UMTRA
Ground Water Project

DATA VALIDATION
SHIPROCK, NEW MEXICO
UMTRA SITE

September 2001
Water Sampling

Prepared by the
U.S. Department of Energy
Grand Junction Office

SHIPROCK, NEW MEXICO
September 2001

DATA PACKAGE CONTENTS

This data package includes the following information:

Item No.	Description of Contents
1.	**Site Hydrologist Summary**
2.	**Data Package Assessment,** which includes the following:
	a. Field procedures verification checklist
	b. Confirmation that chain-of-custody was maintained.
	c. Confirmation that holding time requirements were met.
	d. Evaluation of the adequacy of the QC sample results.
3.	**Data Assessment Summary,** which describes problems identified in the data validation process and summarizes the validator's findings.
4.	**Minimum / Maximum Table,** which lists data from this event that is outside the range of historical concentrations.
5.	**Anomalous Data Review Checksheets** which list the subset of data that merits explanation or follow-up action. The "Disposition" column of this report describes the evaluator's judgments on the listed anomalies.
6.	**UMTRA Database Printouts** of analytical data organized as follows:
	a. Ground Water Quality Data (included on disk)
	b. Surface Water Quality Data (included on disk)
	c. Equipment Blank Data (included on disk)
	d. Time Versus Concentration Graphs
	e. Static Ground Water Level Measurement Data
7.	**Sampling and Analysis Work Order and Trip Reports.**

Site Hydrologist Summary

Site: Shiprock

Sampling Period: September 10 to September 20, 2001

SUMMARY CRITERIA

1. **Did concentrations in water from any domestic wells sampled exceed a ground water standard, a primary drinking water standard, or health advisory?**

   The selenium concentration from well 847 (0.0582 mg/L) exceeded the UMTRA ground water standard. Well 847 is being used only for irrigation of the Shiprock High School property. A graph that shows selenium concentrations versus time for well 847 is included in this report. This graph shows that selenium concentrations in well 847 have been consistently elevated. ✓

2. **Were standards exceeded at any point-of-compliance wells?**

   There are no point-of-compliance wells established at the Shiprock site because of preexisting ground water contamination (from milling operations) at the repository site.

3. **As a result of this sampling round, is there any indication of unexpected contaminated ground water movement?**

   The distribution and rate of movement of contaminated ground water at the site was characterized and is reported in the Final Site Observational Work Plan (SOWP) issued in November 2000. Ground water sampling data from this sampling round did not indicate any unexpected movement of contaminated ground water outside of what was portrayed in the SOWP. Wells with sample concentrations that exceeded UMTRA standards are listed in Table 1. Graphs that show nitrate, selenium, and uranium concentrations versus time for selected floodplain and terrace wells are included in this report.

4. Is there statistical evidence that UMTRA Project related contaminants were detected in a surface body of water in greater concentrations than upstream ambient water quality?

Surface water concentrations were compared to statistical benchmark values derived using data from sampling locations 888 and 898, which are upstream of the site on the San Juan River. No benchmark values were exceeded at locations on the San Juan River. Surface water locations where benchmark values were exceeded are listed in Table 2.

At locations 887 and 959, which both are on a distributary channel of the San Juan River, values of selenium and uranium for location 887 and values of nitrate, selenium, and uranium for location 959 exceeded benchmark values (Table 2). San Juan River water flows through the distributary channel when the river stage is high; however, at the time of this sampling, the river stage was low and no river water was entering the channel. Therefore, the elevated concentrations at 887 and 959 reflect contaminated ground water emerging in seeps from the terrace system to the south. The draft SOWP indicated no unacceptable human health risks are associated with exposure to surface water in washes and seeps.

Benchmark values were exceeded at additional surface water locations listed in Table 2. All of these locations receive discharge of contaminated ground water from the terrace system and elevated concentrations are expected.

Table 1. Shiprock Wells Exceeding UMTRA Standards in September 2001.

ANALYTE	STANDARD[1]	SITE	WELLS (AND CONCENTRATION) EXCEEDING STANDARD[1]
Nitrate	44.27	SHP01	608 (2,390), 614 (4,000), 618 (1,330), 619 (77.4), 735 (1,740), 854 (1,610)
Nitrate	44.27	SHP02	603 (4,170), 812 (6,170), 813 (7,750), 816 (337), 817 (298), 818 (10,300), 826 (105), 827 (114), 828 (74.7), 832 (1,290), 835 (279), 836 (63.5), 839 (2,260), 841 (2,240), 846 (365), 1007 (2,070), 1057 (4,440), 1059 (1,820), 1060 (591)
Selenium	0.01	SHP01	608 (0.0308), 614 (0.0657), 618 (0.241), 619 (0.281), 735 (0.0858), 854 (0.010)
Selenium	0.01	SHP02	603 (0.224), 812 (7.02), 813 (0.0379), 816 (0.0775), 818 (2.69), 826 (0.0183), 828 (0.059), 832 (1.90), 835 (0.177), 836 (0.141), 838 (0.0502), 841 (3.24), 846 (0.733), 847 (0.0582), 1007 (0.0733), 1057 (0.593), 1059 (0.0787), 1060 (1.070)
Uranium	0.044	SHP01	608 (1.80), 614 (2.31), 618 (0.912), 619 (0.992), 735 (0.150), 854 (4.42)
Uranium	0.044	SHP02	812 (0.115), 813 (0.141), 817 (1.27), 818 (0.0805), 826 (3.26), 827 (0.594), 828 (0.245), 832 (0.0685), 836 (0.0553), 839 (0.406), 841 (0.106), 1007 (1.88), 1057 (0.107), 1059 (0.0751)

[1] Units are in mg/L.

Site Hydrologist Summary (continued)

Table 2. Locations that Exceeded Surface Water Benchmarks in September 2001

SAMPLE ID	SITE CODE	LOCATION COMMENTS	ANALYTE	BENCHMARK[1]	CONCENTRATION
887	Floodplain (SHP01)	Distributary channel	Selenium	0.0024	0.0507
			Uranium	0.0063	0.0142
959	Floodplain (SHP01)	Distributary channel	Nitrate	5.49	420
			Selenium	0.0024	0.243
			Uranium	0.0063	0.0908
425	Terrace (SHP02)	Seep	Nitrate	5.49	189
			Selenium	0.0024	0.032
			Uranium	0.0063	0.499
426	Terrace (SHP02)	Seep	Nitrate	5.49	117
			Selenium	0.0024	0.119
			Uranium	0.0063	0.244
884	Terrace (SHP02)	Irrigation ditch return flow	Nitrate	5.49	83.7
			Selenium	0.0024	0.187
			Uranium	0.0063	0.0246
886	Terrace (SHP02)	Many Devils Wash	Nitrate	5.49	5,120
			Selenium	.0024	0.633
			Uranium	0.0063	0.235
889	Terrace (SHP02)	Many Devils Wash	Nitrate	5.49	2,380
			Selenium	0.0024	0.473
			Uranium	0.0063	0.119
933	Terrace (SHP02)	1st Wash	Nitrate	5.49	395
			Selenium	0.0024	0.213
			Uranium	0.0063	0.0912
934	Terrace (SHP02)	2nd Wash	Nitrate	5.49	343
			Selenium	0.0024	0.223
			Uranium	0.0063	0.0423
936	Terrace (SHP02)	Seep	Nitrate	5.49	612
			Selenium	0.0024	0.446
			Uranium	0.0063	0.0554
942	Terrace (SHP02)	Pond	Nitrate	5.49	83.7
			Selenium	0.0024	0.163
			Uranium	0.0063	0.0184
1061	Terrace (SHP02)	Many Devils Wash	Nitrate	5.49	3,200
			Selenium	0.0024	1.76
			Uranium	0.0063	0.159

[1]Units are in mg/L

Craig Goodknight 5/9/02

Craig Goodknight Date
Project Lead

Mark Kautsky 5-9-02

Mark Kautsky Date
Site Hydrologist

DATA ASSESSMENT

UGW Water Sampling Field Activities Verification Checklist

Project Shiprock
Date(s) of Verification 3-4-02

Date(s) of Water Sampling Sept 10 to Sept 20, 2001
Name of Verifier Sam Campbell

	Response Comments (Yes, No, N/A)	
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.		Work order dated 8-8-01
2. Were the sampling locations specified in the planning documents sampled?	Yes	Except 615 and 1004 - dry, surface location 885 - not enough water to sample, 655 & 205, and 1061 not sampled.
3. Was field equipment calibrated as specified in the above named documents?	No	New equipment was used - primary pre-trip cal with op-checks 2 times/day.
Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	Except no alkalinity measurements at wells 816, 817 0826, 828, 835, 836, 839, and 846, and 1007. No ORP at wells 608 735, 614, 618, 619 and 854
Were the standard solutions used for the calibration and operational checks of the field instruments brought to within 10 degrees C of the temperature of the water to be sampled?	Yes	Except at surface location 886.
Was the calibration information recorded on the field data sheets?	Yes	ORP readings from wells 850, 898, 797, 1061, 889, 886 should be disregarded because of a failed op-check
4. Was depth to water measured before purging?	Yes	
Was this information used to calculate purge volume?	Yes	
5. If conventional purging was used, were the wells purged until parameters stabilized and 3 casing volumes were removed, until the well was purged dry, or until 10 casing volumes were removed?	Yes	Except conductivity was not stable at well 826
6. If low-flow purging was used, was the purge rate less than 0.125 gal/min, was the drawdown less than 0.3 ft, and was the low-flow purge volume removed prior to sampling?	NA	

7. Were duplicates taken at a frequency of one per 20 samples?	Yes	
8. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	No	2 equipment blanks - 49 samples many locations had dedicated tubing
9. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
10. Were QC samples assigned a fictitious site identification number?	Yes	
Was the true identity of the samples recorded in the field notes?	Yes	
11. Were samples collected in the containers specified?	Yes	
Were certified pre-cleaned containers used for the sampling?	Yes	
12. Were samples filtered and preserved as specified?	Yes	
13. Were the number and types of samples collected as specified?	Yes	
14. Were chain of custody records completed and was sample custody maintained?	Yes	
15. Were sample ticket book numbers recorded on field data forms and on the chain of custody?	Yes	
16. Are field data sheets signed and dated by the team leader?	Yes	
17. Was all other pertinent information documented on the field data sheets?	No	The majority of the field data sheets were not signed in the "Checked by" space.
18. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
19. Were water levels measured at the locations specified in the planning documents?	Yes	

DATA PACKAGE ASSESSMENT

REQUISITION NUMBERS: 17609 SITE: Shiprock LABORATORY: GJO ANALYSIS DATES: 9-17-01 to 10-25-01

REVIEWER: Sam Campbell (NAME print) Sam Campbell (SIGNATURE) 12-26-01 (DATE)

	ICP-MS	ICP-AES	GFAA	FAA	$NaBH_4$	AS	LSc	PC	IC	Gravimetric	Colorimetric	Other
CHAIN 0F CUSTODY	OK	OK	NA	NA	OK	NA	NA	NA	OK	NA	OK	NA
HOLDING TIME	OK	OK	↓	↓	OK	↓	↓	↓	OK	↓	OK	↓
CALIB. VERIFICATION (For AS, internal tracer)	OK	OK	↓	↓	OK	↓	↓	↓	OK	NA	OK	↓
PREP. BLANKS (Only if digestion)	NA	NA	↓	↓	NA	↓	↓	↓	NA	NA	NA	↓
INT/CONT CAL. BLANKS	(1)	(2)	↓	↓	OK	NA	NA	NA	(3)	NA	OK	↓
ICP SERIAL DILUTION	OK	OK	NA	NA	NA	NA	NA	NA	NA	NA	NA	↓
ICS (ICP only)	NA	OK	NA	NA	NA	NA	NA	NA	NA	NA	NA	↓
LAB. CONTROL SAMPLE	OK	OK	↓	↓	OK	↓	↓	↓	OK	↓	NA	↓
DUPLICATES	OK	OK	↓	↓	OK	↓	↓	↓	OK	↓	OK	↓
POSTDIGEST. SPKS. (Only if MS fails)	NA	NA	↓	↓	NA	NA	NA	NA	NA	NA	NA	↓
MATRIX SPKS.	OK	OK	↓	↓	OK	↓	↓	↓	OK	NA	OK	↓
OVERALL ASSESS.	OK	OK	↓	↓	OK	↓	↓	↓	OK	↓	OK	↓

REVIEWER COMMENTS:
(2) Mg, Na, and Sr detected in CCBs - no samples affected

ITEMS REQUIRING ATTENTION:
(1) U flag U results 281352 and 281528 because of CCB contamination (2) U flag Mn results 281392, 393, 528, and 531, and K results 281359 and 528 because of CCB contamination. (3) U flag Al results 218359 and 218528 because of CCB contamination

SHIPROCK, NEW MEXICO
SEPTEMBER 2001 SAMPLING
DATA ASSESSMENT SUMMARY

The DOE-GJO Analytical Laboratory analyzed samples and reported results for this sampling event under requisition number 17604 for the UMTRA Ground Water Project.

METALS/MAJOR CATIONS ANALYSES

The determination of calcium, magnesium, manganese, potassium, sodium, and strontium was performed by inductively coupled plasma-atomic emission spectrometry (ICP-AES). Uranium was analyzed using inductively coupled-mass spectrometry (ICP-MS), and selenium was determined by hydride generation ($NaBH_4$) atomic absorption spectroscopy.

Several uranium, manganese, and potassium results were qualified with a "U" flag (nondetect) in the database because of continuing calibration blank (CCB) contamination; these results are listed on the *Data Package Assessment* form, and the "U" flags are listed in the data qualifiers column of the database printouts.

INORGANIC ANALYSES

Chloride, nitrate, and sulfate were determined by ion chromatography (IC), and ammonium was determined by spectrophotometry (or colorimetry).

The chloride results from the equipment blanks were qualified with a "U" flag in the database because of CCB contamination; these flags are listed on the equipment blank database printout.

FIELD ANALYSES/ACTIVITIES

Results from the following wells were qualified with an "L" flag in the database indicating that less than three casing volumes were removed prior to sampling: 797, 817, 827, 832, 839, 1007, 1057, and 1059.

Two equipment blanks were collected for the 49 locations sampled. Many alluvial wells had dedicated tubing installed, which decreased the number of equipment blanks required. The equipment blanks were analyzed for the same constituents as the Shiprock environmental samples. With the exception of one uranium concentration of 0.0011 mg/L, equipment blank concentrations of UMTRA related contaminants were less than the contract required detection limit (CRDL); therefore, equipment blank results are considered acceptable.

Three field duplicate samples were collected during this event. Duplicate samples were collected at wells 735 and 841, and surface water location 884. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, EPA guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess duplicate precision. Duplicate results met the laboratory duplicate criterion (20 relative percent difference) and are considered acceptable.

SAR

Because of technical constraints, a suspected anomalies report (SAR) could not be generated for the Shiprock site and is not included in this data package. **Instead, historical data were reviewed as part of the evaluation of suspected anomalous data.** Data from this sampling event were compared to historical minimum and maximum values. Results that were greater than 150 percent of the historical maximum value or less than 50 percent of the historical minimum value (excluding results with less than 5 historical data points) are listed on the Anomalous Data Review Checksheet.

Selected results from the Shiprock February 2001 sampling event were listed on the Anomalous Data Review Checksheet, which was included in the February 2001 data validation package. The disposition of the results was to compare to the next sampling event to make a final determination of validity. Many of the results listed in the February 2001 data validation package were from locations that were not sampled during this event; therefore, a final determination of validity was not made. These results will be considered acceptable and usable at this time; however, this status may change in the future as more data is collected. Potentially anomalous February 2001 results from locations that were sampled during this event were reviewed in conjunction with the results from this event and, with one exception, found acceptable. The chloride result from surface location 933 (SHP02) was qualified with an "R" flag (unusable) in the database.

SUMMARY

All analytical quality control criteria were met except as qualified on the Ground Water Quality Data by Parameter, Surface Water Quality by Parameter, or equipment blank database printouts. The meaning of data qualifiers is as defined on the UMTRA database printout or as defined in the USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media Multi-Concentration, Document Number ILMO2.0, 1991. All data in this package are considered validated and may be treated as final results.

A disk copy of the ground water, surface water, and equipment blank database printouts with the qualifiers incorporated are included in this package.

Sam Campbell 4-30-02

Sam Campbell
Data Validation Lead

Date

MINIMUM/MAXIMUM TABLE

SITE	LOC	DATE	ANALYTE	RESULT	LAB_QUALI	DATA_VALIDA	MAX	MAX_LAB_QUALI	MAX_DV_QUALI	MIN	MIN_LAB_QUALI	MIN_DV_QUALI	N	N_BELOW_DETEC
SHP01	0614	9/12/2001	Alkalinity, Total (As Ca	784			732			406			22	0
SHP01	0614	9/12/2001	Alkalinity, Total (As Ca	784			732			406			22	0
SHP01	0614	9/12/2001	Chloride	515			508			205			18	0
SHP01	0614	9/12/2001	Magnesium	2640			2440			962			18	0
SHP01	0614	9/12/2001	Manganese	6.55			6.4			3.51			17	0
SHP01	0614	9/12/2001	Nitrate as NO3	4000			3750			611			17	0
SHP01	0614	9/12/2001	Sodium	2740			2700	I		1090			18	0
SHP01	0614	9/12/2001	Strontium	14.1			13.5	I		7.5			18	0
SHP01	0614	9/12/2001	Turbidity	0.1			18			1.31			9	0
SHP01	0618	9/12/2001	Alkalinity, Total (As Ca	496			456			340			4	0
SHP01	0618	9/12/2001	Alkalinity, Total (As Ca	500			456			340			4	0
SHP01	0619	9/12/2001	Ammonium	1.88			273			4.66			19	0
SHP01	0619	9/12/2001	Turbidity	2.88			32.9			4.21			8	0
SHP01	0850	9/11/2001	Alkalinity, Total (As Ca	298			366		L	317			14	0
SHP01	0850	9/11/2001	Alkalinity, Total (As Ca	302			366		L	317			14	0
SHP01	0850	9/11/2001	Calcium	84.4			232		L	137			6	0
SHP01	0850	9/11/2001	Magnesium	16.2			42		L	25.6			6	0
SHP01	0850	9/11/2001	Manganese	0.547			2.74		L	1.16			6	0
SHP01	0850	9/11/2001	Potassium	3.3			7.12		L	3.86			6	0
SHP01	0850	9/11/2001	Sodium	506			812		L	528			6	0
SHP01	0850	9/11/2001	Specific Conductance	2680			4040		L	2890		L	7	0
SHP01	0850	9/11/2001	Strontium	1.23			2.86		L	1.76			6	0
SHP01	0850	9/11/2001	Sulfate	1030			1920		L	1140			6	0
SHP01	0854	9/12/2001	Alkalinity, Total (As Ca	1365			1258		L	1075			11	0
SHP01	0854	9/12/2001	Alkalinity, Total (As Ca	1371			1258		L	1075			11	0
SHP01	0854	9/12/2001	Chloride	1400			1320		L	1230			5	0
SHP01	0854	9/12/2001	Magnesium	3780			3570		L	3070		L	5	0
SHP01	0854	9/12/2001	Potassium	164			159		L	90.2			5	0
SHP01	0854	9/12/2001	Sodium	7190			6400		L	5700			5	0
SHP01	0854	9/12/2001	Strontium	18.1			17.1		L	15.3		L	5	0
SHP01	0854	9/12/2001	Sulfate	27000			25300		L	21100		L	6	0
SHP01	0854	9/12/2001	Turbidity	94.2			1000	>	L	1000	>	L	6	0
SHP01	0854	9/12/2001	Uranium	4.42			3.95		L	3.4		L	6	0
SHP01	0897	9/11/2001	Nitrate as NO3	0.0312	B		2.63			0.133	B		9	0
SHP01	0897	9/11/2001	Selenium	0.0003	U		0.0011	B		0.0006	B		9	2
SHP01	0898	9/11/2001	Ammonium	0.0388	B		0.0347	B		0.0047	U		8	2
SHP01	0898	9/11/2001	Nitrate as NO3	0.0665	B		2.6			0.122	B		8	0
SHP01	0956	9/11/2001	Nitrate as NO3	0.0305	U		1.73			0.103	B		6	0
SHP01	0957	9/12/2001	Calcium	49.7			69.4			54.7			6	0
SHP01	0957	9/12/2001	Chloride	11.5			16.6			12.6			6	0
SHP01	0957	9/12/2001	Magnesium	9.84			14			9.91			6	0
SHP01	0957	9/12/2001	Nitrate as NO3	0.0305	U		1.43			0.0708	B		6	0
SHP01	0957	9/12/2001	Potassium	2.06			2.42			2.2			6	0

