



USHP000977



**DATA VALIDATION
SHIPROCK, NM,
UMTRA SITE**

**March 2003
Water Sampling**

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



RECORD COPY

GW SHP 14.11

SHIPROCK, NEW MEXICO

Sampled March 2003

DATA PACKAGE CONTENTS

This data package includes the following information:

- | <u>Item No.</u> | <u>Description of Contents</u> |
|-----------------|---|
| 1. | Site Hydrologist Summary |
| 2. | Data Package Assessment , which includes the following: <ol style="list-style-type: none">Field procedures verification checklistConfirmation that chain-of-custody was maintained.Confirmation that holding time requirements were met.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. | 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. |
| 5. | UMTRA Database Printouts of analytical data organized as follows: <ol style="list-style-type: none">Ground Water Quality Data (included on disk)Surface Water Quality Data (included on disk)Equipment Blank Data (included on disk)Time Versus Concentration GraphsStatic Ground Water Level Measurement Data |
| 6. | Sampling and Analysis Work Order and Trip Reports. |

Site Hydrology Summary

Site: Shiprock, NM

Sampling Period: March 3-7, 2003

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?**

Domestic wells were not sampled during this event.

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

No point-of-compliance wells have been established at the Shiprock 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 assessed 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. Uranium and nitrate continue to be elevated in terrace well 817 just west of the disposal cell. Wells with sample concentrations that exceeded UMTRA ground water 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?**

Yes. Surface water concentrations were compared to statistical benchmark values derived using data from 10 samplings of locations 888 and 898, which are upstream of the site on the San Juan River. Benchmark values for concentrations of nitrate and uranium were exceeded at river location 940, which is adjacent to where the ground water contamination plume discharges to the San Juan River (Table 2). The elevated concentrations generally occur at this location when the San Juan River is at a low stage, resulting in a lower dilution effect. Other locations that exceeded the benchmark values, mostly for concentrations of nitrate, selenium, and uranium, are listed in Table 2.

At location 655, which is a drainage channel on the floodplain, concentrations of nitrate, selenium, and uranium exceeded benchmark values (Table 2). These elevated concentrations reflect contaminated ground water from the terrace system to the south emerging as seeps along the escarpment and flowing down to the floodplain. The final SOWP indicated no unacceptable risks associated with exposure to this surface water.

At locations 887 and 959, which are both on a distributary channel of the San Juan River, concentrations of nitrate, selenium, and uranium exceeded benchmark values. 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 final SOWP indicated no unacceptable risks associated with exposure to this surface water.

Additional surface water locations where benchmark values were exceeded, listed in Table 2, receive discharge of ground water from the terrace system and elevated concentrations are expected. In addition, the surface water at most of these locations is ponded; therefore, the elevated concentrations may be partly attributed to concentration by evaporation.

Table 1. Shiprock Wells Exceeding UMTRA Standards in March 2003.

Analyte	Standard ₁	Site code	Wells (and concentrations) exceeding standard ₁
Nitrate	44.27	SHP01	608 (2320), 614 (4230), 615 (4160), 618 (1230), 735 (2010), 1008 (172), 1075 (198), 1077 (304)
Nitrate	44.27	SHP02	817 (3280), 818 (7450), 832 (2340), 835 (621), 836 (112), 838 (105), 839 (2390), 841 (2470), 846 (169), 1060 (1580), 1070 (5020), 1071(2840), 1078 (2670), 1079 (211)
Selenium	0.01	SHP01	614 (0.291), 615 (1.16), 618 (0.352), 619 (0.213), 735 (0.159), 1008 (0.169), 1075 (0.0541), 1077 (0.134)
Selenium	0.01	SHP02	818 (3.68), 832 (3.66), 835 (0.326), 836 (0.231), 838 (0.167), 841 (3.29), 846 (0.386), 1060 (3.0), 1070 (4.11), 1071 (3.29), 1078 (3.32), 1079 (0.383)
Uranium	0.044	SHP01	608 (1.78), 614 (2.42), 615 (3.78), 618 (3.12), 619 (0.48), 734 (0.0735), 735 (0.24), 736 (0.146), 1008 (2.05), 1075 (2.71), 1077 (2.05)
Uranium	0.044	SHP02	817 (10.3), 818 (0.1), 832 (0.135), 835 (0.0453), 836 (0.0489), 839 (0.563), 841 (0.103), 1060 (0.152), 1070 (0.124), 1071 (0.111), 1078 (0.112)

₁ Units are in milligrams per liter.

Table 2. Locations that Exceeded Surface Water Benchmarks in March 2003.

Location Code	Site Code	Location Comments	Analyte	BENCH-MARK ₁	CONCENTRATION ₁
655	SHP01	Drainage Channel	Nitrate	4.55	22.900
			Selenium	0.0023	0.0086
			Uranium	0.0053	0.0517
887	SHP01	Distributary Channel	Nitrate	4.55	421.00
			Selenium	0.0023	0.349
			Uranium	0.0053	0.0708
940	SHP01	San Juan River	Nitrate	4.55	10.00
			Uranium	0.0053	0.0177
959	SHP01	Distributary Channel	Nitrate	4.55	245.00
			Selenium	0.0023	0.160
			Uranium	0.0053	0.0766
425	SHP02	Seep	Nitrate	4.55	167
			Selenium	0.0023	0.0359
			Uranium	0.0053	0.509
426	SHP02	Seep	Nitrate	4.55	398.00
			Selenium	0.0023	0.178
			Uranium	0.0053	0.387
662	SHP02	Bob Lee Wash	Nitrate	4.55	6.610
			Uranium	0.0053	0.0079
786	SHP02	Seep	Nitrate	4.55	255.00
			Selenium	0.0023	0.166
			Uranium	0.0053	0.0378
884	SHP02	Lower irrigation return flow ditch	Nitrate	4.55	200.00
			Selenium	0.0023	0.390
			Uranium	0.0053	0.0358
885	SHP02	Bob Lee Wash	Nitrate	4.55	921.00
			Selenium	0.0023	0.0179
			Uranium	0.0053	1.150
889	SHP02	Many Devils Wash	Nitrate	4.55	2960.00
			Selenium	0.0023	1.890
			Uranium	0.0053	0.168
933	SHP02	1 st Wash	Nitrate	4.55	66.50
			Selenium	0.0023	0.0470
			Uranium	0.0053	0.0555
934	SHP02	2 nd Wash	Nitrate	4.55	570.00
			Selenium	0.0023	0.319
			Uranium	0.0053	0.0722
936	SHP02	Seep	Nitrate	4.55	798.00
			Selenium	0.0023	0.613
			Uranium	0.0053	0.293
942	SHP02	Pond	Nitrate	4.55	192.00
			Selenium	0.0023	0.375
			Uranium	0.0053	0.0336

₁ Units are in milligrams per liter.

Mark Kautsky
 Mark Kautsky
 Site Hydrologist
 5-30-03
 Date

Craig Goodknight
 Craig Goodknight
 Site Lead
 5/30/03
 Date

DATA ASSESSMENT

**SHIPROCK, NEW MEXICO
MARCH 2003 SAMPLING
DATA ASSESSMENT SUMMARY**

The DOE-GJO Analytical Laboratory analyzed samples and reported results for this sampling event under requisition number 18328 for the UMTRA ground water project.

METALS AND MAJOR CATIONS ANALYSIS

The determination of calcium, magnesium, manganese, potassium, sodium, and strontium were performed by inductively coupled plasma-atomic emission spectrometry (ICP-AES). Uranium was analyzed by inductively coupled plasma-mass spectrometry (ICP-MS). Selenium was determined by hydride generation atomic absorption spectroscopy (NaBH₄).

Some metal results were qualified with a "U" flag because of continuing calibration blank contamination. Several of the potassium results were qualified with a "J" flag for failing the serial dilution criteria. Qualified results are listed on the *Data Package Assessment* form, and the flags are listed in the data qualifiers column of the database printouts.

INORGANIC ANALYSIS

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

FIELD ANALYSIS/ACTIVITIES

There were no wells with a measured pH greater than 9; therefore, "G" flags indicating potential grout contamination were not required. Two equipment blanks were collected and analyzed for the same constituents as the Shiprock environmental samples. There were no UMTRA related contaminants detected in the equipment blanks in concentrations above the contract required detection limit (CRDL); therefore, equipment blank results are considered acceptable. Three field duplicates were collected during the sampling event. Although there is no established regulatory criteria for the evaluation of field duplicates, the EPA guidance for *laboratory* duplicates was used. Duplicate sample results met these criteria and should be considered acceptable.

Results from wells sampled using the low-flow method were qualified with an "F" flag. Results from some wells were qualified with a "Q" flag because the well did not recover adequately (i.e., water level draw down while purging at less than 100 milliliters per minute) to be sampled with the low-flow method.

SAR

Because of technical constraints, a SAR could not be generated. Instead, 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 Checksheets.

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/trip 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.

Jeff Price 5/14/03
Jeff Price Date
Data Validation Lead

Craig Goodknight 5/20/03
Craig Goodknight Date
Site Lead

DATA PACKAGE ASSESSMENT

REQUISITION NUMBERS: 18329 SITE: Shiprock LABORATORY: GTO ANALYSIS DATES: 3-11/3-25/03

REVIEWER: Jeff Price J. E. Price April 15, 03
NAME (print) SIGNATURE DATE

	^U ICP-MS	[✓] ICP-AES	GFAA	FAA	^{Se} NaBH ₄	AS	LSc	PC	[✓] IC	Gravimetric	^{NH₄} Colorimetric	Other
CHAIN OF CUSTODY	<u>OK</u>	<u>OK</u>	<u>NA</u>	<u>NA</u>	<u>OK</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>OK</u>	<u>NA</u>	<u>OK</u>	<u>NA</u>
HOLDING TIME	<u>OK</u>	<u>OK</u>			<u>OK</u>				<u>OK</u>		<u>OK</u>	
CALIB. VERIFICATION (For AS, internal tracer)	<u>OK</u>	<u>OK</u>			<u>OK</u>				<u>OK</u>	<u>NA</u>	<u>OK</u>	
PREP. BLANKS (Only if digestion)	<u>NA</u>	<u>NA</u>			<u>NA</u>				<u>NA</u>		<u>NA</u>	
INT/CONT CAL. BLANKS	<u>①</u>	<u>①</u>			<u>OK</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>OK</u>	<u>NA</u>	<u>OK</u>	
ICP SERIAL DILUTION	<u>OK</u>	<u>②</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	
ICS (ICP only)	<u>OK</u>	<u>OK</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	
LAB. CONTROL SAMPLE	<u>OK</u>	<u>OK</u>			<u>OK</u>				<u>OK</u>		<u>OK</u>	
DUPLICATES	<u>OK</u>	<u>OK</u>			<u>OK</u>				<u>OK</u>		<u>OK</u>	
POSTDIGEST. SPKS. (Only if MS fails)	<u>NA</u>	<u>NA</u>			<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	
MATRIX SPKS.	<u>OK</u>	<u>OK</u>			<u>OK</u>				<u>OK</u>	<u>NA</u>	<u>OK</u>	
OVERALL ASSESS.	<u>OK</u>	<u>OK</u>	↓	↓	<u>OK</u>	↓	↓	↓	<u>OK</u>	↓	<u>OK</u>	↓

"U" Flag

DATA REQUIRING FLAGS: ① Blank contamination: Mg 294677 (2001); Mn 294698 (1091); K 294698; U 294695 (648), 294698. ② Serial dilution problem="J" flag: K 294672 - 294691.

Water Sampling Field Activities Verification Checklist

Project Shiprock, NM
 Date(s) of Verification 4/21/03

Date(s) of Water Sampling March 2003
 Name of Verifier Jeff Price

Response Comments
 (Yes, No, N/A)

1. Is the SAP the primary document directing field procedures?

Yes

List other documents, SOP's, instructions.

Work request

2. Were the sampling locations specified in the planning documents sampled?

Yes

All but surface loc. 958 - dry.

3. Was a pre-trip calibration conducted as specified in the above named documents?

Yes

4. Was an operational check of the field equipment conducted twice daily?

Yes

Did the operational checks meet criteria?

Yes

5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?

Yes

Except for loc. 1060 & 936.

6. Was the Category of the well documented?

Yes

7. Were the following conditions met when purging a Category I well:

Was one pump/tubing volume purged prior to sampling?

Yes

Did the water level stabilize prior to sampling?

Yes

Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?

Yes

Was the flow rate less than 500 mL/min?

Yes

If a portable pump was used, was there a 4 hour delay between pump installation and sampling?

Yes

8. Were the following conditions met when purging a Category II well:

Was the flow rate less than 500 mL/min?

Yes

Water Sampling Field Activities Verification Checklist (continued)

- | | | |
|---|------------|---|
| Was one pump/tubing volume removed prior to sampling? | <u>YES</u> | |
| 9. Were duplicates taken at a frequency of one per 20 samples? | <u>YES</u> | |
| 10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment? | <u>YES</u> | |
| 11. Were trip blanks prepared and included with each shipment of VOC samples? | <u>NA</u> | |
| 12. Were QC samples assigned a fictitious site identification number? | <u>YES</u> | |
| Was the true identity of the samples recorded on the Quality Assurance Sample Log? | <u>YES</u> | |
| 13. Were samples collected in the containers specified? | <u>YES</u> | |
| 14. Were samples filtered and preserved as specified? | <u>YES</u> | |
| 15. Were the number and types of samples collected as specified? | <u>YES</u> | <u>Except where insufficient volume of water.</u> |
| 16. Were chain of custody records completed and was sample custody maintained? | <u>YES</u> | |
| 17. Are field data sheets signed and dated by both team members? | <u>YES</u> | <u>Except for locations: 1079, 934, 662.</u> |
| 18. Was all other pertinent information documented on the field data sheets? | <u>YES</u> | |
| 19. Was the presence or absence of ice in the cooler documented at every sample location? | <u>YES</u> | |
| 20. Were water levels measured at the locations specified in the planning documents? | <u>YES</u> | |

