Data Validation Package

March and April 2012 Groundwater and Surface Water Sampling at the Shiprock, New Mexico, Disposal Site

June 2012

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Sampling Event Summary

Site: Shiprock, New Mexico, Disposal Site

Sampling Period: March 26-30 and April 2-4, 2012

Groundwater and surface water sampling and analysis are performed semiannually at the Shiprock, New Mexico, Disposal Site as specified in the July 2005 *Refinement of Conceptual Model and Recommendations for Improving Remediation Efficiency at the Shiprock, New Mexico, Site*. Sampling and analysis were conducted as specified in *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PLN/S04351, continually updated) and the *Environmental Procedures Catalog* (LMS/PRO/S04325, continually updated). Monitoring of terrace locations is performed to determine the effectiveness of active remediation. Monitoring of floodplain locations is performed to determine the progress of the natural flushing process and the effectiveness of groundwater removal to prevent contaminants from reaching the San Juan River.

The contaminants of concern for the Shiprock Disposal Site are ammonia (as nitrogen), manganese, nitrate + nitrite (as nitrogen), selenium, strontium, sulfate, and uranium. Wells with contaminant concentrations that exceeded 40 CFR 192.02 groundwater standards are listed in Table 1. Time-concentration graphs for the contaminants of concern are included in this report.

Measurements for alkalinity, conductivity, oxidation-reduction potential, pH, and temperature were collected in the field. These field parameters are geochemical indicators of general water quality.

Table 1. Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	SHP01	0608	65
			0610	340
			0614	150
			0618	50
			0630	50
			0735	750
			0773	16
			0779	36
			0793	26
			0855	11
			1104	11
			1105	180
			1111	30
			1112	160
			1113	320
			1114	140
			1115	210

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	SHP01	1128	620
			1136	27
			1138	27
			1140	82
Selenium	0.01	SHP01	0610	0.061
			0614	1.3
			0615	0.053
			0618	0.39
			0622	0.03
			0630	0.27
			0735	0.054
			0773	0.07
			0779	0.031
			0793	0.18
			0855	0.049
			1009	0.018
			1105	0.17
			1111	0.2
			1112	0.74
			1113	0.18
			1114	0.033
			1115	0.1
			1128	0.017
			1140	0.16
			1141	0.14
Uranium	0.044	SHP01	0608	0.66
			0610	1.1
			0612	0.088
			0614	1.3
			0615	0.58
			0618	1.9
			0619	0.11
			0622	0.08
			0623	0.047
			0628	0.07
			0630	0.23
			0734	0.097
			0735	0.4
			0736	0.061
			0766	0.26
			0768	0.31
			0773	0.28
			0775	0.17
			0779	2.2

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
Uranium	0.044	SHP01	0792	0.2
			0793	0.91
			0798	0.32
			0853	0.09
			0854	0.76
			0855	0.091
			0856	0.07
			0857	0.66
			1008	0.54
			1009	0.22
			1089	0.23
			1104	0.77
			1105	2
			1111	0.74
			1112	1.3
			1113	0.48
			1114	0.57
			1115	0.61
			1128	1.4
			1135	0.12
			1136	0.13
			1137	0.31
			1138	0.6
			1139	0.3
			1140	1.3
			1141	0.58
			1143	0.058
Nitrate + Nitrite as Nitrogen	10	SHP02	0600	80
			0602	25
			0603	1700
			0604	1000
			0725	16
			0726	36
			0727	99
			0728	160
			0730	140
			0731	69
			0812	1400
			0813	2200
			0814	870
			0815	650
			0816	14
			0817	500
			0818	760
			0819	14