SITE	LOC	DATE	ANALYTE	RESULT	LAB_QUALI	DATA_VALIDA	MAX	MAX_LAB_QUALI	MAX_DV_QUALI	MIN	MIN_LAB_QUAL	MIN_DV_QUALI	N	N_BELOW_DETEC
SHP01	0957	9/12/2001	Specific Conductance	469			665			510			4	0
SHP01	0957	9/12/2001	Strontium	0.638			0.897			0.666			6	0
SHP01	1205	9/10/2001	Alkalinity, Total (As Ca	152			127			99			8	0
SHP01	1205	9/10/2001	Calcium	54.2			68.5			56.8			5	0
SHP01	1205	9/10/2001	Chloride	11.8			17.7			14.3			5	0
SHP01	1205	9/10/2001	Magnesium	9.96			13.9			11			5	0
SHP01	1205	9/10/2001	Potassium	2.18			2.54			2.35			5	0
SHP01	1205	9/10/2001	Sodium	32.6			47.8			37.4			5	0
SHP01	1205	9/10/2001	Specific Conductance	463			650			595			4	0
SHP01	1205	9/10/2001	Strontium	0.686			0.885			0.784			5	0
SHP01	1205	9/10/2001	Sulfate	124			181			138			7	0
SHP01	1205	9/10/2001	Uranium	0.0028			0.0023			0.0019			7	0
SHP02	0426	9/11/2001	Alkalinity, Total (As Ca	260			653			270			20	0
SHP02	0426	9/11/2001	Uranium	0.244			0.773			0.246			14	0
SHP02	0603	9/19/2001	Calcium	497			488			367			9	0
SHP02	0603	9/19/2001	Chloride	204			731			212			9	0
SHP02	0603	9/19/2001	Magnesium	666			2690			668			9	0
SHP02	0603	9/19/2001	Manganese	19.6			68.8			23.8			9	0
SHP02	0603	9/19/2001	Potassium	172			353			186	E	J	9	0
SHP02	0603	9/19/2001	Sodium	752			2070			816			9	0
SHP02	0603	9/19/2001	Sulfate	6460			15900			6780			11	0
SHP02	0812	9/19/2001	Alkalinity, Total (As Ca	623			792		L	641		L	8	0
SHP02	0812	9/19/2001	Alkalinity, Total (As Ca	630			792		L	641		L	8	0
SHP02	0812	9/19/2001	Ammonium	0.0115	B		0.89			0.021	B	L	7	0
SHP02	0812	9/19/2001	Chloride	2350			2310		L	2160		L	5	0
SHP02	0812	9/19/2001	Magnesium	2280			2240		L	2050		L	5	0
SHP02	0812	9/19/2001	Selenium	7.02			6.96		L	5.78		L	6	0
SHP02	0812	9/19/2001	Strontium	15.2			14.4		L	14		L	5	0
SHP02	0812	9/19/2001	Uranium	0.115			0.164			0.116		L	8	0
SHP02	0813	9/18/2001	Magnesium	3220			3100			2630			6	0
SHP02	0813	9/18/2001	Strontium	19.4			18.3			16.2			6	0
SHP02	0813	9/18/2001	Turbidity	2.38			29			4.83			6	0
SHP02	0816	9/19/2001	Sodium	1120			1010			807			5	0
SHP02	0818	9/18/2001	Alkalinity, Total (As Ca	654			650			555			4	0
SHP02	0818	9/18/2001	Alkalinity, Total (As Ca	656			650			555			4	0
SHP02	0818	9/18/2001	Nitrate as NO3	10300			10100			4356			4	0
SHP02	0826	9/19/2001	Manganese	2.51			2.86		L	2.61		L	6	0
SHP02	0826	9/19/2001	Specific Conductance	13060			17860		L	15170		L	6	0
SHP02	0826	9/19/2001	Turbidity	7.62			82.4			12.4			6	0
SHP02	0827	9/19/2001	Alkalinity, Total (As Ca	1535		L	1188			765		L	14	0
SHP02	0827	9/19/2001	Alkalinity, Total (As Ca	1446		L	1188			765		L	14	0
SHP02	0827	9/19/2001	Ammonium	15.4		L	8.9			0.0529	B	L	8	0
SHP02	0827	9/19/2001	Calcium	427		L	510			454			5	0

SITE	LOC	DATE	ANALYTE	RESULT	LAB_QUALI	DATA_VALIDA	MAX	MAX_LAB_QUALI	MAX_DV_QUALI	MIN	MIN_LAB_QUALI	MIN_DV_QUALI	N	N_BELOW_DETEC
SHP02	0827	9/19/2001	Chloride	473		L	325			284		L	5	0
SHP02	0827	9/19/2001	Magnesium	1290		L	848			495		L	5	0
SHP02	0827	9/19/2001	Nitrate as NO3	114		L	633		L	262			9	0
SHP02	0827	9/19/2001	Potassium	56.6		L	37.2	E	J	21.1		L	5	0
SHP02	0827	9/19/2001	Sodium	2560		L	1640			1200		L	5	0
SHP02	0827	9/19/2001	Specific Conductance	12190		L	9830			8060		L	9	0
SHP02	0827	9/19/2001	Strontium	10.3		L	8.89			7.75		L	5	0
SHP02	0827	9/19/2001	Sulfate	9650		L	6780		L	3735			9	0
SHP02	0828	9/19/2001	Ammonium	0.981			8.25			1.19			6	0
SHP02	0828	9/19/2001	Calcium	248			448			295			5	0
SHP02	0828	9/19/2001	Magnesium	188			495			214			5	0
SHP02	0828	9/19/2001	Manganese	0.0044	B		0.671			0.0692			6	0
SHP02	0828	9/19/2001	Selenium	0.059			0.038			0.0034	B		6	0
SHP02	0828	9/19/2001	Strontium	3.66			5.69			4.04			5	0
SHP02	0828	9/19/2001	Uranium	0.245			0.449			0.306			7	0
SHP02	0832	9/19/2001	Manganese	0.0095	B	L	0.0021	B		0.0002	U		6	4
SHP02	0832	9/19/2001	Potassium	19.6		L	19			11	E	J	5	0
SHP02	0832	9/19/2001	Specific Conductance	1225		L	13000		L	5030			7	0
SHP02	0835	9/19/2001	Calcium	679			577			360			6	0
SHP02	0835	9/19/2001	Chloride	87.6			68.2		U	13.4			6	1
SHP02	0835	9/19/2001	Magnesium	174			155			92.9			6	0
SHP02	0835	9/19/2001	Nitrate as NO3	279			224			23.2			8	0
SHP02	0835	9/19/2001	Potassium	7.96			6.43	E	J	4.29	E	J	6	0
SHP02	0835	9/19/2001	Selenium	0.177			0.137			0.037			7	0
SHP02	0835	9/19/2001	Sodium	304			241			114			6	0
SHP02	0835	9/19/2001	Strontium	5.82			5.36			3.13			6	0
SHP02	0835	9/19/2001	Sulfate	2470			2010			882			8	0
SHP02	0836	9/19/2001	Chloride	46.4			41.6			35.6			6	0
SHP02	0836	9/19/2001	Magnesium	259			269			260			6	0
SHP02	0836	9/19/2001	Potassium	4.57			5.79	E	J	4.59			6	0
SHP02	0836	9/19/2001	Sodium	281			488			368			6	0
SHP02	0836	9/19/2001	Turbidity	7.02			118			7.19			7	0
SHP02	0838	9/18/2001	Chloride	23.4			21.4			12.8			5	0
SHP02	0838	9/18/2001	Potassium	5.69			5.44	E	J	4			5	0
SHP02	0838	9/18/2001	Specific Conductance	3170			3090			2070			8	0
SHP02	0838	9/18/2001	Uranium	0.0339			0.0335			0.023			8	0
SHP02	0839	9/19/2001	Magnesium	2030		L	2020		L	1680		L	5	0
SHP02	0839	9/19/2001	Manganese	0.683		L	0.942			0.687			6	0
SHP02	0839	9/19/2001	Potassium	114		L	113		L	90.2			5	0
SHP02	0839	9/19/2001	Selenium	0.00093	B	L	0.0108			0.002	B	L	6	0
SHP02	0841	9/18/2001	Ammonium	0.0115	B		16.9			0.0243	B		8	0
SHP02	0841	9/18/2001	Ammonium	0.0062	U		16.9			0.0243	B		8	0
SHP02	0841	9/18/2001	Potassium	58.4			55.5	E	J	40			5	0

SITE	LOC	DATE	ANALYTE	RESULT	LAB_QUALI	DATA_VALIDA	MAX	MAX_LAB_QUALI	MAX_DV_QUALI	MIN	MIN_LAB_QUALI	MIN_DV_QUALI	N	N_BELOW_DETEC
SHP02	0841	9/18/2001	Sodium	5980			5860			5180			5	0
SHP02	0841	9/18/2001	Strontium	9.53			9.1			7.86			5	0
SHP02	0841	9/18/2001	Strontium	9.57			9.1			7.86			5	0
SHP02	0846	9/19/2001	Calcium	477			611			495			5	0
SHP02	0846	9/19/2001	Chloride	94.6			135			103			5	0
SHP02	0846	9/19/2001	Magnesium	200			225			206			5	0
SHP02	0846	9/19/2001	Strontium	5.68			6.48			5.71			5	0
SHP02	0847	9/17/2001	Chloride	18.8			17.5			11.3			8	0
SHP02	0847	9/17/2001	Magnesium	108			106			71.8			8	0
SHP02	0847	9/17/2001	Manganese	0.0092	B		0.0351			0.0145			9	0
SHP02	0847	9/17/2001	Nitrate as NO3	24.5			21.8			5.72			10	0
SHP02	0847	9/17/2001	Selenium	0.0582			0.0542			0.0295			9	0
SHP02	0847	9/17/2001	Strontium	4.86			4.81			3.66			8	0
SHP02	0884	9/12/2001	Calcium	415			544			489			8	0
SHP02	0884	9/12/2001	Calcium	412			544			489			8	0
SHP02	0884	9/12/2001	Magnesium	130			194			158			8	0
SHP02	0884	9/12/2001	Magnesium	129			194			158			8	0
SHP02	0884	9/12/2001	Manganese	0.00022	B	U	0.0076	B		0.0011	B		8	2
SHP02	0884	9/12/2001	Manganese	0.00026	B	U	0.0076	B		0.0011	B		8	2
SHP02	0884	9/12/2001	Specific Conductance	3029			4040			3490			7	0
SHP02	0884	9/12/2001	Strontium	4.19			5.55			5.18			8	0
SHP02	0884	9/12/2001	Strontium	4.16			5.55			5.18			8	0
SHP02	0884	9/12/2001	Sulfate	1700			2340			1950			9	0
SHP02	0884	9/12/2001	Sulfate	1710			2340			1950			9	0
SHP02	0884	9/12/2001	Turbidity	0.4			35			6.1			5	0
SHP02	0884	9/12/2001	Uranium	0.0246			0.039			0.0349			9	0
SHP02	0884	9/12/2001	Uranium	0.0245			0.039			0.0349			9	0
SHP02	0886	9/11/2001	Calcium	518			473			361	E	J	8	0
SHP02	0886	9/11/2001	Chloride	2700			2690			1010			8	0
SHP02	0886	9/11/2001	Selenium	0.633			7.01			1.57			8	0
SHP02	0886	9/11/2001	Turbidity	8.4			81			12.1			4	0
SHP02	0889	9/11/2001	Alkalinity, Total (As Ca	403			720			459			18	0
SHP02	0889	9/11/2001	Alkalinity, Total (As Ca	404			720			459			18	0
SHP02	0889	9/11/2001	Chloride	1090			2890			1270			8	0
SHP02	0889	9/11/2001	Magnesium	898			2610			1170			8	0
SHP02	0889	9/11/2001	Nitrate as NO3	2380			6750			3430			10	0
SHP02	0889	9/11/2001	Selenium	0.473			3.98			1.74			8	0
SHP02	0889	9/11/2001	Sodium	6000			16900			8500			8	0
SHP02	0889	9/11/2001	Specific Conductance	22100			39300			26000			10	0
SHP02	0889	9/11/2001	Strontium	8.04			14			9.17			8	0
SHP02	0889	9/11/2001	Sulfate	13900			42400			19600			10	0
SHP02	0889	9/11/2001	Turbidity	2.14			376			2.89			4	0
SHP02	0889	9/11/2001	Uranium	0.119			0.278			0.166			10	0

SITE	LOC	DATE	ANALYTE	RESULT	LAB_QUALI	DATA_VALIDA	MAX	MAX_LAB_QUALI	MAX_DV_QUALI	MIN	MIN_LAB_QUALI	MIN_DV_QUALI	N	N_BELOW_DETEC
SHP02	0933	9/12/2001	Chloride	278			255			31.8			6	0
SHP02	0933	9/12/2001	Strontium	7.58			7.39			6.44			6	0
SHP02	0934	9/13/2001	Calcium	655			505			404			6	0
SHP02	0934	9/13/2001	Chloride	118			64.8			27.6			6	0
SHP02	0934	9/13/2001	Magnesium	223			161			117			6	0
SHP02	0934	9/13/2001	Nitrate as NO3	343			195			28.6			7	0
SHP02	0934	9/13/2001	Potassium	16.4			6.79			4.68			6	0
SHP02	0934	9/13/2001	Selenium	0.223			0.148			0.067			6	0
SHP02	0934	9/13/2001	Sodium	346			236			151			6	0
SHP02	0934	9/13/2001	Specific Conductance	4706			3630			353			7	0
SHP02	0934	9/13/2001	Strontium	6.41			4.74			3.41			6	0
SHP02	0934	9/13/2001	Sulfate	2550			1910			1320			7	0
SHP02	0934	9/13/2001	Uranium	0.0423			0.0361			0.0303			7	0
SHP02	0936	9/12/2001	Calcium	566			556			470	E	J	6	0
SHP02	0936	9/12/2001	Chloride	199			181			55.6			6	0
SHP02	0936	9/12/2001	Magnesium	335			314			237			6	0
SHP02	0936	9/12/2001	Manganese	0.0285			0.0223			0.0006	U		6	2
SHP02	0936	9/12/2001	Nitrate as NO3	612			576			90.2			7	0
SHP02	0936	9/12/2001	Potassium	12.1			11.1	E	J	9.38			6	0
SHP02	0936	9/12/2001	Selenium	0.446			0.331			0.167			6	0
SHP02	0936	9/12/2001	Sodium	543			418			300			6	0
SHP02	0936	9/12/2001	Specific Conductance	5643			5420			4070			6	0
SHP02	0936	9/12/2001	Strontium	7.73			7.39			5.7			6	0
SHP02	0936	9/12/2001	Sulfate	2880			2840			2350			7	0
SHP02	0936	9/12/2001	Uranium	0.0554			0.053			0.0482			7	0
SHP02	0942	9/12/2001	Alkalinity, Total (As Ca	232			290			246			13	0
SHP02	0942	9/12/2001	Alkalinity, Total (As Ca	241			290			246			13	0
SHP02	0942	9/12/2001	Calcium	330			556			461			6	0
SHP02	0942	9/12/2001	Chloride	36.6			66.6			41.1			6	0
SHP02	0942	9/12/2001	Magnesium	86.3			207			170			6	0
SHP02	0942	9/12/2001	Potassium	4.39			7.48			5.25			6	0
SHP02	0942	9/12/2001	Sodium	177			286			188			6	0
SHP02	0942	9/12/2001	Strontium	2.99			5.78			4.92			6	0
SHP02	0942	9/12/2001	Sulfate	1220			2350			1990			7	0
SHP02	0942	9/12/2001	Uranium	0.0184			0.0365			0.0295			7	0

DATA REVIEW CHECKSHEET

ANOMALOUS DATA REVIEW CHECKSHEET

SITE: Shiprock SAMPLING DATA: Ground water / surface water

REVIEWER(s): Sam Campbell (NAME (print)) Sam Campbell (SIGNATURE) 4-15-02 (DATE)

SITE HYDROLOGIST: Mark Kautsky (NAME (print)) Mark Kautsky (SIGNATURE) 5-9-02 (DATE)

DATE OF REVIEW: 4-15-02

LOC. NO.	ANALYTE	TYPE OF ANOMALY	site	DISPOSITION
619	NH_4	Low	01	Compare to next round
850	Mn	↓	01	
827	NH_4	High	02	
↓	Mg	↓	02	
↓	NO_3	Low	02	
827	Na	High	02	
828	Mn	Low	02	
828	Se	High	02	
886	Se	Low	02	
889	Se	↓	02	
934	Cl	High	02	
↓	NO_3	↓	02	
↓	K	↓	02	
↓	Se	↓	02	

