EPRI-0002-234	02/01/00	SO4	1.3	6.5	1	0
EPRI-0002-234	02/01/00	N	0.082	0.41	0.1	2
EPRI-0002-234	02/01/00	Fe	0.26	1.3	0.1	2
EPRI-0002-235	02/07/00	N	0.53	2.65	0.1	4
EPRI-0002-238	02/08/00	N	0.41	2.05	0.1	2

Flagging: UJ₁

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

Yes

No

Notes: No field duplicate was submitted for the 13 sediment samples.

The field duplicates are listed in the following table.

Sample/ Duplicate #	Site	Date	Matrix
EPRI-0002-137/ 219	EP-70	01/24/00	Groundwater
EPRI-0002-136/ 221	EP-68	01/25/00	Groundwater
EPRI-0002-154/ 223	EP-88	01/26/00	Groundwater
EPRI-0002-149/ 226	EP-83	01/27/00	Groundwater
EPRI-0002-145/ 227	EP-79	01/28/00	Surface water
EPRI-0002-103/ 230	EP-7	01/29/00	Groundwater
EPRI-0002-108/ 232	EP-20	01/31/00	Groundwater
EPRI-0002-124/ 233	EP-56	02/01/00	Groundwater
EPRI-0002-133/ 236	EP-65	02/07/00	Groundwater
EPRI-0002-104/ 237	EP-12	02/08/00	Groundwater
EPRI-0002-193/ 239	SEP-13	02/14/00	Surface Water

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix.

Yes

No

Notes: Twelve, or approximately four percent, of the 312 field duplicate measurements were out of control limits. The field duplicate exceedances are listed in the following table. Associated sample results were flagged to indicate a possible lack of reproducibility. Samples collected the same day as the duplicate are generally considered to be associated. A total of 81 results were flagged to indicate a possible lack of reproducibility.

Flagging: J₄/UJ₄

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-0002-103/ 230	EP-7	01/29/00	Chloride	581/ 469	21% RPD	6
EPRI-0002-104/ 237	EP-12	02/08/00	TSS	46/ 68	39% RPD	2
EPRI-0002-104/ 237	EP-12	02/08/00	NO ₃ +NO ₂ as N	3.2/ 2.1	42% RPD	5
EPRI-0002-108/ 232	EP-20	01/31/00	TSS	104/ 50	70% RPD	8
EPRI-0002-124/ 233	EP-56	02/01/00	Chloride	455/ 639	34% RPD	5
EPRI-0002-124/ 233	EP-56	02/01/00	Arsenic(T)	2.7/ 2.1	25% RPD	5
EPRI-0002-124/ 233	EP-56	02/01/00	Iron(T)	29/ 23	23% RPD	7

Sample Number/ Duplicate	Site	Sample Date	Analyte	Sample/ Duplicate Result (mg/L)	Exceedance	# of Flags
EPRI-0002-136/ 221	EP-68	01/25/00	Iron(T)	2.5/ 4.6	59% RPD	13
EPRI-0002-136/ 221	EP-68	01/25/00	NO ₃ +NO ₂ as N	24/ 30	22% RPD	11
EPRI-0002-154/ 223	EP-88	01/26/00	Carbonate	19.2/ <1.0	> ± 1 ppm	3
EPRI-0002-193/ 239	SEP-13	02/14/00	Carbonate	9.6/ 14.4	40% RPD	8
EPRI-0002-193/ 239	SEP-13	02/14/00	Iron(T)	0.46/ 0.60	26% RPD	8

4. LABORATORY PROCEDURES

- Laboratory procedures followed

CLP-SOW

SW-846

Methods for Chemical Analysis of Water and Wastes

XRF Standard Operating Procedures

- Holding times met

Yes

No

Notes: A total of 54 results were flagged because the holding times were exceeded. These holding time exceedances are summarized in the following table.

Analyte	Maximum Holding Time	Time Held Before Analysis	# of Flags
TDS	7 days	9 days	2
TDS	7 days	9 days	2
Chloride	28 days	34 days	1
NO ₃ + NO ₂ AS n	28 days	29 to 33 days	49

Flagging: J₃/ UJ₃

- Consistency with project requirements

Analyses were carried out as requested.

Yes

No

Project specified methods were used.

Yes

No

5. DETECTION LIMITS

- Reporting detection limits met project detection limit goals (PDLGs).

Yes
 No

Notes:

Water--The PDLG for sulfate has been set at 1 ppm. The laboratory's reporting detection limit for sulfate was 2 ppm.

Sediment: As shown in the following table, the PDLG was not met for chromium, copper, or iron in the XRF analyses. This was not an issue for iron and copper, as all eleven sediment samples contained greater than the reporting level of these parameters. For chromium, however, nine of the eleven samples were reported as less than 80 ppm.

Analyte	Reporting Detection Limit	PDGL
Chromium	80 ppm	20 ppm
Copper	20 ppm	10 ppm
Iron	50 ppm	20 ppm

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

Preparation blanks were prepared and analyzed at the required frequency.

Yes
 No

All the analytes in the preparation blank were less than the CRDL (or the PRDL/PDLG if a project detection limit has been specified).

Yes
 No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.

Yes
 No

- Matrix spike recoveries were within the required control limits (75-125%).

Yes
 No

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.
 Yes
 No
- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PDLG, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within plus or minus the PDLG for water matrix, within plus or minus two times the PDLG for sediment or soil matrix.

Yes -- For water
 No -- For sediment

Notes: The XRF batch L000196 laboratory duplicate was out of control limits for cadmium. The original sample was measured at 51 ppm, and the duplicate was 17 ppm. Since the sample/duplicate difference was greater than 20 ppm (two times the PDLG), eight low-concentration cadmium results from this batch were flagged to indicate possible lack of reproducibility.

Flagging: J4/UJ4

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency
 Yes
 No
- LCS recoveries were within the required control limits (80-120% for water, 75-125% for arsenic and lead analyzed by XRF).

Yes
 No

10. INTERPARAMETER RELATIONSHIPS

- The following relationships have been checked:
 Lab pH vs. field pH.
 Lab SC vs. field SC
 TDS vs. SC

Lab pH vs. field pH: This relationship was generally in order. For samples for which both lab and field pH were measured, all but one had percent differences equal to or less than sixteen percent. Rounded off to the nearest percent, the percent differences were distributed as follows:

equal to or less than 10% 80
 11 to 16% 24
 35% 1

Lab SC vs. field SC: This relationship was generally in order. With the exception of four samples, all samples had percent differences equal to or less than 20%. Rounded to the nearest percent, the distribution of the percent differences was as follows:

less than 10%.....96
 11 to 15%.....4
 20%.....1
 over 20%.....4

The four samples with SC percent differences greater than 20% are listed in the following table. Historical SC values and TDS measurements were consistent with the laboratory SC results. Therefore, for these four samples, the field SC results are considered unusable, and have been flagged R for rejected.

Site	Sample #	Sample Date	Field SC	Lab SC	% Difference	Ratio of TDS to lab SC
EP-21	EPRI-0002-109	02/01/00	1101,R	4880	343%	60%
EP-23	EPRI-0002-111	02/01/00	951,R	4770	402%	56%
EP-24	EPRI-0002-112	02/01/00	1072,R	5120	378%	54%
EP-53	EPRI-0002-121	02/01/00	1594,R	7520	372%	75%

TDS vs. SC: The ratio of TDS to SC should lie between 0.55 and 0.75. In natural waters with high sulfate, the ratio may be as high as 0.96. This ratio is intended to be a check on the accuracy of the TDS and SC measurements. (It should be noted that these measurements are less accurate in dilute waters.)

This relationship was in order. The TDS to laboratory SC ratios ranged from 48% at EP-85 to 90% at EP-65. The ratios were distributed as follows:

less than 55%.....2
 55 to 75%.....80
 75 to 90%.....27
 over 90%.....0

11. HISTORICAL COMPARISON

The data for the Winter 2000 monitoring were compared with historical results. Table 3 in Appendix 1 contains a summary of the historical comparison. This table lists all cases where the current value differs by more than 2.5 standard deviations from the comparison period mean or where the current value was highest or lowest over the entire database period.

12. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQOs).**

Data quality objectives for this project are for the quality control samples to be within control limits. Evaluation of field and laboratory QC samples give a measure of the actual precision and accuracy obtained.

Accuracy

The ability to recover a known amount of an analyte is a measure of accuracy.

Accuracy for water matrix is evaluated by recoveries on laboratory matrix spikes and laboratory control samples for higher analyte concentrations, and by blanks for analyte concentrations within five times the PDLG.

All laboratory matrix spikes and laboratory control samples were within control limits, indicating good accuracy for the higher concentration results.

In general, results on the laboratory and field blanks also indicated good accuracy at lower concentrations. Note, however, that the required frequency for field blanks was not met, as no field blank was submitted with the seven surface water samples collected on 2/14/00.

Field blank detections that resulted in flagging to indicate possible high bias are listed in the following bulleted items.

- Nitrate+nitrite as N, six detections.
- Total lead, two detections.
- Total iron, one detection.
- Total selenium, one detection.

Accuracy for sediment matrix is evaluated by recoveries on laboratory reference standards, which in this case included calibration standards and laboratory control standards for arsenic and lead only since these were analyzed using a matrix-specific calibration. Recoveries on these QC samples were all within control limits. No information was provided for evaluation of accuracy for the other parameters analyzed by XRF (cadmium, chromium, copper, iron, selenium, and zinc).

Precision

Reproducibility of results is a measure of precision. Precision is evaluated by performance on laboratory and field duplicates.

Precision for water matrix: All of the laboratory duplicate measurements and approximately 96 percent (300 of 312) of the field duplicate measurements

were within control limits. Except for the parameters listed below, all of the field duplicates were within control limits.

Analyte	% Field Duplicates within Control Limits	Analyte	% Field Duplicates within Control Limits
TSS	82%	NO ₃ + NO ₂ as N	82%
Chloride	82%	Arsenic	91%
CO ₃	82%	Iron	73%

Precision for sediment matrix: The laboratory duplicate for cadmium was out of control limits, which indicated possible lack of precision at low concentrations. No field duplicate was submitted for the sediment matrix; consequently, a precision evaluation as was intended by the work plan is not possible.

Completeness

One measure of completeness is the percentage of results qualified as a result of the data validation. For the Winter 2000 El Paso RI monitoring,

- ⇒ Ninety-four percent of the data may be used without qualification (3111 out of 3299 results).
- ⇒ Four percent (4 out of 105) of the field SC results were considered to be unusable, and were rejected (flagged R).

A summary of the completeness calculated by parameter is listed in the following table.

Parameter	Number Analyzed	Number Valid	Percent Valid	Number Not Flagged	Percent Not Flagged
DTWL	86	86	100%	86	100%
Oxygen	105	105	100%	105	100%
pH(field)	105	105	100%	105	100%
SC(field)	105	101	96%	101	96%
Turbidity	88	88	100%	88	100%
Water Temp.	104	104	100%	104	100%
pH(lab)	119	119	100%	119	100%
SC(lab)	119	119	100%	119	100%
TDS	119	119	100%	117	98%
TSS	119	119	100%	107	90%
Calcium	119	119	100%	119	100%
Magnesium	119	119	100%	119	100%
Sodium	119	119	100%	119	100%
Potassium	119	119	100%	119	100%
Bicarbonate	119	119	100%	119	100%
Carbonate	119	119	100%	108	91%
Sulfate	119	119	100%	119	100%

Parameter	Number Analyzed	Number Valid	Percent Valid	Number Not Flagged	Percent Not Flagged
Chloride	119	119	100%	107	90%
Fluoride	119	119	100%	119	100%
NO ₃ +NO ₂ as N	119	119	100%	39	33%
Arsenic	130	130	100%	125	96%
Cadmium	130	130	100%	122	94%
Chromium	130	130	100%	130	100%
Copper	130	130	100%	130	100%
Iron	130	130	100%	102	78%
Lead	130	130	100%	106	82%
Selenium	130	130	100%	128	98%
Zinc	130	130	100%	130	100%

Completeness is also evaluated by how well the sampling event met the requirements of the project work plan. Completeness is achieved when the number of valid measurements is sufficient to address all important issues about a site.

- Due to the presence of large amounts of hydrocarbon product, field parameters were not measured at EP-12, at EP-25, or at EP-43.
- Turbidity was not recorded at EP-23 or at EP-53 on 2/1. Consequently, it was not known whether the total metals portions were filtered or unfiltered.
- No samples were collected at EP-5 or at EP-99. The wells went dry and did not recover.
- No sample was collected at EP-87; it was dry.

Since the quality of sample analyses is assessed indirectly through the analysis of associated quality control samples, the following items also affect the completeness of the data for this sampling event.

- The required frequency for field quality control samples was not met for the Winter 2000 monitoring event.
 - On 02/14/00, seven surface water samples were collected, but no DI blank was submitted.
 - Sediment samples were collected on 2 of the sampling days, but no sediment field duplicate was submitted.

REFERENCES

- Hem, J. D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.
- Hydrometrics, 1996. Asarco El Paso Copper Smelter Remedial Investigation Work Plan, November 1996.
- Standard Operating Procedure-Spectrace 500 EDXRF Routine Soil Analysis (HL_SOP_53-1/95).
- U.S. Environmental Protection Agency, 1983. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. February 1994.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J	<p>- The associated numerical value is an estimated quantity because quality control criteria were not met.</p> <p>Subscripts for the "J" qualifier:</p> <ul style="list-style-type: none">2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
UJ	<p>- The material was analyzed for, but was not detected above the associated value.</p> <p>Subscripts for the "UJ" qualifier:</p> <ul style="list-style-type: none">1 - Blank contamination. Indicates possible high bias and/or false positive.2 - Calibration range exceeded or significant deviation from known value. Possible bias.3 - Holding time not met. Indicates possible bias.4 - Other QC outside control limits.
R	<p>- Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.</p>
E	<p>- Estimated. (Not an EPA code.)</p>
A	<p>- Anomalous data.. No apparent explanation for discrepancy in data. (Not an EPA code.)</p>

Table 2. Summary of Flagged Data
El Paso RI, Winter 2000 Monitoring Data
 (Values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Description	Result	Flag	Reason for Flag
Quality Control							
DI	EPRI-0002-222	L000105021	01/25/00	NITRATE + NITRITE AS N	0.11	J4	Field duplicate RPD=22%
DI	EPRI-0002-224	L000133012	01/26/00	NITRATE + NITRITE AS N	0.1	J3	Holding time exceeded
DI	EPRI-0002-225	L000133018	01/27/00	NITRATE + NITRITE AS N	0.26	J3	Holding time exceeded
DI	EPRI-0002-228	L000151015	01/28/00	NITRATE + NITRITE AS N	<0.1	UJ3	Holding time exceeded
DI	EPRI-0002-229	L000151016	01/29/00	NITRATE + NITRITE AS N	<0.1	UJ3	Holding time exceeded
DI	EPRI-0002-234	L000176002	02/01/00	TDS (MEASURED AT 180 C)	<10.0	UJ3	Holding time exceeded
				TOTAL SUSPENDED SOLIDS	<1.0	UJ3	Holding time exceeded
				IRON(Fe)(TOT)	0.26	J4	Field duplicate RPD=23%
DI	EPRI-0002-238	L000176015	02/08/00	NITRATE + NITRITE AS N	0.41	J4	Field duplicate RPD=42%
Groundwater							
EM-1	EPRI-0002-195	L000152006	01/31/00	TOTAL SUSPENDED SOLIDS	14.0	J4	Field duplicate RPD=70%
				NITRATE + NITRITE AS N	0.37	UJ1	Field blank detection (0.19 ppm)
EM-2	EPRI-0002-196	L000105019	01/25/00	IRON(Fe)(TOT)	1.2	J4	Field duplicate RPD=59%
				LEAD (Pb)(TOT)	0.019	UJ1	Field blank detection (0.008 ppm)
EM-4	EPRI-0002-197	L000105018	01/25/00	NITRATE + NITRITE AS N	0.2	UJ1	Field blank detection (0.11 ppm)
				NITRATE + NITRITE AS N	0.2	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	<0.1	UJ4	Field duplicate RPD=59%
				LEAD (Pb)(TOT)	0.007	UJ1	Field blank detection (0.008 ppm)
EM-5	EPRI-0002-198	L000105026	01/25/00	NITRATE + NITRITE AS N	0.11	UJ1	Field blank detection (0.11 ppm)
				NITRATE + NITRITE AS N	0.11	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	0.53	J4	Field duplicate RPD=59%
				LEAD (Pb)(TOT)	0.012	UJ1	Field blank detection (0.008 ppm)
EM-6	EPRI-0002-199	L000105027	01/25/00	NITRATE + NITRITE AS N	7.2	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	<0.1	UJ4	Field duplicate RPD=59%
				LEAD (Pb)(TOT)	0.012	UJ1	Field blank detection (0.008 ppm)
EM-7	EPRI-0002-200	L000152005	01/31/00	NITRATE + NITRITE AS N	0.37	UJ1	Field blank detection (0.19 ppm)
EP-4	EPRI-0002-100	L000151017	01/29/00	CHLORIDE (CL)	308.0	J4	Field duplicate RPD=21%
				NITRATE + NITRITE AS N	0.18	J3	Holding time exceeded
EP-6	EPRI-0002-102	L000151018	01/29/00	NITRATE + NITRITE AS N	1.2	J3	Holding time exceeded
EP-7	EPRI-0002-103	L000151019	01/29/00	CHLORIDE (CL)	581.0	J4	Field duplicate RPD=21%
				NITRATE + NITRITE AS N	0.17	J3	Holding time exceeded
EP-7 (Dup)	EPRI-0002-230	L000151020	01/29/00	CHLORIDE (CL)	469.0	J4	Field duplicate RPD=21%
				NITRATE + NITRITE AS N	0.2	J3	Holding time exceeded
EP-12	EPRI-0002-104	L000176011	02/08/00	TOTAL SUSPENDED SOLIDS	46.0	J4	Field duplicate RPD=39%
				NITRATE + NITRITE AS N	3.2	J4	Field duplicate RPD=42%
EP-12 (Dup)	EPRI-0002-237	L000176012	02/08/00	TOTAL SUSPENDED SOLIDS	68.0	J4	Field duplicate RPD=39%
				NITRATE + NITRITE AS N	2.1	J4	Field duplicate RPD=42%
EP-13	EPRI-0002-105	L000105022	01/25/00	IRON(Fe)(TOT)	0.47	J4	Field duplicate RPD=59%
				LEAD (Pb)(TOT)	0.025	UJ1	Field blank detection (0.008 ppm)
EP-14	EPRI-0002-106	L000105020	01/25/00	NITRATE + NITRITE AS N	23.0	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	0.18	J4	Field duplicate RPD=59%

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El Paso RI, Winter 2000 Monitoring Data
 (Values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Description	Result	Flag	Reason for Flag
EP-14	EPRI-0002-106	L000105020	01/25/00	LEAD (PB)(TOT)	0.01	UJ1	Field blank detection (0.008 ppm)
EP-15	EPRI-0002-107	L000105012	01/24/00	LEAD (PB)(TOT)	0.01	UJ1	Field blank detection (0.009 ppm)
EP-20	EPRI-0002-108	L000152009	01/31/00	TOTAL SUSPENDED SOLIDS	104.0	J4	Field duplicate RPD=70%
EP-20 (Dup)	EPRI-0002-232	L000152010	01/31/00	TOTAL SUSPENDED SOLIDS	50.0	J4	Field duplicate RPD=70%
EP-21	EPRI-0002-109	L000176001	02/01/00	SC (UMHOS/CM AT 25 C) (FL)	1101.0	R	% D with lab SC; historical; TDS ratio.
				TDS (MEASURED AT 180 C)	2942.0	J3	Holding time exceeded
				TOTAL SUSPENDED SOLIDS	3499.0	J3	Holding time exceeded
				CHLORIDE (CL)	638.0	J4	Field duplicate RPD=34%
				NITRATE + NITRITE AS N	1.2	J3	Holding time exceeded
				ARSENIC (AS)	0.064	J4	Field duplicate RPD=25%
				IRON(Fe)(TOT)	1.8	J4	Field duplicate RPD=23%
EP-22	EPRI-0002-110	L000133003	01/26/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-23	EPRI-0002-111	L000152018	02/01/00	SC (UMHOS/CM AT 25 C) (FL)	951.0	R	% D with lab SC; historical; TDS ratio.
				CHLORIDE (CL)	383.0	J4	Field duplicate RPD=34%
				NITRATE + NITRITE AS N	0.19	UJ1	Field blank detection (0.082 ppm)
				ARSENIC (AS)	3.1	J4	Field duplicate RPD=25%
				IRON(Fe)(TOT)	1.1	UJ1	Field blank detection (0.26 ppm)
				IRON(Fe)(TOT)	1.1	J4	Field duplicate RPD=23%
EP-24	EPRI-0002-112	L000152017	02/01/00	SC (UMHOS/CM AT 25 C) (FL)	1072.0	R	% D with lab SC; historical; TDS ratio.
				CHLORIDE (CL)	1175.0	J3	Holding time exceeded
				NITRATE + NITRITE AS N	0.16	UJ1	Field blank detection (0.082 ppm)
				ARSENIC (AS)	0.006	J4	Field duplicate RPD=25%
				IRON(Fe)(TOT)	0.43	UJ1	Field blank detection (0.26 ppm)
				IRON(Fe)(TOT)	0.43	J4	Field duplicate RPD=23%
EP-25	EPRI-0002-113	L000176014	02/08/00	NITRATE + NITRITE AS N	0.36	UJ1	Field blank detection (0.41 ppm)
				NITRATE + NITRITE AS N	0.36	J4	Field duplicate RPD=42%
EP-26	EPRI-0002-114	L000133011	01/26/00	NITRATE + NITRITE AS N	4.9	J3	Holding time exceeded
EP-29	EPRI-0002-115	L000152012	01/31/00	NITRATE + NITRITE AS N	4.3	UJ1	Field blank detection (0.19 ppm)
EP-43	EPRI-0002-117	L000176013	02/08/00	NITRATE + NITRITE AS N	0.61	UJ1	Field blank detection (0.41 ppm)
				NITRATE + NITRITE AS N	0.61	J4	Field duplicate RPD=42%
EP-49	EPRI-0002-118	L000151024	01/29/00	NITRATE + NITRITE AS N	6.0	J3	Holding time exceeded
EP-51	EPRI-0002-119	L000133006	01/26/00	NITRATE + NITRITE AS N	169.0	J3	Holding time exceeded
EP-52	EPRI-0002-120	L000133008	01/26/00	CARBONATE AS CO3	64.8	J4	Field duplicate difference >± 1 ppm
		L000133008	01/26/00	NITRATE + NITRITE AS N	114.0	J3	Holding time exceeded
EP-53	EPRI-0002-121	L000152021	02/01/00	SC (UMHOS/CM AT 25 C) (FL)	1594.0	R	% D with lab SC; historical; TDS ratio.
				CHLORIDE (CL)	403.0	J4	Field duplicate RPD=34%
				IRON(Fe)(TOT)	13.0	J4	Field duplicate RPD=23%
EP-54	EPRI-0002-122	L000133005	01/26/00	NITRATE + NITRITE AS N	10.0	J3	Holding time exceeded
EP-55	EPRI-0002-123	L000176004	02/07/00	NITRATE + NITRITE AS N	1.3	UJ1	Field blank detection (0.53 ppm)
EP-56	EPRI-0002-124	L000152019	02/01/00	CHLORIDE (CL)	455.0	J4	Field duplicate RPD=34%
				ARSENIC (AS)	2.7	J4	Field duplicate RPD=25%
				IRON(Fe)(TOT)	29.0	J4	Field duplicate RPD=23%
EP-56	EPRI-0002-233	L000152020	02/01/00	CHLORIDE (CL)	639.0	J4	Field duplicate RPD=34%
				ARSENIC (AS)	2.1	J4	Field duplicate RPD=25%
				IRON(Fe)(TOT)	23.0	J4	Field duplicate RPD=23%

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El Paso RI, Winter 2000 Monitoring Data
 (Values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Description	Result	Flag	Reason for Flag
EP-57	EPRI-0002-125	L000176006	02/07/00	NITRATE + NITRITE AS N	1.2	UJ1	Field blank detection (0.53 ppm)
EP-58	EPRI-0002-126	L000176007	02/07/00	NITRATE + NITRITE AS N	1.3	UJ1	Field blank detection (0.53 ppm)
EP-59	EPRI-0002-127	L000151009	01/28/00	NITRATE + NITRITE AS N	8.6	J3	Holding time exceeded
EP-60	EPRI-0002-128	L000151013	01/28/00	NITRATE + NITRITE AS N	41.0	J3	Holding time exceeded
EP-62	EPRI-0002-130	L000151011	01/28/00	NITRATE + NITRITE AS N	3.8	J3	Holding time exceeded
EP-63	EPRI-0002-131	L000151012	01/28/00	NITRATE + NITRITE AS N	2.5	J3	Holding time exceeded
EP-64	EPRI-0002-132	L000151010	01/28/00	NITRATE + NITRITE AS N	86.0	J3	Holding time exceeded
EP-66	EPRI-0002-134	L000151014	01/28/00	NITRATE + NITRITE AS N	36.0	J3	Holding time exceeded
EP-67	EPRI-0002-135	L000105003	01/24/00	LEAD (PB)(TOT)	0.011	UJ1	Field blank detection (0.009 ppm)
EP-68	EPRI-0002-136	L000105015	01/25/00	NITRATE + NITRITE AS N	24.0	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	2.5	J4	Field duplicate RPD=59%
				LEAD (PB)(TOT)	0.01	UJ1	Field blank detection (0.008 ppm)
EP-68 (Dup)	EPRI-0002-221	L000105016	01/25/00	NITRATE + NITRITE AS N	30.0	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	4.6	J4	Field duplicate RPD=59%
				LEAD (PB)(TOT)	0.01	UJ1	Field blank detection (0.008 ppm)
EP-70	EPRI-0002-137	L000105005	01/24/00	LEAD (PB)(TOT)	0.01	UJ1	Field blank detection (0.009 ppm)
EP-70 (Dup)	EPRI-0002-219	L000105006	01/24/00	LEAD (PB)(TOT)	0.009	UJ1	Field blank detection (0.009 ppm)
EP-71	EPRI-0002-138	L000105004	01/24/00	LEAD (PB)(TOT)	0.008	UJ1	Field blank detection (0.009 ppm)
EP-72	EPRI-0002-139	L000105007	01/24/00	LEAD (PB)(TOT)	0.011	UJ1	Field blank detection (0.009 ppm)
EP-73	EPRI-0002-140	L000133004	01/26/00	NITRATE + NITRITE AS N	17.0	J3	Holding time exceeded
EP-75	EPRI-0002-142	L000133010	01/26/00	NITRATE + NITRITE AS N	175.0	J3	Holding time exceeded
EP-76	EPRI-0002-141	L000133009	01/26/00	NITRATE + NITRITE AS N	4.2	J3	Holding time exceeded
EP-77	EPRI-0002-143	L000105025	01/25/00	NITRATE + NITRITE AS N	0.94	J4	Field duplicate RPD=22%
				IRON(Fe)(TOT)	0.51	J4	Field duplicate RPD=59%
				LEAD (PB)(TOT)	0.012	UJ1	Field blank detection (0.008 ppm)
EP-78	EPRI-0002-144	L000151003	01/28/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-79	EPRI-0002-145	L000151001	01/28/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-79 (Dup)	EPRI-0002-227	L000151002	01/28/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-80	EPRI-0002-146	L000151008	01/28/00	NITRATE + NITRITE AS N	2.4	J3	Holding time exceeded
EP-81	EPRI-0002-147	L000151006	01/28/00	NITRATE + NITRITE AS N	6.7	J3	Holding time exceeded
EP-82	EPRI-0002-148	L000133023	01/27/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-83	EPRI-0002-149	L000133021	01/27/00	NITRATE + NITRITE AS N	9.8	J3	Holding time exceeded
EP-83 (Dup)	EPRI-0002-226	L000133022	01/27/00	NITRATE + NITRITE AS N	9.9	J3	Holding time exceeded
EP-84	EPRI-0002-150	L000133019	01/27/00	NITRATE + NITRITE AS N	11.0	J3	Holding time exceeded
EP-85	EPRI-0002-151	L000151007	01/28/00	NITRATE + NITRITE AS N	6.4	J3	Holding time exceeded

Table 2. Summary of Flagged Data
El Paso RI, Winter 2000 Monitoring Data
 (Values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Description	Result	Flag	Reason for Flag
EP-86	EPRI-0002-152	L000133024	01/27/00	NITRATE + NITRITE AS N	8.2	J3	Holding time exceeded
EP-88	EPRI-0002-154	L000133001	01/26/00	CARBONATE AS CO3 NITRATE + NITRITE AS N	19.2 3.1	J4 J3	Field duplicate difference >± 1 ppm Holding time exceeded
EP-88 (Dup)	EPRI-0002-223	L000133002	01/26/00	CARBONATE AS CO3 NITRATE + NITRITE AS N	<1.0 3.0	UJ4 J3	Field duplicate difference >± 1 ppm Holding time exceeded
EP-89	EPRI-0002-155	L000105001	01/24/00	LEAD (PB)(TOT) SELENIUM (SE)	0.015 0.019	UJ1 UJ1	Field blank detection (0.009 ppm) Field blank detection (0.005 ppm)
EP-90	EPRI-0002-156	L000105011	01/24/00	LEAD (PB)(TOT)	0.011	UJ1	Field blank detection (0.009 ppm)
EP-93	EPRI-0002-157	L000133015	01/27/00	NITRATE + NITRITE AS N	9.5	J3	Holding time exceeded
EP-94	EPRI-0002-158	L000133013	01/27/00	NITRATE + NITRITE AS N	7.9	J3	Holding time exceeded
EP-95	EPRI-0002-159	L000133016	01/27/00	NITRATE + NITRITE AS N	9.6	J3	Holding time exceeded
EP-96	EPRI-0002-160	L000133014	01/27/00	NITRATE + NITRITE AS N	15.0	J3	Holding time exceeded
EP-97	EPRI-0002-161	L000133017	01/27/00	NITRATE + NITRITE AS N NITRATE + NITRITE AS N	0.46 0.46	UJ1 J3	Field blank detection (0.26 ppm) Holding time exceeded
EP-98	EPRI-0002-162	L000133020	01/27/00	NITRATE + NITRITE AS N	18.0	J3	Holding time exceeded
EP-100	EPRI-0002-164	L000133007	01/26/00	NITRATE + NITRITE AS N	250.0	J3	Holding time exceeded
EP-101	EPRI-0002-165	L000105023	01/25/00	IRON(FE)(TOT) LEAD (PB)(TOT)	1.6 0.018	J4 UJ1	Field duplicate RPD=59% Field blank detection (0.008 ppm)
EP-102	EPRI-0002-166	L000105024	01/25/00	NITRATE + NITRITE AS N IRON(FE)(TOT) LEAD (PB)(TOT)	5.6 0.48 0.012	J4 J4 UJ1	Field duplicate RPD=22% Field duplicate RPD=59% Field blank detection (0.008 ppm)
EP-103	EPRI-0002-167	L000105010	01/24/00	LEAD (PB)(TOT)	0.013	UJ1	Field blank detection (0.009 ppm)
EP-104	EPRI-0002-168	L000105009	01/24/00	LEAD (PB)(TOT)	0.015	UJ1	Field blank detection (0.009 ppm)
EP-105	EPRI-0002-169	L000105014	01/25/00	NITRATE + NITRITE AS N IRON(FE)(TOT)	2.7 5.7	J4 J4	Field duplicate RPD=22% Field duplicate RPD=59%
EP-106	EPRI-0002-170	L000105017	01/25/00	NITRATE + NITRITE AS N IRON(FE)(TOT) LEAD (PB)(TOT)	9.2 0.6 0.014	J4 J4 UJ1	Field duplicate RPD=22% Field duplicate RPD=59% Field blank detection (0.008 ppm)
EP-107	EPRI-0002-171	L000105008	01/24/00	LEAD (PB)(TOT)	0.009	UJ1	Field blank detection (0.009 ppm)
EP-108	EPRI-0002-172	L000151005	01/28/00	NITRATE + NITRITE AS N	6.3	J3	Holding time exceeded
EP-109	EPRI-0002-173	L000151004	01/28/00	NITRATE + NITRITE AS N	5.8	J3	Holding time exceeded
EP-110	EPRI-0002-174	L000105002	01/24/00	LEAD (PB)(TOT) SELENIUM (SE)	0.02 0.017	UJ1 UJ1	Field blank detection (0.009 ppm) Field blank detection (0.005 ppm)
EP-111	EPRI-0002-175	L000151021	01/29/00	CHLORIDE (CL) NITRATE + NITRITE AS N	509.0 0.25	J4 J3	Field duplicate RPD=21% Holding time exceeded
EP-112	EPRI-0002-176	L000151022	01/29/00	CHLORIDE (CL) NITRATE + NITRITE AS N	551.0 0.27	J4 J3	Field duplicate RPD=21% Holding time exceeded
EP-113	EPRI-0002-177	L000151023	01/29/00	CHLORIDE (CL) NITRATE + NITRITE AS N	364.0 0.28	J4 J3	Field duplicate RPD=21% Holding time exceeded

Table 2. Summary of Flagged Data
El Paso RI, Winter 2000 Monitoring Data
 (Values in ppm unless otherwise indicated.)

Site	Sample No	Lab No	Date	Description	Result	Flag	Reason for Flag
EP-115	EPRI-0002-179	L000152002	01/31/00	TOTAL SUSPENDED SOLIDS	100.0	J4	Field duplicate RPD=70%
EP-116	EPRI-0002-180	L000152003	01/31/00	NITRATE + NITRITE AS N	8.9	UJ1	Field blank detection (0.19 ppm)
EP-117	EPRI-0002-181	L000152004	01/31/00	NITRATE + NITRITE AS N	6.0	UJ1	Field blank detection (0.19 ppm)
Surface Water							
POND 6	EPRI-0002-203	L000176003	02/07/00	NITRATE + NITRITE AS N	0.54	UJ1	Field blank detection (0.53 ppm)
SEP-1	EPRI-0002-183	L000152013	01/31/00	TOTAL SUSPENDED SOLIDS	67.0	J4	Field duplicate RPD=70%
				NITRATE + NITRITE AS N	1.1	UJ1	Field blank detection (0.19 ppm)
SEP-2	EPRI-0002-184	L000197001	02/14/00	CARBONATE AS CO3	12.0	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.48	J4	Field duplicate RPD=26%
SEP-3	EPRI-0002-185	L000152014	01/31/00	TOTAL SUSPENDED SOLIDS	64.0	J4	Field duplicate RPD=70%
				NITRATE + NITRITE AS N	1.3	UJ1	Field blank detection (0.19 ppm)
SEP-4	EPRI-0002-186	L000197002	02/14/00	CARBONATE AS CO3	7.2	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.34	J4	Field duplicate RPD=26%
SEP-6	EPRI-0002-187	L000152016	01/31/00	TOTAL SUSPENDED SOLIDS	62.0	J4	Field duplicate RPD=70%
				NITRATE + NITRITE AS N	1.4	UJ1	Field blank detection (0.19 ppm)
SEP-7	EPRI-0002-188	L000152015	01/31/00	TOTAL SUSPENDED SOLIDS	67.0	J4	Field duplicate RPD=70%
				NITRATE + NITRITE AS N	1.3	UJ1	Field blank detection (0.19 ppm)
SEP-9	EPRI-0002-189	L000197003	02/14/00	CARBONATE AS CO3	<1.0	UJ4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.66	J4	Field duplicate RPD=26%
SEP-10	EPRI-0002-190	L000197004	02/14/00	CARBONATE AS CO3	14.4	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.79	J4	Field duplicate RPD=26%
SEP-11	EPRI-0002-191	L000197005	02/14/00	CARBONATE AS CO3	13.8	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.47	J4	Field duplicate RPD=26%
SEP-12	EPRI-0002-192	L000197006	02/14/00	CARBONATE AS CO3	12.0	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.66	J4	Field duplicate RPD=26%
SEP-13	EPRI-0002-193	L000197007	02/14/00	CARBONATE AS CO3	9.6	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.46	J4	Field duplicate RPD=26%
SEP-13 (Dup)	EPRI-0002-239	L000197008	02/14/00	CARBONATE AS CO3	14.4	J4	Field duplicate RPD=40%
				IRON(Fe)(TOT)	0.6	J4	Field duplicate RPD=26%
Sediment							
SEP-2-SED	EPRI-0002-205	L000196004	02/14/00	CADMIUM (CD)	15.0	J4	Lab duplicate difference >± 20 ppm
SEP-4-SED	EPRI-0002-207	L000196010	02/14/00	CADMIUM (CD)	<10.0	UJ4	Lab duplicate difference >± 20 ppm
SEP-9-SED	EPRI-0002-210	L000196005	02/14/00	CADMIUM (CD)	<10.0	UJ4	Lab duplicate difference >± 20 ppm
SEP-10-SED	EPRI-0002-211	L000196006	02/14/00	CADMIUM (CD)	<10.0	UJ4	Lab duplicate difference >± 20 ppm
SEP-11-SED	EPRI-0002-212	L000196007	02/14/00	CADMIUM (CD)	<10.0	UJ4	Lab duplicate difference >± 20 ppm
SEP-12-SED	EPRI-0002-213	L000196008	02/14/00	CADMIUM (CD)	12.0	J4	Lab duplicate difference >± 20 ppm
SEP-13-SED	EPRI-0002-214	L000196009	02/14/00	CADMIUM (CD)	12.0	J4	Lab duplicate difference >± 20 ppm
SEP-14-SED	EPRI-0002-215	L000196011	02/08/00	CADMIUM (CD)	51.0	J4	Lab duplicate difference >± 20 ppm

Statistics for EPRI Feb 2000 Water Monitoring

Table 3. Summary of Historical Comparisons
 Summary of the Comparison of the February 2000 Data to the Existing Data,
 Showing Results that are:

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 *2.5 or More Standard Deviations from the Mean
 (Marked with #.)
 (All values are in ppm.)

Note: For groundwater statistics, 'Dissolved' results were combined with 'Total';
 for surface water statistics, 'Dissolved' results were combined with 'Total Recoverable'.

SITE	n	Analyte	Feb-00				StDev	# StDevs from Mean	2.5 StDevs ^	High/ Low
			Value	Min	Max	Mean				
EM-1	11	FE	0.84	0.100	0.59	0.1764	0.1498	4.4	#	
EM-2	11	PB	0.019	0.003	0.013	0.0039	0.0030	5.0	#	H
EM-4	12	PB	0.007	0.003	0.004	0.0031	0.0003	13.6	#	
EM-5	13	AS	2.6	1.6	2.4	1.9846	0.3023	2.0	#	H
EM-5		PB	0.012	0.003	0.01	0.0051	0.0027	2.6	#	H
EM-7	10	CD	0.29	0.005	0.26	0.0453	0.0778	3.1	#	H
EM-7		CR	0.043	0.008	0.036	0.0132	0.0084	3.5	#	H
EM-7		CU	1.3	0.025	0.81	0.1362	0.2398	4.9	#	H
EM-7		FE	4	0.16	2.9	0.6260	0.8802	3.8	#	H
EM-7		PB	2	0.011	1.5	0.2378	0.4820	3.7	#	H
EM-7		ZN	1	0.039	0.8	0.1792	0.2302	3.6	#	H
EP-13	11	PB	0.025	0.003	0.01	0.0050	0.0029	7.0	#	H
EP-15	14	FE	3.6	0.1	1.2	0.2700	0.3535	9.4	#	H
EP-15		PB	0.01	0.003	0.004	0.0031	0.0003	25.9	#	H
EP-20	11	CD	0.076	0.03	0.048	0.0377	0.0066	5.8	#	
EP-20		FE	1.7	0.1	1.6	0.3100	0.4904	2.8	#	H
EP-22	6	AS	1.2	0.008	0.096	0.0382	0.0318	36.6	#	H
EP-22		CD	1.2	0.005	0.044	0.0117	0.0158	75.0	#	H
EP-22		FE	12	0.1	0.14	0.1083	0.0160	742.3	#	H
EP-22		PB	0.1	0.003	0.044	0.0150	0.0156	5.4	#	H
EP-23	12	FE	1.1	0.25	0.93	0.4958	0.2142	2.8	#	H
EP-23		PB	0.081	0.003	0.088	0.0115	0.0246	2.8	#	
EP-25	11	CU	0.14	0.025	0.06	0.0299	0.0111	9.9	#	H
EP-25		PB	0.12	0.003	0.052	0.0116	0.0163	6.7	#	H
EP-25		ZN	0.1	0.02	0.039	0.0273	0.0079	9.2	#	H
EP-26	10	AS	0.085	0.23	0.58	0.3530	0.1012	2.6	#	L
EP-26		FE	17	0.1	2.2	0.3120	0.6634	25.2	#	H

Statistics for EPRI Feb 2000 Water Monitoring

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Note: For groundwater statistics, 'Dissolved' results were combined with 'Total';
for surface water statistics, 'Dissolved' results were combined with 'Total Recoverable'.

SITE	n	Analyte	Feb-00 Value	Min	Max	Mean	StDev	# StDevs from Mean	# 2.5 StDevs	High/ Low
EP-26		PB	0.12	0.003	0.1	0.0200	0.0297	3.4	#	H
EP-29	12	CR	0.03	0.01	0.03	0.0120	0.0058	3.1	#	
EP-35	11	CR	0.028	0.01	0.015	0.0105	0.0015	11.6	#	H
EP-35		CU	0.046	0.025	0.026	0.0251	0.0003	69.3	#	H
EP-35		FE	9.8	0.1	2.8	0.4818	0.8909	10.5	#	H
EP-35		PB	0.033	0.003	0.011	0.0043	0.0029	10.0	#	H
EP-43	13	CU	0.035	0.025	0.027	0.0252	0.0006	17.8	#	H
EP-43		PB	0.023	0.003	0.015	0.0040	0.0033	5.7	#	H
EP-49	8	AS	40	207	464	318.8750	89.9626	3.1	#	L
EP-49		CD	0.28	13	43	34.3750	10.8488	3.1	#	L
EP-49		CU	0.045	0.025	5.1	0.8268	1.7730	0.4		L
EP-49		FE	49	631	2381	1567.6250	497.1450	3.1	#	L
EP-49		SE	0.056	0.1	0.25	0.1400	0.0535	1.6		L
EP-49		ZN	59	420	1900	1045.3750	481.7127	2.0		L
EP-5	10	CU	0.055	0.025	0.055	0.0282	0.0090	3.0	#	
EP-5		SE	0.15	0.005	0.15	0.0207	0.0437	3.0	#	
EP-51	16	CR	4.7	0.01	3	0.2383	0.7468	6.0	#	H
EP-51		FE	6.2	0.1	4.2	1.6519	1.1305	4.0	#	H
EP-51		PB	0.051	0.003	0.038	0.0058	0.0089	5.1	#	H
EP-52	10	CD	0.43	0.45	1.9	0.7060	0.4258	0.6		L
EP-52		SE	0.21	0.25	0.38	0.3160	0.0479	2.2		L
EP-53	10	FE	13	0.1	7	0.9500	2.1844	5.5	#	H
EP-53		PB	0.011	0.003	0.006	0.0034	0.0010	7.9	#	H
EP-54	12	FE	16	0.059	14	2.5650	4.5011	3.0	#	H
EP-56	13	FE	29	0.1	28	3.5308	8.2988	3.1	#	H
EP-58	11	SE	0.16	0.019	0.16	0.0500	0.0423	2.6	#	

Statistics for EPRI Feb 2000 Water Monitoring

Table 3. Summary of Historical Comparisons

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(All values are in ppm.)

Note: For groundwater statistics, 'Dissolved' results were combined with 'Total';
for surface water statistics, 'Dissolved' results were combined with 'Total Recoverable'.

SITE	n	Analyte	Feb-00				StDev	# StDevs from Mean	2.5 StDevs ▲	High/ Low
			Value	Min	Max	Mean				
EP-6	12	FE	0.39	0.1	0.23	0.1125	0.0374	7.4	#	
EP-63	12	SE	0.12	0.14	0.24	0.2075	0.0339	2.6	# L	
EP-66	11	FE	0.8	0.1	0.82	0.1782	0.2159	2.9	#	
EP-66		PB	0.005	0.003	0.004	0.0032	0.0004	4.5	#	
EP-68	13	FE	4.6	0.1	0.42	0.1446	0.1096	40.7	# H	
EP-72	6	AS	0.065	0.45	0.5	0.4850	0.0187	22.4	#	
EP-72		CD	< 0.005	0.2	0.22	0.2067	0.0082	24.7	# L	
EP-72		SE	1.8	0.36	0.51	0.4150	0.0532	26.0	# H	
EP-72		ZN	0.053	0.45	0.54	0.5000	0.0410	10.9	# L	
EP-73	12	FE	0.28	0.1	0.12	0.1017	0.0058	30.9	# H	
EP-75	10	FE	1.5	0.1	1.2	0.2600	0.3444	3.6	# H	
EP-75		PB	0.023	0.003	0.01	0.0043	0.0024	7.8	# H	
EP-78	13	FE	0.62	0.1	0.26	0.1123	0.0444	11.4	#	
EP-78		PB	0.009	0.003	0.007	0.0033	0.0011	5.1	#	
EP-78		ZN	0.036	0.02	0.033	0.0242	0.0047	2.5	#	
EP-79		FE	0.9	0.1	0.8	0.1583	0.2021	3.7	#	
EP-79		PB	0.006	0.003	0.004	0.0031	0.0003	10.1	#	
EP-81	11	AS	0.64	0.089	0.4	0.2517	0.0851	4.6	#	
EP-81		FE	2.1	0.1	0.38	0.1273	0.0840	23.5	#	
EP-81		PB	0.006	0.003	0.005	0.0032	0.0006	4.7	#	
EP-84	11	CU	0.046	0.025	0.037	0.0262	0.0036	5.5	#	
EP-84		FE	0.5	0.1	0.11	0.1009	0.0030	132.4	#	
EP-84		PB	0.087	0.006	0.027	0.0156	0.0077	9.3	#	
EP-86	13	FE	0.66	0.1	0.41	0.1338	0.0865	6.1	#	
EP-86		PB	0.006	0.003	0.004	0.0031	0.0003	10.5	#	
EP-89	14	PB	0.012	0.003	0.005	0.0033	0.0006	14.3	#	

Statistics for EPRI Feb 2000 Water Monitoring

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 (All values are in ppm.)

Note: For groundwater statistics, 'Dissolved' results were combined with 'Total';
 for surface water statistics, 'Dissolved' results were combined with 'Total Recoverable'.

SITE	n	Analyte	Feb-00 Value	Min	Max	Mean	StDev	# StDevs from Mean	2.5 StDevs ^	High/ Low
EP-90	10	FE	2	0.1	1.4	0.2420	0.4086	4.3	#	
SEP-10	23	AS	0.012	0.005	0.013	0.0061	0.0022	2.7	#	
SEP-11	23	AS	0.014	0.005	0.01	0.0062	0.0017	4.7	#	
SEP-11		PB	0.013	0.003	0.011	0.0041	0.0021	4.2	#	
SEP-4	19	AS	0.016	0.005	0.018	0.0071	0.0033	2.7	#	

APPENDIX 2

DATABASE

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	EM-1	EM-1	Groundwater		
1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-6	EP-6	Groundwater		
3	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
4	EP-14	EP-14	Groundwater		
5	EP-15	EP-15	Groundwater		
5	EP-20	EP-20	Groundwater		
5	EP-21	EP-21	Groundwater		
6	EP-22	EP-22	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
8	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
9	EP-51	EP-51	Groundwater		
9	EP-52	EP-52	Groundwater		
9	EP-53	EP-53	Groundwater		
10	EP-54	EP-54	Groundwater		
10	EP-55	EP-55	Groundwater		
10	EP-56	EP-56	Groundwater		
11	EP-57	EP-57	Groundwater		
11	EP-58	EP-58	Groundwater		
11	EP-59	EP-59	Groundwater		
12	EP-60	EP-60	Groundwater		
12	EP-61	EP-61	Groundwater		
12	EP-62	EP-62	Groundwater		
13	EP-63	EP-63	Groundwater		
13	EP-64	EP-64	Groundwater		
13	EP-65	EP-65	Groundwater		
14	EP-66	EP-66	Groundwater		
14	EP-67	EP-67	Groundwater		
14	EP-68	EP-68	Groundwater		
15	EP-70	EP-70	Groundwater		
15	EP-71	EP-71	Groundwater		
15	EP-72	EP-72	Groundwater		
16	EP-73	EP-73	Groundwater		
16	EP-75	EP-75	Groundwater		
16	EP-76	EP-76	Groundwater		
17	EP-77	EP-77	Groundwater		
17	EP-78	EP-78	Groundwater		
17	EP-79	EP-79	Groundwater		
18	EP-80	EP-80	Groundwater		
18	EP-81	EP-81	Groundwater		
18	EP-82	EP-82	Groundwater		
19	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
20	EP-86	EP-86	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
21	EP-90	EP-90	Groundwater		
21	EP-93	EP-93	Groundwater		
21	EP-94	EP-94	Groundwater		
22	EP-95	EP-95	Groundwater		
22	EP-96	EP-96	Groundwater		
22	EP-97	EP-97	Groundwater		
23	EP-98	EP-98	Groundwater		
23	EP-100	EP-100	Groundwater		
23	EP-101	EP-101	Groundwater		
24	EP-102	EP-102	Groundwater		
24	EP-103	EP-103	Groundwater		

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25	EP-106	EP-106	Groundwater		
25	EP-107	EP-107	Groundwater		
26	EP-108	EP-108	Groundwater		
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26	EP-110	EP-110	Groundwater		
27	EP-111	EP-111	Groundwater		
27	EP-112	EP-112	Groundwater		
27	EP-113	EP-113	Groundwater		
28	EP-114	EP-114	Groundwater		
28	EP-115	EP-115	Groundwater		
28	EP-116	EP-116	Groundwater		
29	EP-117	EP-117	Groundwater		
29	EP-118	EP-118	Groundwater		
30	DI	DI BLANK	Quality Control		
36	POND 1-SED	POND 1 SOIL SEDIMENT	SEDIMENT/SOIL		
36	POND 5-SED	POND 5 SOIL SEDIMENT	SEDIMENT/SOIL		
36	POND 6-SED	POND 6 SOIL SEDIMENT	SEDIMENT/SOIL		
37	SEP-2-SED	SEP-2 SOIL SEDIMENT	SEDIMENT/SOIL		
37	SEP-4-SED	SEP-4 SOIL SEDIMENT	SEDIMENT/SOIL		
37	SEP-9-SED	SEP-9 SOIL SEDIMENT	SEDIMENT/SOIL		
38	SEP-10-SED	SEP-10 SOIL SEDIMENT	SEDIMENT/SOIL		
38	SEP-11-SED	SEP-11 SOIL SEDIMENT	SEDIMENT/SOIL		
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39	SEP-13-SED	SEP-13 SOIL SEDIMENT	SEDIMENT/SOIL		
39	SEP-14-SED	SEP-14 SOIL SEDIMENT	SEDIMENT/SOIL		
32	POND 6	POND 6	Surface Water		
32	SEP-1	SEP-1	Surface Water		
32	SEP-2	SEP-2	Surface Water		
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33	SEP-4	SEP-4	Surface Water		
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35	SEP-11	SEP-11	Surface Water		
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35	SEP-13	SEP-13	Surface Water		

-- SAMPLE TYPE: GROUNDWATER --

	EM-1	EM-2	EM-4
SITE CODE	EM-1	EM-2	EM-4
SAMPLE DATE	01/31/2000	01/25/2000	01/25/2000
SAMPLE TIME	11:10	10:40	10:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000152006	L000105019	L000105018
SAMPLE NUMBER	EPRI-0002-195	EPRI-0002-196	EPRI-0002-197
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	67.34	64.66	62.7
OXYGEN (O) (FLD) DIS	1.02	3.3	1.5
PH (FLD)	7.26	7.05	7.28
PH	7.8	7.7	7.8
SC (UMHOS/CM AT 25 C)	5580.0	5330.0	9240.0
SC (UMHOS/CM AT 25 C) (FLD)	5310.0	5160.0	9300.0
TDS (MEASURED AT 180 C)	4038.0	4038.0	5473.0
TOTAL SUSPENDED SOLIDS	14.0 J4	64.0	6.0
TURBIDITY (NTU)	13.0	28.0	0.7
WATER TEMPERATURE (C) (FLD)	21.6	22.7	22.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	223.0	236.0	299.0
MAGNESIUM (MG) DIS	126.0	86.0	141.0
SODIUM (NA) DIS	946.0	813.0	1287.0
POTASSIUM (K) DIS	29.0	16.0	26.0
BICARBONATE (HCO3)	220.0	364.0	156.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1846.0	1931.0	433.0
CHLORIDE (CL)	762.0	491.0	3020.0
FLUORIDE (F)	0.77	1.3	1.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.37 UJ1	42.0	0.2 UJ1 J4
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	<0.005	1.0	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.84	1.2 J4	<0.1 UJ4
LEAD (PB) TOT	0.003	0.019 UJ1	0.007 UJ1
SELENIUM (SE) TOT	0.007	0.12	<0.005
ZINC (ZN) TOT	<0.02	<0.02	0.021

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EM-5	EM-6	EM-7
SITE CODE	EM-5	EM-6	EM-7
SAMPLE DATE	01/25/2000	01/25/2000	01/31/2000
SAMPLE TIME	14:40	15:00	10:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105026	L000105027	L000152005
SAMPLE NUMBER	EPRI-0002-198	EPRI-0002-199	EPRI-0002-200
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	14.34	36.01	9.11
OXYGEN (O) (FLD) DIS	0.3	1.2	1.2
PH (FLD)	7.51	7.26	7.59
PH	8.0	8.0	7.8
SC (UMHOS/CM AT 25 C)	2100.0	4330.0	2260.0
SC (UMHOS/CM AT 25 C) (FLD)	2050.0	4240.0	1980.0
TDS (MEASURED AT 180 C)	1320.0	3042.0	1440.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	506.0
TURBIDITY (NTU)	0.81	1.41.23.7	>200
WATER TEMPERATURE (C) (FLD)	23.6		19.9
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	51.0	109.0	77.0
MAGNESIUM (MG) DIS	12.0	67.0	14.0
SODIUM (NA) DIS	351.0	738.0	364.0
POTASSIUM (K) DIS	21.0	13.0	18.0
BICARBONATE (HCO3)	172.0	389.0	262.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	503.0	1210.0	474.0
CHLORIDE (CL)	224.0	438.0	236.0
FLUORIDE (F)	5.3	2.0	5.2
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.11 UJ1	7.2 J4	0.37 UJ1
	J4		
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	2.6	0.024	2.1
CADMIUM (CD) TOT	0.016	<0.005	0.29
CHROMIUM (CR) TOT	<0.01	<0.01	0.043
COPPER (CU) TOT	<0.025	0.025	1.3
IRON (FE) TOT	0.53 J4	<0.1 UJ4	4.0
LEAD (PB) TOT	0.012 UJ1	0.012 UJ1	2.0
SELENIUM (SE) TOT	0.006	0.083	0.071
ZINC (ZN) TOT	0.072	0.024	1.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-4	EP-6	EP-7	EP-7
SITE CODE	EP-4	EP-6	EP-7	EP-7
SAMPLE DATE	01/29/2000	01/29/2000	01/29/2000	01/29/2000
SAMPLE TIME	09:30	10:00	10:15	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151017	L000151018	L000151019	L000151020
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-0002-100	EPRI-0002-102	EPRI-0002-103	EPRI-0002-230
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	8.27	8.26	7.45	
OXYGEN (O) (FLD) DIS	1.0	3.1	1.7	2.6
PH (FLD)	7.64	7.46	7.27	7.34
PH	8.0	7.9	7.5	7.8
SC (UMHOS/CM AT 25 C)	2310.0	7860.0	3840.0	3820.0
SC (UMHOS/CM AT 25 C) (FLD)	2290.0	7430.0	3630.0	3560.0
TDS (MEASURED AT 180 C)	1470.0	6144.0	2516.0	2446.0
TOTAL SUSPENDED SOLIDS	448.0	23.0	36.0	36.0
TURBIDITY (NTU)	119.0	6.2	8.4	5.24
WATER TEMPERATURE (C) (FLD)	15.4	15.6	17.1	17.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	127.0	408.0	123.0	124.0
MAGNESIUM (MG) DIS	33.0	133.0	40.0	40.0
SODIUM (NA) DIS	332.0	1288.0	652.0	669.0
POTASSIUM (K) DIS	15.0	22.0	7.2	7.3
BICARBONATE (HCO3)	338.0	477.0	407.0	378.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	524.0	2964.0	924.0	852.0
CHLORIDE (CL)	308.0 J4	912.0	581.0 J4	469.0 J4
FLUORIDE (F)	0.95	1.2	1.9	1.9
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.18 J3	1.2 J3	0.17 J3	0.2 J3
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.13	0.02	0.097	0.095
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	0.031	<0.025	<0.025
IRON (FE) TOT	7.5	0.39	3.5	3.0
LEAD (PB) TOT	0.057	0.016	<0.003	0.005
SELENIUM (SE) TOT	<0.005	0.042	<0.005	<0.005
ZINC (ZN) TOT	0.074	0.03	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-12	EP-12	EP-13	EP-14
SAMPLE DATE	02/08/2000	02/08/2000	01/25/2000	01/25/2000
SAMPLE TIME	13:20	13:25	12:50	11:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000176011	L000176012	L000105022	L000105020
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-0002-104	EPRI-0002-237	EPRI-0002-105	EPRI-0002-106