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	SHP02	0824	250
			0825	25
			0826	24
			0827	20
			0828	43
			0830	37
			0833	150
			0835	62
			0836	31
			0838	480
			0841	560
			0844	650
			1007	610
			1048	490
			1049	510
			1057	1400
			1059	350
			1068	200
			1070	590
			1071	600
			1073	1000
			1074	1300
			1078	550
			1079	230
			1091	1100
			1092	570
			1093R	1800
			1095	1400
			1096	530
Selenium	0.01	SHP02	0603	0.084
			0604	0.79
			0726	0.13
			0730	0.011
			0731	0.018
			0812	5.5
			0813	0.062
			0814	1.8
			0815	0.02
			0816	0.013
			0818	2
Selenium	0.01	SHP02	0827	0.023
			0828	0.021
			0830	0.024
			0833	0.3
			0835	0.34

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
			0836	0.24
			0837	0.15
			0838	0.83
			0841	3.3
			0843	0.47
			0844	1.7
			0848	0.052
			1007	0.14
			1048	1.3
			1049	1.2
			1057	0.11
			1068	0.042
			1069	0.013
			1070	3
			1071	2.9
			1073	2.3
			1074	0.31
			1078	2.6
			1079	0.54
			1091	0.73
			1092	1.1
			1093R	0.5
			1095	0.14
			1096	2.5
Uranium	0.044	SHP02	0600	0.66
			0602	0.51
			0604	0.086
			0725	0.11
			0727	0.21
			0728	0.27
			0812	0.14
			0813	0.11
			0814	0.082
			0815	0.33
			0817	7
			0818	0.11
			0819	1.1
			0820	0.068
			0822	0.074
			0824	0.34
Uranium	0.044	SHP02	0826	3.3
			0827	0.97
			0828	0.68
			0833	0.16
			0835	0.067

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code[b]	Location	Concentration
			0838	0.15
			0841	0.13
			0844	0.19
			1007	2.5
			1048	0.16
			1049	0.15
			1059	0.061
			1068	0.72
			1069	1.9
			1070	0.089
			1071	0.16
			1073	0.086
			1074	1.9
			1078	0.14
			1091	0.12
			1092	0.11
			1093R	0.11
			1095	0.046
			1096	0.079

[a] Standards are listed in 40 CFR 192.02 Table 1 to Subpart A; units are in milligrams per liter.
[b] SHP01 is the site code for the floodplain; SHP02 is the site code for the terrace.

Both filtered and unfiltered samples from the river locations were submitted. River location analyte concentrations of filtered and unfiltered samples were compared to statistical benchmark values (Table 2). Benchmark data are a standard data set from location 0898, which is located upstream of the site on the San Juan River, against which other river location data are compared. The filtered sample result for selenium exceeded the benchmark value (Table 3) at location 0897. The unfiltered sample result for selenium from this location was less than the benchmark value.

Table 2. Benchmark Comparison for Floodplain River Locations (Unfiltered Samples)

Location	Ammonia as N	Manganese	Nitrate+Nitrite as N	Selenium	Strontium	Sulfate	Uranium
Benchmark[a]	**0.1**	**6.2**	**1.4**	**0.013**	**3.9**	**240**	**0.028**
0501	ND[b]	0.4	0.36	0.0007	0.65	110	0.0015
0897	ND	0.35	0.43	0.0009	0.62	100	0.0016
0898	ND	0.48	0.35	0.0009	0.67	110	0.0018
0899	ND	0.013	0.38	0.0005	0.57	100	0.0012
0940	ND	0.35	0.39	0.0008	0.61	100	0.0015
0956	ND	0.65	0.31	0.0009	0.55	87	0.0019
0965	ND	2.6	0.25	0.0020	0.83	83	0.0034
1203	ND	0.44	0.38	0.0006	0.65	100	0.0017
1205	ND	0.34	0.37	0.0007	0.61	100	0.0015

Unit are in milligrams per liter (mg/L).
[a] Benchmark values are calculated using guidance derived from *Data Quality Assessment: Statistical Methods for Practitioners* (EPA 2006).
[b] ND = Not Detected.