WATER QUALITY DATA

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0608	09/12/2001	0001	KM		1000			#	-	-
	mg/L	0608	09/12/2001	N001	KM		999			#	-	-
	mg/L	0614	09/12/2001	0001	AL		784			#	-	-
	mg/L	0614	09/12/2001	N001	AL		784			#	-	-
	mg/L	0618	09/12/2001	0001	AL		496			#	-	-
	mg/L	0618	09/12/2001	N001	AL		500			#	-	-
	mg/L	0619	09/12/2001	0001	AL		788			#	-	-
	mg/L	0619	09/12/2001	N001	AL		800			#	-	-
	mg/L	0735	09/12/2001	0001	AL		554			#	-	-
	mg/L	0735	09/12/2001	N001	AL		552			#	-	-
	mg/L	0797	09/11/2001	0001	AL		349		L	#	-	-
	mg/L	0797	09/11/2001	N001	AL		343		L	#	-	-
	mg/L	0850	09/11/2001	0001	AL	B	298			#	-	-
	mg/L	0850	09/11/2001	N001	AL	B	302			#	-	-
	mg/L	0854	09/12/2001	0001	AL		1365			#	-	-
	mg/L	0854	09/12/2001	N001	AL		1371			#	-	-
Ammonium	mg/L	0608	09/12/2001	0001	KM		561.000			#	0.0062	-
	mg/L	0614	09/12/2001	0001	AL		72.000			#	0.0062	-
	mg/L	0618	09/12/2001	0001	AL		71.100			#	0.0062	-
	mg/L	0619	09/12/2001	0001	AL		1.880			#	0.0062	-
	mg/L	0735	09/12/2001	0001	AL		19.800			#	0.0062	-
	mg/L	0735	09/12/2001	0002	AL		20.400			#	0.0062	-
	mg/L	0797	09/11/2001	0001	AL		0.0473	B	L	#	0.0062	-
	mg/L	0850	09/11/2001	0001	AL	B	0.0558	B		#	0.0062	-
	mg/L	0854	09/12/2001	0001	AL		20.000			#	0.0062	-
Calcium	mg/L	0608	09/12/2001	0001	KM		462.000			#	0.0653	-
	mg/L	0614	09/12/2001	0001	AL		524.000			#	0.0653	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Calcium	mg/L	0618	09/12/2001	0001	AL		553.000			#	0.0653	-
	mg/L	0619	09/12/2001	0001	AL		417.000			#	0.0653	-
	mg/L	0735	09/12/2001	0001	AL		343.000			#	0.0653	-
	mg/L	0735	09/12/2001	0002	AL		345.000			#	0.0653	-
	mg/L	0797	09/11/2001	0001	AL		53.900		L	#	0.0653	-
	mg/L	0850	09/11/2001	0001	AL	B	84.400			#	0.0653	-
	mg/L	0854	09/12/2001	0001	AL		466.000			#	0.0653	-
Chloride	mg/L	0608	09/12/2001	0001	KM		323.000			#	0.149	-
	mg/L	0614	09/12/2001	0001	AL		515.000			#	0.298	-
	mg/L	0618	09/12/2001	0001	AL		274.000			#	0.149	-
	mg/L	0619	09/12/2001	0001	AL		478.000			#	0.149	-
	mg/L	0735	09/12/2001	0001	AL		280.000			#	0.0745	-
	mg/L	0735	09/12/2001	0002	AL		282.000			#	0.0745	-
	mg/L	0797	09/11/2001	0001	AL		20.300		L	#	0.0149	-
	mg/L	0850	09/11/2001	0001	AL	B	60.100			#	0.0298	-
	mg/L	0854	09/12/2001	0001	AL		1400.000			#	0.298	-
Magnesium	mg/L	0608	09/12/2001	0001	KM		1760.000			#	0.042	-
	mg/L	0614	09/12/2001	0001	AL		2640.000			#	0.042	-
	mg/L	0618	09/12/2001	0001	AL		941.000			#	0.042	-
	mg/L	0619	09/12/2001	0001	AL		1130.000			#	0.042	-
	mg/L	0735	09/12/2001	0001	AL		667.000			#	0.042	-
	mg/L	0735	09/12/2001	0002	AL		671.000			#	0.042	-
	mg/L	0797	09/11/2001	0001	AL		11.800		L	#	0.0042	-
	mg/L	0850	09/11/2001	0001	AL	B	16.200			#	0.0042	-
	mg/L	0854	09/12/2001	0001	AL		3780.000			#	0.042	-
Manganese	mg/L	0608	09/12/2001	0001	KM		7.860			#	0.0001	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0614	09/12/2001	0001	AL		6.550			#	0.0001	-
	mg/L	0618	09/12/2001	0001	AL		8.250			#	0.0001	-
	mg/L	0619	09/12/2001	0001	AL		5.670			#	0.0001	-
	mg/L	0735	09/12/2001	0001	AL		2.500			#	0.0001	-
	mg/L	0735	09/12/2001	0002	AL		2.550			#	0.0001	-
	mg/L	0797	09/11/2001	0001	AL		0.148		L	#	0.0001	-
	mg/L	0850	09/11/2001	0001	AL	B	0.547			#	0.0001	-
	mg/L	0854	09/12/2001	0001	AL		8.180			#	0.0001	-
Nitrate as NO3	mg/L	0608	09/12/2001	0001	KM		2390.000			#	1.525	-
	mg/L	0614	09/12/2001	0001	AL		4000.000			#	1.525	-
	mg/L	0618	09/12/2001	0001	AL		1330.000			#	0.61	-
	mg/L	0619	09/12/2001	0001	AL		77.400			#	0.0305	-
	mg/L	0735	09/12/2001	0001	AL		1740.000			#	0.61	-
	mg/L	0735	09/12/2001	0002	AL		1680.000			#	0.61	-
	mg/L	0797	09/11/2001	0001	AL		0.0305	U	L	#	0.0305	-
	mg/L	0850	09/11/2001	0001	AL	B	0.0305	U		#	0.0305	-
	mg/L	0854	09/12/2001	0001	AL		1610.000			#	0.61	-
ORP of Zobell Solution	mV	0797	09/11/2001	N001	AL		117		L	#	-	-
	mV	0850	09/11/2001	N001	AL	B	169			#	-	-
Oxidation Reduction Potent	mV	0797	09/11/2001	N001	AL		-388		L	#	-	-
	mV	0850	09/11/2001	N001	AL	B	-402			#	-	-
pH	s.u.	0608	09/12/2001	N001	KM		6.58			#	-	-
	s.u.	0614	09/12/2001	N001	AL		6.59			#	-	-
	s.u.	0618	09/12/2001	N001	AL		6.59			#	-	-
	s.u.	0619	09/12/2001	N001	AL		6.79			#	-	-
	s.u.	0735	09/12/2001	N001	AL		6.83			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0797	09/11/2001	N001	AL		7.47		L	#	-	-
	s.u.	0850	09/11/2001	N001	AL	B	7.34			#	-	-
	s.u.	0854	09/12/2001	N001	AL		6.84			#	-	-
Potassium	mg/L	0608	09/12/2001	0001	KM		194.000			#	0.0151	-
	mg/L	0614	09/12/2001	0001	AL		157.000			#	0.0151	-
	mg/L	0618	09/12/2001	0001	AL		73.600			#	0.0151	-
	mg/L	0619	09/12/2001	0001	AL		80.000			#	0.0151	-
	mg/L	0735	09/12/2001	0001	AL		33.700			#	0.0151	-
	mg/L	0735	09/12/2001	0002	AL		34.100			#	0.0151	-
	mg/L	0797	09/11/2001	0001	AL		2.210		L	#	0.0151	-
	mg/L	0850	09/11/2001	0001	AL	B	3.300			#	0.0151	-
	mg/L	0854	09/12/2001	0001	AL		164.000			#	0.151	-
Selenium	mg/L	0608	09/12/2001	0001	KM		0.0308			#	0.0015	-
	mg/L	0614	09/12/2001	0001	AL		0.0657			#	0.003	-
	mg/L	0618	09/12/2001	0001	AL		0.241			#	0.006	-
	mg/L	0619	09/12/2001	0001	AL		0.281			#	0.006	-
	mg/L	0735	09/12/2001	0001	AL		0.0858			#	0.003	-
	mg/L	0735	09/12/2001	0002	AL		0.0831			#	0.003	-
	mg/L	0797	09/11/2001	0001	AL		0.0003	U	L	#	0.0003	-
	mg/L	0850	09/11/2001	0001	AL	B	0.0003	U		#	0.0003	-
	mg/L	0854	09/12/2001	0001	AL		0.010			#	0.0003	-
Sodium	mg/L	0608	09/12/2001	0001	KM		1900.000			#	0.074	-
	mg/L	0614	09/12/2001	0001	AL		2740.000			#	0.074	-
	mg/L	0618	09/12/2001	0001	AL		1370.000			#	0.074	-
	mg/L	0619	09/12/2001	0001	AL		3030.000			#	0.37	-
	mg/L	0735	09/12/2001	0001	AL		1550.000			#	0.074	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sodium	mg/L	0735	09/12/2001	0002	AL		1550.000			#	0.074	-
	mg/L	0797	09/11/2001	0001	AL		311.000		L	#	0.074	-
	mg/L	0850	09/11/2001	0001	AL	B	506.000			#	0.074	-
	mg/L	0854	09/12/2001	0001	AL		7190.000			#	0.37	-
Specific Conductance	umhos/cm	0608	09/12/2001	N001	KM		16350			#	-	-
	umhos/cm	0614	09/12/2001	N001	AL		19184			#	-	-
	umhos/cm	0618	09/12/2001	N001	AL		10560			#	-	-
	umhos/cm	0619	09/12/2001	N001	AL		15460			#	-	-
	umhos/cm	0735	09/12/2001	N001	AL		9490			#	-	-
	umhos/cm	0797	09/11/2001	N001	AL		1721		L	#	-	-
	umhos/cm	0850	09/11/2001	N001	AL	B	2680			#	-	-
	umhos/cm	0854	09/12/2001	N001	AL		27200			#	-	-
Strontium	mg/L	0608	09/12/2001	0001	KM		11.400			#	0.001	-
	mg/L	0614	09/12/2001	0001	AL		14.100			#	0.001	-
	mg/L	0618	09/12/2001	0001	AL		8.860			#	0.001	-
	mg/L	0619	09/12/2001	0001	AL		10.500			#	0.001	-
	mg/L	0735	09/12/2001	0001	AL		7.630			#	0.001	-
	mg/L	0735	09/12/2001	0002	AL		7.680			#	0.001	-
	mg/L	0797	09/11/2001	0001	AL		0.960		L	#	0.0001	-
	mg/L	0850	09/11/2001	0001	AL	B	1.230			#	0.0001	-
	mg/L	0854	09/12/2001	0001	AL		18.100			#	0.001	-
Sulfate	mg/L	0608	09/12/2001	0001	KM		10000.000			#	0.253	-
	mg/L	0614	09/12/2001	0001	AL		12800.000			#	0.506	-
	mg/L	0618	09/12/2001	0001	AL		6250.000			#	0.253	-
	mg/L	0619	09/12/2001	0001	AL		10900.000			#	0.506	-
	mg/L	0735	09/12/2001	0001	AL		4690.000			#	0.1265	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0735	09/12/2001	0002	AL		4680.000			#	0.1265	-
	mg/L	0797	09/11/2001	0001	AL		521.000		L	#	0.0253	-
	mg/L	0850	09/11/2001	0001	AL	B	1030.000			#	0.0506	-
	mg/L	0854	09/12/2001	0001	AL		27000.000			#	1.265	-
Temperature	C	0608	09/12/2001	N001	KM		23.8			#	-	-
	C	0614	09/12/2001	N001	AL		20.4			#	-	-
	C	0618	09/12/2001	N001	AL		21.5			#	-	-
	C	0619	09/12/2001	N001	AL		19.6			#	-	-
	C	0735	09/12/2001	N001	AL		16.3			#	-	-
	C	0797	09/11/2001	N001	AL		21.5		L	#	-	-
	C	0850	09/11/2001	N001	AL	B	18.8			#	-	-
	C	0854	09/12/2001	N001	AL		23.1			#	-	-
Temperature of Zobell Solu	C	0797	09/11/2001	N001	AL		23.4		L	#	-	-
	C	0850	09/11/2001	N001	AL	B	18.4			#	-	-
Turbidity	NTU	0608	09/12/2001	N001	KM		17.8			#	-	-
	NTU	0614	09/12/2001	N001	AL		0.1			#	-	-
	NTU	0618	09/12/2001	N001	AL		9.3			#	-	-
	NTU	0619	09/12/2001	N001	AL		2.88			#	-	-
	NTU	0735	09/12/2001	N001	AL		2.56			#	-	-
	NTU	0797	09/11/2001	N001	AL		6.31		L	#	-	-
	NTU	0850	09/11/2001	N001	AL	B	7.49			#	-	-
	NTU	0854	09/12/2001	N001	AL		94.2			#	-	-
Uranium	mg/L	0608	09/12/2001	0001	KM		1.800			#	0.0025	-
	mg/L	0614	09/12/2001	0001	AL		2.310			#	0.0025	-
	mg/L	0618	09/12/2001	0001	AL		0.912			#	0.0001	-
	mg/L	0619	09/12/2001	0001	AL		0.992			#	0.0001	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:28 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0735	09/12/2001	0001	AL		0.150			#	0.0001	-
	mg/L	0735	09/12/2001	0002	AL		0.152			#	0.0001	-
	mg/L	0797	09/11/2001	0001	AL		0.0108		L	#	0.0001	-
	mg/L	0850	09/11/2001	0001	AL	B	0.0127			#	0.0001	-
	mg/L	0854	09/12/2001	0001	AL		4.420			#	0.0025	-

RECORDS: SELECTED FROM USEE200 WHERE site_code='SHP01' AND quality_assurance = TRUE AND (NOT (data_validation_qualifiers LIKE '*R*' OR data_validation_qualifiers LIKE '*X*') OR IsNull(data_validation_qualifiers)) AND DATE_SAMPLED between #9/1/2001# and #9/30/2001#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