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	62.37		61.29	60.4
OXYGEN (O) (FLD) DIS			4.7	0.1
PH (FLD)			7.27	6.92
PH	7.5	7.6	7.8	7.5
SC (UMHOS/CM AT 25 C)	5520.0	5420.0	10170.0	5130.0
SC (UMHOS/CM AT 25 C) (FLD)			9840.0	4970.0
TDS (MEASURED AT 180 C)	3880.0	3928.0	8099.0	4011.0
TOTAL SUSPENDED SOLIDS	46.0 J4	68.0 J4	12.0	5.9
TURBIDITY (NTU)			8.3	0.71
WATER TEMPERATURE (C) (FLD)			22.3	25.1

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	221.0	191.0	256.0	303.0
MAGNESIUM (MG) DIS	94.0	86.0	47.0	78.0
SODIUM (NA) DIS	924.0	898.0	1986.0	721.0
POTASSIUM (K) DIS	11.0	9.8	67.0	50.0
BICARBONATE (HCO3)	1214.0	1263.0	372.0	321.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1433.0	1350.0	3497.0	2150.0
CHLORIDE (CL)	439.0	417.0	700.0	338.0
FLUORIDE (F)	0.9	0.87	1.5	1.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	3.2 J4	2.1 J4	96.0	23.0 J4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	2.3	2.6	34.0	1.5
CADMIUM (CD) TOT	<0.005	<0.005	0.53	<0.005
CHROMIUM (CR) TOT	<0.01	0.011	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	1.6	1.5	0.47 J4	0.18 J4
LEAD (PB) TOT	0.009	0.011	0.025 UJ1	0.01 UJ1
SELENIUM (SE) TOT	0.26	0.28	4.5	0.21
ZINC (ZN) TOT	<0.02	0.021	0.02	0.01

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-15	EP-20	EP-20	EP-21
SITE CODE	EP-15	EP-20	EP-20	EP-21
SAMPLE DATE	01/24/2000	01/31/2000	01/31/2000	02/01/2000
SAMPLE TIME	16:00	13:40	13:45	13:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105012	L000152009	L000152010	L000176001
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-0002-107	EPRI-0002-108	EPRI-0002-232	EPRI-0002-109
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	56.74	15.16		25.28
OXYGEN (O) (PLD) DIS	1.6	2.1	1.1	0.7
PH (PLD)	7.14	6.86	6.8	7.54
PH	7.8	7.5	7.5	8.1
SC (UMHOS/CM AT 25 C)	4560.0	9530.0	9500.0	4880.0
SC (UMHOS/CM AT 25 C) (FLD)	4470.0	9120.0	9050.0	1101.0 R
TDS (MEASURED AT 180 C)	2916.0	8062.0	7844.0	2942.0 J3
TOTAL SUSPENDED SOLIDS	176.0	104.0 J4	50.0 J4	3499.0 J3
TURBIDITY (NTU)	113.6	38.0		>200
WATER TEMPERATURE (C) (FLD)	23.3	20.1	21.0	22.2
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	223.0	456.0	481.0	25.0
MAGNESIUM (MG) DIS	76.0	255.0	268.0	36.0
SODIUM (NA) DIS	766.0	1747.0	1769.0	714.0
POTASSIUM (K) DIS	13.0	48.0	48.0	322.0
BICARBONATE (HCO3)	366.0	355.0	343.0	2135.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1509.0	4280.0	4288.0	104.0
CHLORIDE (CL)	387.0	660.0	689.0	638.0 J4
FLUORIDE (F)	0.71	1.9	1.8	6.6
-- NUTRIENTS --				
NITRATE + NITRITE AS N	26.0	84.0	84.0	1.2 J3
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.009	0.97	0.9	0.064 J4
CADMIUM (CD) TOT	<0.005	0.076	0.066	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	3.6	1.7	1.9	1.8 J4
LEAD (PB) TOT	0.01 UJ1	0.004	0.007	0.007
SELENIUM (SE) TOT	0.14	0.28	0.29	0.071
ZINC (ZN) TOT	<0.02	0.06	0.055	0.15

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-22	EP-23	EP-24
SITE CODE	EP-22	EP-23	EP-24
SAMPLE DATE	01/26/2000	02/01/2000	02/01/2000
SAMPLE TIME	08:45	11:00	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000131003	L000152018	L000152017
SAMPLE NUMBER	EPRI-0002-110	EPRI-0002-111	EPRI-0002-112
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	52.65	21.68	31.76
OXYGEN (O) (FLD) DIS	2.8	1.0	0.3
PH (FLD)	7.19	7.49	6.93
PH	7.9	7.8	7.5
SC (UMHOS/CM AT 25 C)	7500.0	4770.0	5120.0
SC (UMHOS/CM AT 25 C) (FLD)	6930.0	951.0 R	1072.0 R
TDS (MEASURED AT 180 C)	5829.0	2595.0	2742.0
TOTAL SUSPENDED SOLIDS	438.0	20.0	26.0
TURBIDITY (NTU)	193.0		14.8
WATER TEMPERATURE (C) (FLD)	23.4	18.9	21.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	448.0	106.0	159.0
MAGNESIUM (MG) DIS	161.0	56.0	40.0
SODIUM (NA) DIS	1262.0	654.0	940.0
POTASSIUM (K) DIS	113.0	52.0	29.0
BICARBONATE (HCO3)	476.0	479.0	1301.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3940.0	1386.0	111.0
CHLORIDE (CL)	499.0	383.0 J4	1175.0 J3
FLUORIDE (F)	2.2	3.3	2.6
-- NUTRIENTS --			
NITRATE + NITRITE AS N	11.0 J3	0.19 UJ1	0.16 UJ1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	1.2	3.1 J4	0.006 J4
CADMIUM (CD) TOT	0.011	0.006	<0.005
CHROMIUM (CR) TOT	0.012	<0.01	<0.01
COPPER (CU) TOT	0.037	0.15	<0.025
IRON (FE) TOT	12.0	1.1 UJ1	0.43 UJ1
		J4	J4
LEAD (PB) TOT	0.1	0.081	0.008
SELENIUM (SE) TOT	0.11	0.012	0.006
ZINC (ZN) TOT	0.26	0.1	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-25	EP-26	EP-29
SITE CODE	EP-25	EP-26	EP-29
SAMPLE DATE	02/08/2000	01/26/2000	01/31/2000
SAMPLE TIME	15:30	15:30	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000176014	L000133011	L000152012
SAMPLE NUMBER	EPRI-0002-113	EPRI-0002-114	EPRI-0002-115
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	48.11	60.86	14.95
OXYGEN (O) (FLD) DIS		0.5	1.6
PH (FLD)		7.16	7.62
PH	7.6	7.9	8.1
SC (UMHOS/CM AT 25 C)	5200.0	4440.0	3190.0
SC (UMHOS/CM AT 25 C) (FLD)		4210.0	3040.0
TDS (MEASURED AT 180 C)	3118.0	3169.0	2063.0
TOTAL SUSPENDED SOLIDS	460.0	450.0	542.0
TURBIDITY (NTU)		>200	>200
WATER TEMPERATURE (C) (FLD)		24.7	21.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	103.0	231.0	66.0
MAGNESIUM (MG) DIS	20.0	71.0	21.0
SODIUM (NA) DIS	862.0	753.0	686.0
POTASSIUM (K) DIS	214.0	42.0	18.0
BICARBONATE (HCO3)	1586.0	322.0	292.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	198.0	1537.0	897.0
CHLORIDE (CL)	775.0	451.0	344.0
FLUORIDE (F)	2.2	1.9	3.0
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.36 UJ1 J4	4.9 J3	4.3 UJ1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	4.0	0.085	0.33
CADMIUM (CD) TOT	0.006	0.29	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	0.03
COPPER (CU) TOT	0.14	0.057	<0.025
IRON (FE) TOT	7.5	17.0	10.0
LEAD (PB) TOT	0.12	0.12	0.01
SELENIUM (SE) TOT	0.22	0.74	0.18
ZINC (ZN) TOT	0.1	0.53	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	SITE CODE	EP-35	EP-43	EP-49
	SAMPLE DATE	01/31/2000	02/08/2000	01/29/2000
	SAMPLE TIME	14:00	14:15	12:20
	LAB	TSC-SLC	TSC-SLC	TSC-SLC
	LAB NUMBER	L000152011	L000176013	L000151024
	SAMPLE NUMBER	EPRI-0002-116	EPRI-0002-117	EPRI-0002-118
-- PHYSICAL PARAMETERS --				
	DEPTH TO WATER LEVEL (FEET)	15.39	59.67	69.33
	OXYGEN (O) (FLD) DIS	1.7		0.1
	PH (FLD)	6.91		6.62
	PH	7.7	7.3	7.4
	SC (UMHOS/CM AT 25 C)	6660.0	3900.0	9960.0
	SC (UMHOS/CM AT 25 C) (FLD)	6350.0		9530.0
	TDS (MEASURED AT 180 C)	5452.0	2540.0	7543.0
	TOTAL SUSPENDED SOLIDS	522.0	230.0	13.0
	TURBIDITY (NTU)	>200		>200
	WATER TEMPERATURE (C) (FLD)	19.0		26.1
-- MAJOR CONSTITUENTS --				
	CALCIUM (CA) DIS	502.0	144.0	481.0
	MAGNESIUM (MG) DIS	160.0	46.0	138.0
	SODIUM (NA) DIS	1071.0	742.0	1752.0
	POTASSIUM (K) DIS	20.0	33.0	267.0
	BICARBONATE (HCO3)	609.0	1054.0	927.0
	CARBONATE AS CO3	<1.0	<1.0	<1.0
	SULFATE (SO4)	2414.0	449.0	4359.0
	CHLORIDE (CL)	466.0	478.0	748.0
	FLUORIDE (F)	1.0	2.5	6.8
-- NUTRIENTS --				
	NITRATE + NITRITE AS N	39.0	0.61 UJ1	6.0 J3
			J4	
-- METALS & MINOR CONSTITUENTS --				
	ARSENIC (AS) TOT	0.92	1.3	40.0
	CADMIUM (CD) TOT	<0.005	<0.005	0.28
	CHROMIUM (CR) TOT	0.028	0.054	0.017
	COPPER (CU) TOT	0.046	0.035	0.045
	IRON (FE) TOT	9.8	2.4	49.0
	LEAD (PB) TOT	0.033	0.023	0.023
	SELENIUM (SE) TOT	0.96	0.12	0.056
	ZINC (ZN) TOT	0.044	0.028	59.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-51	EP-52	EP-53
SITE CODE	EP-51	EP-52	EP-53
SAMPLE DATE	01/26/2000	01/26/2000	02/01/2000
SAMPLE TIME	10:20	13:10	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133006	L000133008	L000152021
SAMPLE NUMBER	EPRI-0002-119	EPRI-0002-120	EPRI-0002-121

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	48.56	52.13	67.83
OXYGEN (O) (FLD) DIS	6.86	0.4	2.0
PH (FLD)	6.86	6.38	6.75
PH	7.5	8.6	7.6
SC (UMHOS/CM AT 25 C)	9820.0	11940.0	7520.0
SC (UMHOS/CM AT 25 C) (FLD)	9000.0	11220.0	1594.0 R
TDS (MEASURED AT 180 C)	6849.0	9533.0	5620.0
TOTAL SUSPENDED SOLIDS	38.0	12.0	818.0
TURBIDITY (NTU)	58.6	14.8	
WATER TEMPERATURE (C) (FLD)	24.4	25.3	19.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	588.0	536.0	473.0
MAGNESIUM (MG) DIS	378.0	285.0	101.0
SODIUM (NA) DIS	1028.0	2209.0	1337.0
POTASSIUM (K) DIS	39.0	21.0	80.0
BICARBONATE (HCO3)	256.0	622.0	354.0
CARBONATE AS CO3	<1.0	64.8 J4	<1.0
SULFATE (SO4)	2147.0	3910.0	2786.0
CHLORIDE (CL)	2154.0	1429.0	403.0 J4
FLUORIDE (F)	1.2	6.3	5.3

-- NUTRIENTS --

NITRATE + NITRITE AS N	169.0 J3	114.0 J3	113.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1.2	1.5	45.0
CADMIUM (CD) TOT	0.031	0.43	1.2
CHROMIUM (CR) TOT	4.7	0.041	<0.01
COPPER (CU) TOT	0.24	0.44	0.04
IRON (FE) TOT	6.2	1.2	13.0 J4
LEAD (PB) TOT	0.051	0.51	0.011
SELENIUM (SE) TOT	0.23	0.21	1.1
ZINC (ZN) TOT	0.43	1.7	4.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	RP-54	EP-55	EP-56	EP-56
SITE CODE	RP-54	EP-55	EP-56	EP-56
SAMPLE DATE	01/26/2000	02/07/2000	02/01/2000	02/01/2000
SAMPLE TIME	09:50	10:00	08:35	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133005	L000176004	L000152019	L000152020
REMARKS				DUPLICATE
SAMPLE NUMBER	BPRI-0002-122	BPRI-0002-123	BPRI-0002-124	BPRI-0002-233
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	71.63	56.87	49.68	
OXYGEN (O) (FLD) DIS	7.9	1.3	1.0	0.7
PH (FLD)	6.51	6.38	7.03	7.1
PH	7.0	6.9	7.8	7.8
SC (UMHOS/CM AT 25 C)	7940.0	10000.0	5120.0	5080.0
SC (UMHOS/CM AT 25 C) (FLD)	9910.0	9420.0	4810.0	4850.0
TDS (MEASURED AT 180 C)	5711.0	8335.0	3627.0	3421.0
TOTAL SUSPENDED SOLIDS	31.0	234.0	849.0	855.0
TURBIDITY (NTU)	>200	>200	>200	
WATER TEMPERATURE (C) (FLD)	22.1	19.6	18.3	19.4
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	488.0	494.0	299.0	292.0
MAGNESIUM (MG) DIS	239.0	306.0	59.0	54.0
SODIUM (NA) DIS	1269.0	1342.0	993.0	994.0
POTASSIUM (K) DIS	290.0	117.0	30.0	26.0
BICARBONATE (HCO3)	871.0	805.0	345.0	354.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	3228.0	4791.0	1779.0	1602.0
CHLORIDE (CL)	625.0	780.0	455.0	639.0
FLUORIDE (F)	7.7	15.0	2.4	2.4
-- NUTRIENTS --				
NITRATE + NITRITE AS N	10.0 J3	1.3 UJ1	0.45	0.45
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	57.0	54.0	2.7 J4	2.1 J4
CADMIUM (CD) TOT	0.57	0.16	<0.005	<0.005
CHROMIUM (CR) TOT	0.016	<0.01	0.012	0.012
COPPER (CU) TOT	0.38	0.031	0.028	0.03
IRON (FE) TOT	16.0	46.0	29.0 J4	23.0 J4
LEAD (PB) TOT	0.022	0.031	0.017	0.015
SELENIUM (SE) TOT	0.12	0.15	0.05	0.051
ZINC (ZN) TOT	12.0	29.0	0.045	0.041

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-57	EP-58	EP-59
SITE CODE	EP-57	EP-58	EP-59
SAMPLE DATE	02/07/2000	02/07/2000	01/28/2000
SAMPLE TIME	13:00	14:00	13:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000176006	L000176007	L000151009
SAMPLE NUMBER	EPRI-0002-125	EPRI-0002-126	EPRI-0002-127
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	10.02	13.15	14.27
OXYGEN (O) (FLD) DIS	0.04	0.04	0.6
PH (FLD)	7.01	6.42	7.12
PH	7.7	7.2	7.9
SC (UMHOS/CM AT 25 C)	3080.0	11700.0	5160.0
SC (UMHOS/CM AT 25 C) (FLD)	2700.0	10800.0	4900.0
TDS (MEASURED AT 180 C)	2074.0	9358.0	3721.0
TOTAL SUSPENDED SOLIDS	233.0	424.0	6.7
TURBIDITY (NTU)	16.43	24.0	4.6
WATER TEMPERATURE (C) (FLD)	24.2	24.3	24.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	84.0	502.0	204.0
MAGNESIUM (MG) DIS	100.0	228.0	101.0
SODIUM (NA) DIS	385.0	1801.0	840.0
POTASSIUM (K) DIS	19.0	196.0	95.0
BICARBONATE (HCO3)	1469.0	1313.0	427.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	254.0	5590.0	1874.0
CHLORIDE (CL)	219.0	894.0	522.0
FLUORIDE (F)	0.89	5.3	4.8
-- NUTRIENTS --			
NITRATE + NITRITE AS N	1.2 UJ1	1.3 UJ1	8.6 J3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.43	3.4	2.9
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	0.032
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.79	7.6	0.44
LEAD (PB) TOT	0.004	0.016	0.003
SELENIUM (SE) TOT	0.015	0.16	0.26
ZINC (ZN) TOT	<0.02	0.031	0.039

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-60	EP-61	EP-62
SITE CODE	EP-60	EP-61	EP-62
SAMPLE DATE	01/28/2000	02/07/2000	01/28/2000
SAMPLE TIME	15:15	14:30	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151013	L000176008	L000151011
SAMPLE NUMBER	EPRI-0002-128	EPRI-0002-129	EPRI-0002-130
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	10.47	11.26	8.57
OXYGEN (O) (FLD) DIS	0.3	0.9	6.2
PH (FLD)	7.05	7.09	7.3
PH	7.9	7.7	7.1
SC (UMHOS/CM AT 25 C)	8320.0	8360.0	4460.0
SC (UMHOS/CM AT 25 C) (FLD)	7890.0	7780.0	4310.0
TDS (MEASURED AT 180 C)	6583.0	6950.0	3169.0
TOTAL SUSPENDED SOLIDS	9.8	14.0	5.6
TURBIDITY (NTU)	9.8	18.0	3.6
WATER TEMPERATURE (C) (FLD)	23.0	22.5	19.4
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	520.0	375.0	192.0
MAGNESIUM (MG) DIS	205.0	168.0	81.0
SODIUM (NA) DIS	1187.0	1423.0	786.0
POTASSIUM (K) DIS	12.0	16.0	45.0
BICARBONATE (HCO3)	318.0	427.0	483.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3101.0	3860.0	1510.0
CHLORIDE (CL)	1047.0	623.0	450.0
FLUORIDE (F)	1.6	1.7	2.9
-- NUTRIENTS --			
NITRATE + NITRITE AS N	41.0 J3	93.0	3.8 J3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.008	0.026	0.82
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	0.06	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	1.1	0.29	0.24
LEAD (PB) TOT	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	0.19	0.34	0.26
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-63	EP-64	EP-65	EP-65
SITE CODE	EP-63	EP-64	EP-65	EP-65
SAMPLE DATE	01/28/2000	01/28/2000	02/07/2000	02/07/2000
SAMPLE TIME	14:50	14:10	15:00	15:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151012	L000151010	L000176009	L000176010
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-0002-131	EPRI-0002-132	EPRI-0002-133	EPRI-0002-236
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	7.87	11.48	9.72	
OXYGEN (O) (FLD) DIS	0.3	4.6	0.4	0.2
PH (FLD)	7.22	7.84	6.99	7.0
PH	7.8	8.3	7.6	7.7
SC (UMHOS/CM AT 25 C)	7400.0	9410.0	6520.0	6500.0
SC (UMHOS/CM AT 25 C) (FLD)	7010.0	8960.0	6160.0	6190.0
TDS (MEASURED AT 180 C)	5287.0	7541.0	5148.0	5129.0
TOTAL SUSPENDED SOLIDS	3.4	15.0	16.0	16.0
TURBIDITY (NTU)	1.8	8.01	6.2	
WATER TEMPERATURE (C) (FLD)	22.2	21.6	24.5	23.7
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	215.0	390.0	284.0	283.0
MAGNESIUM (MG) DIS	128.0	125.0	126.0	128.0
SODIUM (NA) DIS	1306.0	2085.0	1135.0	1155.0
POTASSIUM (K) DIS	29.0	19.0	17.0	17.0
BICARBONATE (HCO3)	570.0	227.0	703.0	722.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2544.0	4261.0	2395.0	2338.0
CHLORIDE (CL)	901.0	780.0	541.0	491.0
FLUORIDE (F)	2.1	1.8	1.9	1.9
-- NUTRIENTS --				
NITRATE + NITRITE AS N	2.5 J3	86.0 J3	22.0	20.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.022	0.043	0.02	0.018
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	0.76	0.17	0.23
LEAD (PB) TOT	0.003	0.003	<0.003	<0.003
SELENIUM (SE) TOT	0.12	0.52	0.2	0.2
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-66	EP-67	EP-68	EP-68
SITE CODE	EP-66	EP-67	EP-68	EP-68
SAMPLE DATE	01/28/2000	01/24/2000	01/25/2000	01/25/2000
SAMPLE TIME	15:40	09:40	08:20	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L0001S1014	L000105003	L000105015	L000105016
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-0002-134	EPRI-0002-135	EPRI-0002-136	EPRI-0002-221

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	11.34	41.85	63.64	
OXYGEN (O) (FLD) DIS	6.4	1.3	5.4	5.2
PH (FLD)	7.28	6.88	7.07	7.09
PH	7.8	7.5	7.8	7.7
SC (UMHOS/CM AT 25 C)	7860.0	4380.0	5800.0	5780.0
SC (UMHOS/CM AT 25 C) (FLD)	7530.0	4280.0	5570.0	5560.0
TDS (MEASURED AT 180 C)	6449.0	3619.0	4210.0	4237.0
TOTAL SUSPENDED SOLIDS	26.0	4.8	58.0	52.0
TURBIDITY (NTU)	8.5	4.0	40.0	
WATER TEMPERATURE (C) (FLD)	19.0	24.1	22.7	22.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	553.0	368.0	285.0	314.0
MAGNESIUM (MG) DIS	129.0	112.0	121.0	130.0
SODIUM (NA) DIS	1313.0	432.0	769.0	814.0
POTASSIUM (K) DIS	42.0	12.0	16.0	17.0
BICARBONATE (HCO3)	519.0	246.0	234.0	238.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	3514.0	2036.0	2051.0	2067.0
CHLORIDE (CL)	685.0	405.0	764.0	783.0
FLUORIDE (F)	3.0	0.72	0.72	0.73

-- NUTRIENTS --

NITRATE + NITRITE AS N	36.0	J3	20.0	24.0	J4	30.0	J4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	10.0	0.009	<0.005	0.005		
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005		
CHROMIUM (CR) TOT	<0.01	<0.01	0.014	0.016		
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025		
IRON (FE) TOT	0.8	0.12	2.5	J4	4.6	J4
LEAD (PB) TOT	0.005	0.011	0.01	UJ1	0.01	UJ1
SELENIUM (SE) TOT	0.21	0.1	0.27		0.26	
ZINC (ZN) TOT	<0.02	<0.02	<0.02		<0.02	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-70	EP-70	EP-71	EP-72
SITE CODE	EP-70	EP-70	EP-71	EP-72
SAMPLE DATE	01/24/2000	01/24/2000	01/24/2000	01/24/2000
SAMPLE TIME	10:20	10:30	10:00	11:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105005	L000105006	L000105004	L000105007
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-0002-137	EPRI-0002-219	EPRI-0002-138	EPRI-0002-139
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	62.49		50.51	62.83
OXYGEN (O) (FLD) DIS	0.2	0.2	0.9	2.7
PH (FLD)	7.03	7.03	6.97	7.11
PH	7.6	7.5	7.6	7.9
SC (UMHOS/CM AT 25 C)	6110.0	6100.0	5950.0	5700.0
SC (UMHOS/CM AT 25 C) (FLD)	5950.0	5950.0	5770.0	5560.0
TDS (MEASURED AT 180 C)	4832.0	4771.0	4727.0	4539.0
TOTAL SUSPENDED SOLIDS	2.8	2.7	2.2	16.0
TURBIDITY (NTU)	2.15		3.11	31.0
WATER TEMPERATURE (C) (FLD)	23.8	23.8	23.6	25.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	260.0	262.0	302.0	250.0
MAGNESIUM (MG) DIS	134.0	135.0	142.0	148.0
SODIUM (NA) DIS	954.0	927.0	800.0	900.0
POTASSIUM (K) DIS	18.0	18.0	16.0	16.0
BICARBONATE (HCO3)	293.0	296.0	284.0	295.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	2485.0	2483.0	2438.0	2459.0
CHLORIDE (CL)	561.0	540.0	503.0	504.0
FLUORIDE (F)	1.0	1.0	0.86	1.1
-- NUTRIENTS --				
NITRATE + NITRITE AS N	38.0	40.0	72.0	34.0
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.63	0.64	0.11	0.065
CADMIUM (CD) TOT	0.007	0.008	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	<0.1	0.86
LEAD (PB) TOT	0.01 UJ1	0.009 UJ1	0.008 UJ1	0.011 UJ1
SELENIUM (SE) TOT	0.19	0.19	0.2	1.8
ZINC (ZN) TOT	0.12	0.12	<0.02	0.053

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-73	EP-75	EP-76
SITE CODE	EP-73	EP-75	EP-76
SAMPLE DATE	01/26/2000	01/26/2000	01/26/2000
SAMPLE TIME	09:20	14:20	13:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133004	L000133010	L000133009
SAMPLE NUMBER	EPRI-0002-140	EPRI-0002-142	EPRI-0002-141

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	72.33	69.4	68.95
OXYGEN (O) (FLD) DIS	0.4	1.8	0.7
PH (FLD)	7.07	7.01	7.33
PH	7.8	7.7	8.3
SC (UMHOS/CM AT 25 C)	6600.0	18110.0	5060.0
SC (UMHOS/CM AT 25 C) (FLD)	6200.0	16220.0	4860.0
TDS (MEASURED AT 180 C)	4896.0	16215.0	3613.0
TOTAL SUSPENDED SOLIDS	5.3	87.0	2.7
TURBIDITY (NTU)	8.89	33.0	1.61
WATER TEMPERATURE (C) (FLD)	27.4	24.7	22.5

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	265.0	391.0	164.0
MAGNESIUM (MG) DIS	116.0	355.0	92.0
SODIUM (NA) DIS	959.0	3938.0	837.0
POTASSIUM (K) DIS	352.0	604.0	104.0
BICARBONATE (HCO3)	300.0	641.0	475.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2622.0	9219.0	1830.0
CHLORIDE (CL)	408.0	164.0	500.0
FLUORIDE (F)	2.8	1.7	2.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	17.0	J3	175.0	J3	4.2	J3
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.019	14.0	1.3
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	0.051	<0.025
IRON (FE) TOT	0.28	1.5	<0.1
LEAD (PB) TOT	<0.003	0.023	0.011
SELENIUM (SE) TOT	0.91	3.3	0.18
ZINC (ZN) TOT	<0.02	0.084	0.052

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-77	EP-78	EP-79	EP-79
SITE CODE	EP-77	EP-78	EP-79	EP-79
SAMPLE DATE	01/25/2000	01/28/2000	01/28/2000	01/28/2000
SAMPLE TIME	14:15	08:50	08:30	08:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105025	L000151003	L000151001	L000151002
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-0002-143	EPRI-0002-144	EPRI-0002-145	EPRI-0002-227
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	42.34	32.88	47.35	
OXYGEN (O) (FLD) DIS	0.2	0.7	0.2	0.1
PH (FLD)	7.21	7.62	7.48	7.48
PH	8.2	7.6	8.0	8.0
SC (UMHOS/CM AT 25 C)	4500.0	3400.0	4700.0	4710.0
SC (UMHOS/CM AT 25 C) (FLD)	4410.0	3250.0	4520.0	4520.0
TDS (MEASURED AT 180 C)	3152.0	2144.0	3214.0	3188.0
TOTAL SUSPENDED SOLIDS	13.0	20.0	26.0	30.0
TURBIDITY (NTU)	17.6			
WATER TEMPERATURE (C) (FLD)	24.2	22.4	24.4	24.3
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	144.0	73.0	55.0	55.0
MAGNESIUM (MG) DIS	36.0	35.0	60.0	59.0
SODIUM (NA) DIS	820.0	604.0	965.0	988.0
POTASSIUM (K) DIS	27.0	54.0	7.6	7.6
BICARBONATE (HCO3)	329.0	342.0	406.0	454.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1464.0	998.0	1441.0	1369.0
CHLORIDE (CL)	449.0	301.0	389.0	393.0
FLUORIDE (F)	3.5	3.8	4.7	4.7
-- NUTRIENTS --				
NITRATE + NITRITE AS N	0.94 J4	11.0 J3	11.0 J3	11.0 J3
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	7.7	4.8	0.006	0.006
CADMIUM (CD) TOT	0.012	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	0.01	0.011
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	0.51 J4	0.52	0.8	0.9
LEAD (PB) TOT	0.012 UJ1	0.009	0.004	0.006
SELENIUM (SE) TOT	0.023	0.24	0.11	0.11
ZINC (ZN) TOT	<0.02	0.036	0.024	0.025

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-80	EP-81	EP-82
SITE CODE	EP-80	EP-81	EP-82
SAMPLE DATE	01/28/2000	01/28/2000	01/27/2000
SAMPLE TIME	13:15	10:30	14:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151008	L000151006	L000133023
SAMPLE NUMBER	EPRI-0002-146	EPRI-0002-147	EPRI-0002-148

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	11.84	19.3	15.99
OXYGEN (O) (FLD) DIS	0.8	3.5	0.3
PH (FLD)	7.22	7.09	7.12
PH	8.1	7.7	8.1
SC (UMHOS/CM AT 25 C)	5130.0	3310.0	4340.0
SC (UMHOS/CM AT 25 C) (FLD)	4870.0	2930.0	4140.0
TDS (MEASURED AT 180 C)	3845.0	2382.0	3018.0
TOTAL SUSPENDED SOLIDS	9.8	81.0	16.0
TURBIDITY (NTU)	7.17		8.2
WATER TEMPERATURE (C) (FLD)	23.8	21.9	22.2

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	218.0	178.0	136.0
MAGNESIUM (MG) DIS	86.0	83.0	76.0
SODIUM (NA) DIS	978.0	459.0	821.0
POTASSIUM (K) DIS	15.0	25.0	24.0
BICARBONATE (HCO3)	514.0	397.0	445.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1880.0	1216.0	1326.0
CHLORIDE (CL)	372.0	242.0	440.0
FLUORIDE (F)	1.4	2.7	2.6

-- NUTRIENTS --

NITRATE + NITRITE AS N	2.4 J3	6.7 J3	11.0 J3
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.016	0.64	0.006
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	0.011	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.38	2.1	0.33
LEAD (PB) TOT	0.004	0.006	0.004
SELENIUM (SE) TOT	0.024	0.26	0.12
ZINC (ZN) TOT	<0.02	0.032	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-83	EP-83	EP-84	EP-85
SITE CODE	EP-83	EP-83	EP-84	EP-85
SAMPLE DATE	01/27/2000	01/27/2000	01/27/2000	01/28/2000
SAMPLE TIME	13:50	14:00	13:00	11:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133021	L000133022	L000133019	L000151007
REMARKS		DUPLICATE		
SAMPLE NUMBER	EPRI-0002-149	EPRI-0002-226	EPRI-0002-150	EPRI-0002-151
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	27.98		7.62	16.6
OXYGEN (O) (FLD) DIS	5.8	5.7	0.8	0.2
PH (FLD)	7.47	7.46	7.12	7.31
PH	8.3	8.2	8.0	7.9
SC (UMHOS/CM AT 25 C)	3900.0	3910.0	3090.0	3000.0
SC (UMHOS/CM AT 25 C) (FLD)	3710.0	3710.0	2920.0	2870.0
TDS (MEASURED AT 180 C)	2609.0	2610.0	2196.0	1448.0
TOTAL SUSPENDED SOLIDS	16.0	18.0	62.0	1.9
TURBIDITY (NTU)	7.5		8.5	
WATER TEMPERATURE (C) (FLD)	22.1	22.2	20.3	23.5
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	75.0	75.0	216.0	96.0
MAGNESIUM (MG) DIS	65.0	65.0	101.0	47.0
SODIUM (NA) DIS	759.0	753.0	338.0	520.0
POTASSIUM (K) DIS	9.1	9.1	7.6	27.0
BICARBONATE (HCO3)	367.0	377.0	305.0	399.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	1284.0	1215.0	1013.0	948.0
CHLORIDE (CL)	396.0	385.0	367.0	219.0
FLUORIDE (F)	3.0	3.0	0.66	3.3
-- NUTRIENTS --				
NITRATE + NITRITE AS N	9.8 J3	9.9 J3	11.0 J3	6.4 J3
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.006	0.005	0.029	2.3
CADMIUM (CD) TOT	<0.005	<0.005	0.007	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	0.046	<0.025
IRON (FE) TOT	0.25	0.27	0.5	<0.1
LEAD (PB) TOT	<0.003	0.003	0.087	0.003
SELENIUM (SE) TOT	0.046	0.04	0.023	0.15
ZINC (ZN) TOT	<0.02	<0.02	0.047	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-86	EP-88	EP-88	EP-89
SITE CODE	EP-86	EP-88	EP-88	EP-89
SAMPLE DATE	01/27/2000	01/26/2000	01/26/2000	01/24/2000
SAMPLE TIME	15:10	08:10	08:15	08:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133024	L000133001	L000133002	L000105001
REMARKS			DUPLICATE	
SAMPLE NUMBER	EPRI-0002-152	EPRI-0002-154	EPRI-0002-223	EPRI-0002-155
-- PHYSICAL PARAMETERS --				
DEPTH TO WATER LEVEL (FEET)	49.92	20.13		14.7
OXYGEN (O) (FLD) DIS	7.5	2.3	1.7	3.5
PH (FLD)	7.58	7.4	7.41	7.14
PH	8.2	8.6	8.2	7.9
SC (UMHOS/CM AT 25 C)	2640.0	5220.0	5230.0	2810.0
SC (UMHOS/CM AT 25 C) (FLD)	2520.0	4970.0	5180.0	2750.0
TDS (MEASURED AT 180 C)	1626.0	3560.0	3462.0	1948.0
TOTAL SUSPENDED SOLIDS	28.0	29.0	30.0	3.2
TURBIDITY (NTU)	16.5	17.3		2.75
WATER TEMPERATURE (C) (FLD)	21.6	23.3	23.3	23.6
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	45.0	74.0	76.0	145.0
MAGNESIUM (MG) DIS	32.0	49.0	49.0	59.0
SODIUM (NA) DIS	517.0	1036.0	1096.0	165.0
POTASSIUM (K) DIS	8.4	7.8	8.0	17.0
BICARBONATE (HCO3)	355.0	522.0	567.0	268.0
CARBONATE AS CO3	<1.0	19.2 J4	<1.0 UJ4	<1.0
SULFATE (SO4)	600.0	1732.0	1645.0	824.0
CHLORIDE (CL)	304.0	493.0	460.0	300.0
FLUORIDE (F)	2.7	2.1	2.1	0.75
-- NUTRIENTS --				
NITRATE + NITRITE AS N	8.2 J3	3.1 J3	3.0 J3	9.2
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.005	0.012	0.013	0.007
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	0.66	0.69	0.75	0.12
LEAD (PB) TOT	0.006	0.004	0.004	0.015 UJ1
SELENIUM (SE) TOT	0.031	0.06	0.057	0.019 UJ1
ZINC (ZN) TOT	<0.02	0.022	0.021	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-90	EP-93	EP-94
SITE CODE	EP-90	EP-93	EP-94
SAMPLE DATE	01/24/2000	01/27/2000	01/27/2000
SAMPLE TIME	15:40	09:35	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105011	L000133015	L000133013
SAMPLE NUMBER	EPRI-0002-156	EPRI-0002-157	EPRI-0002-158
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	57.05	47.6	50.39
OXYGEN (O) (FLD) DIS	0.5	3.4	2.0
PH (FLD)	7.17	7.31	7.31
PH	7.8	8.1	8.0
SC (UMHOS/CM AT 25 C)	5340.0	5210.0	4870.0
SC (UMHOS/CM AT 25 C) (FLD)	5010.0	4890.0	4580.0
TDS (MEASURED AT 180 C)	3948.0	3560.0	3275.0
TOTAL SUSPENDED SOLIDS	236.0	1868.0	14.0
TURBIDITY (NTU)	45.2	>200	7.7
WATER TEMPERATURE (C) (FLD)	23.8	21.2	21.3
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	204.0	418.0	123.0
MAGNESIUM (MG) DIS	106.0	149.0	111.0
SODIUM (NA) DIS	756.0	1090.0	811.0
POTASSIUM (K) DIS	11.0	24.0	14.0
BICARBONATE (HCO3)	345.0	1301.0	387.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2045.0	1455.0	1448.0
CHLORIDE (CL)	494.0	670.0	668.0
FLUORIDE (F)	0.48	1.7	1.3
-- NUTRIENTS --			
NITRATE + NITRITE AS N	33.0	9.5 J3	7.9 J3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.12	0.031	0.014
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	0.14	<0.01
COPPER (CU) TOT	<0.025	0.044	<0.025
IRON (FE) TOT	2.0	61.0	0.5
LEAD (PB) TOT	0.011 UJ1	0.033	0.007
SELENIUM (SE) TOT	1.2	0.044	0.021
ZINC (ZN) TOT	<0.02	0.1	0.028

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-95	EP-96	EP-97
SAMPLE DATE	01/27/2000	01/27/2000	01/27/2000
SAMPLE TIME	10:15	08:50	10:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133016	L000133014	L000133017
SAMPLE NUMBER	EPRI-0002-159	EPRI-0002-160	EPRI-0002-161

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	22.1	58.44	4.83
OXYGEN (O) (PLD) DIS	6.0	3.8	1.0
PH (PLD)	7.66	7.21	7.36
PH	8.3	8.0	8.1
SC (UMHOS/CM AT 25 C)	3180.0	4930.0	5020.0
SC (UMHOS/CM AT 25 C) (PLD)	3200.0	4680.0	4880.0
TDS (MEASURED AT 180 C)	2187.0	3450.0	3584.0
TOTAL SUSPENDED SOLIDS	2.7	341.0	169.0
TURBIDITY (NTU)	3.2	>200	77.0
WATER TEMPERATURE (C) (PLD)	21.5	21.1	9.8

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	44.0	222.0	187.0
MAGNESIUM (MG) DIS	65.0	116.0	128.0
SODIUM (NA) DIS	625.0	934.0	851.0
POTASSIUM (K) DIS	<5.0	16.0	8.8
BICARBONATE (HCO3)	367.0	647.0	627.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	972.0	1577.0	1679.0
CHLORIDE (CL)	332.0	493.0	609.0
FLUORIDE (F)	3.7	1.0	1.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	9.6 J3	15.0 J3	0.46 UJ1 J3
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.009	0.007	0.14
CADMIUM (CD) TOT	<0.005	<0.005	0.013
CHROMIUM (CR) TOT	<0.01	0.021	<0.01
COPPER (CU) TOT	<0.025	<0.025	0.19
IRON (FE) TOT	0.13	8.6	4.7
LEAD (PB) TOT	<0.003	0.01	0.13
SELENIUM (SE) TOT	0.031	0.015	0.008
ZINC (ZN) TOT	<0.02	0.042	0.16

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (PLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-98	EP-100	EP-101
SITE CODE	EP-98	EP-100	EP-101
SAMPLE DATE	01/27/2000	01/26/2000	01/25/2000
SAMPLE TIME	13:30	10:50	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000133020	L000133007	L000105023
SAMPLE NUMBER	EPRI-0002-162	EPRI-0002-164	EPRI-0002-165

-- PHYSICAL PARAMETERS --

	EP-98	EP-100	EP-101
DEPTH TO WATER LEVEL (FEET)	11.97	40.36	65.27
OXYGEN (O) (FLD) DIS	2.6	1.0	2.1
PH (FLD)	7.72	6.75	7.26
PH	8.1	7.5	7.8
SC (UMHOS/CM AT 25 C)	7370.0	9870.0	8680.0
SC (UMHOS/CM AT 25 C) (FLD)	6960.0	9230.0	8860.0
TDS (MEASURED AT 180 C)	5153.0	7385.0	6462.0
TOTAL SUSPENDED SOLIDS	162.0	204.0	21.0
TURBIDITY (NTU)	150.0	155.0	65.7
WATER TEMPERATURE (C) (FLD)	22.0	24.5	22.3

-- MAJOR CONSTITUENTS --

	EP-98	EP-100	EP-101
CALCIUM (CA) DIS	112.0	658.0	162.0
MAGNESIUM (MG) DIS	78.0	332.0	54.0
SODIUM (NA) DIS	1715.0	1334.0	1893.0
POTASSIUM (K) DIS	116.0	41.0	49.0
BICARBONATE (HCO3)	470.0	346.0	311.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	2867.0	2545.0	3062.0
CHLORIDE (CL)	559.0	1746.0	1463.0
FLUORIDE (F)	3.4	1.2	1.5

-- NUTRIENTS --

	EP-98	EP-100	EP-101
NITRATE + NITRITE AS N	18.0 J3	250.0 J3	77.0

-- METALS & MINOR CONSTITUENTS --

	EP-98	EP-100	EP-101
ARSENIC (AS) TOT	0.027	0.02	4.5
CADMIUM (CD) TOT	<0.005	0.043	0.72
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.044	0.034	<0.025
IRON (FE) TOT	3.9	7.3	1.6 J4
LEAD (PB) TOT	0.027	0.01	0.018 UJ1
SELENIUM (SE) TOT	0.65	0.42	2.8
ZINC (ZN) TOT	0.048	0.24	0.048

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-102	EP-103	EP-104
SITE CODE	EP-102	EP-103	EP-104
SAMPLE DATE	01/25/2000	01/24/2000	01/24/2000
SAMPLE TIME	13:45	15:10	14:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105024	L000105010	L000105009
SAMPLE NUMBER	EPRI-0002-166	EPRI-0002-167	EPRI-0002-168
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	57.19	61.1	66.59
OXYGEN (O) (FLD) DIS	0.6	3.9	1.5
PH (FLD)	7.24	7.34	7.28
PH	7.9	8.3	8.1
SC (UMHOS/CM AT 25 C)	2870.0	1498.0	4640.0
SC (UMHOS/CM AT 25 C) (FLD)	2810.0	1465.0	4510.0
TDS (MEASURED AT 180 C)	1954.0	928.0	3203.0
TOTAL SUSPENDED SOLIDS	7.4	7.0	20.0
TURBIDITY (NTU)	6.4	4.56	15.0
WATER TEMPERATURE (C) (FLD)	23.8	22.8	24.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	125.0	56.0	124.0
MAGNESIUM (MG) DIS	22.0	17.0	72.0
SODIUM (NA) DIS	359.0	213.0	768.0
POTASSIUM (K) DIS	130.0	5.0	21.0
BICARBONATE (HCO3)	337.0	182.0	408.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	888.0	312.0	1463.0
CHLORIDE (CL)	216.0	154.0	498.0
FLUORIDE (F)	1.9	0.65	2.1
-- NUTRIENTS --			
NITRATE + NITRITE AS N	5.6 J4	1.1	10.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.21	0.011	0.08
CADMIUM (CD) TOT	0.075	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.48 J4	0.55	0.9
LEAD (PB) TOT	0.012 UJ1	0.013 UJ1	0.015 UJ1
SELENIUM (SE) TOT	4.8	0.16	0.093
ZINC (ZN) TOT	0.045	0.02	0.023

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-105	EP-106	EP-107
SITE CODE	EP-105	EP-106	EP-107
SAMPLE DATE	01/25/2000	01/25/2000	01/24/2000
SAMPLE TIME	09:30	09:10	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105014	L000105017	L000105008
SAMPLE NUMBER	EPRI-0002-169	EPRI-0002-170	EPRI-0002-171
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	65.36	60.38	63.66
OXÝGEN (O) (FLD) DIS	3.1	1.4	2.10
PH (FLD)	7.43	7.08	7.17
PH	8.0	7.7	7.7
SC (UMHOS/CM AT 25 C)	3780.0	4950.0	6450.0
SC (UMHOS/CM AT 25 C) (FLD)	3590.0	4860.0	6270.0
TDS (MEASURED AT 180 C)	2704.0	3837.0	4749.0
TOTAL SUSPENDED SOLIDS	246.0	17.0	2.4
TURBIDITY (NTU)	12.0	17.3	2.39
WATER TEMPERATURE (C) (FLD)	21.7	24.9	25.7
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	147.0	234.0	335.0
MAGNESIUM (MG) DIS	53.0	109.0	169.0
SODIUM (NA) DIS	610.0	777.0	757.0
POTASSIUM (K) DIS	18.0	14.0	16.0
BICARBONATE (HCO3)	268.0	298.0	183.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1293.0	1960.0	1925.0
CHLORIDE (CL)	398.0	423.0	1046.0
FLUORIDE (F)	3.1	0.88	0.92
-- NUTRIENTS --			
NITRATE + NITRITE AS N	2.7 J4	9.2 J4	88.0
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.4	0.007	0.012
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.078	<0.025	<0.025
IRON (FE) TOT	5.7 J4	0.6 J4	<0.1
LEAD (PB) TOT	0.076	0.014 UJ1	0.009 UJ1
SELENIUM (SE) TOT	0.034	0.11	0.42
ZINC (ZN) TOT	0.18	0.022	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-108	EP-109	EP-110
SITE CODE	EP-108	EP-109	EP-110
SAMPLE DATE	01/28/2000	01/28/2000	01/24/2000
SAMPLE TIME	09:50	09:15	09:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151005	L000151004	L000105002
SAMPLE NUMBER	EPRI-0002-172	EPRI-0002-173	EPRI-0002-174
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	22.13	19.32	6.48
OXYGEN (O) (FLD) DIS	1.5	3.1	3.4
PH (FLD)	7.52	7.4	7.23
PH	8.2	7.9	7.8
SC (UMHOS/CM AT 25 C)	3500.0	4000.0	2750.0
SC (UMHOS/CM AT 25 C) (FLD)	3360.0	3850.0	2700.0
TDS (MEASURED AT 180 C)	2309.0	2714.0	1921.0
TOTAL SUSPENDED SOLIDS	7.7	30.0	18.0
TURBIDITY (NTU)			25.1
WATER TEMPERATURE (C) (FLD)	23.8	22.4	22.5
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	51.0	101.0	137.0
MAGNESIUM (MG) DIS	50.0	74.0	58.0
SODIUM (NA) DIS	739.0	726.0	400.0
POTASSIUM (K) DIS	5.5	15.0	18.0
BICARBONATE (HCO3)	411.0	387.0	268.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1022.0	1297.0	782.0
CHLORIDE (CL)	361.0	432.0	286.0
FLUORIDE (F)	2.5	2.5	0.76
-- NUTRIENTS --			
NITRATE + NITRITE AS N	6.3 J3	5.8 J3	8.8
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	1.4	0.014	0.009
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	0.52	1.2	0.78
LEAD (PB) TOT	0.006	0.039	0.02 UJ1
SELENIUM (SE) TOT	0.046	0.064	0.017 UJ1
ZINC (ZN) TOT	0.034	0.026	0.048

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-111	EP-112	EP-113
SAMPLE DATE	01/29/2000	01/29/2000	01/29/2000
SAMPLE TIME	11:00	11:20	11:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000151021	L000151022	L000151023
SAMPLE NUMBER	EPRI-0002-175	EPRI-0002-176	EPRI-0002-177

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	5.99	7.4	7.23
OXYGEN (O) (FLD) DIS	0.1	0.1	0.1
PH (FLD)	7.21	7.11	7.3
PH	7.8	8.0	7.6
SC (UMHOS/CM AT 25 C)	5390.0	7520.0	4180.0
SC (UMHOS/CM AT 25 C) (FLD)	5110.0	7130.0	4050.0
TDS (MEASURED AT 180 C)	3820.0	5026.0	2930.0
TOTAL SUSPENDED SOLIDS	29.0	1.6	21.0
TURBIDITY (NTU)	4.5	3.0	8.3
WATER TEMPERATURE (C) (FLD)	21.9	20.3	21.6

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	237.0	242.0	151.0
MAGNESIUM (MG) DIS	69.0	133.0	65.0
SODIUM (NA) DIS	908.0	1067.0	701.0
POTASSIUM (K) DIS	62.0	101.0	42.0
BICARBONATE (HCO3)	373.0	671.0	375.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	1932.0	2846.0	1399.0
CHLORIDE (CL)	509.0 J4	551.0 J4	364.0 J4
FLUORIDE (F)	2.4	1.4	2.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.25 J3	0.27 J3	0.28 J3
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	0.91	0.013	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	2.0	0.48	1.3
LEAD (PB) TOT	<0.003	<0.003	0.003
SELENIUM (SE) TOT	<0.005	0.007	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

	EP-114	EP-115	EP-116
SITE CODE	EP-114	EP-115	EP-116
SAMPLE DATE	01/31/2000	01/31/2000	01/31/2000
SAMPLE TIME	09:00		10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000152001	L000152002	L000152003
SAMPLE NUMBER	EPRI-0002-178	EPRI-0002-179	EPRI-0002-180
-- PHYSICAL PARAMETERS --			
DEPTH TO WATER LEVEL (FEET)	13.97	12.26	12.28
OXYGEN (O) (FLD) DIS	0.3	1.8	2.1
PH (FLD)	6.35	6.81	6.92
PH	6.6	7.7	7.6
SC (UMHOS/CM AT 25 C)	8480.0	11440.0	6480.0
SC (UMHOS/CM AT 25 C) (FLD)	9070.0	10470.0	6020.0
TDS (MEASURED AT 180 C)	7317.0	9032.0	4700.0
TOTAL SUSPENDED SOLIDS	8392.0	100.0 J4	1993.0
TURBIDITY (NTU)	>200	26.0	>200
WATER TEMPERATURE (C) (FLD)	20.2	17.8	24.2
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	960.0	560.0	531.0
MAGNESIUM (MG) DIS	355.0	276.0	118.0
SODIUM (NA) DIS	1244.0	1824.0	1052.0
POTASSIUM (K) DIS	269.0	102.0	80.0
BICARBONATE (HCO3)	1708.0	763.0	1000.0
CARBONATE AS CO3	<1.0	<1.0	<1.0
SULFATE (SO4)	3440.0	4112.0	2202.0
CHLORIDE (CL)	930.0	1502.0	489.0
FLUORIDE (F)	12.0	3.3	5.6
-- NUTRIENTS --			
NITRATE + NITRITE AS N	18.0	35.0	8.9 UJ1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	214.0	0.26	4.9
CADMIUM (CD) TOT	2.7	0.19	1.5
CHROMIUM (CR) TOT	0.16	<0.01	0.044
COPPER (CU) TOT	11.0	0.14	6.9
IRON (FE) TOT	361.0	0.87	90.0
LEAD (PB) TOT	6.6	0.02	4.1
SELENIUM (SE) TOT	0.12	0.42	0.42
ZINC (ZN) TOT	75.0	0.34	4.4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
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 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: GROUNDWATER --

SITE CODE	EP-117	EP-118
SAMPLE DATE	01/31/2000	01/31/2000
SAMPLE TIME	10:15	
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L000152004	L000152008
SAMPLE NUMBER	EPRI-0002-181	EPRI-0002-182

-- PHYSICAL PARAMETERS --

DEPTH TO WATER LEVEL (FEET)	14.82	11.42
OXYGEN (O) (FLD) DIS	1.3	1.6
PH (FLD)	7.35	7.74
PH	7.5	8.0
SC (UMHOS/CM AT 25 C)	2640.0	3080.0
SC (UMHOS/CM AT 25 C) (FLD)	2590.0	2950.0
TDS (MEASURED AT 180 C)	1914.0	2146.0
TOTAL SUSPENDED SOLIDS	11156.0	14581.0
TURBIDITY (NTU)	>200	>200
WATER TEMPERATURE (C) (FLD)	21.6	22.9

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	780.0	556.0
MAGNESIUM (MG) DIS	122.0	325.0
SODIUM (NA) DIS	371.0	659.0
POTASSIUM (K) DIS	120.0	122.0
BICARBONATE (HCO3)	1903.0	1293.0
CARBONATE AS CO3	<1.0	<1.0
SULFATE (SO4)	843.0	899.0
CHLORIDE (CL)	245.0	376.0
FLUORIDE (F)	6.0	1.9

-- NUTRIENTS --

NITRATE + NITRITE AS N	6.0 UJ1	13.0
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	11.0	0.43
CADMIUM (CD) TOT	2.7	0.071
CHROMIUM (CR) TOT	0.16	0.27
COPPER (CU) TOT	2.1	1.2
IRON (FE) TOT	228.0	868.0
LEAD (PB) TOT	10.0	2.5
SELENIUM (SE) TOT	1.1	0.28
ZINC (ZN) TOT	3.4	1.7

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI	DI	DI
SAMPLE DATE	01/24/2000	01/25/2000	01/26/2000	01/27/2000	01/28/2000	01/29/2000
SAMPLE TIME	10:45	12:30	16:00	12:30	16:30	08:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000105013	L000105021	L000133012	L000133018	L000151015	L000151016
REMARKS	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-0002-220	EPRI-0002-222	EPRI-0002-224	EPRI-0002-225	EPRI-0002-228	EPRI-0002-229

-- PHYSICAL PARAMETERS --

PH	5.9	5.2	5.6	6.2	6.0	5.9
SC (UMHOS/CM AT 25 C)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	3.4	<1.0	1.22	2.9	<1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

-- NUTRIENTS --

NITRATE + NITRITE AS N	<0.1	0.11 J4	0.1 J3	0.26 J3	<0.1 UJ3	<0.1 UJ3
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD (PB) TOT	0.009	0.008	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: QUALITY CONTROL --

SITE CODE	DI	DI	DI	DI
SAMPLE DATE	01/31/2000	02/01/2000	02/07/2000	02/08/2000
SAMPLE TIME	11:20	16:00	11:00	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000152007	L000176002	L000176005	L000176015
REMARKS	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	EPRI-0002-231	EPRI-0002-234	EPRI-0002-235	EPRI-0002-238