Table 3. Benchmark Comparison for Floodplain River Locations (Filtered Samples)

Location	Ammonia as N	Manganese	Nitrate+Nitrite as N	Selenium	Strontium	Sulfate	Uranium
Benchmark[a]	**0.1**	**0.0247**	**1.1725**	**0.0019**	**1.2009**	**256**	**0.0032**
0501	ND[b]	0.014	0.39	0.0005	0.61	100	0.0013
0897	ND	0.016	0.52	**0.0031**	0.58	110	0.0013
0898	ND	0.012	0.37	0.0005	0.60	110	0.0013
0899	ND	0.013	0.38	0.0005	0.57	100	0.0012
0940	ND	0.013	0.39	0.0004	0.57	100	0.0012
0956	ND	0.008	0.33	0.0004	0.46	87	0.0012
0965	ND	0.010	0.26	0.0004	0.48	82	0.0011
1203	ND	0.017	0.38	0.0005	0.59	100	0.0013
1205	ND	0.024	0.38	0.0005	0.57	100	0.0015

Units are in milligrams per liter (mg/L).
Values in ***bold*** exceed the benchmark value.
[a] Benchmark values are calculated using guidance derived from *Data Quality Assessment: Statistical Methods for Practitioners* (EPA 2006).
[b] ND = Not Detected.

A comparison of filtered and unfiltered results from the river samples is shown in Table 4, excluding ammonia as N, which was not detected in the river location samples.

Table 4. Floodplain River Locations, Filtered and Unfiltered Samples

Location	Analyte	Result, Filtered	Result, Unfiltered	RSD[a]
0501	Calcium	62000	53000	16
	Chloride	9.3	9.1	2
	Magnesium	10000	8800	13
	Manganese	400	14	186
	Nitrate+Nitrite as N	0.36	0.39	-8
	Potassium	2900	1700	52
	Selenium	0.67	0.45	39
	Sodium	22000	21000	5
	Strontium	650	610	6
	Sulfate	110	100	10
	Uranium	1.5	1.3	14
0897	Calcium	58000	52000	11
	Chloride	9.2	9.2	0
	Magnesium	10000	8700	14
	Manganese	350	16	183
	Nitrate+Nitrite as N	0.43	0.52	-19
	Potassium	2600	1600	48
	Selenium	0.93	3.1	-108
	Sodium	22000	21000	5
	Strontium	620	580	7
	Sulfate	100	110	-10
	Uranium	1.6	1.3	21
0898	Calcium	64000	53000	19
	Chloride	9.9	9.6	3
	Magnesium	11000	9100	19
	Manganese	480	12	190
	Nitrate+Nitrite as N	0.35	0.37	-6
	Potassium	3000	1700	55
	Selenium	0.94	0.47	67
	Sodium	23000	22000	4
	Strontium	670	600	11
	Sulfate	110	110	0
	Uranium	1.8	1.3	32
0899	Calcium	60000	50000	18
	Chloride	8.6	8.6	0
	Magnesium	10000	8300	19
	Manganese	390	13	187
	Nitrate+Nitrite as N	0.38	0.38	0
	Potassium	2600	1500	54
	Selenium	0.78	0.45	54
	Sodium	20000	19000	5
	Strontium	620	570	8
	Sulfate	100	100	0
	Uranium	1.7	1.2	34