- J Estimated value.
- L Less than 3 bore volumes purged prior to sampling.
- U Parameter analyzed for but was not detected.
- F Low flow sampling method used.
- R Unusable result.
- G Possible grout contamination, pH > 9.
- X Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0603	09/19/2001	0001	AL		307			#	-	-
	mg/L	0603	09/19/2001	N001	AL		294			#	-	-
	mg/L	0812	09/19/2001	0001	AL		623			#	-	-
	mg/L	0812	09/19/2001	N001	AL		630			#	-	-
	mg/L	0813	09/18/2001	0001	AL		938			#	-	-
	mg/L	0813	09/18/2001	N001	AL		917			#	-	-
	mg/L	0818	09/18/2001	0001	AL		654			#	-	-
	mg/L	0818	09/18/2001	N001	AL		656			#	-	-
	mg/L	0826	09/19/2001	N001	AL		1754			#	-	-
	mg/L	0827	09/19/2001	0001	AL		1535		L	#	-	-
	mg/L	0827	09/19/2001	N001	AL		1446		L	#	-	-
	mg/L	0832	09/19/2001	0001	AL		295		L	#	-	-
	mg/L	0838	09/18/2001	0001	AL		300			#	-	-
	mg/L	0838	09/18/2001	N001	AL		332			#	-	-
	mg/L	0841	09/18/2001	0001	AL		718			#	-	-
	mg/L	0841	09/18/2001	N001	AL		723			#	-	-
	mg/L	0847	09/17/2001	0001	AL		306			#	-	-
	mg/L	0847	09/17/2001	N001	AL		307			#	-	-
	mg/L	1057	09/18/2001	0001	AL		628		L	#	-	-
	mg/L	1057	09/18/2001	N001	AL		598		L	#	-	-
	mg/L	1059	09/18/2001	N001	KM		656		L	#	-	-
	mg/L	1060	09/18/2001	0001	AL		518			#	-	-
	mg/L	1060	09/18/2001	N001	AL		526			#	-	-
Ammonium	mg/L	0603	09/19/2001	0001	AL		1630.000			#	0.0062	-
	mg/L	0812	09/19/2001	0001	AL		0.0115	B		#	0.0062	-
	mg/L	0813	09/18/2001	0001	AL		66.900			#	0.0062	-
	mg/L	0816	09/19/2001	0001	AL		0.0062	U		#	0.0062	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Ammonium	mg/L	0817	09/19/2001	0001	KM		688.000		L	#	0.0062	-
	mg/L	0818	09/18/2001	0001	AL		263.000			#	0.0062	-
	mg/L	0826	09/19/2001	0001	AL		101.000			#	0.0062	-
	mg/L	0827	09/19/2001	0001	AL		15.400		L	#	0.0062	-
	mg/L	0828	09/19/2001	0001	AL		0.981			#	0.0062	-
	mg/L	0832	09/19/2001	0001	AL		0.0087	B	L	#	0.0062	-
	mg/L	0835	09/19/2001	0001	AL		0.0062	U		#	0.0062	-
	mg/L	0836	09/19/2001	0001	AL		0.0063	B		#	0.0062	-
	mg/L	0838	09/18/2001	0001	AL		0.0062	U		#	0.0062	-
	mg/L	0839	09/19/2001	0001	AL		113.000		L	#	0.0062	-
	mg/L	0841	09/18/2001	0001	AL		0.0115	B		#	0.0062	-
	mg/L	0841	09/18/2001	0002	AL		0.0062	U		#	0.0062	-
	mg/L	0846	09/19/2001	0001	AL		0.0062	U		#	0.0062	-
	mg/L	0847	09/17/2001	0001	AL		0.142			#	0.0062	-
	mg/L	1007	09/19/2001	0001	AL		45.800		L	#	0.0062	-
	mg/L	1057	09/18/2001	0001	AL		2280.000		L	#	0.0062	-
	mg/L	1059	09/18/2001	0001	KM		11.500		L	#	0.0062	-
	mg/L	1060	09/18/2001	0001	AL		0.0062	U		#	0.0062	-
Calcium	mg/L	0603	09/19/2001	0001	AL		497.000			#	0.0653	-
	mg/L	0812	09/19/2001	0001	AL		446.000			#	0.0653	-
	mg/L	0813	09/18/2001	0001	AL		567.000			#	0.0653	-
	mg/L	0816	09/19/2001	0001	AL		276.000			#	0.0653	-
	mg/L	0817	09/19/2001	0001	KM		423.000		L	#	0.0653	-
	mg/L	0818	09/18/2001	0001	AL		687.000			#	0.653	-
	mg/L	0826	09/19/2001	0001	AL		420.000			#	0.0653	-
	mg/L	0827	09/19/2001	0001	AL		427.000		L	#	0.0653	-
	mg/L	0828	09/19/2001	0001	AL		248.000			#	0.0653	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Calcium	mg/L	0832	09/19/2001	0001	AL		385.000		L	#	0.0653	-
	mg/L	0835	09/19/2001	0001	AL		679.000			#	0.653	-
	mg/L	0836	09/19/2001	0001	AL		526.000			#	0.0653	-
	mg/L	0838	09/18/2001	0001	AL		471.000			#	0.0653	-
	mg/L	0839	09/19/2001	0001	AL		443.000		L	#	0.0653	-
	mg/L	0841	09/18/2001	0001	AL		421.000			#	0.0653	-
	mg/L	0841	09/18/2001	0002	AL		404.000			#	0.0653	-
	mg/L	0846	09/19/2001	0001	AL		477.000			#	0.0653	-
	mg/L	0847	09/17/2001	0001	AL		527.000			#	0.0653	-
	mg/L	1007	09/19/2001	0001	AL		437.000		L	#	0.0653	-
	mg/L	1057	09/18/2001	0001	AL		446.000		L	#	0.0653	-
	mg/L	1059	09/18/2001	0001	KM		373.000		L	#	0.0653	-
	mg/L	1060	09/18/2001	0001	AL		138.000			#	0.0653	-
Chloride	mg/L	0603	09/19/2001	0001	AL		204.000			#	0.298	-
	mg/L	0812	09/19/2001	0001	AL		2350.000			#	0.298	-
	mg/L	0813	09/18/2001	0001	AL		652.000			#	0.298	-
	mg/L	0816	09/19/2001	0001	AL		143.000			#	0.0745	-
	mg/L	0817	09/19/2001	0001	KM		624.000		L	#	0.298	-
	mg/L	0818	09/18/2001	0001	AL		828.000			#	0.298	-
	mg/L	0826	09/19/2001	0001	AL		731.000			#	0.149	-
	mg/L	0827	09/19/2001	0001	AL		473.000		L	#	0.149	-
	mg/L	0828	09/19/2001	0001	AL		103.000			#	0.0745	-
	mg/L	0832	09/19/2001	0001	AL		417.000		L	#	0.149	-
	mg/L	0835	09/19/2001	0001	AL		87.600			#	0.0745	-
	mg/L	0836	09/19/2001	0001	AL		46.400			#	0.0745	-
	mg/L	0838	09/18/2001	0001	AL		23.400			#	0.0298	-
	mg/L	0839	09/19/2001	0001	AL		447.000		L	#	0.149	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0841	09/18/2001	0001	AL		793.000			#	0.298	-
	mg/L	0841	09/18/2001	0002	AL		792.000			#	0.298	-
	mg/L	0846	09/19/2001	0001	AL		94.600			#	0.0745	-
	mg/L	0847	09/17/2001	0001	AL		18.800			#	0.0298	-
	mg/L	1007	09/19/2001	0001	AL		434.000		L	#	0.298	-
	mg/L	1057	09/18/2001	0001	AL		595.000		L	#	0.298	-
	mg/L	1059	09/18/2001	0001	KM		668.000		L	#	0.298	-
	mg/L	1060	09/18/2001	0001	AL		169.000			#	0.149	-
Magnesium	mg/L	0603	09/19/2001	0001	AL		666.000			#	0.042	-
	mg/L	0812	09/19/2001	0001	AL		2280.000			#	0.042	-
	mg/L	0813	09/18/2001	0001	AL		3220.000			#	0.042	-
	mg/L	0816	09/19/2001	0001	AL		368.000			#	0.0042	-
	mg/L	0817	09/19/2001	0001	KM		2660.000		L	#	0.042	-
	mg/L	0818	09/18/2001	0001	AL		2780.000			#	0.042	-
	mg/L	0826	09/19/2001	0001	AL		2450.000			#	0.042	-
	mg/L	0827	09/19/2001	0001	AL		1290.000		L	#	0.042	-
	mg/L	0828	09/19/2001	0001	AL		188.000			#	0.0042	-
	mg/L	0832	09/19/2001	0001	AL		737.000		L	#	0.042	-
	mg/L	0835	09/19/2001	0001	AL		174.000			#	0.0042	-
	mg/L	0836	09/19/2001	0001	AL		259.000			#	0.0042	-
	mg/L	0838	09/18/2001	0001	AL		138.000			#	0.0042	-
	mg/L	0839	09/19/2001	0001	AL		2030.000		L	#	0.042	-
	mg/L	0841	09/18/2001	0001	AL		865.000			#	0.042	-
	mg/L	0841	09/18/2001	0002	AL		864.000			#	0.042	-
	mg/L	0846	09/19/2001	0001	AL		200.000			#	0.0042	-
	mg/L	0847	09/17/2001	0001	AL		108.000			#	0.0042	-
	mg/L	1007	09/19/2001	0001	AL		2090.000		L	#	0.042	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Magnesium	mg/L	1057	09/18/2001	0001	AL		2570.000		L	#	0.042	-
	mg/L	1059	09/18/2001	0001	KM		574.000		L	#	0.042	-
	mg/L	1060	09/18/2001	0001	AL		250.000			#	0.0042	-
Manganese	mg/L	0603	09/19/2001	0001	AL		19.600			#	0.0001	-
	mg/L	0812	09/19/2001	0001	AL		0.0415			#	0.0001	-
	mg/L	0813	09/18/2001	0001	AL		0.294			#	0.0001	-
	mg/L	0816	09/19/2001	0001	AL		0.0022	B		#	0.0001	-
	mg/L	0817	09/19/2001	0001	KM		2.210		L	#	0.0001	-
	mg/L	0818	09/18/2001	0001	AL		0.566			#	0.0001	-
	mg/L	0826	09/19/2001	0001	AL		2.510			#	0.0001	-
	mg/L	0827	09/19/2001	0001	AL		0.699		L	#	0.0001	-
	mg/L	0828	09/19/2001	0001	AL		0.0044	B		#	0.0001	-
	mg/L	0832	09/19/2001	0001	AL		0.0095	B	L	#	0.0001	-
	mg/L	0835	09/19/2001	0001	AL		0.0001	U		#	0.0001	-
	mg/L	0836	09/19/2001	0001	AL		1.430			#	0.0001	-
	mg/L	0838	09/18/2001	0001	AL		0.0058	B		#	0.0001	-
	mg/L	0839	09/19/2001	0001	AL		0.683		L	#	0.0001	-
	mg/L	0841	09/18/2001	0001	AL		0.0337			#	0.0001	-
	mg/L	0841	09/18/2001	0002	AL		0.0322			#	0.0001	-
	mg/L	0846	09/19/2001	0001	AL		0.00025	B	U	#	0.0001	-
	mg/L	0847	09/17/2001	0001	AL		0.0092	B		#	0.0001	-
	mg/L	1007	09/19/2001	0001	AL		1.900		L	#	0.0001	-
	mg/L	1057	09/18/2001	0001	AL		10.000		L	#	0.0001	-
	mg/L	1059	09/18/2001	0001	KM		0.215		L	#	0.0001	-
	mg/L	1060	09/18/2001	0001	AL		0.0086	B		#	0.0001	-
Nitrate as NO3	mg/L	0603	09/19/2001	0001	AL		4170.000			#	1.525	-
	mg/L	0812	09/19/2001	0001	AL		6170.000			#	3.05	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Nitrate as NO3	mg/L	0813	09/18/2001	0001	AL		7750.000			#	3.05	-
	mg/L	0816	09/19/2001	0001	AL		337.000			#	0.1525	-
	mg/L	0817	09/19/2001	0001	KM		298.000		L	#	0.1525	-
	mg/L	0818	09/18/2001	0001	AL		10300.000			#	6.1	-
	mg/L	0826	09/19/2001	0001	AL		105.000			#	0.061	-
	mg/L	0827	09/19/2001	0001	AL		114.000		L	#	0.061	-
	mg/L	0828	09/19/2001	0001	AL		74.700			#	0.0305	-
	mg/L	0832	09/19/2001	0001	AL		1290.000		L	#	0.61	-
	mg/L	0835	09/19/2001	0001	AL		279.000			#	0.1525	-
	mg/L	0836	09/19/2001	0001	AL		63.500			#	0.0305	-
	mg/L	0838	09/18/2001	0001	AL		15.200			#	0.0305	-
	mg/L	0839	09/19/2001	0001	AL		2260.000		L	#	1.525	-
	mg/L	0841	09/18/2001	0001	AL		2240.000			#	1.525	-
	mg/L	0841	09/18/2001	0002	AL		2230.000			#	1.525	-
	mg/L	0846	09/19/2001	0001	AL		365.000			#	0.1525	-
	mg/L	0847	09/17/2001	0001	AL		24.500			#	0.0305	-
	mg/L	1007	09/19/2001	0001	AL		2070.000		L	#	1.525	-
	mg/L	1057	09/18/2001	0001	AL		4440.000		L	#	1.525	-
	mg/L	1059	09/18/2001	0001	KM		1820.000		L	#	0.61	-
	mg/L	1060	09/18/2001	0001	AL		591.000			#	0.305	-
ORP of Zobell Solution	mV	0603	09/19/2001	N001	AL		227			#	-	-
	mV	0812	09/19/2001	N001	AL		226			#	-	-
	mV	0813	09/18/2001	N001	AL		222			#	-	-
	mV	0816	09/19/2001	N001	AL		214			#	-	-
	mV	0817	09/19/2001	N001	KM		221		L	#	-	-
	mV	0818	09/18/2001	N001	AL		224			#	-	-
	mV	0826	09/19/2001	N001	AL		225			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
ORP of Zobell Solution	mV	0827	09/19/2001	N001	AL		225		L	#	-	-
	mV	0828	09/19/2001	N001	AL		223			#	-	-
	mV	0832	09/19/2001	N001	AL		220		L	#	-	-
	mV	0835	09/19/2001	N001	AL		214			#	-	-
	mV	0836	09/19/2001	N001	AL		217			#	-	-
	mV	0838	09/18/2001	N001	AL		219			#	-	-
	mV	0839	09/19/2001	N001	AL		216		L	#	-	-
	mV	0841	09/18/2001	N001	AL		226			#	-	-
	mV	0846	09/19/2001	N001	AL		217			#	-	-
	mV	0847	09/17/2001	N001	AL		182			#	-	-
	mV	1007	09/19/2001	N001	AL		227		L	#	-	-
	mV	1057	09/18/2001	N001	AL		222		L	#	-	-
	mV	1059	09/18/2001	N001	KM		223		L	#	-	-
	mV	1060	09/18/2001	N001	AL		220			#	-	-
Oxidation Reduction Potent	mV	0603	09/19/2001	N001	AL		215			#	-	-
	mV	0812	09/19/2001	N001	AL		151			#	-	-
	mV	0813	09/18/2001	N001	AL		170			#	-	-
	mV	0816	09/19/2001	N001	AL		159			#	-	-
	mV	0817	09/19/2001	N001	KM		190		L	#	-	-
	mV	0818	09/18/2001	N001	AL		177			#	-	-
	mV	0826	09/19/2001	N001	AL		202			#	-	-
	mV	0827	09/19/2001	N001	AL		185		L	#	-	-
	mV	0828	09/19/2001	N001	AL		-87			#	-	-
	mV	0832	09/19/2001	N001	AL		133		L	#	-	-
	mV	0835	09/19/2001	N001	AL		168			#	-	-
	mV	0836	09/19/2001	N001	AL		115			#	-	-
	mV	0838	09/18/2001	N001	AL		121			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0839	09/19/2001	N001	AL		192		L	#	-	-
	mV	0841	09/18/2001	N001	AL		111			#	-	-
	mV	0846	09/19/2001	N001	AL		145			#	-	-
	mV	0847	09/17/2001	N001	AL		101			#	-	-
	mV	1007	09/19/2001	N001	AL		189		L	#	-	-
	mV	1057	09/18/2001	N001	AL		215		L	#	-	-
	mV	1059	09/18/2001	N001	KM		145		L	#	-	-
	mV	1060	09/18/2001	N001	AL		148			#	-	-
pH	s.u.	0603	09/19/2001	N001	AL		6.08			#	-	-
	s.u.	0812	09/19/2001	N001	AL		6.84			#	-	-
	s.u.	0813	09/18/2001	N001	AL		6.35			#	-	-
	s.u.	0816	09/19/2001	N001	AL		7.06			#	-	-
	s.u.	0817	09/19/2001	N001	KM		6.29		L	#	-	-
	s.u.	0818	09/18/2001	N001	AL		6.51			#	-	-
	s.u.	0826	09/19/2001	N001	AL		6.35			#	-	-
	s.u.	0827	09/19/2001	N001	AL		6.33		L	#	-	-
	s.u.	0828	09/19/2001	N001	AL		6.74			#	-	-
	s.u.	0832	09/19/2001	N001	AL		7.11		L	#	-	-
	s.u.	0835	09/19/2001	N001	AL		6.7			#	-	-
	s.u.	0836	09/19/2001	N001	AL		6.72			#	-	-
	s.u.	0838	09/18/2001	N001	AL		6.67			#	-	-
	s.u.	0839	09/19/2001	N001	AL		6.59		L	#	-	-
	s.u.	0841	09/18/2001	N001	AL		7.09			#	-	-
	s.u.	0846	09/19/2001	N001	AL		6.82			#	-	-
	s.u.	0847	09/17/2001	N001	AL		6.77			#	-	-
	s.u.	1007	09/19/2001	N001	AL		6.3		L	#	-	-
	s.u.	1057	09/18/2001	N001	AL		6.63		L	#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	1059	09/18/2001	N001	KM		6.78		L	#	-	-
	s.u.	1060	09/18/2001	N001	AL		7.31			#	-	-
Potassium	mg/L	0603	09/19/2001	0001	AL		172.000			#	0.0151	-
	mg/L	0812	09/19/2001	0001	AL		76.900			#	0.0151	-
	mg/L	0813	09/18/2001	0001	AL		116.000			#	0.0151	-
	mg/L	0816	09/19/2001	0001	AL		16.400			#	0.0151	-
	mg/L	0817	09/19/2001	0001	KM		230.000		L	#	0.151	-
	mg/L	0818	09/18/2001	0001	AL		124.000			#	0.0151	-
	mg/L	0826	09/19/2001	0001	AL		133.000			#	0.0151	-
	mg/L	0827	09/19/2001	0001	AL		56.600		L	#	0.0151	-
	mg/L	0828	09/19/2001	0001	AL		18.100			#	0.0151	-
	mg/L	0832	09/19/2001	0001	AL		19.600		L	#	0.0151	-
	mg/L	0835	09/19/2001	0001	AL		7.960			#	0.0151	-
	mg/L	0836	09/19/2001	0001	AL		4.570			#	0.0151	-
	mg/L	0838	09/18/2001	0001	AL		5.690			#	0.0151	-
	mg/L	0839	09/19/2001	0001	AL		114.000		L	#	0.0151	-
	mg/L	0841	09/18/2001	0001	AL		58.400			#	0.0151	-
	mg/L	0841	09/18/2001	0002	AL		54.400			#	0.0151	-
	mg/L	0846	09/19/2001	0001	AL		8.610			#	0.0151	-
	mg/L	0847	09/17/2001	0001	AL		4.570			#	0.0151	-
	mg/L	1007	09/19/2001	0001	AL		104.000		L	#	0.0151	-
	mg/L	1057	09/18/2001	0001	AL		351.000		L	#	0.151	-
	mg/L	1059	09/18/2001	0001	KM		26.400		L	#	0.0151	-
	mg/L	1060	09/18/2001	0001	AL		13.700			#	0.0151	-
Selenium	mg/L	0603	09/19/2001	0001	AL		0.224			#	0.006	-
	mg/L	0812	09/19/2001	0001	AL		7.020			#	0.3	-
	mg/L	0813	09/18/2001	0001	AL		0.0379			#	0.0015	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Selenium	mg/L	0816	09/19/2001	0001	AL		0.0775			#	0.0015	-
	mg/L	0817	09/19/2001	0001	KM		0.0029	B	L	#	0.0003	-
	mg/L	0818	09/18/2001	0001	AL		2.690			#	0.15	-
	mg/L	0826	09/19/2001	0001	AL		0.0183			#	0.0003	-
	mg/L	0827	09/19/2001	0001	AL		0.0051		L	#	0.0003	-
	mg/L	0828	09/19/2001	0001	AL		0.059			#	0.0015	-
	mg/L	0832	09/19/2001	0001	AL		1.900		L	#	0.06	-
	mg/L	0835	09/19/2001	0001	AL		0.177			#	0.006	-
	mg/L	0836	09/19/2001	0001	AL		0.141			#	0.003	-
	mg/L	0838	09/18/2001	0001	AL		0.0502			#	0.0015	-
	mg/L	0839	09/19/2001	0001	AL		0.00093	B	L	#	0.0003	-
	mg/L	0841	09/18/2001	0001	AL		3.240			#	0.15	-
	mg/L	0841	09/18/2001	0002	AL		3.150			#	0.15	-
	mg/L	0846	09/19/2001	0001	AL		0.733			#	0.015	-
	mg/L	0847	09/17/2001	0001	AL		0.0582			#	0.0015	-
	mg/L	1007	09/19/2001	0001	AL		0.0733		L	#	0.003	-
	mg/L	1057	09/18/2001	0001	AL		0.593		L	#	0.015	-
	mg/L	1059	09/18/2001	0001	KM		0.0787		L	#	0.003	-
	mg/L	1060	09/18/2001	0001	AL		1.070			#	0.03	-
Sodium	mg/L	0603	09/19/2001	0001	AL		752.000			#	0.074	-
	mg/L	0812	09/19/2001	0001	AL		6200.000			#	0.37	-
	mg/L	0813	09/18/2001	0001	AL		2620.000			#	0.074	-
	mg/L	0816	09/19/2001	0001	AL		1120.000			#	0.074	-
	mg/L	0817	09/19/2001	0001	KM		2720.000		L	#	0.074	-
	mg/L	0818	09/18/2001	0001	AL		2620.000			#	0.074	-
	mg/L	0826	09/19/2001	0001	AL		2160.000			#	0.074	-
	mg/L	0827	09/19/2001	0001	AL		2560.000		L	#	0.074	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sodium	mg/L	0828	09/19/2001	0001	AL		434.000			#	0.074	-
	mg/L	0832	09/19/2001	0001	AL		1890.000		L	#	0.074	-
	mg/L	0835	09/19/2001	0001	AL		304.000			#	0.074	-
	mg/L	0836	09/19/2001	0001	AL		281.000			#	0.074	-
	mg/L	0838	09/18/2001	0001	AL		170.000			#	0.0074	-
	mg/L	0839	09/19/2001	0001	AL		2060.000		L	#	0.074	-
	mg/L	0841	09/18/2001	0001	AL		5840.000			#	0.37	-
	mg/L	0841	09/18/2001	0002	AL		5980.000			#	0.74	-
	mg/L	0846	09/19/2001	0001	AL		610.000			#	0.074	-
	mg/L	0847	09/17/2001	0001	AL		115.000			#	0.0074	-
	mg/L	1007	09/19/2001	0001	AL		2710.000		L	#	0.074	-
	mg/L	1057	09/18/2001	0001	AL		1900.000		L	#	0.074	-
	mg/L	1059	09/18/2001	0001	KM		4030.000		L	#	0.37	-
	mg/L	1060	09/18/2001	0001	AL		1510.000			#	0.074	-
Specific Conductance	umhos/cm	0603	09/19/2001	N001	AL		15970			#	-	-
	umhos/cm	0812	09/19/2001	N001	AL		26500			#	-	-
	umhos/cm	0813	09/18/2001	N001	AL		21000			#	-	-
	umhos/cm	0816	09/19/2001	N001	AL		7010			#	-	-
	umhos/cm	0817	09/19/2001	N001	KM		16920		L	#	-	-
	umhos/cm	0818	09/18/2001	N001	AL		22500			#	-	-
	umhos/cm	0826	09/19/2001	N001	AL		13060			#	-	-
	umhos/cm	0827	09/19/2001	N001	AL		12190		L	#	-	-
	umhos/cm	0828	09/19/2001	N001	AL		3650			#	-	-
	umhos/cm	0832	09/19/2001	N001	AL		1225		L	#	-	-
	umhos/cm	0835	09/19/2001	N001	AL		4420			#	-	-
	umhos/cm	0836	09/19/2001	N001	AL		4290			#	-	-
	umhos/cm	0838	09/18/2001	N001	AL		3170			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0839	09/19/2001	N001	AL		15910		L	#	-	-
	umhos/cm	0841	09/18/2001	N001	AL		21800			#	-	-
	umhos/cm	0846	09/19/2001	N001	AL		5170			#	-	-
	umhos/cm	0847	09/17/2001	N001	AL		2990			#	-	-
	umhos/cm	1007	09/19/2001	N001	AL		16720		L	#	-	-
	umhos/cm	1057	09/18/2001	N001	AL		25300		L	#	-	-
	umhos/cm	1059	09/18/2001	N001	KM		16590		L	#	-	-
	umhos/cm	1060	09/18/2001	N001	AL		7730			#	-	-
Strontium	mg/L	0603	09/19/2001	0001	AL		2.390			#	0.001	-
	mg/L	0812	09/19/2001	0001	AL		15.200			#	0.001	-
	mg/L	0813	09/18/2001	0001	AL		19.400			#	0.001	-
	mg/L	0816	09/19/2001	0001	AL		4.680			#	0.0001	-
	mg/L	0817	09/19/2001	0001	KM		12.500		L	#	0.001	-
	mg/L	0818	09/18/2001	0001	AL		16.800			#	0.001	-
	mg/L	0826	09/19/2001	0001	AL		12.600			#	0.001	-
	mg/L	0827	09/19/2001	0001	AL		10.300		L	#	0.001	-
	mg/L	0828	09/19/2001	0001	AL		3.660			#	0.0001	-
	mg/L	0832	09/19/2001	0001	AL		6.450		L	#	0.001	-
	mg/L	0835	09/19/2001	0001	AL		5.820			#	0.001	-
	mg/L	0836	09/19/2001	0001	AL		6.400			#	0.001	-
	mg/L	0838	09/18/2001	0001	AL		4.440			#	0.0001	-
	mg/L	0839	09/19/2001	0001	AL		11.400		L	#	0.001	-
	mg/L	0841	09/18/2001	0001	AL		9.570			#	0.001	-
	mg/L	0841	09/18/2001	0002	AL		9.530			#	0.001	-
	mg/L	0846	09/19/2001	0001	AL		5.680			#	0.001	-
	mg/L	0847	09/17/2001	0001	AL		4.860			#	0.0001	-
	mg/L	1007	09/19/2001	0001	AL		11.600		L	#	0.001	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
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PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Strontium	mg/L	1057	09/18/2001	0001	AL		9.670		L	#	0.001	-
	mg/L	1059	09/18/2001	0001	KM		19.500		L	#	0.001	-
	mg/L	1060	09/18/2001	0001	AL		2.620			#	0.0001	-
Sulfate	mg/L	0603	09/19/2001	0001	AL		6460.000			#	0.506	-
	mg/L	0812	09/19/2001	0001	AL		15400.000			#	0.506	-
	mg/L	0813	09/18/2001	0001	AL		11800.000			#	0.506	-
	mg/L	0816	09/19/2001	0001	AL		3900.000			#	0.1265	-
	mg/L	0817	09/19/2001	0001	KM		16400.000		L	#	0.506	-
	mg/L	0818	09/18/2001	0001	AL		9180.000			#	0.506	-
	mg/L	0826	09/19/2001	0001	AL		13600.000			#	0.506	-
	mg/L	0827	09/19/2001	0001	AL		9650.000		L	#	0.253	-
	mg/L	0828	09/19/2001	0001	AL		1940.000			#	0.1265	-
	mg/L	0832	09/19/2001	0001	AL		6400.000		L	#	0.253	-
	mg/L	0835	09/19/2001	0001	AL		2470.000			#	0.1265	-
	mg/L	0836	09/19/2001	0001	AL		2630.000			#	0.1265	-
	mg/L	0838	09/18/2001	0001	AL		1860.000			#	0.0506	-
	mg/L	0839	09/19/2001	0001	AL		11200.000		L	#	0.506	-
	mg/L	0841	09/18/2001	0001	AL		14500.000			#	0.506	-
	mg/L	0841	09/18/2001	0002	AL		14600.000			#	0.506	-
	mg/L	0846	09/19/2001	0001	AL		2790.000			#	0.1265	-
	mg/L	0847	09/17/2001	0001	AL		1710.000			#	0.0506	-
	mg/L	1007	09/19/2001	0001	AL		11700.000		L	#	0.506	-
	mg/L	1057	09/18/2001	0001	AL		16700.000		L	#	0.506	-
	mg/L	1059	09/18/2001	0001	KM		9610.000		L	#	0.506	-
	mg/L	1060	09/18/2001	0001	AL		3750.000			#	0.253	-
Temperature	C	0603	09/19/2001	N001	AL		16.3			#	-	-
	C	0812	09/19/2001	N001	AL		15.3			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0813	09/18/2001	N001	AL		16.2			#	-	-
	C	0816	09/19/2001	N001	AL		16.9			#	-	-
	C	0817	09/19/2001	N001	KM		17		L	#	-	-
	C	0818	09/18/2001	N001	AL		16.7			#	-	-
	C	0826	09/19/2001	N001	AL		19.6			#	-	-
	C	0827	09/19/2001	N001	AL		17.9		L	#	-	-
	C	0828	09/19/2001	N001	AL		21.8			#	-	-
	C	0832	09/19/2001	N001	AL		16.7		L	#	-	-
	C	0835	09/19/2001	N001	AL		17.4			#	-	-
	C	0836	09/19/2001	N001	AL		14.9			#	-	-
	C	0838	09/18/2001	N001	AL		16.5			#	-	-
	C	0839	09/19/2001	N001	AL		17.3		L	#	-	-
	C	0841	09/18/2001	N001	AL		17.7			#	-	-
	C	0846	09/19/2001	N001	AL		15.9			#	-	-
	C	0847	09/17/2001	N001	AL		17.8			#	-	-
	C	1007	09/19/2001	N001	AL		17.3		L	#	-	-
	C	1057	09/18/2001	N001	AL		16.7		L	#	-	-
	C	1059	09/18/2001	N001	KM		16.8		L	#	-	-
	C	1060	09/18/2001	N001	AL		16.8			#	-	-
Temperature of Zobell Solu	C	0603	09/19/2001	N001	AL		16.6			#	-	-
	C	0812	09/19/2001	N001	AL		17.8			#	-	-
	C	0813	09/18/2001	N001	AL		21.3			#	-	-
	C	0816	09/19/2001	N001	AL		24.2			#	-	-
	C	0817	09/19/2001	N001	KM		20.1		L	#	-	-
	C	0818	09/18/2001	N001	AL		18.7			#	-	-
	C	0826	09/19/2001	N001	AL		17.1			#	-	-
	C	0827	09/19/2001	N001	AL		17.1		L	#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature of Zobell Solu	C	0828	09/19/2001	N001	AL		18.6			#	-	-
	C	0832	09/19/2001	N001	AL		22.5		L	#	-	-
	C	0835	09/19/2001	N001	AL		24.2			#	-	-
	C	0836	09/19/2001	N001	AL		22.2			#	-	-
	C	0838	09/18/2001	N001	AL		23.4			#	-	-
	C	0839	09/19/2001	N001	AL		22.3		L	#	-	-
	C	0841	09/18/2001	N001	AL		17.8			#	-	-
	C	0846	09/19/2001	N001	AL		22.2			#	-	-
	C	0847	09/17/2001	N001	AL		21.7			#	-	-
	C	1007	09/19/2001	N001	AL		16.6		L	#	-	-
	C	1057	09/18/2001	N001	AL		21.3		L	#	-	-
	C	1059	09/18/2001	N001	KM		20		L	#	-	-
	C	1060	09/18/2001	N001	AL		22.5			#	-	-
Turbidity	NTU	0603	09/19/2001	N001	AL		0.52			#	-	-
	NTU	0813	09/18/2001	N001	AL		2.38			#	-	-
	NTU	0816	09/19/2001	N001	AL		42.1			#	-	-
	NTU	0817	09/19/2001	N001	KM		1000	>	L	#	-	-
	NTU	0818	09/18/2001	N001	AL		9.44			#	-	-
	NTU	0826	09/19/2001	N001	AL		7.62			#	-	-
	NTU	0827	09/19/2001	N001	AL		41.8		L	#	-	-
	NTU	0828	09/19/2001	N001	AL		5.8			#	-	-
	NTU	0832	09/19/2001	N001	AL		231		L	#	-	-
	NTU	0835	09/19/2001	N001	AL		6.17			#	-	-
	NTU	0836	09/19/2001	N001	AL		7.02			#	-	-
	NTU	0838	09/18/2001	N001	AL		2.26			#	-	-
	NTU	0839	09/19/2001	N001	AL		76.1		L	#	-	-
	NTU	0841	09/18/2001	N001	AL		49.6			#	-	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0846	09/19/2001	N001	AL		4.52			#	-	-
	NTU	0847	09/17/2001	N001	AL		0.58			#	-	-
	NTU	1007	09/19/2001	N001	AL		591		L	#	-	-
	NTU	1057	09/18/2001	N001	AL		38.3		L	#	-	-
	NTU	1059	09/18/2001	N001	KM		38.5		L	#	-	-
	NTU	1060	09/18/2001	N001	AL		570			#	-	-
Uranium	mg/L	0603	09/19/2001	0001	AL		0.0138			#	0.0001	-
	mg/L	0812	09/19/2001	0001	AL		0.115			#	0.0001	-
	mg/L	0813	09/18/2001	0001	AL		0.141			#	0.0001	-
	mg/L	0816	09/19/2001	0001	AL		0.0362			#	0.0001	-
	mg/L	0817	09/19/2001	0001	KM		1.270		L	#	0.0025	-
	mg/L	0818	09/18/2001	0001	AL		0.0805			#	0.0001	-
	mg/L	0826	09/19/2001	0001	AL		3.260			#	0.0025	-
	mg/L	0827	09/19/2001	0001	AL		0.594		L	#	0.0001	-
	mg/L	0828	09/19/2001	0001	AL		0.245			#	0.0001	-
	mg/L	0832	09/19/2001	0001	AL		0.0685		L	#	0.0001	-
	mg/L	0835	09/19/2001	0001	AL		0.039			#	0.0001	-
	mg/L	0836	09/19/2001	0001	AL		0.0553			#	0.0001	-
	mg/L	0838	09/18/2001	0001	AL		0.0339			#	0.0001	-
	mg/L	0839	09/19/2001	0001	AL		0.406		L	#	0.0001	-
	mg/L	0841	09/18/2001	0001	AL		0.106			#	0.0001	-
	mg/L	0841	09/18/2001	0002	AL		0.110			#	0.0001	-
	mg/L	0846	09/19/2001	0001	AL		0.0437			#	0.0001	-
	mg/L	0847	09/17/2001	0001	AL		0.0286			#	0.0001	-
	mg/L	1007	09/19/2001	0001	AL		1.880		L	#	0.0025	-
	mg/L	1057	09/18/2001	0001	AL		0.107		L	#	0.0001	-
	mg/L	1059	09/18/2001	0001	KM		0.0751		L	#	0.0001	-

GROUND WATER QUALITY DATA BY PARAMETER (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:29 p

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	1060	09/18/2001	0001	AL		0.0393			#	0.0001	-

RECORDS: SELECTED FROM USEE200 WHERE site_code='SHP02' AND quality_assurance = TRUE AND (NOT (data_validation_qualifiers LIKE '*R*' OR data_validation_qualifiers LIKE '*X*') OR IsNull(data_validation_qualifiers)) AND DATE_SAMPLED between #9/1/2001# and #9/30/2001#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