-- PHYSICAL PARAMETERS --

	PH	5.3	5.0	5.8	5.9
SC (UMHOS/CM AT 25 C)	<5.0	<5.0	<10.0	<10.0	<10.0
TDS (MEASURED AT 180 C)	<10.0	<10.0	UJ3	<10.0	<10.0
TOTAL SUSPENDED SOLIDS	<1.0	<1.0	UJ3	<1.0	<1.0

-- MAJOR CONSTITUENTS --

CALCIUM (CA) DIS	<1.0	<1.0	<1.0	<1.0
MAGNESIUM (MG) DIS	<1.0	<1.0	<1.0	<1.0
SODIUM (NA) DIS	<5.0	<5.0	<5.0	<5.0
POTASSIUM (K) DIS	<5.0	<5.0	<5.0	<5.0
BICARBONATE (HCO3)	<1.0	<1.0	<1.0	<1.0
CARBONATE AS CO3	<1.0	<1.0	<1.0	<1.0
SULFATE (SO4)	<2.0	1.3	<1.0	<1.0
CHLORIDE (CL)	<1.0	<1.0	<1.0	<1.0
FLUORIDE (F)	<0.05	<0.1	<0.1	<0.1

-- NUTRIENTS --

NITRATE + NITRITE AS N	0.19	0.082	0.53	0.41	J4
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<0.005	<0.005	<0.005	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	<0.1	0.26	J4	<0.1
LEAD (PB) TOT	<0.003	<0.003	<0.003	<0.003
SELENIUM (SE) TOT	<0.005	<0.005	<0.005	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	POND 6	SEP-1	SEP-2
SITE CODE	POND 6	SEP-1	SEP-2
SAMPLE DATE	02/07/2000	01/31/2000	02/14/2000
SAMPLE TIME	09:30	15:15	09:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000176003	L000152013	L000197001
SAMPLE NUMBER	EPRI-0002-203	EPRI-0002-183	EPRI-0002-184
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	6.4	7.1	10.2
PH (FLD)	7.39	8.33	8.46
PH	7.7	8.3	8.5
SC (UMHOS/CM AT 25 C)	1420.0	1402.0	2330.0
SC (UMHOS/CM AT 25 C) (FLD)	1373.0	1350.0	2280.0
TDS (MEASURED AT 180 C)	909.0	841.0	1551.0
TOTAL SUSPENDED SOLIDS	15.0	67.0 J4	24.0
TURBIDITY (NTU)	>200	29.6	13.0
WATER TEMPERATURE (C) (FLD)	11.5	12.8	12.8
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	77.0	85.0	119.0
MAGNESIUM (MG) DIS	13.0	19.0	31.0
SODIUM (NA) DIS	205.0	191.0	315.0
POTASSIUM (K) DIS	8.5	7.3	13.0
BICARBONATE (HCO3)	96.0	244.0	275.0
CARBONATE AS CO3	<1.0	<1.0	12.0 J4
SULFATE (SO4)	226.0	232.0	593.0
CHLORIDE (CL)	177.0	167.0	297.0
FLUORIDE (F)	1.4	0.74	0.85
-- NUTRIENTS --			
NITRATE + NITRITE AS N	0.54 UJ1	1.1 UJ1	1.3
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	0.27	<0.005	0.013
CADMIUM (CD) TOT	0.09	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	0.33	<0.025	<0.025
IRON (FE) TOT	0.64	1.1	0.48 J4
LEAD (PB) TOT	0.11	<0.003	<0.003
SELENIUM (SE) TOT	0.014	<0.005	0.005
ZINC (ZN) TOT	0.41	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-3	SEP-4	SEP-6
SITE CODE	SEP-3	SEP-4	SEP-6
SAMPLE DATE	01/31/2000	02/14/2000	01/31/2000
SAMPLE TIME	15:00	08:45	15:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000152014	L000197002	L000152016
SAMPLE NUMBER	EPRI-0002-185	EPRI-0002-186	EPRI-0002-187
-- PHYSICAL PARAMETERS --			
OXYGEN (O) (FLD) DIS	7.5	10.9	7.2
PH (FLD)	8.29	8.65	8.34
PH	8.3	8.4	8.2
SC (UMHOS/CM AT 25 C)	1400.0	2440.0	1412.0
SC (UMHOS/CM AT 25 C) (FLD)	1356.0	2360.0	1372.0
TDS (MEASURED AT 180 C)	853.0	1574.0	861.0
TOTAL SUSPENDED SOLIDS	64.0 J4	61.0	62.0 J4
TURBIDITY (NTU)	29.6	15.0	27.0
WATER TEMPERATURE (C) (FLD)	13.0	10.0	12.6
-- MAJOR CONSTITUENTS --			
CALCIUM (CA) DIS	91.0	112.0	88.0
MAGNESIUM (MG) DIS	21.0	32.0	21.0
SODIUM (NA) DIS	193.0	334.0	193.0
POTASSIUM (K) DIS	8.6	13.0	8.4
BICARBONATE (HCO3)	240.0	270.0	228.0
CARBONATE AS CO3	<1.0	7.2 J4	<1.0
SULFATE (SO4)	235.0	501.0	242.0
CHLORIDE (CL)	160.0	315.0	192.0
FLUORIDE (F)	0.71	0.88	0.7
-- NUTRIENTS --			
NITRATE + NITRITE AS N	1.3 UJ1	1.7	1.4 UJ1
-- METALS & MINOR CONSTITUENTS --			
ARSENIC (AS) TOT	<0.005	0.016	<0.005
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	1.2	0.34 J4	1.2
LEAD (PB) TOT	<0.003	<0.003	0.005
SELENIUM (SE) TOT	<0.005	0.006	<0.005
ZINC (ZN) TOT	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

SITE CODE	SEP-7	SEP-9	SEP-10
SAMPLE DATE	01/31/2000	02/14/2000	02/14/2000
SAMPLE TIME		08:15	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000152015	L000197003	L000197004
SAMPLE NUMBER	EPRI-0002-189	EPRI-0002-189	EPRI-0002-190

-- PHYSICAL PARAMETERS --

Parameter	SEP-7	SEP-9	SEP-10
OXYGEN (O) (FLD) DIS	7.7	6.1	9.1
PH (FLD)	8.36	8.03	8.37
PH	8.3	8.3	8.5
SC (UMHOS/CM AT 25 C)	1402.0	2120.0	2210.0
SC (UMHOS/CM AT 25 C) (FLD)	1366.0	2050.0	2100.0
TDS (MEASURED AT 180 C)	849.0	1341.0	1458.0
TOTAL SUSPENDED SOLIDS	67.0 J4	36.0	35.0
TURBIDITY (NTU)	25.8	15.0	13.0
WATER TEMPERATURE (C) (FLD)	12.5	11.3	14.6

-- MAJOR CONSTITUENTS --

Parameter	SEP-7	SEP-9	SEP-10
CALCIUM (CA) DIS	88.0	100.0	108.0
MAGNESIUM (MG) DIS	19.0	23.0	26.0
SODIUM (NA) DIS	190.0	285.0	294.0
POTASSIUM (K) DIS	7.6	12.0	13.0
BICARBONATE (HCO3)	239.0	246.0	255.0
CARBONATE AS CO3	<1.0	<1.0 UJ4	14.4 J4
SULFATE (SO4)	248.0	341.0	382.0
CHLORIDE (CL)	185.0	185.0	290.0
FLUORIDE (F)	0.73	0.81	0.87

-- NUTRIENTS --

Parameter	SEP-7	SEP-9	SEP-10
NITRATE + NITRITE AS N	1.3 UJ1	2.7	1.6

-- METALS & MINOR CONSTITUENTS --

Parameter	SEP-7	SEP-9	SEP-10
ARSENIC (AS) TOT	<0.005	0.008	0.012
CADMIUM (CD) TOT	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025
IRON (FE) TOT	1.0	0.66 J4	0.79 J4
LEAD (PB) TOT	0.004	<0.003	<0.003
SELENIUM (SE) TOT	<0.005	<0.005	0.005
ZINC (ZN) TOT	0.04	0.023	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SURFACE WATER --

	SEP-11	SEP-12	SEP-13	SEP-13
SITE CODE	SEP-11	SEP-12	SEP-13	SEP-13
SAMPLE DATE	02/14/2000	02/14/2000	02/14/2000	02/14/2000
SAMPLE TIME	10:00	09:30	09:05	09:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000197005	L000197006	L000197007	L000197008
REMARKS				DUPLICATE
SAMPLE NUMBER	EPRI-0002-191	EPRI-0002-192	EPRI-0002-193	EPRI-0002-239
-- PHYSICAL PARAMETERS --				
OXYGEN (O) (FLD) DIS	9.5	9.6	8.4	8.3
PH (FLD)	8.52	8.42	8.42	8.42
PH	8.6	8.5	8.5	8.5
SC (UMHOS/CM AT 25 C)	2300.0	2330.0	2330.0	2320.0
SC (UMHOS/CM AT 25 C) (FLD)	2222.0	2300.0	2290.0	2290.0
TDS (MEASURED AT 180 C)	1517.0	1525.0	1554.0	1534.0
TOTAL SUSPENDED SOLIDS	17.0	22.0	17.0	17.0
TURBIDITY (NTU)	16.0	16.0	13.2	
WATER TEMPERATURE (C) (FLD)	14.6	11.7	11.5	11.6
-- MAJOR CONSTITUENTS --				
CALCIUM (CA) DIS	112.0	113.0	117.0	113.0
MAGNESIUM (MG) DIS	29.0	30.0	31.0	31.0
SODIUM (NA) DIS	315.0	315.0	316.0	319.0
POTASSIUM (K) DIS	14.0	13.0	14.0	14.0
BICARBONATE (HCO3)	246.0	283.0	277.0	264.0
CARBONATE AS CO3	13.8 J4	12.0 J4	9.6 J4	14.4 J4
SULFATE (SO4)	344.0	598.0	575.0	484.0
CHLORIDE (CL)	310.0	299.0	291.0	291.0
FLUORIDE (F)	0.86	0.9	0.86	0.86
-- NUTRIENTS --				
NITRATE + NITRITE AS N	1.6	1.5	1.5	1.5
-- METALS & MINOR CONSTITUENTS --				
ARSENIC (AS) TOT	0.014	0.013	0.014	0.013
CADMIUM (CD) TOT	<0.005	<0.005	<0.005	<0.005
CHROMIUM (CR) TOT	<0.01	<0.01	<0.01	<0.01
COPPER (CU) TOT	<0.025	<0.025	<0.025	<0.025
IRON (FE) TOT	0.47 J4	0.66 J4	0.46 J4	0.6 J4
LEAD (PB) TOT	0.013	<0.003	0.003	<0.003
SELENIUM (SE) TOT	0.005	0.005	0.005	0.005
ZINC (ZN) TOT	0.029	<0.02	<0.02	<0.02

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	POND 1-SED	POND 5-SED	POND 6-SED
SAMPLE DATE	02/08/2000	02/08/2000	02/08/2000
SAMPLE TIME	09:30	09:50	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000196001	L000196002	L000196003
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-0002-216	EPRI-0002-217	EPRI-0002-218

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	5800.0	3300.0	1400.0
CADMIUM (CD) TOT	2700.0	1200.0	440.0
CHROMIUM (CR) TOT	<80.0	100.0	<80.0
COPPER (CU) TOT	25000.0	74000.0	22000.0
IRON (FE) TOT	35000.0	78000.0	38000.0
LEAD (PB) TOT	7300.0	36000.0	3700.0
SELENIUM (SE) TOT	200.0	220.0	73.0
ZINC (ZN) TOT	21000.0	29000.0	5800.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-2-SED	SEP-4-SED	SEP-9-SED
SAMPLE DATE	02/14/2000	02/14/2000	02/14/2000
SAMPLE TIME	09:45	08:45	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000196004	L000196010	L000196005
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-0002-205	EPRI-0002-207	EPRI-0002-210

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	15.0 J4	<10.0 UJ4	<10.0 UJ4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0
COPPER (CU) TOT	95.0	70.0	22.0
IRON (FE) TOT	15000.0	19000.0	15000.0
LEAD (PB) TOT	48.0	19.0	20.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	42.0	36.0	29.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

	SEP-10-SED	SEP-11-SED	SEP-12-SED
SITE CODE	SEP-10-SED	SEP-11-SED	SEP-12-SED
SAMPLE DATE	02/14/2000	02/14/2000	02/14/2000
SAMPLE TIME	10:15	10:00	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000196006	L000196007	L000196008
TYPE	XRF	XRF	XRF
SAMPLE NUMBER	EPRI-0002-211	EPRI-0002-212	EPRI-0002-213

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	12.0
CADMIUM (CD) TOT	<10.0 UJ4	<10.0 UJ4	12.0 J4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0
COPPER (CU) TOT	41.0	130.0	34.0
IRON (FE) TOT	11000.0	25000.0	24000.0
LEAD (PB) TOT	12.0	34.0	23.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0
ZINC (ZN) TOT	<10.0	65.0	42.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SEDIMENT/SOIL --

SITE CODE	SEP-13-SED	SEP-14-SED
SAMPLE DATE	02/14/2000	02/08/2000
SAMPLE TIME	09:05	10:15
LAB	TSC-SLC	TSC-SLC
LAB NUMBER	L000196009	L000196011
TYPE	XRF	XRF
SAMPLE NUMBER	BPRI-0002-214	BPRI-0002-215

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	1400.0
CADMIUM (CD) TOT	12.0 J4	51.0 J4
CHROMIUM (CR) TOT	<80.0	130.0
COPPER (CU) TOT	96.0	15000.0
IRON (FE) TOT	21000.0	260000.0
LEAD (PB) TOT	66.0	5100.0
SELENIUM (SE) TOT	<10.0	<10.0
ZINC (ZN) TOT	89.0	18000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
30	DI	DI BLANK	Quality Control		
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1	EM-2	EM-2	Groundwater		
1	EM-4	EM-4	Groundwater		
2	EM-5	EM-5	Groundwater		
2	EM-6	EM-6	Groundwater		
2	EM-7	EM-7	Groundwater		
3	EP-4	EP-4	Groundwater		
3	EP-6	EP-6	Groundwater		
3	EP-7	EP-7	Groundwater		
4	EP-12	EP-12	Groundwater		
4	EP-13	EP-13	Groundwater		
4	EP-14	EP-14	Groundwater		
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5	EP-20	EP-20	Groundwater		
5	EP-21	EP-21	Groundwater		
6	EP-22	EP-22	Groundwater		
6	EP-23	EP-23	Groundwater		
6	EP-24	EP-24	Groundwater		
7	EP-25	EP-25	Groundwater		
7	EP-26	EP-26	Groundwater		
7	EP-29	EP-29	Groundwater		
8	EP-35	EP-35	Groundwater		
8	EP-43	EP-43	Groundwater		
8	EP-49	EP-49	Groundwater		
9	EP-51	EP-51	Groundwater		
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9	EP-53	EP-53	Groundwater		
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13	EP-65	EP-65	Groundwater		
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16	EP-76	EP-76	Groundwater		
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17	EP-78	EP-78	Groundwater		
17	EP-79	EP-79	Groundwater		
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18	EP-82	EP-82	Groundwater		
19	EP-83	EP-83	Groundwater		
19	EP-84	EP-84	Groundwater		
19	EP-85	EP-85	Groundwater		
20	EP-86	EP-86	Groundwater		
20	EP-88	EP-88	Groundwater		
20	EP-89	EP-89	Groundwater		
21	EP-90	EP-90	Groundwater		
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28	EP-114	EP-114	Groundwater		
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29	EP-118	EP-118	Groundwater		
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36	POND 5-SED	POND 5 SOIL SEDIMENT	SEDIMENT/SOIL		
32	POND 6	POND 6	Surface Water		
36	POND 6-SED	POND 6 SOIL SEDIMENT	SEDIMENT/SOIL		
32	SEP-1	SEP-1	Surface Water		
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37	SEP-2-SED	SEP-2 SOIL SEDIMENT	SEDIMENT/SOIL		
33	SEP-3	SEP-3	Surface Water		
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33	SEP-6	SEP-6	Surface Water		
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27	EPRI-0002-177	L000151023	01/29/2000EP-113		8	L000151024	EPRI-0002-118	01/29/2000EP-49	
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28	EPRI-0002-179	L000152002	01/31/2000EP-115		28	L000152002	EPRI-0002-179	01/31/2000EP-115	
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32	EPRI-0002-183	L000152013	01/31/2000SEP-1		1	L000152006	EPRI-0002-195	01/31/2000EM-1	
32	EPRI-0002-184	L000197001	02/14/2000SEP-2		31	L000152007	EPRI-0002-231	01/31/2000DI	
33	EPRI-0002-185	L000152014	01/31/2000SEP-3		29	L000152008	EPRI-0002-182	01/31/2000EP-118	
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33	EPRI-0002-187	L000152016	01/31/2000SEP-6		5	L000152010	EPRI-0002-232	01/31/2000EP-20	
34	EPRI-0002-188	L000152015	01/31/2000SEP-7		8	L000152011	EPRI-0002-116	01/31/2000EP-35	
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35	EPRI-0002-193	L000197007	02/14/2000SEP-13		33	L000152016	EPRI-0002-187	01/31/2000SEP-6	
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38	EPRI-0002-212	L000196007	02/14/2000SEP-11-SED		11	L000176007	EPRI-0002-126	02/07/2000EP-58	
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36	EPRI-0002-217	L000196002	02/08/2000POND 5-SED		4	L000176012	EPRI-0002-237	02/08/2000EP-12	
36	EPRI-0002-218	L000196003	02/08/2000POND 6-SED		8	L000176013	EPRI-0002-117	02/08/2000EP-43	
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31	EPRI-0002-231	L000152007	01/31/2000DI		39	L000196011	EPRI-0002-215	02/08/2000SEP-14-SED	
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13	EPRI-0002-236	L000176010	02/07/2000EP-65		35	L000197005	EPRI-0002-191	02/14/2000SEP-11	
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31	EPRI-0002-238	L000176015	02/08/2000DI		35	L000197007	EPRI-0002-193	02/14/2000SEP-13	
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SECTION J-8

XRF DATA FOR JULY 1999 - FEBRUARY 2000

DATA VALIDATION REPORT
EL PASO REMEDIAL INVESTIGATION
SOILS, PHASE II
XRF DATA for JULY 1999 - FEBRUARY 2000

Prepared by
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2727 Airport Road
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April 2000



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Arsenic	Iron
Cadmium	Lead
Chromium	Selenium
Copper	Zinc

APPENDIX 3: Database

GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification (wet chemistry)
CV	Calibration Verification (XRF)
CLP	Contract Laboratory Program
CRDL	Contract Required Detection Limit
EPA	Environmental Protection Agency
FAA	Flame Atomic Absorption
HGAA	Hydride Generation Atomic Absorption
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA	Method of Standard Additions
PB	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAS	Routine Analytical Services
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SOW	Statement of Work
SPLP	Synthetic Precipitation Leaching Procedure
TDS	Total Dissolved Solids
XRF	X-ray Fluorescence

SUMMARY

This report summarizes the validation of XRF analysis results for soil samples collected from July 1999 through February 2000 for Phase II of the Asarco El Paso Copper Smelter Remedial Investigation. The data have been reviewed in accordance with the project work plan (Asarco El Paso Copper Smelter Remedial Investigation, El Paso, Texas, November 1996). Deviations from the prescribed quality control procedures and/or exceedances of quality control limits have been noted in the text, and associated data have been identified as qualified by flagging the sample results in the database with data validation codes. Data validation codes and definitions are listed in Appendix 1, Table 1. Appendix 1 also contains Table 2 (Summary of Flagged Data). Supporting data for the statistical analyses are in Appendix 2, and the validated sample database is in Appendix 3.

Samples were analyzed at Asarco Technical Services laboratory in Salt Lake City, Utah.

- Parameters of interest included arsenic, cadmium, chromium, copper, iron, lead, selenium, and zinc.
- The samples were analyzed for arsenic and lead content using the matrix-specific calibration developed for soils from the Asarco site in Murray, Utah. The other parameters were analyzed using the fundamental parameters calibration.

Precision, accuracy, and completeness information for the XRF analysis is summarized in Section 9. The accuracy of the XRF analyses was evaluated by statistical comparisons to the results obtained by the wet chemistry analysis of split samples. (These wet chemistry samples were also analyzed at Asarco's Technical Services Laboratory in Salt Lake City, Utah). The laboratory was responsible for choosing and splitting samples to be used as XRF confirmation samples. The frequency specified in the work plan (1 in 20) was met; the actual XRF confirmation sample frequency was 1 in 16. Comparisons of the XRF and the confirmation split sample results have been included in this report as Section 10. The comparisons show that in general the values obtained by XRF analysis were higher than those obtained by traditional wet chemistry methods.

A summary of quality control violations follows. It should be noted that not all quality control deficiencies are equally serious, and some may have no practical impact on the usefulness of the data.

Laboratory Quality Control Violations:

- Four XRF laboratory duplicates were out of control limits. A total of 57 associated results were flagged to indicate a possible lack of precision. Eighteen of these results were from a laboratory batch for which there were two laboratory duplicates, and both were out of control limits (for zinc).
- There were no quality control violations for the wet chemistry analyses.

Field Quality Control Violations

- The work plan requires field duplicates to be submitted at a frequency of one in twenty or at least one per day.
 - Overall, one in every ten samples was a field duplicate.
 - Samples were collected on 56 days. On 16 of these days (29 percent), no field duplicate was submitted. Out of a total of 631 non-QC samples, 100 (16 percent) were submitted on days when no field duplicate was collected.
- Out of 520 field duplicate measurements, 52 (ten percent) were out of control limits. A total of 385 results were flagged to indicate a possible lack of precision. (Three lead results were flagged for both laboratory and field duplicates; one zinc result was flagged for two field duplicates.)

Overall, 93 percent of the data may be used without qualification. Seven percent of the data (439 out of 5920 results) were flagged due to quality control exceedances, and may be used with caution, taking into account the possible lack of reproducibility indicated by the flags.

DATA VALIDATION REPORT

Prepared by: Clare Bridge
Reviewed by: Kris Downs

DATA VALIDATION REPORT

1. INTRODUCTION

- This validation applies to the analysis of arsenic, cadmium, copper, chromium, iron, lead, selenium, and zinc for 696 soil samples collected for the El Paso RI project from July 1999 through February 2000. The total number of samples included 631 regular field samples and 65 field duplicates analyzed by XRF, and 44 split samples (confirmation samples) analyzed by wet chemistry methods and used to evaluate the accuracy of the XRF analyses.
- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA National Functional Guidelines for Inorganic Data Review
 - Project Work Plan: Asarco El Paso Copper Smelter Remedial Investigation Work Plan -- El Paso, Texas (November 1996)
 - Other
- Overall level of validation:
 - Contract Laboratory Program (CLP)
 - Standard - see Notes
 - Visual
 - XRF Auto-Validation using in house Auto Val program

Notes: Both laboratory and field quality control were evaluated for frequency and measured values. Results were flagged for exceedances on field and laboratory quality control.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1995 and/or the project contract.
 - Yes
 - No
- All documentation of field procedures was provided as required.
 - Yes
 - No

3. FIELD QUALITY CONTROL SAMPLES

• Field duplicates

Field duplicates have been collected at the proper frequency.

Yes

No

Notes: The field duplicate frequency required by the project work plan is 1 in 20 or 1 per sampling day, whichever is more frequent. Overall, the total number of field duplicates was 1 in 10 (65 field duplicates submitted for 631 non-QC samples). However: the daily frequency was not met.

- On 8/6/99, the specified daily frequency of 1 in 20 was not met: 26 samples were collected, but this included only one field duplicate.
- The frequency of 1 per sampling day has not been met. As shown in the following table, for 101 samples, or 16% of the non-QC samples, no field duplicates were submitted on the day of sample collection.

Date of Sampling	Number of Samples Affected by Lack of QC
7/19/99	8
8/10/99	3
8/12/99	2
8/14/99	5
8/24/99	4
8/27/99	1
9/1/99	9
10/5/99	3
10/12/99	3
10/14/99	2
10/20/99	2
10/27/99	10
10/28/99	5
10/29/99	3
11/15/99	4
02/09/00	36
Totals	100

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 35% or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within ± 2 times the PRDL for soil matrix.

Yes

No

Notes: A total of 372 results were flagged because the associated field duplicates were out of control limits. These flags indicate possible lack of reproducibility due to the combined effects of variations in field sampling techniques, sample preparation, and laboratory analytical procedures.

Flagging: J₄/UJ₄

Field duplicate exceedances are listed in the following table:

Sample Duplicate Pair	Sample Date	Analyte	Sample Values mg/kg	Duplicate Values mg/kg	# Samples Flagged	RPD or ± Criteria
BH3-2B/ B2	08/23/99	Arsenic	<10	74	7	> ± 20 mg/kg
		Cadmium	<10	37	7	> ± 20 mg/kg
		Copper	82	310	8	116%
		Lead	52	280	7	137%
		Zinc	61	390	6	146%
BH3-5A/ A2	08/25/99	Arsenic	870	550	7	45%
		Lead	3800	2400	7	45%
BH3-5A/ A2 (Confirmation)	08/25/99	Lead	3390	2170	2	44%
BH3-7C/ C2	08/26/99	Zinc	44	10	9	> ± 20 mg/kg
BH4-1A/ A2	11/17/99	Cadmium	110	66	7	50%
BH4-4A/ A2	11/18/99	Arsenic	11000	7100	7	43%
		Cadmium	2600	1700	7	42%
		Lead	22000	15000	7	38%
		Selenium	220	120	7	59%
BH8-2D/ D2	11/01/99	Zinc	36	58	12	> ± 20 mg/kg
BH8-4M/ M2	11/02/99	Zinc	33	<10	6	> ± 20 mg/kg
BH11-2K/ K2	08/05/99	Zinc	15	47	5	> ± 20 mg/kg
BH12-4D/ D2	11/03/99	Copper	64	<20	3	> ± 40 mg/kg
		Lead	110	20	3	> ± 20 mg/kg
BH13-1E/ E2	10/21/99	Zinc	46	71	8	> ± 20 mg/kg
BH14-2I/ I2	12/16/99	Lead	21	42	11	> ± 20 mg/kg
EP-94A/ A2	07/26/99	Arsenic	760	1300	14	52%
		Zinc	3500	5200	14	39%
EP-96J/ J2	07/20/99	Lead	11	41	11	> ± 20 mg/kg
EP-98A/ A2	08/06/99	Copper	210	360	9	53%
EP-100H/ H2	09/08/99	Arsenic	91	63	10	36%
		Cadmium	24	53	7	> ± 20 mg/kg
EP-100L/ L2	09/08/99	Iron	120000	59000	3	68%
		Zinc	64	38	4	> ± 20 mg/kg
EP-102G/ G2	09/30/99	Lead	130	88	8	39%
EP-102N/ N2	09/30/99	Zinc	39	15	6*	> ± 20 mg/kg
EP-103F/ F2	10/04/99	Copper	310	71	12*	125%
		Zinc	420	200	12	71%
EP-104E/ E2	10/06/99	Lead	220	140	11	44%
		Zinc	170	100	11	52%
EP-104N/ N2	10/06/99	Copper	69	21	14	> ± 40 mg/kg
EP-106F/ F2	10/16/99	Copper	27	80	10	> ± 40 mg/kg
EP-107F/ F2	10/11/99	Zinc	55	100	10	58%
EP-109H/ H2	10/15/99	Zinc	33	10	3	> ± 20 mg/kg
EP-110F/ F2	10/18/99	Copper	91	62	5	38%
EP-116A/ A2	11/16/99	Arsenic	18000	11000	6	48%
		Cadmium	530	340	6	44%
		Copper	57000	82000	6	36%
		Lead	40000	19000	6	71%
		Selenium	2400	240		164%

Sample Duplicate Pair	Sample Date	Analyte	Sample Values mg/kg	Duplicate Values mg/kg	# Samples Flagged	RPD or ± Criteria
EP-117F/ F2	11/16/99	Arsenic	210	500	7	82%
		Cadmium	<10	66	3	> ± 20 mg/kg
		Copper	140	1100	7	155%
		Lead	110	1100	7	164%
		Zinc	62	470	3	153%
EP-118A/ A2	11/17/99	Selenium	110	65	7	51%
SSIA11-7A/ A2	07/20/99	Cadmium	250	150	6	50%

* EP-102Q was collected on 10/4/99. This sample was flagged for the duplicate collected in the same borehole (EP-102N/N2), and also for the duplicate collected on the same day (EP-103F/F2).

4. LABORATORY PROCEDURES

- Laboratory procedures followed

- CLP-SOW
- SW-846
- Standard Methods for Chemical Analysis of Water and Wastes
- XRF Standard Operating Procedures
- Other

- Holding times met

- Yes
- No

- Analyses were carried out as requested.

- Yes
- No

5. DETECTION LIMITS

The following table lists the laboratory reporting levels by analytical method.

Analyte	Reporting Level	
	XRF	Wet Chemistry (L991997, L991391, L000277)
Arsenic	10 ppm	5, 10 ppm
Cadmium	10 ppm	1, 2.5, 10 ppm
Chromium	80 ppm	5, 20 ppm
Copper	20 ppm	5, 10 ppm
Iron	50 ppm	5, 10, 20 ppm
Lead	10 ppm	5, 10 ppm
Selenium	10 ppm	5, 10 ppm
Zinc	10 ppm	10 ppm

6. XRF CALIBRATION AND CALIBRATION VERIFICATIONS

- **Calibration verifications**

The calibration verification (CV) standards were analyzed at the required frequency.

Yes

No

Notes: Calibration verification data was provided only for arsenic and lead, as these two parameters were analyzed using a matrix-specific calibration developed for soils from the Asarco site in Murray, Utah. Reference standards were not analyzed for the other parameters, which were analyzed using a fundamental parameters calibration.

The CV standard percent recovery results for arsenic and lead were within the required control limits (75-125%).

Yes

No

Notes: The CV standard was #30651-58 (arsenic=700 ppm; lead=8062 ppm).

7. XRF LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.

Yes

No

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 35% or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within ± 2 times the PRDL for soil matrix.

Yes

No

Notes: Flagging for laboratory duplicates is summarized in the following table.

Laboratory Batch	Analyte	# Samples Flagged	RPD or \pm Criteria
L991291	Zinc	10	$> \pm 20$ mg/kg
L991649	Zinc	9	$> \pm 20$ mg/kg
L991649	Zinc	9	$> \pm 20$ mg/kg
L992004	Lead	29	$> \pm 20$ mg/kg

8. XRF LABORATORY CONTROL SAMPLES

- LCSs were prepared and analyzed at the proper frequency

Yes

No

- LCS recoveries were within the required control limits (75-125% for arsenic and lead).

Yes

No

Notes: The standard used was #LCS287 (arsenic=917 ppm; lead=236 ppm). Laboratory control sample data was provided only for arsenic and lead, as these two parameters were analyzed using a matrix-specific calibration developed for soils from the Asarco site in Murray, Utah. Reference standards were not analyzed for the other parameters, which were analyzed using a fundamental parameters calibration.

9. DATA QUALITY OBJECTIVES

Accuracy

The accuracy of the data is indicated by the laboratory's ability to recover a known concentration of an analyte. For the data evaluated in this report, accuracy is to be measured by percent recovery on laboratory standards (the CVs and the LCSs). Target accuracy for the project is for these quality control samples to be within control limits. This target was met for arsenic and lead. Reference standards were not analyzed for the other parameters, which were analyzed using a fundamental parameters calibration.

Another measure of the accuracy of the XRF analyses is the comparison with the confirmation sample splits analyzed by wet chemistry. These comparisons are discussed in Section 10 of this report.

Precision

The precision of the data is indicated by the reproducibility of the results as indicated by laboratory and field duplicate samples. Target precision for the project is for these quality control samples to be within control limits. Overall, 99% (332 out of 336) of the laboratory duplicate measurements and 90% (468 out of 520) of the field duplicate measurements were within control limits.

The following table shows the percentage of duplicates that were within control limits broken down by parameter.

Analyte	# Field Duplicates Out of Control Limits	% of Field Duplicates in Control Limits (n=65)	# Lab Duplicates Out of Control Limits	% of Laboratory Duplicates in Control Limits (n=42)
Arsenic	7	89.2%	0	100%
Cadmium	7	89.2%	0	100%
Chromium	0	100%	0	100%
Copper	9	86.2%	0	100%
Iron	1	98.5%	0	100%
Lead	11	83.1%	1	97.6%
Selenium	3	95.4%	0	100%
Zinc	14	78.5%	3	92.9%

Completeness

Completeness expressed as the percent of results not rejected: 100%

Completeness expressed as the percent of results without flags: 93%

10. CONFIRMATION SAMPLES

• Introduction

Forty-four samples were selected by the laboratory as XRF confirmation splits. The purpose of these confirmation samples is to compare analytical results obtained by the XRF instrument with analytical results obtained from traditional wet chemistry soil analysis techniques. These samples were analyzed in three laboratory batches, L991391, L991997, and L000277.

• All wet chemistry laboratory quality control samples were within control limits.

• Data Comparison (XRF Data and CLP-RAS Data)

XRF results have been compared to corresponding CLP-RAS digested wet chemistry results (validated in this report) using the following statistical methods:

- Relative percent difference calculations
- Recovery rate calculations
- Linear regression analysis with 95% confidence bands (Miller, 1993)

Note that in the sample preparation, these samples were digested using the less complete CLP-RAS 3050 digestion method with nitric and hydrochloric acid rather than the more complete digestion using hydrofluoric acid. It is therefore not surprising that both recovery rate calculations and the regression analyses show that the XRF values are generally biased high with respect to those obtained by traditional wet chemistry methods.

The laboratory's reporting limits for the XRF analyses were sometimes different from the reporting limits for the wet chemistry analyses. For comparison purposes the greater of the two reporting limits for each parameter was used. The following table lists the reporting limits.

Parameter	Reporting Limits (ppm)		Reporting Limit Used in Data Comparison
	XRF	Wet Chemistry	
Arsenic	10	5, 10	10 ppm
Cadmium	10	10	10 ppm
Chromium	80	20	80 ppm
Copper	20	10	20 ppm
Iron	50	20	50 ppm
Lead	10	10	10 ppm
Selenium	10	10	10 ppm
Zinc	10	10	10 ppm

Relative Percent Difference Calculations:

First, all values less than the reporting detection limit were replaced by that reporting detection limit. (If different reporting detection limits were used for wet chemistry and XRF analyses, then the higher limit was chosen for the comparison calculations.) Relative percent difference (RPD) values were calculated for samples with concentrations greater than 5 times the reporting detection limit. A control limit of 35% RPD was used for the comparison. If either the XRF or wet chemistry result was less than 5 times the reporting detection limit, the RPD criteria were not used. In these cases, the difference between the

XRF and wet chemistry result should be within ± 2 times the PRDL for soil matrix. These criteria are typically used for the comparison of laboratory duplicates. The duplicate criteria were used here to evaluate the agreement of the XRF confirmation sample data pairs relative to generally accepted control limits; however, no data were qualified as a result of the comparison. The results of the RPD calculations (Appendix 2) are summarized in the following table. (There were 44 data pairs for each comparison.)

Parameter	# of Data Pairs in Comparison Limits	% of RPDs within Comparison Limits
Arsenic	35	80%
Cadmium	37	84%
Chromium	41	93%
Copper	22	50%
Iron	25	57%
Lead	36	82%
Selenium	44	100%
Zinc	43	98%

Recovery Rate Calculations:

Recovery rate calculations (XRF result/CLP-RAS result) were used to evaluate the overall accuracy of the XRF analyses compared to the wet chemistry analyses. A range of 75 to 125 % recovery was used as the range of interest since those are the control limits used to evaluate recovery on laboratory standards for XRF analyses. Again, there were a total number of 44 data pairs for each comparison. Recovery rates were then used to determine whether one analytical method consistently gave higher or lower results than the other. This was done by comparing the number of recoveries greater than 100 percent (XRF result higher than wet chemistry result) to the number of recoveries less than 100 percent (XRF result less than wet chemistry result).

Analyte	# of Data Pairs in Comparison Limits	% of Recoveries in Range from 75 to 125%
Arsenic	28	64%
Cadmium	24	55%
Chromium	36	82%
Copper	10	23%
Iron	8	18%
Lead	27	61%
Selenium	27	61%
Zinc	36	82%

Recovery Range	As	Cd	Cr	Cu	Fe	Pb	Se	Zn
over 100%	66%	77%	30%	98%	95%	75%	41%	59%
equal to 100%	5%	16%	70%	----	----	2%	50%	9%
less than 100%	30%	7%	----	2%	5%	23%	9%	32%

Regression analysis:

Regression analysis includes calculation of the R-value, slope and y-intercept for the linear regression of XRF results on EPA wet chemistry results for each analyte. Linear regression is the preferred method over the paired t-test because linear regression accommodates a wide range of concentrations, whereas the paired t-test rests on the assumption that both random and systematic errors are independent of concentration. (Miller, 1992)

The *R-value* shows the strength of the association between variables.

The *slope of the regression line* should be near 1 for methods giving similar results, and may show if a systematic error in calibration plots has occurred during analysis.

The *Y-intercept* should be near 0 for methods giving similar results, and may show if a systematic error has been introduced by background interference, whether it be absorption or fluorescence factors.

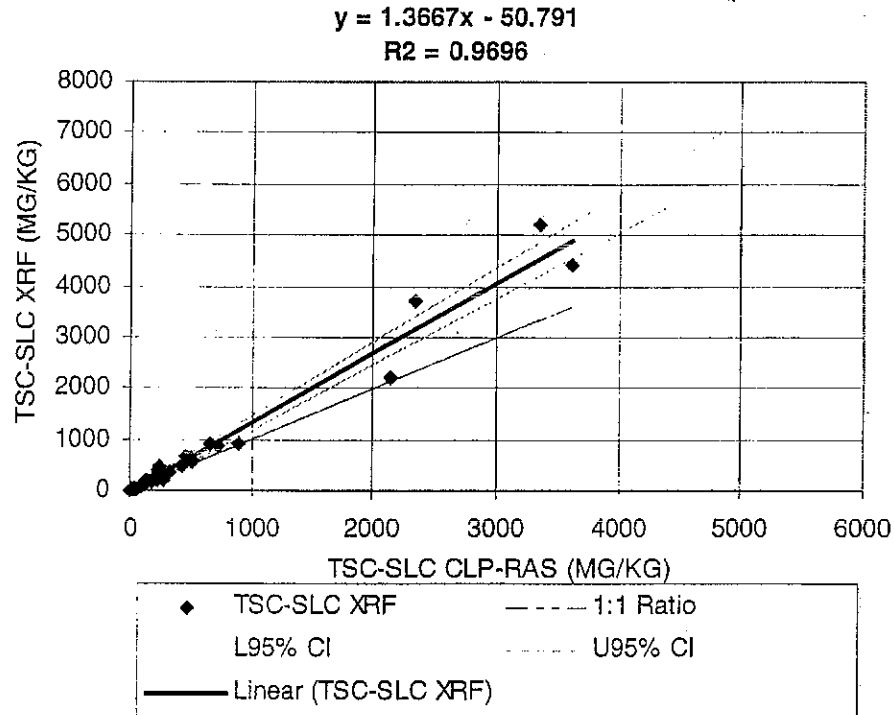
The regression analysis was carried out with an automated in-house soft-ware program

Regression results for each parameter are summarized on the following pages. Full-size graphs and supporting data for each parameter are in Appendix 2.

Arsenic Regression Results: R = 0.985

Slope		y - Intercept	
Upper 95%:	1.442	Upper 95%:	-19.93
Value:	1.367	Value:	-50.79
Lower 95%:	1.291	Lower 95%:	-121.51

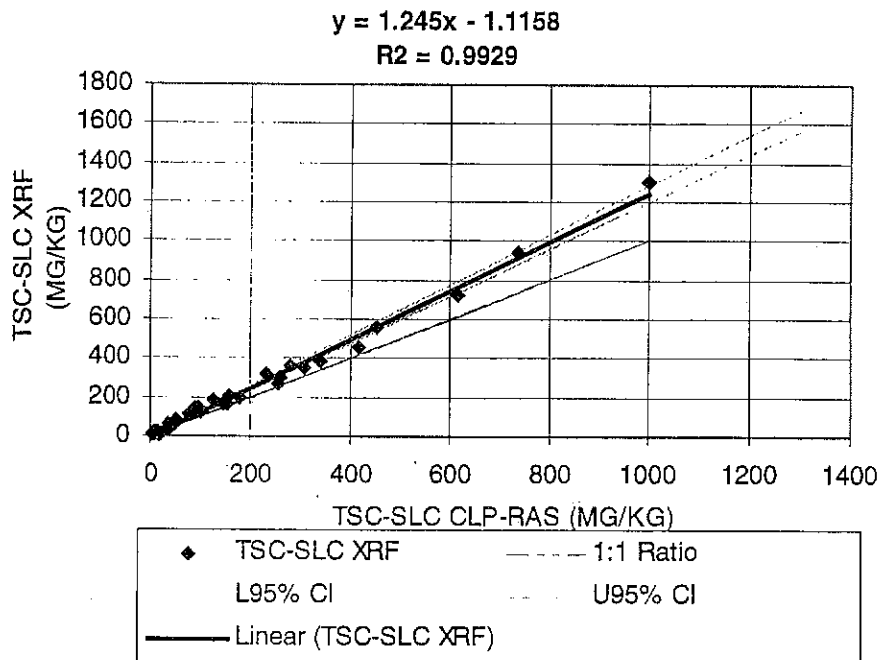
The R value shows a strong correlation between results obtained by the two analytical methods. Also, the 95% confidence bands are narrow, indicating good precision between the two analysis methods. Inspection of the slope, the y-intercept value, and the scatter plot (Appendix 2) indicates that XRF values are biased high with respect to CLP-RAS results. The 95% confidence bands are narrow, indicating a high correlation between the two analysis methods. However, the slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Cadmium Regression Results: R = 0.996

Slope		y - Intercept	
Upper 95%:	1.278	Upper 95%:	7.402
Value:	1.245	Value:	-1.116
Lower 95%:	1.212	Lower 95%:	-9.634

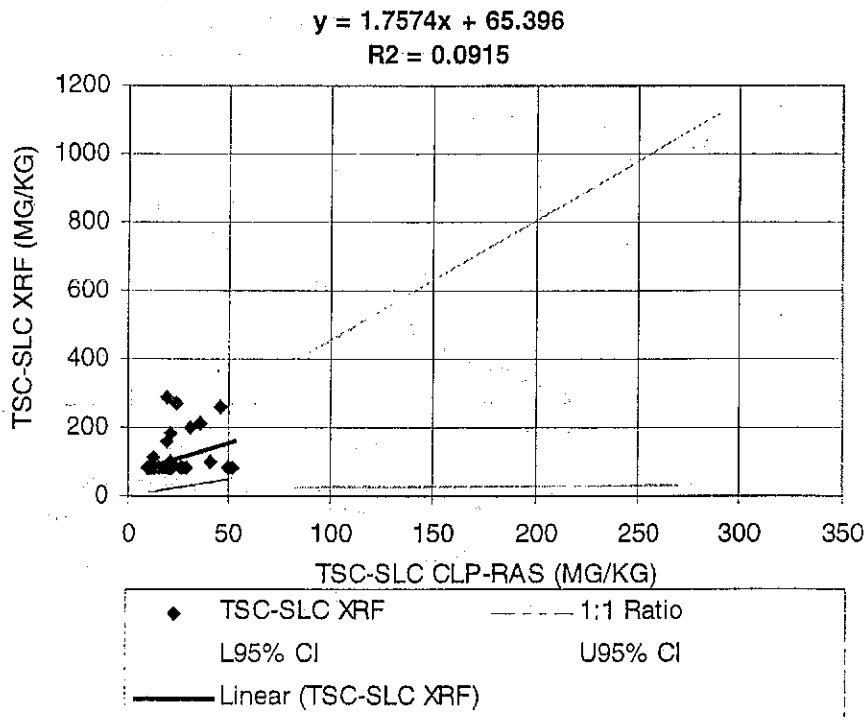
The R value shows a strong correlation between results obtained by the two analytical methods. Inspection of the slope, the y-intercept value, and the scatter plot (Appendix 2) indicates that XRF values are biased high with respect to CLP-RAS results. The 95% confidence bands are narrow, indicating a high correlation between the two analysis methods. However, the slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Chromium Regression Results: R = 0.302

Slope		y - Intercept	
Upper 95%:	3.482	Upper 95%:	107.3
Value:	1.757	Value:	65.4
Lower 95%:	0.033	Lower 95%:	23.5

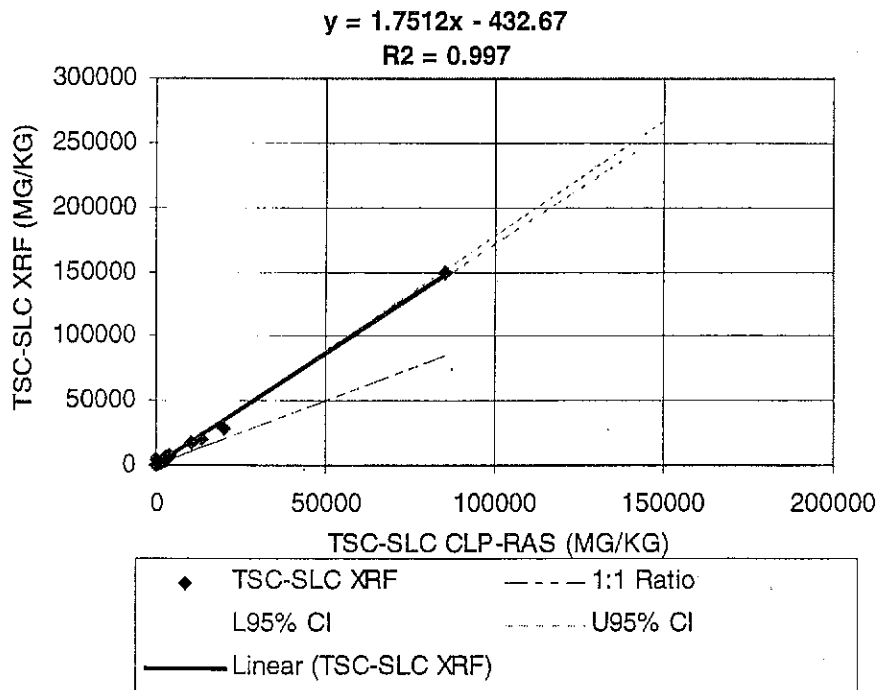
The R value shows no correlation between results obtained by the two analytical methods. Inspection of the Regression Analysis Data Sheet (Appendix 2) shows that for 75 percent (33 out of 44) of the samples, the XRF results were reported to be below the detection limit of 80 ppm, while the wet chemistry CLP-RAS results were reported down to 20 ppm, so these 33 samples were reported as below the detection limit. For the eleven samples reported as detected by XRF analysis, the XRF results were biased extremely high with respect to the CLP-RAS results. Inspection of the scatter plot (Appendix 2) as well as the 95% confidence bands for the slope and the y-intercept shows that the linear regression was essentially meaningless for chromium.



Copper Regression Results: R= 0.998

Slope		y - Intercept	
Upper 95%:	1.781	Upper 95%:	-27.31
Value:	1.751	Value:	-432.67
Lower 95%:	1.721	Lower 95%:	-838.03

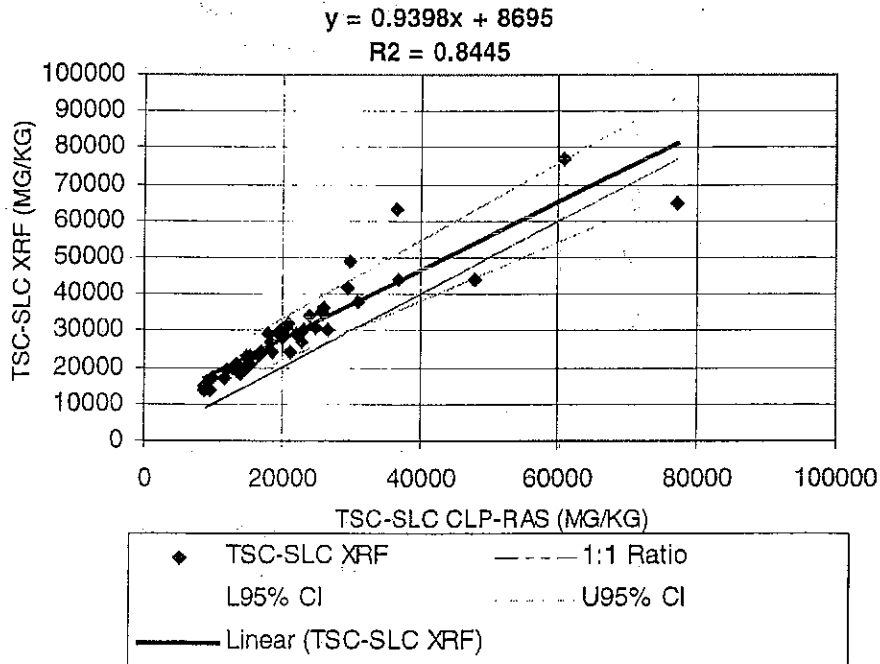
The R value shows a strong correlation between results obtained by the two analytical methods. However, the 95% confidence bands for the slope and y-intercept do not contain the ideal value of 1. Inspection of the slope, the y-intercept value, and the scatter plot (Appendix 2) indicate that XRF values are biased high with respect to CLP-RAS results. The 95% confidence bands are narrow, indicating a high correlation between the two analysis methods. However, the slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Iron Regression Results: R = 0.919

Slope		y - Intercept	
Upper 95%:	1.065	Upper 95%:	11927
Value:	0.940	Value:	8695
Lower 95%:	0.814	Lower 95%:	5463

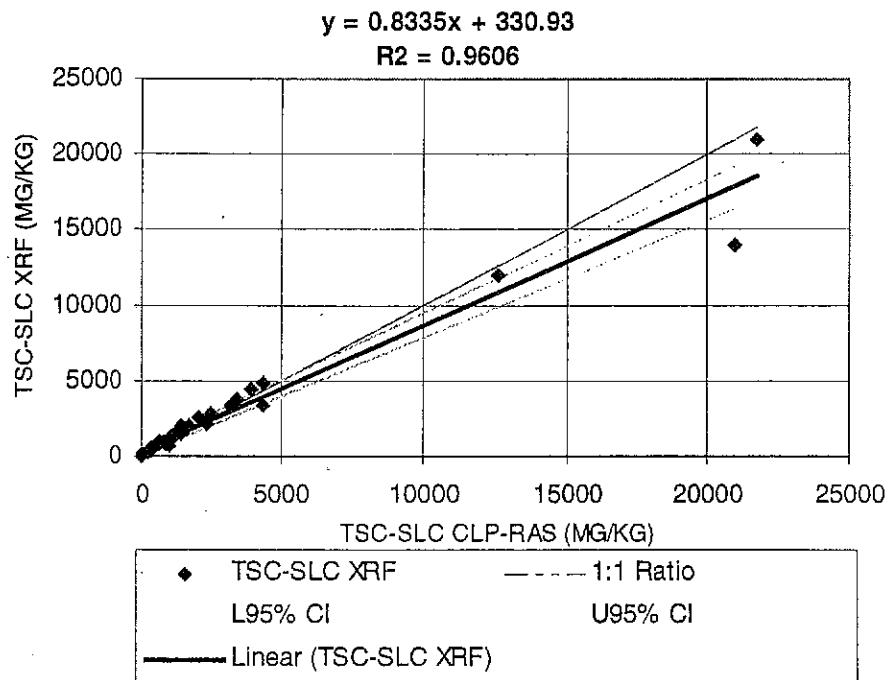
The R value shows a fair correlation between results obtained by the two analytical methods, and the 95% confidence bands for the slope and y-intercept do not contain the ideal value of 1; these bands, however, are comparatively wide, and indicate only a fair precision between the analysis methods. Inspection of the slope, the y-intercept value, and the scatter plot (Appendix 2) indicates that XRF values are biased high with respect to CLP-RAS results, especially at concentrations less than 40,000 ppm. The slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Lead Regression Results: R = 0.980

Slope		y - Intercept	
Upper 95%:	0.886	Upper 95%:	605.7
Value:	0.834	Value:	330.9
Lower 95%:	0.781	Lower 95%:	56.1

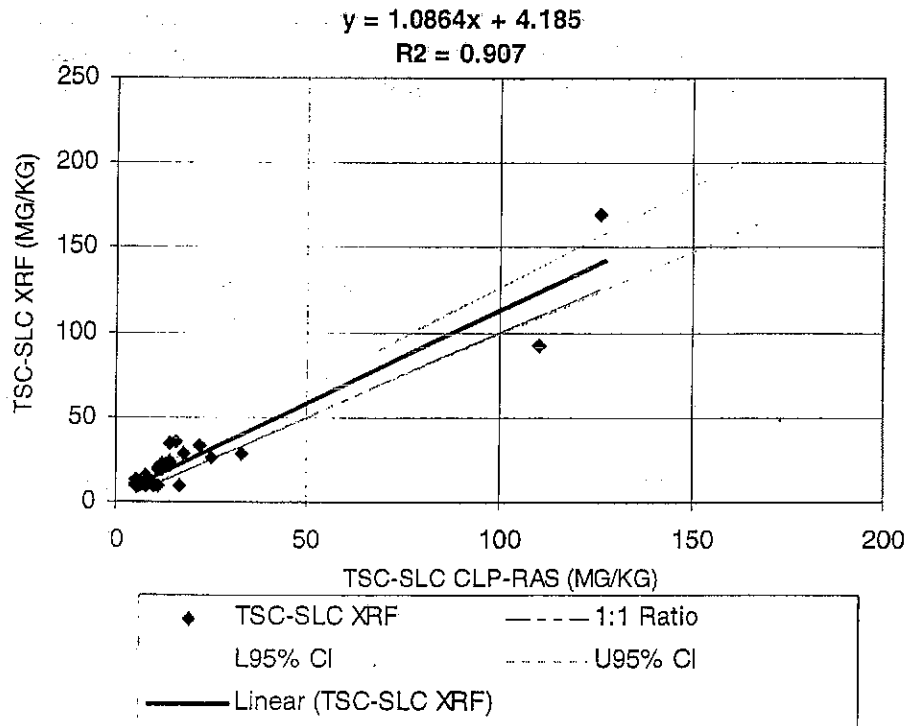
The R value shows good correlation between results obtained by the two analytical methods. Inspection of the scatter plot (Appendix 2) indicates that the correlation is excellent for sample concentrations up to 4,000 ppm. In fact for these lower concentration the 1:1 ratio line falls within the 95% confidence bands, indicating the 95% statistical probability that the XRF value will be equal to the CLP-RAS result. At concentrations higher than 4,000 ppm, however, the 1:1 ratio line lies above the regression line, indicating that at higher concentrations the XRF results are biased low with respect to the results obtained by CLP-RAS. The 95% confidence bands are narrow, indicating a high correlation between the two analysis methods. However, the slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Selenium Regression Results: R = 0.952

Slope		y - Intercept	
Upper 95%:	1.195	Upper 95%:	7.185
Value:	1.086	Value:	4.185
Lower 95%:	0.978	Lower 95%:	1.185

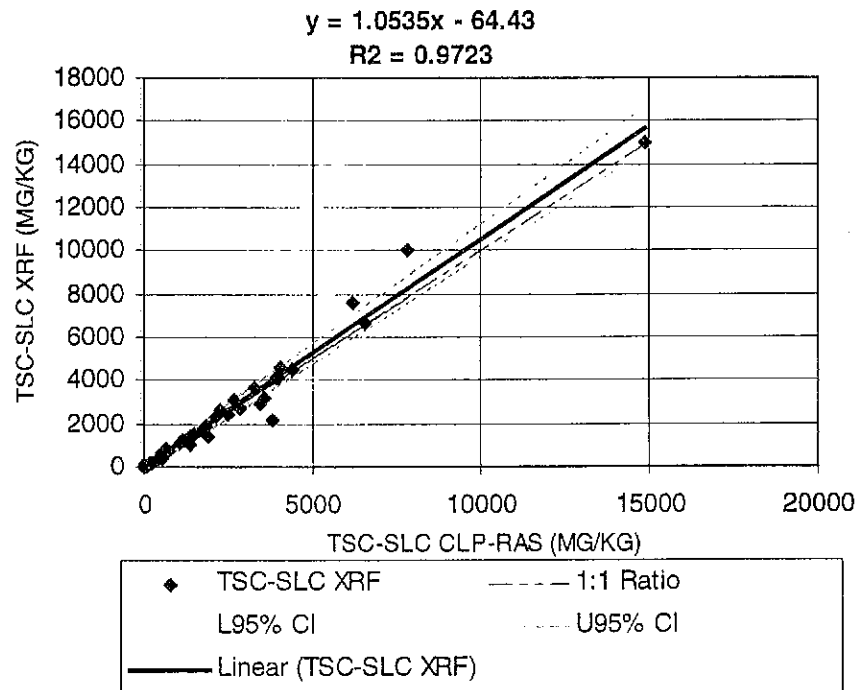
The R value shows a fairly good correlation between results obtained by the two analytical methods, and the 95% confidence bands for the slope do contain the ideal value of 1. However, inspection of the slope, the y-intercept value, and the scatter plot (Appendix 2) indicates that XRF values are biased high with respect to CLP-RAS results. The slope and y-intercept values also indicate systematic error due to calibration plots and due to background interference. This is to be expected when, as in this case, a calibration is used that is not specific to the soils being analyzed.