Table 4 (continued). Floodplain River Locations, Filtered and Unfiltered Samples

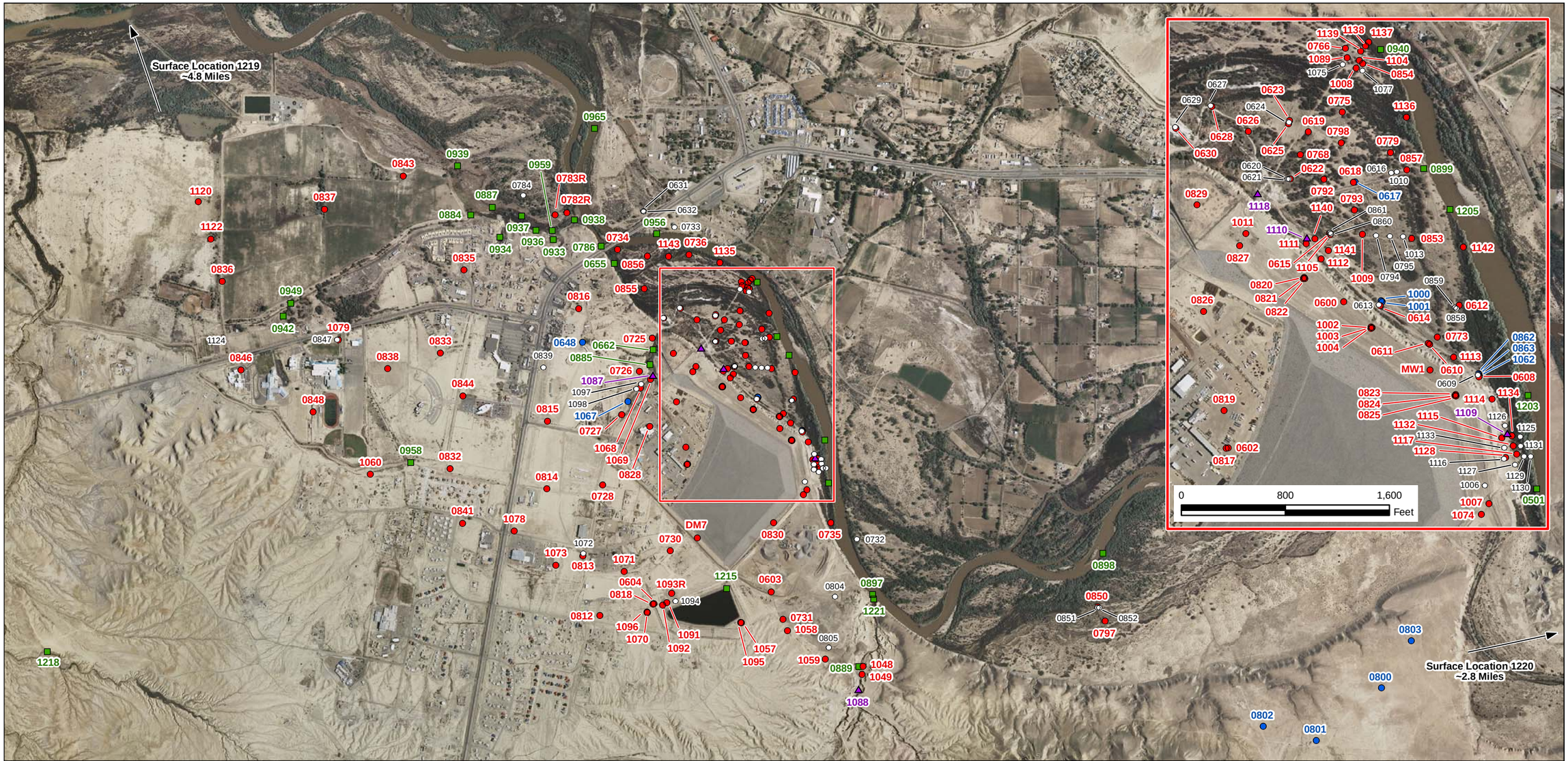
Location	Analyte	Result, Filtered	Result, Unfiltered	RSD[a]
0940	Calcium	58000	51000	13
	Chloride	8.6	8.7	-1
	Magnesium	9600	8300	15
	Manganese	350	13	186
	Nitrate+Nitrite as N	0.38	0.39	-3
	Potassium	2500	1500	50
	Selenium	0.75	0.44	52
	Sodium	21000	20000	5
	Strontium	610	570	7
	Sulfate	100	100	0
	Uranium	1.5	1.2	22
0956	Calcium	56000	42000	29
	Chloride	7	7	0
	Magnesium	9300	6800	31
	Manganese	650	8.1	195
	Nitrate+Nitrite as N	0.31	0.33	-6
	Potassium	2700	1100	84
	Selenium	0.92	0.39	81
	Sodium	19000	18000	5
	Strontium	550	460	18
	Sulfate	87	87	0
	Uranium	1.9	1.2	45
0965	Calcium	120000	44000	93
	Chloride	6.5	6.5	0
	Magnesium	20000	7100	95
	Manganese	2600	10	198
	Nitrate+Nitrite as N	0.25	0.26	-4
	Potassium	6400	1400	128
	Selenium	2	0.36	139
	Sodium	17000	15000	13
	Strontium	830	480	53
	Sulfate	83	82	1
	Uranium	3.4	1.1	102
1203	Calcium	63000	53000	17
	Chloride	9.2	9.2	0
	Magnesium	10000	8700	14
	Manganese	440	17	185
	Nitrate+Nitrite as N	0.38	0.38	0
	Potassium	2700	1600	51
	Selenium	0.64	0.47	31
	Sodium	22000	21000	5
	Strontium	650	590	10
	Sulfate	100	100	0
	Uranium	1.7	1.3	27