**MIN / MAX
TABLE**

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:04: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM	MAXIMUM LAB DATA	MINIMUM	MINIMUM LAB DATA	N	N BELOW
SHP01	0608	03/05/2003	Strontium	10.7		15.8		10.8		28	0
SHP01	0614	03/06/2003	Chloride	648		552	F	205		21	0
SHP01	0614	03/06/2003	Chloride	606		552	F	205		21	0
SHP01	0614	03/06/2003	Magnesium	2790		2640		962		21	0
SHP01	0614	03/06/2003	Nitrate as NO3	4240		4000		611		20	0
SHP01	0614	03/06/2003	Nitrate as NO3	4230		4000		611		20	0
SHP01	0614	03/06/2003	Sodium	2980		2740	F	1090		21	0
SHP01	0614	03/06/2003	Sodium	2970		2740	F	1090		21	0
SHP01	0614	03/06/2003	Specific Conductance	22133		21550	F	4275		21	0
SHP01	0614	03/06/2003	Sulfate	14400		13400	F	6630	H	21	0
SHP01	0614	03/06/2003	Sulfate	14200		13400	F	6630	H	21	0
SHP01	0615	03/06/2003	Chloride	760		739	F	381	L	20	0
SHP01	0615	03/06/2003	Magnesium	2960		2840	F	1252		20	0
SHP01	0615	03/06/2003	Potassium	182		165		102		18	0
SHP01	0615	03/06/2003	Sodium	5000		4230	F	1650		20	0
SHP01	0615	03/06/2003	Specific Conductance	27945		27200	F	5610		16	0
SHP01	0615	03/06/2003	Strontium	14.4		14.3	F	7.65		20	0
SHP01	0615	03/06/2003	Sulfate	19900		18000	F	6230	H	20	0
SHP01	0618	03/06/2003	Alkalinity, Total (As CaCO3)	1035		888	F	340		8	0
SHP01	0618	03/06/2003	Ammonium	776		124		61		6	0
SHP01	0618	03/06/2003	Manganese	11.3		10.4	F	5.97		5	0
SHP01	0618	03/06/2003	Specific Conductance	19185		18430	F	3190		6	0
SHP01	0618	03/06/2003	Sulfate	13300		13100	F	3960		6	0
SHP01	0618	03/06/2003	Turbidity	1.65		15.5		5.15	F	4	0
SHP01	0618	03/06/2003	Uranium	3.12		3.11	F	0.415		6	0
SHP01	0619	03/06/2003	Alkalinity, Total (As CaCO3)	480		1210		543	F	29	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:05: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM	MAXIMUM LAB DATA	MINIMUM	MINIMUM LAB DATA	N	N BELOW
SHP01	0619	03/06/2003	Chloride	217		1300		305	F	26	0
SHP01	0619	03/06/2003	Magnesium	561		2210		681	F	26	0
SHP01	0619	03/06/2003	Manganese	3.13		8.65		3.34	F	26	0
SHP01	0619	03/06/2003	Potassium	44.3	E J	148		51.8	F	25	0
SHP01	0619	03/06/2003	Sodium	1750		3800		2050	F	26	0
SHP01	0619	03/06/2003	Sulfate	6280		15800	H J	7490		26	0
SHP01	0619	03/06/2003	Turbidity	0.63		32.9		1.07	F	11	0
SHP01	0619	03/06/2003	Uranium	0.48		3.14		0.534	F	26	0
SHP01	0734	03/05/2003	Chloride	149	Q	373	F	184		14	0
SHP01	0734	03/05/2003	Uranium	0.0735	Q	0.528	L	0.077		17	0
SHP01	0735	03/05/2003	Alkalinity, Total (As CaCO3)	792		652		315	F	20	0
SHP01	0735	03/05/2003	Chloride	480		419		43.7	F	15	0
SHP01	0735	03/05/2003	Potassium	38.4		34.2		11.5	F	13	0
SHP01	0735	03/05/2003	Specific Conductance	13649		13210		2035	F	13	0
SHP01	0735	03/05/2003	Turbidity	0.78		30.4		2		13	0
SHP01	0736	03/06/2003	Alkalinity, Total (As CaCO3)	417		1029		450	F	19	0
SHP01	0736	03/06/2003	Chloride	103		663		129	F	13	0
SHP01	0736	03/06/2003	Magnesium	270		1670		303	F	12	0
SHP01	0736	03/06/2003	Sodium	1700		4800		1890	F	14	0
SHP01	0736	03/06/2003	Specific Conductance	5200		19050		9080		13	0
SHP01	0736	03/06/2003	Sulfate	3480		20800		5670	F	14	0
SHP01	0736	03/06/2003	Uranium	0.146		1.6		0.236	F	16	0
SHP01	0797	03/05/2003	Manganese	1.17	Q	0.411	F	0.0011	B UF	4	1
SHP01	0797	03/05/2003	Specific Conductance	1468	Q	3100	L	1550	F	4	0
SHP01	0850	03/05/2003	Ammonium	0.005	B	0.111		0.0223	B F	9	0
SHP01	0850	03/05/2003	Manganese	5.18		2.74	L	0.0689	F	9	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:06: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM	MAXIMUM LAB DATA	MINIMUM	MINIMUM LAB DATA	N	N BELOW
SHP01	0850	03/05/2003	Turbidity	0.42		1000	> L	7.03		10	0
SHP01	0887	03/04/2003	Alkalinity, Total (As CaCO3)	371		359		73		19	0
SHP01	0887	03/04/2003	Chloride	213		210		2.83		10	0
SHP01	0887	03/04/2003	Magnesium	378		337		4.83		10	0
SHP01	0887	03/04/2003	Selenium	0.349		0.343		0.001	U	10	1
SHP01	0887	03/04/2003	Sodium	712		609		10.8		10	0
SHP01	0887	03/04/2003	Specific Conductance	5966		5034		249		11	0
SHP01	0887	03/04/2003	Uranium	0.0708		0.066		0.00035	B	11	0
SHP01	0897	03/03/2003	Ammonium	0.412		0.101		0.0047	U	12	3
SHP01	0897	03/03/2003	Calcium	79.2		74.1		31.3		12	0
SHP01	0897	03/03/2003	Chloride	27.3		18.1		3.97		12	0
SHP01	0897	03/03/2003	Magnesium	16.6		15.4		5.52		12	0
SHP01	0897	03/03/2003	Nitrate as NO3	3.73		2.63		0.0312	B	12	0
SHP01	0897	03/03/2003	Selenium	0.0021	B	0.0011	B	0.0003	U	12	3
SHP01	0897	03/03/2003	Sodium	80.1		57.7		12.4		12	0
SHP01	0897	03/03/2003	Specific Conductance	837		728		445		10	0
SHP01	0897	03/03/2003	Strontium	1.13		1		0.316		12	0
SHP01	0897	03/03/2003	Sulfate	279		212		45.2		12	0
SHP01	0897	03/03/2003	Uranium	0.0028		0.0025		0.00042	B	12	0
SHP01	0898	03/05/2003	Ammonium	0.21		0.133		0.0047	U	11	3
SHP01	0898	03/05/2003	Chloride	18		17.3		3.22		11	0
SHP01	0898	03/05/2003	Nitrate as NO3	3.51		3.29		0.0665	B	11	0
SHP01	0898	03/05/2003	Selenium	0.0019	B	0.0017	B	0.0001	U	11	4
SHP01	0898	03/05/2003	Strontium	0.987		0.917		0.27		11	0
SHP01	0940	03/03/2003	Ammonium	0.363		0.265		0.0047	U	11	3
SHP01	0940	03/03/2003	Calcium	80.2		78.6		29.4		11	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:07: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM		MINIMUM		N	N BELOW
						MAXIMUM	LAB DATA	MINIMUM	LAB DATA		
SHP02	0648	03/05/2003	Magnesium	13.3		13.9		13.4		6	0
SHP02	0648	03/05/2003	Potassium	7.9		7.82		7.34		6	0
SHP02	0648	03/05/2003	Sodium	793		917		802		8	0
SHP02	0648	03/05/2003	Sulfate	1870		2340		1960		7	0
SHP02	0662	03/04/2003	Ammonium	0.331		0.078	B	0.001	U	13	4
SHP02	0786	03/05/2003	Calcium	413		478		436		5	0
SHP02	0786	03/05/2003	Chloride	145		184		163		5	0
SHP02	0786	03/05/2003	Magnesium	377		465		407		5	0
SHP02	0786	03/05/2003	Specific Conductance	4516		6910		6250		5	0
SHP02	0786	03/05/2003	Strontium	6.71		7.46		6.95		5	0
SHP02	0786	03/05/2003	Sulfate	3550		4190		3610		6	0
SHP02	0786	03/05/2003	Uranium	0.0378		0.0442		0.0421		5	0
SHP02	0817	03/04/2003	Selenium	0.002	B	0.0029	B L	0.0024	B F	4	0
SHP02	0817	03/04/2003	Strontium	11.3		12.5		11.4		4	0
SHP02	0817	03/04/2003	Sulfate	8600		16400		8610		4	0
SHP02	0817	03/04/2003	Turbidity	2.46		1000	> L	3.01		4	0
SHP02	0817	03/04/2003	Uranium	10.3		10.1		1.27		4	0
SHP02	0818	03/03/2003	Sulfate	10900		10400		7375		6	0
SHP02	0832	03/04/2003	Chloride	832		813		114		8	0
SHP02	0832	03/04/2003	Potassium	32.8		30.2		11	E J	8	0
SHP02	0832	03/04/2003	Sodium	3440		3150		756		8	0
SHP02	0832	03/04/2003	Specific Conductance	18840		16570		1225	L	10	0
SHP02	0832	03/04/2003	Sulfate	11500		10800		2760		10	0
SHP02	0832	03/04/2003	Uranium	0.135		0.134		0.023		10	0
SHP02	0835	03/05/2003	Magnesium	260		236		92.9		9	0
SHP02	0835	03/05/2003	Nitrate as NO3	621		499		23.2		11	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:08: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM		MINIMUM		N	N BELOW
						LAB DATA		LAB DATA			
SHP02	0835	03/05/2003	Potassium	9.59		9.22	F	4.29	E J	9	0
SHP02	0835	03/05/2003	Selenium	0.326		0.298	F	0.037		10	0
SHP02	0835	03/05/2003	Sodium	500		483	F	114		9	0
SHP02	0835	03/05/2003	Turbidity	1.06		12.8		1.32	F	9	0
SHP02	0835	03/05/2003	Uranium	0.0453		0.0423	F	0.0258		11	0
SHP02	0836	03/04/2003	Calcium	473		574		493	F	9	0
SHP02	0836	03/04/2003	Chloride	77.7		46.4		35.6		9	0
SHP02	0836	03/04/2003	Magnesium	308		269		243	F	9	0
SHP02	0836	03/04/2003	Nitrate as NO3	112		92		56.5	F	11	0
SHP02	0836	03/04/2003	Potassium	5.88	E J	5.79	E J	4.57		9	0
SHP02	0836	03/04/2003	Selenium	0.231		0.185		0.0976		10	0
SHP02	0836	03/04/2003	Strontium	5.97		6.71	F	6.2		9	0
SHP02	0836	03/04/2003	Turbidity	3.45		118		4.01	F	10	0
SHP02	0838	03/04/2003	Chloride	50.2		34.3	F	12.8		8	0
SHP02	0838	03/04/2003	Nitrate as NO3	105		50.3	F	11.2		11	0
SHP02	0838	03/04/2003	Selenium	0.167		0.103	F	0.0272		10	0
SHP02	0839	03/05/2003	Specific Conductance	16626	Q	16580	L	13860		11	0
SHP02	0839	03/05/2003	Turbidity	7.71	Q	1000	>	17.5		8	0
SHP02	0846	03/04/2003	Ammonium	0.0713	B	0.0353	B	0.004	U F	10	4
SHP02	0846	03/04/2003	Magnesium	252		225		189	F	8	0
SHP02	0846	03/04/2003	Potassium	10.9	E J	9.99		7.88		8	0
SHP02	0884	03/04/2003	Nitrate as NO3	200		162		28		12	0
SHP02	0884	03/04/2003	Selenium	0.39		0.31		0.131		11	0
SHP02	0884	03/04/2003	Sodium	388		321		181		11	0
SHP02	0884	03/04/2003	Specific Conductance	2053		4040		3029		9	0
SHP02	0885	03/04/2003	Ammonium	57.4		10.1		0.0596	B	7	1

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:08: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM	MAXIMUM LAB DATA	MINIMUM	MINIMUM LAB DATA	N	N BELOW
SHP02	0885	03/04/2003	Magnesium	1000		700		495		6	0
SHP02	0885	03/04/2003	Nitrate as NO3	921		284		13.1		7	0
SHP02	0885	03/04/2003	Potassium	49.4		30.4		20		6	0
SHP02	0885	03/04/2003	Specific Conductance	10720		10000		7690		7	0
SHP02	0885	03/04/2003	Sulfate	6580		5800		3800		7	0
SHP02	0933	03/04/2003	Calcium	411		520		437		8	0
SHP02	0933	03/04/2003	Chloride	77.3		278		165		7	0
SHP02	0933	03/04/2003	Magnesium	427		682		452		8	0
SHP02	0933	03/04/2003	Selenium	0.047		0.307		0.146		8	0
SHP02	0933	03/04/2003	Sodium	545		959		656		8	0
SHP02	0933	03/04/2003	Specific Conductance	5268		8860		5340		10	0
SHP02	0933	03/04/2003	Strontium	6.37		7.58		6.44		8	0
SHP02	0933	03/04/2003	Uranium	0.0555		0.0978		0.068		10	0
SHP02	0934	03/06/2003	Magnesium	327		311		117		9	0
SHP02	0934	03/06/2003	Nitrate as NO3	570		538		28.6		10	0
SHP02	0936	03/04/2003	Ammonium	4.91		0.0618	B	0.0119	B	7	0
SHP02	0936	03/04/2003	Calcium	422		566		470	E J	7	0
SHP02	0936	03/04/2003	Chloride	694		199		55.6		7	0
SHP02	0936	03/04/2003	Magnesium	940		335		237		7	0
SHP02	0936	03/04/2003	Manganese	0.164		0.0285		0.0006	U	7	2
SHP02	0936	03/04/2003	Nitrate as NO3	798		612		90.2		8	0
SHP02	0936	03/04/2003	Potassium	42.8		12.1		9.38		7	0
SHP02	0936	03/04/2003	Selenium	0.613		0.446		0.167		7	0
SHP02	0936	03/04/2003	Sodium	1880		543		300		7	0
SHP02	0936	03/04/2003	Strontium	10.6		7.73		5.7		7	0
SHP02	0936	03/04/2003	Sulfate	7040		2880		2350		8	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:11:09: PM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIER S	MAXIMUM	MAXIMUM LAB DATA	MINIMUM	MINIMUM LAB DATA	N	N BELOW
SHP02	0936	03/04/2003	Uranium	0.293		0.0554		0.0482		8	0
SHP02	0942	03/04/2003	Alkalinity, Total (As CaCO3)	291		290		232		17	0
SHP02	0942	03/04/2003	Ammonium	0.0043	B	1	U	0.006	B	10	1
SHP02	0942	03/04/2003	Ammonium	0.004	U	1	U	0.006	B	10	1
SHP02	0942	03/04/2003	Sodium	466		387		68.6		9	0
SHP02	0942	03/04/2003	Sodium	474		387		68.6		9	0

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 compound (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.
- Q Qualitative result due to sampling technique
- G Possible grout contamination, pH > 9.
- X Location is undefined.

DATA REVIEW CHECKSHEET

1/2

ANOMALOUS DATA REVIEW CHECKSHEET

SITE: Shiprock, NM SAMPLING DATA: March 2003

REVIEWER(s): JEFF PRICE A. E. Price April 25, 03
NAME (print) SIGNATURE DATE

SITE HYDROLOGIST: Mark Kautsky Mark Kautsky May 29, 2003
NAME (print) SIGNATURE DATE

DATE OF REVIEW: 4/25/03

LOC. NO.	ANALYTE	TYPE OF ANOMALY	DISPOSITION
618	NH4	High	Compare to other rounds
850	NH4	Low	
850	Mn	High	
897	NH4	High	
↓	Cl	↓	
↓	Se	↓	
* 898	NH4	High	
956	Cl	↓	
↓	Mg	↓	
↓	NO3	↓	
↓	Se	↓	
↓	Na	↓	
↓	SO4	↓	
↓	U	↓	
* 1205	NH4	High	
↓	Cl	↓	
425	NH4	Low	
662	NH4	High	
836	Cl	High	
* 838	NO3	High	
↓	Se	↓	

* - These anomalies were present in 9/02.

ANOMALOUS DATA REVIEW CHECKSHEET

SITE: Shiprock SAMPLING DATA: March 2003

REVIEWER(s): JEFF PRICE J. E. Price 4/25/03
NAME (print) SIGNATURE DATE

SITE HYDROLOGIST: Mark Kautsky Mark Kautsky 5-29-03
NAME (print) SIGNATURE DATE

DATE OF REVIEW: 4/25/03

LOC. NO.	ANALYTE	TYPE OF ANOMALY	DISPOSITION
846	NH ₄ ⁺	High	Compare to other rounds
885	NH ₄ ⁺	High	
↓	NO ₃	↓	
↓	K	↓	
933	Cl	Low	
↓	Se	↓	
936	NH ₄ ⁺	High	
↓	Cl	↓	
↓	Mg	↓	
↓	Mn	↓	
↓	K	↓	
↓	Na	↓	
↓	SO ₄	↓	
↓	U	↓	
↓			

WATER QUALITY DATA

BLANKS REPORT
 LAB REQUISITION(S): 18328
 REPORT DATE: 04/21/03 02:07:49: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Ammonium	SHP01	0999	03/06/2003	0001	mg/L	0.004	U	0.004		E
Calcium	SHP01	0999	03/06/2003	0001	mg/L	0.0956	B	0.0352		E
Chloride	SHP01	0999	03/06/2003	0001	mg/L	0.07	B	0.0401		E
Magnesium	SHP01	0999	03/06/2003	0001	mg/L	0.0174	B U	0.0103		E
Manganese	SHP01	0999	03/06/2003	0001	mg/L	0.0003	U	0.0003		E
Nitrate as NO3	SHP01	0999	03/06/2003	0001	mg/L	0.02	U	0.02		E
Potassium	SHP01	0999	03/06/2003	0001	mg/L	0.0618	BE J	0.0371		E
Selenium	SHP01	0999	03/06/2003	0001	mg/L	0.0001	U	0.0001		E
Sodium	SHP01	0999	03/06/2003	0001	mg/L	0.0389	U	0.0389		E
Strontium	SHP01	0999	03/06/2003	0001	mg/L	0.00021	B	0.0001		E
Sulfate	SHP01	0999	03/06/2003	0001	mg/L	0.0394	U	0.0394		E
Uranium	SHP01	0999	03/06/2003	0001	mg/L	0.00013	B	0.0001		E

BLANKS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:07:51: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
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 compound (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.										
Q Qualitative result due to sampling technique										
G Possible grout contamination, pH > 9.										
X Location is undefined.										
SAMPLE TYPES:										
AK ANALYTICAL KNOWN										
F FIELD SAMPLE										
K KNOWN										
R REPLICATE										
XB EXTRACTION BLANK										
D DUPLICATE										
FB FIELD BLANK										
L LABORATORY										
TB TRIP BLANK										
E EQUIPMENT BLANK										
FR FIELD SAMPLE WITH REPLICATES										
N NOT KNOWN										
TK THEORETICAL KNOWN										
Ammonium	SHP02	0999	03/05/2003	0001	mg/L	0.0385	B	0.004		E
Calcium	SHP02	0999	03/05/2003	0001	mg/L	0.0512	B	0.0352		E
Chloride	SHP02	0999	03/05/2003	0001	mg/L	0.0631	B	0.0401		E

BLANKS REPORT

LAB REQUISITION(S): 18328

REPORT DATE: 04/21/03 02:07:53: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Magnesium	SHP02	0999	03/05/2003	0001	mg/L	0.01	U	0.0103		E
Manganese	SHP02	0999	03/05/2003	0001	mg/L	0.0004	B U	0.0003		E
Nitrate as NO3	SHP02	0999	03/05/2003	0001	mg/L	0.02	U	0.02		E
Potassium	SHP02	0999	03/05/2003	0001	mg/L	0.124	U	0.0371		E
Selenium	SHP02	0999	03/05/2003	0001	mg/L	0.0001	U	0.0001		E
Sodium	SHP02	0999	03/05/2003	0001	mg/L	0.371	B	0.0389		E
Strontium	SHP02	0999	03/05/2003	0001	mg/L	0.00036	B	0.0001		E
Sulfate	SHP02	0999	03/05/2003	0001	mg/L	0.0497	B	0.0394		E
Uranium	SHP02	0999	03/05/2003	0001	mg/L	0.00059	B U	0.0001		E

BLANKS REPORT
 LAB REQUISITION(S): 18328
 REPORT DATE: 04/21/03 02:07:53: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
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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 compound (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.
- Q Qualitative result due to sampling technique
- G Possible grout contamination, pH > 9.
- X Location is undefined.