Zinc Regression Results: R = 0.986

Slope		y - Intercept	
Upper 95%:	1.109	Upper 95%:	130.25
Value:	1.054	Value:	-64.43
Lower 95%:	0.998	Lower 95%:	-259.11

The R value shows a good correlation between results obtained by the two analytical methods. However, the 95% confidence bands for the slope and y-intercept both contain the ideal value of 1, and the 1:1 ratio line lies within the 95% confidence bands for the slope throughout the entire concentration range. This indicates a 95% statistical probability that results obtained by the two methods will be equal over the entire range. Also, the 95% confidence bands for the slope are narrow, indicating a high correlation between the two analysis methods. The y-intercept value, however, is biased low, indicating systematic error due to background interference. This is to be expected when, as in this case, using a calibration that is not specific to the soils being analyzed.



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- Miller, J. C. and J. N., 1993. Statistics for Analytical Chemistry, 3rd edition.
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APPENDIX 1

Tables

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J -	The associated numerical value is an estimated quantity because quality control criteria were not met. Subscripts for the "J" qualifier: 2 - Calibration range exceeded or significant deviation from known value. Possible bias. 3 - Holding time not met. Indicates low bias. 4 - Other QC outside control limits. 5 - Quality control sample was omitted. (Not an EPA code.)
UJ -	The material was analyzed for, but was not detected above the associated value. 1 - Blank contamination. Indicates possible high bias and/or false positive. 2 - Calibration range exceeded or significant deviation from known value. Possible bias. 3 - Holding time not met. Indicates low bias. 4 - Other QC outside control limits. 5 - Quality control sample was omitted. (Not an EPA code.)
R -	Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
A -	Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Well	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
BH1-1	BH1-1C	L991649003	08/31/99	ZINC (ZN)(TOT)	31.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1D	L991649004	08/31/99	ZINC (ZN)(TOT)	23.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1E	L991649005	08/31/99	ZINC (ZN)(TOT)	32.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1F	L991649006	08/31/99	ZINC (ZN)(TOT)	48.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1G	L991649007	09/01/99	ZINC (ZN)(TOT)	57.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1H	L991649008	09/01/99	ZINC (ZN)(TOT)	30.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1I	L991649009	09/01/99	ZINC (ZN)(TOT)	36.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-1	BH1-1J	L991649010	09/01/99	ZINC (ZN)(TOT)	51.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2D	L991649014	09/01/99	ZINC (ZN)(TOT)	200.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2E	L991649015	09/01/99	ZINC (ZN)(TOT)	66.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2F	L991649016	09/02/99	ZINC (ZN)(TOT)	48.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2G	L991649017	09/02/99	ZINC (ZN)(TOT)	25.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2H	L991649018	09/02/99	ZINC (ZN)(TOT)	38.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2I	L991649019	09/02/99	ZINC (ZN)(TOT)	32.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2J	L991649020	09/02/99	ZINC (ZN)(TOT)	40.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2K	L991649021	09/02/99	ZINC (ZN)(TOT)	17.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2K2	L991649022	09/02/99	ZINC (ZN)(TOT)	31.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH1-2	BH1-2L	L991649023	09/02/99	ZINC (ZN)(TOT)	23.0	J4	Lab duplicate difference > ± 20 (40/70, 23/49)
BH3-2	BH3-2A	L991997006	08/23/99	COPPER (CU)(TOT)	293.0	J4	Field duplicate difference > ± 40 (82/ 310)
BH3-2	BH3-2B	L991532016	08/23/99	ARSENIC (AS)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	82.0	J4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	52.0	J4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	61.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-2	BH3-2B2	L991532017	08/23/99	ARSENIC (AS)(TOT)	74.0	J4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	37.0	J4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	310.0	J4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	280.0	J4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	390.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-2	BH3-2C	L991532018	08/23/99	ARSENIC (AS)(TOT)	72.0	J4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	51.0	J4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	54.0	J4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	34.0	J4	Field duplicate RPD = 137% (52/ 280)
BH3-2	BH3-2D	L991532019	08/23/99	ARSENIC (AS)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	14.0	J4	Field duplicate difference > ± 20 (<10/ 37)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

site	Sample No	Lab No.	Date	Parameter	Result	Flag	Reason for Flag
BH3-2	BH3-2D	L991532019	08/23/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	48.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-2	BH3-2E	L991532020	08/23/99	ARSENIC (AS)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	16.0	J4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	20.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-2	BH3-2F	L991532021	08/23/99	ARSENIC (AS)(TOT)	16.0	J4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	24.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-2	BH3-2G	L991532022	08/23/99	ARSENIC (AS)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 74)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 37)
				COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (82/ 310)
				LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate RPD = 137% (52/ 280)
				ZINC (ZN)(TOT)	39.0	J4	Field duplicate RPD = 146% (61/ 390)
BH3-5	BH3-5A	L991597006	08/25/99	ARSENIC (AS)(TOT)	870.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	3800.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5A (Conf)	L991997001	08/25/99	LEAD (PB)(TOT)	3390.0	J4	Field duplicate RPD = 44% (3390/ 2170)
BH3-5	BH3-5A2	L991597007	08/25/99	ARSENIC (AS)(TOT)	550.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	2400.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5A2 (Conf)	L991997002	08/25/99	LEAD (PB)(TOT)	2170.0	J4	Field duplicate RPD = 44% (3390/ 2170)
BH3-5	BH3-5B	L991597008	08/25/99	ARSENIC (AS)(TOT)	2100.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	63.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5C	L991597009	08/25/99	ARSENIC (AS)(TOT)	420.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	14.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5D	L991597010	08/25/99	ARSENIC (AS)(TOT)	46.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	14.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5E	L991597011	08/25/99	ARSENIC (AS)(TOT)	25.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate RPD = 45% (3800/ 2400)
BH3-5	BH3-5F	L991597012	08/25/99	ARSENIC (AS)(TOT)	55.0	J4	Field duplicate RPD = 45% (870/ 550)
				LEAD (PB)(TOT)	16.0	J4	Field duplicate RPD = 45% (3800/ 2400)
BH3-7	BH3-7A	L991597027	08/26/99	ZINC (ZN)(TOT)	47.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7B	L991597028	08/26/99	ZINC (ZN)(TOT)	44.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7C	L991597029	08/26/99	ZINC (ZN)(TOT)	44.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7C2	L991597030	08/26/99	ZINC (ZN)(TOT)	10.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7D	L991597031	08/26/99	ZINC (ZN)(TOT)	49.0	J4	Field duplicate difference > ± 20 (44/ 10)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
BH3-7	BH3-7E	L991597032	08/26/99	ZINC (ZN)(TOT)	47.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7F	L991597033	08/26/99	ZINC (ZN)(TOT)	64.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7G	L991597034	08/26/99	ZINC (ZN)(TOT)	35.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH3-7	BH3-7H	L991597035	08/26/99	ZINC (ZN)(TOT)	28.0	J4	Field duplicate difference > ± 20 (44/ 10)
BH4-1	BH4-1A	L992077031	11/17/99	CADMIUM (CD)(TOT)	110.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1A2	L992077032	11/17/99	CADMIUM (CD)(TOT)	66.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1B	L992077033	11/17/99	CADMIUM (CD)(TOT)	77.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1C	L992077034	11/17/99	CADMIUM (CD)(TOT)	60.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1D	L992077035	11/17/99	CADMIUM (CD)(TOT)	83.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1E	L992077036	11/17/99	CADMIUM (CD)(TOT)	54.0	J4	Field duplicate RPD = 50% (110/ 66)
BH4-1	BH4-1F	L992077037	11/17/99	CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate RPD = 50% (110/ 66)
BH4-4	BH4-4A	L992061009	11/18/99	ARSENIC (AS)(TOT)	11000.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	2600.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	22000.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	220	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4A2	L992061010	11/18/99	ARSENIC (AS)(TOT)	7100.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	1700.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	15000.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	120	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4B	L992061011	11/18/99	ARSENIC (AS)(TOT)	2000.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	580.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	5300.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	38	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4C	L992061012	11/18/99	ARSENIC (AS)(TOT)	3200.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	900.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	7600.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	55	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4D	L992061013	11/18/99	ARSENIC (AS)(TOT)	1900.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	530.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	5300.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	36	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4E	L992061014	11/18/99	ARSENIC (AS)(TOT)	410.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	82.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	1300.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	<10	J4	Field duplicate RPD = 59% (220/ 120)
BH4-4	BH4-4F	L992061015	11/18/99	ARSENIC (AS)(TOT)	100.0	J4	Field duplicate RPD = 43% (11000/ 7100)
				CADMIUM (CD)(TOT)	21.0	J4	Field duplicate RPD = 42% (2600/ 1700)
				LEAD (PB)(TOT)	270.0	J4	Field duplicate RPD = 38% (22000/ 15000)
				SELENIUM (SE)(TOT)	<10	J4	Field duplicate RPD = 59% (220/ 120)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No.	Date	Parameter	Result	Flag	Reason for Flag
BH8-2	BH8-2C	L991942013	11/01/99	ZINC (ZN)(TOT)	54.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2D	L991942014	11/01/99	ZINC (ZN)(TOT)	36.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2D2	L991942015	11/01/99	ZINC (ZN)(TOT)	58.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2E	L991942016	11/01/99	ZINC (ZN)(TOT)	69.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2F	L991942017	11/01/99	ZINC (ZN)(TOT)	37.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2G	L991942018	11/01/99	ZINC (ZN)(TOT)	47.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2H	L991942019	11/01/99	ZINC (ZN)(TOT)	12.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2I	L991942020	11/01/99	ZINC (ZN)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2I2	L991942021	11/01/99	ZINC (ZN)(TOT)	45.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2J	L991942022	11/01/99	ZINC (ZN)(TOT)	44.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2K	L991942023	11/01/99	ZINC (ZN)(TOT)	45.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-2	BH8-2L	L991942024	11/01/99	ZINC (ZN)(TOT)	36.0	J4	Field duplicate difference > ± 20 (36/ 58)
BH8-4	BH8-4M	L991942048	11/02/99	ZINC (ZN)(TOT)	33.0	J4	Field duplicate difference > ± 20 (33/ <10)
BH8-4	BH8-4M2	L991942049	11/02/99	ZINC (ZN)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (33/ <10)
BH8-4	BH8-4N	L991942050	11/02/99	ZINC (ZN)(TOT)	13.0	J4	Field duplicate difference > ± 20 (33/ <10)
BH8-4	BH8-4O	L991942051	11/02/99	ZINC (ZN)(TOT)	23.0	J4	Field duplicate difference > ± 20 (33/ <10)
BH8-4	BH8-4P	L991942052	11/02/99	ZINC (ZN)(TOT)	25.0	J4	Field duplicate difference > ± 20 (33/ <10)
BH8-4	BH8-4Q	L991942053	11/02/99	ZINC (ZN)(TOT)	32.0	J4	Field duplicate difference > ± 20 (33/ <10)
BH11-2	BH11-2I	L991413015	08/05/99	ZINC (ZN)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (15/47)
BH11-2	BH11-2J	L991413012	08/05/99	ZINC (ZN)(TOT)	22.0	J4	Field duplicate difference > ± 20 (15/47)
BH11-2	BH11-2K	L991413013	08/05/99	ZINC (ZN)(TOT)	15.0	J4	Field duplicate difference > ± 20 (15/47)
BH11-2	BH11-2K2	L991413014	08/05/99	ZINC (ZN)(TOT)	47.0	J4	Field duplicate difference > ± 20 (15/47)
BH11-2	BH11-2L	L991413011	08/05/99	ZINC (ZN)(TOT)	15.0	J4	Field duplicate difference > ± 20 (15/47)
BH12-1	BH12-1A	L992004001	11/03/99	LEAD (PB)(TOT)	2700.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-1	BH12-1B	L992004002	11/03/99	LEAD (PB)(TOT)	140.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-1	BH12-1C	L992004003	11/03/99	LEAD (PB)(TOT)	150.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-1	BH12-1D	L992004004	11/03/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-1	BH12-1E	L992004005	11/03/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-1	BH12-1E2	L992004006	11/03/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
BH12-2	BH12-2A	L992004007	11/03/99	LEAD (PB)(TOT)	130.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-2	BH12-2B	L992004008	11/03/99	LEAD (PB)(TOT)	610.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-3	BH12-3A	L992004009	11/03/99	LEAD (PB)(TOT)	170.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-3	BH12-3B	L992004010	11/03/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-3	BH12-3C	L992004011	11/03/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-4	BH12-4A	L992004012	11/03/99	LEAD (PB)(TOT)	22000.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-4	BH12-4B	L992004013	11/03/99	LEAD (PB)(TOT)	23000.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-4	BH12-4C	L992004014	11/03/99	LEAD (PB)(TOT)	14000.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-4	BH12-4D	L992004015	11/03/99	COPPER (CU)(TOT)	64.0	J4	Field duplicate difference > ± 40 (64/ <20)
				LEAD (PB)(TOT)	110.0	J4	Lab duplicate difference > ± 20 (33/ 693)
				LEAD (PB)(TOT)	110.0	J4	Field duplicate difference > ± 20 (110/20)
BH12-4	BH12-4D2	L992004016	11/03/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (64/ <20)
				LEAD (PB)(TOT)	20.0	J4	Lab duplicate difference > ± 20 (33/ 693)
				LEAD (PB)(TOT)	20.0	J4	Field duplicate difference > ± 20 (110/20)
BH12-4	BH12-4E	L992004017	11/03/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (64/ <20)
				LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
				LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (110/20)
BH12-5	BH12-5A	L992004018	11/04/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-6	BH12-6A	L992004019	11/04/99	LEAD (PB)(TOT)	21.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-7	BH12-7A	L992004020	11/04/99	LEAD (PB)(TOT)	33.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-7	BH12-7B	L992004021	11/04/99	LEAD (PB)(TOT)	52.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-7	BH12-7B2	L992004022	11/04/99	LEAD (PB)(TOT)	41.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-8	BH12-8A	L992004023	11/04/99	LEAD (PB)(TOT)	130.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-8	BH12-8B	L992004024	11/04/99	LEAD (PB)(TOT)	120.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-8	BH12-8C	L992004025	11/04/99	LEAD (PB)(TOT)	130.0	J4	Lab duplicate difference > ± 20 (33/ 693)
BH12-8	BH12-9B	L992004028	11/04/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-9	BH12-9A	L992004026	11/04/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH12-9	BH12-9A2	L992004027	11/04/99	LEAD (PB)(TOT)	<10.0	UJ4	Lab duplicate difference > ± 20 (33/ 693)
BH13-1	BH13-1D	L991942056	10/21/99	ZINC (ZN)(TOT)	36.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1E	L991942057	10/21/99	ZINC (ZN)(TOT)	46.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1E2	L991942058	10/21/99	ZINC (ZN)(TOT)	71.0	J4	Field duplicate difference > ± 20 (46/ 71)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
BH13-1	BH13-1F	L991942059	10/21/99	ZINC (ZN)(TOT)	44.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1G	L991942060	10/21/99	ZINC (ZN)(TOT)	46.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1H	L991942061	10/21/99	ZINC (ZN)(TOT)	45.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1I	L991942062	10/21/99	ZINC (ZN)(TOT)	35.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH13-1	BH13-1J	L991942063	10/21/99	ZINC (ZN)(TOT)	54.0	J4	Field duplicate difference > ± 20 (46/ 71)
BH14-2	BH14-2F	L000066025	12/16/99	LEAD (PB)(TOT)	26.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2G	L000066026	12/16/99	LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2H	L000066027	12/16/99	LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2I	L000066028	12/16/99	LEAD (PB)(TOT)	21.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2I2	L000066029	12/16/99	LEAD (PB)(TOT)	42.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2J	L000066030	12/16/99	LEAD (PB)(TOT)	50.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2K	L000066031	12/16/99	LEAD (PB)(TOT)	48.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2L	L000066032	12/16/99	LEAD (PB)(TOT)	47.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2M	L000066033	12/16/99	LEAD (PB)(TOT)	15.0	J4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2O	L000066034	12/16/99	LEAD (PB)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (21/ 42)
BH14-2	BH14-2P	L000066035	12/16/99	LEAD (PB)(TOT)	10.0	J4	Field duplicate difference > ± 20 (21/ 42)
EP-94	EP-94A	L991353005	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	760.0 3500.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94A2	L991353007	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	1300.0 5200.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94B	L991353012	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	990.0 2400.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94C	L991353006	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	620.0 3300.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94E	L991353009	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	680.0 2900.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94F	L991353008	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	36.0 370.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94H	L991353004	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	130.0 990.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94I	L991353025	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	<10.0 33.0	UJ4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94J	L991353002	07/26/99	ARSENIC (AS)(TOT)	<10.0	UJ4	Field duplicate RPD = 52% (760/ 1300)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-94	EP-94J	L991353002	07/26/99	ZINC (ZN)(TOT)	47.0	J4	Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94K	L991353011	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	27.0 33.0	J4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94L	L991353014	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	<10.0 20.0	UJ4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94M	L991353003	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	<10.0 <10.0	UJ4 UJ4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94N	L991353010	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	<10.0 29.0	UJ4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-94	EP-94O	L991353013	07/26/99	ARSENIC (AS)(TOT) ZINC (ZN)(TOT)	<10.0 12.0	UJ4 J4	Field duplicate RPD = 52% (760/ 1300) Field duplicate RPD = 39% (3500/ 5200)
EP-96	EP-96B	L991291015	07/20/99	ZINC (ZN)(TOT)	270	J4	Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96C	L991292006	07/20/99	LEAD (PB)(TOT)	90.0	J4	Field duplicate difference > ± 20 (11/ 41)
EP-96	EP-96E	L991291017	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	49.0 51	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96F	L991291006	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	59.0 21	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96G	L991291011	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	49.0 41	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96H	L991291010	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	31.0 69	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96I	L991293002	07/20/99	LEAD (PB)(TOT)	50.0	J4	Field duplicate difference > ± 20 (11/ 41)
EP-96	EP-96J	L991291019	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	11.0 56	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96J2	L991291016	07/20/99	LEAD (PB)(TOT) ZINC (ZN)(TOT)	41.0 64	J4 J4	Field duplicate difference > ± 20 (11/ 41) Lab duplicate difference > ± 20 (57/ 14)
EP-96	EP-96K	L991292016	07/20/99	LEAD (PB)(TOT)	49.0	J4	Field duplicate difference > ± 20 (11/ 41)
EP-96	EP-96L	L991292018	07/20/99	LEAD (PB)(TOT)	54.0	J4	Field duplicate difference > ± 20 (11/ 41)
EP-96	EP-96M	L991293003	07/20/99	LEAD (PB)(TOT)	46.0	J4	Field duplicate difference > ± 20 (11/ 41)
EP-96	EP-96P	L991291020	07/20/99	ZINC (ZN)(TOT)	57	J4	Lab duplicate difference > ± 20 (57/ 14)
EP-98	EP-98A	L991414004	08/06/99	COPPER (CU)(TOT)	210.0	J4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98A2	L991414005	08/06/99	COPPER (CU)(TOT)	360.0	J4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98B	L991414003	08/06/99	COPPER (CU)(TOT)	44.0	J4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98C	L991414001	08/06/99	COPPER (CU)(TOT)	37.0	J4	Field duplicate RPD = 53% (210/ 360)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-98	EP-98D	L991414002	08/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98E	L991413025	08/06/99	COPPER (CU)(TOT)	89.0	J4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98F	L991413024	08/06/99	COPPER (CU)(TOT)	41.0	J4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98G	L991413023	08/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate RPD = 53% (210/ 360)
EP-98	EP-98H	L991413022	08/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate RPD = 53% (210/ 360)
EP-100	EP-100E	L991885005	09/08/99	ARSENIC (AS)(TOT)	76.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	33.0	J4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100F	L991885006	09/08/99	CADMIUM (CD)(TOT)	61.0	J4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100G	L991885007	09/08/99	ARSENIC (AS)(TOT)	14.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100H	L991885008	09/08/99	ARSENIC (AS)(TOT)	91.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	24.0	J4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100H2	L991885009	09/08/99	ARSENIC (AS)(TOT)	63.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	53.0	J4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100I	L991885010	09/08/99	ARSENIC (AS)(TOT)	130.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (24/ 53)
EP-100	EP-100J	L991885011	09/08/99	ARSENIC (AS)(TOT)	28.0	J4	Field duplicate RPD = 36% (91/ 63)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (24/ 53)
				ZINC (ZN)(TOT)	32.0	J4	Field duplicate difference > ± 20 (64/ 38)
EP-100	EP-100K	L991885012	09/08/99	ARSENIC (AS)(TOT)	100.0	J4	Field duplicate RPD = 36% (91/ 63)
EP-100	EP-100L	L991885013	09/08/99	ARSENIC (AS)(TOT)	100.0	J4	Field duplicate RPD = 36% (91/ 63)
				IRON (FE)(TOT)	120000	J4	Field duplicate RPD = 68% (120000/ 59000)
				ZINC (ZN)(TOT)	64.0	J4	Field duplicate difference > ± 20 (64/ 38)
EP-100	EP-100L2	L991885014	09/08/99	ARSENIC (AS)(TOT)	73.0	J4	Field duplicate RPD = 36% (91/ 63)
				IRON (FE)(TOT)	59000	J4	Field duplicate RPD = 68% (120000/ 59000)
				ZINC (ZN)(TOT)	38.0	J4	Field duplicate difference > ± 20 (64/ 38)
EP-100	EP-100M	L991885015	09/08/99	ARSENIC (AS)(TOT)	110.0	J4	Field duplicate RPD = 36% (91/ 63)
				IRON (FE)(TOT)	110000	J4	Field duplicate RPD = 68% (120000/ 59000)
				ZINC (ZN)(TOT)	66.0	J4	Field duplicate difference > ± 20 (64/ 38)
EP-102	EP-102G	L991784007	09/30/99	LEAD (PB)(TOT)	130.0	J4	Field duplicate RPD = 39% (130/ 88)
EP-102	EP-102G2	L991784008	09/30/99	LEAD (PB)(TOT)	88.0	J4	Field duplicate RPD = 39% (130/ 88)
EP-102	EP-102H	L991784009	09/30/99	LEAD (PB)(TOT)	57.0	J4	Field duplicate RPD = 39% (130/ 88)
EP-102	EP-102I	L991784010	09/30/99	LEAD (PB)(TOT)	63.0	J4	Field duplicate RPD = 39% (130/ 88)
EP-102	EP-102J	L991784011	09/30/99	LEAD (PB)(TOT)	54.0	J4	Field duplicate RPD = 39% (130/ 88)
EP-102	EP-102K	L991784012	09/30/99	LEAD (PB)(TOT)	77.0	J4	Field duplicate RPD = 39% (130/ 88)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-102	EP-102L	L991784013	09/30/99	LEAD (PB)(TOT)	57.0	J4	Field duplicate RPD = 39% (130/ 88)
				ZINC (ZN)(TOT)	81.0	J4	Field duplicate difference > ± 20 (39/ 15)
EP-102	EP-102M	L991784014	09/30/99	LEAD (PB)(TOT)	61.0	J4	Field duplicate RPD = 39% (130/ 88)
				ZINC (ZN)(TOT)	34.0	J4	Field duplicate difference > ± 20 (39/ 15)
EP-102	EP-102N	L991784015	09/30/99	ZINC (ZN)(TOT)	39.0	J4	Field duplicate difference > ± 20 (39/ 15)
EP-102	EP-102N2	L991784016	09/30/99	ZINC (ZN)(TOT)	15.0	J4	Field duplicate difference > ± 20 (39/ 15)
EP-102	EP-102O	L991784017	09/30/99	ZINC (ZN)(TOT)	28.0	J4	Field duplicate difference > ± 20 (39/ 15)
EP-102	EP-102Q	L991784019	10/04/99	ZINC (ZN)(TOT)	42.0	J4	Field duplicate difference > ± 20 (39/ 15)
				ZINC (ZN)(TOT)	42.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103A	L991781016	10/04/99	COPPER (CU)(TOT)	530.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	91.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103B	L991781017	10/04/99	COPPER (CU)(TOT)	310.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	290.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103F	L991782001	10/04/99	COPPER (CU)(TOT)	310.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	420.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103F2	L991782002	10/04/99	COPPER (CU)(TOT)	71.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	200.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103G	L991782003	10/04/99	COPPER (CU)(TOT)	25.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	410.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103H	L991782004	10/04/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	410.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103I	L991782005	10/04/99	COPPER (CU)(TOT)	49.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	88.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103J	L991782006	10/04/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	45.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103K	L991782007	10/04/99	COPPER (CU)(TOT)	23.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	26.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103L	L991782008	10/04/99	COPPER (CU)(TOT)	22.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	40.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-103	EP-103M	L991782009	10/04/99	COPPER (CU)(TOT)	41.0	J4	Field duplicate RPD = 125% (310/ 71)
				ZINC (ZN)(TOT)	49.0	J4	Field duplicate RPD = 71% (420/ 200)
EP-104	EP-104D	L991782015	10/06/99	LEAD (PB)(TOT)	580.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	620.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104E	L991782016	10/06/99	LEAD (PB)(TOT)	220.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	170.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104E2	L991782017	10/06/99	COPPER (CU)(TOT)	140.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	140.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	100.0	J4	Field duplicate RPD = 52% (170/100)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-104	EP-104F	L991782018	10/06/99	COPPER (CU)(TOT)	24.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	60.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	<10.0	UJ4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104G	L991782019	10/06/99	COPPER (CU)(TOT)	25.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	55.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	48.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104H	L991782020	10/06/99	COPPER (CU)(TOT)	20.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	50.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	44.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104I	L991783001	10/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	47.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	31.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104J	L991783002	10/06/99	COPPER (CU)(TOT)	23.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	27.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	45.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104K	L991783003	10/06/99	COPPER (CU)(TOT)	36.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	41.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	32.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104L	L991783004	10/06/99	COPPER (CU)(TOT)	49.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	24.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	36.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104M	L991783005	10/06/99	COPPER (CU)(TOT)	53.0	J4	Field duplicate difference > ± 40 (69/ 21)
				LEAD (PB)(TOT)	42.0	J4	Field duplicate RPD = 44% (220/ 140)
				ZINC (ZN)(TOT)	35.0	J4	Field duplicate RPD = 52% (170/100)
EP-104	EP-104N	L991783006	10/06/99	COPPER (CU)(TOT)	69.0	J4	Field duplicate difference > ± 40 (69/ 21)
EP-104	EP-104N2	L991783007	10/06/99	COPPER (CU)(TOT)	21.0	J4	Field duplicate difference > ± 40 (69/ 21)
EP-104	EP-104O	L991783008	10/06/99	COPPER (CU)(TOT)	33.0	J4	Field duplicate difference > ± 40 (69/ 21)
EP-104	EP-104P	L991783009	10/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (69/ 21)
EP-104	EP-104Q	L991886017	10/06/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (69/ 21)
EP-106	EP-106F	L991888006	10/16/99	COPPER (CU)(TOT)	27.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106F2	L991888007	10/16/99	COPPER (CU)(TOT)	80.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106G	L991888008	10/16/99	COPPER (CU)(TOT)	23.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106H	L991888009	10/16/99	COPPER (CU)(TOT)	39.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106I	L991888010	10/16/99	COPPER (CU)(TOT)	28.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106J	L991888011	10/16/99	COPPER (CU)(TOT)	36.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106K	L991888012	10/16/99	COPPER (CU)(TOT)	46.0	J4	Field duplicate difference > ± 40 (27/ 80)

Table 2. Summary of Flagged Data
El Paso RI Phase II Soils
 (Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-106	EP-106L	L991888013	10/16/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106M	L991888014	10/16/99	COPPER (CU)(TOT)	<20.0	UJ4	Field duplicate difference > ± 40 (27/ 80)
EP-106	EP-106N	L991888015	10/16/99	COPPER (CU)(TOT)	20.0	J4	Field duplicate difference > ± 40 (27/ 80)
EP-107	EP-107A	L991887001	10/11/99	ZINC (ZN)(TOT)	140.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107B	L991887002	10/11/99	ZINC (ZN)(TOT)	52.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107C	L991887003	10/11/99	ZINC (ZN)(TOT)	13.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107D	L991887004	10/11/99	ZINC (ZN)(TOT)	34.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107F	L991887006	10/11/99	ZINC (ZN)(TOT)	55.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107F2	L991887007	10/11/99	ZINC (ZN)(TOT)	100.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107G	L991887008	10/11/99	ZINC (ZN)(TOT)	18.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107H	L991887009	10/11/99	ZINC (ZN)(TOT)	28.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107I	L991887010	10/11/99	ZINC (ZN)(TOT)	18.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-107	EP-107J	L991887011	10/11/99	ZINC (ZN)(TOT)	42.0	J4	Field duplicate RPD = 58% (55/ 100)
EP-109	EP-109G	L991889007	10/15/99	ZINC (ZN)(TOT)	18.0	J4	Field duplicate difference > ± 20 (33/ 10)
EP-109	EP-109H	L991889008	10/15/99	ZINC (ZN)(TOT)	33.0	J4	Field duplicate difference > ± 20 (33/ 10)
EP-109	EP-109H2	L991889009	10/15/99	ZINC (ZN)(TOT)	10.0	J4	Field duplicate difference > ± 20 (33/ 10)
EP-110	EP-110C	L991889012	10/18/99	COPPER (CU)(TOT)	110.0	J4	Field duplicate RPD = 38% (91/ 62)
EP-110	EP-110D	L991889013	10/18/99	COPPER (CU)(TOT)	30.0	J4	Field duplicate RPD = 38% (91/ 62)
EP-110	EP-110E	L991889014	10/18/99	COPPER (CU)(TOT)	25.0	J4	Field duplicate RPD = 38% (91/ 62)
EP-110	EP-110F	L991889015	10/18/99	COPPER (CU)(TOT)	91.0	J4	Field duplicate RPD = 38% (91/ 62)
EP-110	EP-110F2	L991889016	10/18/99	COPPER (CU)(TOT)	62.0	J4	Field duplicate RPD = 38% (91/ 62)
EP-116	EP-116A	L992077011	11/16/99	ARSENIC (AS)(TOT)	18000.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	530.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	57000.0	J4	Field duplicate RPD = 36% (57000/ 82000)
				LEAD (PB)(TOT)	40000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	2400	J4	Field duplicate RPD = 164% (2400/ 240)
EP-116	EP-116A2	L992077012	11/16/99	ARSENIC (AS)(TOT)	11000.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	340.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	82000.0	J4	Field duplicate RPD = 36% (57000/ 82000)
				LEAD (PB)(TOT)	19000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	240	J4	Field duplicate RPD = 164% (2400/ 240)
EP-116	EP-116B	L992077013	11/16/99	ARSENIC (AS)(TOT)	9800.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	360.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	97000.0	J4	Field duplicate RPD = 36% (57000/ 82000)

Table 2. Summary of Flagged Data

El Paso RI Phase II Soils

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-116	EP-116B	L992077013	11/16/99	LEAD (PB)(TOT)	26000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	720	J4	Field duplicate RPD = 164% (2400/ 240)
EP-116	EP-116C	L992077014	11/16/99	ARSENIC (AS)(TOT)	9200.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	360.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	100000.0	J4	Field duplicate RPD = 36% (57000/ 82000)
				LEAD (PB)(TOT)	23000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	570	J4	Field duplicate RPD = 164% (2400/ 240)
EP-116	EP-116D	L992077015	11/16/99	ARSENIC (AS)(TOT)	6800.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	960.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	23000.0	J4	Field duplicate RPD = 36% (57000/ 82000)
				LEAD (PB)(TOT)	16000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	780	J4	Field duplicate RPD = 164% (2400/ 240)
EP-116	EP-116E	L992077016	11/16/99	ARSENIC (AS)(TOT)	5300.0	J4	Field duplicate RPD = 48% (18000/ 11000)
				CADMIUM (CD)(TOT)	1200.0	J4	Field duplicate RPD = 44% (530/ 340)
				COPPER (CU)(TOT)	33000.0	J4	Field duplicate RPD = 36% (57000/ 82000)
				LEAD (PB)(TOT)	13000.0	J4	Field duplicate RPD = 71% (40000/ 19000)
				SELENIUM (SE)(TOT)	280	J4	Field duplicate RPD = 164% (2400/ 240)
EP-117	EP-117A	L992077017	11/16/99	ARSENIC (AS)(TOT)	2300.0	J4	Field duplicate RPD = 82% (210/ 500)
				COPPER (CU)(TOT)	4100.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	3500.0	J4	Field duplicate RPD = 164% (110/ 1100)
EP-117	EP-117B	L992077018	11/16/99	ARSENIC (AS)(TOT)	1700.0	J4	Field duplicate RPD = 82% (210/ 500)
				COPPER (CU)(TOT)	2500.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	2300.0	J4	Field duplicate RPD = 164% (110/ 1100)
EP-117	EP-117C	L992077019	11/16/99	ARSENIC (AS)(TOT)	2300.0	J4	Field duplicate RPD = 82% (210/ 500)
				COPPER (CU)(TOT)	5400.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	4700.0	J4	Field duplicate RPD = 164% (110/ 1100)
EP-117	EP-117D	L992077020	11/16/99	ARSENIC (AS)(TOT)	1200.0	J4	Field duplicate RPD = 82% (210/ 500)
				COPPER (CU)(TOT)	2900.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	2900.0	J4	Field duplicate RPD = 164% (110/ 1100)
EP-117	EP-117E	L992077021	11/16/99	ARSENIC (AS)(TOT)	140.0	J4	Field duplicate RPD = 82% (210/ 500)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 66)
				COPPER (CU)(TOT)	160.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	230.0	J4	Field duplicate RPD = 164% (110/ 1100)
				ZINC (ZN)(TOT)	31.0	J4	Field duplicate RPD = 153% (62/ 470)
EP-117	EP-117F	L992077022	11/16/99	ARSENIC (AS)(TOT)	210.0	J4	Field duplicate RPD = 82% (210/ 500)
				CADMIUM (CD)(TOT)	<10.0	UJ4	Field duplicate difference > ± 20 (<10/ 66)
				COPPER (CU)(TOT)	140.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	110.0	J4	Field duplicate RPD = 164% (110/ 1100)
				ZINC (ZN)(TOT)	62.0	J4	Field duplicate RPD = 153% (62/ 470)
EP-117	EP-117F2	L992077023	11/16/99	ARSENIC (AS)(TOT)	500.0	J4	Field duplicate RPD = 82% (210/ 500)
				CADMIUM (CD)(TOT)	66.0	J4	Field duplicate difference > ± 20 (<10/ 66)
				COPPER (CU)(TOT)	1100.0	J4	Field duplicate RPD = 155% (140/ 1100)
				LEAD (PB)(TOT)	1100.0	J4	Field duplicate RPD = 164% (110/ 1100)
				ZINC (ZN)(TOT)	470.0	J4	Field duplicate RPD = 153% (62/ 470)
EP-118	EP-118A	L992077024	11/17/99	SELENIUM (SE)(TOT)	110.0	J4	Field duplicate RPD = 51% (110/ 65)

Table 2. Summary of Flagged Data**El Paso RI Phase II Soils**

(Values in ppm unless otherwise indicated)

Site	Sample No	Lab No	Date	Parameter	Result	Flag	Reason for Flag
EP-118	EP-118A2	L992077025	11/17/99	SELENIUM (SE)(TOT)	65.0	J4	Field duplicate RPD = 51% (110/ 65)
EP-118	EP-118B	L992077026	11/17/99	SELENIUM (SE)(TOT)	57.0	J4	Field duplicate RPD = 51% (110/ 65)
EP-118	EP-118C	L992077027	11/17/99	SELENIUM (SE)(TOT)	12.0	J4	Field duplicate RPD = 51% (110/ 65)
EP-118	EP-118D	L992077028	11/17/99	SELENIUM (SE)(TOT)	<10.0	UJ4	Field duplicate RPD = 51% (110/ 65)
EP-118	EP-118E	L992077029	11/17/99	SELENIUM (SE)(TOT)	10.0	J4	Field duplicate RPD = 51% (110/ 65)
EP-118	EP-118F	L992077030	11/17/99	SELENIUM (SE)(TOT)	<10.0	UJ4	Field duplicate RPD = 51% (110/ 65)
SSIA11-1	SSIA11-1B	L991291001	07/19/99	ZINC (ZN)(TOT)	340.0	J4	Lab duplicate difference > ± 20 (57/ 14)
SSIA11-5	SSIA11-5A	L991291014	07/20/99	ZINC (ZN)(TOT)	92.0	J4	Lab duplicate difference > ± 20 (57/ 14)
SSIA11-7	SSIA11-7A	L991292002	07/20/99	CADMIUM (CD)(TOT)	250.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-7	SSIA11-7A2	L991292003	07/20/99	CADMIUM (CD)(TOT)	150.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-7	SSIA11-7B	L991292001	07/20/99	CADMIUM (CD)(TOT)	260.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-7	SSIA11-7C	L991292004	07/20/99	CADMIUM (CD)(TOT)	180.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-7	SSIA11-7D	L991292005	07/20/99	CADMIUM (CD)(TOT)	170.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-7	SSIA11-7E	L991291008	07/20/99	CADMIUM (CD)(TOT)	240.0	J4	Field duplicate RPD = 50% (250/ 150)
SSIA11-17	SSIA11-17A	L992004044	11/04/99	LEAD (PB)(TOT)	920.0	J4	Lab duplicate difference > ± 20 (33/ 693)

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APPENDIX 2
Supporting Calculations for Statistical Analyses

ARSENIC

ARSENIC

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data		% Recovery	%RPD	RPD in Control Limits?
		CLP-RAS	XRF	CLP-RAS	XRF			
SSIA11-1A	07/19/99	184	170	184	170	92%	7.9%	
BH11-2B	07/20/99	332	340	332	340	102%	2.4%	
SSIA11-3A	07/20/99	2141	2200	2141	2200	103%	2.7%	
SSIA11-5C	07/20/99	54	23	54	23	43%	±	OUT
SSIA11-6A	07/20/99	433	480	433	480	111%	10.3%	
SSIA11-6B	07/20/99	894	920	894	920	103%	2.9%	
SSIA11-6C	07/20/99	3604	4400	3604	4400	122%	19.9%	
EP-94E	07/26/99	459	680	459	680	148%	38.8%	OUT
EP-94F	07/26/99	65	36	65	36	55%	±	OUT
SSIA11-10A	08/04/99	149	160	149	160	107%	7.1%	
SSIA11-10B	08/04/99	25	23	25	23	92%	±	
SSIA11-10D	08/04/99	20	10	20	10	50%	±	
SSIA11-15A	08/06/99	37	51	37	51	138%	±	
SSIA11-15B	08/06/99	37	30	37	30	81%	±	
BH2-5C	08/16/99	5	10	10	10	100%	±	
BH2-6B	08/16/99	2340	3700	2340	3700	158%	45.0%	OUT
BH3-11A	08/18/99	226	300	226	300	133%	28.1%	
BH3-2A	08/23/99	656	890	656	890	136%	30.3%	
BH3-5A	08/25/99	725	870	725	870	120%	18.2%	
BH3-5A2	08/25/99	517	550	517	550	106%	6.2%	
BH1-1B	08/31/99	233	200	233	200	86%	15.2%	
EP-100A	09/08/99	726	850	726	850	117%	15.7%	
EP-101C	09/29/99	3350	5200	3350	5200	155%	43.3%	OUT
EP-102G2	09/30/99	18	34	18	34	189%	±	
EP-104G	10/06/99	11	10	11	10	91%	±	
EP-104P	10/06/99	5	10	10	10	100%	±	
EP-105E2	10/07/99	246	470	246	470	191%	62.6%	OUT
EP-107A	10/11/99	82	69	82	69	84%	17.2%	
EP-109A	10/15/99	223	380	223	380	170%	52.1%	OUT
EP-106A	10/16/99	267	270	267	270	101%	1.1%	
EP-112B	10/27/99	100	86	100	86	86%	15.1%	
BH8-4B	11/02/99	203	210	203	210	103%	3.4%	
BH8-4C	11/02/99	133	130	133	130	98%	2.3%	
BH12-1A	11/03/99	423	490	423	490	116%	14.7%	
SSIA11-18A	11/05/99	136	150	136	150	110%	9.8%	
EP-114A	11/15/99	514	600	514	600	117%	15.4%	
EP-114B	11/15/99	291	310	291	310	107%	6.3%	
EP-115F	11/16/99	337	360	337	360	107%	6.6%	
BH4-2B	11/18/99	494	650	494	650	132%	27.3%	
BH4-2D	11/18/99	132	200	132	200	152%	41.0%	OUT
BH4-2E	11/18/99	144	180	144	180	125%	22.2%	
BH14-3A	12/15/99	52	10	52	10	19%	±	OUT
BH14-2C	12/16/99	285	210	285	210	74%	30.3%	
BH14-2E	12/16/99	179	210	179	210	117%	15.9%	

ARSENIC (AS) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.984707842
R Square	0.969649534
Adjusted R Square	0.968926904
Standard Error	198.5670196
Observations	44

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	52906978.01	52906978.01	1341.833781	1.65801E-33
Residual	42	1656012.174	39428.86129		
Total	43	54562990.18			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-50.79088584	35.0440917	-1.449342339	0.154668211	-121.5127485	19.93097679
TSC-SLC CLP-RAS	1.366724018	0.037310534	36.63104941	1.65801E-33	1.291428288	1.442019748

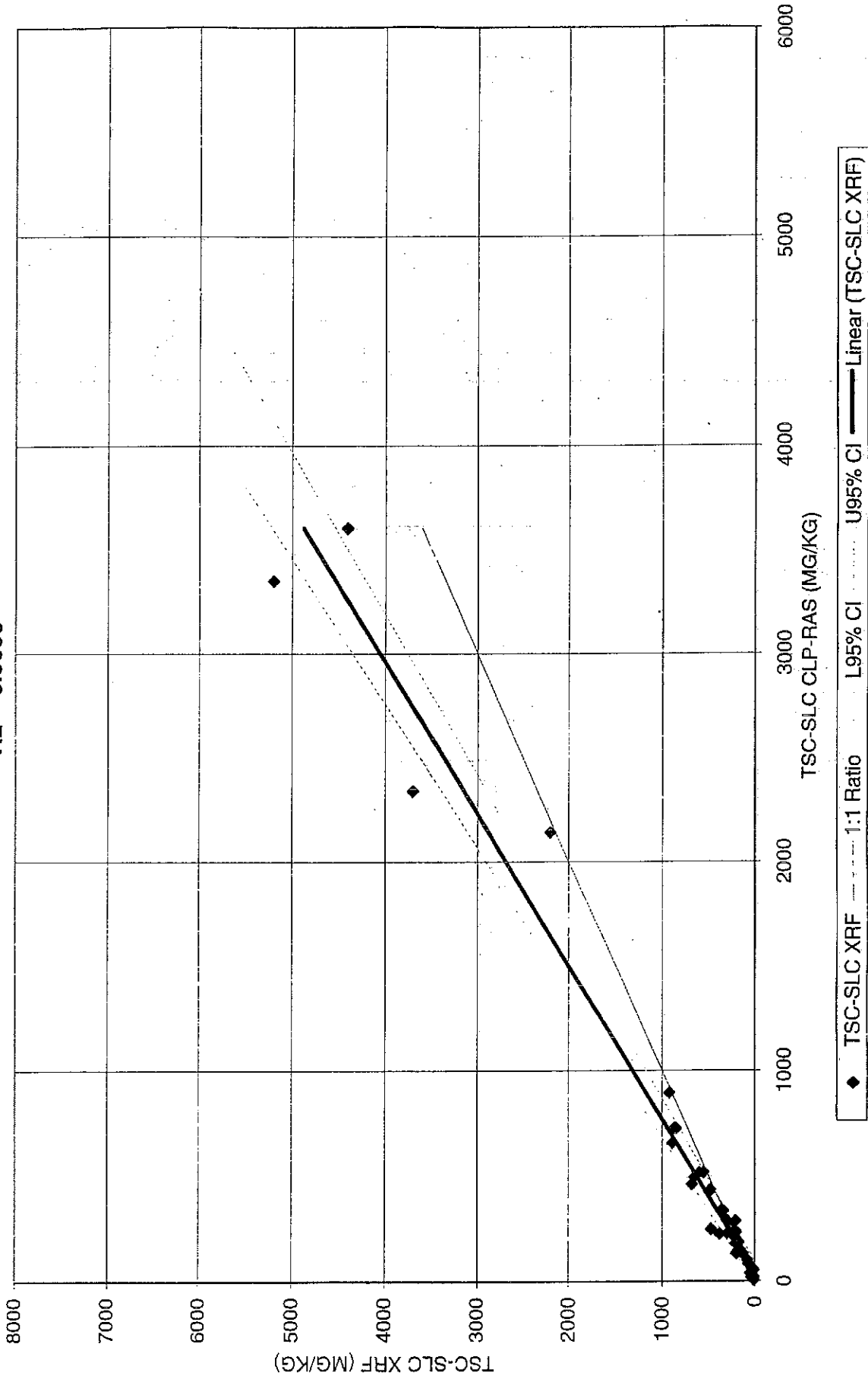
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	488.3409091	616.6363636
Variance	658692.695	1268906.748
Observations	44	44
Pearson Correlation	0.984707842	
Hypothesized Mean Difference	0	
df	43	
t Stat	-2.38709462	
P(T<=t) one-tail	0.010725268	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	0.021450537	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	488.3409091	616.6363636
Standard Error	122.3531304	169.8198744
Median	224.5	210
Mode	37	10
Standard Deviation	811.5988511	1126.457611
Sample Variance	658692.695	1268906.748
Kurtosis	7.946724146	9.148656386
Skewness	2.873465827	3.071159837
Range	3599	5190
Minimum	5	10
Maximum	3604	5200
Sum	21487	27132
Count	44	44
Confidence Level(95.0%)	246.7484342	342.4741808

ARSENIC (AS) REGRESSION CHART

$y = 1.3667x - 50.791$
 $R^2 = 0.9696$



CADMIUM

CADMIUM

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data		% Recovery	% RPD	RPD in Control Limits?
		CLP-RAS	XRF	CLP-RAS	XRF			
SSIA11-1A	07/19/99	46	50	46	50	109%	±	
BH11-2B	07/20/99	103	120	103	120	117%	15.2%	
SSIA11-3A	07/20/99	736	940	736	940	128%	24.3%	
SSIA11-5C	07/20/99	16	10	16	10	63%	±	
SSIA11-6A	07/20/99	103	120	103	120	117%	15.2%	
SSIA11-6B	07/20/99	339	380	339	380	112%	11.4%	
SSIA11-6C	07/20/99	307	350	307	350	114%	13.1%	
EP-94E	07/26/99	152	170	152	170	112%	11.2%	
EP-94F	07/26/99	12	17	12	17	142%	±	
SSIA11-10A	08/04/99	21	12	21	12	57%	±	
SSIA11-10B	08/04/99	10	10	10	10	100%	±	
SSIA11-10D	08/04/99	10	10	10	10	100%	±	
SSIA11-15A	08/06/99	10	10	10	10	100%	±	
SSIA11-15B	08/06/99	10	10	10	10	100%	±	
BH2-5C	08/16/99	5	10	10	10	100%	±	
BH2-6B	08/16/99	158	210	158	210	133%	28.3%	
BH3-11A	08/18/99	76	110	76	110	145%	36.6%	OUT
BH3-2A	08/23/99	452	560	452	560	124%	21.3%	
BH3-5A	08/25/99	125	190	125	190	152%	41.3%	OUT
BH3-5A2	08/25/99	97	150	97	150	155%	42.9%	OUT
BH1-1B	08/31/99	37	58	37	58	157%	±	OUT
EP-100A	09/08/99	278	360	278	360	129%	25.7%	
EP-101C	09/29/99	1000	1300	1000	1300	130%	26.1%	
EP-102G2	09/30/99	614	720	614	720	117%	15.9%	
EP-104G	10/06/99	5	10	10	10	100%	±	
EP-104P	10/06/99	5	10	10	10	100%	±	
EP-105E2	10/07/99	41	40	41	40	98%	±	
EP-107A	10/11/99	4	15	10	15	150%	±	
EP-109A	10/15/99	49	59	49	59	120%	±	
EP-106A	10/16/99	54	82	54	82	152%	41.2%	OUT
EP-112B	10/27/99	41	54	41	54	132%	±	
BH8-4B	11/02/99	83	110	83	110	133%	28.0%	
BH8-4C	11/02/99	144	170	144	170	118%	16.6%	
BH12-1A	11/03/99	260	300	260	300	115%	14.3%	
SSIA11-18A	11/05/99	38	45	38	45	118%	±	
EP-114A	11/15/99	180	200	180	200	111%	10.5%	
EP-114B	11/15/99	417	460	417	460	110%	9.8%	
EP-115F	11/16/99	254	270	254	270	106%	6.1%	
BH4-2B	11/18/99	232	320	232	320	138%	31.9%	
BH4-2D	11/18/99	53	83	53	83	157%	44.1%	OUT
BH4-2E	11/18/99	54	72	54	72	133%	28.6%	
BH14-3A	12/15/99	10	16	10	16	160%	±	
BH14-2C	12/16/99	91	140	91	140	154%	42.4%	OUT
BH14-2E	12/16/99	15	18	15	18	120%	±	

CADMIUM (CD) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.996429698
R Square	0.992872143
Adjusted R Square	0.992702432
Standard Error	22.5784004
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2982428.224	2982428.224	5850.374396	1.00312E-46
Residual	42	21410.93491	509.7841646		
Total	43	3003839.159			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-1.115779166	4.220885973	-0.264347147	0.792805336	-9.633874611	7.40231628
TSC-SLC CLP-RAS	1.245011751	0.01627272	76.48774017	1.00312E-46	1.212162876	1.277860626

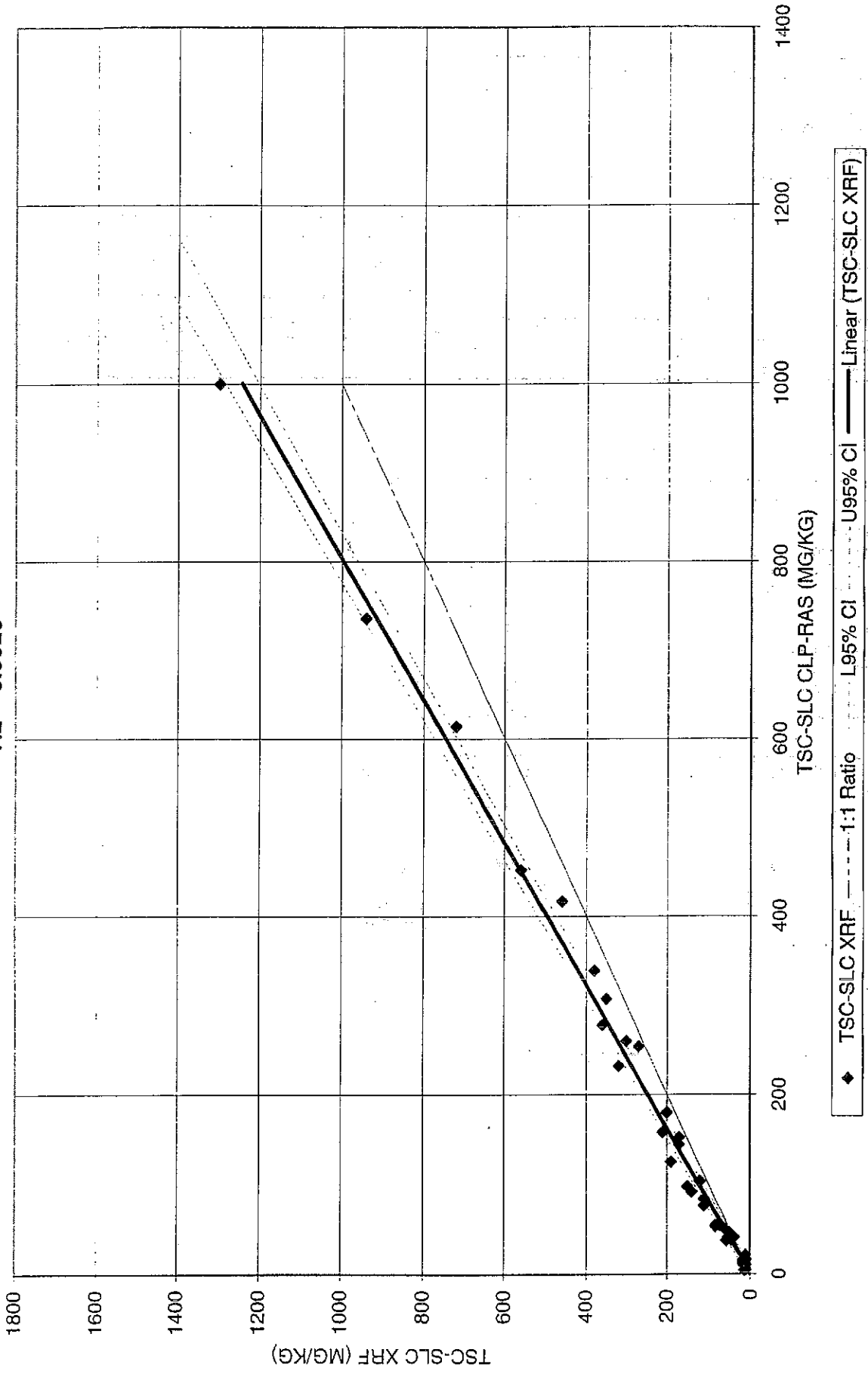
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	153.3409091	189.7954545
Variance	44746.04387	69856.72463
Observations	44	44
Pearson Correlation	0.996429698	
Hypothesized Mean Difference	0	
df	43	
t Stat	-4.285355764	
P(T<=t) one-tail	5.04315E-05	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	0.000100863	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	153.3409091	189.7954545
Standard Error	31.8897404	39.84536149
Median	65	96.5
Mode	10	10
Standard Deviation	211.5326071	264.3042274
Sample Variance	44746.04387	69856.72463
Kurtosis	6.07397314	7.508785142
Skewness	2.345189912	2.55333129
Range	996	1290
Minimum	4	10
Maximum	1000	1300
Sum	6747	8351
Count	44	44
Confidence Level(95.0%)	64.31174653	80.35577452