- J Estimated value.
- L Less than 3 bore volumes purged prior to sampling.
- U Parameter analyzed for but was not detected.
- F Low flow sampling method used.
- R Unusable result.
- G Possible grout contamination, pH > 9.
- X Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0591	09/11/2001	0001	98			#	-	-
	mg/L	0591	09/11/2001	N001	125			#	-	-
	mg/L	0592	09/11/2001	0001	115			#	-	-
	mg/L	0592	09/11/2001	N001	101			#	-	-
	mg/L	0887	09/12/2001	0001	145			#	-	-
	mg/L	0887	09/12/2001	N001	148			#	-	-
	mg/L	0897	09/11/2001	0001	103			#	-	-
	mg/L	0897	09/11/2001	N001	104			#	-	-
	mg/L	0898	09/11/2001	0001	114			#	-	-
	mg/L	0898	09/11/2001	N001	120			#	-	-
	mg/L	0940	09/10/2001	0001	103			#	-	-
	mg/L	0940	09/10/2001	N001	111			#	-	-
	mg/L	0956	09/11/2001	0001	103			#	-	-
	mg/L	0956	09/11/2001	N001	102			#	-	-
	mg/L	0957	09/12/2001	0001	97			#	-	-
	mg/L	0957	09/12/2001	N001	108			#	-	-
	mg/L	0959	09/12/2001	0001	464			#	-	-
	mg/L	0959	09/12/2001	N001	467			#	-	-
	mg/L	1205	09/10/2001	0001	105			#	-	-
	mg/L	1205	09/10/2001	N001	152			#	-	-
Ammonium	mg/L	0591	09/11/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0592	09/11/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0887	09/12/2001	0001	0.0254		B	#	0.0062	-
	mg/L	0897	09/11/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0898	09/11/2001	0001	0.0388		B	#	0.0062	-
	mg/L	0940	09/10/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0956	09/11/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0957	09/12/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0959	09/12/2001	0001	0.0141		B	#	0.0062	-
	mg/L	1205	09/10/2001	0001	0.0062		U	#	0.0062	-
Calcium	mg/L	0591	09/11/2001	0001	52.400			#	0.0653	-
	mg/L	0592	09/11/2001	0001	54.100			#	0.0653	-
	mg/L	0887	09/12/2001	0001	249.000			#	0.0653	-
	mg/L	0897	09/11/2001	0001	52.400			#	0.0653	-
	mg/L	0898	09/11/2001	0001	53.300			#	0.0653	-
	mg/L	0940	09/10/2001	0001	52.200			#	0.0653	-
	mg/L	0956	09/11/2001	0001	52.400			#	0.0653	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Calcium	mg/L	0957	09/12/2001	0001	49.700			#	0.0653	-
	mg/L	0959	09/12/2001	0001	492.000			#	0.0653	-
	mg/L	1205	09/10/2001	0001	54.200			#	0.0653	-
Chloride	mg/L	0591	09/11/2001	0001	10.200			#	0.0149	-
	mg/L	0592	09/11/2001	0001	11.000			#	0.0149	-
	mg/L	0887	09/12/2001	0001	51.500			#	0.0298	-
	mg/L	0897	09/11/2001	0001	11.500			#	0.0149	-
	mg/L	0898	09/11/2001	0001	12.500			#	0.0149	-
	mg/L	0940	09/10/2001	0001	12.100			#	0.0149	-
	mg/L	0956	09/11/2001	0001	11.600			#	0.0149	-
	mg/L	0957	09/12/2001	0001	11.500			#	0.0149	-
	mg/L	0959	09/12/2001	0001	287.000			#	0.0745	-
	mg/L	1205	09/10/2001	0001	11.800			#	0.0149	-
Dissolved Oxygen	mg/L	0591	09/11/2001	N001	8.28			#	-	-
	mg/L	0592	09/11/2001	N001	8.73			#	-	-
	mg/L	0887	09/12/2001	N001	10.46			#	-	-
	mg/L	0897	09/11/2001	N001	10.36			#	-	-
	mg/L	0940	09/10/2001	N001	10.01			#	-	-
	mg/L	0956	09/11/2001	N001	10.29			#	-	-
	mg/L	0957	09/12/2001	N001	9.38			#	-	-
	mg/L	0959	09/12/2001	N001	6.77			#	-	-
	mg/L	1205	09/10/2001	N001	10.7			#	-	-
Magnesium	mg/L	0591	09/11/2001	0001	8.810			#	0.0042	-
	mg/L	0592	09/11/2001	0001	10.600			#	0.0042	-
	mg/L	0887	09/12/2001	0001	69.400			#	0.0042	-
	mg/L	0897	09/11/2001	0001	10.000			#	0.0042	-
	mg/L	0898	09/11/2001	0001	10.200			#	0.0042	-
	mg/L	0940	09/10/2001	0001	10.900			#	0.0042	-
	mg/L	0956	09/11/2001	0001	10.100			#	0.0042	-
	mg/L	0957	09/12/2001	0001	9.840			#	0.0042	-
	mg/L	0959	09/12/2001	0001	556.000			#	0.042	-
	mg/L	1205	09/10/2001	0001	9.960			#	0.0042	-
Manganese	mg/L	0591	09/11/2001	0001	0.0433			#	0.0001	-
	mg/L	0592	09/11/2001	0001	0.0062 B			#	0.0001	-
	mg/L	0887	09/12/2001	0001	0.218			#	0.0001	-
	mg/L	0897	09/11/2001	0001	0.0084 B			#	0.0001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0898	09/11/2001	0001	0.0093	B		#	0.0001	-
	mg/L	0940	09/10/2001	0001	0.0092	B		#	0.0001	-
	mg/L	0956	09/11/2001	0001	0.0084	B		#	0.0001	-
	mg/L	0957	09/12/2001	0001	0.0058	B		#	0.0001	-
	mg/L	0959	09/12/2001	0001	0.0001	U		#	0.0001	-
	mg/L	1205	09/10/2001	0001	0.0045	B		#	0.0001	-
Nitrate as NO3	mg/L	0591	09/11/2001	0001	0.0305	U		#	0.0305	-
	mg/L	0592	09/11/2001	0001	0.0432	B		#	0.0305	-
	mg/L	0887	09/12/2001	0001	1.010			#	0.0305	-
	mg/L	0897	09/11/2001	0001	0.0312	B		#	0.0305	-
	mg/L	0898	09/11/2001	0001	0.0665	B		#	0.0305	-
	mg/L	0940	09/10/2001	0001	0.136	B		#	0.0305	-
	mg/L	0956	09/11/2001	0001	0.0305	U		#	0.0305	-
	mg/L	0957	09/12/2001	0001	0.0305	U		#	0.0305	-
	mg/L	0959	09/12/2001	0001	420.000			#	0.1525	-
	mg/L	1205	09/10/2001	0001	0.0479	B		#	0.0305	-
ORP of Zobell Solution	mV	0898	09/11/2001	N001	167			#	-	-
Oxidation Reduction Potent	mV	0591	09/11/2001	N001	89.1			#	-	-
	mV	0592	09/11/2001	N001	34			#	-	-
	mV	0887	09/12/2001	N001	211.2			#	-	-
	mV	0897	09/11/2001	N001	124.7			#	-	-
	mV	0898	09/11/2001	N001	-361			#	-	-
	mV	0940	09/10/2001	N001	48.3			#	-	-
	mV	0956	09/11/2001	N001	155			#	-	-
	mV	0957	09/12/2001	N001	244.5			#	-	-
	mV	0959	09/12/2001	N001	152.6			#	-	-
	mV	1205	09/10/2001	N001	22			#	-	-
pH	s.u.	0591	09/11/2001	N001	8.4			#	-	-
	s.u.	0592	09/11/2001	N001	8.25			#	-	-
	s.u.	0887	09/12/2001	N001	8.23			#	-	-
	s.u.	0897	09/11/2001	N001	8.78			#	-	-
	s.u.	0898	09/11/2001	N001	8.73			#	-	-
	s.u.	0940	09/10/2001	N001	8.71			#	-	-
	s.u.	0956	09/11/2001	N001	8.75			#	-	-
	s.u.	0957	09/12/2001	N001	8.64			#	-	-
	s.u.	0959	09/12/2001	N001	7.41			#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	1205	09/10/2001	N001	8.72			#	-	-
Potassium	mg/L	0591	09/11/2001	0001	2.300			#	0.0151	-
	mg/L	0592	09/11/2001	0001	2.140			#	0.0151	-
	mg/L	0887	09/12/2001	0001	7.510			#	0.0151	-
	mg/L	0897	09/11/2001	0001	2.140			#	0.0151	-
	mg/L	0898	09/11/2001	0001	2.350			#	0.0151	-
	mg/L	0940	09/10/2001	0001	2.260			#	0.0151	-
	mg/L	0956	09/11/2001	0001	2.110			#	0.0151	-
	mg/L	0957	09/12/2001	0001	2.060			#	0.0151	-
	mg/L	0959	09/12/2001	0001	18.600			#	0.0151	-
	mg/L	1205	09/10/2001	0001	2.180			#	0.0151	-
Selenium	mg/L	0591	09/11/2001	0001	0.0003		U	#	0.0003	-
	mg/L	0592	09/11/2001	0001	0.0003		B	#	0.0003	-
	mg/L	0887	09/12/2001	0001	0.0507			#	0.0015	-
	mg/L	0897	09/11/2001	0001	0.0003		U	#	0.0003	-
	mg/L	0898	09/11/2001	0001	0.0006		B	#	0.0003	-
	mg/L	0940	09/10/2001	0001	0.0003		U	#	0.0003	-
	mg/L	0956	09/11/2001	0001	0.0003		B	#	0.0003	-
	mg/L	0957	09/12/2001	0001	0.0004		B	#	0.0003	-
	mg/L	0959	09/12/2001	0001	0.243			#	0.006	-
	mg/L	1205	09/10/2001	0001	0.0003		U	#	0.0003	-
Sodium	mg/L	0591	09/11/2001	0001	30.800			#	0.0074	-
	mg/L	0592	09/11/2001	0001	34.500			#	0.0074	-
	mg/L	0887	09/12/2001	0001	299.000			#	0.0074	-
	mg/L	0897	09/11/2001	0001	33.300			#	0.0074	-
	mg/L	0898	09/11/2001	0001	34.100			#	0.0074	-
	mg/L	0940	09/10/2001	0001	35.100			#	0.0074	-
	mg/L	0956	09/11/2001	0001	33.300			#	0.0074	-
	mg/L	0957	09/12/2001	0001	33.600			#	0.0074	-
	mg/L	0959	09/12/2001	0001	915.000			#	0.074	-
	mg/L	1205	09/10/2001	0001	32.600			#	0.0074	-
Specific Conductance	umhos/cm	0591	09/11/2001	N001	445			#	-	-
	umhos/cm	0592	09/11/2001	N001	478			#	-	-
	umhos/cm	0887	09/12/2001	N001	2419			#	-	-
	umhos/cm	0897	09/11/2001	N001	465			#	-	-
	umhos/cm	0898	09/11/2001	N001	488			#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0940	09/10/2001	N001	475		#	-	-
	umhos/cm	0956	09/11/2001	N001	467		#	-	-
	umhos/cm	0957	09/12/2001	N001	469		#	-	-
	umhos/cm	0959	09/12/2001	N001	7445		#	-	-
	umhos/cm	1205	09/10/2001	N001	463		#	-	-
Strontium	mg/L	0591	09/11/2001	0001	0.671		#	0.0001	-
	mg/L	0592	09/11/2001	0001	0.695		#	0.0001	-
	mg/L	0887	09/12/2001	0001	3.520		#	0.0001	-
	mg/L	0897	09/11/2001	0001	0.676		#	0.0001	-
	mg/L	0898	09/11/2001	0001	0.689		#	0.0001	-
	mg/L	0940	09/10/2001	0001	0.695		#	0.0001	-
	mg/L	0956	09/11/2001	0001	0.678		#	0.0001	-
	mg/L	0957	09/12/2001	0001	0.638		#	0.0001	-
	mg/L	0959	09/12/2001	0001	7.810		#	0.001	-
	mg/L	1205	09/10/2001	0001	0.686		#	0.0001	-
Sulfate	mg/L	0591	09/11/2001	0001	114.000		#	0.0253	-
	mg/L	0592	09/11/2001	0001	130.000		#	0.0253	-
	mg/L	0887	09/12/2001	0001	1340.000		#	0.0506	-
	mg/L	0897	09/11/2001	0001	122.000		#	0.0253	-
	mg/L	0898	09/11/2001	0001	124.000		#	0.0253	-
	mg/L	0940	09/10/2001	0001	134.000		#	0.0253	-
	mg/L	0956	09/11/2001	0001	125.000		#	0.0253	-
	mg/L	0957	09/12/2001	0001	127.000		#	0.0253	-
	mg/L	0959	09/12/2001	0001	4190.000		#	0.1265	-
	mg/L	1205	09/10/2001	0001	124.000		#	0.0253	-
Temperature	C	0591	09/11/2001	N001	16.68		#	-	-
	C	0592	09/11/2001	N001	15.59		#	-	-
	C	0887	09/12/2001	N001	27.3		#	-	-
	C	0897	09/11/2001	N001	19.87		#	-	-
	C	0898	09/11/2001	N001	18.3		#	-	-
	C	0940	09/10/2001	N001	19.9		#	-	-
	C	0956	09/11/2001	N001	21.21		#	-	-
	C	0957	09/12/2001	N001	18.98		#	-	-
	C	0959	09/12/2001	N001	16.86		#	-	-
	C	1205	09/10/2001	N001	19.34		#	-	-
Temperature of Zobell Solu	C	0898	09/11/2001	N001	18.7		#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0591	09/11/2001	N001	237			#	-	-
	NTU	0592	09/11/2001	N001	35.8			#	-	-
	NTU	0887	09/12/2001	N001	2			#	-	-
	NTU	0897	09/11/2001	N001	30.5			#	-	-
	NTU	0898	09/11/2001	N001	40			#	-	-
	NTU	0940	09/10/2001	N001	19.7			#	-	-
	NTU	0956	09/11/2001	N001	33			#	-	-
	NTU	0957	09/12/2001	N001	33			#	-	-
	NTU	0959	09/12/2001	N001	6.9			#	-	-
	NTU	1205	09/10/2001	N001	32.6			#	-	-
Uranium	mg/L	0591	09/11/2001	0001	0.0019			#	0.0001	-
	mg/L	0592	09/11/2001	0001	0.0019			#	0.0001	-
	mg/L	0887	09/12/2001	0001	0.0142			#	0.0001	-
	mg/L	0897	09/11/2001	0001	0.0019			#	0.0001	-
	mg/L	0898	09/11/2001	0001	0.0019		U	#	0.0001	-
	mg/L	0940	09/10/2001	0001	0.0027			#	0.0001	-
	mg/L	0956	09/11/2001	0001	0.0017			#	0.0001	-
	mg/L	0957	09/12/2001	0001	0.0018			#	0.0001	-
	mg/L	0959	09/12/2001	0001	0.0908			#	0.0001	-
	mg/L	1205	09/10/2001	0001	0.0028			#	0.0001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/15/2002 11:30 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE800 WHERE site_code='SHP01' AND quality_assurance = TRUE AND (NOT (data_validation_qualifiers LIKE "*R*" OR data_validation_qualifiers LIKE "*X*") OR IsNull(data_validation_qualifiers)) AND DATE_SAMPLED between #9/1/2001# and #9/30/2001#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
C	Pesticide result confirmed by GC-MS.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
D	Analyte determined in diluted sample.
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
>	Result above upper detection limit.
J	Estimated

DATA QUALIFIERS:

J	Estimated value.
G	Possible grout contamination, pH > 9.
R	Unusable result.
U	Parameter analyzed for but was not detected.
F	Low flow sampling method used.
L	Less than 3 bore volumes purged prior to sampling.
X	Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0425	09/11/2001	0001	722			#	-	-
	mg/L	0425	09/11/2001	N001	730			#	-	-
	mg/L	0426	09/11/2001	0001	260			#	-	-
	mg/L	0426	09/11/2001	N001	290			#	-	-
	mg/L	0884	09/12/2001	0001	265			#	-	-
	mg/L	0884	09/12/2001	N001	283			#	-	-
	mg/L	0886	09/11/2001	0001	878			#	-	-
	mg/L	0886	09/11/2001	N001	880			#	-	-
	mg/L	0889	09/11/2001	0001	403			#	-	-
	mg/L	0889	09/11/2001	N001	404			#	-	-
	mg/L	0933	09/12/2001	0001	479			#	-	-
	mg/L	0933	09/12/2001	N001	491			#	-	-
	mg/L	0934	09/13/2001	0001	313			#	-	-
	mg/L	0934	09/13/2001	N001	312			#	-	-
	mg/L	0936	09/12/2001	0001	338			#	-	-
	mg/L	0936	09/12/2001	N001	350			#	-	-
	mg/L	0942	09/12/2001	0001	232			#	-	-
	mg/L	0942	09/12/2001	N001	241			#	-	-
	mg/L	1061	09/11/2001	0001	514			#	-	-
	mg/L	1061	09/11/2001	N001	504			#	-	-
Ammonium	mg/L	0425	09/11/2001	0001	1.350			#	0.0062	-
	mg/L	0426	09/11/2001	0001	0.0062		U	#	0.0062	-
	mg/L	0884	09/12/2001	0001	0.0084		B	#	0.0062	-
	mg/L	0884	09/12/2001	0002	0.0062		U	#	0.0062	-
	mg/L	0886	09/11/2001	0001	0.195			#	0.0062	-
	mg/L	0889	09/11/2001	0001	0.135			#	0.0062	-
	mg/L	0933	09/12/2001	0001	0.0933		B	#	0.0062	-
	mg/L	0934	09/13/2001	0001	0.354			#	0.0062	-
	mg/L	0936	09/12/2001	0001	0.0254		B	#	0.0062	-
	mg/L	0942	09/12/2001	0001	0.0226		B	#	0.0062	-
	mg/L	1061	09/11/2001	0001	0.0416		B	#	0.0062	-
Calcium	mg/L	0425	09/11/2001	0001	468.000			#	0.0653	-
	mg/L	0426	09/11/2001	0001	434.000			#	0.0653	-
	mg/L	0884	09/12/2001	0001	415.000			#	0.0653	-
	mg/L	0884	09/12/2001	0002	412.000			#	0.0653	-
	mg/L	0886	09/11/2001	0001	518.000			#	0.1306	-
	mg/L	0889	09/11/2001	0001	449.000			#	0.0653	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Calcium	mg/L	0933	09/12/2001	0001	484.000			#	0.0653	-
	mg/L	0934	09/13/2001	0001	655.000			#	0.653	-
	mg/L	0936	09/12/2001	0001	566.000			#	0.0653	-
	mg/L	0942	09/12/2001	0001	330.000			#	0.0653	-
	mg/L	1061	09/11/2001	0001	426.000			#	0.0653	-
Chloride	mg/L	0425	09/11/2001	0001	225.000			#	0.0745	-
	mg/L	0426	09/11/2001	0001	117.000			#	0.0745	-
	mg/L	0884	09/12/2001	0001	44.900			#	0.0298	-
	mg/L	0884	09/12/2001	0002	45.200			#	0.0298	-
	mg/L	0886	09/11/2001	0001	2700.000			#	0.298	-
	mg/L	0889	09/11/2001	0001	1090.000			#	0.298	-
	mg/L	0933	09/12/2001	0001	278.000			#	0.0745	-
	mg/L	0934	09/13/2001	0001	118.000			#	0.0298	-
	mg/L	0936	09/12/2001	0001	199.000			#	0.0745	-
	mg/L	0942	09/12/2001	0001	36.600			#	0.0298	-
	mg/L	1061	09/11/2001	0001	1450.000			#	0.298	-
Dissolved Oxygen	mg/L	0425	09/11/2001	N001	7.04			#	-	-
	mg/L	0426	09/11/2001	N001	7.54			#	-	-
	mg/L	0884	09/12/2001	N001	9.47			#	-	-
	mg/L	0933	09/12/2001	N001	4.1			#	-	-
	mg/L	0936	09/12/2001	N001	4.32			#	-	-
	mg/L	0942	09/12/2001	N001	3.33			#	-	-
Magnesium	mg/L	0425	09/11/2001	0001	711.000			#	0.042	-
	mg/L	0426	09/11/2001	0001	221.000			#	0.0042	-
	mg/L	0884	09/12/2001	0001	130.000			#	0.0042	-
	mg/L	0884	09/12/2001	0002	129.000			#	0.0042	-
	mg/L	0886	09/11/2001	0001	1960.000			#	0.042	-
	mg/L	0889	09/11/2001	0001	898.000			#	0.042	-
	mg/L	0933	09/12/2001	0001	544.000			#	0.042	-
	mg/L	0934	09/13/2001	0001	223.000			#	0.0042	-
	mg/L	0936	09/12/2001	0001	335.000			#	0.0042	-
	mg/L	0942	09/12/2001	0001	86.300			#	0.0042	-
	mg/L	1061	09/11/2001	0001	1210.000			#	0.042	-
Manganese	mg/L	0425	09/11/2001	0001	0.0864			#	0.0001	-
	mg/L	0426	09/11/2001	0001	0.0075 B			#	0.0001	-
	mg/L	0884	09/12/2001	0001	0.0002 B		U	#	0.0001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0884	09/12/2001	0002	0.0002	B	U	#	0.0001	-
	mg/L	0886	09/11/2001	0001	0.376			#	0.0002	-
	mg/L	0889	09/11/2001	0001	0.0056	B		#	0.0001	-
	mg/L	0933	09/12/2001	0001	0.0141			#	0.0001	-
	mg/L	0934	09/13/2001	0001	0.0209			#	0.0001	-
	mg/L	0936	09/12/2001	0001	0.0285			#	0.0001	-
	mg/L	0942	09/12/2001	0001	0.0077	B		#	0.0001	-
	mg/L	1061	09/11/2001	0001	0.0011	B		#	0.0001	-
Nitrate as NO3	mg/L	0425	09/11/2001	0001	189.000			#	0.061	-
	mg/L	0426	09/11/2001	0001	117.000			#	0.061	-
	mg/L	0884	09/12/2001	0001	83.700			#	0.0305	-
	mg/L	0884	09/12/2001	0002	84.000			#	0.0305	-
	mg/L	0886	09/11/2001	0001	5120.000			#	3.05	-
	mg/L	0889	09/11/2001	0001	2380.000			#	1.525	-
	mg/L	0933	09/12/2001	0001	395.000			#	0.1525	-
	mg/L	0934	09/13/2001	0001	343.000			#	0.1525	-
	mg/L	0936	09/12/2001	0001	612.000			#	0.305	-
	mg/L	0942	09/12/2001	0001	83.700			#	0.0305	-
	mg/L	1061	09/11/2001	0001	3200.000			#	1.525	-
ORP of Zobell Solution	mV	0886	09/11/2001	N001	101			#	-	-
	mV	0889	09/11/2001	N001	101			#	-	-
	mV	1061	09/11/2001	N001	101			#	-	-
Oxidation Reduction Potent	mV	0425	09/11/2001	N001	122			#	-	-
	mV	0426	09/11/2001	N001	145.9			#	-	-
	mV	0884	09/12/2001	N001	219			#	-	-
	mV	0886	09/11/2001	N001	-373			#	-	-
	mV	0889	09/11/2001	N001	-432			#	-	-
	mV	0933	09/12/2001	N001	162.4			#	-	-
	mV	0934	09/13/2001	N001	134.4			#	-	-
	mV	0936	09/12/2001	N001	145.7			#	-	-
	mV	0942	09/12/2001	N001	179.4			#	-	-
	mV	1061	09/11/2001	N001	-432			#	-	-
pH	s.u.	0425	09/11/2001	N001	7			#	-	-
	s.u.	0426	09/11/2001	N001	7.46			#	-	-
	s.u.	0884	09/12/2001	N001	7.93			#	-	-
	s.u.	0886	09/11/2001	N001	8.35			#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0889	09/11/2001	N001	8.55			#	-	-
	s.u.	0933	09/12/2001	N001	6.96			#	-	-
	s.u.	0934	09/13/2001	N001	6.96			#	-	-
	s.u.	0936	09/12/2001	N001	7.07			#	-	-
	s.u.	0942	09/12/2001	N001	7.07			#	-	-
	s.u.	1061	09/11/2001	N001	8.36			#	-	-
Potassium	mg/L	0425	09/11/2001	0001	35.700			#	0.0151	-
	mg/L	0426	09/11/2001	0001	17.200			#	0.0151	-
	mg/L	0884	09/12/2001	0001	5.130			#	0.0151	-
	mg/L	0884	09/12/2001	0002	5.230			#	0.0151	-
	mg/L	0886	09/11/2001	0001	124.000			#	0.0302	-
	mg/L	0889	09/11/2001	0001	47.300			#	0.0151	-
	mg/L	0933	09/12/2001	0001	18.100			#	0.0151	-
	mg/L	0934	09/13/2001	0001	16.400			#	0.0151	-
	mg/L	0936	09/12/2001	0001	12.100			#	0.0151	-
	mg/L	0942	09/12/2001	0001	4.390			#	0.0151	-
	mg/L	1061	09/11/2001	0001	54.800			#	0.0151	-
Selenium	mg/L	0425	09/11/2001	0001	0.032			#	0.0006	-
	mg/L	0426	09/11/2001	0001	0.119			#	0.003	-
	mg/L	0884	09/12/2001	0001	0.187			#	0.006	-
	mg/L	0884	09/12/2001	0002	0.184			#	0.006	-
	mg/L	0886	09/11/2001	0001	0.633			#	0.015	-
	mg/L	0889	09/11/2001	0001	0.473			#	0.015	-
	mg/L	0933	09/12/2001	0001	0.213			#	0.006	-
	mg/L	0934	09/13/2001	0001	0.223			#	0.006	-
	mg/L	0936	09/12/2001	0001	0.446			#	0.015	-
	mg/L	0942	09/12/2001	0001	0.163			#	0.006	-
	mg/L	1061	09/11/2001	0001	1.760			#	0.06	-
Sodium	mg/L	0425	09/11/2001	0001	1130.000			#	0.074	-
	mg/L	0426	09/11/2001	0001	1130.000			#	0.074	-
	mg/L	0884	09/12/2001	0001	226.000			#	0.0074	-
	mg/L	0884	09/12/2001	0002	226.000			#	0.0074	-
	mg/L	0886	09/11/2001	0001	14200.000			#	0.74	-
	mg/L	0889	09/11/2001	0001	6000.000			#	0.74	-
	mg/L	0933	09/12/2001	0001	903.000			#	0.074	-
	mg/L	0934	09/13/2001	0001	346.000			#	0.074	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sodium	mg/L	0936	09/12/2001	0001	543.000			#	0.074	-
	mg/L	0942	09/12/2001	0001	177.000			#	0.0074	-
	mg/L	1061	09/11/2001	0001	7910.000			#	0.74	-
Specific Conductance	umhos/cm	0425	09/11/2001	N001	8431			#	-	-
	umhos/cm	0426	09/11/2001	N001	6491			#	-	-
	umhos/cm	0884	09/12/2001	N001	3029			#	-	-
	umhos/cm	0886	09/11/2001	N001	34500			#	-	-
	umhos/cm	0889	09/11/2001	N001	22100			#	-	-
	umhos/cm	0933	09/12/2001	N001	7553			#	-	-
	umhos/cm	0934	09/13/2001	N001	4706			#	-	-
	umhos/cm	0936	09/12/2001	N001	5643			#	-	-
	umhos/cm	0942	09/12/2001	N001	2414			#	-	-
	umhos/cm	1061	09/11/2001	N001	23400			#	-	-
Strontium	mg/L	0425	09/11/2001	0001	8.000			#	0.001	-
	mg/L	0426	09/11/2001	0001	9.120			#	0.001	-
	mg/L	0884	09/12/2001	0001	4.190			#	0.0001	-
	mg/L	0884	09/12/2001	0002	4.160			#	0.0001	-
	mg/L	0886	09/11/2001	0001	12.100			#	0.001	-
	mg/L	0889	09/11/2001	0001	8.040			#	0.001	-
	mg/L	0933	09/12/2001	0001	7.580			#	0.001	-
	mg/L	0934	09/13/2001	0001	6.410			#	0.001	-
	mg/L	0936	09/12/2001	0001	7.730			#	0.001	-
	mg/L	0942	09/12/2001	0001	2.990			#	0.0001	-
	mg/L	1061	09/11/2001	0001	10.800			#	0.001	-
Sulfate	mg/L	0425	09/11/2001	0001	5300.000			#	0.253	-
	mg/L	0426	09/11/2001	0001	3820.000			#	0.1265	-
	mg/L	0884	09/12/2001	0001	1700.000			#	0.0506	-
	mg/L	0884	09/12/2001	0002	1710.000			#	0.0506	-
	mg/L	0886	09/11/2001	0001	31300.000			#	1.265	-
	mg/L	0889	09/11/2001	0001	13900.000			#	0.506	-
	mg/L	0933	09/12/2001	0001	4140.000			#	0.1265	-
	mg/L	0934	09/13/2001	0001	2550.000			#	0.1265	-
	mg/L	0936	09/12/2001	0001	2880.000			#	0.1265	-
	mg/L	0942	09/12/2001	0001	1220.000			#	0.0506	-
	mg/L	1061	09/11/2001	0001	17700.000			#	0.506	-
Temperature	C	0425	09/11/2001	N001	16.51			#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0426	09/11/2001	N001	15.41			#	-	-
	C	0884	09/12/2001	N001	15.78			#	-	-
	C	0886	09/11/2001	N001	30.5			#	-	-
	C	0889	09/11/2001	N001	25.3			#	-	-
	C	0933	09/12/2001	N001	17.64			#	-	-
	C	0934	09/13/2001	N001	19.28			#	-	-
	C	0936	09/12/2001	N001	18.29			#	-	-
	C	0942	09/12/2001	N001	20.76			#	-	-
	C	1061	09/11/2001	N001	21.2			#	-	-
Temperature of Zobell Solu	C	0886	09/11/2001	N001	17.2			#	-	-
	C	0889	09/11/2001	N001	17.2			#	-	-
	C	1061	09/11/2001	N001	17.2			#	-	-
Turbidity	NTU	0425	09/11/2001	N001	20			#	-	-
	NTU	0426	09/11/2001	N001	9.7			#	-	-
	NTU	0884	09/12/2001	N001	0.4			#	-	-
	NTU	0886	09/11/2001	N001	8.4			#	-	-
	NTU	0889	09/11/2001	N001	2.14			#	-	-
	NTU	0933	09/12/2001	N001	61.9			#	-	-
	NTU	0934	09/13/2001	N001	195			#	-	-
	NTU	0936	09/12/2001	N001	11.8			#	-	-
	NTU	0942	09/12/2001	N001	2.8			#	-	-
	NTU	1061	09/11/2001	N001	7.26			#	-	-
Uranium	mg/L	0425	09/11/2001	0001	0.499			#	0.0001	-
	mg/L	0426	09/11/2001	0001	0.244			#	0.0001	-
	mg/L	0884	09/12/2001	0001	0.0246			#	0.0001	-
	mg/L	0884	09/12/2001	0002	0.0245			#	0.0001	-
	mg/L	0886	09/11/2001	0001	0.235			#	0.001	-
	mg/L	0889	09/11/2001	0001	0.119			#	0.001	-
	mg/L	0933	09/12/2001	0001	0.0912			#	0.0001	-
	mg/L	0934	09/13/2001	0001	0.0423			#	0.0001	-
	mg/L	0936	09/12/2001	0001	0.0554			#	0.0001	-
	mg/L	0942	09/12/2001	0001	0.0184			#	0.0001	-
	mg/L	1061	09/11/2001	0001	0.159			#	0.001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/15/2002 11:31 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE800 WHERE site_code='SHP02' AND quality_assurance = TRUE AND (NOT (data_validation_qualifiers LIKE "R" OR data_validation_qualifiers LIKE "X") OR IsNull(data_validation_qualifiers)) AND DATE_SAMPLED between #9/1/2001# and #9/30/2001#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC)
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

- J Estimated value.
- G Possible grout contamination, pH > 9.
- R Unusable result.
- U Parameter analyzed for but was not detected.
- F Low flow sampling method used.
- L Less than 3 bore volumes purged prior to sampling
- X Location is undefined.

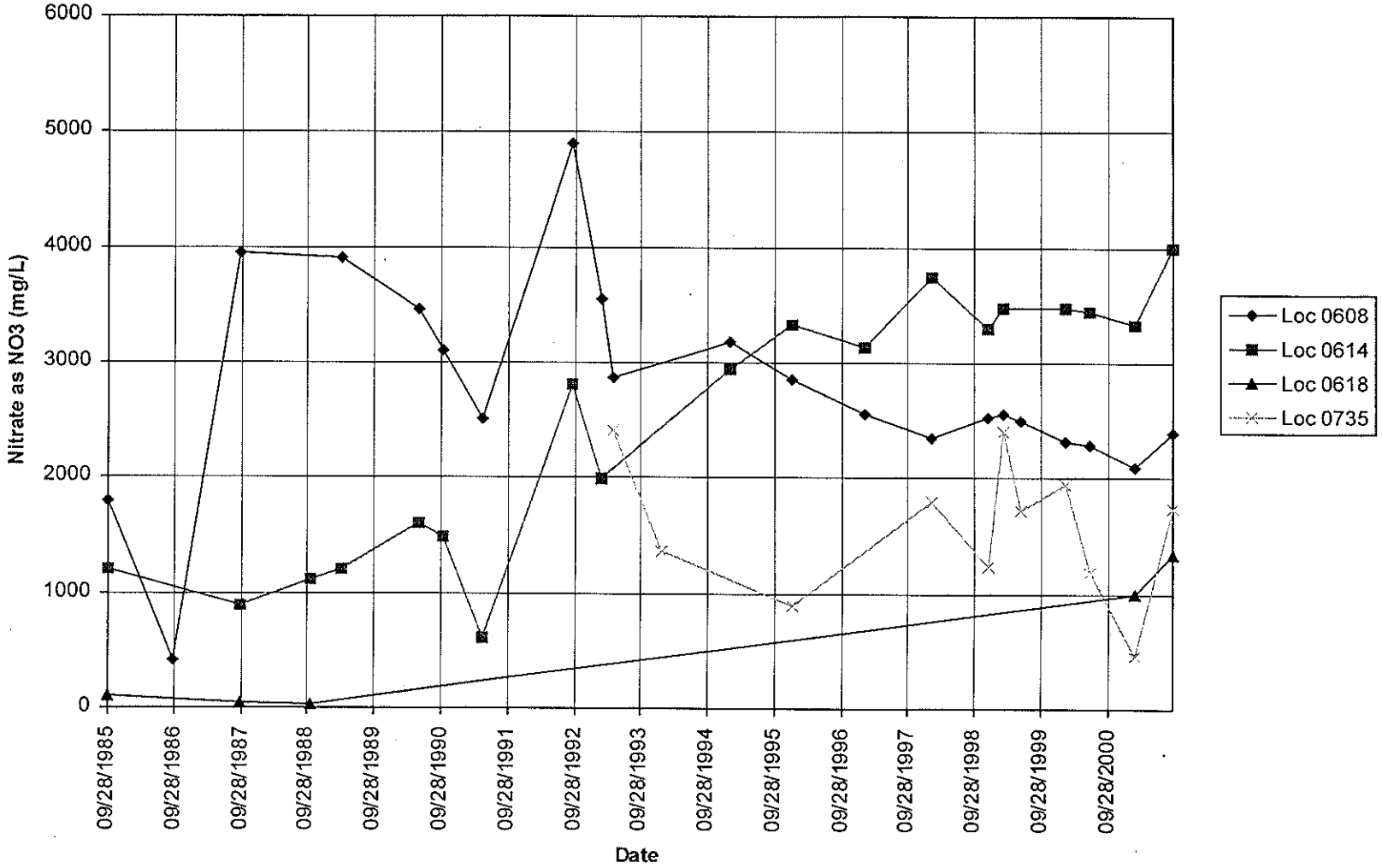
QA QUALIFIER: # = validated according to Quality Assurance guidelines.

ANALYTE	SITE_CODE	LOCATION_CODE	DATE	SAMPLE_ID	UNIT	RESULT	LAB_QUAL	DATA_VAL_QUAL	DETECT_LIMIT	UNCERTAINTY	SAMPLE_TYPE
Ammonium	SHP01	0999	09/12/2001	0001	mg/L	0.01	B		0.0062		E
Ammonium	SHP02	0999	09/19/2001	0001	mg/L	0.0062	U		0.0062		E
Calcium	SHP01	0999	09/12/2001	0001	mg/L	0.101	B		0.0653		E
Calcium	SHP02	0999	09/19/2001	0001	mg/L	0.0653	U		0.0653		E
Chloride	SHP01	0999	09/12/2001	0001	mg/L	0.0994	B	U	0.0149		E
Chloride	SHP02	0999	09/19/2001	0001	mg/L	0.09	B	U	0.0149		E
Magnesium	SHP01	0999	09/12/2001	0001	mg/L	0.126			0.0042		E
Magnesium	SHP02	0999	09/19/2001	0001	mg/L	0.575			0.0042		E
Manganese	SHP01	0999	09/12/2001	0001	mg/L	0.001	B		0.0001		E
Manganese	SHP02	0999	09/19/2001	0001	mg/L	0.00085	B	U	0.0001		E
Nitrate as NO3	SHP01	0999	09/12/2001	0001	mg/L	0.0305	U		0.0305		E
Nitrate as NO3	SHP02	0999	09/19/2001	0001	mg/L	0.0305	U		0.0305		E
Potassium	SHP01	0999	09/12/2001	0001	mg/L	0.0952	B	U	0.0151		E
Potassium	SHP02	0999	09/19/2001	0001	mg/L	0.177		U	0.0151		E
Selenium	SHP01	0999	09/12/2001	0001	mg/L	0.0003	U		0.0003		E
Selenium	SHP02	0999	09/19/2001	0001	mg/L	0.0003	U		0.0003		E
Sodium	SHP01	0999	09/12/2001	0001	mg/L	1.53			0.0074		E
Sodium	SHP02	0999	09/19/2001	0001	mg/L	0.623	B		0.0074		E
Strontium	SHP01	0999	09/12/2001	0001	mg/L	0.0017	B		0.0001		E
Strontium	SHP02	0999	09/19/2001	0001	mg/L	0.0039	B		0.0001		E
Sulfate	SHP01	0999	09/12/2001	0001	mg/L	0.125	B		0.0253		E
Sulfate	SHP02	0999	09/19/2001	0001	mg/L	0.166	B		0.0253		E
Uranium	SHP01	0999	09/12/2001	0001	mg/L	0.00011	B		0.0001		E
Uranium	SHP02	0999	09/19/2001	0001	mg/L	0.0011		U	0.0001		E

TIME VERSUS CONCENTRATION GRAPHS

SHIPROCK (SHP01)

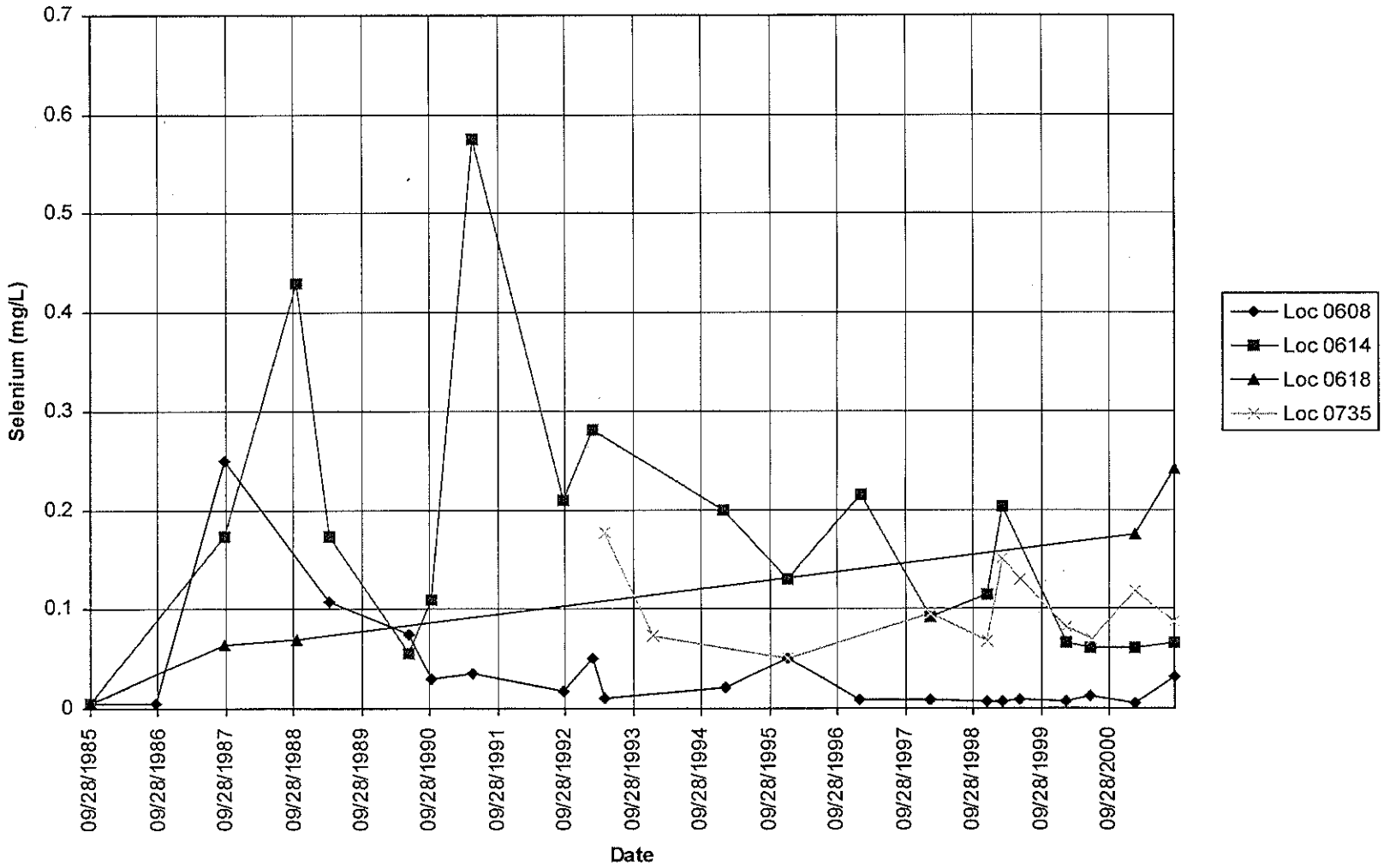
Nitrate as NO3 Concentration



4/30/2002 2:43 pm

SHIPROCK (SHP01)