SAMPLE TYPES:

- AK ANALYTICAL KNOWN
- F FIELD SAMPLE
- K KNOWN
- R REPLICATE
- XB EXTRACTION BLANK
- D DUPLICATE
- FB FIELD BLANK
- L LABORATORY
- TB TRIP BLANK
- E EQUIPMENT BLANK
- FR FIELD SAMPLE WITH REPLICATES
- N NOT KNOWN
- TK THEORETICAL KNOWN

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	858	F #	-	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	610	#	-	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	830	F #	-	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	1035	F #	-	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	480	F #	-	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	486	QF #	-	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	792	F #	-	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	417	F #	-	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	316	QF #	-	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	331	F #	-	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	1039	F #	-	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	1048	#	-	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	1047	#	-	-
	Ammonia Total as NH4	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	389.000	F #	0.004
mg/L		0614	WL	03/06/2003	0001	10.00 - 15.00	50.300	#	0.004	-
mg/L		0614	WL	03/06/2003	0002	10.00 - 15.00	50.500	#	0.004	-
mg/L		0615	WL	03/06/2003	0001	4.50 - 9.50	51.000	F #	0.004	-
mg/L		0618	WL	03/06/2003	0001	11.00 - 16.00	776.000	F #	0.004	-
mg/L		0619	WL	03/06/2003	0001	8.00 - 13.00	2.900	F #	0.004	-
mg/L		0734	WL	03/05/2003	0001	2.00 - 4.00	0.00400 U	QF #	0.004	-
mg/L		0735	WL	03/05/2003	0001	3.00 - 8.00	14.800	F #	0.004	-
mg/L		0736	WL	03/06/2003	0001	3.00 - 5.00	0.0921 B	F #	0.004	-
mg/L		0797	WL	03/05/2003	0001	7.30 - 9.30	0.00400 U	QF #	0.004	-
mg/L		0850	WL	03/05/2003	0001	5.60 - 15.40	0.00500 B	F #	0.004	-
mg/L		1008	WL	03/05/2003	0001	6.90 - 16.90	28.600	F #	0.004	-
mg/L		1075	WL	03/06/2003	0001	6.00 - 15.50	20.300	#	0.004	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK

REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:		DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB DATA	QA		
Ammonia Total as NH4	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	21.300		#	0.004	-
Calcium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	455.000	F	#	0.0352	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	492.000		#	0.0352	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	489.000		#	0.0352	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	439.000	F	#	0.0352	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	453.000	F	#	0.0352	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	388.000	F	#	0.0352	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	315.000	QF	#	0.0352	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	425.000	F	#	0.0352	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	373.000	F	#	0.0352	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	87.900	QF	#	0.0352	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	144.000	F	#	0.0352	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	355.000	F	#	0.0352	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	410.000		#	0.176	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	371.000		#	0.0352	-
Chloride	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	350.000	F	#	8.02	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	648.000		#	8.02	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	606.000		#	8.02	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	760.000	F	#	16.04	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	607.000	F	#	8.02	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	217.000	F	#	4.01	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	149.000	QF	#	2.005	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	480.000	F	#	4.01	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	103.000	F	#	4.01	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	22.800	QF	#	0.401	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	108.000	F	#	2.005	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	649.000	F #	4.01	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	875.000	#	8.02	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	727.000	#	8.02	-
Magnesium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	1670.000	F #	0.103	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	2790.000	#	0.103	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	2620.000	#	0.103	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	2960.000	F #	0.103	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	1750.000	F #	0.103	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	561.000	F #	0.103	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	372.000	QF #	0.0103	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	922.000	F #	0.103	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	270.000	F #	0.0103	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	19.400	QF #	0.0103	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	29.400	F #	0.0103	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	1540.000	F #	0.103	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	2040.000	#	0.103	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	1650.000	#	0.103	-
Manganese	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	7.800	F #	0.0003	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	5.980	#	0.0003	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	6.010	#	0.0003	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	5.560	F #	0.0003	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	11.300	F #	0.0003	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	3.130	F #	0.0003	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	0.656	QF #	0.0003	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	3.470	F #	0.0003	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	1.540	F #	0.0003	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	1.170	QF #	0.0003	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	5.180	F #	0.0003	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	6.610	F #	0.0003	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	6.580	#	0.0003	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	4.520	#	0.0003	-
Nitrate as NO3	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	2320.000	F #	1	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	4240.000	#	1	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	4230.000	#	1	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	4160.000	F #	1	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	1230.000	F #	0.4	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	21.900	F #	0.02	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	7.430	QF #	0.02	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	2010.000	F #	1	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	0.0831	B F #	0.02	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	0.264	B QF #	0.02	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	0.0200	U F #	0.02	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	172.000	F #	0.04	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	198.000	#	0.04	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	304.000	#	0.1	-
Oxidation Reduction Potent	mV	0608	WL	03/05/2003	N001	10.00 - 15.00	268	F #	-	-
	mV	0614	WL	03/06/2003	N001	10.00 - 15.00	252	#	-	-
	mV	0615	WL	03/06/2003	N001	4.50 - 9.50	268	F #	-	-
	mV	0618	WL	03/06/2003	N001	11.00 - 16.00	273	F #	-	-
	mV	0619	WL	03/06/2003	N001	8.00 - 13.00	75	F #	-	-
	mV	0734	WL	03/05/2003	N001	2.00 - 4.00	45	QF #	-	-
	mV	0735	WL	03/05/2003	N001	3.00 - 8.00	254	F #	-	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Oxidation Reduction Potent	mV	0736	WL	03/06/2003	N001	3.00 - 5.00	-2.1	F	#	-	-	
	mV	0797	WL	03/05/2003	N001	7.30 - 9.30	127	QF	#	-	-	
	mV	0850	WL	03/05/2003	N001	5.60 - 15.40	-125	F	#	-	-	
	mV	1008	WL	03/05/2003	N001	6.90 - 16.90	290	F	#	-	-	
	mV	1075	WL	03/06/2003	N001	6.00 - 15.50	256		#	-	-	
	mV	1077	WL	03/06/2003	N001	5.00 - 14.50	267		#	-	-	
pH	s.u.	0608	WL	03/05/2003	N001	10.00 - 15.00	6.72	F	#	-	-	
	s.u.	0614	WL	03/06/2003	N001	10.00 - 15.00	6.94		#	-	-	
	s.u.	0615	WL	03/06/2003	N001	4.50 - 9.50	6.82	F	#	-	-	
	s.u.	0618	WL	03/06/2003	N001	11.00 - 16.00	6.72	F	#	-	-	
	s.u.	0619	WL	03/06/2003	N001	8.00 - 13.00	7.26	F	#	-	-	
	s.u.	0734	WL	03/05/2003	N001	2.00 - 4.00	7.33	QF	#	-	-	
	s.u.	0735	WL	03/05/2003	N001	3.00 - 8.00	6.88	F	#	-	-	
	s.u.	0736	WL	03/06/2003	N001	3.00 - 5.00	7.36	F	#	-	-	
	s.u.	0797	WL	03/05/2003	N001	7.30 - 9.30	8.03	QF	#	-	-	
	s.u.	0850	WL	03/05/2003	N001	5.60 - 15.40	7.61	F	#	-	-	
	s.u.	1008	WL	03/05/2003	N001	6.90 - 16.90	7.03	F	#	-	-	
	s.u.	1075	WL	03/06/2003	N001	6.00 - 15.50	6.99		#	-	-	
	s.u.	1077	WL	03/06/2003	N001	5.00 - 14.50	6.7		#	-	-	
	Potassium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	149.000	F	#	0.0371	-
mg/L		0614	WL	03/06/2003	0001	10.00 - 15.00	136.000		#	0.0371	-	
mg/L		0614	WL	03/06/2003	0002	10.00 - 15.00	136.000		#	0.0371	-	
mg/L		0615	WL	03/06/2003	0001	4.50 - 9.50	182.000	F	#	0.0371	-	
mg/L		0618	WL	03/06/2003	0001	11.00 - 16.00	98.700	F	#	0.0371	-	
mg/L		0619	WL	03/06/2003	0001	8.00 - 13.00	44.300	E	JF	#	0.0371	-
mg/L		0734	WL	03/05/2003	0001	2.00 - 4.00	13.800		QF	#	0.0371	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK

REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Potassium	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	38.400	F	#		0.0371	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	37.000	E	JF	#	0.0371	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	2.640	E	JQF	#	0.0371	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	3.290	E	JF	#	0.0371	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	80.500	E	JF	#	0.0371	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	537.000			#	0.186	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	101.000			#	0.0371	-
Selenium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	0.00650	F	#		0.0001	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	0.291			#	0.005	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	0.290			#	0.005	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	1.160	F	#		0.02	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	0.352	F	#		0.005	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	0.213	F	#		0.002	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	0.00860	QF	#		0.0001	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	0.159	F	#		0.002	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	0.00066	B	F	#	0.0001	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	0.00190	B	QF	#	0.0001	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	0.00010	U	F	#	0.0001	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	0.169	F	#		0.001	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	0.0541			#	0.0005	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	0.134			#	0.002	-
	Sodium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	1850.000	F	#		0.389
mg/L		0614	WL	03/06/2003	0001	10.00 - 15.00	2980.000			#	0.389	-
mg/L		0614	WL	03/06/2003	0002	10.00 - 15.00	2970.000			#	0.389	-
mg/L		0615	WL	03/06/2003	0001	4.50 - 9.50	5000.000	F	#		0.778	-
mg/L		0618	WL	03/06/2003	0001	11.00 - 16.00	3220.000	F	#		0.389	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Sodium	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	1750.000	F #	0.389	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	1520.000	QF #	0.389	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	2160.000	F #	0.389	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	1700.000	F #	0.389	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	389.000	QF #	0.0389	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	791.000	F #	0.389	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	3660.000	F #	0.389	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	4650.000	#	0.778	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	3900.000	#	0.389	-
Specific Conductance	umhos/cm	0608	WL	03/05/2003	N001	10.00 - 15.00	16932	F #	-	-
	umhos/cm	0614	WL	03/06/2003	N001	10.00 - 15.00	22133	#	-	-
	umhos/cm	0615	WL	03/06/2003	N001	4.50 - 9.50	27945	F #	-	-
	umhos/cm	0618	WL	03/06/2003	N001	11.00 - 16.00	19185	F #	-	-
	umhos/cm	0619	WL	03/06/2003	N001	8.00 - 13.00	5948	F #	-	-
	umhos/cm	0734	WL	03/05/2003	N001	2.00 - 4.00	6730	QF #	-	-
	umhos/cm	0735	WL	03/05/2003	N001	3.00 - 8.00	13649	F #	-	-
	umhos/cm	0736	WL	03/06/2003	N001	3.00 - 5.00	5200	F #	-	-
	umhos/cm	0797	WL	03/05/2003	N001	7.30 - 9.30	1468	QF #	-	-
	umhos/cm	0850	WL	03/05/2003	N001	5.60 - 15.40	3035	F #	-	-
	umhos/cm	1008	WL	03/05/2003	N001	6.90 - 16.90	16210	F #	-	-
	umhos/cm	1075	WL	03/06/2003	N001	6.00 - 15.50	21100	#	-	-
	umhos/cm	1077	WL	03/06/2003	N001	5.00 - 14.50	19910	#	-	-
Strontium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	10.700	F #	0.001	-
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	12.900	#	0.001	-
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	13.100	#	0.001	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	14.400	F #	0.001	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Strontium	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	11.200	F	#	0.001	-	
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	7.320	F	#	0.001	-	
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	6.630	QF	#	0.001	-	
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	9.300	F	#	0.001	-	
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	6.790	F	#	0.001	-	
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	1.570	QF	#	0.0001	-	
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	1.980	F	#	0.0001	-	
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	10.200	F	#	0.001	-	
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	12.100		#	0.001	-	
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	10.300		#	0.001	-	
Sulfate	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	10500.000	F	#	7.88	-	
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	14400.000		#	7.88	-	
	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	14200.000		#	7.88	-	
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	19900.000	F	#	15.76	-	
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	13300.000	F	#	7.88	-	
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	6280.000	F	#	3.94	-	
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	4940.000	QF	#	1.97	-	
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	6980.000	F	#	3.94	-	
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	3480.000	F	#	3.94	-	
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	515.000	QF	#	0.394	-	
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	1730.000	F	#	1.97	-	
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	13900.000	F	#	7.88	-	
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	17800.000		#	7.88	-	
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	14900.000		#	7.88	-	
Temperature	C	0608	WL	03/05/2003	N001	10.00 - 15.00	8.8	F	#	-	-	
	C	0614	WL	03/06/2003	N001	10.00 - 15.00	10.2		#	-	-	

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Temperature	C	0615	WL	03/06/2003	N001	4.50 - 9.50	9.3	F	#	-	-	
	C	0618	WL	03/06/2003	N001	11.00 - 16.00	12.6	F	#	-	-	
	C	0619	WL	03/06/2003	N001	8.00 - 13.00	10.78	F	#	-	-	
	C	0734	WL	03/05/2003	N001	2.00 - 4.00	6.45	QF	#	-	-	
	C	0735	WL	03/05/2003	N001	3.00 - 8.00	7.6	F	#	-	-	
	C	0736	WL	03/06/2003	N001	3.00 - 5.00	8.46	F	#	-	-	
	C	0797	WL	03/05/2003	N001	7.30 - 9.30	11.34	QF	#	-	-	
	C	0850	WL	03/05/2003	N001	5.60 - 15.40	11.68	F	#	-	-	
	C	1008	WL	03/05/2003	N001	6.90 - 16.90	11.02	F	#	-	-	
	C	1075	WL	03/06/2003	N001	6.00 - 15.50	10.6		#	-	-	
	C	1077	WL	03/06/2003	N001	5.00 - 14.50	9.9		#	-	-	
Turbidity	NTU	0608	WL	03/05/2003	N001	10.00 - 15.00	4.39	F	#	-	-	
	NTU	0614	WL	03/06/2003	N001	10.00 - 15.00	5.65		#	-	-	
	NTU	0615	WL	03/06/2003	N001	4.50 - 9.50	5.62	F	#	-	-	
	NTU	0618	WL	03/06/2003	N001	11.00 - 16.00	1.65	F	#	-	-	
	NTU	0619	WL	03/06/2003	N001	8.00 - 13.00	0.63	F	#	-	-	
	NTU	0734	WL	03/05/2003	N001	2.00 - 4.00	7.93	QF	#	-	-	
	NTU	0735	WL	03/05/2003	N001	3.00 - 8.00	0.78	F	#	-	-	
	NTU	0736	WL	03/06/2003	N001	3.00 - 5.00	2.3	F	#	-	-	
	NTU	0797	WL	03/05/2003	N001	7.30 - 9.30	13.6	QF	#	-	-	
	NTU	0850	WL	03/05/2003	N001	5.60 - 15.40	0.42	F	#	-	-	
	NTU	1008	WL	03/05/2003	N001	6.90 - 16.90	20.1	F	#	-	-	
	NTU	1075	WL	03/06/2003	N001	6.00 - 15.50	1.92		#	-	-	
	NTU	1077	WL	03/06/2003	N001	5.00 - 14.50	1.21		#	-	-	
Uranium	mg/L	0608	WL	03/05/2003	0001	10.00 - 15.00	1.780	F	#	0.0005	-	
	mg/L	0614	WL	03/06/2003	0001	10.00 - 15.00	2.420		#	0.0005	-	

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			UN-CERTAINTY	
				DATE	ID			LAB	DATA	QA		DETECTION LIMIT
Uranium	mg/L	0614	WL	03/06/2003	0002	10.00 - 15.00	2.430			#	0.0005	-
	mg/L	0615	WL	03/06/2003	0001	4.50 - 9.50	3.780	F		#	0.0005	-
	mg/L	0618	WL	03/06/2003	0001	11.00 - 16.00	3.120	F		#	0.0005	-
	mg/L	0619	WL	03/06/2003	0001	8.00 - 13.00	0.480	F		#	0.0001	-
	mg/L	0734	WL	03/05/2003	0001	2.00 - 4.00	0.0735	QF		#	0.0001	-
	mg/L	0735	WL	03/05/2003	0001	3.00 - 8.00	0.240	F		#	0.0001	-
	mg/L	0736	WL	03/06/2003	0001	3.00 - 5.00	0.146	F		#	0.0001	-
	mg/L	0797	WL	03/05/2003	0001	7.30 - 9.30	0.01000	QF		#	0.0001	-
	mg/L	0850	WL	03/05/2003	0001	5.60 - 15.40	0.0255	F		#	0.0001	-
	mg/L	1008	WL	03/05/2003	0001	6.90 - 16.90	2.050	F		#	0.0005	-
	mg/L	1075	WL	03/06/2003	0001	6.00 - 15.50	2.710			#	0.0005	-
	mg/L	1077	WL	03/06/2003	0001	5.00 - 14.50	2.050			#	0.0005	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/13/2003 8:11 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
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RECORDS: SELECTED FROM USEE200 WHERE site_code='SHP01' AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #3/1/2003# and #3/31/2003#