Table 4 (continued). Floodplain River Locations, Filtered and Unfiltered Samples

Location	Analyte	Result, Filtered	Result, Unfiltered	RSD[a]
1205	Calcium	58000	51000	13
	Chloride	9	9.3	-3
	Magnesium	9700	8500	13
	Manganese	340	24	174
	Nitrate+Nitrite as N	0.37	0.38	-3
	Potassium	2500	1500	50
	Selenium	0.73	0.52	34
	Sodium	21000	20000	5
	Strontium	610	570	7
	Sulfate	100	100	0
	Uranium	1.5	1.2	22

David Miller
Site Lead, S. M. Stoller Corporation

6/26/12
Date



LEGEND

- WELL TO BE SAMPLED
- WELL TO BE SAMPLED (WATER LEVEL ONLY)
- SURFACE LOCATION TO BE SAMPLED
- TREATMENT SYSTEM LOCATION TO BE SAMPLED
- EXISTING WELL

U.S. DEPARTMENT OF ENERGY GRAND JUNCTION, COLORADO	Work Performed by S.M. Stoller Corporation Under DOE Contract No. DE-AM01-07LM00060
Planned Sampling Map Shiprock, NM, Disposal Site March 2012	
DATE PREPARED: February 14, 2012	FILENAME: S0870900

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Shiprock, New Mexico, Disposal Site Planned Sample Locations

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	Shiprock, New Mexico	**Date(s) of Water Sampling**	March 26-30 and April 2-4, 2012
Date(s) of Verification	May 21, 2012	**Name of Verifier**	Steve Donivan

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOPs, instructions.		Work Order letter dated February 16, 2012.
2. Were the sampling locations specified in the planning documents sampled?	No	Twenty-seven locations were not sampled due to insufficient water, see trip report.
3. Was a pre-trip calibration conducted as specified in the above-named documents?	No	Pre-trip calibrations were performed on March 21–22, 2012, for all instruments except YSI "K."
4. Was an operational check of the field equipment conducted daily?	No	Operational checks were performed daily for all instruments except YSI "K," on April 4, 2012.
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	No	ORP measurements were not performed at locations 0619, 0622, 0630, 0768, 0775, 0798, and 0956 because of a probe failure.
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	Turbidity criteria was not met at locations 0835, 0841, and 1113. Samples from these locations were filtered.
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	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	Nine duplicate samples were collected.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with non-dedicated equipment?	Yes	One equipment blank was collected.
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?	Yes	
Was the true identity of the samples recorded on the Quality Assurance Sample Log or in the Field Data Collection System (FDCS) report?	Yes	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	Location 1069 was sampled for metals only, because of limited volume.
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members (hardcopies) or are dates present for the “Date Signed” fields (FDCS)?	Yes	
18. Was all other pertinent information documented on the field data sheets?	Yes	
19. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Report Number (RIN):	12034422
Sample Event:	March 26-30 and April 2-4, 2012
Site(s):	Shiprock Disposal Site (Floodplain), New Mexico
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1204083
Analysis:	Metals and Wet Chemistry
Validator:	Steve Donivan
Review Date:	May 16, 2012

This validation was performed according to the *Environmental Procedures Catalog* (LMS/PRO/S04325, continually updated), "Standard Practice for Validation of Laboratory Data." The procedure was applied at Level 3, Data Validation. See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 5.