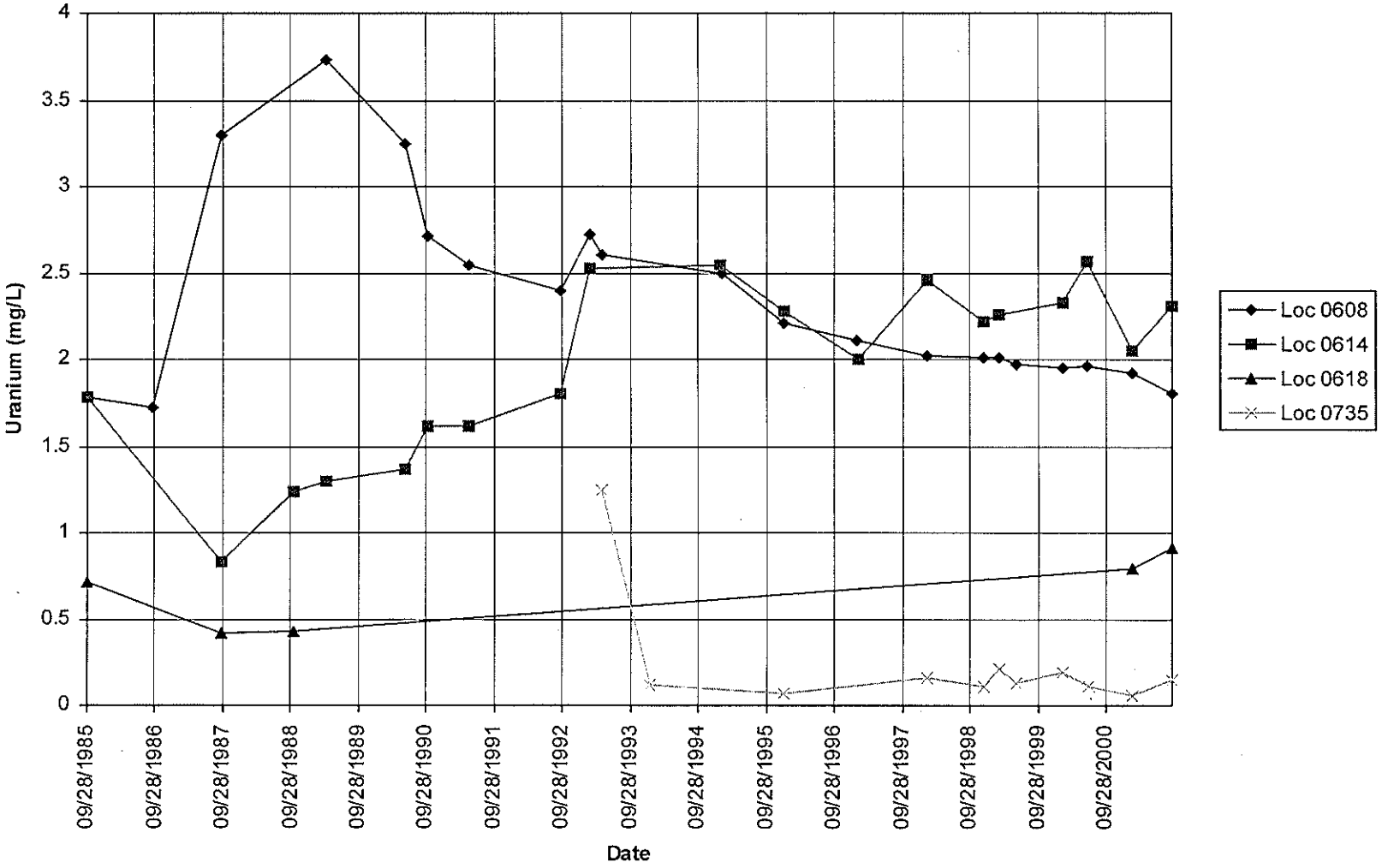
Selenium Concentration



4/30/2002 2:44 pm

SHIPROCK (SHP01)

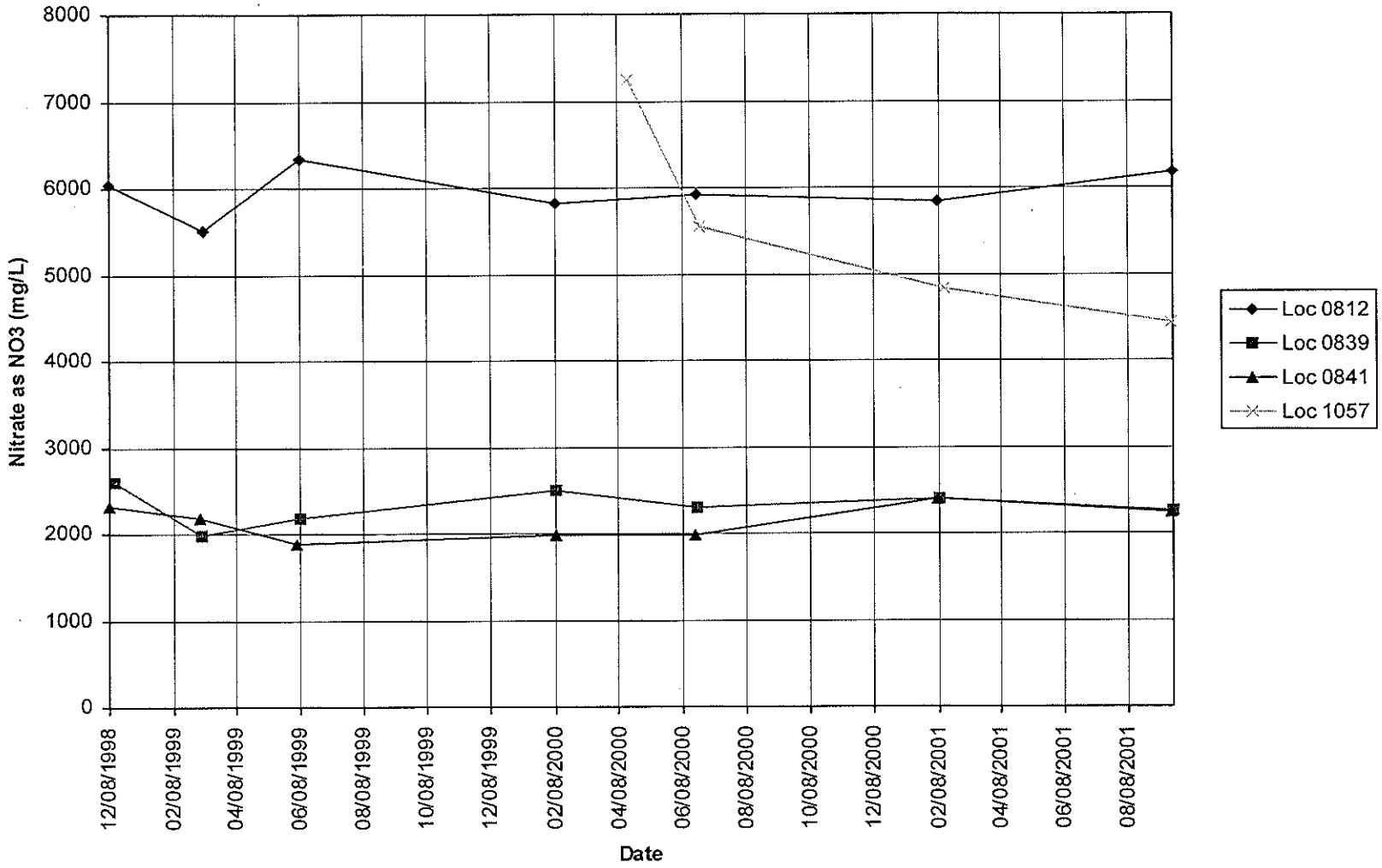
Uranium Concentration



4/30/2002 2:45 pm

SHIPROCK (TAILINGS AREA) (SHP02)

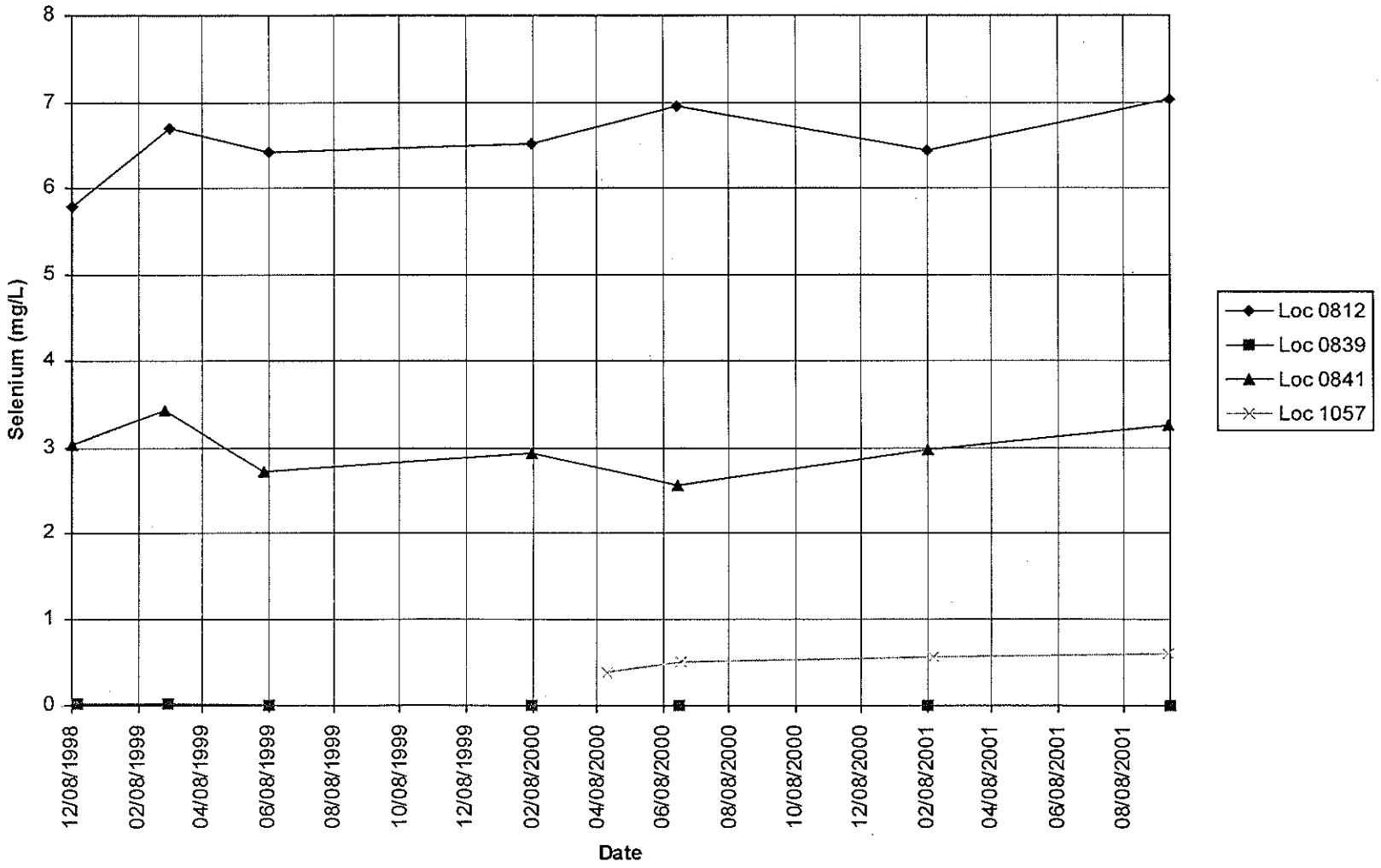
Nitrate as NO3 Concentration



4/30/2002 2:49 pm

SHIPROCK (TAILINGS AREA) (SHP02)

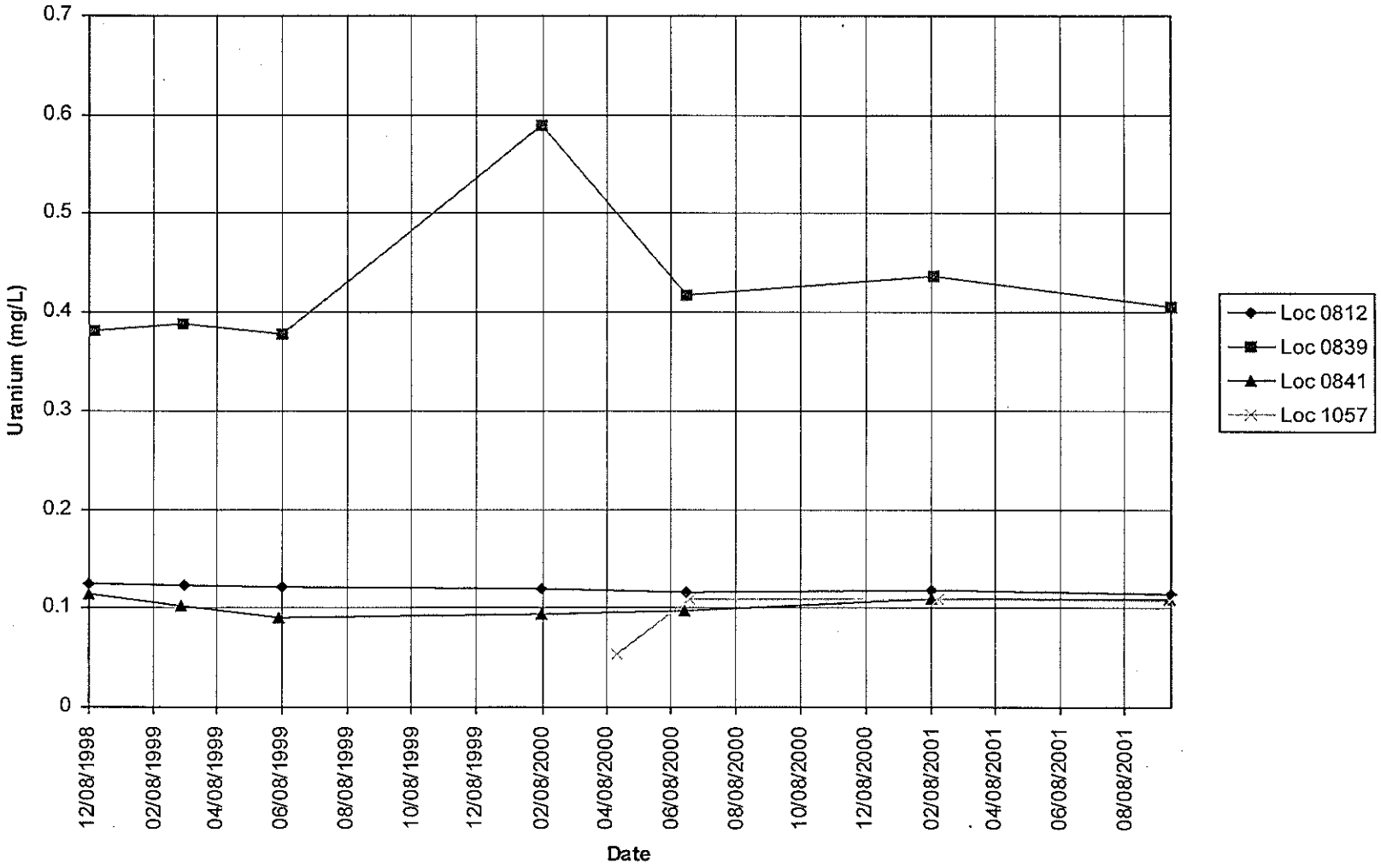
Selenium Concentration



4/30/2002 2:48 pm

SHIPROCK (TAILINGS AREA) (SHP02)

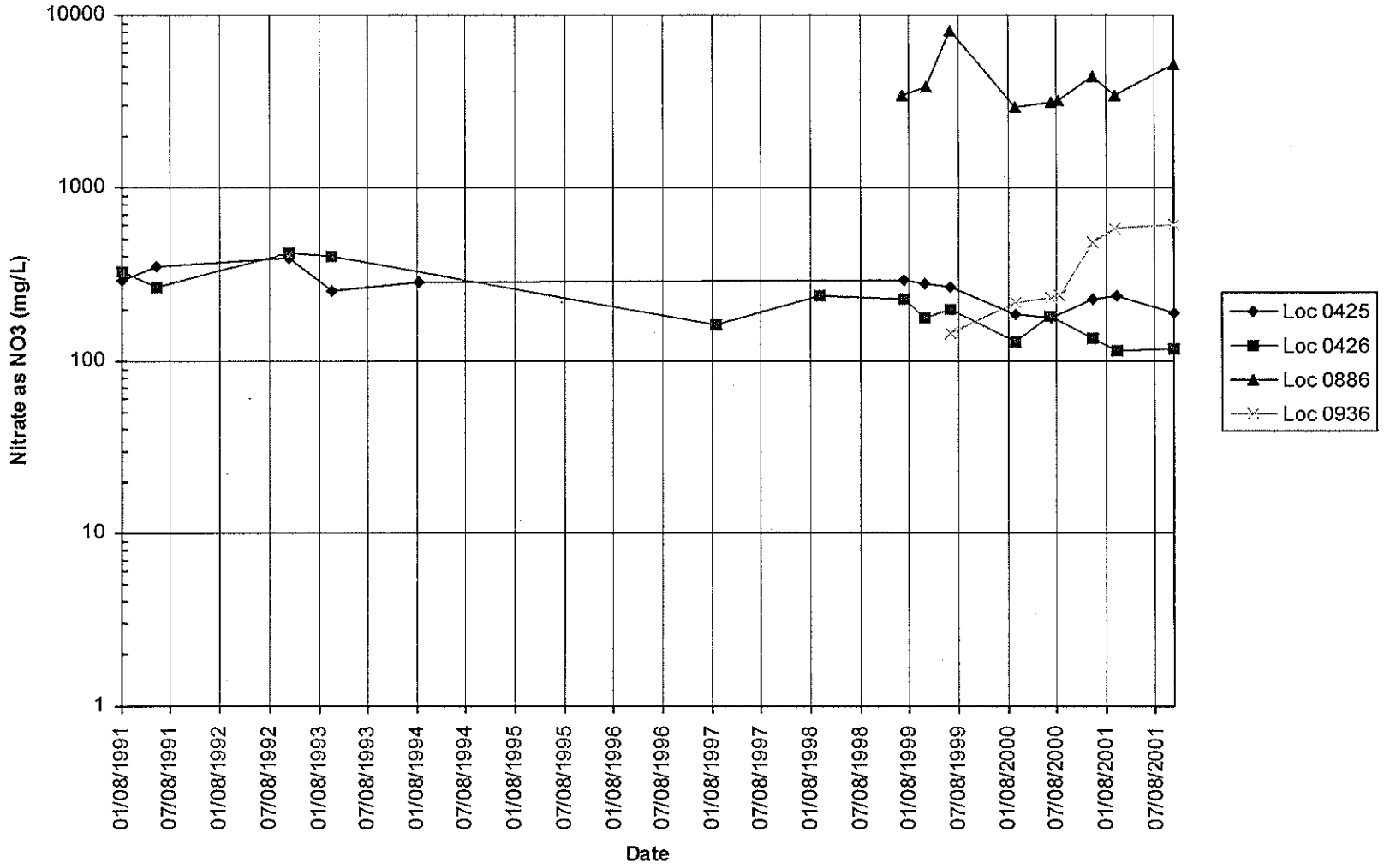
Uranium Concentration



4/30/2002 2:47 pm

SHIPROCK (TAILINGS AREA) (SHP02)

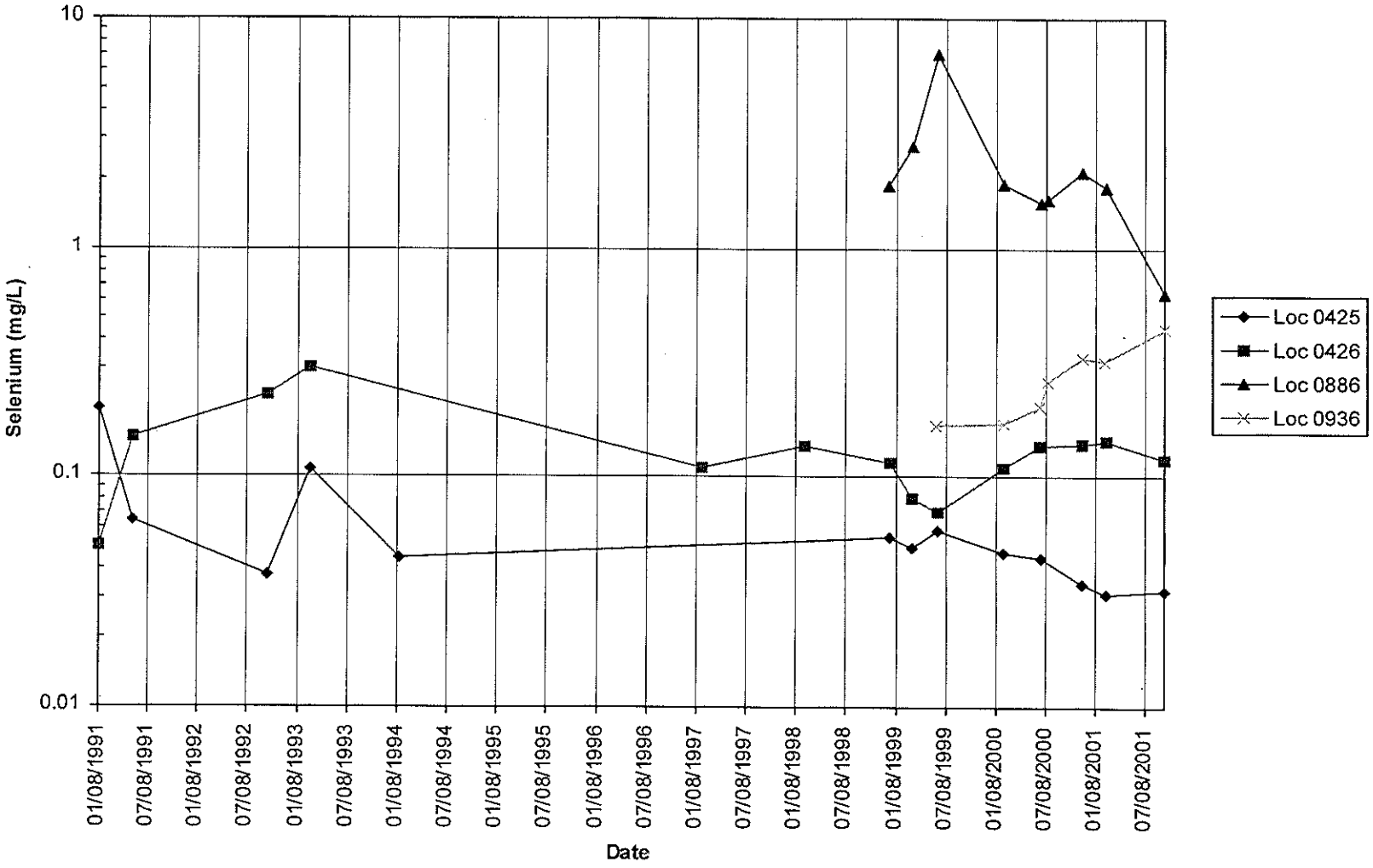
Nitrate as NO3 Concentration



4/17/2002 8:15 am

SHIPROCK (TAILINGS AREA) (SHP02)