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

LOCATION TYPES: WL WELL

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

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

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY	
				DATE	ID			LAB	DATA	QA			
Alkalinity, Total (As CaCO3	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	59				#	-	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	1229	F			#	-	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	629				#	-	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	370	F			#	-	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	317	F			#	-	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	338	F			#	-	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	288	F			#	-	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	870	Q			#	-	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	776	F			#	-	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	256	F			#	-	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	793				#	-	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	504				#	-	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	531				#	-	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	283	F			#	-	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	812				#	-	-
mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	585				#	-	-	
Ammonia Total as NH4	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	0.647				#	0.004	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	739.000	F			#	0.004	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	187.000				#	0.004	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	0.00400	U	F		#	0.004	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	0.00400	U	F		#	0.004	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	0.00400	U	F		#	0.004	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	0.00400	U	F		#	0.004	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	96.300	Q			#	0.004	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	0.00770	B	F		#	0.004	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	0.0713	B	F		#	0.004	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)

REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Ammonia Total as NH4	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	0.0613	B Q	# 0.004	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	40.100		# 0.004	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	14.600		# 0.004	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	11.900		# 0.004	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	0.00400	U F	# 0.004	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	0.00400	U F	# 0.004	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	164.000		# 0.004	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	0.521		# 0.004	-
Calcium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	107.000		# 0.0352	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	499.000	F	# 0.352	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	569.000		# 0.352	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	496.000	F	# 0.176	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	706.000	F	# 0.352	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	473.000	F	# 0.0352	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	457.000	F	# 0.0352	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	449.000	Q	# 0.0352	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	390.000	F	# 0.0352	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	443.000	F	# 0.0352	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	435.000	Q	# 0.0352	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	418.000		# 0.0352	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	474.000		# 0.0352	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	440.000		# 0.0352	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	653.000	F	# 0.352	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	659.000	F	# 0.352	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	432.000		# 0.0352	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	387.000		# 0.0352	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Chloride	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	55.500			#	0.802	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	421.000	F		#	8.02	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	1060.000			#	8.02	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	832.000	F		#	8.02	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	173.000	F		#	2.005	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	77.700	F		#	2.005	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	50.200	F		#	0.802	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	426.000	Q		#	8.02	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	802.000	F		#	4.01	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	59.800	F		#	2.005	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	454.000	Q		#	4.01	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	1590.000			#	8.02	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	931.000			#	8.02	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	968.000			#	8.02	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	71.500	F		#	0.802	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	74.100	F		#	0.802	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	314.000			#	4.01	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	1290.000			#	8.02	-
Magnesium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	13.300			#	0.0103	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	1530.000	F		#	0.103	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	2460.000			#	0.103	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	1330.000	F		#	0.103	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	260.000	F		#	0.0103	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	308.000	F		#	0.0103	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	123.000	F		#	0.0103	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	1950.000	Q		#	0.103	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:		DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB DATA	QA		
Magnesium	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	717.000	F	#	0.103	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	252.000	F	#	0.0103	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	897.000	Q	#	0.103	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	1960.000		#	0.103	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	1170.000		#	0.103	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	1190.000		#	0.103	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	143.000	F	#	0.0103	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	138.000	F	#	0.0103	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	1280.000		#	0.103	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	874.000		#	0.103	-
Manganese	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	0.0914		#	0.0003	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	2.040	F	#	0.0003	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	0.438		#	0.0003	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	0.00030	U F	#	0.0003	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	0.00030	U F	#	0.0003	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	1.980	F	#	0.0003	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	0.00620	B F	#	0.0003	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	0.935	Q	#	0.0003	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	0.0203	F	#	0.0003	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	0.0566	F	#	0.0003	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	0.475	Q	#	0.0003	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	0.207		#	0.0003	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	0.142		#	0.0003	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	0.134		#	0.0003	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	0.00870	B F	#	0.0003	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	0.00870	B F	#	0.0003	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	2.140		# 0.0003	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	0.110		# 0.0003	-
Nitrate as NO3	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	0.184	B	# 0.02	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	3280.000	F	# 1	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	7450.000		# 2	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	2340.000	F	# 1	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	621.000	F	# 0.2	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	112.000	F	# 0.04	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	105.000	F	# 0.04	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	2390.000	Q	# 1	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	2470.000	F	# 1	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	169.000	F	# 0.04	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	1580.000	Q	# 0.4	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	5020.000		# 2	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	2840.000		# 1	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	2670.000		# 1	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	211.000	F	# 0.1	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	207.000	F	# 0.1	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	1070.000		# 0.4	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	2710.000		# 1	-
Oxidation Reduction Potent	mV	0648	WL	03/05/2003	N001	1482.00 - 1777.00	-12		# -	-
	mV	0817	WL	03/04/2003	N001	21.60 - 31.62	285	F	# -	-
	mV	0818	WL	03/03/2003	N001	52.00 - 61.50	275		# -	-
	mV	0832	WL	03/04/2003	N001	21.10 - 31.10	222	F	# -	-
	mV	0835	WL	03/05/2003	N001	21.90 - 31.90	160	F	# -	-
	mV	0836	WL	03/04/2003	N001	26.80 - 36.80	233	F	# -	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0838	WL	03/04/2003	N001	21.90 - 31.90	220	F #	-	-
	mV	0839	WL	03/05/2003	N001	18.10 - 28.10	214	Q #	-	-
	mV	0841	WL	03/04/2003	N001	42.00 - 52.00	202	F #	-	-
	mV	0846	WL	03/04/2003	N001	17.90 - 27.90	242	F #	-	-
	mV	1070	WL	03/03/2003	N001	52.50 - 62.00	257	#	-	-
	mV	1071	WL	03/03/2003	N001	36.50 - 46.00	236	#	-	-
	mV	1078	WL	03/03/2003	N001	35.50 - 45.00	227	#	-	-
	mV	1079	WL	03/04/2003	N001	10.50 - 20.00	18	F #	-	-
	mV	1087	BH	03/03/2003	N001	0.00 - 0.00	210	#	-	-
	mV	1088	BH	03/03/2003	N001	0.00 - 0.00	247	#	-	-
pH	s.u.	0648	WL	03/05/2003	N001	1482.00 - 1777.00	6.62	#	-	-
	s.u.	0817	WL	03/04/2003	N001	21.60 - 31.62	6.62	F #	-	-
	s.u.	0818	WL	03/03/2003	N001	52.00 - 61.50	6.42	#	-	-
	s.u.	0832	WL	03/04/2003	N001	21.10 - 31.10	6.98	F #	-	-
	s.u.	0835	WL	03/05/2003	N001	21.90 - 31.90	6.76	F #	-	-
	s.u.	0836	WL	03/04/2003	N001	26.80 - 36.80	7.05	F #	-	-
	s.u.	0838	WL	03/04/2003	N001	21.90 - 31.90	6.84	F #	-	-
	s.u.	0839	WL	03/05/2003	N001	18.10 - 28.10	6.82	Q #	-	-
	s.u.	0841	WL	03/04/2003	N001	42.00 - 52.00	7.13	F #	-	-
	s.u.	0846	WL	03/04/2003	N001	17.90 - 27.90	7.01	F #	-	-
	s.u.	1070	WL	03/03/2003	N001	52.50 - 62.00	6.97	#	-	-
	s.u.	1071	WL	03/03/2003	N001	36.50 - 46.00	7.2	#	-	-
	s.u.	1078	WL	03/03/2003	N001	35.50 - 45.00	7.05	#	-	-
	s.u.	1079	WL	03/04/2003	N001	10.50 - 20.00	6.75	F #	-	-
	s.u.	1087	BH	03/03/2003	N001	0.00 - 0.00	6.74	#	-	-
	s.u.	1088	BH	03/03/2003	N001	0.00 - 0.00	7.39	#	-	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)

REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Potassium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	7.900			#	0.0371	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	192.000	E	JF	#	0.0371	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	110.000	E	J	#	0.0371	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	32.800		F	#	0.0371	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	9.590		F	#	0.0371	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	5.880	E	JF	#	0.0371	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	5.900	E	JF	#	0.0371	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	111.000		Q	#	0.0371	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	47.400		F	#	0.186	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	10.900	E	JF	#	0.0371	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	28.900		Q	#	0.0371	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	81.600	E	J	#	0.186	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	53.300	E	J	#	0.186	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	50.300	E	J	#	0.186	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	6.080	E	JF	#	0.0371	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	6.030	E	JF	#	0.0371	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	88.300	E	J	#	0.0371	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	47.300	E	J	#	0.186	-
Selenium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	0.00010	U		#	0.0001	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	0.00200	B	F	#	0.0001	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	3.680			#	0.05	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	3.660		F	#	0.05	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	0.326		F	#	0.002	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	0.231		F	#	0.002	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	0.167		F	#	0.001	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	0.00130	B	Q	#	0.0001	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			UN-CERTAINTY
				DATE	ID			LAB	DATA	QA	
Selenium	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	3.290	F	#	0.05	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	0.386	F	#	0.005	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	3.000	Q	#	0.05	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	4.110		#	0.05	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	3.290		#	0.05	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	3.320		#	0.05	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	0.383	F	#	0.005	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	0.386	F	#	0.005	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	0.0275		#	0.0002	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	1.710		#	0.02	-
Sodium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	793.000		#	0.389	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	1440.000	F	#	0.389	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	2960.000		#	0.389	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	3440.000	F	#	0.389	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	500.000	F	#	0.389	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	469.000	F	#	0.389	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	188.000	F	#	0.0389	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	1960.000	Q	#	0.389	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	5800.000	F	#	0.778	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	511.000	F	#	0.389	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	2330.000	Q	#	0.389	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	6040.000		#	0.778	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	4660.000		#	0.778	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	4700.000		#	0.778	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	210.000	F	#	0.0389	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	209.000	F	#	0.0389	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)

REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE DATE	SAMPLE ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Sodium	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	1390.000		# 0.389	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	6500.000		# 0.778	-
Specific Conductance	umhos/cm	0648	WL	03/05/2003	N001	1482.00 - 1777.00	3963		# -	-
	umhos/cm	0817	WL	03/04/2003	N001	21.60 - 31.62	17185	F	# -	-
	umhos/cm	0818	WL	03/03/2003	N001	52.00 - 61.50	23100		# -	-
	umhos/cm	0832	WL	03/04/2003	N001	21.10 - 31.10	18840	F	# -	-
	umhos/cm	0835	WL	03/05/2003	N001	21.90 - 31.90	5650	F	# -	-
	umhos/cm	0836	WL	03/04/2003	N001	26.80 - 36.80	4700	F	# -	-
	umhos/cm	0838	WL	03/04/2003	N001	21.90 - 31.90	3195	F	# -	-
	umhos/cm	0839	WL	03/05/2003	N001	18.10 - 28.10	16626	Q	# -	-
	umhos/cm	0841	WL	03/04/2003	N001	42.00 - 52.00	23228	F	# -	-
	umhos/cm	0846	WL	03/04/2003	N001	17.90 - 27.90	4695	F	# -	-
	umhos/cm	1070	WL	03/03/2003	N001	52.50 - 62.00	28700		# -	-
	umhos/cm	1071	WL	03/03/2003	N001	36.50 - 46.00	21670		# -	-
	umhos/cm	1078	WL	03/03/2003	N001	35.50 - 45.00	21760		# -	-
	umhos/cm	1079	WL	03/04/2003	N001	10.50 - 20.00	3742	F	# -	-
	umhos/cm	1087	BH	03/03/2003	N001	0.00 - 0.00	12050		# -	-
	umhos/cm	1088	BH	03/03/2003	N001	0.00 - 0.00	26210		# -	-
Strontium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	11.300		# 0.001	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	11.300	F	# 0.001	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	14.600		# 0.001	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	9.230	F	# 0.001	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	6.890	F	# 0.001	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	5.970	F	# 0.001	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	4.880	F	# 0.001	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	10.700	Q	# 0.001	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Strontium	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	8.180	F #	0.001	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	5.330	F #	0.001	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	9.430	Q #	0.001	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	13.500	#	0.001	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	10.900	#	0.001	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	10.900	#	0.001	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	5.940	F #	0.001	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	5.980	F #	0.001	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	9.720	#	0.001	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	9.190	#	0.001	-
Sulfate	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	1870.000	#	0.788	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	8600.000	F #	7.88	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	10900.000	#	7.88	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	11500.000	F #	7.88	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	3000.000	F #	1.97	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	2830.000	F #	1.97	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	1740.000	F #	0.788	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	10700.000	Q #	7.88	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	13400.000	F #	7.88	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	2750.000	F #	1.97	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	7850.000	Q #	3.94	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	15400.000	#	7.88	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	11900.000	#	7.88	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	12400.000	#	7.88	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	2210.000	F #	1.97	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	1990.000	F #	0.788	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	7460.000		# 3.94	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	14800.000		# 7.88	-
Temperature	C	0648	WL	03/05/2003	N001	1482.00 - 1777.00	29.7		# -	-
	C	0817	WL	03/04/2003	N001	21.60 - 31.62	11.8	F	# -	-
	C	0818	WL	03/03/2003	N001	52.00 - 61.50	15.6		# -	-
	C	0832	WL	03/04/2003	N001	21.10 - 31.10	14.1	F	# -	-
	C	0835	WL	03/05/2003	N001	21.90 - 31.90	14.8	F	# -	-
	C	0836	WL	03/04/2003	N001	26.80 - 36.80	13.2	F	# -	-
	C	0838	WL	03/04/2003	N001	21.90 - 31.90	14.9	F	# -	-
	C	0839	WL	03/05/2003	N001	18.10 - 28.10	15.4	Q	# -	-
	C	0841	WL	03/04/2003	N001	42.00 - 52.00	14.8	F	# -	-
	C	0846	WL	03/04/2003	N001	17.90 - 27.90	13.5	F	# -	-
	C	1070	WL	03/03/2003	N001	52.50 - 62.00	17.4		# -	-
	C	1071	WL	03/03/2003	N001	36.50 - 46.00	8.3		# -	-
	C	1078	WL	03/03/2003	N001	35.50 - 45.00	18.3		# -	-
	C	1079	WL	03/04/2003	N001	10.50 - 20.00	14.1	F	# -	-
Turbidity	NTU	0648	WL	03/05/2003	N001	1482.00 - 1777.00	1.57		# -	-
	NTU	0817	WL	03/04/2003	N001	21.60 - 31.62	2.46	F	# -	-
	NTU	0818	WL	03/03/2003	N001	52.00 - 61.50	2.03		# -	-
	NTU	0832	WL	03/04/2003	N001	21.10 - 31.10	7.41	F	# -	-
	NTU	0835	WL	03/05/2003	N001	21.90 - 31.90	1.06	F	# -	-
	NTU	0836	WL	03/04/2003	N001	26.80 - 36.80	3.45	F	# -	-
	NTU	0838	WL	03/04/2003	N001	21.90 - 31.90	3.93	F	# -	-
	NTU	0839	WL	03/05/2003	N001	18.10 - 28.10	7.71	Q	# -	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0841	WL	03/04/2003	N001	42.00 - 52.00	3.22	F #	-	-
	NTU	0846	WL	03/04/2003	N001	17.90 - 27.90	8.08	F #	-	-
	NTU	1070	WL	03/03/2003	N001	52.50 - 62.00	1.92	#	-	-
	NTU	1071	WL	03/03/2003	N001	36.50 - 46.00	8.23	#	-	-
	NTU	1078	WL	03/03/2003	N001	35.50 - 45.00	5.69	#	-	-
	NTU	1079	WL	03/04/2003	N001	10.50 - 20.00	3.96	F #	-	-
	NTU	1087	BH	03/03/2003	N001	0.00 - 0.00	2.34	#	-	-
	NTU	1088	BH	03/03/2003	N001	0.00 - 0.00	4.28	#	-	-
Uranium	mg/L	0648	WL	03/05/2003	0001	1482.00 - 1777.00	0.00035	B U #	0.0001	-
	mg/L	0817	WL	03/04/2003	0001	21.60 - 31.62	10.300	F #	0.0025	-
	mg/L	0818	WL	03/03/2003	0001	52.00 - 61.50	0.1000	#	0.0001	-
	mg/L	0832	WL	03/04/2003	0001	21.10 - 31.10	0.135	F #	0.0001	-
	mg/L	0835	WL	03/05/2003	0001	21.90 - 31.90	0.0453	F #	0.0001	-
	mg/L	0836	WL	03/04/2003	0001	26.80 - 36.80	0.0489	F #	0.0001	-
	mg/L	0838	WL	03/04/2003	0001	21.90 - 31.90	0.0317	F #	0.0001	-
	mg/L	0839	WL	03/05/2003	0001	18.10 - 28.10	0.563	Q #	0.0001	-
	mg/L	0841	WL	03/04/2003	0001	42.00 - 52.00	0.103	F #	0.0001	-
	mg/L	0846	WL	03/04/2003	0001	17.90 - 27.90	0.0340	F #	0.0001	-
	mg/L	1060	WL	03/04/2003	0001	27.20 - 36.70	0.152	Q #	0.0001	-
	mg/L	1070	WL	03/03/2003	0001	52.50 - 62.00	0.124	#	0.0001	-
	mg/L	1071	WL	03/03/2003	0001	36.50 - 46.00	0.111	#	0.0001	-
	mg/L	1078	WL	03/03/2003	0001	35.50 - 45.00	0.112	#	0.0001	-
	mg/L	1079	WL	03/04/2003	0001	10.50 - 20.00	0.0297	F #	0.0001	-
	mg/L	1079	WL	03/04/2003	0002	10.50 - 20.00	0.0295	F #	0.0001	-
	mg/L	1087	BH	03/03/2003	0001	0.00 - 0.00	0.617	#	0.0001	-
	mg/L	1088	BH	03/03/2003	0001	0.00 - 0.00	0.119	#	0.0001	-