CADMIUM (CD) REGRESSION CHART

$y = 1.245x - 1.1158$
 $R^2 = 0.9929$



CHROMIUM

CHROMIUM

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data			RPD in	
		CLP-RAS	XRF	CLP-RAS	XRF	% Recovery	% RPD	Control Limits?
SSIA11-1A	07/19/99	20	160	80	160	200%	±	
BH11-2B	07/20/99	20	80	80	80	100%	±	
SSIA11-3A	07/20/99	25	270	80	270	338%	±	OUT
SSIA11-5C	07/20/99	20	80	80	80	100%	±	
SSIA11-6A	07/20/99	20	80	80	80	100%	±	
SSIA11-6B	07/20/99	20	290	80	290	363%	±	OUT
SSIA11-6C	07/20/99	22	180	80	180	225%	±	
EP-94E	07/26/99	28	80	80	80	100%	±	
EP-94F	07/26/99	22	80	80	80	100%	±	
SSIA11-10A	08/04/99	20	80	80	80	100%	±	
SSIA11-10B	08/04/99	20	80	80	80	100%	±	
SSIA11-10D	08/04/99	20	80	80	80	100%	±	
SSIA11-15A	08/06/99	20	80	80	80	100%	±	
SSIA11-15B	08/06/99	20	80	80	80	100%	±	
BH2-5C	08/16/99	10	80	80	80	100%	±	
BH2-6B	08/16/99	18	80	80	80	100%	±	
BH3-11A	08/18/99	13	110	80	110	138%	±	
BH3-2A	08/23/99	22	80	80	80	100%	±	
BH3-5A	08/25/99	46	260	80	260	325%	±	OUT
BH3-5A2	08/25/99	32	200	80	200	250%	±	
BH1-1B	08/31/99	13	80	80	80	100%	±	
EP-100A	09/08/99	30	80	80	80	100%	±	
EP-101C	09/29/99	16	80	80	80	100%	±	
EP-102G2	09/30/99	18	80	80	80	100%	±	
EP-104G	10/06/99	19	80	80	80	100%	±	
EP-104P	10/06/99	14	80	80	80	100%	±	
EP-105E2	10/07/99	19	80	80	80	100%	±	
EP-107A	10/11/99	22	100	80	100	125%	±	
EP-109A	10/15/99	52	80	80	80	100%	±	
EP-106A	10/16/99	16	85	80	85	106%	±	
EP-112B	10/27/99	21	80	80	80	100%	±	
BH8-4B	11/02/99	36	210	80	210	263%	±	
BH8-4C	11/02/99	41	100	80	100	125%	±	
BH12-1A	11/03/99	50	80	80	80	100%	±	
SSIA11-18A	11/05/99	20	80	80	80	100%	±	
EP-114A	11/15/99	22	80	80	80	100%	±	
EP-114B	11/15/99	11	80	80	80	100%	±	
EP-115F	11/16/99	12	80	80	80	100%	±	
BH4-2B	11/18/99	16	80	80	80	100%	±	
BH4-2D	11/18/99	14	80	80	80	100%	±	
BH4-2E	11/18/99	23	80	80	80	100%	±	
BH14-3A	12/15/99	27	80	80	80	100%	±	
BH14-2C	12/16/99	21	80	80	80	100%	±	
BH14-2E	12/16/99	12	80	80	80	100%	±	

CHROMIUM (CR) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.302433429
R Square	0.091465979
Adjusted R Square	0.069834217
Standard Error	54.09367839
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	12372.59261	12372.59261	4.228318409	0.046003281
Residual	42	122897.2938	2926.126042		
Total	43	135269.8864			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	65.39623509	20.76260074	3.149713078	0.003008191	23.49559717	107.296873
TSC-SLC CLP-RAS	1.757442173	0.854667524	2.056287531	0.046003281	0.032652735	3.482231612

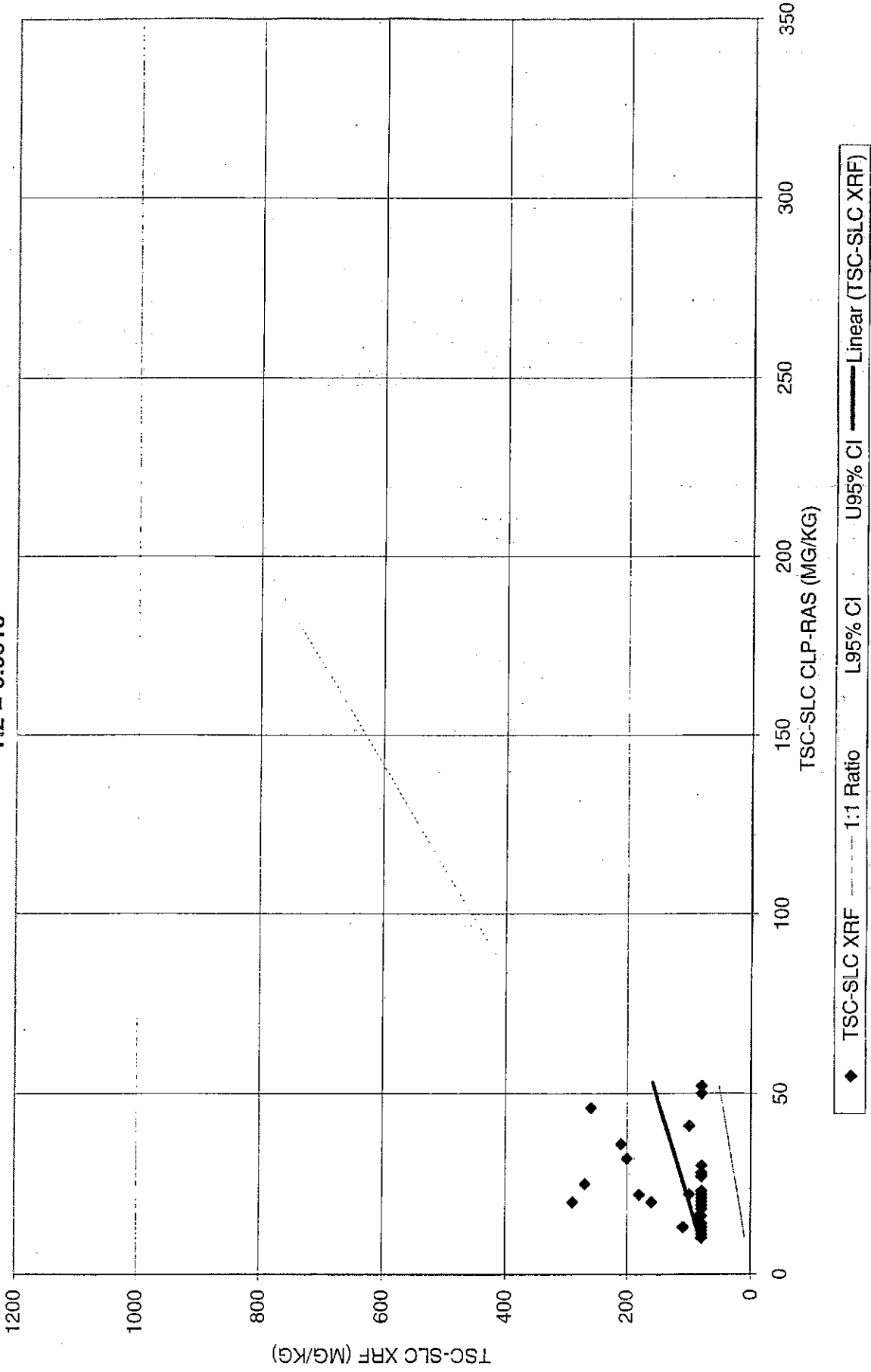
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	22.34090909	104.6590909
Variance	93.16014799	3145.811311
Observations	44	44
Pearson Correlation	0.302433429	
Hypothesized Mean Difference	0	
df	43	
t Stat	-10.11956623	
P(T<=t) one-tail	3.00531E-13	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	6.01062E-13	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	22.34090909	104.6590909
Standard Error	1.455086283	8.455513681
Median	20	80
Mode	20	80
Standard Deviation	9.651950476	56.08753258
Sample Variance	93.16014799	3145.811311
Kurtosis	2.743006188	4.261791003
Skewness	1.671772377	2.315003668
Range	42	210
Minimum	10	80
Maximum	52	290
Sum	983	4605
Count	44	44
Confidence Level(95.0%)	2.934459141	17.05215677

CHROMIUM (CR) REGRESSION CHART

$y = 1.7574x + 65.396$
 $R^2 = 0.0915$



COPPER

COPPER

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data			RPD in	
		CLP-RAS	XRF	CLP-RAS	XRF	% Recovery	% RPD	Control Limits?
SSIA11-1A	07/19/99	2190	2900	2190	2900	132%	27.9%	
BH11-2B	07/20/99	1202	1900	1202	1900	158%	45.0%	OUT
SSIA11-3A	07/20/99	19990	29000	19990	29000	145%	36.8%	OUT
SSIA11-5C	07/20/99	366	650	366	650	178%	55.9%	OUT
SSIA11-6A	07/20/99	2154	3600	2154	3600	167%	50.3%	OUT
SSIA11-6B	07/20/99	3890	5800	3890	5800	149%	39.4%	OUT
SSIA11-6C	07/20/99	10440	18000	10440	18000	172%	53.2%	OUT
EP-94E	07/26/99	84860	150000	84860	150000	177%	55.5%	OUT
EP-94F	07/26/99	1458	1900	1458	1900	130%	26.3%	
SSIA11-10A	08/04/99	862	980	862	980	114%	12.8%	
SSIA11-10B	08/04/99	101	140	101	140	139%	32.4%	
SSIA11-10D	08/04/99	29	20	29	20	69%	±	
SSIA11-15A	08/06/99	201	210	201	210	104%	4.4%	
SSIA11-15B	08/06/99	272	300	272	300	110%	9.8%	
BH2-5C	08/16/99	21	40	21	40	190%	±	
BH2-6B	08/16/99	743	1300	743	1300	175%	54.5%	OUT
BH3-11A	08/18/99	2220	3400	2220	3400	153%	42.0%	OUT
BH3-2A	08/23/99	293	4000	293	4000	1365%	172.7%	OUT
BH3-5A	08/25/99	4020	7400	4020	7400	184%	59.2%	OUT
BH3-5A2	08/25/99	3080	5600	3080	5600	182%	58.1%	OUT
BH1-1B	08/31/99	2890	5500	2890	5500	190%	62.2%	OUT
EP-100A	09/08/99	2018	2900	2018	2900	144%	35.9%	OUT
EP-101C	09/29/99	3430	5600	3430	5600	163%	48.1%	OUT
EP-102G2	09/30/99	16	20	16	20	125%	±	
EP-104G	10/06/99	17	25	17	25	147%	±	
EP-104P	10/06/99	14	20	14	20	143%	±	
EP-105E2	10/07/99	13760	21000	13760	21000	153%	41.7%	OUT
EP-107A	10/11/99	219	330	219	330	151%	40.4%	OUT
EP-109A	10/15/99	1955	2700	1955	2700	138%	32.0%	
EP-106A	10/16/99	2732	3700	2732	3700	135%	30.1%	
EP-112B	10/27/99	730	1100	730	1100	151%	40.4%	OUT
BH8-4B	11/02/99	556	760	556	760	137%	31.0%	
BH8-4C	11/02/99	76	140	76	140	184%	59.3%	OUT
BH12-1A	11/03/99	3574	4300	3574	4300	120%	18.4%	
SSIA11-18A	11/05/99	1276	1600	1276	1600	125%	22.5%	
EP-114A	11/15/99	592	710	592	710	120%	18.1%	
EP-114B	11/15/99	201	250	201	250	124%	21.7%	
EP-115F	11/16/99	298	350	298	350	117%	16.0%	
BH4-2B	11/18/99	3303	4900	3303	4900	148%	38.9%	OUT
BH4-2D	11/18/99	934	1500	934	1500	161%	46.5%	OUT
BH4-2E	11/18/99	951	1600	951	1600	168%	50.9%	OUT
BH14-3A	12/15/99	1558	1800	1558	1800	116%	14.4%	
BH14-2C	12/16/99	3552	4400	3552	4400	124%	21.3%	
BH14-2E	12/16/99	1850	2400	1850	2400	130%	25.9%	

COPPER (CU) COMPARISON STATISTICAL SUMMARY

Regression Statistics	
Multiple R	0.998491738
R Square	0.996985751
Adjusted R Square	0.996913983
Standard Error	1266.390915
Observations	44

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	22278947099	22278947099	13891.81816	1.41618E-54
Residual	42	67357329.88	1603745.95		
Total	43	22346304429			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-432.6723677	200.8650736	-2.154044802	0.037021287	-838.0346257	-27.31010966
TSC-SLC CLP-RAS	1.751179509	0.014857684	117.8635574	1.41618E-54	1.721195479	1.781163539

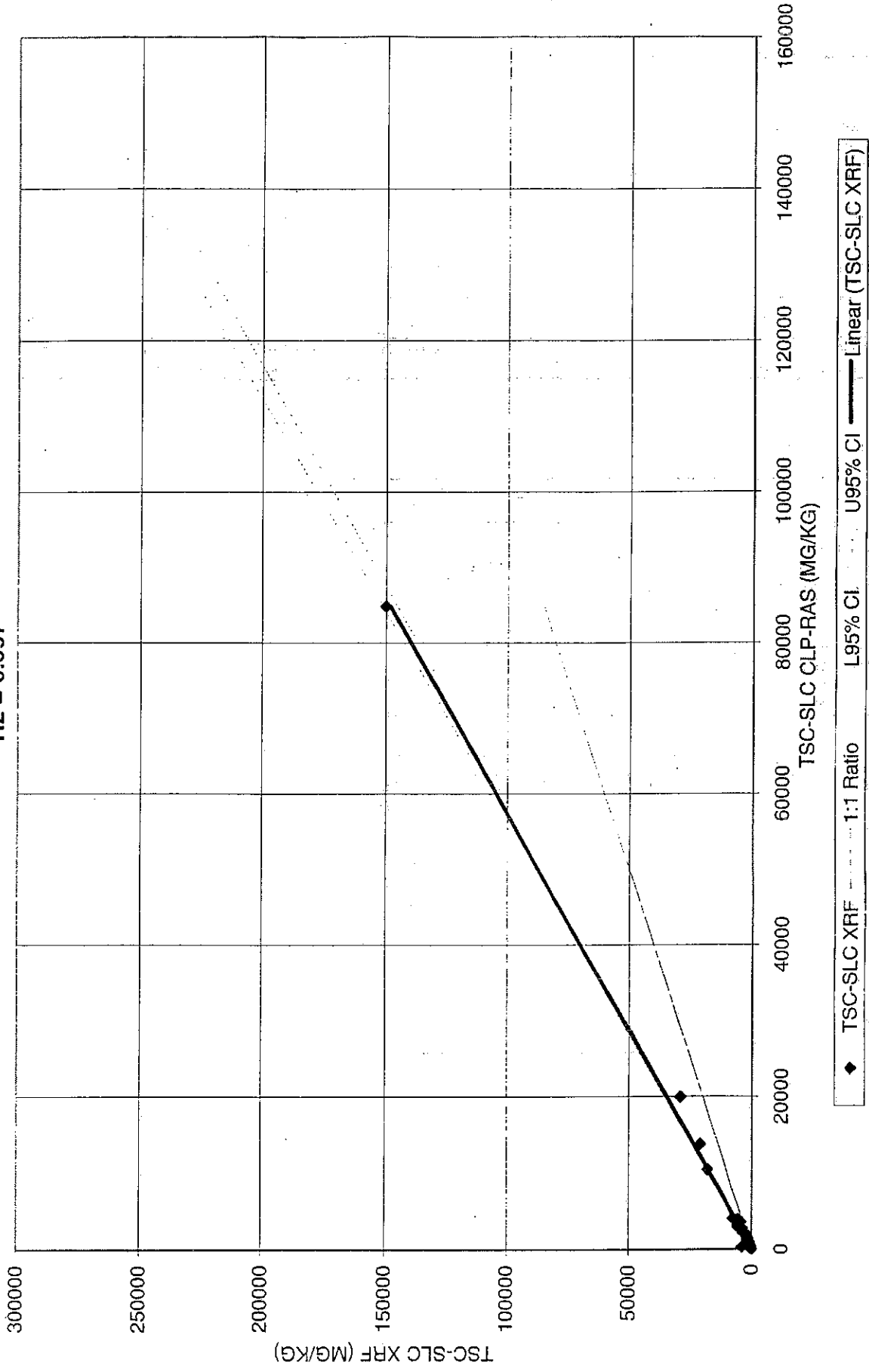
t-Test: Paired Two Sample for Means

	TSC-SLC CLP-RAS	TSC-SLC XRF
Mean	4202.136364	6926.022727
Variance	168952597.5	519681498.3
Observations	44	44
Pearson Correlation	0.998491738	
Hypothesized Mean Difference	0	
df	43	
t Stat	-1.835482309	
P(T<=t) one-tail	0.036678206	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	0.073356412	
t Critical two-tail	2.016690814	

Descriptive Statistics	TSC-SLC CLP-RAS	TSC-SLC XRF
Mean	4202.136364	6926.022727
Standard Error	1959.548867	3436.705275
Median	1239	1850
Mode	201	20
Standard Deviation	12998.1767	22796.52382
Sample Variance	168952597.5	519681498.3
Kurtosis	36.49897447	38.30041186
Skewness	5.862161943	6.040501185
Range	84846	149980
Minimum	14	20
Maximum	84860	150000
Sum	184894	304745
Count	44	44
Confidence Level(95.0%)	3951.8042	6930.771959

COPPER (CU) REGRESSION CHART

$y = 1.7512x - 432.67$
 $R^2 = 0.997$



IRON

IRON

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data		% Recovery	%RPD	RPD in Control Limits?
		CLP-RAS	XRF	CLP-RAS	XRF			
SSIA11-1A	07/19/99	24000	34000	24000	34000	142%	34.5%	
BH11-2B	07/20/99	23000	27000	23000	27000	117%	16.0%	
SSIA11-3A	07/20/99	37000	44000	37000	44000	119%	17.3%	
SSIA11-5C	07/20/99	10000	17000	10000	17000	170%	51.9%	OUT
SSIA11-6A	07/20/99	18000	29000	18000	29000	161%	46.8%	
SSIA11-6B	07/20/99	20000	28000	20000	28000	140%	33.3%	
SSIA11-6C	07/20/99	26000	35000	26000	35000	135%	29.5%	
EP-94E	07/26/99	77000	65000	77000	65000	84%	16.9%	
EP-94F	07/26/99	9000	15000	9000	15000	167%	50.0%	OUT
SSIA11-10A	08/04/99	48000	44000	48000	44000	92%	8.7%	
SSIA11-10B	08/04/99	15000	21000	15000	21000	140%	33.3%	
SSIA11-10D	08/04/99	12000	19000	12000	19000	158%	45.2%	OUT
SSIA11-15A	08/06/99	22000	29000	22000	29000	132%	27.5%	
SSIA11-15B	08/06/99	25000	31000	25000	31000	124%	21.4%	
BH2-5C	08/16/99	13300	21000	13300	21000	158%	44.9%	OUT
BH2-6B	08/16/99	30000	49000	30000	49000	163%	48.1%	OUT
BH3-11A	08/18/99	14700	23000	14700	23000	156%	44.0%	OUT
BH3-2A	08/23/99	23300	30000	23300	30000	129%	25.1%	
BH3-5A	08/25/99	20600	31000	20600	31000	150%	40.3%	OUT
BH3-5A2	08/25/99	18400	27000	18400	27000	147%	37.9%	OUT
BH1-1B	08/31/99	21300	24000	21300	24000	113%	11.9%	
EP-100A	09/08/99	16640	23000	16640	23000	138%	32.1%	
EP-101C	09/29/99	31200	38000	31200	38000	122%	19.7%	
EP-102G2	09/30/99	11600	17000	11600	17000	147%	37.8%	OUT
EP-104G	10/06/99	12700	20000	12700	20000	157%	44.6%	OUT
EP-104P	10/06/99	14000	18000	14000	18000	129%	25.0%	
EP-105E2	10/07/99	36700	63000	36700	63000	172%	52.8%	OUT
EP-107A	10/11/99	8742	15000	8742	15000	172%	52.7%	OUT
EP-109A	10/15/99	60860	77000	60860	77000	127%	23.4%	
EP-106A	10/16/99	17280	24000	17280	24000	139%	32.6%	
EP-112B	10/27/99	13480	20000	13480	20000	148%	38.9%	OUT
BH8-4B	11/02/99	8844	14000	8844	14000	158%	45.1%	OUT
BH8-4C	11/02/99	9712	14000	9712	14000	144%	36.2%	OUT
BH12-1A	11/03/99	29710	42000	29710	42000	141%	34.3%	
SSIA11-18A	11/05/99	26020	36000	26020	36000	138%	32.2%	
EP-114A	11/15/99	26760	30000	26760	30000	112%	11.4%	
EP-114B	11/15/99	15280	21000	15280	21000	137%	31.5%	
EP-115F	11/16/99	16810	24000	16810	24000	143%	35.2%	
BH4-2B	11/18/99	21050	32000	21050	32000	152%	41.3%	OUT
BH4-2D	11/18/99	19400	29000	19400	29000	149%	39.7%	OUT
BH4-2E	11/18/99	19780	30000	19780	30000	152%	41.1%	OUT
BH14-3A	12/15/99	14830	20000	14830	20000	135%	29.7%	
BH14-2C	12/16/99	18610	24000	18610	24000	129%	25.3%	
BH14-2E	12/16/99	15420	23000	15420	23000	149%	39.5%	OUT

IRON (FE) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.91896004
R Square	0.844487555
Adjusted R Square	0.840784878
Standard Error	5435.40042
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6738147008	6738147008	228.0748483	1.41157E-18
Residual	42	1240830265	29543577.73		
Total	43	7978977273			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	8695.019208	1601.602501	5.428949568	2.61915E-06	5462.853482	11927.18493
TSC-SLC CLP-RAS	0.939766538	0.062227346	15.10214714	1.41157E-18	0.814186629	1.065346446

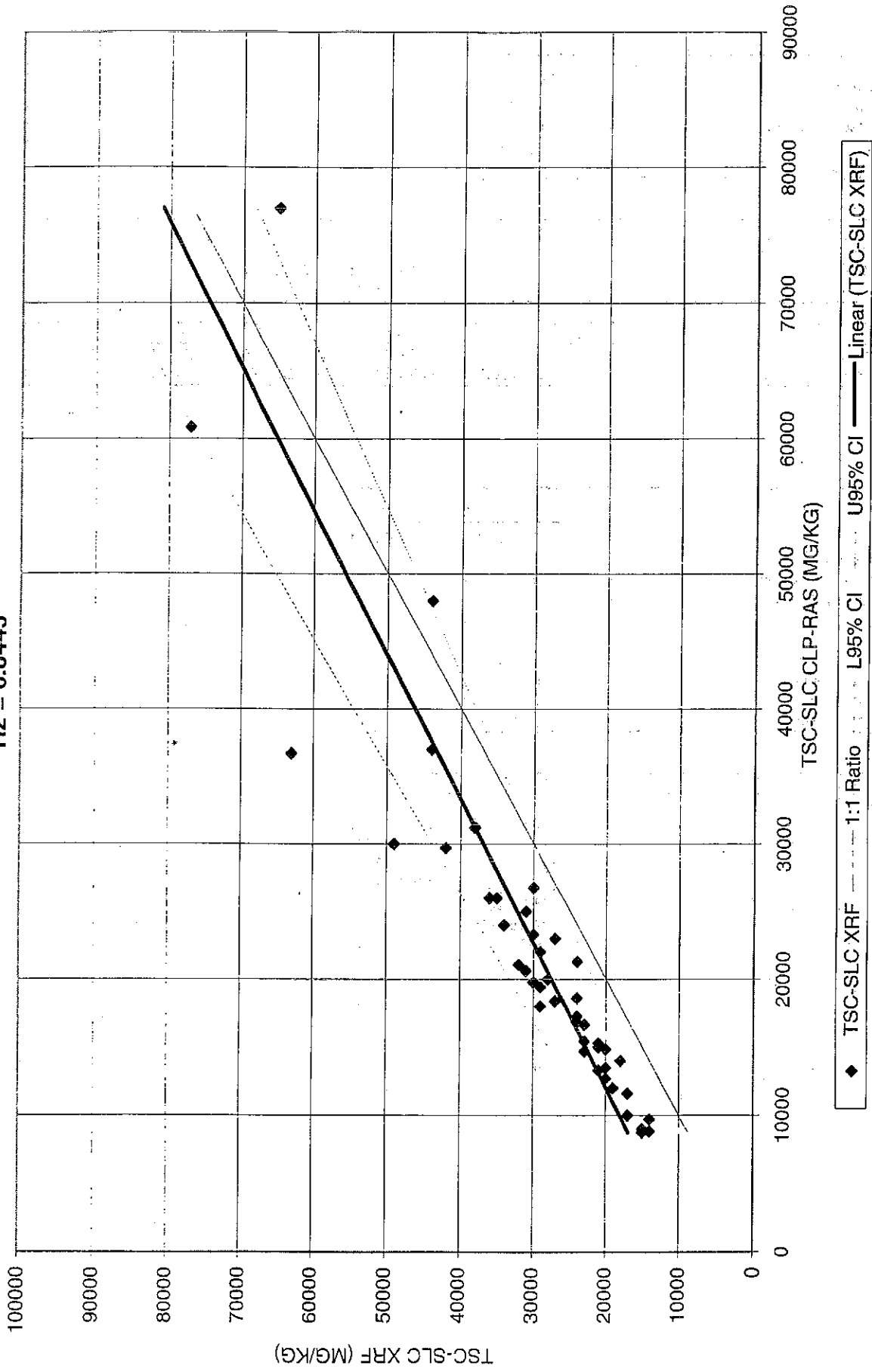
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	22114.27273	29477.27273
Variance	177432050.7	185557611
Observations	44	44
Pearson Correlation	0.91896004	
Hypothesized Mean Difference	0	
df	43	
t Stat	-8.992247742	
P(T<=t) one-tail	9.78968E-12	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	1.95794E-11	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	22114.27273	29477.27273
Standard Error	2008.120168	2053.586724
Median	19005	27000
Mode	#N/A	24000
Standard Deviation	13320.36226	13621.95327
Sample Variance	177432050.7	185557611
Kurtosis	7.044869011	3.420396668
Skewness	2.383373657	1.740894458
Range	68258	63000
Minimum	8742	14000
Maximum	77000	77000
Sum	973028	1297000
Count	44	44
Confidence Level(95.0%)	4049.757496	4141.449482

IRON (FE) REGRESSION CHART

$y = 0.9398x + 8695$
 $R^2 = 0.8445$



LEAD

LEAD

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data			RPD in	
		CLP-RAS	XRF	CLP-RAS	XRF	% Recovery	%RPD	Control Limits?
SSIA11-1A	07/19/99	1433	1500	1433	1500	105%	4.6%	
BH11-2B	07/20/99	3184	3300	3184	3300	104%	3.6%	
SSIA11-3A	07/20/99	21000	14000	21000	14000	67%	40.0%	OUT
SSIA11-5C	07/20/99	661	750	661	750	113%	12.6%	
SSIA11-6A	07/20/99	1743	2000	1743	2000	115%	13.7%	
SSIA11-6B	07/20/99	12640	12000	12640	12000	95%	5.2%	
SSIA11-6C	07/20/99	2319	2100	2319	2100	91%	9.9%	
EP-94E	07/26/99	4368	3400	4368	3400	78%	24.9%	
EP-94F	07/26/99	420	580	420	580	138%	32.0%	
SSIA11-10A	08/04/99	1000	730	1000	730	73%	31.2%	
SSIA11-10B	08/04/99	83	150	83	150	181%	57.5%	OUT
SSIA11-10D	08/04/99	14	10	14	10	71%	±	
SSIA11-15A	08/06/99	101	130	101	130	129%	25.1%	
SSIA11-15B	08/06/99	389	380	389	380	98%	2.3%	
BH2-5C	08/16/99	5	10	10	10	100%	±	
BH2-6B	08/16/99	12	74	12	74	617%	±	OUT
BH3-11A	08/18/99	805	990	805	990	123%	20.6%	
BH3-2A	08/23/99	2030	2500	2030	2500	123%	20.8%	
BH3-5A	08/25/99	3390	3800	3390	3800	112%	11.4%	
BH3-5A2	08/25/99	2170	2400	2170	2400	111%	10.1%	
BH1-1B	08/31/99	1470	1600	1470	1600	109%	8.5%	
EP-100A	09/08/99	858	850	858	850	99%	0.9%	
EP-101C	09/29/99	21800	21000	21800	21000	96%	3.7%	
EP-102G2	09/30/99	20	88	20	88	440%	±	OUT
EP-104G	10/06/99	7	55	10	55	550%	±	OUT
EP-104P	10/06/99	7	37	10	37	370%	±	OUT
EP-105E2	10/07/99	638	910	638	910	143%	35.1%	
EP-107A	10/11/99	91	150	91	150	165%	49.0%	OUT
EP-109A	10/15/99	1451	2000	1451	2000	138%	31.8%	
EP-106A	10/16/99	2517	2800	2517	2800	111%	10.6%	
EP-112B	10/27/99	1195	1500	1195	1500	126%	22.6%	
BH8-4B	11/02/99	391	550	391	550	141%	33.8%	
BH8-4C	11/02/99	54	120	54	120	222%	75.9%	OUT
BH12-1A	11/03/99	2444	2700	2444	2700	110%	10.0%	
SSIA11-18A	11/05/99	1041	1100	1041	1100	106%	5.5%	
EP-114A	11/15/99	860	840	860	840	98%	2.4%	
EP-114B	11/15/99	222	270	222	270	122%	19.5%	
EP-115F	11/16/99	432	510	432	510	118%	16.6%	
BH4-2B	11/18/99	4355	4800	4355	4800	110%	9.7%	
BH4-2D	11/18/99	1078	1400	1078	1400	130%	26.0%	
BH4-2E	11/18/99	1136	1400	1136	1400	123%	20.8%	
BH14-3A	12/15/99	2100	2600	2100	2600	124%	21.3%	
BH14-2C	12/16/99	3912	4400	3912	4400	112%	11.7%	
BH14-2E	12/16/99	808	970	808	970	120%	18.2%	

LEAD (PB) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.980084963
R Square	0.960566535
Adjusted R Square	0.959627643
Standard Error	800.2197953
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	655134375.5	655134375.5	1023.085211	4.06655E-31
Residual	42	26894772.28	640351.7209		
Total	43	682029147.7			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	330.9280361	136.1725322	2.430211371	0.019442663	56.12065356	605.7354187
TSC-SLC CLP-RAS	0.83347241	0.026057655	31.98570323	4.06655E-31	0.780885917	0.886058903

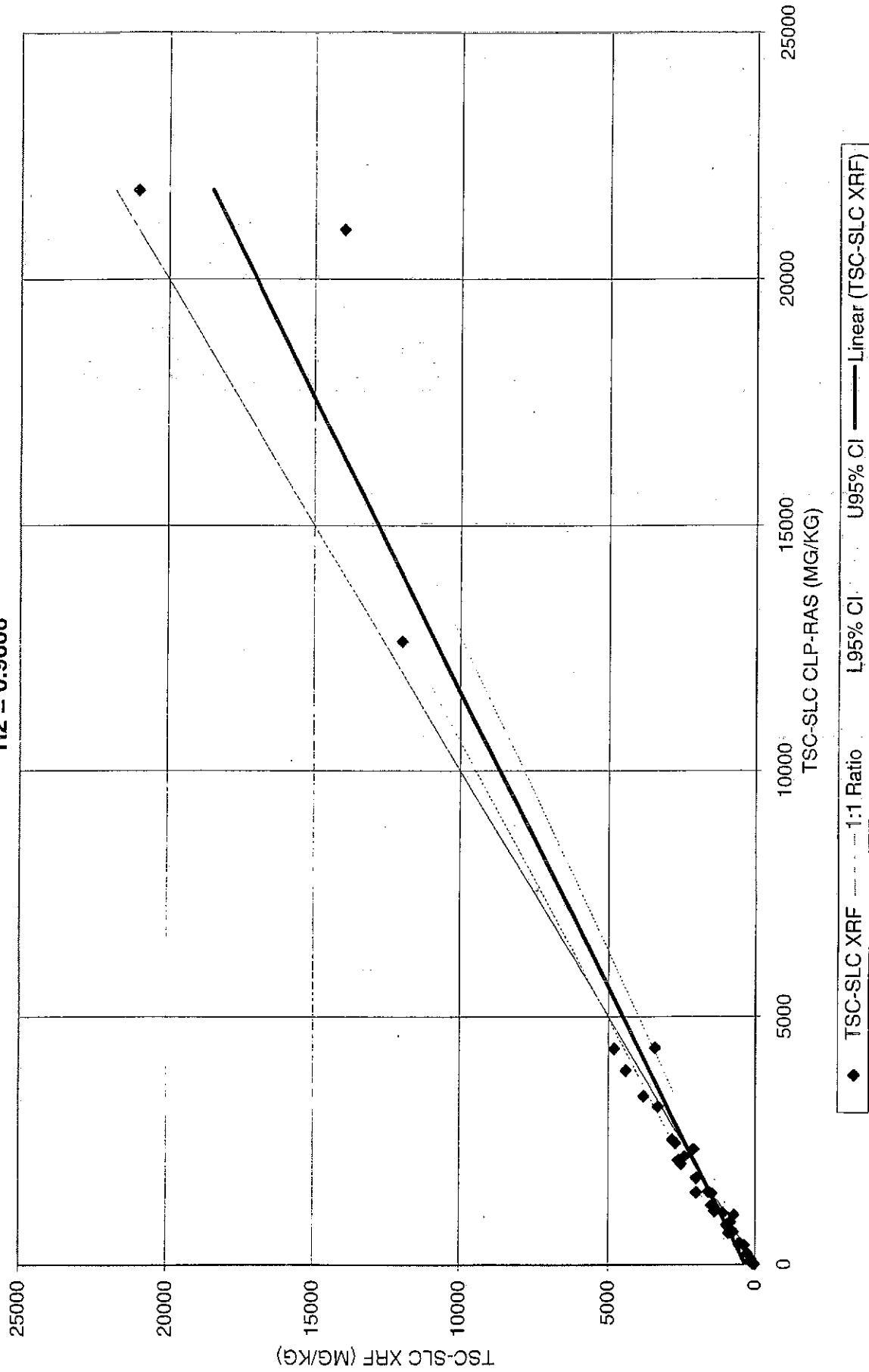
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	2423.954545	2351.227273
Variance	21932062.56	15861142.97
Observations	44	44
Pearson Correlation	0.980084963	
Hypothesized Mean Difference	0	
df	43	
t Stat	0.434334758	
P(T<=t) one-tail	0.333108569	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	0.666217138	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	2423.954545	2351.227273
Standard Error	706.0141409	600.4003015
Median	1020.5	1045
Mode	7	1500
Standard Deviation	4683.168004	3982.605048
Sample Variance	21932062.56	15861142.97
Kurtosis	11.86761009	12.55875686
Skewness	3.45084241	3.399034617
Range	21795	20990
Minimum	5	10
Maximum	21800	21000
Sum	106654	103454
Count	44	44
Confidence Level(95.0%)	1423.812233	1210.821773

LEAD (PB) REGRESSION CHART

$y = 0.8335x + 330.93$
 $R^2 = 0.9606$



SELENIUM

SELENIUM

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data			RPD in Control Limits?
		CLP-RAS	XRF	CLP-RAS	XRF	% Recovery	
SSIA11-1A	07/19/99	10	10	10	10	100%	±
BH11-2B	07/20/99	22	33	22	33	150%	±
SSIA11-3A	07/20/99	110	92	110	92	84%	17.8%
SSIA11-5C	07/20/99	10	10	10	10	100%	±
SSIA11-6A	07/20/99	10	10	10	10	100%	±
SSIA11-6B	07/20/99	33	29	33	29	88%	±
SSIA11-6C	07/20/99	17	10	17	10	59%	±
EP-94E	07/26/99	14	34	14	34	243%	±
EP-94F	07/26/99	10	10	10	10	100%	±
SSIA11-10A	08/04/99	14	21	14	21	150%	±
SSIA11-10B	08/04/99	11	19	11	19	173%	±
SSIA11-10D	08/04/99	10	10	10	10	100%	±
SSIA11-15A	08/06/99	13	22	13	22	169%	±
SSIA11-15B	08/06/99	10	10	10	10	100%	±
BH2-5C	08/16/99	5	10	10	10	100%	±
BH2-6B	08/16/99	25	26	25	26	104%	±
BH3-11A	08/18/99	9	13	10	13	130%	±
BH3-2A	08/23/99	12	19	12	19	158%	±
BH3-5A	08/25/99	16	35	16	35	219%	±
BH3-5A2	08/25/99	12	22	12	22	183%	±
BH1-1B	08/31/99	5	13	10	13	130%	±
EP-100A	09/08/99	11	20	11	20	182%	±
EP-101C	09/29/99	126	170	126	170	135%	29.7%
EP-102G2	09/30/99	5	10	10	10	100%	±
EP-104G	10/06/99	5	10	10	10	100%	±
EP-104P	10/06/99	5	10	10	10	100%	±
EP-105E2	10/07/99	8	10	10	10	100%	±
EP-107A	10/11/99	5	10	10	10	100%	±
EP-109A	10/15/99	8	13	10	13	130%	±
EP-106A	10/16/99	11	10	11	10	91%	±
EP-112B	10/27/99	5	10	10	10	100%	±
BH8-4B	11/02/99	5	10	10	10	100%	±
BH8-4C	11/02/99	5	10	10	10	100%	±
BH12-1A	11/03/99	14	24	14	24	171%	±
SSIA11-18A	11/05/99	5	10	10	10	100%	±
EP-114A	11/15/99	5	11	10	11	110%	±
EP-114B	11/15/99	5	10	10	10	100%	±
EP-115F	11/16/99	5	10	10	10	100%	±
BH4-2B	11/18/99	18	28	18	28	156%	±
BH4-2D	11/18/99	5	10	10	10	100%	±
BH4-2E	11/18/99	6	10	10	10	100%	±
BH14-3A	12/15/99	5	10	10	10	100%	±
BH14-2C	12/16/99	8	15	10	15	150%	±
BH14-2E	12/16/99	5	10	10	10	100%	±

SELENIUM (SE) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.952372616
R Square	0.907013599
Adjusted R Square	0.904799637
Standard Error	8.301417964
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	28232.42677	28232.42677	409.6789496	2.78436E-23
Residual	42	2894.368689	68.91354021		
Total	43	31126.79545			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	4.185028447	1.486782357	2.814822511	0.007398178	1.184579228	7.185477667
TSC-SLC CLP-RAS	1.086411472	0.053675057	20.2405274	2.78436E-23	0.978090786	1.194732157

t-Test: Paired Two Sample for Means

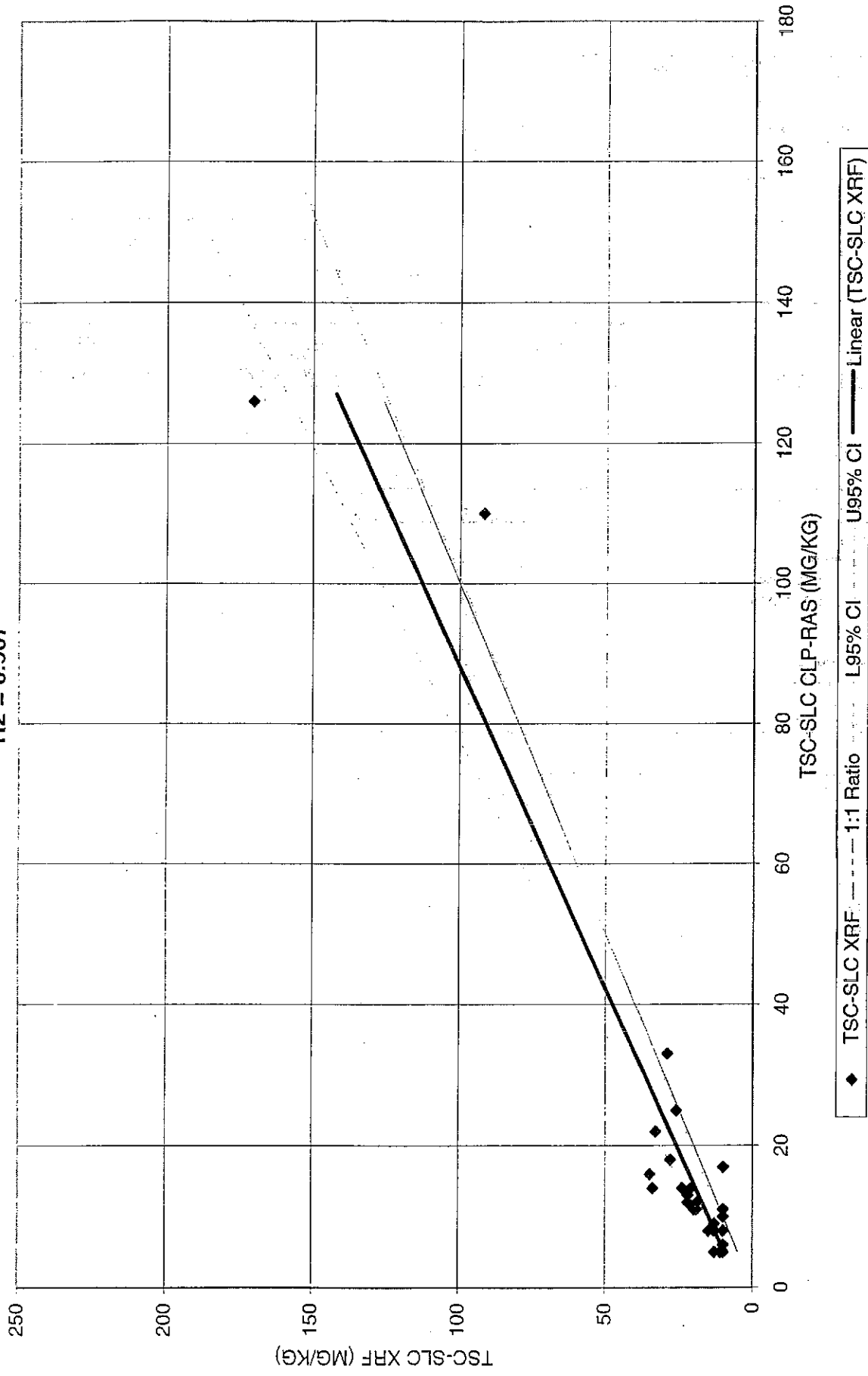
	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	14.95454545	20.43181818
Variance	556.2769556	723.8789641
Observations	44	44
Pearson Correlation	0.952372616	
Hypothesized Mean Difference	0	
df	43	
t Stat	-4.297790662	
P(T<=t) one-tail	4.84954E-05	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	9.69909E-05	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	14.95454545	20.43181818
Standard Error	3.555651569	4.056081192
Median	10	10
Mode	5	10
Standard Deviation	23.58552428	26.90499887
Sample Variance	556.2769556	723.8789641
Kurtosis	16.99583416	23.67685131
Skewness	4.115907759	4.618327871
Range	121	160
Minimum	5	10
Maximum	126	170
Sum	658	899
Count	44	44
Confidence Level(95.0%)	7.170649859	8.179861683

SELENIUM (SE) REGRESSION CHART

$$y = 1.0864x + 4.185$$

$$R^2 = 0.907$$



ZINC

ZINC

Note: * All values are in ppm.

* A Hydrometrics in-house program was used to automate the regression calculations.

The data used in the regression calculations are the values as received from the laboratory.

* The data used in the Recovery and RPD calculations have been adjusted to reflect the higher reporting detection limit.

Sample No	Date	Regression Data		Recovery & RPD Data		% Recovery	RPD in	
		CLP-RAS	XRF	CLP-RAS	XRF		% RPD	Control Limits?
SSIA11-1A	07/19/99	1384	1400	1384	1400	101%	1.1%	
BH11-2B	07/20/99	1901	1400	1901	1400	74%	30.4%	
SSIA11-3A	07/20/99	14930	15000	14930	15000	100%	0.5%	
SSIA11-5C	07/20/99	530	520	530	520	98%	1.9%	
SSIA11-6A	07/20/99	1145	1200	1145	1200	105%	4.7%	
SSIA11-6B	07/20/99	3949	4100	3949	4100	104%	3.8%	
SSIA11-6C	07/20/99	4031	4100	4031	4100	102%	1.7%	
EP-94E	07/26/99	3490	2900	3490	2900	83%	18.5%	
EP-94F	07/26/99	408	370	408	370	91%	9.8%	
SSIA11-10A	08/04/99	3816	2200	3816	2200	58%	53.7%	OUT
SSIA11-10B	08/04/99	113	110	113	110	97%	2.7%	
SSIA11-10D	08/04/99	39	45	39	45	115%	±	
SSIA11-15A	08/06/99	529	420	529	420	79%	23.0%	
SSIA11-15B	08/06/99	1370	1000	1370	1000	73%	31.2%	
BH2-5C	08/16/99	28	15	28	15	54%	±	
BH2-6B	08/16/99	128	130	128	130	102%	1.6%	
BH3-11A	08/18/99	1190	1200	1190	1200	101%	0.8%	
BH3-2A	08/23/99	4050	4600	4050	4600	114%	12.7%	
BH3-5A	08/25/99	7820	10000	7820	10000	128%	24.5%	
BH3-5A2	08/25/99	6230	7600	6230	7600	122%	19.8%	
BH1-1B	08/31/99	2520	2400	2520	2400	95%	4.9%	
EP-100A	09/08/99	2685	3100	2685	3100	115%	14.3%	
EP-101C	09/29/99	6580	6700	6580	6700	102%	1.8%	
EP-102G2	09/30/99	544	620	544	620	114%	13.1%	
EP-104G	10/06/99	28	48	28	48	171%	±	
EP-104P	10/06/99	32	32	32	32	100%	±	
EP-105E2	10/07/99	3271	3700	3271	3700	113%	12.3%	
EP-107A	10/11/99	103	140	103	140	136%	30.5%	
EP-109A	10/15/99	4445	4500	4445	4500	101%	1.2%	
EP-106A	10/16/99	1785	1800	1785	1800	101%	0.8%	
EP-112B	10/27/99	700	740	700	740	106%	5.6%	
BH8-4B	11/02/99	2178	2300	2178	2300	106%	5.4%	
BH8-4C	11/02/99	1863	1900	1863	1900	102%	2.0%	
BH12-1A	11/03/99	2852	2700	2852	2700	95%	5.5%	
SSIA11-18A	11/05/99	1098	1100	1098	1100	100%	0.2%	
EP-114A	11/15/99	3618	3200	3618	3200	88%	12.3%	
EP-114B	11/15/99	1725	1700	1725	1700	99%	1.5%	
EP-115F	11/16/99	1193	1200	1193	1200	101%	0.6%	
BH4-2B	11/18/99	2293	2600	2293	2600	113%	12.5%	
BH4-2D	11/18/99	664	810	664	810	122%	19.8%	
BH4-2E	11/18/99	638	800	638	800	125%	22.5%	
BH14-3A	12/15/99	189	210	189	210	111%	10.5%	
BH14-2C	12/16/99	1503	1500	1503	1500	100%	0.2%	
BH14-2E	12/16/99	242	230	242	230	95%	5.1%	

ZINC (ZN) COMPARISON STATISTICAL SUMMARY

<i>Regression Statistics</i>	
Multiple R	0.986044868
R Square	0.972284481
Adjusted R Square	0.971624588
Standard Error	488.7140442
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	351908102.1	351908102.1	1473.396476	2.45887E-34
Residual	42	10031339.51	238841.417		
Total	43	361939441.6			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-64.43018779	96.46833465	-0.6678895	0.507857881	-259.1112304	130.2508548
TSC-SLC CLP-RAS	1.053540301	0.027446776	38.38484696	2.45887E-34	0.998150447	1.108930155

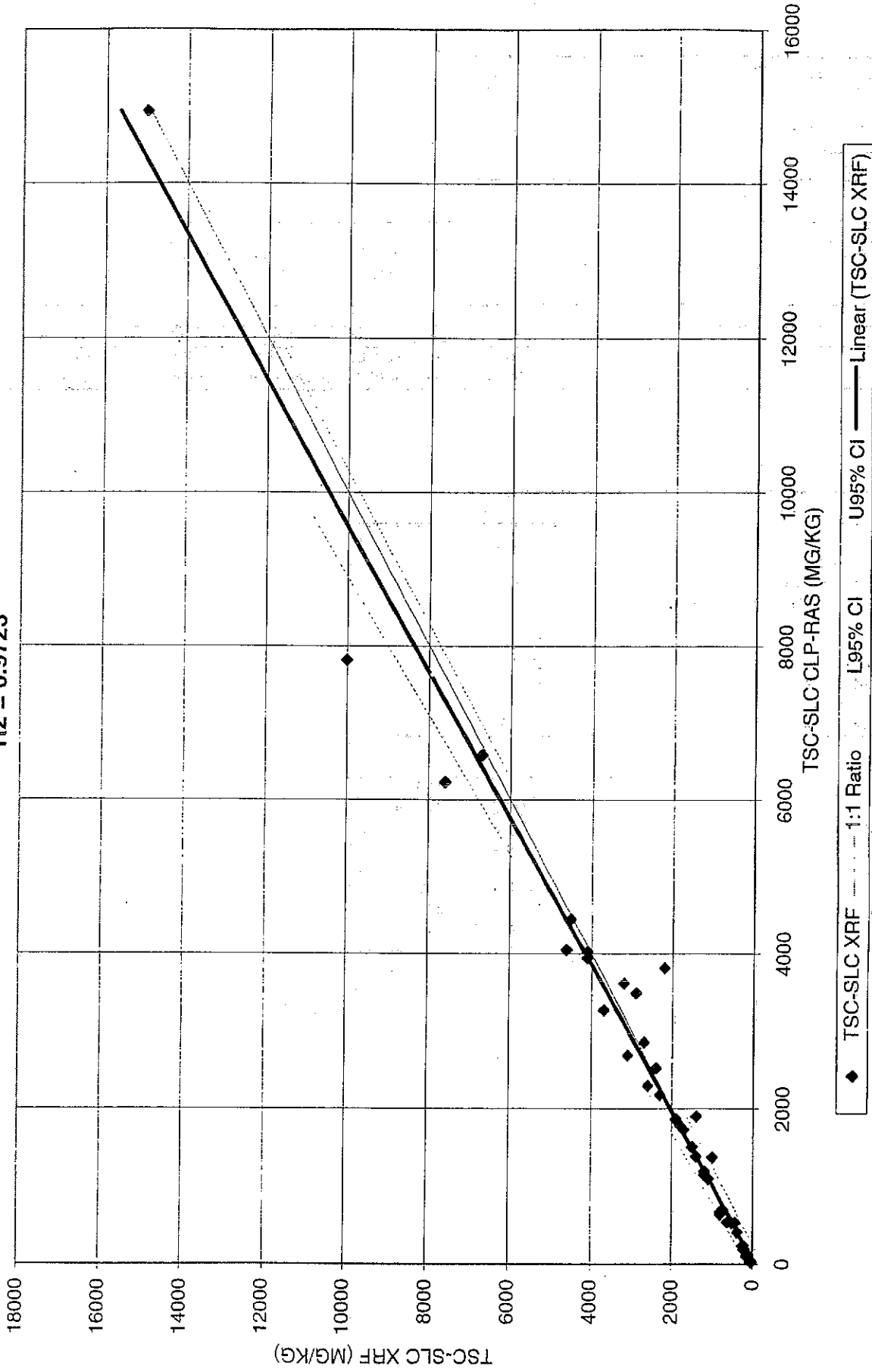
t-Test: Paired Two Sample for Means

	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	2268.863636	2325.909091
Variance	7373242.26	8417196.317
Observations	44	44
Pearson Correlation	0.986044868	
Hypothesized Mean Difference	0	
df	43	
t Stat	-0.750186664	
P(T<=t) one-tail	0.228613817	
t Critical one-tail	1.681071353	
P(T<=t) two-tail	0.457227633	
t Critical two-tail	2.016690814	

<i>Descriptive Statistics</i>	<i>TSC-SLC CLP-RAS</i>	<i>TSC-SLC XRF</i>
Mean	2268.863636	2325.909091
Standard Error	409.3576526	437.3784589
Median	1443.5	1400
Mode	28	1200
Standard Deviation	2715.371477	2901.240479
Sample Variance	7373242.26	8417196.317
Kurtosis	10.33874313	8.396003862
Skewness	2.730793472	2.603245443
Range	14902	14985
Minimum	28	15
Maximum	14930	15000
Sum	99830	102340
Count	44	44
Confidence Level(95.0%)	825.5478177	882.0571204

ZINC (ZN) REGRESSION CHART

$Y = 1.0535x - 64.43$
 $R^2 = 0.9723$



APPENDIX 3

Database

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Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
1	BH1-1	BH1-1	Soil		
3	BH1-2	BH1-2	Soil		
5	BH2-1	BH2-1	Soil		
6	BH2-2	BH2-2	Soil		
6	BH2-3	BH2-3	Soil		
8	BH2-4	BH2-4	Soil		
8	BH2-5	BH2-5	Soil		
9	BH2-6	BH2-6	Soil		
11	BH2-7	BH2-7	Soil		
12	BH3-2	BH3-2	Soil		
14	BH3-3	BH3-3	Soil		
14	BH3-4	BH3-4	Soil		
15	BH3-5	BH3-5	Soil		
17	BH3-6	BH3-6	Soil		
19	BH3-7	BH3-7	Soil		
21	BH3-8	BH3-8	Soil		
22	BH3-11	BH3-11	Soil		
24	BH4-1	BH4-1	Soil		
25	BH4-2	BH4-2	Soil		
27	BH4-3	BH4-3	Soil		
28	BH4-4	BH4-4	Soil		
29	BH4-5	BH4-5	Soil		
30	BH4-6	BH4-6	Soil		
32	BH8-1	BH8-1	Soil		
33	BH8-2	BH8-2	Soil		
36	BH8-3	BH8-3	Soil		
38	BH8-4	BH8-4	Soil		
41	BH9-5-1	BH9-5-1	Soil		
43	BH9-5-2	BH9-5-2	Soil		
44	BH9-5-3	BH9-5-3	Soil		
45	BH9-5-4	BH9-5-4	Soil		
46	BH9-5-5	BH9-5-5	Soil		
46	BH9-5-6	BH9-5-6	Soil		
47	BH9-5-7	BH9-5-7	Soil		
48	BH11-2	BH11-2	Soil		
50	BH11-3	BH11-3	Soil		
50	BH11-4	BH11-4	Soil		
52	BH12-1	BH12-1	Soil		
53	BH12-2	BH12-2	Soil		
53	BH12-3	BH12-3	Soil		
54	BH12-4	BH12-4	Soil		
55	BH12-5	BH12-5	Soil		
56	BH12-6	BH12-6	Soil		
56	BH12-7	BH12-7	Soil		
57	BH12-8	BH12-8	Soil		
57	BH12-9	BH12-9	Soil		
58	BH13-1	BH13-1	Soil		
60	BH14-1	BH14-1	Soil		
63	BH14-2	BH14-2	Soil		
66	BH14-3	BH14-3	Soil		
70	EP-89	EP-89	Soil		
70	EP-93	EP-93	Soil		
73	EP-94	EP-94	Soil		
75	EP-95	EP-95	Soil		
77	EP-95R	EP-95R	Soil		
79	EP-96	EP-96	Soil		
82	EP-97	EP-97	Soil		
82	EP-98	EP-98	Soil		
84	EP-99	EP-99	Soil		
85	EP-100	EP-100	Soil		
87	EP-101	EP-101	Soil		
90	EP-102	EP-102	Soil		
94	EP-103	EP-103	Soil		
97	EP-104	EP-104	Soil		
100	EP-105	EP-105	Soil		
104	EP-106	EP-106	Soil		
107	EP-107	EP-107	Soil		
110	EP-108	EP-108	Soil		
110	EP-109	EP-109	Soil		
113	EP-110	EP-110	Soil		
114	EP-111	EP-111	Soil		