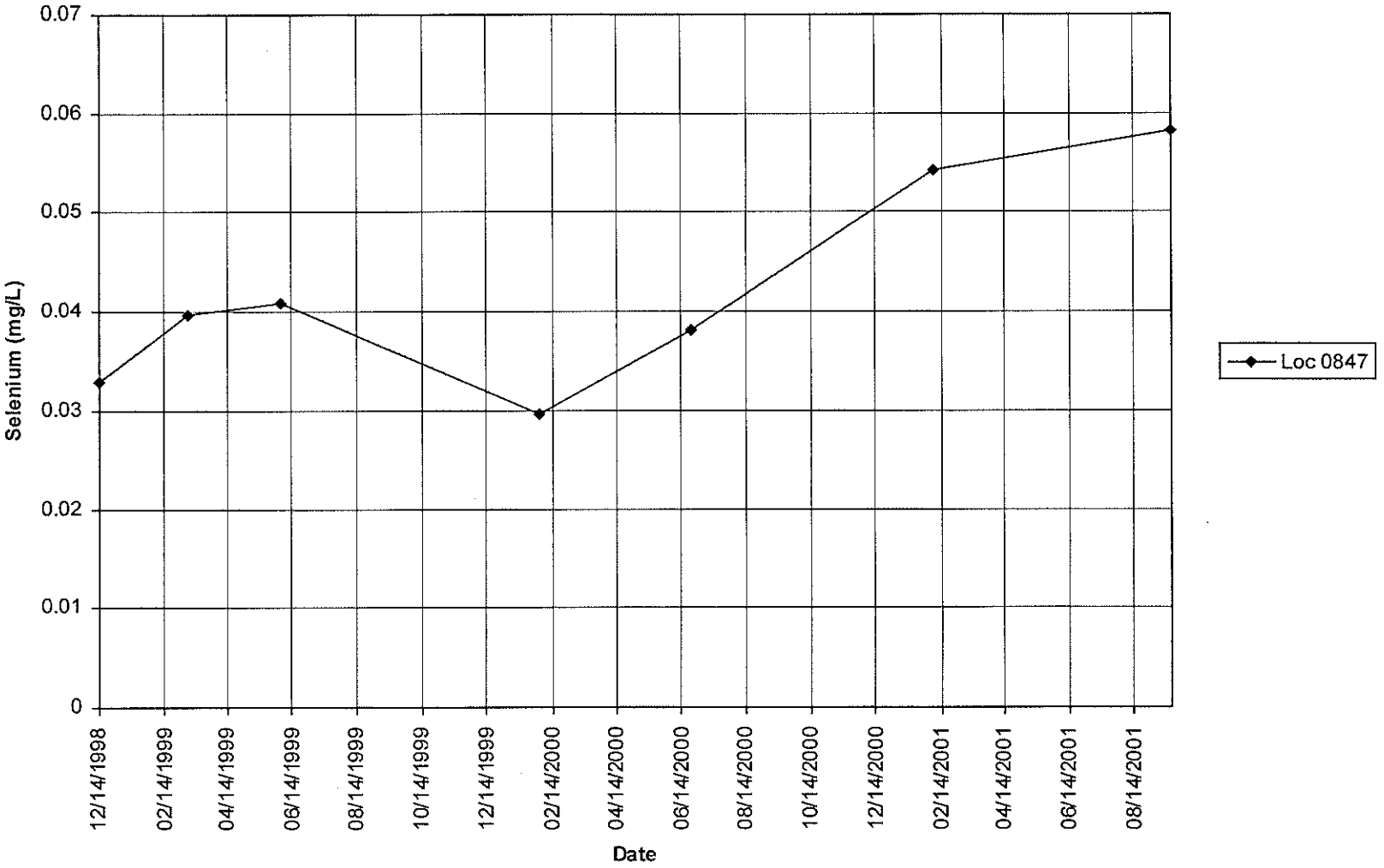
Selenium Concentration



4/17/2002 8:10 am

SHIPROCK (TAILINGS AREA) (SHP02)

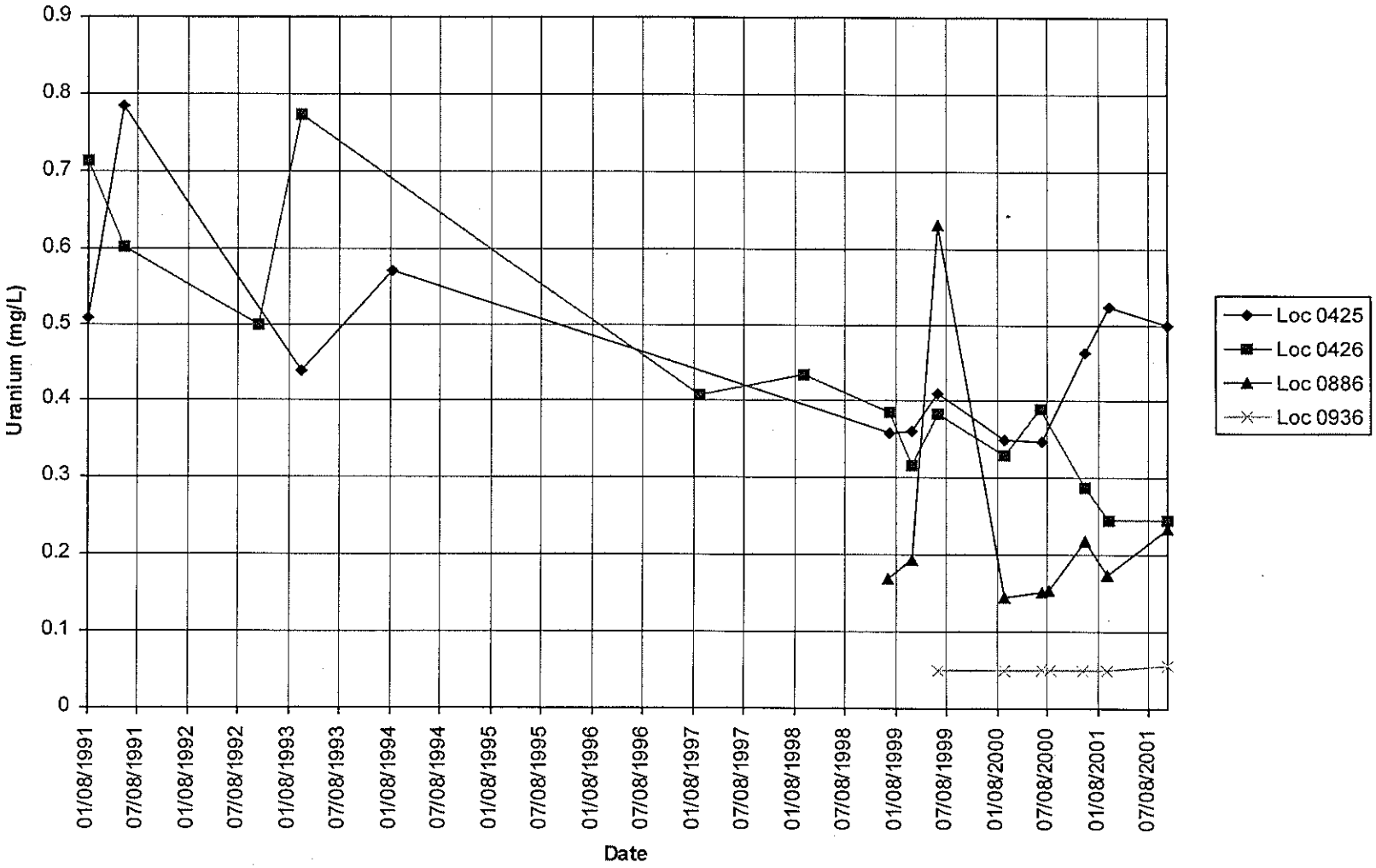
Selenium Concentration



4/30/2002 2:55 pm

SHIPROCK (TAILINGS AREA) (SHP02)

Uranium Concentration



4/16/2002 4:34 pm

WATER LEVELS

STATIC GROUND WATER LEVELS (USEE700) FOR SITE SHP01, SHIPROCK
REPORT DATE: 4/16/2002 3:31 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT NGVD)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	GROUND WATER ELEVATION (FT NGVD)	WATER LEVEL FLAG
			DATE	TIME			
0608		4893.35	09/12/2001	10:57	7.05	4886.30	
0614		4892.79	09/12/2001	14:10	8.12	4884.67	
0615		4892.23	09/17/2001			-	D
0618		4891.51	09/12/2001	15:02	7.62	4883.89	
0619		4892.19	09/12/2001	16:01	8.75	4883.44	
0797		4908.04	09/11/2001	12:40	9.60	4898.44	
0850	B	4907.51	09/11/2001	09:45	9.55	4897.96	
0854		4890.75	09/12/2001	16:45	8.83	4881.92	

RECORDS: SELECTED FROM USEE700 WHERE site_code='SHP01' AND LOG_DATE between #9/1/2001# and #9/30/2001#

FLOW CODES:
B BACKGROUND

WATER LEVEL FLAGS:
D Dry

STATIC GROUND WATER LEVELS (USEE700) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 4/16/2002 3:31 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT NGVD)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	GROUND WATER ELEVATION (FT NGVD)	WATER LEVEL FLAG
			DATE	TIME			
0603		4978.62	09/12/2001	09:21	32.30	4946.32	
0735		-	09/12/2001	09:50	7.33	-7.33	
0812		5004.98	09/18/2001		61.18	4943.80	
0813		4984.37	09/18/2001	15:32	43.41	4940.96	
0816		4937.92	09/19/2001	17:25	25.30	4912.62	
0817		4957.34	09/19/2001	13:45	18.54	4938.80	
0818		4998.25	09/18/2001	11:45	53.86	4944.39	
0826		4950.73	09/19/2001	11:57	17.32	4933.41	
0827		4946.92	09/19/2001	11:11	26.56	4920.36	
0828		4949.34	09/19/2001	12:36	14.31	4935.03	
0832		4964.65	09/18/2001	17:10	27.62	4937.03	
0835		4930.48	09/19/2001	17:03	19.55	4910.93	
0836		4901.74	09/19/2001	16:03	21.20	4880.54	
0838		4937.70	09/18/2001	17:38	25.65	4912.05	
0839		4943.21	09/19/2001	16:26	25.43	4917.78	
0841		4984.05	09/18/2001	10:41	41.00	4943.05	
0846		4934.57	09/19/2001	15:18	22.03	4912.54	
0847		4924.35	09/17/2001	16:25	13.29	4911.06	
1004		4957.61	09/17/2001			-	D
1007		4962.01	09/19/2001	09:57	44.50	4917.51	
1057		4980.89	09/18/2001	14:52	32.93	4947.96	
1059		4970.52	09/18/2001	13:40	22.90	4947.62	
1060		4970.62	09/18/2001	16:25	34.91	4935.71	

RECORDS: SELECTED FROM USEE700 WHERE site_code='SHP02' AND LOG_DATE between #9/1/2001# and #9/30/2001#

FLOW CODES:

WATER LEVEL FLAGS:
D Dry

SAMPLING AND ANALYSIS WORK ORDER AND TRIP REPORT

mactec-ers
MACTEC ENVIRONMENTAL RESTORATION SERVICES, LLC

CONTRACT NO.: DE-AC13-96GJ87335
TASK ORDER NO.: MAC01-05
CONTROL NO.: 3100-T01-0866

August 8, 2001

Project Manager
Department of Energy
Grand Junction Office
2597 B3/4 Road
Grand Junction, CO 81503
ATTN: Donald Metzler

SUBJECT: Contract No. DE-AC13-96GJ87335—September 2001 UMTRA Ground Water Sampling at Shiprock, New Mexico

Dear Mr. Metzler:

Attached are the map and tables specifying the sampling locations and analytes for routine monitoring at the Shiprock, New Mexico, UMTRA site. Water quality data will be collected from monitor wells and surface locations at this site as part of the routine UMTRA Ground Water sampling that is scheduled to begin the week of September 4, 2001.

The following lists show the Ground Water Project monitor well and surface water locations that will be sampled during this sampling event.

Ground Water Project Monitor Wells (filtered)*

SHP01						
608 Km	615 Al	619 Al	735 Al	797 Al	850 Al	854 Al
614 Al	618 Al					
SHP02						
603 Km	817 Km	827 Al	838 Al	841 Al	1007 Fl	1059 Km
812 Al	818 Al	828 Al	839 Al	1004 Km	1057 Qa	1060 Qa
813 Al	826 Al	832 Al				

*NOTE: Al = Alluvium; Fl = Fill material; Km = Mancos Shale; Qa = Quaternary

Surface Water (filtered)

SHP01						
591	655	897	940	957	959	1205
592	887	898	956			
SHP02						
425	884	886	933	934	936	942
426	885	889				

2597 B 3 4 ROAD
GRAND JUNCTION, COLORADO 8150
(PHONE: 970 248-6000 (FAX: 970/248-604

Data loggers will be downloaded from the following locations:

SHP01

616	617	857

SHP02

602	730	826	830	836	841	846
728	731	827	835	837	843	848

Location coordinates will be obtained using the global positioning system on the following wells:

592	959	1065	1066	1067	1068	1069
957						

QA/QC samples will be collected as directed in the *Sampling and Analysis Plan for the UMTRA Ground Water Project*. Samples collected for alkalinity will be filtered and unfiltered. Access agreements are being reviewed and are expected to be completed by the beginning of fieldwork.

If you have any questions, please call me at extension 6059 or Dave Traub at extension 6557.

Sincerely,

Sam Marutzky
Project Manager

SM/lcg/ld
Attachments

cc w/o att: K. Miller
D. Traub
Contract File (J. Dearborn)
cc w/att: C. Bahrke
C. Goodknight
R. Chessmore
Project Record File GWSHP 14.06 thru P. Taylor

Sampling Frequencies for Locations at Shiprock, New Mexico

Location	Quarterly	Semi-annually	Annually	Biennially	Not Sampled	Notes
Ground Water Project Monitor Wells						
SHP01						
608		X				Low flow
614		X				Low flow
615		X				Low flow
616					X	Data logger only
617						Data logger only
618		X				Low flow
619		X				Low flow
735		X				Low flow
797		X				Low flow
850		X				Low flow
854		X				Low flow
857						Data logger only
SHP02						
602						Data logger only
603		X				Low flow
648				Odd year		Measure flow rate semiannually; sample biennially
728					X	Data logger only
730					X	Data logger only
731					X	Data logger only
800					X	Water levels only; annually in March
801					X	Water levels only; annually in March
802					X	Water levels only; annually in March
803					X	Water levels only; annually in March
812		X				Low flow
813		X				Low flow
814					X	WL only
815					X	WL only
816					X	WL only
817		X				Low flow
818		X				Low flow
819					X	WL only
826		X				Low flow; data logger
827		X				Low flow; data logger
828		X				Low flow
829					X	WL only
830					X	Data logger only
832		X				Low flow
835					X	Data logger only
836					X	Data logger only
837					X	Data logger only
838		X				Low flow
839		X				Low flow
841		X				Low flow; data logger

Sampling Frequencies for Locations at Shiprock, New Mexico

Location	Quarterly	Semi-annually	Annually	Biennially	Not Sampled	Notes
SHP02						
843					X	Data logger only
846					X	Data logger only
848					X	Data logger only
1004		X				Low flow
1007		X				Low flow
1057		X				Low flow
1059		X				Low flow
1060		X				Low flow
1065					X	WL only; Many Devils Wash
1066					X	WL only; Many Devils Wash
1067					X	WL only; Bob Lee Wash
1068					X	WL only; Bob Lee Wash
1069					X	WL only; Bob Lee Wash
Ground Water Project Surface Water Locations						
SHP01						
591		9/01 only				Helium Lateral Canal return flow
592		9/01 only				Head of Cudei Ditch
655		X				Drainage channel
887		X				Distributary channel
897		X				Just below mouth of Many Devils Wash
898		X				San Juan River upgradient
940		X				Just NE of 854, San Juan River
956		X				San Juan River at intake
957		X				San Juan River about 1500' below dist. Channel
959		X				Distributary channel just below 1st wash
1205		X				San Juan River E of well 853
SHP02						
425		X				Escarpment Seep; flow rate
426		X				Escarpment Seep; flow rate
786					X	Seep below US Hwy 666 bridge; flow rate only
884		X				Irrigation return flow
885		X				Upper Bob Lee Wash; water level
886		X				Many Devils Wash; water level
889		X				Many Devils Wash; water level
933		X				1st wash W of Highway 666
934		X				2nd wash W of Highway 666
936		X				Seep between 1st & 2nd washes
942		X				Pond NW of 847
958				Odd year		Helium lateral canal where water comes into canal at pump station

Constituent Sampling Breakdown For Individual UMTRA Sites

Site	Shiprock	
Analyte	Ground Water	Surface Water
Approx. No. Samples/yr	48	36
Field Measurements	*UGW*	*UGW*
Alkalinity	X	X
Dissolved Oxygen		
Redox Potential	X	X
pH	X	X
Specific Conductance	X	X
Turbidity	X	
Temperature	X	X
Laboratory Measurements	*UGW*	*UGW*
Aluminum		
Ammonium	X	X
Antimony		
Arsenic		
Barium		
Beryllium		
Bromide		
Cadmium		
Calcium	X	X
Chloride	X	X
Chromium		
Cobalt		
Copper		
Fluoride		
Gamma Spec		
Gross Alpha		
Gross Beta		
Iron		
Lead		
Lead-210		
Magnesium	X	X
Manganese	X	X
Molybdenum		

Constituent Sampling Breakdown For Individual UMTRA Sites

Site	Shiprock	
Analyte	Ground Water	Surface Water
Laboratory Measurements (Continued)	*UGW*	*UGW*
Nickel		
Nickel-63		
Nitrate	X	X
Organics		
PCBs		
Phosphate		
Polonium-210		
Potassium	X	X
Radium-226		
Radium-228		
Radon-222		
Selenium	X	X
Silica		
Sodium	X	X
Strontium	X	X
Sulfate	X	X
Sulfide		
Thallium		
Thorium-230		
Thorium-232		
Tin		
Total Dissolved Solids		
Total Organic Carbon		
Tritium		
Uranium	X	X
Uranium-234, -238		
Vanadium		
VOCs		
Zinc		
Total Analytes	12	12

Note: All samples are considered filtered unless stated otherwise All private well samples are to be unfiltered. The total number of analytes does not include field parameters.

MACTEC ENVIRONMENTAL RESTORATION SERVICES, LLC

CONTRACT NO.: DE-AC13-96GJ87335
TASK ORDER NO.: MAC01-05
CONTROL NO.: 3100-N/A

MEMO TO: Sam Marutzky

FROM: T. Franzone

TF

DATE: October 2, 2001

SUBJECT: UGW Trip Report

Site: Shiprock, NM

Dates of Sampling Event: September 10 through September 20, 2001

Team Members: Dan Sellers, Tony Franzone, Dave Traub, and Steve Back.

Number of Locations Sampled: 29 ground water monitor wells and 20 surface water samples.

Locations Not Sampled/Reason: Wells 0615 and 1004 were not sampled because they were dry. Surface location 0885 did not contain enough water to sample.

Field Variance: The following wells went dry prior to removing three casing volumes: 0797, 0817, 0827, 0832, 0839, 1007, 1057, and 1059. Well 0812 was bailed dry before sampling (after 3 casing volumes).

Location Specific Information: Well 0615 was found to have plant roots in it.

No titration acid was available for alkalinity testing at wells 0816, 0817, 0826, 0828, 0835, 0836, 0839, and 0846.

Surface sample 0940 was collect ~50 feet north of location stake; 0887 was collected ~100 feet west of stake; 0933 was collected ~10 feet north of stake.

Well 0608 had bentonite in it and did not reach turbidity. Well 0841 did not reach turbidity.

After purging more than 10 casing volumes, well 1060 did not meet turbidity. It is suggested this well be redeveloped.

There was a sulfur smell to the water at well 0828.

The field where well 0836 is located was flooded.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

False ID	True ID	Sample Type	Associated Matrix	Ticket Number
1200	0884	Duplicate	Surface Water	NDK-872
1300	0841	Duplicate	Ground Water	NDM-920
7351	0735	Duplicate	Ground Water	NDM-911
7352	Equipment Blank	Equipment Blank-Peristaltic	Ground Water	NDM-912
1700	Equipment Blank	Equipment Blank-Peristaltic	Ground Water	NDS-233

Requisition Numbers Assigned: UGW requisition number is 17604.

Water Level Measurements: Water level measurements were taken on all sampled wells.

Well Inspection Summary: Well inspections were conducted on all sampled wells. Sampled wells were in good condition, with the exception of well 0839. Field grading at the Navajo Fairgrounds damaged this flush-mount well. The site lead was notified of the damage. The well casing is intact, but the concrete pad and protective casing were eliminated by heavy machinery.

Data Logger Download: The following dataloggers were downloaded this trip: 0616, 0617, 0857, 0602, 0730, 0826, 0830, 0836, 0841, 0846, 0728, 0731, 0827, 0835, 0837, and 0848. Datalogger 0843 has a damaged connector cable that requires replacing in order to download; the site lead was informed. This well also had a damaged lock that required cutting, and the protective casing was dented in the lock area. It was not apparent what caused the damage.

Corrective Action: None.

Equipment: The ORP probe was malfunctioning and readings are suspect for locations 0797, 0850, 0886, 0889, 0898, and 1061.

Regulatory: None.

Site Issues: None.

Additional Action Required/Taken: The following locations had global positioning system coordinates taken: 0592, 1065, 1066, 1067, and 0957. Levon Benally, Navajo UMTRA, was on-site to locate surface water location 0592.

TF/lcg

Distribution:

cc: C. Bahrke
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D. Metzler
K. Miller
Project Record File GWSHP 14.12 thru P. Taylor