GROUND WATER QUALITY DATA BY PARAMETER WITH DEPTH (USEE200) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)

REPORT DATE: 5/13/2003 8:12 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE DATE	SAMPLE ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
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RECORDS: SELECTED FROM USEE200 WHERE site_code='SHP02' AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #3/1/2003# and #3/31/2003#

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

LOCATION TYPES: BH BOREHOLE WL WELL

LAB QUALIFIERS:

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

DATA QUALIFIERS:

- | | | |
|--|--|--------------------|
| F Low flow sampling method used. | G Possible grout contamination, pH > 9. | J Estimated value |
| L Less than 3 bore volumes purged prior to sampling. | Q Qualitative result due to sampling technique | R Unusable result. |
| U Parameter analyzed for but was not detected. | 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: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0655	03/04/2003	0001	197	#	-	-
	mg/L	0887	03/04/2003	0001	371	#	-	-
	mg/L	0897	03/03/2003	0001	126	#	-	-
	mg/L	0898	03/05/2003	0001	121	#	-	-
	mg/L	0940	03/03/2003	0001	132	#	-	-
	mg/L	0956	03/04/2003	0001	122	#	-	-
	mg/L	0959	03/04/2003	0001	468	#	-	-
	mg/L	0965	03/04/2003	0001	139	#	-	-
	mg/L	1205	03/03/2003	0001	125	#	-	-
Ammonia Total as NH4	mg/L	0655	03/04/2003	0001	0.0460 B	#	0.004	-
	mg/L	0887	03/04/2003	0001	0.0497 B	#	0.004	-
	mg/L	0897	03/03/2003	0001	0.412	#	0.004	-
	mg/L	0898	03/05/2003	0001	0.210	#	0.004	-
	mg/L	0940	03/03/2003	0001	0.363	#	0.004	-
	mg/L	0956	03/04/2003	0001	0.256	#	0.004	-
	mg/L	0959	03/04/2003	0001	0.0415 B	#	0.004	-
	mg/L	0965	03/04/2003	0001	0.274	#	0.004	-
	mg/L	1205	03/03/2003	0001	0.295	#	0.004	-
Calcium	mg/L	0655	03/04/2003	0001	243.000	#	0.0352	-
	mg/L	0887	03/04/2003	0001	498.000	#	0.0352	-
	mg/L	0897	03/03/2003	0001	79.200	#	0.0352	-
	mg/L	0898	03/05/2003	0001	65.200	#	0.0352	-
	mg/L	0940	03/03/2003	0001	80.200	#	0.0352	-
	mg/L	0956	03/04/2003	0001	81.300	#	0.0352	-
	mg/L	0959	03/04/2003	0001	404.000	#	0.0352	-
	mg/L	0965	03/04/2003	0001	85.200	#	0.0352	-
	mg/L	1205	03/03/2003	0001	76.300	#	0.0352	-
Chloride	mg/L	0655	03/04/2003	0001	91.000	#	2.005	-
	mg/L	0887	03/04/2003	0001	213.000	#	2.005	-
	mg/L	0897	03/03/2003	0001	27.300	#	0.201	-
	mg/L	0898	03/05/2003	0001	18.000	#	0.201	-
	mg/L	0940	03/03/2003	0001	31.700	#	0.201	-
	mg/L	0956	03/04/2003	0001	34.000	#	0.201	-
	mg/L	0959	03/04/2003	0001	223.000	#	2.005	-
	mg/L	0965	03/04/2003	0001	33.500	#	0.201	-
	mg/L	1205	03/03/2003	0001	27.000	#	0.201	-
Magnesium	mg/L	0655	03/04/2003	0001	89.500	#	0.0103	-
	mg/L	0887	03/04/2003	0001	378.000	#	0.0103	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE:		RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
			DATE	ID		LAB	DATA	QA		
Magnesium	mg/L	0897	03/03/2003	0001	16.600			#	0.0103	-
	mg/L	0898	03/05/2003	0001	10.000			#	0.0103	-
	mg/L	0940	03/03/2003	0001	25.300			#	0.0103	-
	mg/L	0956	03/04/2003	0001	23.200			#	0.0103	-
	mg/L	0959	03/04/2003	0001	509.000			#	0.103	-
	mg/L	0965	03/04/2003	0001	25.600			#	0.0103	-
	mg/L	1205	03/03/2003	0001	13.200			#	0.0103	-
Manganese	mg/L	0655	03/04/2003	0001	0.476			#	0.0003	-
	mg/L	0887	03/04/2003	0001	0.495			#	0.0003	-
	mg/L	0897	03/03/2003	0001	0.0155			#	0.0003	-
	mg/L	0898	03/05/2003	0001	0.0072 B			#	0.0003	-
	mg/L	0940	03/03/2003	0001	0.0724			#	0.0003	-
	mg/L	0956	03/04/2003	0001	0.0270			#	0.0003	-
	mg/L	0959	03/04/2003	0001	0.0733			#	0.0003	-
	mg/L	0965	03/04/2003	0001	0.0610			#	0.0003	-
	mg/L	1205	03/03/2003	0001	0.0177			#	0.0003	-
Nitrate as NO3	mg/L	0655	03/04/2003	0001	22.900			#	0.02	-
	mg/L	0887	03/04/2003	0001	421.000			#	0.1	-
	mg/L	0897	03/03/2003	0001	3.730			#	0.02	-
	mg/L	0898	03/05/2003	0001	3.510			#	0.02	-
	mg/L	0940	03/03/2003	0001	10.000			#	0.02	-
	mg/L	0956	03/04/2003	0001	4.440			#	0.02	-
	mg/L	0959	03/04/2003	0001	245.000			#	0.1	-
	mg/L	0965	03/04/2003	0001	4.230			#	0.02	-
	mg/L	1205	03/03/2003	0001	2.860			#	0.02	-
Oxidation Reduction Potent	mV	0655	03/04/2003	N001	196			#	-	-
	mV	0887	03/04/2003	N001	229			#	-	-
	mV	0897	03/03/2003	N001	194			#	-	-
	mV	0940	03/03/2003	N001	123			#	-	-
	mV	0956	03/04/2003	N001	188			#	-	-
	mV	0959	03/04/2003	N001	251			#	-	-
	mV	0965	03/04/2003	N001	215			#	-	-
	mV	1205	03/03/2003	N001	210			#	-	-
pH	s.u.	0655	03/04/2003	N001	8.38			#	-	-
	s.u.	0887	03/04/2003	N001	7.75			#	-	-
	s.u.	0897	03/03/2003	N001	7.75			#	-	-
	s.u.	0898	03/05/2003	N001	8.25			#	-	-
	s.u.	0940	03/03/2003	N001	8.34			#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0956	03/04/2003	N001	8.35	#	-	-
	s.u.	0959	03/04/2003	N001	7.7	#	-	-
	s.u.	0965	03/04/2003	N001	8.32	#	-	-
	s.u.	1205	03/03/2003	N001	8.29	#	-	-
Potassium	mg/L	0655	03/04/2003	0001	11.700	#	0.0371	-
	mg/L	0887	03/04/2003	0001	12.600	#	0.0371	-
	mg/L	0897	03/03/2003	0001	2.900	#	0.0371	-
	mg/L	0898	03/05/2003	0001	2.810	E J	#	0.0371
	mg/L	0940	03/03/2003	0001	2.980	#	0.0371	-
	mg/L	0956	03/04/2003	0001	3.090	#	0.0371	-
	mg/L	0959	03/04/2003	0001	20.000	#	0.0371	-
	mg/L	0965	03/04/2003	0001	3.040	#	0.0371	-
	mg/L	1205	03/03/2003	0001	2.750	#	0.0371	-
Selenium	mg/L	0655	03/04/2003	0001	0.0086	#	0.0001	-
	mg/L	0887	03/04/2003	0001	0.349	#	0.005	-
	mg/L	0897	03/03/2003	0001	0.0021	B	#	0.0001
	mg/L	0898	03/05/2003	0001	0.0019	B	#	0.0001
	mg/L	0940	03/03/2003	0001	0.0014	B	#	0.0001
	mg/L	0956	03/04/2003	0001	0.0018	B	#	0.0001
	mg/L	0959	03/04/2003	0001	0.160	#	0.002	-
	mg/L	0965	03/04/2003	0001	0.0018	B	#	0.0001
	mg/L	1205	03/03/2003	0001	0.0014	B	#	0.0001
Sodium	mg/L	0655	03/04/2003	0001	1120.000	#	0.389	-
	mg/L	0887	03/04/2003	0001	712.000	#	0.389	-
	mg/L	0897	03/03/2003	0001	80.100	#	0.0389	-
	mg/L	0898	03/05/2003	0001	69.700	#	0.0389	-
	mg/L	0940	03/03/2003	0001	90.900	#	0.0389	-
	mg/L	0956	03/04/2003	0001	95.400	#	0.0389	-
	mg/L	0959	03/04/2003	0001	1110.000	#	0.389	-
	mg/L	0965	03/04/2003	0001	102.000	#	0.0389	-
	mg/L	1205	03/03/2003	0001	67.500	#	0.0389	-
Specific Conductance	umhos/cm	0655	03/04/2003	N001	5436	#	-	-
	umhos/cm	0887	03/04/2003	N001	5966	#	-	-
	umhos/cm	0897	03/03/2003	N001	837	#	-	-
	umhos/cm	0898	03/05/2003	N001	531	#	-	-
	umhos/cm	0940	03/03/2003	N001	813	#	-	-
	umhos/cm	0956	03/04/2003	N001	941	#	-	-
	umhos/cm	0959	03/04/2003	N001	6276	#	-	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE:		RESULT	QUALIFIERS:			DETECTION LIMIT	UN- CERTAINTY
			DATE	ID		LAB	DATA	QA		
Specific Conductance	umhos/cm	0965	03/04/2003	N001	942			#	-	-
	umhos/cm	1205	03/03/2003	N001	738			#	-	-
Strontium	mg/L	0655	03/04/2003	0001	10.600			#	0.001	-
	mg/L	0887	03/04/2003	0001	7.300			#	0.001	-
	mg/L	0897	03/03/2003	0001	1.130			#	0.0001	-
	mg/L	0898	03/05/2003	0001	0.987			#	0.0001	-
	mg/L	0940	03/03/2003	0001	1.180			#	0.0001	-
	mg/L	0956	03/04/2003	0001	1.170			#	0.0001	-
	mg/L	0959	03/04/2003	0001	7.390			#	0.001	-
	mg/L	0965	03/04/2003	0001	1.230			#	0.0001	-
	mg/L	1205	03/03/2003	0001	1.100			#	0.0001	-
Sulfate	mg/L	0655	03/04/2003	0001	3100.000			#	1.97	-
	mg/L	0887	03/04/2003	0001	3430.000			#	1.97	-
	mg/L	0897	03/03/2003	0001	279.000			#	0.197	-
	mg/L	0898	03/05/2003	0001	206.000			#	0.197	-
	mg/L	0940	03/03/2003	0001	330.000			#	0.197	-
	mg/L	0956	03/04/2003	0001	330.000			#	0.197	-
	mg/L	0959	03/04/2003	0001	4650.000			#	1.97	-
	mg/L	0965	03/04/2003	0001	357.000			#	0.197	-
	mg/L	1205	03/03/2003	0001	235.000			#	0.197	-
Temperature	C	0655	03/04/2003	N001	6.13			#	-	-
	C	0887	03/04/2003	N001	6.15			#	-	-
	C	0897	03/03/2003	N001	5.18			#	-	-
	C	0898	03/05/2003	N001	6.78			#	-	-
	C	0940	03/03/2003	N001	7.65			#	-	-
	C	0956	03/04/2003	N001	6.68			#	-	-
	C	0959	03/04/2003	N001	6.04			#	-	-
	C	0965	03/04/2003	N001	6.68			#	-	-
	C	1205	03/03/2003	N001	7.82			#	-	-
Turbidity	NTU	0887	03/04/2003	N001	3.6			#	-	-
	NTU	0897	03/03/2003	N001	1000	>		#	-	-
	NTU	0898	03/05/2003	N001	1000	>		#	-	-
	NTU	0940	03/03/2003	N001	1000	>		#	-	-
	NTU	0956	03/04/2003	N001	1000	>		#	-	-
	NTU	0965	03/04/2003	N001	1000	>		#	-	-
	NTU	1205	03/03/2003	N001	1000	>		#	-	-
Uranium	mg/L	0655	03/04/2003	0001	0.0517			#	0.0001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP01, SHIPROCK
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE:		RESULT	QUALIFIERS:		DETECTION LIMIT	UN-CERTAINTY
			DATE	ID		LAB DATA	QA		
Uranium	mg/L	0887	03/04/2003	0001	0.0708	#		0.0001	-
	mg/L	0897	03/03/2003	0001	0.0028	#		0.0001	-
	mg/L	0898	03/05/2003	0001	0.0027	#		0.0001	-
	mg/L	0940	03/03/2003	0001	0.0177	#		0.0001	-
	mg/L	0956	03/04/2003	0001	0.0037	#		0.0001	-
	mg/L	0959	03/04/2003	0001	0.0766	#		0.0001	-
	mg/L	0965	03/04/2003	0001	0.0034	#		0.0001	-
	mg/L	1205	03/03/2003	0001	0.0031	#		0.0001	-

RECORDS: SELECTED FROM USEE800 WHERE site_code='SHP01' AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #3/1/2003# and #3/31/2003#

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.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- 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.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