Table 5. Analytes and Methods.

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	EPA 350.1	EPA 350.1
Calcium, Magnesium, Manganese, Potassium, Sodium, Strontium	LMM-01	SW-846 3005	SW-846 6010B
Chloride, Sulfate	MIS-A-045	SW-846 9056	SW-846 9056
Nitrate + Nitrite as N	WCH-A-022	EPA 353.2	EPA 353.2
Selenium, Uranium	LMM-02	SW-846 3005	SW-846 6020

Data Qualifier Summary

Analytical results were qualified as listed in Table 6. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied.

Table 6. Data Qualifier Summary

Sample Number	Location	Analyte	Flag	Reason
1204083-1	0501	Sodium	J	Serial dilution failure
1204083-21	0766	Potassium	J	Matrix spike failure
1204083-21	0766	Selenium	J	PQL verification over range
1204083-23	0773	Ammonia as N	J	Field duplicate precision
1204083-23	0773	Manganese	J	Field duplicate precision
1204083-28	0792	Calcium	J	Field duplicate precision
1204083-28	0792	Manganese	J	Field duplicate precision
1204083-28	0792	Potassium	J	Field duplicate precision
1204083-28	0792	Strontium	J	Field duplicate precision
1204083-33	0853	Selenium	J	PQL verification over range
1204083-34	0854	Selenium	J	PQL verification over range
1204083-41	0898	Manganese	J	Serial dilution failure
1204083-41	0898	Sodium	J	Serial dilution failure
1204083-61	1115	Potassium	J	Serial dilution failure
1204083-64	1128	Nitrate + Nitrite as N	J	Matrix spike failure
1204083-80	1128 Duplicate	Nitrate + Nitrite as N	J	Matrix spike failure
1204083-81	0773 Duplicate	Ammonia as N	J	Field duplicate precision
1204083-81	0773 Duplicate	Manganese	J	Field duplicate precision
1204083-83	0792 Duplicate	Calcium	J	Field duplicate precision
1204083-83	0792 Duplicate	Manganese	J	Field duplicate precision
1204083-83	0792 Duplicate	Potassium	J	Field duplicate precision
1204083-83	0792 Duplicate	Sodium	J	Serial dilution failure
1204083-83	0792 Duplicate	Strontium	J	Field duplicate precision

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 83 water samples on April 6, 2012, accompanied by Chain of Custody forms. Copies of the air bills were included in the receiving documentation. The Chain of Custody forms were checked to confirm that all of the samples were listed and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the Chain of Custody forms had no errors or omissions.

Preservation and Holding Times

The sample shipments were received intact with the temperatures inside the iced coolers at 0.4 °C and 1.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses with the following exception. The ammonia as N aliquots for locations 0853, 1089, and 1110 had pH values of 3 when received. The aliquots were preserved to pH values less than 2 and allowed to equilibrate prior to analysis. All samples were analyzed within the applicable holding times.

Detection and Quantitation Limits

The method detection limit (MDL) was reported for all analytes as required. The MDL, as defined in 40 CFR 136, is the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The practical quantitation limit (PQL) for these analytes is the lowest concentration that can be reliably measured, and is defined as 5 times the MDL. The reported MDLs for all analytes demonstrate compliance with contractual requirements.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods. All calibration and laboratory spike standards were prepared from independent sources.

Method EPA 350.1
Calibrations were performed for ammonia as N on April 16 and 17, 2012, using six calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 20 verification checks. All calibration checks met the acceptance criteria.