TABLE OF CONTENTS BY SITE TYPE

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
115	EP-112	EP-112	Soil		
116	EP-113	EP-113	Soil		
117	EP-114	EP-114	Soil		
118	EP-115	EP-115	Soil		
120	EP-116	EP-116	Soil		
121	EP-117	EP-117	Soil		
122	EP-118	EP-118	Soil		
123	SSIA11-1	SSIA11-1	Soil		
124	SSIA11-2	SSIA11-2	Soil		
125	SSIA11-3	SSIA11-3	Soil		
126	SSIA11-4	SSIA11-4	Soil		
127	SSIA11-5	SSIA11-5	Soil		
128	SSIA11-6	SSIA11-6	Soil		
129	SSIA11-7	SSIA11-7	Soil		
130	SSIA11-8	SSIA11-8	Soil		
131	SSIA11-9	SSIA11-9	Soil		
132	SSIA11-10	SSIA11-10	Soil		
133	SSIA11-11	SSIA11-11	Soil		
134	SSIA11-12	SSIA11-12	Soil		
134	SSIA11-13	SSIA11-13	Soil		
134	SSIA11-14	SSIA11-14	Soil		
135	SSIA11-15	SSIA11-15	Soil		
136	SSIA11-16	SSIA11-16	Soil		
137	SSIA11-17	SSIA11-17	Soil		
138	SSIA11-18	SSIA11-18	Soil		

-- SAMPLE TYPE: SOIL --

SITE CODE	BH1-1	BH1-1	BH1-1	BH1-1	BH1-1	BH1-1
SAMPLE DATE	08/31/1999	08/31/1999	08/31/1999	08/31/1999	08/31/1999	08/31/1999
SAMPLE TIME	16:55	14:59	14:59	15:10	15:13	17:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991649001	L991649002	L991997007	L991649003	L991649004	L991649005
TYPE	XRF	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	0.5-1.5'	1.5-2.5'	1.5-2.5'	10-12'	15-17'	20-22'
OTHER INFO			Confirmation			
SAMPLE NUMBER	BH1-1A	BH1-1B	BH1-1B	BH1-1C	BH1-1D	BH1-1E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	30.0	200.0	233.0	17.0	10.0	20.0
CADMIUM (CD) TOT	<10.0	58.0	37.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	13.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	100.0	5500.0	2890.0	39.0	<20.0	23.0
IRON (FE) TOT	23000.0	24000.0	21300.0	22000.0	24000.0	27000.0
LEAD (PB) TOT	62.0	1600.0	1470.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	13.0	<5.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	290.0	2400.0	2520.0	31.0 J4	23.0 J4	32.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH1-1	BH1-1	BH1-1	BH1-1	BH1-1
SAMPLE DATE	08/31/1999	09/01/1999	09/01/1999	09/01/1999	09/01/1999
SAMPLE TIME	17:37	08:25	08:27	09:00	09:03
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991649006	L991649007	L991649008	L991649009	L991649010
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	25-27'	30-32'	35-37'	40-42'	45-47'
SAMPLE NUMBER	BH1-1F	BH1-1G	BH1-1H	BH1-1I	BH1-1J

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	16.0	48.0	33.0	15.0	18.0
CADMIUM (CD) TOT	20.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	87.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	27.0	<20.0	23.0	49.0	23.0
IRON (FE) TOT	32000.0	41000.0	36000.0	25000.0	28000.0
LEAD (PB) TOT	<10.0	11.0	15.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	12.0	<10.0
ZINC (ZN) TOT	48.0 J4	57.0 J4	30.0 J4	36.0 J4	51.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2
SITE CODE	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2
SAMPLE DATE	09/01/1999	09/01/1999	09/01/1999	09/01/1999	09/01/1999	09/02/1999
SAMPLE TIME	15:15	15:17	15:19	15:21	15:23	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991649011	L991649012	L991649013	L991649014	L991649015	L991649016
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	10-12'
SAMPLE NUMBER	BH1-2A	BH1-2B	BH1-2C	BH1-2D	BH1-2E	BH1-2F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	720.0	77.0	16.0	30.0	12.0	<10.0
CADMIUM (CD) TOT	590.0	160.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	3100.0	250.0	93.0	160.0	99.0	<20.0
IRON (FE) TOT	22000.0	20000.0	20000.0	23000.0	21000.0	24000.0
LEAD (PB) TOT	710.0	190.0	100.0	140.0	46.0	<10.0
SELENIUM (SE) TOT	31.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	3900.0	1100.0	61.0	200.0 J4	66.0 J4	48.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2	BH1-2
SAMPLE DATE	09/02/1999	09/02/1999	09/02/1999	09/02/1999	09/02/1999	09/02/1999
SAMPLE TIME	08:20	09:01	09:05	10:10	10:15	10:17
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991649017	L991649018	L991649019	L991649020	L991649021	L991649022
REMARKS						DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	25-27'	30-32'	35-37'	35-37'
SAMPLE NUMBER	BH1-2G	BH1-2H	BH1-2I	BH1-2J	BH1-2K	BH1-2K2

-- METALS & MINOR CONSTITUENTS --

	BH1-2G	BH1-2H	BH1-2I	BH1-2J	BH1-2K	BH1-2K2
ARSENIC (AS) TOT	12.0	23.0	12.0	48.0	24.0	25.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	50.0	<20.0	56.0	<20.0	25.0
IRON (FE) TOT	22000.0	32000.0	23000.0	39000.0	30000.0	30000.0
LEAD (PB) TOT	<10.0	11.0	<10.0	<10.0	11.0	12.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	25.0 J4	38.0 J4	32.0 J4	40.0 J4	17.0 J4	31.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH1-2	BH2-1	BH2-1	BH2-1
SAMPLE DATE	09/02/1999	08/10/1999	08/10/1999	08/10/1999
SAMPLE TIME	10:35	11:00	11:30	12:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991649023	L991511001	L991511002	L991511003
TYPE	XRF	XRF	XRF	XRF
DEPTH	40-42'	63-65'	68-70'	73-75'
SAMPLE NUMBER	BH1-2L	BH2-1A	BH2-1B	BH2-1C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	21.0	19.0	12.0	64.0
CADMIUM (CD) TOT	11.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	45.0	170.0	26.0	<20.0
IRON (FE) TOT	28000.0	35000.0	27000.0	27000.0
LEAD (PB) TOT	<10.0	790.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	23.0 J4	1300.0	44.0	44.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH2-2	BH2-3	BH2-3	BH2-3	BH2-3
SAMPLE DATE	08/10/1999	08/13/1999	08/13/1999	08/13/1999	08/13/1999
SAMPLE TIME		07:55	07:58	08:40	08:44
LAB	NO SAMPLE	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER		L991511004	L991511005	L991511006	L991511007
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH		40-42'	45-47'	50-52'	55-57'
SAMPLE NUMBER	BH2-2	BH2-3A	BH2-3B	BH2-3C	BH2-3D

-- LOCATION INFORMATION --

DESCRIPTION	SLAG
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	27.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	83.0
COPPER (CU) TOT	20.0	<20.0	36.0	<20.0
IRON (FE) TOT	20000.0	23000.0	19000.0	18000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	15.0	38.0	25.0	23.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH2-3	BH2-3	BH2-3	BH2-3	BH2-3
SAMPLE DATE	08/13/1999	08/13/1999	08/13/1999	08/13/1999	08/13/1999
SAMPLE TIME	09:05	09:07	09:08	10:10	10:13
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991511008	L991532011	L991511009	L991511010	L991511011
REMARKS		DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	60-62'	60-62'	65-67'	70-72'	75-76'
SAMPLE NUMBER	BH2-3E	BH2-3E2	BH2-3F	BH2-3G	BH2-3H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	21.0	19.0	36.0	120.0	100.0
CADMIUM (CD) TOT	14.0	<10.0	<10.0	15.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	<20.0	<20.0	49.0
IRON (FE) TOT	20000.0	20000.0	19000.0	31000.0	33000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	14.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	42.0	39.0	34.0	79.0	34.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH2-4	BH2-5	BH2-5	BH2-5	BH2-5
SITE CODE	BH2-4	BH2-5	BH2-5	BH2-5	BH2-5
SAMPLE DATE	08/16/1999	08/16/1999	08/16/1999	08/16/1999	08/16/1999
SAMPLE TIME	09:20	13:00	13:03	13:06	13:06
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991511012	L991511013	L991511014	L991511015	L991997003
TYPE	XRF	XRF	XRF	XRF	CLP-RAS
DEPTH	54-55'	16-18'	20-22'	24-26'	24-26'
OTHER INFO					Confirmation
SAMPLE NUMBER	BH2-4A	BH2-5A	BH2-5B	BH2-5C	BH2-5C

-- METALS & MINOR CONSTITUENTS --

	BH2-4	BH2-5	BH2-5	BH2-5	BH2-5
ARSENIC (AS) TOT	170.0	<10.0	<10.0	<10.0	<5.0
CADMIUM (CD) TOT	120.0	<10.0	<10.0	<10.0	<5.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	10.0
COPPER (CU) TOT	37.0	<20.0	44.0	40.0	21.0
IRON (FE) TOT	23000.0	18000.0	17000.0	21000.0	13300.0
LEAD (PB) TOT	59.0	21.0	19.0	<10.0	<5.0
SELENIUM (SE) TOT	14.0	<10.0	<10.0	<10.0	<5.0
ZINC (ZN) TOT	560.0	54.0	21.0	15.0	28.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH2-5	BH2-6	BH2-6	BH2-6	BH2-6
SITE CODE	BH2-5	BH2-6	BH2-6	BH2-6	BH2-6
SAMPLE DATE	08/16/1999	08/16/1999	08/16/1999	08/16/1999	08/16/1999
SAMPLE TIME	13:10	14:45	15:03	15:03	15:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532012	L991511017	L991511018	L991997004	L991511019
REMARKS	DUPLICATE				
TYPE	XRF	XRF	XRF	CLP-RAS	XRF
DEPTH	24-26'	9-11'	15-17'	15-17'	20-22'
OTHER INFO				Confirmation	
SAMPLE NUMBER	BH2-5C2	BH2-6A	BH2-6B	BH2-6B	BH2-6C

-- METALS & MINOR CONSTITUENTS --

	BH2-5	BH2-6	BH2-6	BH2-6	BH2-6
ARSENIC (AS) TOT	<10.0	1100.0	3700.0	2340.0	870.0
CADMIUM (CD) TOT	<10.0	450.0	210.0	158.0	1600.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	18.0	<80.0
COPPER (CU) TOT	45.0	160.0	1300.0	743.0	240.0
IRON (FE) TOT	21000.0	14000.0	49000.0	30000.0	30000.0
LEAD (PB) TOT	12.0	56.0	74.0	12.0	23.0
SELENIUM (SE) TOT	<10.0	<10.0	26.0	25.0	34.0
ZINC (ZN) TOT	34.0	710.0	130.0	128.0	580.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; U1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH2-6	BH2-6	BH2-6	BH2-6	BH2-6	BH2-6
SAMPLE DATE	08/16/1999	08/16/1999	08/16/1999	08/17/1999	08/17/1999	08/17/1999
SAMPLE TIME	16:55	16:58	17:20	08:01	08:35	08:59
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991511020	L991511021	L991511021	L991511022	L991511023	L991511024
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	24-26'	24-26'	30-32'	35-37'	40-42'	45-47'
SAMPLE NUMBER	BH2-6D	BH2-6D2	BH2-6E	BH2-6F	BH2-6G	BH2-6H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	400.0	410.0	170.0	85.0	370.0	47.0
CADMIUM (CD) TOT	630.0	690.0	710.0	670.0	1400.0	58.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	40.0	<20.0	48.0	37.0	23.0
IRON (FE) TOT	29000.0	30000.0	26000.0	27000.0	30000.0	13000.0
LEAD (PB) TOT	15.0	14.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	600.0	660.0	810.0	460.0	520.0	120.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH2-7	BH2-7	BH2-7	BH2-7	BH2-7	BH2-7
SAMPLE DATE	08/17/1999	08/17/1999	08/17/1999	08/17/1999	08/17/1999	08/17/1999
SAMPLE TIME	11:50	12:05	12:20	12:25	13:20	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991511025	L991511026	L991511027	L991532013	L991511028	L991511029
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	20-22'	25-27'	30-32'
SAMPLE NUMBER	BH2-7A	BH2-7B	BH2-7C	BH2-7C2	BH2-7D	BH2-7E

-- METALS & MINOR CONSTITUENTS --

	BH2-7A	BH2-7B	BH2-7C	BH2-7C2	BH2-7D	BH2-7E
ARSENIC (AS) TOT	13.0	<10.0	11.0	11.0	<10.0	22.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	86.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	29.0	<20.0	<20.0	<20.0	<20.0
IRON (FE) TOT	24000.0	25000.0	26000.0	26000.0	6900.0	30000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	59.0	34.0	35.0	19.0	31.0	47.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC);
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH2-7	BH2-7	BH2-7	BH3-2	BH3-2
SAMPLE DATE	08/17/1999	08/17/1999	08/17/1999	08/23/1999	08/23/1999
SAMPLE TIME	14:40	14:50	14:55	14:30	14:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991511030	L991511031	L991532001	L991532015	L991997006
TYPE	XRF	XRF	XRF	XRF	CLP-RAS
DEPTH	35-37'	40-41'	45-46'	0-1'	0-1'
OTHER INFO					Confirmation
SAMPLE NUMBER	BH2-7F	BH2-7G	BH2-7H	BH3-2A	BH3-2A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	11.0	11.0	<10.0	890.0	656.0
CADMIUM (CD) TOT	<10.0	14.0	<10.0	560.0	452.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	22.0
COPPER (CU) TOT	45.0	21.0	35.0	4000.0	293.0 J4
IRON (FE) TOT	22000.0	26000.0	23000.0	30000.0	23300.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	2500.0	2030.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	19.0	12.0
ZINC (ZN) TOT	21.0	24.0	27.0	4600.0	4050.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-2	BH3-2	BH3-2	BH3-2	BH3-2	BH3-2
SAMPLE DATE	08/23/1999	08/23/1999	08/23/1999	08/23/1999	08/23/1999	08/23/1999
SAMPLE TIME	14:35	14:38	15:10	15:30	15:35	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532016	L991532017	L991532018	L991532019	L991532020	L991532021
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	1-2'	1-2'	25-27'	30-32'	35-37'	40-42'
SAMPLE NUMBER	BH3-2B	BH3-2B2	BH3-2C	BH3-2D	BH3-2E	BH3-2F

-- METALS & MINOR CONSTITUENTS --

	BH3-2	BH3-2B2	BH3-2C	BH3-2D	BH3-2E	BH3-2F
ARSENIC (AS) TOT	<10.0 UJ4	74.0 J4	72.0 J4	<10.0 UJ4	<10.0 UJ4	16.0 J4
CADMIUM (CD) TOT	<10.0 UJ4	37.0 J4	51.0 J4	14.0 J4	<10.0 UJ4	<10.0 UJ4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	82.0 J4	310.0 J4	54.0 J4	<20.0 UJ4	<20.0 UJ4	<20.0 UJ4
IRON (FE) TOT	20000.0	21000.0	17000.0	21000.0	19000.0	26000.0
LEAD (PB) TOT	52.0 J4	280.0 J4	34.0 J4	<10.0 UJ4	16.0 J4	<10.0 UJ4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	61.0 J4	390.0 J4	8000.0	48.0 J4	20.0 J4	24.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-2	BH3-3	BH3-3	BH3-4
SAMPLE DATE	08/23/1999	08/24/1999	08/24/1999	08/24/1999
SAMPLE TIME	16:05	13:15	13:30	15:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532022	L991532031	L991532030	L991597001
TYPE	XRF	XRF	XRF	XRF
DEPTH	45-47'	40-42'	45-47'	0-1'
SAMPLE NUMBER	BH3-2G	BH3-3A	BH3-3B	BH3-4A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0 UJ4	<10.0	18.0	64.0
CADMIUM (CD) TOT	<10.0 UJ4	<10.0	13.0	37.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0 UJ4	23.0	20.0	211.0
IRON (FE) TOT	19000.0	24000.0	27000.0	17000.0
LEAD (PB) TOT	<10.0 UJ4	18.0	<10.0	1300.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	10.0
ZINC (ZN) TOT	39.0 J4	100.0	77.0	400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH3-4	BH3-4	BH3-4	BH3-4	BH3-5
SITE CODE	BH3-4	BH3-4	BH3-4	BH3-4	BH3-5
SAMPLE DATE	08/24/1999	08/25/1999	08/25/1999	08/25/1999	08/25/1999
SAMPLE TIME	15:45	09:45	09:50	10:00	12:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597002	L991597003	L991597004	L991597005	L991597006
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	1-2'	39-41'	45-47'	40-52'	3-4.5'
SAMPLE NUMBER	BH3-4B	BH3-4C	BH3-4D	BH3-4E	BH3-5A

-- METALS & MINOR CONSTITUENTS --

	BH3-4B	BH3-4C	BH3-4D	BH3-4E	BH3-5A	
ARSENIC (AS) TOT	<10.0	370.0	20.0	19.0	870.0	J4
CADMIUM (CD) TOT	<10.0	360.0	<10.0	<10.0	190.0	
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	260.0	
COPPER (CU) TOT	65.0	93.0	<20.0	<20.0	7400.0	
IRON (FE) TOT	15000.0	18000.0	22000.0	24000.0	31000.0	
LEAD (PB) TOT	120.0	72.0	15.0	<10.0	3800.0	J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	35.0	
ZINC (ZN) TOT	130.0	44000.0	190.0	120.0	10000.0	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-95	EP-95	EP-95	EP-95	EP-95
SITE CODE	EP-95	EP-95	EP-95	EP-95	EP-95
SAMPLE DATE	07/28/1999	07/28/1999	07/28/1999	07/28/1999	07/28/1999
SAMPLE TIME	10:05	10:10	10:15	10:18	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991353018	L991353019	L991353020	L991353021	L991353022
REMARKS				DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	1'	2'	3'	3'	4'
SAMPLE NUMBER	EP-95B	EP-95C	EP-95D	EP-95D2	EP-95E

-- METALS & MINOR CONSTITUENTS --

	EP-95B	EP-95C	EP-95D	EP-95D2	EP-95E
ARSENIC (AS) TOT	<10.0	13.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	75.0	160.0	<20.0	<20.0	50.0
IRON (FE) TOT	22000.0	22000.0	16000.0	15000.0	14000.0
LEAD (PB) TOT	120.0	150.0	21.0	30.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	94.0	110.0	24.0	30.0	22.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-95R	EP-95R	EP-95R	EP-95R	EP-95R	EP-95R
SAMPLE DATE	10/18/1999	10/18/1999	10/18/1999	10/18/1999	10/18/1999	10/18/1999
SAMPLE TIME	15:24	15:26	15:28	15:30	15:32	15:41
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991890001	L991890002	L991890003	L991890004	L991890005	L991890006
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	10-12'
SAMPLE NUMBER	EP-95RA	EP-95RB	EP-95RC	EP-95RD	EP-95RE	EP-95RF

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	26.0	<10.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	290.0	79.0	<20.0	<20.0	94.0	<20.0
IRON (FE) TOT	23000.0	20000.0	22000.0	18000.0	19000.0	13000.0
LEAD (PB) TOT	250.0	130.0	68.0	87.0	110.0	48.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	260.0	98.0	50.0	25.0	61.0	<10.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-95R	EP-95R	EP-95R	EP-95R	EP-95R	EP-95R
SAMPLE DATE	10/18/1999	10/18/1999	10/18/1999	10/18/1999	10/20/1999	10/20/1999
SAMPLE TIME	15:43	15:45	16:10	16:35	08:38	08:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991890007	L991890008	L991890009	L991890010	L991890011	L991890012
REMARKS	DUPLICATE					
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	25-27'	30-32'	35-37'
SAMPLE NUMBER	EP-95RF2	EP-95RG	EP-95RH	EP-95RI	EP-95RJ	EP-95RK

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0	16.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	31.0	<20.0	21.0	<20.0	<20.0	<20.0
IRON (FE) TOT	14000.0	11000.0	5700.0	24000.0	18000.0	21000.0
LEAD (PB) TOT	50.0	40.0	39.0	39.0	30.0	39.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	29.0	<10.0	<10.0	43.0	35.0	15.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-96	EP-96	EP-96	EP-96	EP-96	EP-96
SITE CODE	EP-96	EP-96	EP-96	EP-96	EP-96	EP-96
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	10:00	10:03	10:05	10:08	10:12	10:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991291007	L991291015	L991292006	L991292011	L991291017	L991291006
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	10-12'
SAMPLE NUMBER	EP-96A	EP-96B	EP-96C	EP-96D	EP-96E	EP-96F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	500.0	27.0	42.0	32.0	<20.0	<20.0
CADMIUM (CD) TOT	180.0	14.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	100.0	130.0
COPPER (CU) TOT	1900.0	110.0	110.0	77.0	<20.0	30.0
IRON (FE) TOT	23000.0	21000.0	35000.0	33000.0	15000.0	20000.0
LEAD (PB) TOT	5100.0	160.0	90.0 J4	150.0	49.0 J4	59.0 J4
SELENIUM (SE) TOT	61.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1000.0	270.0 J4	110.0	150.0	51.0 J4	21.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-96	EP-96	EP-96	EP-96	EP-96	EP-96
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	10:35	10:50	11:15	11:45	11:50	12:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991291011	L991291010	L991293002	L991291019	L991291016	L991292016
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	25-27'	30-32'	30-32'	35-37'
SAMPLE NUMBER	EP-96G	EP-96H	EP-96I	EP-96J	EP-96J2	EP-96K

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<20.0	<20.0	<20.0	25.0	<20.0	<20.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	84.0	<80.0	<80.0
COPPER (CU) TOT	24.0	<20.0	<20.0	<20.0	<20.0	33.0
IRON (FE) TOT	20000.0	27000.0	24000.0	27000.0	27000.0	23000.0
LEAD (PB) TOT	49.0 J4	31.0 J4	50.0 J4	11.0 J4	41.0 J4	49.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	41.0 J4	69.0 J4	34.0	56.0 J4	64.0 J4	65.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-96	EP-96	EP-96	EP-96	EP-96	EP-96
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	13:03	13:30	14:01	14:03	14:25	14:48
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991292018	L991293003	L991292020	L991293001	L991292019	L991291020
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	45-47'	50-52'	50-52'	55-57'	60-62'
SAMPLE NUMBER	EP-96L	EP-96M	EP-96N	EP-96N2	EP-96O	EP-96P

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<20.0	<20.0	<20.0	<20.0	31.0	<20.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	188.0	160.0	<80.0	<80.0
COPPER (CU) TOT	47.0	41.0	32.0	57.0	37.0	12.0
IRON (FE) TOT	23000.0	20000.0	20000.0	19000.0	28000.0	21000.0
LEAD (PB) TOT	54.0 J4	46.0 J4	49.0	51.0	37.0	27.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	43.0	41.0	30.0	<10.0	58.0	57.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-97	EP-97	EP-97	EP-97	EP-98
SAMPLE DATE	08/04/1999	08/04/1999	08/04/1999	08/04/1999	08/06/1999
SAMPLE TIME	10:35	10:36	10:42	10:44	10:42
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991413020	L991413021	L991413018	L991413019	L991414004
REMARKS		DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	0-1'
SAMPLE NUMBER	EP-97A	EP-97A2	EP-97B	EP-97C	EP-98A

-- METALS & MINOR CONSTITUENTS --

	EP-97	EP-97	EP-97	EP-97	EP-98
ARSENIC (AS) TOT	64.0	62.0	46.0	71.0	41.0
CADMIUM (CD) TOT	19.0	<10.0	20.0	16.0	12.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	690.0	730.0	640.0	800.0	210.0 J4
IRON (FE) TOT	33000.0	33000.0	32000.0	30000.0	25000.0
LEAD (PB) TOT	340.0	380.0	340.0	500.0	250.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	470.0	530.0	450.0	470.0	320.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-98	EP-98	EP-98	EP-98	EP-98	EP-98
SAMPLE DATE	08/06/1999	08/06/1999	08/06/1999	08/06/1999	08/06/1999	08/06/1999
SAMPLE TIME	10:43	10:44	10:46	10:48	10:55	10:57
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991414005	L991414003	L991414001	L991414002	L991413025	L991413024
REMARKS	DUPLICATE					
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	1-3'	3-4'	4-5'	10-12'
SAMPLE NUMBER	EP-98A2	EP-98B	EP-98C	EP-98D	EP-98E	EP-98F

-- METALS & MINOR CONSTITUENTS --

	EP-98	EP-98	EP-98	EP-98	EP-98	EP-98
ARSENIC (AS) TOT	60.0	<10.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	11.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	360.0 J4	44.0 J4	37.0 J4	<20.0 UJ4	89.0 J4	41.0 J4
IRON (FE) TOT	26000.0	20000.0	10000.0	8500.0	10000.0	8000.0
LEAD (PB) TOT	320.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	11.0	<10.0
ZINC (ZN) TOT	360.0	32.0	<10.0	19.0	120.0	<10.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC).
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-98	EP-98	EP-99	EP-99
SAMPLE DATE	08/06/1999	08/06/1999	08/12/1999	08/12/1999
SAMPLE TIME	13:30	13:55	09:44	09:48
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991413023	L991413022	L991532009	L991532010
TYPE	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	57-59'	65-67'
SAMPLE NUMBER	EP-98G	EP-98H	EP-99A	EP-99B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0 UJ4	<20.0 UJ4	54.0	<20.0
IRON (FE) TOT	13000.0	14000.0	20000.0	24000.0
LEAD (PB) TOT	<10.0	<10.0	45.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	14.0	28.0	56.0	43.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-100	EP-100	EP-100	EP-100	EP-100	EP-100
SAMPLE DATE	09/08/1999	09/08/1999	09/08/1999	09/08/1999	09/08/1999	09/08/1999
SAMPLE TIME	11:00	11:00	11:04	11:06	11:08	11:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277001	L991885001	L991885002	L991885003	L991885004	L991885005
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	3-4'	4-5'
OTHER INFO	Confirmation					
SAMPLE NUMBER	EP-100A	EP-100A	EP-100B	EP-100C	EP-100D	EP-100E

-- METALS & MINOR CONSTITUENTS --

CONSTITUENT	EP-100A	EP-100A	EP-100B	EP-100C	EP-100D	EP-100E	FLAG
ARSENIC (AS) TOT	726.0	850.0	2300.0	720.0	280.0	76.0	J4
CADMIUM (CD) TOT	278.0	360.0	310.0	210.0	410.0	33.0	J4
CHROMIUM (CR) TOT	30.0	<80.0	<80.0	92.0	<80.0	<80.0	
COPPER (CU) TOT	2018.0	2900.0	4600.0	11000.0	7400.0	2100.0	
IRON (FE) TOT	16640.0	23000.0	27000.0	45000.0	22000.0	18000.0	
LEAD (PB) TOT	858.0	850.0	610.0	1900.0	1900.0	680.0	
SELENIUM (SE) TOT	11.0	20.0	28.0	19.0	22.0	11.0	
ZINC (ZN) TOT	2685.0	3100.0	3600.0	3300.0	6900.0	2400.0	

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-100	EP-100	EP-100	EP-100	EP-100	EP-100
SAMPLE DATE	09/08/1999	09/08/1999	09/08/1999	09/08/1999	09/08/1999	09/08/1999
SAMPLE TIME	11:15	11:18	11:19	11:20	11:24	13:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991885006	L991885007	L991885008	L991885009	L991885010	L991885011
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	20-22'	25-27'	30-32'
SAMPLE NUMBER	EP-100F	EP-100G	EP-100H	EP-100H2	EP-100I	EP-100J

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	290.0	14.0 J4	91.0 J4	63.0 J4	130.0 J4	28.0 J4
CADMIUM (CD) TOT	61.0 J4	<10.0 UJ4	24.0 J4	53.0 J4	<10.0 UJ4	<10.0 UJ4
CHROMIUM (CR) TOT	<80.0	96.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	2000.0	750.0	2200.0	1600.0	140.0	41.0
IRON (FE) TOT	21000.0	16000.0	17000.0	16000.0	27000.0	29000.0
LEAD (PB) TOT	440.0	240.0	790.0	660.0	370.0	37.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	960.0	240.0	1400.0	1200.0	110.0	32.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-100	EP-100	EP-100	EP-100	EP-101
SAMPLE DATE	09/08/1999	09/08/1999	09/08/1999	09/08/1999	09/29/1999
SAMPLE TIME	13:30	13:40	13:42	13:47	08:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991885012	L991885013	L991885014	L991885015	L991781001
REMARKS			DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	40-42'	45-47'	0-1'
SAMPLE NUMBER	EP-100K	EP-100L	EP-100L2	EP-100M	EP-101A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	100.0 J4	100.0 J4	73.0 J4	110.0 J4	940.0
CADMIUM (CD) TOT	220.0	<10.0	<10.0	<10.0	690.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	77.0	<20.0	<20.0	35.0	3000.0
IRON (FE) TOT	27000.0	120000.0 J4	59000.0 J4	110000.0 J4	18000.0
LEAD (PB) TOT	50.0	<10.0	<10.0	<10.0	11000.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	110.0
ZINC (ZN) TOT	540.0	64.0 J4	38.0 J4	66.0 J4	4100.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-101	EP-101	EP-101	EP-101	EP-101	EP-101
SAMPLE DATE	09/29/1999	09/29/1999	09/29/1999	09/29/1999	09/29/1999	09/29/1999
SAMPLE TIME	08:35	08:37	08:37	08:38	09:40	09:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991781002	L991781003	L991997008	L991781004	L991781005	L991781006
TYPE	XRF	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	1-2'	3-4'	3-4'	4-5'	15-17'	20-22'
OTHER INFO			Confirmation			
SAMPLE NUMBER	EP-101B	EP-101C	EP-101C	EP-101D	EP-101E	EP-101F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	7700.0	5200.0	3350.0	1100.0	16.0	23.0
CADMIUM (CD) TOT	2100.0	1300.0	1000.0	8000.0	560.0	190.0
CHROMIUM (CR) TOT	<80.0	<80.0	16.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	16000.0	5600.0	3430.0	4700.0	<20.0	<20.0
IRON (FE) TOT	32000.0	38000.0	31200.0	30000.0	15000.0	23000.0
LEAD (PB) TOT	42000.0	21000.0	21800.0	12000.0	140.0	69.0
SELENIUM (SE) TOT	180.0	170.0	126.0	150.0	17.0	12.0
ZINC (ZN) TOT	17000.0	6700.0	6580.0	5100.0	140.0	32.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-101	EP-101	EP-101	EP-101	EP-101	EP-101
SAMPLE DATE	09/29/1999	09/29/1999	09/29/1999	09/29/1999	09/29/1999	09/29/1999
SAMPLE TIME	09:50	10:08	10:10	10:15	11:25	11:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991781007	L991781008	L991781009	L991781010	L991781011	L991781012
REMARKS			DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	2S-27'	30-32'	30-32'	35-37'	40-42'	45-47'
SAMPLE NUMBER	EP-101G	EP-101H	EP-101H2	EP-101I	EP-101J	EP-101K

-- METALS & MINOR CONSTITUENTS --

	EP-101G	EP-101H	EP-101H2	EP-101I	EP-101J	EP-101K
ARSENIC (AS) TOT	84.0	71.0	64.0	65.0	34.0	33.0
CADMIUM (CD) TOT	670.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	100.0	<80.0	<80.0
COPPER (CU) TOT	50.0	<20.0	41.0	<20.0	<20.0	28.0
IRON (FE) TOT	27000.0	26000.0	26000.0	26000.0	24000.0	21000.0
LEAD (PB) TOT	87.0	54.0	54.0	45.0	60.0	53.0
SELENIUM (SE) TOT	16.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	65.0	41.0	59.0	63.0	49.0	33.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-101	EP-101	EP-101	EP-102	EP-102
SITE CODE	EP-101	EP-101	EP-101	EP-102	EP-102
SAMPLE DATE	09/29/1999	09/29/1999	09/29/1999	09/30/1999	09/30/1999
SAMPLE TIME	13:20	13:22	13:35	10:30	10:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991781013	L991781014	L991781015	L991784001	L991784002
REMARKS		DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	50-52'	50-52'	???	0-1'	1-2'
SAMPLE NUMBER	EP-101L	EP-101L2	EP-101M	EP-102A	EP-102B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	190.0	160.0	91.0	4100.0	6300.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	3500.0	7100.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	55.0	34.0	66.0	3900.0	8100.0
IRON (FE) TOT	39000.0	38000.0	33000.0	23000.0	31000.0
LEAD (PB) TOT	19.0	23.0	57.0	27000.0	34000.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	380.0	390.0
ZINC (ZN) TOT	54.0	60.0	59.0	5000.0	13000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-102	EP-102	EP-102	EP-102	EP-102	EP-102
SAMPLE DATE	09/30/1999	09/30/1999	09/30/1999	09/30/1999	09/30/1999	09/30/1999
SAMPLE TIME	10:40	10:45	10:50	11:30	11:35	11:38
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991784003	L991784004	L991784005	L991784006	L991784007	L991784008
REMARKS						DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	10-12'	15-17'	15-17'
SAMPLE NUMBER	EP-102C	EP-102D	EP-102E	EP-102F	EP-102G	EP-102G2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	7700.0	8000.0	950.0	130.0	48.0	34.0
CADMIUM (CD) TOT	6000.0	3900.0	11000.0	2100.0	940.0	720.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	8900.0	11000.0	6000.0	1100.0	37.0	<20.0
IRON (FE) TOT	31000.0	34000.0	14000.0	19000.0	17000.0	17000.0
LEAD (PB) TOT	41000.0	40000.0	8700.0	200.0	130.0 J4	88.0 J4
SELENIUM (SE) TOT	340.0	380.0	120.0	20.0	<10.0	<10.0
ZINC (ZN) TOT	12000.0	13000.0	14000.0	1500.0	750.0	620.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-102	EP-102	EP-102	EP-102	EP-102	EP-102
SAMPLE DATE	09/30/1999	09/30/1999	09/30/1999	09/30/1999	09/30/1999	09/30/1999
SAMPLE TIME	11:38	12:40	12:45	13:40	13:45	14:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991997011	L991784009	L991784010	L991784011	L991784012	L991784013
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	25-27'	30-32'	35-37'	40-42'
OTHER INFO	Confirmation					
SAMPLE NUMBER	EP-102G2	EP-102H	EP-102I	EP-102J	EP-102K	EP-102L

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	18.0	56.0	52.0	50.0	36.0	31.0
CADMIUM (CD) TOT	614.0	1500.0	190.0	340.0	28.0	14.0
CHROMIUM (CR) TOT	18.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	16.0	<20.0	<20.0	<20.0	22.0	34.0
IRON (FE) TOT	11600.0	29000.0	30000.0	32000.0	23000.0	27000.0
LEAD (PB) TOT	20.0	57.0 J4	63.0 J4	54.0 J4	77.0 J4	57.0 J4
SELENIUM (SE) TOT	<5.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	544.0	620.0	530.0	540.0	290.0	81.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-102	EP-102	EP-102	EP-102	EP-102	EP-102
SAMPLE DATE	09/30/1999	09/30/1999	09/30/1999	09/30/1999	10/04/1999	10/04/1999
SAMPLE TIME	14:20	15:09	15:10	15:13	09:20	10:06
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991784014	L991784015	L991784016	L991784017	L991784018	L991784019
			DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	45-47'	50-52'	50-52'	55-57'	60-62'	70-72'
SAMPLE NUMBER	EP-102M	EP-102N	EP-102N2	EP-102O	EP-102P	EP-102Q

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	38.0	27.0	35.0	35.0	IS	<10.0
CADMIUM (CD) TOT	15.0	<10.0	10.0	<10.0	IS	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	87.0	IS	<80.0
COPPER (CU) TOT	<20.0	<20.0	<20.0	<20.0	IS	<20.0
IRON (FE) TOT	25000.0	24000.0	24000.0	28000.0	IS	26000.0
LEAD (PB) TOT	61.0 J4	57.0	43.0	50.0	IS	34.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	IS	<10.0
ZINC (ZN) TOT	34.0 J4	39.0 J4	15.0 J4	28.0 J4	IS	42.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-103	EP-103	EP-103	EP-103	EP-103	EP-103
SAMPLE DATE	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999
SAMPLE TIME	15:00	15:05	15:10	15:17	15:20	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991781016	L991781017	L991781018	L991781019	L991781020	L991782001
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	10-12'
SAMPLE NUMBER	EP-103A	EP-103B	EP-103C	EP-103D	EP-103E	EP-103F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	12.0	<10.0	300.0	1400.0	6600.0	15.0
CADMIUM (CD) TOT	13.0	19.0	160.0	55.0	13.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	530.0 J4	310.0 J4	4500.0	12000.0	5000.0	310.0 J4
IRON (FE) TOT	20000.0	17000.0	32000.0	69000.0	70000.0	16000.0
LEAD (PB) TOT	93.0	390.0	7900.0	11000.0	9700.0	61.0
SELENIUM (SE) TOT	<10.0	13.0	15.0	15.0	27.0	<10.0
ZINC (ZN) TOT	91.0 J4	290.0 J4	6100.0	4200.0	2100.0	420.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-103	EP-103	EP-103	EP-103	EP-103	EP-103
SAMPLE DATE	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999
SAMPLE TIME	16:02	16:20	16:25	16:45	10:50	17:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991782002	L991782003	L991782004	L991782005	L991782006	L991782007
REMARKS	DUPLICATE					
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	25-27'	30-32'	35-37'
SAMPLE NUMBER	EP-103F2	EP-103G	EP-103H	EP-103I	EP-103J	EP-103K

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	21.0	19.0	11.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	71.0 J4	25.0 J4	<20.0 UJ4	49.0 J4	<20.0 UJ4	23.0 J4
IRON (FE) TOT	16000.0	32000.0	27000.0	27000.0	23000.0	24000.0
LEAD (PB) TOT	61.0	26.0	39.0	33.0	43.0	46.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	200.0 J4	410.0 J4	410.0 J4	88.0 J4	45.0 J4	26.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-103	EP-103	EP-103	EP-103	EP-103	EP-103
SAMPLE DATE	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999
SAMPLE TIME	17:30	18:00	18:10	18:12	18:25	18:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991782008	L991782009	L991782010	L991782011	L991886015	L991886016
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	45-47'	50-52'	50-52'	55-57'	60-62'
SAMPLE NUMBER	EP-103L	EP-103M	EP-103N	EP-103N2	EP-103O	EP-103P

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	14.0	26.0	10.0	20.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	22.0 J4	41.0 J4	<20.0	37.0	20.0	31.0
IRON (FE) TOT	26000.0	31000.0	28000.0	28000.0	26000.0	25000.0
LEAD (PB) TOT	50.0	37.0	32.0	42.0	41.0	36.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	40.0 J4	49.0 J4	48.0	51.0	52.0	42.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-104	EP-104	EP-104	EP-104	EP-104	EP-104
SAMPLE DATE	10/05/1999	10/05/1999	10/05/1999	10/06/1999	10/06/1999	10/06/1999
SAMPLE TIME	14:05	14:10	14:15	08:10	08:20	08:22
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991782012	L991782013	L991782014	L991782015	L991782016	L991782017
REMARKS						DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	4-5'
SAMPLE NUMBER	EP-104A	EP-104B	EP-104C	EP-104D	EP-104E	EP-104E2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	110.0	10.0	46.0	16.0	<10.0	<10.0
CADMIUM (CD) TOT	36.0	<10.0	63.0	12.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	6700.0	380.0	4700.0	990.0	200.0	140.0 J4
IRON (FE) TOT	25000.0	16000.0	24000.0	21000.0	15000.0	13000.0
LEAD (PB) TOT	2800.0	190.0	1900.0	580.0 J4	220.0 J4	140.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1700.0	140.0	1700.0	620.0 J4	170.0 J4	100.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spikes, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-104	EP-104	EP-104	EP-104	EP-104	EP-104
SITE CODE	EP-104	EP-104	EP-104	EP-104	EP-104	EP-104
SAMPLE DATE	10/06/1999	10/06/1999	10/06/1999	10/06/1999	10/06/1999	10/06/1999
SAMPLE TIME	08:25	08:27	11:38	08:55	09:00	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991782018	L991782019	L991997009	L991782020	L991783001	L991783002
TYPE	XRF	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	10-12'	15-17'	15-17'	20-22'	25-27'	30-32'
OTHER INFO			Confirmation			
SAMPLE NUMBER	EP-104F	EP-104G	EP-104G	EP-104H	EP-104I	EP-104J

-- METALS & MINOR CONSTITUENTS --

	EP-104	EP-104	EP-104	EP-104	EP-104	EP-104
ARSENIC (AS) TOT	<10.0	<10.0	11.0	16.0	<10.0	20.0
CADMIUM (CD) TOT	<10.0	<10.0	<5.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	19.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	24.0 J4	25.0 J4	17.0	20.0 J4	<20.0 UJ4	23.0 J4
IRON (FE) TOT	11000.0	20000.0	12700.0	23000.0	25000.0	29000.0
LEAD (PB) TOT	60.0 J4	55.0 J4	7.1	50.0 J4	47.0 J4	27.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<5.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	<10.0 UJ4	48.0 J4	28.0	44.0 J4	31.0 J4	45.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-104	EP-104	EP-104	EP-104	EP-104	EP-104
SAMPLE DATE	10/06/1999	10/06/1999	10/06/1999	10/06/1999	10/06/1999	10/06/1999
SAMPLE TIME	09:45	11:25	11:30	13:20	13:22	13:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991783003	L991783004	L991783005	L991783006	L991783007	L991783008
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	45-47'	50-52'	50-52'	55-57'
SAMPLE NUMBER	EP-104K	EP-104L	EP-104M	EP-104N	EP-104N2	EP-104O

-- METALS & MINOR CONSTITUENTS --

	EP-104K	EP-104L	EP-104M	EP-104N	EP-104N2	EP-104O
ARSENIC (AS) TOT	<10.0	20.0	<10.0	16.0	13.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	36.0 J4	49.0 J4	53.0 J4	69.0 J4	21.0 J4	33.0 J4
IRON (FE) TOT	25000.0	33000.0	24000.0	27000.0	26000.0	22000.0
LEAD (PB) TOT	41.0 J4	24.0 J4	42.0 J4	44.0	41.0	46.0
SELENIUM (SE) TOT	<10.0	<10.0	10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	32.0 J4	36.0 J4	35.0 J4	50.0	56.0	25.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-104	EP-104	EP-104	EP-105	EP-105
SITE CODE	EP-104	EP-104	EP-104	EP-105	EP-105
SAMPLE DATE	10/06/1999	10/06/1999	10/06/1999	10/07/1999	10/07/1999
SAMPLE TIME	14:15	14:15	16:30	15:20	15:22
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991783009	L991997010	L991886017	L991885016	L991885017
TYPE	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	60-62'	60-62'	65-67'	0-1'	1-2'
OTHER INFO		Confirmation			
SAMPLE NUMBER	EP-104P	EP-104P	EP-104Q	EP-105A	EP-105B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	5.0	<10.0	42.0	1600.0
CADMIUM (CD) TOT	<10.0	<5.0	<10.0	<10.0	600.0
CHROMIUM (CR) TOT	<80.0	14.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0 UJ4	14.0	<20.0 UJ4	130.0	16000.0
IRON (FE) TOT	18000.0	14000.0	19000.0	17000.0	47000.0
LEAD (PB) TOT	37.0	7.0	39.0	76.0	13000.0
SELENIUM (SE) TOT	<10.0	<5.0	<10.0	<10.0	120.0
ZINC (ZN) TOT	32.0	32.0	25.0	70.0	7400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105
SAMPLE DATE	10/07/1999	10/07/1999	10/07/1999	10/07/1999	10/07/1999	10/07/1999
SAMPLE TIME	15:24	15:30	15:35	15:37	15:37	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991885018	L991885019	L991885020	L000277002	L991886001	L991886002
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	CLP-RAS	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	4-5'	4-5'	10-12'
OTHER INFO				Confirmation		
SAMPLE NUMBER	EP-105C	EP-105D	EP-105E	EP-105E2	EP-105E2	EP-105F

-- METALS & MINOR CONSTITUENTS --

	EP-105C	EP-105D	EP-105E	EP-105E2	EP-105E2	EP-105F
ARSENIC (AS) TOT	2400.0	1100.0	410.0	246.0	470.0	170.0
CADMIUM (CD) TOT	120.0	39.0	59.0	41.0	40.0	17.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	19.0	<80.0	<80.0
COPPER (CU) TOT	17000.0	19000.0	20000.0	13760.0	21000.0	2200.0
IRON (FE) TOT	60000.0	50000.0	84000.0	36700.0	63000.0	53000.0
LEAD (PB) TOT	10000.0	1900.0	680.0	638.0	910.0	480.0
SELENIUM (SE) TOT	72.0	13.0	<10.0	7.5	<10.0	<10.0
ZINC (ZN) TOT	6400.0	5700.0	3000.0	3271.0	3700.0	320.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105
SAMPLE DATE	10/07/1999	10/07/1999	10/07/1999	10/07/1999	10/07/1999	10/07/1999
SAMPLE TIME	16:05	16:28	16:34	16:55	17:00	17:37
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991886003	L991886004	L991886005	L991886006	L991886007	L991886008
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	25-27'	30-32'	35-37'	40-42'
SAMPLE NUMBER	EP-105G	EP-105H	EP-105I	EP-105J	EP-105K	EP-105L

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	11.0	14.0	<10.0	13.0	17.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	120.0	<80.0	<80.0	<80.0	80.0	<80.0
COPPER (CU) TOT	<20.0	86.0	31.0	33.0	<20.0	68.0
IRON (FE) TOT	8900.0	23000.0	27000.0	26000.0	24000.0	23000.0
LEAD (PB) TOT	130.0	55.0	48.0	47.0	51.0	39.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	35.0	40.0	53.0	37.0	60.0	31.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-105	EP-105	EP-105	EP-105	EP-105	EP-105
SAMPLE DATE	10/07/1999	10/08/1999	10/08/1999	10/08/1999	10/08/1999	10/08/1999
SAMPLE TIME	17:40	08:25	08:27	08:30	09:15	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991886009	L991886010	L991886011	L991886012	L991886013	L991886014
REMARKS			DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	45-47'	50-52'	50-52'	55-57'	60-62'	75-77'
SAMPLE NUMBER	EP-105M	EP-105N	EP-105N2	EP-105O	EP-105P	EP-105Q

-- METALS & MINOR CONSTITUENTS --

	EP-105M	EP-105N	EP-105N2	EP-105O	EP-105P	EP-105Q
ARSENIC (AS) TOT	<10.0	21.0	17.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	92.0	<80.0
COPPER (CU) TOT	47.0	29.0	<20.0	34.0	<20.0	<20.0
IRON (FE) TOT	23000.0	30000.0	30000.0	20000.0	16000.0	16000.0
LEAD (PB) TOT	42.0	40.0	33.0	47.0	40.0	46.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	33.0	47.0	63.0	33.0	36.0	14.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-106	EP-106	EP-106	EP-106	EP-106	EP-106
SAMPLE DATE	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999
SAMPLE TIME	07:48	07:48	07:50	07:52	07:54	07:56
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277004	L991888001	L991888002	L991888003	L991888004	L991888005
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	3-4'	4-5'
OTHER INFO	Confirmation					
SAMPLE NUMBER	EP-106A	EP-106A	EP-106B	EP-106C	EP-106D	EP-106E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	267.0	270.0	75.0	54.0	92.0	380.0
CADMIUM (CD) TOT	54.0	82.0	26.0	<10.0	28.0	130.0
CHROMIUM (CR) TOT	16.0	85.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	2732.0	3700.0	930.0	450.0	520.0	320.0
IRON (FE) TOT	17280.0	24000.0	26000.0	23000.0	22000.0	22000.0
LEAD (PB) TOT	2517.0	2800.0	720.0	470.0	590.0	490.0
SELENIUM (SE) TOT	11.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1785.0	1800.0	370.0	250.0	370.0	920.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-106	EP-106	EP-106	EP-106	EP-106	EP-106
SAMPLE DATE	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999
SAMPLE TIME	08:10	08:12	08:14	08:30	08:32	09:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991888006	L991888007	L991888008	L991888009	L991888010	L991888011
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	10-12'	15-17'	20-22'	25-27'	30-32'
SAMPLE NUMBER	EP-106F	EP-106F2	EP-106G	EP-106H	EP-106I	EP-106J

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	23.0	13.0	21.0	<10.0	<10.0	24.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	27.0 J4	80.0 J4	23.0 J4	39.0 J4	28.0 J4	36.0 J4
IRON (FE) TOT	23000.0	23000.0	29000.0	25000.0	22000.0	33000.0
LEAD (PB) TOT	57.0	48.0	34.0	43.0	48.0	27.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	31.0	49.0	40.0	59.0	31.0	53.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-106	EP-106	EP-106	EP-106	EP-106	EP-106
SAMPLE DATE	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999	10/16/1999
SAMPLE TIME	09:38	09:50	09:52	10:36	11:30	11:32
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991888012	L991888013	L991888014	L991888015	L991888016	L991888017
REMARKS						DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	45-47'	50-52'	55-57'	55-57'
SAMPLE NUMBER	EP-106K	EP-106L	EP-106M	EP-106N	EP-106O	EP-106O2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	17.0	22.0	25.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	11.0	12.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	46.0 J4	<20.0 UJ4	<20.0 UJ4	20.0 J4	<20.0	<20.0
IRON (FE) TOT	25000.0	29000.0	30000.0	21000.0	17000.0	17000.0
LEAD (PB) TOT	38.0	27.0	25.0	32.0	25.0	24.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	46.0	29.0	27.0	26.0	10.0	18.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank; parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-107	EP-107	EP-107	EP-107	EP-107	EP-107
SAMPLE DATE	10/11/1999	10/11/1999	10/11/1999	10/11/1999	10/11/1999	10/11/1999
SAMPLE TIME	10:10	10:10	10:12	10:14	10:16	10:18
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277003	L991887001	L991887002	L991887003	L991887004	L991887005
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	3-4'	4-5'
OTHER INFO	Confirmation					
SAMPLE NUMBER	EP-107A	EP-107A	EP-107B	EP-107C	EP-107D	EP-107E

-- METALS & MINOR CONSTITUENTS --

	EP-107A	EP-107A	EP-107B	EP-107C	EP-107D	EP-107E
ARSENIC (AS) TOT	82.0	69.0	22.0	<10.0	<10.0	31.0
CADMIUM (CD) TOT	3.8	15.0	<10.0	<10.0	12.0	29.0
CHROMIUM (CR) TOT	22.0	100.0	92.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	219.0	330.0	30.0	28.0	41.0	710.0
IRON (FE) TOT	8742.0	15000.0	13000.0	14000.0	17000.0	18000.0
LEAD (PB) TOT	91.0	150.0	43.0	51.0	80.0	500.0
SELENIUM (SE) TOT	<5.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	103.0	140.0 J4	52.0 J4	13.0 J4	34.0 J4	310.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-107	EP-107	EP-107	EP-107	EP-107	EP-107
SAMPLE DATE	10/11/1999	10/11/1999	10/11/1999	10/11/1999	10/11/1999	10/11/1999
SAMPLE TIME	11:00	11:02	11:30	11:34	11:56	12:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991887006	L991887007	L991887008	L991887009	L991887010	L991887011
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	15-17'	20-22'	25-27'	30-32'	35-37'
SAMPLE NUMBER	EP-107F	EP-107F2	EP-107G	EP-107H	EP-107I	EP-107J

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	77.0	63.0	<10.0	<10.0	<10.0	11.0
CADMIUM (CD) TOT	13.0	12.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	39.0	35.0	25.0	81.0	<20.0	<20.0
IRON (FE) TOT	19000.0	19000.0	13000.0	12000.0	11000.0	21000.0
LEAD (PB) TOT	67.0	85.0	54.0	71.0	68.0	49.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	10.0	<10.0	<10.0
ZINC (ZN) TOT	55.0 J4	100.0 J4	18.0 J4	28.0 J4	18.0 J4	42.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-107	EP-107	EP-107	EP-107	EP-107	EP-107
SITE CODE	EP-107	EP-107	EP-107	EP-107	EP-107	EP-107
SAMPLE DATE	10/11/1999	10/11/1999	10/11/1999	10/11/1999	10/12/1999	10/12/1999
SAMPLE TIME	14:06	14:08	14:10	15:38	15:42	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991887012	L991887013	L991887014	L991887015	L991887016	L991887017
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	40-42'	45-47'	50-52'	55-57'	60-62'
SAMPLE NUMBER	EP-107K	EP-107K2	EP-107L	EP-107M	EP-107N	EP-107O

-- METALS & MINOR CONSTITUENTS --

	EP-107K	EP-107K2	EP-107L	EP-107M	EP-107N	EP-107O
ARSENIC (AS) TOT	14.0	17.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	14.0	11.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	37.0	<20.0	23.0	33.0	28.0
IRON (FE) TOT	25000.0	27000.0	24000.0	18000.0	14000.0	18000.0
LEAD (PB) TOT	32.0	37.0	44.0	41.0	44.0	26.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	30.0	42.0	43.0	40.0	11.0	31.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-107	EP-108	EP-108	EP-109
SAMPLE DATE	10/12/1999	10/14/1999	10/14/1999	07/28/1999
SAMPLE TIME	09:35	10:00	10:02	
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991887018	L991886018	L991886019	L991353023
TYPE	XRF	XRF	XRF	XRF
DEPTH	65-67'	10-12'	15-16'	5-5.5'
SAMPLE NUMBER	EP-107P	EP-108A	EP-108B	EP-109XA

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	19.0	82.0	380.0
CADMIUM (CD) TOT	11.0	<10.0	<10.0	50.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	45.0	68.0	100.0	2500.0
IRON (FE) TOT	19000.0	16000.0	29000.0	89000.0
LEAD (PB) TOT	40.0	41.0	67.0	2900.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	24.0	35.0	170.0	6400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-109	EP-109	EP-109	EP-109	EP-109	EP-109
SITE CODE	EP-109	EP-109	EP-109	EP-109	EP-109	EP-109
SAMPLE DATE	07/28/1999	10/15/1999	10/15/1999	10/15/1999	10/15/1999	10/15/1999
SAMPLE TIME		09:34	09:34	09:36	09:38	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991353024	L000277005	L991889001	L991889002	L991889003	L991889004
TYPE	XRF	CLP-RAS	XRF	XRF	XRF	XRF
DEPTH	10-11.5'	0-1'	0-1'	1-2'	2-3'	3-4'
OTHER INFO		Confirmation				
SAMPLE NUMBER	EP-109XB	EP-109A	EP-109A	EP-109B	EP-109C	EP-109D