- F Low flow sampling method used.
- J Estimated value.
- Q Qualitative result due to sampling technique
- U Parameter analyzed for but was not detected.
- G Possible grout contamination, pH > 9.
- L Less than 3 bore volumes purged prior to sampling
- R Unusable result.
- 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: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0425	03/03/2003	0001	667	#	-	-
	mg/L	0426	03/03/2003	0001	389	#	-	-
	mg/L	0662	03/04/2003	0001	65	#	-	-
	mg/L	0786	03/05/2003	0001	313	#	-	-
	mg/L	0884	03/04/2003	0001	250	#	-	-
	mg/L	0885	03/04/2003	0001	666	#	-	-
	mg/L	0889	03/04/2003	0001	544	#	-	-
	mg/L	0933	03/04/2003	0001	373	#	-	-
	mg/L	0934	03/06/2003	0001	331	#	-	-
	mg/L	0942	03/04/2003	0001	291	#	-	-
Ammonia Total as NH4	mg/L	0425	03/03/2003	0001	0.0040 U	#	0.004	-
	mg/L	0426	03/03/2003	0001	0.0206 B	#	0.004	-
	mg/L	0662	03/04/2003	0001	0.331	#	0.004	-
	mg/L	0786	03/05/2003	0001	0.0188 B	#	0.004	-
	mg/L	0884	03/04/2003	0001	0.0170 B	#	0.004	-
	mg/L	0885	03/04/2003	0001	57.400	#	0.004	-
	mg/L	0889	03/04/2003	0001	0.0596 B	#	0.004	-
	mg/L	0933	03/04/2003	0001	0.293	#	0.004	-
	mg/L	0934	03/06/2003	0001	0.0337 B	#	0.004	-
	mg/L	0936	03/04/2003	0001	4.910	#	0.004	-
	mg/L	0942	03/04/2003	0001	0.0043 B	#	0.004	-
	mg/L	0942	03/04/2003	0002	0.0040 U	#	0.004	-
Calcium	mg/L	0425	03/03/2003	0001	459.000	#	0.0352	-
	mg/L	0426	03/03/2003	0001	455.000	#	0.0352	-
	mg/L	0662	03/04/2003	0001	108.000	#	0.0352	-
	mg/L	0786	03/05/2003	0001	413.000	#	0.0352	-
	mg/L	0884	03/04/2003	0001	447.000	#	0.0352	-
	mg/L	0885	03/04/2003	0001	417.000	#	0.0352	-
	mg/L	0889	03/04/2003	0001	357.000	#	0.0352	-
	mg/L	0933	03/04/2003	0001	411.000	#	0.0352	-
	mg/L	0934	03/06/2003	0001	608.000	#	0.352	-
	mg/L	0936	03/04/2003	0001	422.000	#	0.0352	-
	mg/L	0942	03/04/2003	0001	470.000	#	0.0352	-
	mg/L	0942	03/04/2003	0002	467.000	#	0.0352	-
Chloride	mg/L	0425	03/03/2003	0001	211.000	#	2.005	-
	mg/L	0426	03/03/2003	0001	197.000	#	2.005	-
	mg/L	0662	03/04/2003	0001	55.100	#	2.005	-
	mg/L	0786	03/05/2003	0001	145.000	#	2.005	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE DATE	SAMPLE ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0884	03/04/2003	0001	69.700	#	2.005	-
	mg/L	0885	03/04/2003	0001	305.000	#	4.01	-
	mg/L	0889	03/04/2003	0001	1510.000	#	8.02	-
	mg/L	0933	03/04/2003	0001	77.300	#	2.005	-
	mg/L	0934	03/06/2003	0001	208.000	#	2.005	-
	mg/L	0936	03/04/2003	0001	694.000	#	4.01	-
	mg/L	0942	03/04/2003	0001	56.700	#	2.005	-
	mg/L	0942	03/04/2003	0002	60.000	#	2.005	-
Magnesium	mg/L	0425	03/03/2003	0001	603.000	#	0.103	-
	mg/L	0426	03/03/2003	0001	258.000	#	0.0103	-
	mg/L	0662	03/04/2003	0001	19.800	#	0.0103	-
	mg/L	0786	03/05/2003	0001	377.000	#	0.0103	-
	mg/L	0884	03/04/2003	0001	170.000	#	0.0103	-
	mg/L	0885	03/04/2003	0001	1000.000	#	0.103	-
	mg/L	0889	03/04/2003	0001	1020.000	#	0.103	-
	mg/L	0933	03/04/2003	0001	427.000	#	0.0103	-
	mg/L	0934	03/06/2003	0001	327.000	#	0.0103	-
	mg/L	0936	03/04/2003	0001	940.000	#	0.103	-
	mg/L	0942	03/04/2003	0001	196.000	#	0.0103	-
	mg/L	0942	03/04/2003	0002	190.000	#	0.0103	-
Manganese	mg/L	0425	03/03/2003	0001	0.0201	#	0.0003	-
	mg/L	0426	03/03/2003	0001	0.0393	#	0.0003	-
	mg/L	0662	03/04/2003	0001	0.0090 B	#	0.0003	-
	mg/L	0786	03/05/2003	0001	0.001 B	#	0.0003	-
	mg/L	0884	03/04/2003	0001	0.0022 B	#	0.0003	-
	mg/L	0885	03/04/2003	0001	0.343	#	0.0003	-
	mg/L	0889	03/04/2003	0001	0.0138	#	0.0003	-
	mg/L	0933	03/04/2003	0001	0.252	#	0.0003	-
	mg/L	0934	03/06/2003	0001	0.0022 B	#	0.0003	-
	mg/L	0936	03/04/2003	0001	0.164	#	0.0003	-
	mg/L	0942	03/04/2003	0001	0.0026 B	#	0.0003	-
	mg/L	0942	03/04/2003	0002	0.0027 B	#	0.0003	-
Nitrate as NO3	mg/L	0425	03/03/2003	0001	167.000	#	0.04	-
	mg/L	0426	03/03/2003	0001	398.000	#	0.1	-
	mg/L	0662	03/04/2003	0001	6.610	#	0.02	-
	mg/L	0786	03/05/2003	0001	255.000	#	0.1	-
	mg/L	0884	03/04/2003	0001	200.000	#	0.04	-
	mg/L	0885	03/04/2003	0001	921.000	#	0.2	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION		SAMPLE:		RESULT	QUALIFIERS:		DETECTION LIMIT	UN- CERTAINTY
		ID	DATE	ID			LAB	DATA QA		
Nitrate as NO3	mg/L	0889	03/04/2003	0001		2960.000		#	1	-
	mg/L	0933	03/04/2003	0001		66.500		#	0.02	-
	mg/L	0934	03/06/2003	0001		570.000		#	0.2	-
	mg/L	0936	03/04/2003	0001		798.000		#	0.2	-
	mg/L	0942	03/04/2003	0001		192.000		#	0.04	-
	mg/L	0942	03/04/2003	0002		193.000		#	0.04	-
Oxidation Reduction Potent	mV	0425	03/03/2003	N001		224		#	-	-
	mV	0426	03/03/2003	N001		167		#	-	-
	mV	0662	03/04/2003	N001		190		#	-	-
	mV	0786	03/05/2003	N001		196		#	-	-
	mV	0884	03/04/2003	N001		220		#	-	-
	mV	0885	03/04/2003	N001		223		#	-	-
	mV	0889	03/04/2003	N001		277		#	-	-
	mV	0933	03/04/2003	N001		233		#	-	-
	mV	0934	03/06/2003	N001		106		#	-	-
	mV	0942	03/04/2003	N001		220		#	-	-
pH	s.u.	0425	03/03/2003	N001		6.84		#	-	-
	s.u.	0426	03/03/2003	N001		7.02		#	-	-
	s.u.	0662	03/04/2003	N001		8.68		#	-	-
	s.u.	0786	03/05/2003	N001		7.87		#	-	-
	s.u.	0884	03/04/2003	N001		7.99		#	-	-
	s.u.	0885	03/04/2003	N001		7.31		#	-	-
	s.u.	0889	03/04/2003	N001		8.72		#	-	-
	s.u.	0933	03/04/2003	N001		7.9		#	-	-
	s.u.	0934	03/06/2003	N001		7.27		#	-	-
	s.u.	0942	03/04/2003	N001		7.3		#	-	-
Potassium	mg/L	0425	03/03/2003	0001		31.000		#	0.0371	-
	mg/L	0426	03/03/2003	0001		17.400		#	0.0371	-
	mg/L	0662	03/04/2003	0001		8.030		#	0.0371	-
	mg/L	0786	03/05/2003	0001		18.300		#	0.0371	-
	mg/L	0884	03/04/2003	0001		8.180		#	0.0371	-
	mg/L	0885	03/04/2003	0001		49.400		#	0.0371	-
	mg/L	0889	03/04/2003	0001		51.800		#	0.0371	-
	mg/L	0933	03/04/2003	0001		14.000		#	0.0371	-
	mg/L	0934	03/06/2003	0001		9.450 E J		#	0.0371	-
	mg/L	0936	03/04/2003	0001		42.800		#	0.0371	-
	mg/L	0942	03/04/2003	0001		6.800		#	0.0371	-
	mg/L	0942	03/04/2003	0002		6.690		#	0.0371	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE:		RESULT	QUALIFIERS:		DETECTION LIMIT	UN-CERTAINTY
			DATE	ID		LAB DATA	QA		
Selenium	mg/L	0425	03/03/2003	0001	0.0359		#	0.0005	-
	mg/L	0426	03/03/2003	0001	0.178		#	0.002	-
	mg/L	0662	03/04/2003	0001	0.0001 B		#	0.0001	-
	mg/L	0786	03/05/2003	0001	0.166		#	0.001	-
	mg/L	0884	03/04/2003	0001	0.390		#	0.005	-
	mg/L	0885	03/04/2003	0001	0.0179		#	0.0001	-
	mg/L	0889	03/04/2003	0001	1.890		#	0.02	-
	mg/L	0933	03/04/2003	0001	0.0470		#	0.0005	-
	mg/L	0934	03/06/2003	0001	0.319		#	0.005	-
	mg/L	0936	03/04/2003	0001	0.613		#	0.005	-
	mg/L	0942	03/04/2003	0001	0.375		#	0.005	-
	mg/L	0942	03/04/2003	0002	0.384		#	0.005	-
Sodium	mg/L	0425	03/03/2003	0001	996.000		#	0.389	-
	mg/L	0426	03/03/2003	0001	1360.000		#	0.389	-
	mg/L	0662	03/04/2003	0001	801.000		#	0.389	-
	mg/L	0786	03/05/2003	0001	738.000		#	0.389	-
	mg/L	0884	03/04/2003	0001	388.000		#	0.0389	-
	mg/L	0885	03/04/2003	0001	1280.000		#	0.389	-
	mg/L	0889	03/04/2003	0001	7730.000		#	0.778	-
	mg/L	0933	03/04/2003	0001	545.000		#	0.389	-
	mg/L	0934	03/06/2003	0001	636.000		#	0.389	-
	mg/L	0936	03/04/2003	0001	1880.000		#	0.389	-
	mg/L	0942	03/04/2003	0001	474.000		#	0.0389	-
	mg/L	0942	03/04/2003	0002	466.000		#	0.0389	-
Specific Conductance	umhos/cm	0425	03/03/2003	N001	7568		#	-	-
	umhos/cm	0426	03/03/2003	N001	7315		#	-	-
	umhos/cm	0662	03/04/2003	N001	3832		#	-	-
	umhos/cm	0786	03/05/2003	N001	4516		#	-	-
	umhos/cm	0884	03/04/2003	N001	2053		#	-	-
	umhos/cm	0885	03/04/2003	N001	10720		#	-	-
	umhos/cm	0889	03/04/2003	N001	29060		#	-	-
	umhos/cm	0933	03/04/2003	N001	5268		#	-	-
	umhos/cm	0934	03/06/2003	N001	4139		#	-	-
	umhos/cm	0942	03/04/2003	N001	4432		#	-	-
Strontium	mg/L	0425	03/03/2003	0001	8.130		#	0.001	-
	mg/L	0426	03/03/2003	0001	12.300		#	0.001	-
	mg/L	0662	03/04/2003	0001	11.500		#	0.001	-
	mg/L	0786	03/05/2003	0001	6.710		#	0.001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Strontium	mg/L	0884	03/04/2003	0001	5.510	#	0.001	-
	mg/L	0885	03/04/2003	0001	9.930	#	0.001	-
	mg/L	0889	03/04/2003	0001	9.590	#	0.001	-
	mg/L	0933	03/04/2003	0001	6.370	#	0.001	-
	mg/L	0934	03/06/2003	0001	6.590	#	0.001	-
	mg/L	0936	03/04/2003	0001	10.600	#	0.001	-
	mg/L	0942	03/04/2003	0001	5.340	#	0.0002	-
	mg/L	0942	03/04/2003	0002	5.410	#	0.0002	-
Sulfate	mg/L	0425	03/03/2003	0001	4660.000	#	1.97	-
	mg/L	0426	03/03/2003	0001	4070.000	#	1.97	-
	mg/L	0662	03/04/2003	0001	1980.000	#	1.97	-
	mg/L	0786	03/05/2003	0001	3550.000	#	1.97	-
	mg/L	0884	03/04/2003	0001	2290.000	#	1.97	-
	mg/L	0885	03/04/2003	0001	6580.000	#	3.94	-
	mg/L	0889	03/04/2003	0001	17600.000	#	7.88	-
	mg/L	0933	03/04/2003	0001	3440.000	#	1.97	-
	mg/L	0934	03/06/2003	0001	3090.000	#	1.97	-
	mg/L	0936	03/04/2003	0001	7040.000	#	3.94	-
	mg/L	0942	03/04/2003	0001	2490.000	#	1.97	-
	mg/L	0942	03/04/2003	0002	2520.000	#	1.97	-
Temperature	C	0425	03/03/2003	N001	12.42	#	-	-
	C	0426	03/03/2003	N001	13.59	#	-	-
	C	0662	03/04/2003	N001	18.97	#	-	-
	C	0786	03/05/2003	N001	3.15	#	-	-
	C	0884	03/04/2003	N001	3.77	#	-	-
	C	0885	03/04/2003	N001	6.35	#	-	-
	C	0889	03/04/2003	N001	3.25	#	-	-
	C	0933	03/04/2003	N001	8.25	#	-	-
	C	0934	03/06/2003	N001	9.3	#	-	-
	C	0942	03/04/2003	N001	9.59	#	-	-
Turbidity	NTU	0884	03/04/2003	N001	6.76	#	-	-
	NTU	0889	03/04/2003	N001	5.64	#	-	-
	NTU	0942	03/04/2003	N001	3.91	#	-	-
Uranium	mg/L	0425	03/03/2003	0001	0.509	#	0.0001	-
	mg/L	0426	03/03/2003	0001	0.387	#	0.0001	-
	mg/L	0662	03/04/2003	0001	0.0079	#	0.0001	-
	mg/L	0786	03/05/2003	0001	0.0378	#	0.0001	-
	mg/L	0884	03/04/2003	0001	0.0358	#	0.0001	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/12/2003 12:42 pm

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0885	03/04/2003	0001	1.150	#	0.0005	-
	mg/L	0889	03/04/2003	0001	0.168	#	0.0001	-
	mg/L	0933	03/04/2003	0001	0.0555	#	0.0001	-
	mg/L	0934	03/06/2003	0001	0.0722	#	0.0001	-
	mg/L	0936	03/04/2003	0001	0.293	#	0.0001	-
	mg/L	0942	03/04/2003	0001	0.0336	#	0.0001	-
	mg/L	0942	03/04/2003	0002	0.0332	#	0.0001	-

RECORDS: SELECTED FROM USEE800 WHERE site_code='SHP02' AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #3/1/2003# and #3/31/2003#

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
Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- 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.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

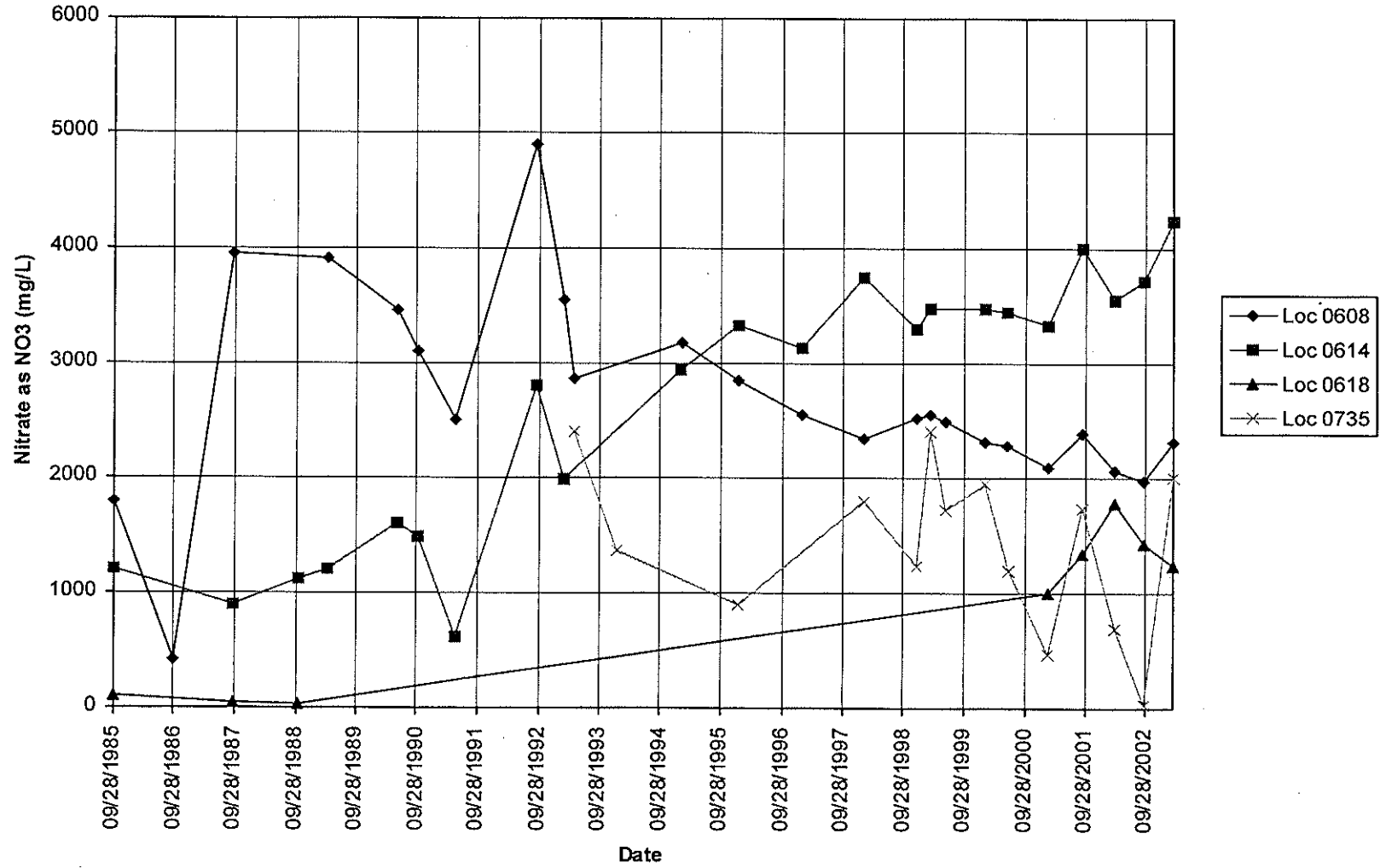
- F Low flow sampling method used.
- J Estimated value.
- Q Qualitative result due to sampling technique
- U Parameter analyzed for but was not detected.
- G Possible grout contamination, pH > 9.
- L Less than 3 bore volumes purged prior to sampling.
- R Unusable result.
- X Location is undefined.

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

TIME VERSUS CONCENTRATION GRAPHS

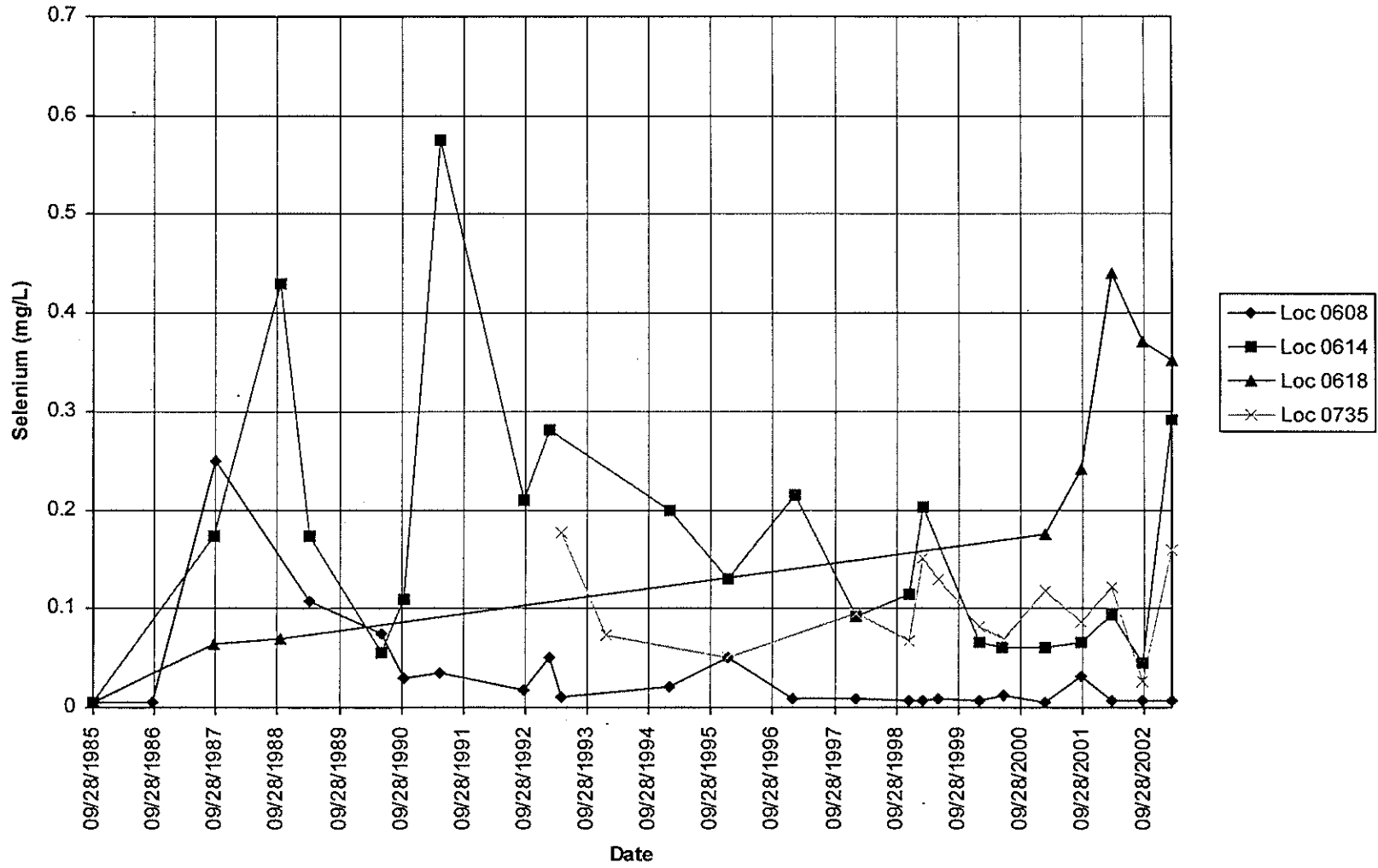
SHIPROCK (SHP01)

Nitrate as NO3 Concentration



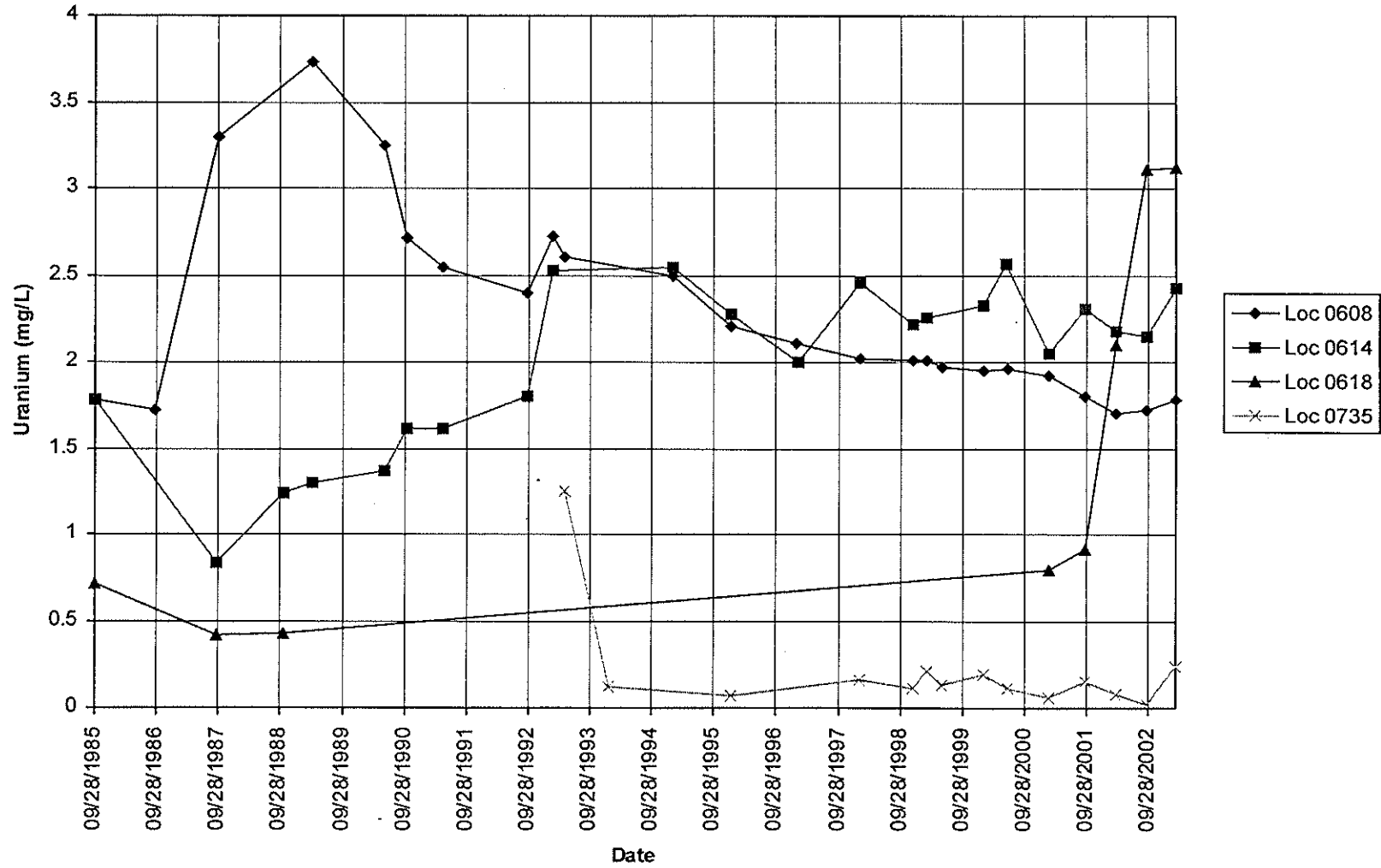
SHIPROCK (SHP01)

Selenium Concentration



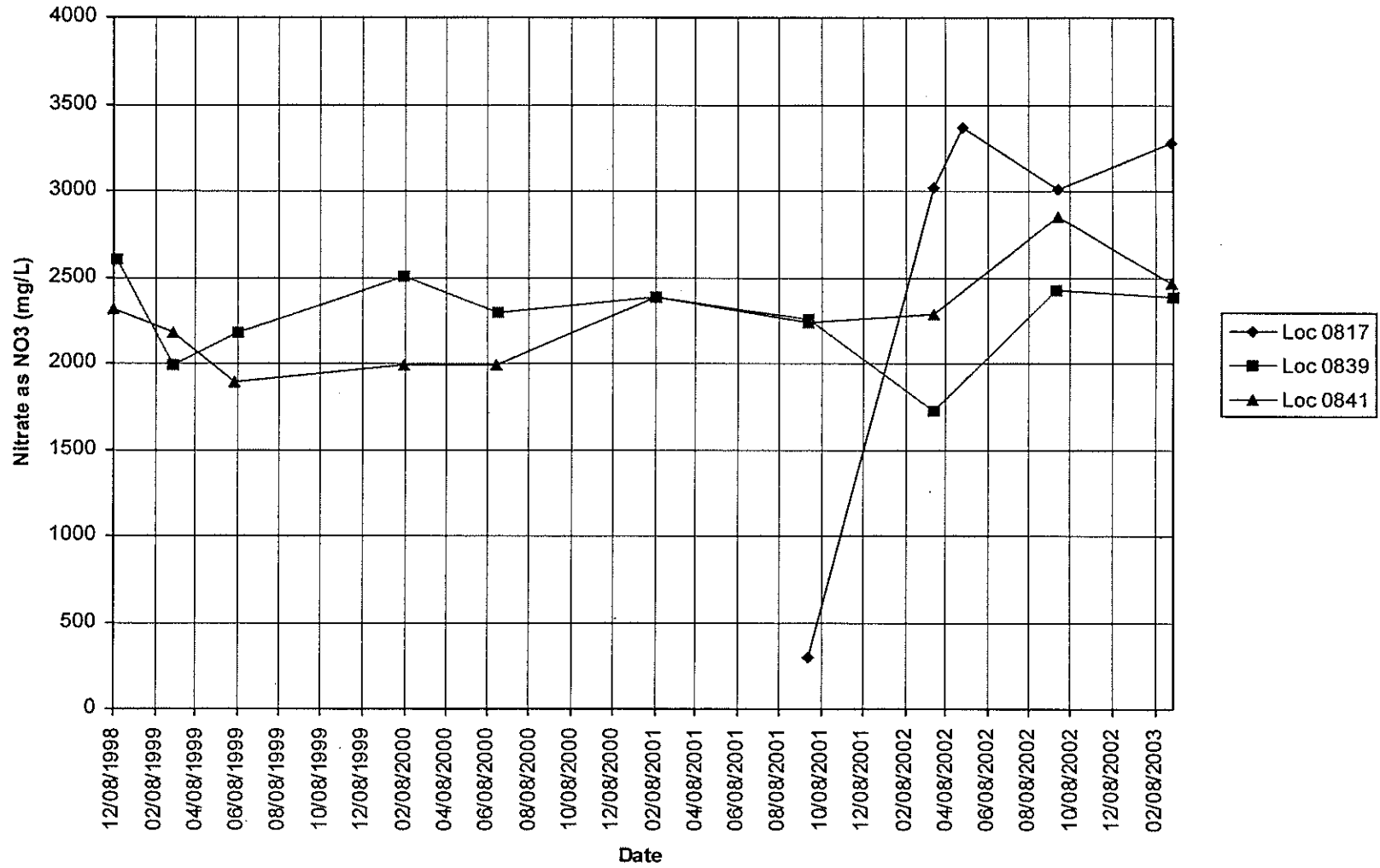
SHIPROCK (SHP01)

Uranium Concentration



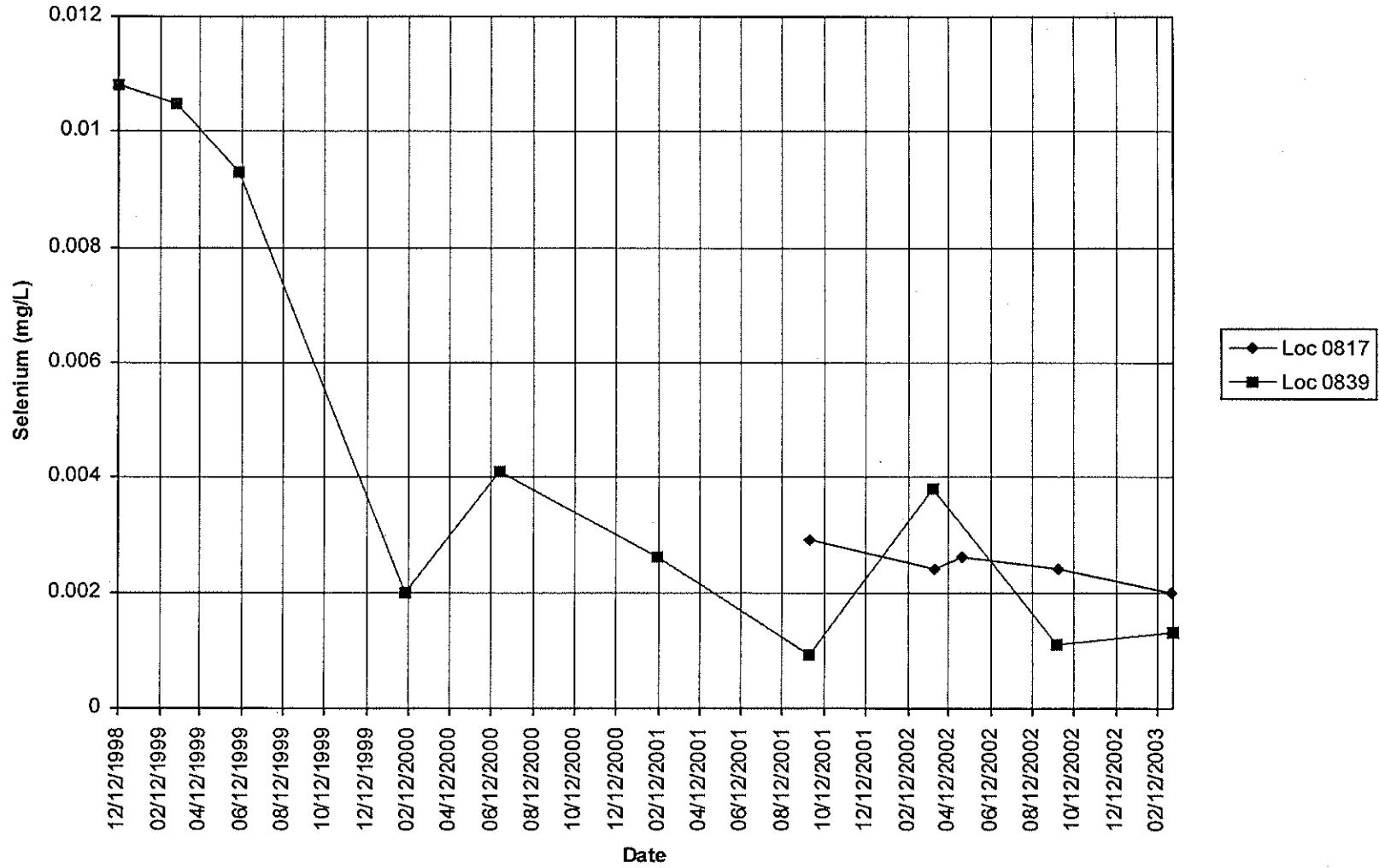
SHIPROCK (TAILINGS AREA) (SHP02)