-- METALS & MINOR CONSTITUENTS --

	EP-109XB	EP-109A	EP-109A	EP-109B	EP-109C	EP-109D
ARSENIC (AS) TOT	180.0	223.0	380.0	320.0	440.0	680.0
CADMIUM (CD) TOT	18.0	49.0	59.0	36.0	25.0	30.0
CHROMIUM (CR) TOT	<80.0	52.0	<80.0	<80.0	<80.0	90.0
COPPER (CU) TOT	940.0	1955.0	2700.0	1900.0	2800.0	3700.0
IRON (FE) TOT	23000.0	60860.0	77000.0	88000.0	110000.0	140000.0
LEAD (PB) TOT	660.0	1451.0	2000.0	1900.0	3600.0	5000.0
SELENIUM (SE) TOT	<10.0	8.4	13.0	<10.0	<10.0	10.0
ZINC (ZN) TOT	360.0	4445.0	4500.0	5000.0	8700.0	13000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-109	EP-109	EP-109	EP-109	EP-109
SAMPLE DATE	10/15/1999	10/15/1999	10/15/1999	10/15/1999	10/15/1999
SAMPLE TIME	09:42	10:00	10:05	10:30	10:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991889005	L991889006	L991889007	L991889008	L991889009
REMARKS					DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	4-5'	10-12'	15-17'	20-22'	20-22'
SAMPLE NUMBER	EP-109E	EP-109F	EP-109G	EP-109H	EP-109H2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	460.0	14.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	32.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	94.0	<80.0	<80.0	91.0	<80.0
COPPER (CU) TOT	3000.0	230.0	<20.0	<20.0	39.0
IRON (FE) TOT	110000.0	21000.0	19000.0	15000.0	14000.0
LEAD (PB) TOT	4000.0	310.0	33.0	43.0	38.0
SELENIUM (SE) TOT	10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	9700.0	150.0	18.0 J4	33.0 J4	10.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-110	EP-110	EP-110	EP-110	EP-110	EP-110
SAMPLE DATE	10/18/1999	10/18/1999	10/18/1999	10/18/1999	10/18/1999	10/18/1999
SAMPLE TIME	11:20	11:22	11:24	11:26	11:28	11:38
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991889010	L991889011	L991889012	L991889013	L991889014	L991889015
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	7-8'
SAMPLE NUMBER	EP-110A	EP-110B	EP-110C	EP-110D	EP-110E	EP-110F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	490.0	190.0	72.0	71.0	51.0	11.0
CADMIUM (CD) TOT	100.0	67.0	25.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	11000.0	2300.0	110.0 J4	30.0 J4	25.0 J4	91.0 J4
IRON (FE) TOT	40000.0	29000.0	22000.0	25000.0	25000.0	25000.0
LEAD (PB) TOT	3000.0	3100.0	210.0	60.0	43.0	84.0
SELENIUM (SE) TOT	14.0	17.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	2800.0	2400.0	170.0	46.0	35.0	120.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-110	EP-111	EP-111	EP-111	EP-111
SAMPLE DATE	10/18/1999	10/27/1999	10/27/1999	10/27/1999	10/27/1999
SAMPLE TIME	11:40	09:17	09:19	09:22	09:24
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991889016	L991947001	L991947002	L991947003	L991947004
REMARKS	DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	7-8'	0-1'	1-2'	2-3'	3-4'
SAMPLE NUMBER	EP-110F2	EP-111A	EP-111B	EP-111C	EP-111D

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	12.0	33.0	<10.0	50.0	65.0
CADMIUM (CD) TOT	<10.0	27.0	<10.0	12.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	62.0 J4	420.0	170.0	490.0	310.0
IRON (FE) TOT	25000.0	19000.0	16000.0	26000.0	23000.0
LEAD (PB) TOT	66.0	430.0	52.0	600.0	330.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	89.0	200.0	38.0	280.0	190.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-111	EP-112	EP-112	EP-112	EP-112
SAMPLE DATE	10/27/1999	10/27/1999	10/27/1999	10/27/1999	10/27/1999
SAMPLE TIME	09:44	13:13	13:15	13:15	13:17
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991947005	L991947006	L000277008	L991947007	L991947008
TYPE	XRF	XRF	CLP-RAS	XRF	XRF
DEPTH	4-5'	0-1'	1-2'	1-2'	2-3'
OTHER INFO			Confirmation		
SAMPLE NUMBER	EP-111E	EP-112A	EP-112B	EP-112B	EP-112C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	35.0	84.0	100.0	86.0	<10.0
CADMIUM (CD) TOT	13.0	32.0	41.0	54.0	23.0
CHROMIUM (CR) TOT	<80.0	<80.0	21.0	<80.0	<80.0
COPPER (CU) TOT	190.0	1300.0	730.0	1100.0	320.0
IRON (FE) TOT	20000.0	23000.0	13480.0	20000.0	15000.0
LEAD (PB) TOT	240.0	1200.0	1195.0	1500.0	430.0
SELENIUM (SE) TOT	<10.0	<10.0	<5.0	<10.0	<10.0
ZINC (ZN) TOT	120.0	590.0	700.0	740.0	190.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-112	EP-112	EP-113	EP-113	EP-113
SAMPLE DATE	10/27/1999	10/27/1999	10/28/1999	10/28/1999	10/28/1999
SAMPLE TIME	13:19	13:39	09:08	09:10	09:16
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991947009	L991947010	L991947011	L991947012	L991947013
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	3-4'	4-5'	0-1'	1-2'	2-3'
SAMPLE NUMBER	EP-112D	EP-112E	EP-113A	EP-113B	EP-113C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0	26.0	33.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	20.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	86.0
COPPER (CU) TOT	<20.0	40.0	110.0	570.0	370.0
IRON (FE) TOT	11000.0	12000.0	16000.0	21000.0	19000.0
LEAD (PB) TOT	22.0	27.0	110.0	630.0	310.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	26.0	13.0	66.0	370.0	210.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-113	EP-113	EP-114	EP-114	EP-114
SITE CODE	EP-113	EP-113	EP-114	EP-114	EP-114
SAMPLE DATE	10/28/1999	10/28/1999	11/15/1999	11/15/1999	11/15/1999
SAMPLE TIME	09:18	09:29	10:53	10:53	10:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991947014	L991947015	L000277014	L992077001	L000277015
TYPE	XRF	XRF	CLP-RAS	XRF	CLP-RAS
DEPTH	3-4'	4-5'	2.5-3.5'	2.5-3.5'	3.5-4.5'
OTHER INFO			Confirmation		Confirmation
SAMPLE NUMBER	EP-113D	EP-113E	EP-114A	EP-114A	EP-114B

-- METALS & MINOR CONSTITUENTS --

	EP-113D	EP-113E	EP-114A	EP-114A	EP-114B
ARSENIC (AS) TOT	24.0	<10.0	514.0	600.0	291.0
CADMIUM (CD) TOT	11.0	<10.0	180.0	200.0	417.0
CHROMIUM (CR) TOT	<80.0	<80.0	22.0	<80.0	11.0
COPPER (CU) TOT	310.0	<20.0	592.0	710.0	201.0
IRON (FE) TOT	22000.0	10000.0	26760.0	30000.0	15280.0
LEAD (PB) TOT	160.0	16.0	860.0	840.0	222.0
SELENIUM (SE) TOT	<10.0	<10.0	<5.0	11.0	<5.0
ZINC (ZN) TOT	110.0	11.0	3618.0	3200.0	1725.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-114	EP-114	EP-114	EP-115	EP-115
SAMPLE DATE	11/15/1999	11/15/1999	11/15/1999	11/16/1999	11/16/1999
SAMPLE TIME	10:55	10:59	11:08	07:52	07:54
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077002	L992077003	L992077004	L992077005	L992077006
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	3.5-4.5'	4.5-5.5'	10-12'	0-1'	1-2'
SAMPLE NUMBER	EP-114B	EP-114C	EP-114D	EP-115A	EP-115B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	310.0	18.0	110.0	2800.0	950.0
CADMIUM (CD) TOT	460.0	<10.0	24.0	850.0	400.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	250.0	45.0	250.0	16000.0	5900.0
IRON (FE) TOT	21000.0	20000.0	23000.0	35000.0	39000.0
LEAD (PB) TOT	270.0	64.0	210.0	7000.0	2800.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	67.0	21.0
ZINC (ZN) TOT	1700.0	2000.0	1300.0	5300.0	2200.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-115	EP-115	EP-115	EP-115	EP-115
SAMPLE DATE	11/16/1999	11/16/1999	11/16/1999	11/16/1999	11/16/1999
SAMPLE TIME	08:04	08:06	08:08	08:15	08:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077007	L992077008	L992077009	L000277016	L992077010
TYPE	XRF	XRF	XRF	CLP-RAS	XRF
DEPTH	2-3'	3-4'	4-5'	10-12'	10-12'
OTHER INFO				Confirmation	
SAMPLE NUMBER	EP-115C	EP-115D	EP-115E	EP-115F	EP-115F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	830.0	1100.0	750.0	337.0	360.0
CADMIUM (CD) TOT	380.0	420.0	320.0	254.0	270.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	12.0	<80.0
COPPER (CU) TOT	5000.0	5500.0	3500.0	298.0	350.0
IRON (FE) TOT	40000.0	39000.0	39000.0	16810.0	24000.0
LEAD (PB) TOT	2300.0	2800.0	1700.0	432.0	510.0
SELENIUM (SE) TOT	26.0	20.0	18.0	<5.0	<10.0
ZINC (ZN) TOT	1900.0	2100.0	1300.0	1193.0	1200.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-116	EP-116	EP-116	EP-116	EP-116	EP-116
SITE CODE	EP-116	EP-116	EP-116	EP-116	EP-116	EP-116
SAMPLE DATE	11/16/1999	11/16/1999	11/16/1999	11/16/1999	11/16/1999	11/16/1999
SAMPLE TIME	09:30	09:32	09:35	09:37	09:43	09:53
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077011	L992077012	L992077013	L992077014	L992077015	L992077016
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-2.5'	5-7'	10-12'
SAMPLE NUMBER	EP-116A	EP-116A2	EP-116B	EP-116C	EP-116D	EP-116E

-- METALS & MINOR CONSTITUENTS --

	EP-116A	EP-116A2	EP-116B	EP-116C	EP-116D	EP-116E
ARSENIC (AS) TOT	18000.0 J4	11000.0 J4	9800.0 J4	9200.0 J4	6800.0 J4	5300.0 J4
CADMIUM (CD) TOT	530.0 J4	340.0 J4	360.0 J4	360.0 J4	960.0 J4	1200.0 J4
CHROMIUM (CR) TOT	<80.0	90.0	<80.0	<80.0	83.0	<80.0
COPPER (CU) TOT	57000.0 J4	82000.0 J4	97000.0 J4	100000.0 J4	23000.0 J4	33000.0 J4
IRON (FE) TOT	99000.0	110000.0	100000.0	100000.0	67000.0	72000.0
LEAD (PB) TOT	40000.0 J4	19000.0 J4	26000.0 J4	23000.0 J4	16000.0 J4	13000.0 J4
SELENIUM (SE) TOT	2400.0	240.0	720.0	570.0	780.0	280.0
ZINC (ZN) TOT	7000.0	5900.0	7100.0	6800.0	4900.0	6300.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-117	EP-117	EP-117	EP-117	EP-117	EP-117
SAMPLE DATE	11/16/1999	11/16/1999	11/16/1999	11/16/1999	11/16/1999	11/16/1999
SAMPLE TIME	13:15	13:18	13:20	13:26	13:28	13:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077017	L992077018	L992077019	L992077020	L992077021	L992077022
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	5-6'	10-12'
SAMPLE NUMBER	EP-117A	EP-117B	EP-117C	EP-117D	EP-117E	EP-117F

-- METALS & MINOR CONSTITUENTS --

	EP-117A	EP-117B	EP-117C	EP-117D	EP-117E	EP-117F
ARSENIC (AS) TOT	2300.0 J4	1700.0 J4	2300.0 J4	1200.0 J4	140.0 J4	210.0 J4
CADMIUM (CD) TOT	480.0	300.0	460.0	230.0	<10.0 UJ4	<10.0 UJ4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	4100.0 J4	2500.0 J4	5400.0 J4	2900.0 J4	160.0 J4	140.0 J4
IRON (FE) TOT	32000.0	29000.0	35000.0	27000.0	20000.0	23000.0
LEAD (PB) TOT	3500.0 J4	2300.0 J4	4700.0 J4	2900.0 J4	230.0 J4	110.0 J4
SELENIUM (SE) TOT	34.0	23.0	30.0	21.0	11.0	<10.0
ZINC (ZN) TOT	1900.0	1300.0	2400.0	1200.0	31.0 J4	62.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-117	EP-118	EP-118	EP-118	EP-118
SAMPLE DATE	11/16/1999	11/17/1999	11/17/1999	11/17/1999	11/17/1999
SAMPLE TIME	13:32	09:40	09:42	09:44	09:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077023	L992077024	L992077025	L992077026	L992077027
REMARKS	DUPLICATE		DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	0-1'	0-1'	1-2'	2-3'
SAMPLE NUMBER	EP-117F2	EP-118A	EP-118A2	EP-118B	EP-118C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	500.0	J4	1300.0	1000.0	720.0	120.0				
CADMIUM (CD) TOT	66.0	J4	340.0	240.0	200.0	56.0				
CHROMIUM (CR) TOT	<80.0		<80.0	<80.0	<80.0	<80.0				
COPPER (CU) TOT	1100.0	J4	17000.0	12000.0	8400.0	1600.0				
IRON (FE) TOT	23000.0		43000.0	39000.0	34000.0	19000.0				
LEAD (PB) TOT	1100.0	J4	10000.0	7400.0	5900.0	1700.0				
SELENIUM (SE) TOT	<10.0		110.0	J4	65.0	J4	57.0	J4	12.0	J4
ZINC (ZN) TOT	470.0	J4	4800.0	3400.0	2800.0	640.0				

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-118	EP-118	EP-118	SSIA11-1	SSIA11-1
SAMPLE DATE	11/17/1999	11/17/1999	11/17/1999	07/19/1999	07/19/1999
SAMPLE TIME	09:52	09:55	11:15	14:22	14:22
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077028	L992077029	L992077030	L991291003	L991391001
TYPE	XRF	XRF	XRF	XRF	CLP-RAS
DEPTH	3-4'	4-5'	15-15.5'	0-1'	0-1'
OTHER INFO					Confirmation
SAMPLE NUMBER	EP-118D	EP-118E	EP-118F	SSIA11-1A	SSIA11-1A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	61.0	75.0	54.0	170.0	184.0
CADMIUM (CD) TOT	29.0	43.0	20.0	50.0	46.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	160.0	<20.0
COPPER (CU) TOT	860.0	1100.0	560.0	2900.0	2190.0
IRON (FE) TOT	17000.0	17000.0	16000.0	34000.0	24000.0
LEAD (PB) TOT	950.0	1300.0	630.0	1500.0	1433.0
SELENIUM (SE) TOT	<10.0 UJ4	10.0 J4	<10.0 UJ4	<10.0	<10.0
ZINC (ZN) TOT	360.0	480.0	450.0	1400.0	1384.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-1	SSIA11-1	SSIA11-2	SSIA11-2
SAMPLE DATE	07/19/1999	07/19/1999	07/19/1999	07/19/1999
SAMPLE TIME	14:30	14:40	15:10	15:18
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991291001	L991353029	L991291002	L991353026
TYPE	XRF	XRF	XRF	XRF
DEPTH	1-2'	2-3'	0-1'	1-2'
SAMPLE NUMBER	SSIA11-1B	SSIA11-1C	SSIA11-2A	SSIA11-2B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	33.0	<10.0	82.0	12.0
CADMIUM (CD) TOT	16.0	<10.0	25.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	740.0	330.0	1500.0	170.0
IRON (FE) TOT	17000.0	17000.0	25000.0	19000.0
LEAD (PB) TOT	520.0	290.0	1100.0	150.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	340.0 J4	150.0	770.0	110.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-3	SSIA11-3	SSIA11-3	SSIA11-3	SSIA11-3
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	08:10	08:10	08:20	08:45	08:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991292010	L991391004	L991292013	L991292014	L991292007
TYPE	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	0-1'	0-1'	2-3'	3-4'	4-5'
OTHER INFO		Confirmation			
SAMPLE NUMBER	SSIA11-3A	SSIA11-3A	SSIA11-3C	SSIA11-3D	SSIA11-3E

-- METALS & MINOR CONSTITUENTS --

	SSIA11-3A	SSIA11-3A	SSIA11-3C	SSIA11-3D	SSIA11-3E
ARSENIC (AS) TOT	2200.0	2141.0	1700.0	1800.0	430.0
CADMIUM (CD) TOT	940.0	736.0	580.0	570.0	140.0
CHROMIUM (CR) TOT	270.0	25.0	620.0	2000.0	<80.0
COPPER (CU) TOT	29000.0	19990.0	18000.0	21000.0	8000.0
IRON (FE) TOT	44000.0	37000.0	34000.0	44000.0	31000.0
LEAD (PB) TOT	14000.0	21000.0	11000.0	12000.0	4400.0
SELENIUM (SE) TOT	92.0	110.0	36.0	17.0	14.0
ZINC (ZN) TOT	15000.0	14930.0	9300.0	11000.0	5400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-4	SSIA11-4	SSIA11-4	SSIA11-4	SSIA11-4
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME				09:15	09:17
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991291009	L991291013	L991291012	L991292012	L991292008
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH				3-4'	4-5'
SAMPLE NUMBER	SSIA11-4A	SSIA11-4B	SSIA11-4C	SSIA11-4D	SSIA11-4E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	790.0	160.0	52.0	25.0	23.0
CADMIUM (CD) TOT	300.0	70.0	21.0	20.0	11.0
CHROMIUM (CR) TOT	92.0	240.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	11000.0	2400.0	890.0	820.0	600.0
IRON (FE) TOT	39000.0	24000.0	25000.0	19000.0	17000.0
LEAD (PB) TOT	11000.0	3100.0	1200.0	1100.0	850.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	11000.0	2400.0	820.0	880.0	600.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-5	SSIA11-5	SSIA11-5	SSIA11-5	SSIA11-5
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	09:20	09:21	09:35	09:35	09:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991291014	L991292015	L991292009	L991391003	L991291018
REMARKS		DUPLICATE			
TYPE	XRF	XRF	XRF	CLP-RAS	XRF
DEPTH	0-1'	0-1'	2-3'	2-3'	4-5'
OTHER INFO				Confirmation	
SAMPLE NUMBER	SSIA11-5A	SSIA11-5A2	SSIA11-5C	SSIA11-5C	SSIA11-5E

-- METALS & MINOR CONSTITUENTS --

	SSIA11-5A	SSIA11-5A2	SSIA11-5C	SSIA11-5C	SSIA11-5E
ARSENIC (AS) TOT	<20.0	<20.0	23.0	54.0	44.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	16.0	31.0
CHROMIUM (CR) TOT	140.0	<80.0	<80.0	<20.0	<80.0
COPPER (CU) TOT	140.0	140.0	650.0	366.0	990.0
IRON (FE) TOT	14000.0	15000.0	17000.0	10000.0	16000.0
LEAD (PB) TOT	150.0	150.0	750.0	661.0	1200.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	92.0 J4	72.0	520.0	530.0	880.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-6	SSIA11-6	SSIA11-6	SSIA11-6	SSIA11-6	SSIA11-6
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	15:41	15:41	15:42	15:42	15:46	15:46
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991293005	L991391006	L991293004	L991391005	L991293006	L991391007
TYPE	XRF	CLP-RAS	XRF	CLP-RAS	XRF	CLP-RAS
DEPTH	0-1'	0-1'	1-2'	1-2'	2-3'	2-3'
OTHER INFO		Confirmation		Confirmation		Confirmation
SAMPLE NUMBER	SSIA11-6A	SSIA11-6A	SSIA11-6B	SSIA11-6B	SSIA11-6C	SSIA11-6C

-- METALS & MINOR CONSTITUENTS --

	SSIA11-6A	SSIA11-6A	SSIA11-6B	SSIA11-6B	SSIA11-6C	SSIA11-6C
ARSENIC (AS) TOT	480.0	433.0	920.0	894.0	4400.0	3604.0
CADMIUM (CD) TOT	120.0	103.0	380.0	339.0	350.0	307.0
CHROMIUM (CR) TOT	<80.0	20.0	290.0	20.0	180.0	22.0
COPPER (CU) TOT	3600.0	2154.0	5800.0	3890.0	18000.0	10440.0
IRON (FE) TOT	29000.0	18000.0	28000.0	20000.0	35000.0	26000.0
LEAD (PB) TOT	2000.0	1743.0	12000.0	12640.0	2100.0	2319.0
SELENIUM (SE) TOT	<10.0	<10.0	29.0	33.0	<10.0	17.0
ZINC (ZN) TOT	1200.0	1145.0	4100.0	3949.0	4100.0	4031.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-6	SSIA11-6	SSIA11-7	SSIA11-7	SSIA11-7
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/20/1999	07/20/1999
SAMPLE TIME	15:48	15:50	16:15	16:16	16:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991293007	L991292017	L991292002	L991292003	L991292001
REMARKS				DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	3-4'	4-5'	0-1'	0-1'	1-2'
SAMPLE NUMBER	SSIA11-6D	SSIA11-6E	SSIA11-7A	SSIA11-7A2	SSIA11-7B

-- METALS & MINOR CONSTITUENTS --

	SSIA11-6D	SSIA11-6E	SSIA11-7A	SSIA11-7A2	SSIA11-7B
ARSENIC (AS) TOT	7300.0	14000.0	2500.0	2500.0	15000.0
CADMIUM (CD) TOT	620.0	1400.0	250.0 J4	150.0 J4	260.0 J4
CHROMIUM (CR) TOT	<80.0	170.0	<80.0	120.0	110.0
COPPER (CU) TOT	48000.0	37000.0	11000.0	11000.0	6600.0
IRON (FE) TOT	42000.0	38000.0	42000.0	38000.0	29000.0
LEAD (PB) TOT	3100.0	21000.0	5800.0	5700.0	11000.0
SELENIUM (SE) TOT	<10.0	110.0	<10.0	14.0	<10.0
ZINC (ZN) TOT	10000.0	14000.0	5000.0	5500.0	5000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-7	SSIA11-7	SSIA11-7	SSIA11-8	SSIA11-8
SAMPLE DATE	07/20/1999	07/20/1999	07/20/1999	07/21/1999	07/21/1999
SAMPLE TIME	16:23	16:25	16:30	08:17	08:22
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991292004	L991292005	L991291008	L991293016	L991293023
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	0-1'	1-2'
SAMPLE NUMBER	SSIA11-7C	SSIA11-7D	SSIA11-7E	SSIA11-8A	SSIA11-8B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	720.0	750.0	2800.0	560.0	880.0
CADMIUM (CD) TOT	180.0 J4	170.0 J4	240.0 J4	610.0	290.0
CHROMIUM (CR) TOT	230.0	130.0	<80.0	230.0	150.0
COPPER (CU) TOT	4600.0	4800.0	6400.0	3400.0	5000.0
IRON (FE) TOT	27000.0	26000.0	30000.0	28000.0	30000.0
LEAD (PB) TOT	3700.0	3600.0	6500.0	2900.0	3200.0
SELENIUM (SE) TOT	72.0	68.0	31.0	<10.0	<10.0
ZINC (ZN) TOT	2900.0	2900.0	4000.0	2800.0	3400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-8	SSIA11-8	SSIA11-8	SSIA11-9
SAMPLE DATE	07/21/1999	07/21/1999	07/21/1999	07/21/1999
SAMPLE TIME	08:25	08:29	08:32	08:50
LAB	TSC-SLC	TSC-SLC	TSC-SLC	NO SAMPLE
LAB NUMBER	L991293025	L991293022	L991293013	
TYPE	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	
SAMPLE NUMBER	SSIA11-8C	SSIA11-8D	SSIA11-8E	SSIA11-9

-- LOCATION INFORMATION --

DESCRIPTION

SLAG

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1700.0	1700.0	890.0
CADMIUM (CD) TOT	360.0	330.0	230.0
CHROMIUM (CR) TOT	270.0	170.0	170.0
COPPER (CU) TOT	10000.0	11000.0	7500.0
IRON (FE) TOT	36000.0	36000.0	34000.0
LEAD (PB) TOT	7200.0	7600.0	5800.0
SELENIUM (SE) TOT	21.0	<10.0	23.0
ZINC (ZN) TOT	6100.0	6600.0	4500.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-10	SSIA11-10	SSIA11-10	SSIA11-10	SSIA11-10	SSIA11-10
SAMPLE DATE	08/04/1999	08/04/1999	08/04/1999	08/04/1999	08/04/1999	08/04/1999
SAMPLE TIME	08:30	08:30	08:33	08:33	08:40	08:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991391010	L991413003	L991391009	L991413002	L991391008	L991413001
TYPE	CLP-RAS	XRF	CLP-RAS	XRF	CLP-RAS	XRF
DEPTH		0-1'		1-2'		3-4'
OTHER INFO	Confirmation		Confirmation		Confirmation	
SAMPLE NUMBER	SSIA11-10A	SSIA11-10A	SSIA11-10B	SSIA11-10B	SSIA11-10D	SSIA11-10D

-- METALS & MINOR CONSTITUENTS --

	SSIA11-10A	SSIA11-10A	SSIA11-10B	SSIA11-10B	SSIA11-10D	SSIA11-10D
ARSENIC (AS) TOT	149.0	160.0	25.0	23.0	20.0	10.0
CADMIUM (CD) TOT	21.0	12.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<20.0	<80.0	<20.0	<80.0	<20.0	<80.0
COPPER (CU) TOT	862.0	980.0	101.0	140.0	29.0	<20.0
IRON (FE) TOT	48000.0	44000.0	15000.0	21000.0	12000.0	19000.0
LEAD (PB) TOT	1000.0	730.0	83.0	150.0	14.0	<10.0
SELENIUM (SE) TOT	14.0	21.0	11.0	19.0	<10.0	<10.0
ZINC (ZN) TOT	3816.0	2200.0	113.0	110.0	39.0	45.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-11	SSIA11-11	SSIA11-11	SSIA11-11	SSIA11-11
SAMPLE DATE	08/14/1999	08/14/1999	08/14/1999	08/14/1999	08/14/1999
SAMPLE TIME	09:20	09:25	09:35	09:42	09:48
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991413005	L991413008	L991413004	L991413007	L991413006
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'
SAMPLE NUMBER	SSIA11-11A	SSIA11-11B	SSIA11-11C	SSIA11-11D	SSIA11-11E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	65.0	42.0	17.0	<10.0	11.0
CADMIUM (CD) TOT	22.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	100.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	640.0	270.0	<20.0	40.0	<20.0
IRON (FE) TOT	34000.0	32000.0	27000.0	19000.0	26000.0
LEAD (PB) TOT	450.0	180.0	11.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	740.0	510.0	58.0	12.0	54.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	SSIA11-12	SSIA11-13	SSIA11-14	SSIA11-14
SITE CODE	SSIA11-12	SSIA11-13	SSIA11-14	SSIA11-14
SAMPLE DATE	08/04/1999	08/05/1999	08/06/1999	08/06/1999
SAMPLE TIME	10:00	14:35	08:59	09:03
LAB	NO SAMPLE	NO SAMPLE	TSC-SLC	TSC-SLC
LAB NUMBER			L991414017	L991414018
TYPE	XRF	XRF	XRF	XRF
DEPTH			1-2'	2-3'
SAMPLE NUMBER	SSIA11-12	SSIA11-13	SSIA11-14B	SSIA11-14C

-- LOCATION INFORMATION --

DESCRIPTION	SLAG	SLAG
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-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT		17.0	23.0
CADMIUM (CD) TOT		13.0	<10.0
CHROMIUM (CR) TOT		<80.0	<80.0
COPPER (CU) TOT		52.0	29.0
IRON (FE) TOT		20000.0	27000.0
LEAD (PB) TOT		<10.0	<10.0
SELENIUM (SE) TOT		<10.0	<10.0
ZINC (ZN) TOT		41.0	30.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	SSIA11-14	SSIA11-14	SSIA11-15	SSIA11-15	SSIA11-15
SITE CODE	SSIA11-14	SSIA11-14	SSIA11-15	SSIA11-15	SSIA11-15
SAMPLE DATE	08/06/1999	08/06/1999	08/06/1999	08/06/1999	08/06/1999
SAMPLE TIME	09:06	09:09	09:28	09:28	09:31
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991414019	L991414020	L991391014	L991414025	L991391013
TYPE	XRF	XRF	CLP-RAS	XRF	CLP-RAS
DEPTH	3-4'	4-5'	0-1'	0-1'	1-2'
OTHER INFO			Confirmation		Confirmation
SAMPLE NUMBER	SSIA11-14D	SSIA11-14E	SSIA11-15A	SSIA11-15A	SSIA11-15B

-- METALS & MINOR CONSTITUENTS --

	SSIA11-14	SSIA11-14	SSIA11-15	SSIA11-15	SSIA11-15
ARSENIC (AS) TOT	13.0	17.0	37.0	51.0	37.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<20.0	<80.0	<20.0
COPPER (CU) TOT	<20.0	14.0	201.0	210.0	272.0
IRON (FE) TOT	25000.0	26000.0	22000.0	29000.0	25000.0
LEAD (PB) TOT	<10.0	<10.0	101.0	130.0	389.0
SELENIUM (SE) TOT	<10.0	<10.0	13.0	22.0	<10.0
ZINC (ZN) TOT	43.0	37.0	529.0	420.0	1370.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-15	SSIA11-15	SSIA11-15	SSIA11-15	SSIA11-16
SAMPLE DATE	08/06/1999	08/06/1999	08/06/1999	08/06/1999	08/06/1999
SAMPLE TIME	09:31	09:34	09:37	09:40	10:01
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991414024	L991414023	L991414022	L991414021	L991414014
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	1-2'	2-3'	3-4'	4-5'	1-2'
SAMPLE NUMBER	SSIA11-15B	SSIA11-15C	SSIA11-15D	SSIA11-15E	SSIA11-16B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	30.0	44.0	84.0	13.0	21.0
CADMIUM (CD) TOT	<10.0	<10.0	14.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	300.0	350.0	480.0	64.0	63.0
IRON (FE) TOT	31000.0	43000.0	26000.0	20000.0	21000.0
LEAD (PB) TOT	380.0	950.0	430.0	35.0	34.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1000.0	1600.0	1500.0	73.0	21.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	SSIA11-16	SSIA11-16	SSIA11-16	SSIA11-16	SSIA11-17
SITE CODE	SSIA11-16	SSIA11-16	SSIA11-16	SSIA11-16	SSIA11-17
SAMPLE DATE	08/06/1999	08/06/1999	08/06/1999	08/06/1999	11/04/1999
SAMPLE TIME	10:04	10:07	10:10	10:11	16:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991414015	L991414016	L991414012	L991414013	L992004044
REMARKS				DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	4-5'	0-1'
SAMPLE NUMBER	SSIA11-16C	SSIA11-16D	SSIA11-16E	SSIA11-16E2	SSIA11-17A

-- METALS & MINOR CONSTITUENTS --

	SSIA11-16C	SSIA11-16D	SSIA11-16E	SSIA11-16E2	SSIA11-17A
ARSENIC (AS) TOT	19.0	20.0	<10.0	<10.0	110.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	15.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	33.0	<20.0	41.0	1000.0
IRON (FE) TOT	22000.0	25000.0	19000.0	20000.0	31000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	920.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	32.0	19.0	15.0	17.0	810.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	SSIA11-18	SSIA11-18	SSIA11-18	SSIA11-18
SAMPLE DATE	11/05/1999	11/05/1999	11/05/1999	11/05/1999
SAMPLE TIME	09:15	09:15	09:20	09:23
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277010	L992004045	L992004046	L992004047
TYPE	CLP-RAS	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'
OTHER INFO	Confirmation			
SAMPLE NUMBER	SSIA11-18A	SSIA11-18A	SSIA11-18B	SSIA11-18C

-- METALS & MINOR CONSTITUENTS --


	SSIA11-18A	SSIA11-18A	SSIA11-18B	SSIA11-18C
ARSENIC (AS) TOT	136.0	150.0	230.0	140.0
CADMIUM (CD) TOT	38.0	45.0	86.0	61.0
CHROMIUM (CR) TOT	20.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1276.0	1600.0	3000.0	1700.0
IRON (FE) TOT	26020.0	36000.0	34000.0	28000.0
LEAD (PB) TOT	1041.0	1100.0	2200.0	1300.0
SELENIUM (SE) TOT	<5.0	<10.0	17.0	<10.0
ZINC (ZN) TOT	1098.0	1100.0	1600.0	990.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

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6	BH2-2	BH2-2	Soil		
6	BH2-3	BH2-3	Soil		
8	BH2-4	BH2-4	Soil		
8	BH2-5	BH2-5	Soil		
9	BH2-6	BH2-6	Soil		
11	BH2-7	BH2-7	Soil		
12	BH3-2	BH3-2	Soil		
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15	BH3-5	BH3-5	Soil		
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21	BH3-8	BH3-8	Soil		
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45	BH9-5-4	BH9-5-4	Soil		
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54	BH12-4	BH12-4	Soil		
55	BH12-5	BH12-5	Soil		
56	BH12-6	BH12-6	Soil		
56	BH12-7	BH12-7	Soil		
57	BH12-8	BH12-8	Soil		
57	BH12-9	BH12-9	Soil		
58	BH13-1	BH13-1	Soil		
60	BH14-1	BH14-1	Soil		
63	BH14-2	BH14-2	Soil		
66	BH14-3	BH14-3	Soil		
70	EP-89	EP-89	Soil		
70	EP-93	EP-93	Soil		
73	EP-94	EP-94	Soil		
75	EP-95	EP-95	Soil		
77	EP-95R	EP-95R	Soil		
79	EP-96	EP-96	Soil		
82	EP-97	EP-97	Soil		
82	EP-98	EP-98	Soil		
84	EP-99	EP-99	Soil		
85	EP-100	EP-100	Soil		
87	EP-101	EP-101	Soil		
90	EP-102	EP-102	Soil		
94	EP-103	EP-103	Soil		
97	EP-104	EP-104	Soil		
100	EP-105	EP-105	Soil		
104	EP-106	EP-106	Soil		
107	EP-107	EP-107	Soil		
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78	EP-95RJ	L991890011	10/20/1999	EP-95R	52	L992004004	BH12-1D	11/03/1999	BH12-1
78	EP-95RK	L991890012	10/20/1999	EP-95R	52	L992004005	BH12-1E	11/03/1999	BH12-1
79	EP-96A	L991291007	07/20/1999	EP-96	53	L992004006	BH12-1E2	11/03/1999	BH12-1
79	EP-96B	L991291015	07/20/1999	EP-96	53	L992004007	BH12-2A	11/03/1999	BH12-2
79	EP-96C	L991292006	07/20/1999	EP-96	53	L992004008	BH12-2B	11/03/1999	BH12-2
79	EP-96D	L991292011	07/20/1999	EP-96	53	L992004009	BH12-3A	11/03/1999	BH12-3
79	EP-96E	L991291017	07/20/1999	EP-96	54	L992004010	BH12-3B	11/03/1999	BH12-3
79	EP-96F	L991291006	07/20/1999	EP-96	54	L992004011	BH12-3C	11/03/1999	BH12-3
80	EP-96G	L991291011	07/20/1999	EP-96	54	L992004012	BH12-4A	11/03/1999	BH12-4
80	EP-96H	L991291010	07/20/1999	EP-96	54	L992004013	BH12-4B	11/03/1999	BH12-4
80	EP-96I	L991293002	07/20/1999	EP-96	54	L992004014	BH12-4C	11/03/1999	BH12-4
80	EP-96J	L991291019	07/20/1999	EP-96	55	L992004015	BH12-4D	11/03/1999	BH12-4
80	EP-96J2	L991291016	07/20/1999	EP-96	55	L992004016	BH12-4D2	11/03/1999	BH12-4
80	EP-96K	L991292016	07/20/1999	EP-96	55	L992004017	BH12-4E	11/03/1999	BH12-4
81	EP-96L	L991292018	07/20/1999	EP-96	55	L992004018	BH12-5A	11/04/1999	BH12-5
81	EP-96M	L991293003	07/20/1999	EP-96	56	L992004019	BH12-6A	11/04/1999	BH12-6
81	EP-96N	L991292020	07/20/1999	EP-96	56	L992004020	BH12-7A	11/04/1999	BH12-7
81	EP-96N2	L991293001	07/20/1999	EP-96	56	L992004021	BH12-7B	11/04/1999	BH12-7
81	EP-96O	L991292019	07/20/1999	EP-96	56	L992004022	BH12-7B2	11/04/1999	BH12-7
81	EP-96P	L991291020	07/20/1999	EP-96	57	L992004023	BH12-8A	11/04/1999	BH12-8
82	EP-97A	L991413020	08/04/1999	EP-97	57	L992004024	BH12-8B	11/04/1999	BH12-8
82	EP-97A2	L991413021	08/04/1999	EP-97	57	L992004025	BH12-8C	11/04/1999	BH12-8
82	EP-97B	L991413018	08/04/1999	EP-97	57	L992004026	BH12-9A	11/04/1999	BH12-9
82	EP-97C	L991413019	08/04/1999	EP-97	58	L992004027	BH12-9A2	11/04/1999	BH12-9
82	EP-98A	L991414004	08/06/1999	EP-98	57	L992004028	BH12-9B	11/04/1999	BH12-8
83	EP-98A2	L991414005	08/06/1999	EP-98	60	L992004029	BH14-1A	11/05/1999	BH14-1
83	EP-98B	L991414003	08/06/1999	EP-98	60	L992004030	BH14-1B	11/05/1999	BH14-1
83	EP-98C	L991414001	08/06/1999	EP-98	60	L992004031	BH14-1C	11/05/1999	BH14-1
83	EP-98D	L991414002	08/06/1999	EP-98	61	L992004032	BH14-1D	11/05/1999	BH14-1
83	EP-98E	L991413025	08/06/1999	EP-98	61	L992004033	BH14-1E	11/05/1999	BH14-1
83	EP-98F	L991413024	08/06/1999	EP-98	61	L992004034	BH14-1F	11/05/1999	BH14-1
84	EP-98G	L991413023	08/06/1999	EP-98	61	L992004035	BH14-1F2	11/05/1999	BH14-1
84	EP-98H	L991413022	08/06/1999	EP-98	61	L992004036	BH14-1G	11/05/1999	BH14-1
84	EP-99A	L991532009	08/12/1999	EP-99	61	L992004037	BH14-1H	11/05/1999	BH14-1
84	EP-99B	L991532010	08/12/1999	EP-99	62	L992004038	BH14-1I	11/05/1999	BH14-1
132	SSIA11-10A	L991391010	08/04/1999	SSIA11-10	62	L992004039	BH14-1J	11/05/1999	BH14-1
132	SSIA11-10A	L991413003	08/04/1999	SSIA11-10	62	L992004040	BH14-1K	11/05/1999	BH14-1
132	SSIA11-10B	L991391009	08/04/1999	SSIA11-10	62	L992004041	BH14-1L	11/08/1999	BH14-1
132	SSIA11-10B	L991413002	08/04/1999	SSIA11-10	62	L992004042	BH14-1L2	11/08/1999	BH14-1
132	SSIA11-10D	L991391008	08/04/1999	SSIA11-10	62	L992004043	BH14-1M	11/08/1999	BH14-1
132	SSIA11-10D	L991413001	08/04/1999	SSIA11-10	137	L992004044	SSIA11-17A	11/04/1999	SSIA11-17
133	SSIA11-11A	L991413005	08/14/1999	SSIA11-11	138	L992004045	SSIA11-18A	11/05/1999	SSIA11-18
133	SSIA11-11B	L991413008	08/14/1999	SSIA11-11	138	L992004046	SSIA11-18B	11/05/1999	SSIA11-18
133	SSIA11-11C	L991413004	08/14/1999	SSIA11-11	138	L992004047	SSIA11-18C	11/05/1999	SSIA11-18
133	SSIA11-11D	L991413007	08/14/1999	SSIA11-11	25	L992061001	BH4-2A	11/18/1999	BH4-2
133	SSIA11-11E	L991413006	08/14/1999	SSIA11-11	26	L992061002	BH4-2B	11/18/1999	BH4-2
134	SSIA11-12		08/04/1999	SSIA11-12	26	L992061003	BH4-2C	11/18/1999	BH4-2
134	SSIA11-13		08/05/1999	SSIA11-13	26	L992061004	BH4-2D	11/18/1999	BH4-2
134	SSIA11-14B	L991414017	08/06/1999	SSIA11-14	27	L992061005	BH4-2E	11/18/1999	BH4-2
134	SSIA11-14C	L991414018	08/06/1999	SSIA11-14	27	L992061006	BH4-2F	11/18/1999	BH4-2
135	SSIA11-14D	L991414019	08/06/1999	SSIA11-14	27	L992061007	BH4-2G	11/18/1999	BH4-2
135	SSIA11-14E	L991414020	08/06/1999	SSIA11-14	27	L992061008	BH4-3A	11/18/1999	BH4-3
135	SSIA11-15A	L991391014	08/06/1999	SSIA11-15	28	L992061009	BH4-4A	11/18/1999	BH4-4
135	SSIA11-15A	L991414025	08/06/1999	SSIA11-15	28	L992061010	BH4-4A2	11/18/1999	BH4-4
135	SSIA11-15B	L991391013	08/06/1999	SSIA11-15	28	L992061011	BH4-4B	11/18/1999	BH4-4
136	SSIA11-15B	L991414024	08/06/1999	SSIA11-15	28	L992061012	BH4-4C	11/18/1999	BH4-4
136	SSIA11-15C	L991414023	08/06/1999	SSIA11-15	28	L992061013	BH4-4D	11/18/1999	BH4-4
136	SSIA11-15D	L991414022	08/06/1999	SSIA11-15	28	L992061014	BH4-4E	11/18/1999	BH4-4
136	SSIA11-15E	L991414021	08/06/1999	SSIA11-15	29	L992061015	BH4-4F	11/18/1999	BH4-4
136	SSIA11-16B	L991414014	08/06/1999	SSIA11-16	29	L992061016	BH4-5A	11/18/1999	BH4-5
137	SSIA11-16C	L991414015	08/06/1999	SSIA11-16	29	L992061017	BH4-5A2	11/18/1999	BH4-5
137	SSIA11-16D	L991414016	08/06/1999	SSIA11-16	29	L992061018	BH4-5B	11/18/1999	BH4-5
137	SSIA11-16E	L991414012	08/06/1999	SSIA11-16	29	L992061019	BH4-5C	11/18/1999	BH4-5
137	SSIA11-16E2	L991414013	08/06/1999	SSIA11-16	30	L992061020	BH4-5D	11/18/1999	BH4-5
137	SSIA11-17A	L992004044	11/04/1999	SSIA11-17	30	L992061021	BH4-5E	11/18/1999	BH4-5

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138	SSIA11-18A	L992004045	11/05/1999	SSIA11-18	30	L992061023	BH4-6A	11/18/1999	BH4-6
138	SSIA11-18B	L992004046	11/05/1999	SSIA11-18	30	L992061024	BH4-6B	11/18/1999	BH4-6
138	SSIA11-18C	L992004047	11/05/1999	SSIA11-18	31	L992061025	BH4-6C	11/18/1999	BH4-6
123	SSIA11-1A	L991291003	07/19/1999	SSIA11-1	31	L992061026	BH4-6D	11/18/1999	BH4-6
123	SSIA11-1A	L991391001	07/19/1999	SSIA11-1	31	L992061027	BH4-6E	11/18/1999	BH4-6
124	SSIA11-1B	L991291001	07/19/1999	SSIA11-1	31	L992061028	BH4-6E2	11/18/1999	BH4-6
124	SSIA11-1C	L991353029	07/19/1999	SSIA11-1	31	L992061029	BH4-6F	11/18/1999	BH4-6
124	SSIA11-2A	L991291002	07/19/1999	SSIA11-2	117	L992077001	EP-114A	11/15/1999	EP-114
124	SSIA11-2B	L991353026	07/19/1999	SSIA11-2	118	L992077002	EP-114B	11/15/1999	EP-114
125	SSIA11-3A	L991292010	07/20/1999	SSIA11-3	118	L992077003	EP-114C	11/15/1999	EP-114
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125	SSIA11-3D	L991292014	07/20/1999	SSIA11-3	118	L992077006	EP-115B	11/16/1999	EP-115
125	SSIA11-3E	L991292007	07/20/1999	SSIA11-3	119	L992077007	EP-115C	11/16/1999	EP-115
126	SSIA11-4A	L991291009	07/20/1999	SSIA11-4	119	L992077008	EP-115D	11/16/1999	EP-115
126	SSIA11-4B	L991291013	07/20/1999	SSIA11-4	119	L992077009	EP-115E	11/16/1999	EP-115
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130	SSIA11-7E	L991291008	07/20/1999	SSIA11-7	24	L992077031	BH4-1A	11/17/1999	BH4-1
130	SSIA11-8A	L991293016	07/21/1999	SSIA11-8	24	L992077032	BH4-1A2	11/17/1999	BH4-1
130	SSIA11-8B	L991293023	07/21/1999	SSIA11-8	24	L992077033	BH4-1B	11/17/1999	BH4-1
131	SSIA11-8C	L991293025	07/21/1999	SSIA11-8	25	L992077034	BH4-1C	11/17/1999	BH4-1
131	SSIA11-8D	L991293022	07/21/1999	SSIA11-8	25	L992077035	BH4-1D	11/17/1999	BH4-1
131	SSIA11-8E	L991293013	07/21/1999	SSIA11-8	25	L992077036	BH4-1E	11/17/1999	BH4-1
131	SSIA11-9		07/21/1999	SSIA11-9	25	L992077037	BH4-1F	11/17/1999	BH4-1

-- SAMPLE TYPE: SOIL --

	BH3-5	BH3-5	BH3-5	BH3-5	BH3-5	BH3-5
SITE CODE	BH3-5	BH3-5	BH3-5	BH3-5	BH3-5	BH3-5
SAMPLE DATE	08/25/1999	08/25/1999	08/25/1999	08/25/1999	08/25/1999	08/25/1999
SAMPLE TIME	12:10	12:12	12:12	13:35	13:38	13:53
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991997001	L991597007	L991997002	L991597008	L991597009	L991597010
REMARKS		DUPLICATE				
TYPE	CLP-RAS	XRF	CLP-RAS	XRF	XRF	XRF
DEPTH	3-4.5'	3-4.5'	3-4.5'	31'	35'	40'
OTHER INFO	Confirmation		Confirmation			
SAMPLE NUMBER	BH3-5A	BH3-5A2	BH3-5A2	BH3-5B	BH3-5C	BH3-5D

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	725.0	550.0 J4	517.0	2100.0 J4	420.0 J4	46.0 J4
CADMIUM (CD) TOT	125.0	150.0	97.0	430.0	300.0	<10.0
CHROMIUM (CR) TOT	46.0	200.0	32.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	4020.0	5600.0	3080.0	110.0	65.0	<20.0
IRON (FE) TOT	20600.0	27000.0	18400.0	21000.0	17000.0	20000.0
LEAD (PB) TOT	3390.0 J4	2400.0 J4	2170.0 J4	63.0 J4	14.0 J4	14.0 J4
SELENIUM (SE) TOT	16.0	22.0	12.0	81.0	13.0	<10.0
ZINC (ZN) TOT	7820.0	7600.0	6230.0	40000.0	33000.0	160.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-5	BH3-5	BH3-6	BH3-6	BH3-6
SAMPLE DATE	08/25/1999	08/25/1999	08/25/1999	08/25/1999	08/26/1999
SAMPLE TIME	13:56	14:15	17:05	17:10	08:08
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597011	L991597012	L991597016	L991597017	L991597018
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	45'	50-52'	18-20'	25-27'	30-32'
SAMPLE NUMBER	BH3-5E	BH3-5F	BH3-6A	BH3-6B	BH3-6C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	25.0	J4	55.0	J4	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0		<10.0		41.0	28.0	<10.0
CHROMIUM (CR) TOT	<80.0		<80.0		<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0		48.0		<20.0	<20.0	<20.0
IRON (FE) TOT	17000.0		20000.0		10000.0	10000.0	11000.0
LEAD (PB) TOT	<10.0	UJ4	16.0	J4	23.0	14.0	20.0
SELENIUM (SE) TOT	<10.0		<10.0		<10.0	<10.0	<10.0
ZINC (ZN) TOT	78.0		180.0		330.0	110.0	<10.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-6	BH3-6	BH3-6	BH3-6	BH3-6	BH3-6
SAMPLE DATE	08/26/1999	08/26/1999	08/26/1999	08/26/1999	08/26/1999	08/26/1999
SAMPLE TIME	08:10	08:25	08:28	08:45	08:47	08:49
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597019	L991597020	L991597021	L991597022	L991597023	L991597024
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	45-47'	50-52'	50-52'	55-57'
SAMPLE NUMBER	BH3-6D	BH3-6E	BH3-6F	BH3-6G	BH3-6G2	BH3-6H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	40.0	<10.0	130.0	380.0	1100.0
CADMIUM (CD) TOT	16.0	14.0	<10.0	26.0	26.0	40.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
IRON (FE) TOT	14000.0	22000.0	17000.0	10000.0	11000.0	10000.0
LEAD (PB) TOT	<10.0	22.0	27.0	24.0	29.0	48.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	14.0
ZINC (ZN) TOT	60.0	72.0	39.0	260.0	260.0	400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil), unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH3-6	BH3-6	BH3-7	BH3-7	BH3-7
SITE CODE	BH3-6	BH3-6	BH3-7	BH3-7	BH3-7
SAMPLE DATE	08/26/1999	08/26/1999	08/26/1999	08/26/1999	08/26/1999
SAMPLE TIME	09:30	09:50	14:44	14:47	15:10
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597025	L991597026	L991597027	L991597028	L991597029
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	60-62'	65-67'	30-32'	35-37'	40-42'
SAMPLE NUMBER	BH3-6I	BH3-6J	BH3-7A	BH3-7B	BH3-7C

-- METALS & MINOR CONSTITUENTS --

	BH3-6I	BH3-6J	BH3-7A	BH3-7B	BH3-7C
ARSENIC (AS) TOT	<10.0	72.0	<10.0	<10.0	17.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	47.0	32.0	52.0	61.0
IRON (FE) TOT	8800.0	47000.0	19000.0	17000.0	20000.0
LEAD (PB) TOT	24.0	28.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	46.0	100.0	47.0 J4	44.0 J4	44.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-7	BH3-7	BH3-7	BH3-7	BH3-7	BH3-7
SAMPLE DATE	08/26/1999	08/26/1999	08/26/1999	08/26/1999	08/26/1999	08/26/1999
SAMPLE TIME	15:13	16:07	16:10	16:30	17:10	17:13
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597030	L991597031	L991597032	L991597033	L991597034	L991597035
REMARKS	DUPLICATE					
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	45-47'	50-52'	55-57'	60-62'	65-67'
SAMPLE NUMBER	BH3-7C2	BH3-7D	BH3-7E	BH3-7F	BH3-7G	BH3-7H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	18.0	15.0	56.0	<10.0	50.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	33.0	66.0	<20.0	39.0	45.0	27.0
IRON (FE) TOT	19000.0	28000.0	24000.0	47000.0	11000.0	31000.0
LEAD (PB) TOT	<10.0	38.0	46.0	<10.0	41.0	63.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	10.0 J4	49.0 J4	47.0 J4	64.0 J4	35.0 J4	28.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-7	BH3-8	BH3-8	BH3-8
SAMPLE DATE	08/27/1999	08/31/1999	08/31/1999	08/31/1999
SAMPLE TIME	08:15	13:50	14:35	14:37
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991597036	L991597013	L991597014	L991597015
REMARKS				DUPLICATE
TYPE	XRF	XRF	XRF	XRF
DEPTH	69-70'	55-57'	60-62'	60-62'
SAMPLE NUMBER	BH3-7I	BH3-8A	BH3-8B	BH3-8B2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	180.0	170.0
CADMIUM (CD) TOT	<10.0	<10.0	42.0	62.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	44.0	<20.0
IRON (FE) TOT	10000.0	13000.0	14000.0	13000.0
LEAD (PB) TOT	12.0	15.0	33.0	41.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	<10.0	59.0	8500.0	8200.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-11	BH3-11	BH3-11	BH3-11	BH3-11	BH3-11
SAMPLE DATE	08/18/1999	08/18/1999	08/18/1999	08/18/1999	08/18/1999	08/18/1999
SAMPLE TIME	08:48	08:48	08:50	08:52	08:54	08:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532002	L991997005	L991532003	L991532004	L991532005	L991532006
TYPE	XRF	CLP-RAS	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	3-4'	4-5'
OTHER INFO		Confirmation				
SAMPLE NUMBER	BH3-11A	BH3-11A	BH3-11B	BH3-11C	BH3-11D	BH3-11E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	300.0	226.0	<10.0	18.0	<10.0	<10.0
CADMIUM (CD) TOT	110.0	76.0	<10.0	14.0	<10.0	<10.0
CHROMIUM (CR) TOT	110.0	13.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	3400.0	2220.0	120.0	150.0	<20.0	28.0
IRON (FE) TOT	23000.0	14700.0	16000.0	18000.0	16000.0	15000.0
LEAD (PB) TOT	990.0	805.0	57.0	340.0	18.0	<10.0
SELENIUM (SE) TOT	13.0	8.6	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1200.0	1190.0	65.0	320.0	35.0	32.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH3-11	BH3-11	BH3-11	BH3-11	BH3-11	BH3-11
SAMPLE DATE	08/18/1999	08/23/1999	08/23/1999	08/23/1999	08/23/1999	08/23/1999
SAMPLE TIME	08:56	08:35	08:45	08:50	09:35	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532007	L991532023	L991532024	L991532025	L991532026	L991532027
REMARKS	DUPLICATE					
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	4-5'	25-27'	30-32'	35-37'	40-42'	45-47'
SAMPLE NUMBER	BH3-11E2	BH3-11F	BH3-11G	BH3-11H	BH3-11I	BH3-11J