Nitrate as NO3 Concentration



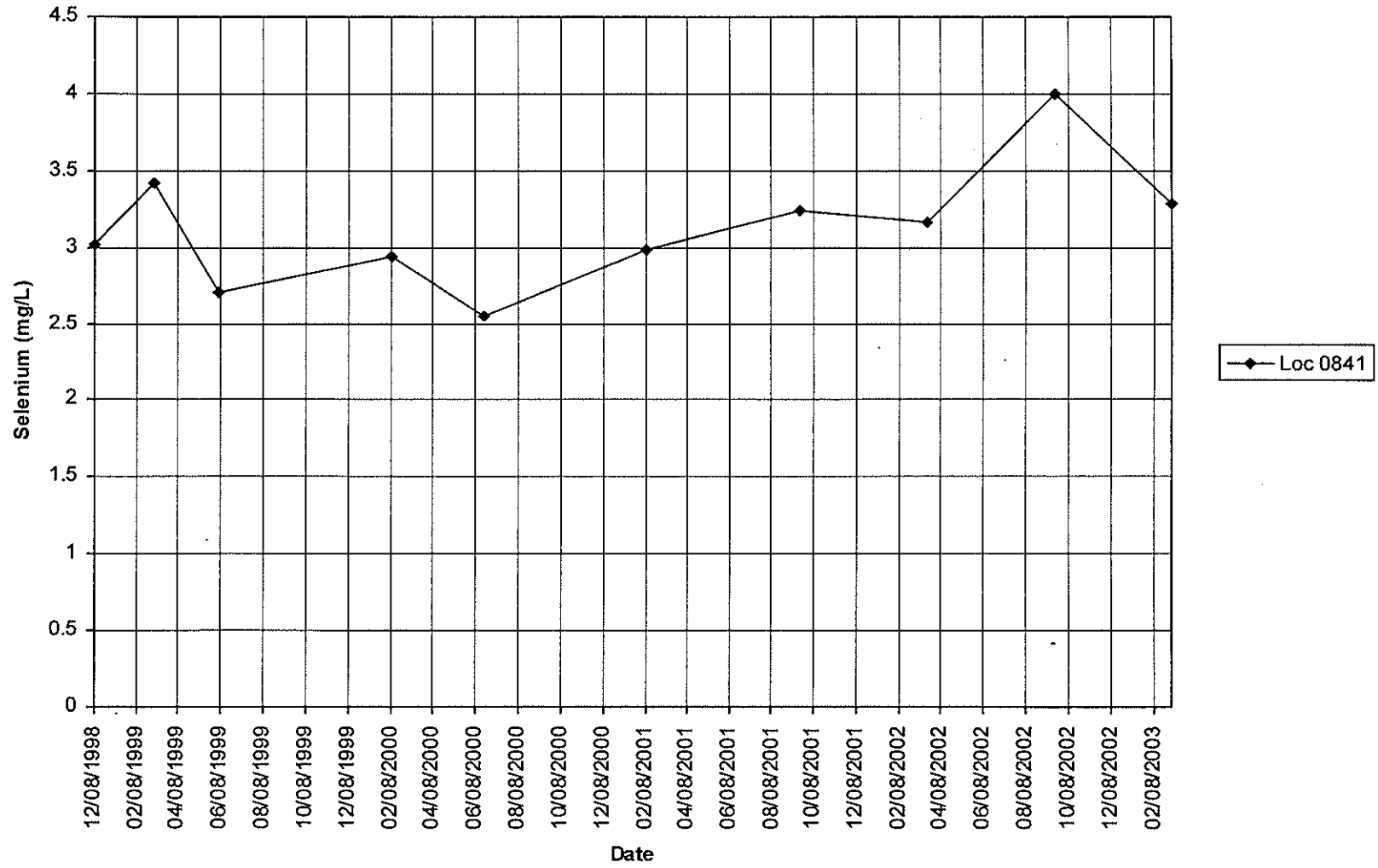
SHIPROCK (TAILINGS AREA) (SHP02)

Selenium Concentration



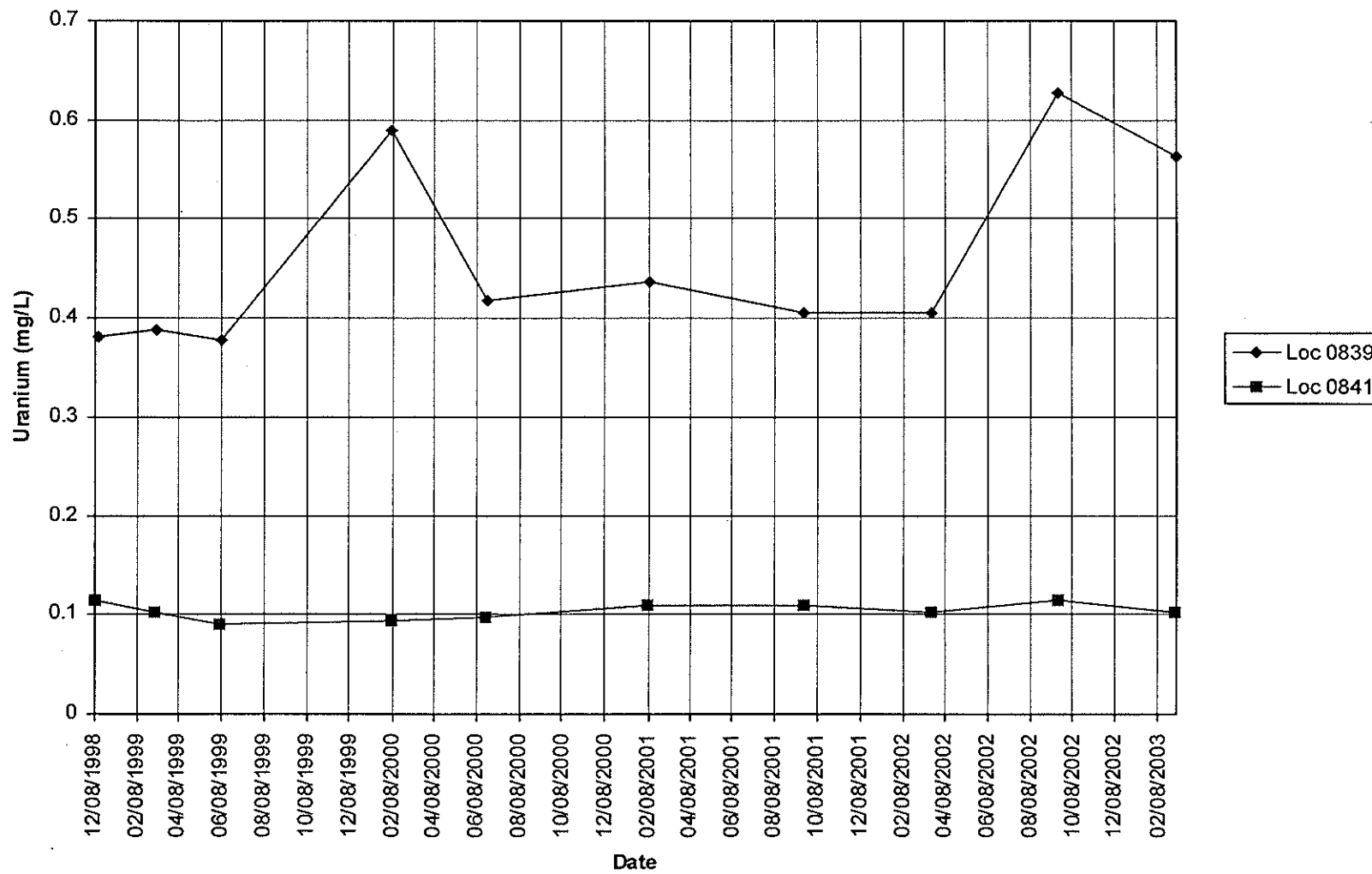
SHIPROCK (TAILINGS AREA) (SHP02)

Selenium Concentration



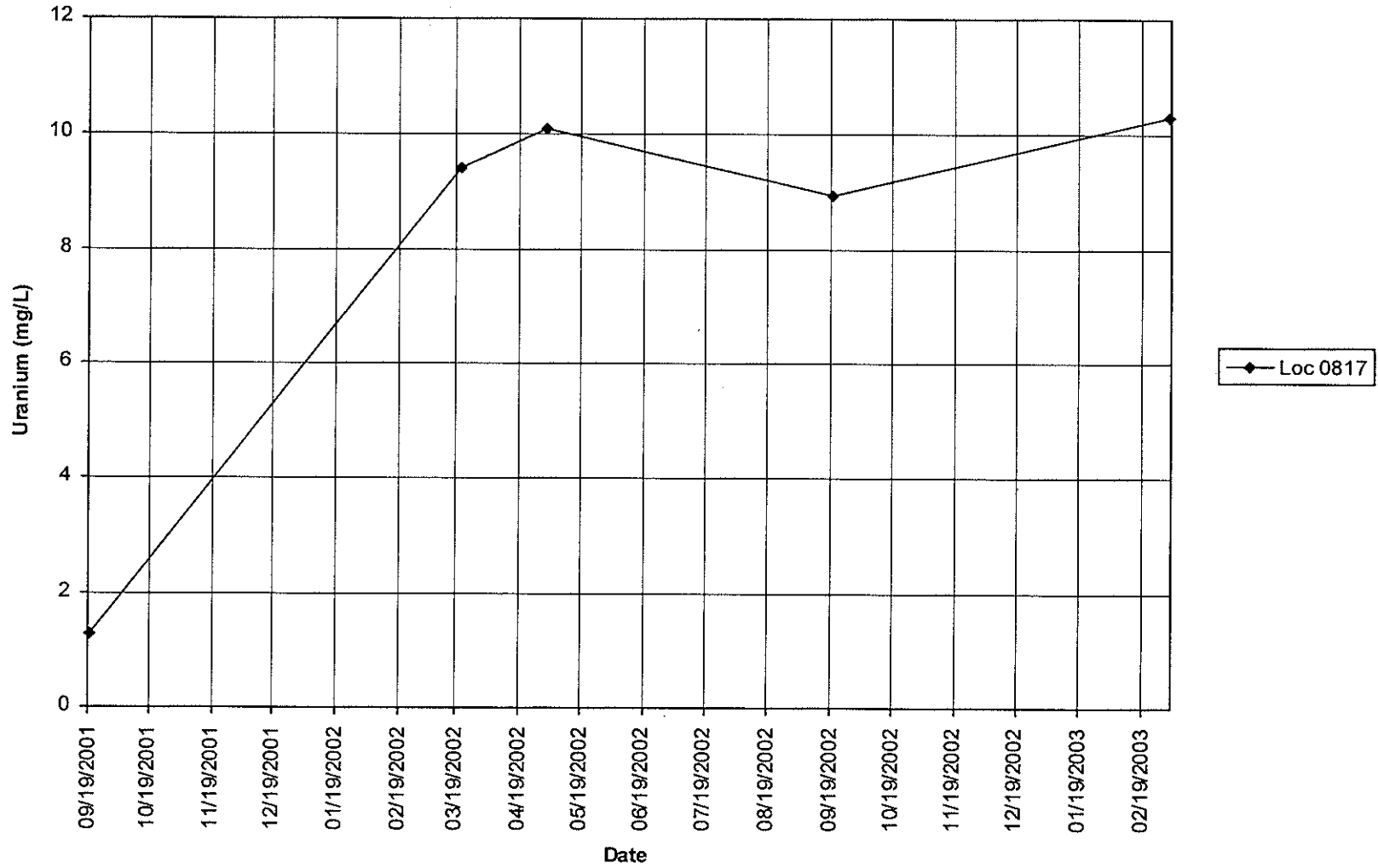
SHIPROCK (TAILINGS AREA) (SHP02)

Uranium Concentration



SHIPROCK (TAILINGS AREA) (SHP02)

Uranium Concentration



WATER LEVELS

STATIC WATER LEVELS (USEE700) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
 REPORT DATE: 5/13/2003 8:12 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0604		4995.87	03/03/2003	14:30	51.39	4944.48	
0648		4943.80	03/04/2003	08:00		-	F
0727		4940.65	03/05/2003	12:37	6.76	4933.89	
0728		4964.46	03/04/2003	16:55	24.21	4940.25	
0730		4979.74	03/05/2003	11:58	33.48	4946.26	
0812		5004.98	03/05/2003	11:30	60.36	4944.62	
0813		4984.37	03/04/2003	16:45	43.34	4941.03	
0814		4968.12	03/05/2003	11:48	31.85	4936.27	
0815		4953.67	03/04/2003	10:08	25.89	4927.78	
0817		4957.34	03/04/2003	08:07	18.66	4938.68	
0819		4955.76	03/04/2003	08:45	20.08	4935.68	
0826		4950.73	03/04/2003	09:30	17.71	4933.02	
0827		4946.92	03/05/2003	13:00	26.80	4920.12	
0828		4949.34	03/04/2003	09:40	14.51	4934.83	
0832		4964.65	03/04/2003	14:29	28.39	4936.26	
0835		4930.48	03/05/2003	09:06	19.38	4911.10	
0836		4901.74	03/04/2003	10:11	23.49	4878.25	
0838		4937.70	03/04/2003	12:53	25.97	4911.73	
0839		4943.21	03/05/2003	10:00	25.89	4917.32	
0841		4984.05	03/04/2003	15:53	44.99	4939.06	
0846		4934.57	03/04/2003	10:51	23.64	4910.93	
1007		4962.01	03/03/2003	14:10	44.10	4917.91	
1057		4980.89	03/05/2003	12:19	36.73	4944.16	
1059		4970.52	03/04/2003	09:57	22.88	4947.64	
1060		4970.62	03/04/2003	13:50	37.98	4932.64	
1067		4931.08	03/05/2003	12:41		-	D
1068		4927.97	03/05/2003	12:45	7.26	4920.71	
1069		4922.62	03/05/2003	12:48	2.47	4920.15	
1079		4925.22	03/04/2003	11:35	15.33	4909.89	

STATIC WATER LEVELS (USEE700) FOR SITE SHP02, SHIPROCK (TAILINGS AREA)
REPORT DATE: 5/13/2003 8:12 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			

RECORDS: SELECTED FROM USEE700 WHERE site_code='SHP02' AND LOG_DATE between #3/1/2003# and #3/31/2003#

FLOW CODES:

WATER LEVEL FLAGS:

D Dry

F Flowing

TRIP REPORT

Memorandum

Control Number N/A

DATE: April 1, 2003
TO: Sam J. Marutzky
FROM: Tony S. Franzone
SUBJECT: UGW Trip Report

Site: Shiprock, New Mexico.

Dates of Sampling Event: March 3 through March 7, 2003.

Team Members: Sam Campbell, Tony Franzone, Jeff Price, and Dave Traub.

Number of Locations Sampled: 22 ground water monitor wells, 20 surface water locations, and 8 extraction wells were sampled.

Locations Not Sampled/Reason: All wells scheduled for sampling were sampled; surface location 0958, which had no visible water was not sampled.

Field Variance: None.

Well/Location Specific Information: Well 1060 and surface location 0936 did not have enough water for field parameters or alkalinity testing. Wells 0615 and 0736 had roots removed from them. The nick point at surface location 0889 was washed out during a rain event, and water was sampled from an area upstream. Well 0734 was found to have roots in it. The water level for well 0832 is below the top of the pump.

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
2000	0942	Duplicate	Surface Water	NDT-245
1090	1079	Duplicate	Ground Water	NDT-790
0616	0614	Duplicate	Ground Water	NDU-556
2001	Equipment Blank	Equipment Blank-Peristaltic	Surface Water	NDU-113
1091	Equipment Blank	Equipment Blank-Peristaltic	Ground Water	NDT-798

Requisition Numbers Assigned: The UGW requisition number is 18328.

Water Level Measurements: Water level measurements were taken on all sampled wells. The site lead also requested water levels be taken at additional wells. The values are recorded in the Shiprock Field Data Book.

Well Inspection Summary: Well inspections were conducted on all sampled wells. Sampled wells were in good condition.

Data Logger Download: 27 dataloggers were downloaded during this event.

Corrective Action: None.

Equipment: None.

Regulatory: None.

Site Issues: The protective netting found over surface location 0425 has a hole in it near the middle support.

Additional Action Required/Taken: None

(ASF/lcg)

cc: D. R. Metzler, DOE-GJO
C. S. Goodknight, Stoller
K. E. Miller, Stoller
Project File GWSHP 14.12 (Thru K. Sutton)

D:\UGW\SHHP\0303shp.trp.doc

February 3, 2003

Donald Metzler
Program Manager
U.S. Department of Energy
Grand Junction Office
2597 B 3/4 Road
Grand Junction, CO 81503

SUBJECT: Contract No. DE-AC13-02GJ79491, Stoller
March 2003 UMTRA Ground Water Sampling at Shiprock, New Mexico

Reference: FY 2003 UGW Task Order No. ST03-109-10

Dear Mr. Metzler:

Enclosed are the map and tables specifying sample 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 scheduled to begin the week of March 10, 2003.

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

Ground Water Project Monitor Wells (filtered)*

SHP01

608 Km	615 Al	619 Al	735 Al	797 Al	850 Al	1008 Al
614 Al	618 Al	734 Al	736 Al			

SHP02

648 Jm	832 Al	836 Al	839 Al	846 Al	1060 Al	1079 Al
817 Km	835 Al	838 Al	841 Al			

*NOTE: Al = Alluvium; Km = Mancos Shale

Surface Water (filtered)

SHP01

655	897	940	956	959	965	1205
887	898					

SHP02

425	662	884	889	934	942	958
426	786	885	933	936		

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Data loggers will be downloaded from the following locations:

SHP01

617	736	766	854	857	899	1008
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SHP02

602	730	819	828	835	841	848
604	731	826	830	836	843	1060
728	813	827	832	837	846	

In addition, water levels will be collected at the following wells:

SHP02

604	801	812	815	828	1059	1068
728	802	813	819	1007	1067	1069
800	803	814	826	1057		

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 only. Access agreements are covered under the cooperative agreement.

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

Sincerely,

Sam Marutzky
Project Manager

SM/lcg/lad
Enclosures (3)

cc: C. S. Goodknight, Stoller
R. B. Chessmore, Stoller
D. G. Traub, Stoller
Project File GWSHP 14.06 (Thru K. Sutton)

cc w/o enclosures:
K. E. Miller, Stoller
Correspondence Control File (Thru V. Creagar)