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	24.0	22.0	28.0	19.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	88.0	<80.0	<80.0
COPPER (CU) TOT	21.0	56.0	<20.0	<20.0	<20.0	20.0
IRON (FE) TOT	15000.0	25000.0	32000.0	31000.0	32000.0	23000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	32.0	46.0	30.0	35.0	26.0	30.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH3-11	BH3-11	BH4-1	BH4-1	BH4-1
SITE CODE	BH3-11	BH3-11	BH4-1	BH4-1	BH4-1
SAMPLE DATE	08/23/1999	08/23/1999	11/17/1999	11/17/1999	11/17/1999
SAMPLE TIME	09:42	11:40	15:20	15:22	15:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532028	L991532029	L992077031	L992077032	L992077033
REMARKS	DUPLICATE			DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	45-47'	49-51'	0-1'	0-1'	1-2'
SAMPLE NUMBER	BH3-11J2	BH3-11K	BH4-1A	BH4-1A2	BH4-1B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	12.0	<10.0	340.0	240.0	260.0
CADMIUM (CD) TOT	<10.0	<10.0	110.0 J4	66.0 J4	77.0 J4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	7300.0	6500.0	4600.0
IRON (FE) TOT	24000.0	24000.0	26000.0	24000.0	25000.0
LEAD (PB) TOT	<10.0	29.0	3700.0	3500.0	4100.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	17.0
ZINC (ZN) TOT	43.0	36.0	2100.0	1800.0	2300.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-1	BH4-1	BH4-1	BH4-1	BH4-2
SAMPLE DATE	11/17/1999	11/17/1999	11/17/1999	11/17/1999	11/18/1999
SAMPLE TIME	15:28	15:30	15:35	15:40	08:08
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992077034	L992077035	L992077036	L992077037	L992061001
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	10-12'	0-1'
SAMPLE NUMBER	BH4-1C	BH4-1D	BH4-1E	BH4-1F	BH4-2A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	200.0	170.0	140.0	11.0	760.0
CADMIUM (CD) TOT	60.0 J4	83.0 J4	54.0 J4	<10.0 UJ4	380.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	4400.0	3400.0	3300.0	110.0	5800.0
IRON (FE) TOT	26000.0	23000.0	24000.0	20000.0	28000.0
LEAD (PB) TOT	2800.0	3300.0	2200.0	97.0	6500.0
SELENIUM (SE) TOT	<10.0	13.0	<10.0	<10.0	42.0
ZINC (ZN) TOT	1600.0	1800.0	1200.0	31.0	2900.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH4-2	BH4-2	BH4-2	BH4-2	BH4-2	BH4-2
SITE CODE	BH4-2	BH4-2	BH4-2	BH4-2	BH4-2	BH4-2
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	08:10	08:10	08:12	08:15	08:15	08:19
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277011	L992061002	L992061003	L000277012	L992061004	L000277013
TYPE	CLP-RAS	XRF	XRF	CLP-RAS	XRF	CLP-RAS
DEPTH	1-2'	1-2'	2-3'	3-4'	3-4'	4-5'
OTHER INFO	Confirmation			Confirmation		Confirmation
SAMPLE NUMBER	BH4-2B	BH4-2B	BH4-2C	BH4-2D	BH4-2D	BH4-2E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	494.0	650.0	350.0	132.0	200.0	144.0
CADMIUM (CD) TOT	232.0	320.0	120.0	53.0	83.0	54.0
CHROMIUM (CR) TOT	16.0	<80.0	<80.0	14.0	<80.0	23.0
COPPER (CU) TOT	3303.0	4900.0	2500.0	934.0	1500.0	951.0
IRON (FE) TOT	21050.0	32000.0	31000.0	19400.0	29000.0	19780.0
LEAD (PB) TOT	4355.0	4800.0	2300.0	1078.0	1400.0	1136.0
SELENIUM (SE) TOT	18.0	28.0	14.0	5.1	<10.0	5.5
ZINC (ZN) TOT	2293.0	2600.0	1400.0	664.0	810.0	638.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-2	BH4-2	BH4-2	BH4-3
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	08:19	08:25	08:30	12:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992061005	L992061006	L992061007	L992061008
TYPE	XRF	XRF	XRF	XRF
DEPTH	4-5'	10-12'	15-17'	10-11'
SAMPLE NUMBER	BH4-2E	BH4-2F	BH4-2G	BH4-3A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	180.0	23.0	13.0	54.0
CADMIUM (CD) TOT	72.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1600.0	58.0	23.0	350.0
IRON (FE) TOT	30000.0	18000.0	21000.0	30000.0
LEAD (PB) TOT	1400.0	30.0	36.0	390.0
SELENIUM (SE) TOT	<10.0	<10.0	34.0	<10.0
ZINC (ZN) TOT	800.0	32.0	180.0	390.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-4	BH4-4	BH4-4	BH4-4	BH4-4	BH4-4
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	12:53	12:55	12:58	13:00	13:04	13:06
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992061009	L992061010	L992061011	L992061012	L992061013	L992061014
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	1-2'	2-3'	3-4'	4-5'
SAMPLE NUMBER	BH4-4A	BH4-4A2	BH4-4B	BH4-4C	BH4-4D	BH4-4E

-- METALS & MINOR CONSTITUENTS --

	BH4-4A	BH4-4A2	BH4-4B	BH4-4C	BH4-4D	BH4-4E
ARSENIC (AS) TOT	11000.0 J4	7100.0 J4	2000.0 J4	3200.0 J4	1900.0 J4	410.0 J4
CADMIUM (CD) TOT	2600.0 J4	1700.0 J4	580.0 J4	900.0 J4	530.0 J4	82.0 J4
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	20000.0	18000.0	4300.0	6300.0	3600.0	570.0
IRON (FE) TOT	40000.0	39000.0	26000.0	30000.0	25000.0	21000.0
LEAD (PB) TOT	22000.0 J4	15000.0 J4	5300.0 J4	7600.0 J4	5300.0 J4	1300.0 J4
SELENIUM (SE) TOT	220.0	120.0	38.0	55.0	36.0	<10.0
ZINC (ZN) TOT	8600.0	7400.0	1900.0	2800.0	1700.0	290.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-4	BH4-5	BH4-5	BH4-5	BH4-5
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	13:10	13:48	13:50	13:53	13:55
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992061015	L992061016	L992061017	L992061018	L992061019
REMARKS			DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	0-1'	0-1'	1-2'	2-3'
SAMPLE NUMBER	BH4-4F	BH4-5A	BH4-5A2	BH4-5B	BH4-5C

-- METALS & MINOR CONSTITUENTS --

	BH4-4	BH4-5	BH4-5	BH4-5	BH4-5
ARSENIC (AS) TOT	100.0 J4	4200.0	4100.0	2500.0	2000.0
CADMIUM (CD) TOT	21.0 J4	1500.0	1400.0	930.0	700.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	170.0	23000.0	23000.0	11000.0	8900.0
IRON (FE) TOT	23000.0	48000.0	49000.0	39000.0	35000.0
LEAD (PB) TOT	270.0 J4	8600.0	8300.0	5300.0	4500.0
SELENIUM (SE) TOT	<10.0	72.0	68.0	32.0	24.0
ZINC (ZN) TOT	110.0	4300.0	4300.0	2500.0	2000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-5	BH4-5	BH4-5	BH4-6	BH4-6
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	13:57	13:59	14:04	14:40	14:42
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992061020	L992061021	L992061022	L992061023	L992061024
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	3-4'	4-5'	10-12'	0-1'	1-2'
SAMPLE NUMBER	BH4-5D	BH4-5E	BH4-5F	BH4-6A	BH4-6B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	910.0	300.0	130.0	310.0	50.0
CADMIUM (CD) TOT	100.0	84.0	12.0	190.0	24.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1500.0	1400.0	500.0	4000.0	620.0
IRON (FE) TOT	30000.0	26000.0	24000.0	30000.0	18000.0
LEAD (PB) TOT	3600.0	950.0	470.0	1500.0	380.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	15.0	<10.0
ZINC (ZN) TOT	610.0	360.0	120.0	1600.0	370.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH4-6	BH4-6	BH4-6	BH4-6	BH4-6
SAMPLE DATE	11/18/1999	11/18/1999	11/18/1999	11/18/1999	11/18/1999
SAMPLE TIME	14:46	14:48	14:50	14:52	15:02
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992061025	L992061026	L992061027	L992061028	L992061029
REMARKS				DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	4-5'	10-12'
SAMPLE NUMBER	BH4-6C	BH4-6D	BH4-6E	BH4-6E2	BH4-6F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	150.0	690.0	29.0	19.0	43.0
CADMIUM (CD) TOT	60.0	190.0	<10.0	18.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1700.0	6600.0	230.0	240.0	190.0
IRON (FE) TOT	27000.0	33000.0	14000.0	14000.0	12000.0
LEAD (PB) TOT	890.0	2800.0	210.0	200.0	140.0
SELENIUM (SE) TOT	<10.0	17.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	1100.0	2700.0	130.0	150.0	260.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-1	BH8-1	BH8-1	BH8-1	BH8-1	BH8-1
SAMPLE DATE	10/29/1999	10/29/1999	10/30/1999	10/30/1999	10/30/1999	10/30/1999
SAMPLE TIME	16:05	16:07	10:00	10:02	10:32	10:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942001	L991942002	L991942003	L991942004	L991942005	L991942006
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	31-33'	35-37'	40-42'	45-47'	50-52'	55-57'
SAMPLE NUMBER	BH8-1A	BH8-1B	BH8-1C	BH8-1D	BH8-1E	BH8-1F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	41.0	19.0	12.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	12.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	50.0	<20.0	50.0	89.0	<20.0
IRON (FE) TOT	21000.0	25000.0	27000.0	15000.0	17000.0	3000.0
LEAD (PB) TOT	34.0	28.0	12.0	14.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	36.0	42.0	33.0	30.0	<10.0	25.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-1	BH8-1	BH8-1	BH8-1	BH8-2
SAMPLE DATE	10/30/1999	10/30/1999	10/30/1999	10/30/1999	11/01/1999
SAMPLE TIME	10:37	11:54	12:35	13:15	09:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942007	L991942008	L991942009	L991942010	L991942011
REMARKS	DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	55-57'	60-62'	65-67'	70-72'	10-12'
SAMPLE NUMBER	BH8-1F2	BH8-1G	BH8-1H	BH8-1I	BH8-2A

-- METALS & MINOR CONSTITUENTS --

	BH8-1	BH8-1	BH8-1	BH8-1	BH8-2
ARSENIC (AS) TOT	<10.0	<10.0	<10.0	<10.0	171.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	68.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	46.0	20.0	400.0
IRON (FE) TOT	3900.0	14000.0	12000.0	14000.0	11000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	54.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	<10.0	28.0	18.0	21.0	540.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-2	BH8-2	BH8-2	BH8-2	BH8-2	BH8-2
SAMPLE DATE	11/01/1999	11/01/1999	11/01/1999	11/01/1999	11/01/1999	11/01/1999
SAMPLE TIME	09:27	09:40	09:42	09:44	10:00	10:02
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942012	L991942013	L991942014	L991942015	L991942016	L991942017
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	15-17'	20-22'	25-27'	25-27'	30-32'	35-37'
SAMPLE NUMBER	BH8-2B	BH8-2C	BH8-2D	BH8-2D2	BH8-2E	BH8-2F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	64.0	20.0	12.0	10.0	<10.0	29.0
CADMIUM (CD) TOT	610.0	18.0	<10.0	11.0	<10.0	10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	47.0	<20.0	36.0	<20.0	38.0	<20.0
IRON (FE) TOT	25000.0	27000.0	24000.0	24000.0	19000.0	31000.0
LEAD (PB) TOT	30.0	14.0	<10.0	12.0	<10.0	11.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	920.0	54.0 J4	36.0 J4	58.0 J4	69.0 J4	37.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-2	BH8-2	BH8-2	BH8-2	BH8-2	BH8-2
SAMPLE DATE	11/01/1999	11/01/1999	11/01/1999	11/01/1999	11/01/1999	11/01/1999
SAMPLE TIME	10:30	10:32	11:05	11:07	11:48	12:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942018	L991942019	L991942020	L991942021	L991942022	L991942023
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	45-47'	50-52'	50-52'	55-57'	60-62'
SAMPLE NUMBER	BH8-2G	BH8-2H	BH8-2I	BH8-2I2	BH8-2J	BH8-2K

-- METALS & MINOR CONSTITUENTS --

	BH8-2G	BH8-2H	BH8-2I	BH8-2I2	BH8-2J	BH8-2K
ARSENIC (AS) TOT	<10.0	<10.0	<10.0	<10.0	25.0	<10.0
CADMIUM (CD) TOT	<10.0	10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	27.0	<20.0	48.0	<20.0	<20.0	<20.0
IRON (FE) TOT	22000.0	8600.0	10000.0	12000.0	30000.0	18000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	47.0 J4	12.0 J4	<10.0 UJ4	45.0 J4	44.0 J4	45.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-2	BH8-3	BH8-3	BH8-3	BH8-3
SAMPLE DATE	11/01/1999	11/01/1999	11/01/1999	11/01/1999	11/01/1999
SAMPLE TIME	13:45	15:55	16:15	16:17	16:19
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942024	L991942025	L991942026	L991942027	L991942028
REMARKS					DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	65-67'	14-16'	20-22'	25-27'	25-27'
SAMPLE NUMBER	BH8-2L	BH8-3A	BH8-3B	BH8-3C	BH8-3C2

-- METALS & MINOR CONSTITUENTS --

	BH8-2L	BH8-3A	BH8-3B	BH8-3C	BH8-3C2
ARSENIC (AS) TOT	12.0	63.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	11.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	65.0	<20.0	45.0	<20.0
IRON (FE) TOT	22000.0	21000.0	13000.0	12000.0	13000.0
LEAD (PB) TOT	<10.0	143.0	<10.0	15.0	12.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	36.0 J4	38.0	<10.0	17.0	21.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-3	BH8-3	BH8-3	BH8-3	BH8-3	BH8-3
SAMPLE DATE	11/01/1999	11/01/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	16:40	16:42	08:00	08:02	08:30	08:32
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942029	L991942030	L991942031	L991942032	L991942033	L991942034
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	30-32'	35-37'	40-42'	45-47'	50-52'	55-57'
SAMPLE NUMBER	BH8-3D	BH8-3E	BH8-3F	BH8-3G	BH8-3H	BH8-3I

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	116.0	87.0	54.0	<10.0	<10.0	21.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	79.0	48.0	43.0	33.0	72.0	<20.0
IRON (FE) TOT	24000.0	16000.0	30000.0	14000.0	14000.0	25000.0
LEAD (PB) TOT	<10.0	<10.0	29.0	<10.0	<10.0	<10.0
SELENIUM (SB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	24.0	19.0	56.0	17.0	24.0	52.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	11:15	11:17	11:17	11:19	11:19	11:21
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942035	L000277006	L991942036	L000277007	L991942037	L991942038
TYPE	XRF	CLP-RAS	XRF	CLP-RAS	XRF	XRF
DEPTH	0-1'	1-2'	1-2'	2-3'	2-3'	3-4'
OTHER INFO		Confirmation		Confirmation		
SAMPLE NUMBER	BH8-4A	BH8-4B	BH8-4B	BH8-4C	BH8-4C	BH8-4D

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	6100.0	203.0	210.0	133.0	130.0	<10.0
CADMIUM (CD) TOT	2600.0	83.0	110.0	144.0	170.0	150.0
CHROMIUM (CR) TOT	1800.0	36.0	210.0	41.0	100.0	<80.0
COPPER (CU) TOT	49000.0	556.0	760.0	76.0	140.0	26.0
IRON (FE) TOT	51000.0	8844.0	14000.0	9712.0	14000.0	18000.0
LEAD (PB) TOT	29000.0	391.0	550.0	54.0	120.0	26.0
SELENIUM (SE) TOT	270.0	<5.0	<10.0	<5.0	<10.0	<10.0
ZINC (ZN) TOT	23000.0	2178.0	2300.0	1863.0	1900.0	110.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	11:23	11:30	11:32	11:34	13:15	13:17
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942039	L991942040	L991942041	L991942042	L991942043	L991942044
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	4-5'	10-12'	15-17'	15-17'	20-22'	25-27'
SAMPLE NUMBER	BH8-4E	BH8-4F	BH8-4G	BH8-4G2	BH8-4H	BH8-4I

-- METALS & MINOR CONSTITUENTS --

	BH8-4E	BH8-4F	BH8-4G	BH8-4G2	BH8-4H	BH8-4I
ARSENIC (AS) TOT	<10.0	31.0	<10.0	13.0	11.0	15.0
CADMIUM (CD) TOT	170.0	48.0	<10.0	<10.0	<10.0	11.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	<20.0	60.0	<20.0	49.0
IRON (FE) TOT	18000.0	34000.0	23000.0	24000.0	25000.0	23000.0
LEAD (PB) TOT	15.0	10.0	<10.0	14.0	18.0	11.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	12.0	40.0	34.0	40.0	39.0	60.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4	BH8-4
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999	11/02/1999
SAMPLE TIME	13:25	13:27	14:06	14:20	14:22	14:56
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942045	L991942046	L991942047	L991942048	L991942049	L991942050
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	30-32'	35-37'	40-42'	45-47'	45-47'	50-52'
SAMPLE NUMBER	BH8-4J	BH8-4K	BH8-4L	BH8-4M	BH8-4M2	BH8-4N

-- METALS & MINOR CONSTITUENTS --

	BH8-4J	BH8-4K	BH8-4L	BH8-4M	BH8-4M2	BH8-4N
ARSENIC (AS) TOT	11.0	<10.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
IRON (FE) TOT	23000.0	25000.0	13000.0	21000.0	20000.0	12000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	23.0	11.0	<10.0
SELENIUM (SE) TOT	<10.0	10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	31.0	66.0	34.0	33.0 J4	<10.0 UJ4	13.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH8-4	BH8-4	BH8-4	BH9-5-1	BH9-5-1
SAMPLE DATE	11/02/1999	11/02/1999	11/02/1999	02/09/2000	02/09/2000
SAMPLE TIME	15:20	15:55	16:20	08:00	08:05
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942051	L991942052	L991942053	L000237001	L000237002
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	55-57'	60-62'	65-67'	0-1'	1-2'
SAMPLE NUMBER	BH8-40	BH8-4P	BH8-4Q	BH9-5-1A	BH9-5-1B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0	1800.0	190.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	120.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	21.0	6900.0	720.0
IRON (FE) TOT	11000.0	11000.0	13000.0	54000.0	44000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	7900.0	890.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	34.0	<10.0
ZINC (ZN) TOT	23.0 J4	25.0 J4	32.0 J4	3400.0	310.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-1	BH9-5-1	BH9-5-1	BH9-5-1	BH9-5-1
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	08:30	08:32	08:37	08:40	09:03
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237003	L000237004	L000237005	L000237006	L000237007
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	5-6'	10-11'
SAMPLE NUMBER	BH9-5-1C	BH9-5-1D	BH9-5-1E	BH9-5-1F	BH9-5-1G

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	210.0	650.0	270.0	91.0	20.0
CADMIUM (CD) TOT	<10.0	35.0	<10.0	<10.0	11.0
CHROMIUM (CR) TOT	<80.0	82.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	280.0	1100.0	250.0	95.0	580.0
IRON (FE) TOT	45000.0	49000.0	49000.0	47000.0	23000.0
LEAD (PB) TOT	1400.0	7500.0	1200.0	320.0	510.0
SELENIUM (SE) TOT	<10.0	17.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	340.0	1500.0	260.0	110.0	230.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT: Total; DIS: Dissolved; TRC: Total Recoverable; E: Estimated; <: Less Than Detect. Blank: parameter not tested
 Validation Flags: A: Anomalous; UJ1: Blank; J2, UJ2: Standard; J3: Hold Time; J4, UJ4: Duplicate, Spike, or Split Exceedance;
 R: Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-2	BH9-5-2	BH9-5-2	BH9-5-2	BH9-5-2	BH9-5-2
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	09:15	09:18	09:32	09:37	09:40	09:42
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237008	L000237009	L000237010	L000237011	L000237012	L000237013
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	5-6'
SAMPLE NUMBER	BH9-5-2A	BH9-5-2B	BH9-5-2C	BH9-5-2D	BH9-5-2E	BH9-5-2F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1000.0	1400.0	1200.0	560.0	1200.0	220.0
CADMIUM (CD) TOT	390.0	130.0	74.0	33.0	54.0	25.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	120.0	88.0	<80.0
COPPER (CU) TOT	27000.0	12000.0	3900.0	1800.0	3800.0	1600.0
IRON (FE) TOT	52000.0	53000.0	47000.0	48000.0	49000.0	43000.0
LEAD (PB) TOT	12000.0	9600.0	6000.0	3600.0	6200.0	2600.0
SELENIUM (SE) TOT	81.0	30.0	18.0	<10.0	20.0	<10.0
ZINC (ZN) TOT	7800.0	3300.0	1700.0	860.0	1400.0	730.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH9-5-2	BH9-5-3	BH9-5-3	BH9-5-3	BH9-5-3
SITE CODE	BH9-5-2	BH9-5-3	BH9-5-3	BH9-5-3	BH9-5-3
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	10:15	10:25	10:30	10:43	10:47
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237014	L000237015	L000237016	L000237017	L000237018
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	7-8'	0-1'	1-2'	2-3'	3-4'
SAMPLE NUMBER	BH9-5-2G	BH9-5-3A	BH9-5-3B	BH9-5-3C	BH9-5-3D

-- METALS & MINOR CONSTITUENTS --

	BH9-5-2G	BH9-5-3A	BH9-5-3B	BH9-5-3C	BH9-5-3D
ARSENIC (AS) TOT	22.0	1600.0	28.0	32.0	24.0
CADMIUM (CD) TOT	<10.0	700.0	22.0	30.0	23.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	94.0	<80.0
COPPER (CU) TOT	190.0	30000.0	770.0	1400.0	970.0
IRON (FE) TOT	27000.0	56000.0	26000.0	26000.0	26000.0
LEAD (PB) TOT	190.0	18000.0	710.0	1200.0	900.0
SELENIUM (SE) TOT	<10.0	120.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	120.0	13000.0	360.0	630.0	440.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-4	BH9-5-4	BH9-5-4	BH9-5-4	BH9-5-4	BH9-5-4
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	10:55	11:05	11:13	11:15	11:17	11:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237019	L000237020	L000237021	L000237022	L000237023	L000237024
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	4-5'	5-6'
SAMPLE NUMBER	BH9-5-4A	BH9-5-4B	BH9-5-4C	BH9-5-4D	BH9-5-4E	BH9-5-4F

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1800.0	1200.0	180.0	200.0	74.0	43.0
CADMIUM (CD) TOT	790.0	550.0	54.0	13.0	11.0	<10.0
CHROMIUM (CR) TOT	110.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	45000.0	31000.0	2300.0	420.0	880.0	690.0
IRON (FE) TOT	62000.0	55000.0	46000.0	51000.0	44000.0	41000.0
LEAD (PB) TOT	23000.0	17000.0	3100.0	3600.0	1300.0	1000.0
SELENIUM (SE) TOT	160.0	130.0	13.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	17000.0	12000.0	1000.0	520.0	490.0	380.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-5	BH9-5-5	BH9-5-5	BH9-5-5	BH9-5-6
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	11:25	11:30	11:35	11:40	12:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237025	L000237026	L000237027	L000237028	L000237029
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	1-2'	2-3'	3-4'	0-1'
SAMPLE NUMBER	BH9-5-5A	BH9-5-5B	BH9-5-5C	BH9-5-5D	BH9-5-6A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	4000.0	1400.0	750.0	71.0	1500.0
CADMIUM (CD) TOT	1300.0	370.0	63.0	<10.0	840.0
CHROMIUM (CR) TOT	92.0	<80.0	97.0	<80.0	<80.0
COPPER (CU) TOT	57000.0	20000.0	7700.0	860.0	19000.0
IRON (FE) TOT	68000.0	48000.0	42000.0	29000.0	50000.0
LEAD (PB) TOT	30000.0	12000.0	6700.0	940.0	12000.0
SELENIUM (SE) TOT	180.0	42.0	18.0	<10.0	64.0
ZINC (ZN) TOT	23000.0	6700.0	2300.0	300.0	8400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-6	BH9-5-6	BH9-5-6	BH9-5-7	BH9-5-7
SAMPLE DATE	02/09/2000	02/09/2000	02/09/2000	02/09/2000	02/09/2000
SAMPLE TIME	12:48	12:53	12:55	13:05	13:08
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237030	L000237031	L000237032	L000237033	L000237034
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	1-2'	2-3'	3-4'	0-1'	1-2'
SAMPLE NUMBER	BH9-5-6B	BH9-5-6C	BH9-5-6D	BH9-5-7A	BH9-5-7B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1700.0	88.0	10.0	3900.0	900.0
CADMIUM (CD) TOT	760.0	44.0	<10.0	1200.0	300.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	37000.0	3000.0	110.0	50000.0	14000.0
IRON (FE) TOT	59000.0	18000.0	22000.0	66000.0	43000.0
LEAD (PB) TOT	20000.0	1900.0	120.0	31000.0	9700.0
SELENIUM (SE) TOT	150.0	<10.0	<10.0	170.0	64.0
ZINC (ZN) TOT	15000.0	1000.0	85.0	21000.0	5700.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH9-5-7	BH9-5-7	BH11-2	BH11-2	BH11-2
SAMPLE DATE	02/09/2000	02/09/2000	07/19/1999	07/19/1999	07/20/1999
SAMPLE TIME	13:35	13:38	13:30	13:40	10:03
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000237035	L000237036	L991291005	L991291004	L991391002
TYPE	XRF	XRF	XRF	XRF	CLP-RAS
DEPTH	2-3'	3-4'	0-0.33'	6-8'	
OTHER INFO					Confirmation
SAMPLE NUMBER	BH9-5-7C	BH9-5-7D	BH11-2A	BH11-2B	BH11-2B

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	240.0	27.0	210.0	340.0	332.0
CADMIUM (CD) TOT	85.0	<10.0	36.0	120.0	103.0
CHROMIUM (CR) TOT	130.0	110.0	<80.0	<80.0	<20.0
COPPER (CU) TOT	4400.0	290.0	1700.0	1900.0	1202.0
IRON (FE) TOT	16000.0	13000.0	39000.0	27000.0	23000.0
LEAD (PB) TOT	3700.0	560.0	660.0	3300.0	3184.0
SELENIUM (SE) TOT	<10.0	<10.0	11.0	33.0	22.0
ZINC (ZN) TOT	1700.0	240.0	1600.0	1400.0	1901.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH11-2	BH11-2	BH11-2	BH11-2	BH11-2	BH11-2
SAMPLE DATE	08/04/1999	08/04/1999	08/04/1999	08/05/1999	08/05/1999	08/05/1999
SAMPLE TIME	15:00	15:05	15:25	08:16	08:50	09:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991413010	L991413016	L991413009	L991413015	L991413012	L991413013
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	25-27'	30-32'	35-37'
SAMPLE NUMBER	BH11-2F	BH11-2G	BH11-2H	BH11-2I	BH11-2J	BH11-2K

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	17.0	<10.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	28.0	<20.0	27.0	39.0	<20.0	<20.0
IRON (FE) TOT	24000.0	15000.0	21000.0	15000.0	24000.0	15000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	20.0	16.0	34.0	<10.0 UJ4	22.0 J4	15.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH11-2	BH11-2	BH11-3	BH11-4
SITE CODE	BH11-2	BH11-2	BH11-3	BH11-4
SAMPLE DATE	08/05/1999	08/05/1999	08/05/1999	08/05/1999
SAMPLE TIME	09:26	09:30	14:00	15:16
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991413014	L991413011	L991413017	L991414011
REMARKS	DUPLICATE			
TYPE	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	10-12'	1-2'
SAMPLE NUMBER	BH11-2K2	BH11-2L	BH11-3F	BH11-4B

-- METALS & MINOR CONSTITUENTS --

	BH11-2	BH11-2	BH11-3	BH11-4
ARSENIC (AS) TOT	<10.0	<10.0	55.0	46.0
CADMIUM (CD) TOT	<10.0	<10.0	17.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	24.0	<20.0	830.0	73.0
IRON (FE) TOT	15000.0	18000.0	33000.0	24000.0
LEAD (PB) TOT	<10.0	<10.0	1000.0	17.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	47.0 J4	15.0 J4	520.0	200.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; U1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH11-4	BH11-4	BH11-4	BH11-4	BH11-4
SAMPLE DATE	08/05/1999	08/05/1999	08/05/1999	08/05/1999	08/05/1999
SAMPLE TIME	15:20	15:24	15:29	16:00	16:01
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991414010	L991414009	L991414008	L991414007	L991414006
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	10-12'	15-17'
SAMPLE NUMBER	BH11-4C	BH11-4D	BH11-4E	BH11-4F	BH11-4G

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	33.0	<10.0	19.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	46.0	69.0	35.0	<20.0	<20.0
IRON (FE) TOT	30000.0	23000.0	24000.0	12000.0	21000.0
LEAD (PB) TOT	20.0	<10.0	11.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	170.0	92.0	51.0	12.0	28.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH12-1	BH12-1	BH12-1	BH12-1	BH12-1	BH12-1
SITE CODE	BH12-1	BH12-1	BH12-1	BH12-1	BH12-1	BH12-1
SAMPLE DATE	11/03/1999	11/03/1999	11/03/1999	11/03/1999	11/03/1999	11/03/1999
SAMPLE TIME	12:23	12:23	12:25	12:27	12:29	12:31
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277009	L992004001	L992004002	L992004003	L992004004	L992004005
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	0-1'	0-1'	3-4'	4-5'	10-12'	15-16'
OTHER INFO	Confirmation					
SAMPLE NUMBER	BH12-1A	BH12-1A	BH12-1B	BH12-1C	BH12-1D	BH12-1E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	423.0	490.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	260.0	300.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	50.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	3574.0	4300.0	99.0	120.0	<20.0	27.0
IRON (FE) TOT	29710.0	42000.0	22000.0	18000.0	11000.0	7700.0
LEAD (PB) TOT	2444.0	2700.0 J4	140.0 J4	150.0 J4	<10.0 UJ4	<10.0 UJ4
SELENIUM (SE) TOT	14.0	24.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	2852.0	2700.0	88.0	61.0	34.0	<10.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH12-1	BH12-2	BH12-2	BH12-3
SITE CODE	BH12-1	BH12-2	BH12-2	BH12-3
SAMPLE DATE	11/03/1999	11/03/1999	11/03/1999	11/03/1999
SAMPLE TIME	12:33	13:04	13:11	13:46
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004006	L992004007	L992004008	L992004009
REMARKS	DUPLICATE			
TYPE	XRF	XRF	XRF	XRF
DEPTH	15-16'	6-7'	10-12'	6-7'
SAMPLE NUMBER	BH12-1E2	BH12-2A	BH12-2B	BH12-3A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	67.0	10.0
CADMIUM (CD) TOT	<10.0	<10.0	10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	93.0	570.0	170.0
IRON (FE) TOT	10000.0	15000.0	24000.0	18000.0
LEAD (PB) TOT	<10.0 UJ4	130.0 J4	610.0 J4	170.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	19.0	77.0	320.0	80.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH12-3	BH12-3	BH12-4	BH12-4	BH12-4
SAMPLE DATE	11/03/1999	11/03/1999	11/03/1999	11/03/1999	11/03/1999
SAMPLE TIME	14:13	14:15	15:16	15:18	15:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004010	L992004011	L992004012	L992004013	L992004014
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	0-1'	1-2'	2-3'
SAMPLE NUMBER	BH12-3B	BH12-3C	BH12-4A	BH12-4B	BH12-4C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	3100.0	3400.0	1200.0
CADMIUM (CD) TOT	<10.0	<10.0	3100.0	3400.0	1700.0
CHROMIUM (CR) TOT	<80.0	<80.0	230.0	240.0	160.0
COPPER (CU) TOT	26.0	<20.0	17000.0	18000.0	7700.0
IRON (FE) TOT	11000.0	14000.0	34000.0	37000.0	30000.0
LEAD (PB) TOT	<10.0 UJ4	<10.0 UJ4	22000.0 J4	23000.0 J4	14000.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	220.0	220.0	110.0
ZINC (ZN) TOT	12.0	20.0	11000.0	13000.0	6200.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH12-4	BH12-4	BH12-4	BH12-5
SITE CODE	BH12-4	BH12-4	BH12-4	BH12-5
SAMPLE DATE	11/03/1999	11/03/1999	11/03/1999	11/04/1999
SAMPLE TIME	15:32	15:34	15:36	09:30
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004015	L992004016	L992004017	L992004018
REMARKS		DUPLICATE		
TYPE	XRF	XRF	XRF	XRF
DEPTH	3-4'	10-12'	15-17'	8-10'
SAMPLE NUMBER	BH12-4D	BH12-4D2	BH12-4E	BH12-5A

-- METALS & MINOR CONSTITUENTS --

	BH12-4	BH12-4	BH12-4	BH12-5
ARSENIC (AS) TOT	<10.0	15.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	15.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	64.0 J4	<20.0 UJ4	<20.0 UJ4	45.0
IRON (FE) TOT	23000.0	24000.0	14000.0	15000.0
LEAD (PB) TOT	110.0 J4	20.0 J4	<10.0 UJ4	<10.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	50.0	45.0	<10.0	21.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH12-6	BH12-7	BH12-7	BH12-7
SAMPLE DATE	11/04/1999	11/04/1999	11/04/1999	11/04/1999
SAMPLE TIME	11:15	13:30	13:35	13:37
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004019	L992004020	L992004021	L992004022
REMARKS				DUPLICATE
TYPE	XRF	XRF	XRF	XRF
DEPTH	12-13'	6-8'	10-12'	10-12'
SAMPLE NUMBER	BH12-6A	BH12-7A	BH12-7B	BH12-7B2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	120.0	<10.0	33.0	33.0
CADMIUM (CD) TOT	<10.0	<10.0	38.0	51.0
CHROMIUM (CR) TOT	<80.0	82.0	<80.0	<80.0
COPPER (CU) TOT	37.0	32.0	94.0	61.0
IRON (FE) TOT	23000.0	13000.0	16000.0	16000.0
LEAD (PB) TOT	21.0 J4	33.0 J4	52.0 J4	41.0 J4
SELENIUM (SE) TOT	<10.0	12.0	18.0	11.0
ZINC (ZN) TOT	63.0	280.0	350.0	330.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH12-8	BH12-8	BH12-8	BH12-8	BH12-9
SAMPLE DATE	11/04/1999	11/04/1999	11/04/1999	11/04/1999	11/04/1999
SAMPLE TIME	14:02	14:04	14:06	15:20	15:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004023	L992004024	L992004025	L992004028	L992004026
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	2-3'	3-4'	4-5'	8-9'	4-5'
SAMPLE NUMBER	BH12-8A	BH12-8B	BH12-8C	BH12-9B	BH12-9A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	23.0	<10.0	25.0	76.0	52.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	98.0	<80.0
COPPER (CU) TOT	64.0	91.0	120.0	48.0	42.0
IRON (FE) TOT	16000.0	17000.0	17000.0	27000.0	19000.0
LEAD (PB) TOT	130.0 J4	120.0 J4	130.0 J4	<10.0 UJ4	<10.0 UJ4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	300.0	180.0	670.0	42.0	19.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH12-9	BH13-1	BH13-1	BH13-1	BH13-1
SITE CODE	BH12-9	BH13-1	BH13-1	BH13-1	BH13-1
SAMPLE DATE	11/04/1999	10/21/1999	10/21/1999	10/21/1999	10/21/1999
SAMPLE TIME	15:02	08:23	08:35	10:22	10:39
LAB	TSC-SLC	TSC-SLC	NO SAMPLE	TSC-SLC	TSC-SLC
LAB NUMBER	L992004027	L991942054		L991942055	L991942056
REMARKS	DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	4-5'	0-1'	1-3'	19-21'	25-27'
OTHER INFO			Slag		
SAMPLE NUMBER	BH12-9A2	BH13-1A	BH13-1B	BH13-1C	BH13-1D

-- LOCATION INFORMATION --

DESCRIPTION

SLAG

-- METALS & MINOR CONSTITUENTS --

	BH12-9	BH13-1	BH13-1	BH13-1	BH13-1
ARSENIC (AS) TOT	59.0	67.0		45.0	65.0
CADMIUM (CD) TOT	<10.0	46.0		3100.0	22.0
CHROMIUM (CR) TOT	<80.0	<80.0		<80.0	<80.0
COPPER (CU) TOT	<20.0	1500.0		25.0	<20.0
IRON (FE) TOT	24000.0	19000.0		18000.0	24000.0
LEAD (PB) TOT	<10.0 UJ4	860.0		<10.0	<10.0
SELENIUM (SE) TOT	<10.0	13.0		<10.0	<10.0
ZINC (ZN) TOT	36.0	310.0		1200.0	36.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOP:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH13-1	BH13-1	BH13-1	BH13-1	BH13-1	BH13-1
SAMPLE DATE	10/21/1999	10/21/1999	10/21/1999	10/21/1999	10/21/1999	10/21/1999
SAMPLE TIME	11:56	11:58	12:00	12:15	12:30	13:45
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942057	L991942058	L991942059	L991942060	L991942061	L991942062
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	30-32'	30-32'	35-37'	40-42'	45-47'	50-52'
SAMPLE NUMBER	BH13-1E	BH13-1E2	BH13-1F	BH13-1G	BH13-1H	BH13-1I

-- METALS & MINOR CONSTITUENTS --

	BH13-1E	BH13-1E2	BH13-1F	BH13-1G	BH13-1H	BH13-1I
ARSENIC (AS) TOT	76.0	65.0	39.0	54.0	80.0	69.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	86.0	<80.0	<80.0
COPPER (CU) TOT	24.0	<20.0	<20.0	36.0	<20.0	<20.0
IRON (FE) TOT	28000.0	28000.0	25000.0	26000.0	26000.0	19000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	12.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	46.0 J4	71.0 J4	44.0 J4	46.0 J4	45.0 J4	35.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH13-1	BH13-1	BH14-1	BH14-1	BH14-1
SAMPLE DATE	10/21/1999	10/29/1999	11/05/1999	11/05/1999	11/05/1999
SAMPLE TIME	14:04	09:55	14:22	14:26	14:35
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991942063	L991942064	L992004029	L992004030	L992004031
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	55-57'	60-62'	13.2-15'	15-17'	20-22'
SAMPLE NUMBER	BH13-1J	BH13-1K	BH14-1A	BH14-1B	BH14-1C

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	1000.0	87.0	100.0	110.0	150.0
CADMIUM (CD) TOT	17.0	<10.0	84.0	92.0	70.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	22.0	<20.0	100.0	<20.0	56.0
IRON (FE) TOT	20000.0	28000.0	11000.0	13000.0	18000.0
LEAD (PB) TOT	<10.0	20.0	31.0	20.0	<10.0
SELENIUM (SE) TOT	26.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	54.0 J4	31.0	210.0	300.0	400.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1
SAMPLE DATE	11/05/1999	11/05/1999	11/05/1999	11/05/1999	11/05/1999	11/05/1999
SAMPLE TIME	14:37	14:46	14:47	14:48	14:55	14:57
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004032	L992004033	L992004034	L992004035	L992004036	L992004037
REMARKS				DUPLICATE		
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	25-27'	30-32'	35-37'	35-37'	40-42'	45-47'
SAMPLE NUMBER	BH14-1D	BH14-1E	BH14-1F	BH14-1F2	BH14-1G	BH14-1H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	36.0	12.0	<10.0	<10.0	16.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	28.0	21.0	56.0	<20.0	<20.0	<20.0
IRON (FE) TOT	19000.0	20000.0	24000.0	25000.0	24000.0	21000.0
LEAD (PB) TOT	21.0	17.0	<10.0	<10.0	<10.0	13.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	34.0	36.0	37.0	34.0	25.0	40.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1
SITE CODE	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1	BH14-1
SAMPLE DATE	11/05/1999	11/05/1999	11/05/1999	11/08/1999	11/08/1999	11/08/1999
SAMPLE TIME	15:00	15:02	15:32	09:36	09:38	09:40
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L992004038	L992004039	L992004040	L992004041	L992004042	L992004043
REMARKS					DUPLICATE	
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	50-52'	55-57'	60-62'	65-67'	65-67'	70-72'
SAMPLE NUMBER	BH14-1I	BH14-1J	BH14-1K	BH14-1L	BH14-1L2	BH14-1M

-- METALS & MINOR CONSTITUENTS --

	BH14-1I	BH14-1J	BH14-1K	BH14-1L	BH14-1L2	BH14-1M
ARSENIC (AS) TOT	<10.0	<10.0	40.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	35.0	41.0	<20.0	32.0	<20.0	42.0
IRON (FE) TOT	15000.0	17000.0	24000.0	15000.0	16000.0	19000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	26.0	13.0	63.0	<10.0	21.0	23.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2
SITE CODE	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2
SAMPLE DATE	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999
SAMPLE TIME	08:45	08:47	08:49	08:49	08:51	08:53
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066020	L000066021	L000066022	L000277018	L000066023	L000066024
TYPE	XRF	XRF	XRF	CLP-RAS	XRF	XRF
DEPTH	0'	1'	2'	2'	3'	4'
OTHER INFO				Confirmation		
SAMPLE NUMBER	BH14-2A	BH14-2B	BH14-2C	BH14-2C	BH14-2D	BH14-2E

-- METALS & MINOR CONSTITUENTS --

	BH14-2A	BH14-2B	BH14-2C	BH14-2C	BH14-2D	BH14-2E
ARSENIC (AS) TOT	210.0	170.0	210.0	285.0	62.0	210.0
CADMIUM (CD) TOT	130.0	87.0	140.0	91.0	18.0	18.0
CHROMIUM (CR) TOT	130.0	<80.0	<80.0	21.0	<80.0	<80.0
COPPER (CU) TOT	55000.0	3300.0	4400.0	3552.0	1500.0	2400.0
IRON (FE) TOT	35000.0	21000.0	24000.0	18610.0	20000.0	23000.0
LEAD (PB) TOT	1400.0	2800.0	4400.0	3912.0	510.0	970.0
SELENIUM (SE) TOT	64.0	15.0	15.0	7.5	<10.0	<10.0
ZINC (ZN) TOT	2300.0	1500.0	1500.0	1503.0	190.0	230.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2
SITE CODE	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2
SAMPLE DATE	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999
SAMPLE TIME	08:53	09:15	09:17	09:35	09:37	09:39
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000277019	L000066025	L000066026	L000066027	L000066028	L000066029
REMARKS						DUPLICATE
TYPE	CLP-RAS	XRF	XRF	XRF	XRF	XRF
DEPTH	4'	10'	15'	20'	25'	25'
OTHER INFO	Confirmation					
SAMPLE NUMBER	BH14-2E	BH14-2F	BH14-2G	BH14-2H	BH14-2I	BH14-2I2

-- METALS & MINOR CONSTITUENTS --

	BH14-2E	BH14-2F	BH14-2G	BH14-2H	BH14-2I	BH14-2I2
ARSENIC (AS) TOT	179.0	<10.0	<10.0	11.0	17.0	<10.0
CADMIUM (CD) TOT	15.0	12.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	12.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1850.0	26.0	25.0	65.0	<20.0	<20.0
IRON (FE) TOT	15420.0	12000.0	16000.0	15000.0	18000.0	18000.0
LEAD (PB) TOT	808.0	26.0 J4	<10.0 UJ4	<10.0 UJ4	21.0 J4	42.0 J4
SELENIUM (SE) TOT	<5.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	242.0	16.0	40.0	29.0	28.0	15.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC);
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2	BH14-2
SAMPLE DATE	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999
SAMPLE TIME	10:20	10:30	10:55	11:10	13:00	13:02
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066030	L000066031	L000066032	L000066033	L000066034	L000066035
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	30'	35'	40'	45'	50'	55'
SAMPLE NUMBER	BH14-2J	BH14-2K	BH14-2L	BH14-2M	BH14-2O	BH14-2P

-- METALS & MINOR CONSTITUENTS --

	BH14-2J	BH14-2K	BH14-2L	BH14-2M	BH14-2O	BH14-2P
ARSENIC (AS) TOT	10.0	17.0	16.0	26.0	<10.0	16.0
CADMIUM (CD) TOT	12.0	<10.0	<10.0	<10.0	12.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	38.0	34.0	32.0	32.0	38.0	<20.0
IRON (FE) TOT	21000.0	25000.0	25000.0	26000.0	21000.0	26000.0
LEAD (PB) TOT	50.0 J4	48.0 J4	47.0 J4	15.0 J4	<10.0 UJ4	10.0 J4
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	49.0	43.0	60.0	56.0	34.0	46.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	BH14-2	BH14-2	BH14-3	BH14-3	BH14-3
SITE CODE	BH14-2	BH14-2	BH14-3	BH14-3	BH14-3
SAMPLE DATE	12/16/1999	12/16/1999	12/15/1999	12/15/1999	12/15/1999
SAMPLE TIME	13:30	13:32	09:20	09:20	09:22
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066036	L000066037	L000066001	L000277017	L000066002
REMARKS		DUPLICATE			
TYPE	XRF	XRF	XRF	CLP-RAS	XRF
DEPTH	60'	60'	0'	0'	1'
OTHER INFO				Confirmation	
SAMPLE NUMBER	BH14-2Q	BH14-2Q2	BH14-3A	BH14-3A	BH14-3B

-- METALS & MINOR CONSTITUENTS --

	BH14-2	BH14-2	BH14-3	BH14-3	BH14-3
ARSENIC (AS) TOT	<10.0	<10.0	<10.0	52.0	27.0
CADMIUM (CD) TOT	<10.0	<10.0	16.0	10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	27.0	<80.0
COPPER (CU) TOT	<20.0	<20.0	1800.0	1558.0	520.0
IRON (FE) TOT	21000.0	21000.0	20000.0	14830.0	22000.0
LEAD (PB) TOT	<10.0	<10.0	2600.0	2100.0	420.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<5.0	<10.0
ZINC (ZN) TOT	50.0	48.0	210.0	189.0	68.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH14-3	BH14-3	BH14-3	BH14-3	BH14-3	BH14-3
SAMPLE DATE	12/15/1999	12/15/1999	12/15/1999	12/15/1999	12/15/1999	12/15/1999
SAMPLE TIME	09:24	09:26	09:28	09:50	09:52	10:25
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066003	L000066004	L000066005	L000066006	L000066007	L000066008
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	2'	3'	4'	10'	15'	20'
SAMPLE NUMBER	BH14-3C	BH14-3D	BH14-3E	BH14-3F	BH14-3G	BH14-3H

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	<10.0	<10.0	<10.0	43.0	19.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	11.0
CHROMIUM (CR) TOT	82.0	<80.0	<80.0	<80.0	90.0	<80.0
COPPER (CU) TOT	73.0	36.0	<20.0	70.0	72.0	<20.0
IRON (FE) TOT	18000.0	16000.0	14000.0	11000.0	29000.0	21000.0
LEAD (PB) TOT	250.0	190.0	65.0	74.0	530.0	33.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	11.0	<10.0	29.0	11.0	74.0	36.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH14-3	BH14-3	BH14-3	BH14-3	BH14-3	BH14-3
SAMPLE DATE	12/15/1999	12/15/1999	12/15/1999	12/15/1999	12/15/1999	12/15/1999
SAMPLE TIME	10:27	11:00	11:02	11:04	11:30	11:32
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066009	L000066010	L000066011	L000066012	L000066013	L000066014
REMARKS			DUPLICATE			
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	25'	30'	30'	35'	40'	45'
SAMPLE NUMBER	BH14-3I	BH14-3J	BH14-3J2	BH14-3K	BH14-3L	BH14-3M

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	23.0	20.0	15.0	<10.0	11.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	61.0	55.0	39.0	73.0	48.0	<20.0
IRON (FE) TOT	24000.0	23000.0	22000.0	19000.0	26000.0	20000.0
LEAD (PB) TOT	62.0	31.0	28.0	65.0	54.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	59.0	32.0	40.0	27.0	54.0	49.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	BH14-3	BH14-3	BH14-3	BH14-3	BH14-3
SAMPLE DATE	12/15/1999	12/15/1999	12/15/1999	12/15/1999	12/15/1999
SAMPLE TIME	13:00		14:45	15:00	15:02
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L000066015	L000066016	L000066017	L000066018	L000066019
REMARKS					DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	50'	55'	60'	65'	65'
SAMPLE NUMBER	BH14-3N	BH14-3O	BH14-3P	BH14-3Q	BH14-3Q2

-- METALS & MINOR CONSTITUENTS --

	BH14-3N	BH14-3O	BH14-3P	BH14-3Q	BH14-3Q2
ARSENIC (AS) TOT	12.0	<10.0	<10.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	12.0	13.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	41.0	34.0	45.0	<20.0	32.0
IRON (FE) TOT	21000.0	20000.0	15000.0	13000.0	14000.0
LEAD (PB) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	32.0	40.0	21.0	44.0	43.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-89	EP-93	EP-93	EP-93	EP-93
SAMPLE DATE	08/06/1999	07/21/1999	07/21/1999	07/21/1999	07/21/1999
SAMPLE TIME		09:30	09:33	09:40	09:43
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991532008	L991293015	L991293024	L991293020	L991293019
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH		0-1'	1-2'	3-4'	4-5'
SAMPLE NUMBER	EP-89I	EP-93A	EP-93B	EP-93D	EP-93E

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	27.0	33.0	770.0	7100.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	210.0	14000.0
CHROMIUM (CR) TOT	<80.0	<80.0	180.0	<80.0	300.0
COPPER (CU) TOT	45.0	66.0	97.0	5900.0	14000.0
IRON (FE) TOT	22000.0	26000.0	33000.0	29000.0	80000.0
LEAD (PB) TOT	<10.0	93.0	74.0	5600.0	54000.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	100.0	660.0
ZINC (ZN) TOT	38.0	110.0	130.0	3500.0	20000.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-93	EP-93	EP-93	EP-93	EP-93	EP-93
SAMPLE DATE	07/21/1999	07/21/1999	07/21/1999	07/21/1999	07/21/1999	07/21/1999
SAMPLE TIME	09:58	10:09	10:28	10:38	10:55	10:56
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991293018	L991293011	L991293010	L991293014	L991293012	L991293009
REMARKS						DUPLICATE
TYPE	XRF	XRF	XRF	XRF	XRF	XRF
DEPTH	10-12'	15-17'	20-22'	25-27'	30-32'	30-32'
SAMPLE NUMBER	EP-93F	EP-93G	EP-93H	EP-93I	EP-93J	EP-93J2

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	110.0	360.0	160.0	<20.0	<20.0	<20.0
CADMIUM (CD) TOT	270.0	88.0	35.0	<10.0	<10.0	13.0
CHROMIUM (CR) TOT	<80.0	240.0	170.0	<80.0	140.0	140.0
COPPER (CU) TOT	1600.0	3700.0	840.0	39.0	<20.0	<20.0
IRON (FE) TOT	22000.0	43000.0	27000.0	22000.0	23000.0	24000.0
LEAD (PB) TOT	5600.0	3900.0	1600.0	38.0	49.0	45.0
SELENIUM (SE) TOT	22.0	<10.0	11.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	2200.0	3500.0	1300.0	39.0	51.0	49.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-93	EP-93	EP-93	EP-93	EP-93
SITE CODE	EP-93	EP-93	EP-93	EP-93	EP-93
SAMPLE DATE	07/21/1999	07/21/1999	07/21/1999	07/21/1999	07/21/1999
SAMPLE TIME	11:12	11:25	09:36	13:00	13:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991293008	L991293017	L991293021	L991353016	L991353015
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	35-37'	40-42'	2-3'	45-47'	50-52'
SAMPLE NUMBER	EP-93K	EP-93L	EP-93L	EP-93M	EP-93N

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<20.0	<20.0	27.0	<10.0	<10.0
CADMIUM (CD) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	<20.0	57.0	130.0	<20.0	21.0
IRON (FE) TOT	19000.0	24000.0	26000.0	24000.0	24000.0
LEAD (PB) TOT	42.0	39.0	170.0	<10.0	<10.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	15.0	69.0	120.0	36.0	34.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

	EP-94	EP-94	EP-94	EP-94	EP-94	EP-94
SITE CODE	EP-94	EP-94	EP-94	EP-94	EP-94	EP-94
SAMPLE DATE	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/26/1999
SAMPLE TIME	09:45	09:46	10:05	10:10	10:15	10:15
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991353005	L991353007	L991353012	L991353006	L991353009	L991391012
REMARKS		DUPLICATE				
TYPE	XRF	XRF	XRF	XRF	XRF	CLP-RAS
DEPTH	0-1'	0-1'	1-2'	2-3'	4-5'	
OTHER INFO						Confirmation
SAMPLE NUMBER	EP-94A	EP-94A2	EP-94B	EP-94C	EP-94E	EP-94E

-- METALS & MINOR CONSTITUENTS --

	EP-94	EP-94	EP-94	EP-94	EP-94	EP-94
ARSENIC (AS) TOT	760.0 J4	1300.0 J4	990.0 J4	620.0 J4	680.0 J4	459.0
CADMIUM (CD) TOT	560.0	700.0	180.0	180.0	170.0	152.0
CHROMIUM (CR) TOT	<80.0	<80.0	<80.0	93.0	<80.0	28.0
COPPER (CU) TOT	4800.0	6700.0	3500.0	8900.0	15000.0	84860.0
IRON (FE) TOT	26000.0	33000.0	27000.0	36000.0	65000.0	77000.0
LEAD (PB) TOT	5600.0	8000.0	8000.0	5200.0	3400.0	4368.0
SELENIUM (SE) TOT	59.0	61.0	91.0	35.0	34.0	14.0
ZINC (ZN) TOT	3500.0 J4	5200.0 J4	2400.0 J4	3300.0 J4	2900.0 J4	3490.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-94	EP-94	EP-94	EP-94	EP-94	EP-94
SAMPLE DATE	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/26/1999
SAMPLE TIME	10:25	10:25	11:20	11:40	12:01	12:20
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991353008	L991391011	L991353004	L991353025	L991353002	L991353011
TYPE	XRF	CLP-RAS	XRF	XRF	XRF	XRF
DEPTH	10-12'		20-22'	25-27'	30-32'	35-37'
OTHER INFO		Confirmation				
SAMPLE NUMBER	EP-94F	EP-94F	EP-94H	EP-94I	EP-94J	EP-94K

-- METALS & MINOR CONSTITUENTS --

	EP-94F	EP-94F	EP-94H	EP-94I	EP-94J	EP-94K
ARSENIC (AS) TOT	36.0 J4	65.0	130.0 J4	<10.0 UJ4	<10.0 UJ4	27.0 J4
CADMIUM (CD) TOT	17.0	12.0	85.0	<10.0	<10.0	<10.0
CHROMIUM (CR) TOT	<80.0	22.0	<80.0	<80.0	<80.0	<80.0
COPPER (CU) TOT	1900.0	1458.0	2000.0	28.0	88.0	54.0
IRON (FE) TOT	15000.0	9000.0	22000.0	22000.0	21000.0	32000.0
LEAD (PB) TOT	580.0	420.0	1200.0	40.0	<10.0	40.0
SELENIUM (SE) TOT	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
ZINC (ZN) TOT	370.0 J4	408.0	990.0 J4	33.0 J4	47.0 J4	33.0 J4

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.

-- SAMPLE TYPE: SOIL --

SITE CODE	EP-94	EP-94	EP-94	EP-94	EP-95
SAMPLE DATE	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/28/1999
SAMPLE TIME	14:15	14:45	15:10	15:35	10:00
LAB	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC	TSC-SLC
LAB NUMBER	L991353014	L991353003	L991353010	L991353013	L991353017
TYPE	XRF	XRF	XRF	XRF	XRF
DEPTH	40-42'	45-47'	50-52'	55-57'	0'
SAMPLE NUMBER	EP-94L	EP-94M	EP-94N	EP-94O	EP-95A

-- METALS & MINOR CONSTITUENTS --

ARSENIC (AS) TOT	<10.0	UJ4	<10.0	UJ4	<10.0	UJ4	<10.0	UJ4	<10.0
CADMIUM (CD) TOT	<10.0		<10.0		<10.0		<10.0		<10.0
CHROMIUM (CR) TOT	<80.0		<80.0		<80.0		<80.0		<80.0
COPPER (CU) TOT	72.0		26.0		150.0		49.0		230.0
IRON (FE) TOT	12000.0		12000.0		11000.0		18000.0		20000.0
LEAD (PB) TOT	<10.0		<10.0		<10.0		<10.0		190.0
SELENIUM (SE) TOT	12.0		<10.0		<10.0		<10.0		<10.0
ZINC (ZN) TOT	20.0	J4	<10.0	UJ4	29.0	J4	12.0	J4	140.0

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
 TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
 Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
 R:Rejected.