Method EPA 353.2
Calibrations were performed for nitrate + nitrite as N on April 11 and 12, 2012, using seven calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 13 verification checks. All calibration checks met the acceptance criteria.

Method SW-846 6010B
Calibrations for calcium, magnesium, manganese, potassium, sodium, and strontium were performed April 11, 2012, using three calibration standards. The correlation coefficient values were greater than 0.995. The absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in 17 verification checks. All calibration checks associated with reported results met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the accuracy of the calibration curve near the PQL and all results were within the acceptance range of 70% to 130%.

Method SW-846 6020A
Calibrations for selenium and uranium were performed April 11 and 18, 2012, using four calibration standards. The calibration curve correlation coefficient values were greater than

0.995 and the absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in 30 verification checks. All calibration checks associated with reported results met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the accuracy of the calibration curve near the PQL. All check results were within the acceptance range of 70% to 130% recovery with the exception of selenium analyzed on April 18, 2012. This indicates a higher degree of uncertainty in measuring selenium at low concentrations and the associated sample results that are greater than the MDL but less than 5 times the PQL are qualified with a "J" flag as estimated values. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.

Method SW-846 9056
Calibrations were performed for chloride and sulfate on February 15, 2012, using five calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 29 verification checks. All calibration checks met the acceptance criteria with the exception of three sulfate verification checks. None of the reported sulfate results were associated with these check samples.

Method and Calibration Blanks

Method blanks are analyzed to assess any contamination that may have occurred during sample preparation. Calibration blanks are analyzed to assess instrument contamination prior to and during sample analysis. In cases where a blank concentration exceeds the MDL, the associated sample results are qualified with a "U" flag (not detected) when the sample result is greater than the MDL but less than 5 times the blank concentration. All method blank and calibration blank results associated with the samples were below the PQLs for all analytes.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

Interference check samples were analyzed at the required frequency to verify the instrumental interelement and background correction factors. All check sample results met the acceptance criteria.

Matrix Spike Analysis

Matrix spike and matrix spike duplicate (MS/MSD) samples are used to measure method performance in the sample matrix. The MS/MSD data are not evaluated when the concentration of the unspiked sample is greater than 4 times the spike concentration. The spikes met the recovery and precision criteria for all analytes evaluated with the following exceptions. The potassium spike recovery from sample 0766 and the nitrate + nitrite as N recovery from sample 1128 duplicate were above the acceptance range. Associated sample results are qualified with a "J" flag as estimated values.

Laboratory Replicate Analysis

Laboratory replicate analyses are used to determine laboratory precision for each sample matrix. The relative percent difference (RPD) for replicate results that are greater than 5 times the PQL should be less than 20 percent. For results that are less than 5 times the PQL, the range should be no greater than the PQL. The replicate results met these criteria, demonstrating acceptable laboratory precision.

Laboratory Control Samples

Laboratory control samples were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. The control sample results were acceptable for all analytes.

Metals Serial Dilution

Serial dilutions were prepared and analyzed for the metals analyses to monitor chemical or physical interferences in the sample matrix. Serial dilution data are evaluated when the concentration of the undiluted sample is greater than 50 times the MDL. All evaluated serial dilution data were acceptable with the following exceptions. The serial dilution for sodium prepared from sample 0501; for sodium prepared from sample 0792 duplicate; for manganese and sodium prepared from sample 0898; and for potassium prepared from sample 1115 did not meet the acceptance criteria. Because of the possible reduced accurary due to matrix interference, the associated results are qualified with a "J" flag as estimated values.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The required detection limits were met for all analytes.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all chloride and sulfate data. All peak integrations were satisfactory.

Anion/Cation Balance

The anion/cation balance is used to determine if major ion concentrations have been quantified correctly. The total anions should balance with (be equal to) the total cations when expressed in milliequivalents per liter (meq/L). Table 7 shows the total anion and cation results in groundwater samples from this event and the charge balance, which is a RPD calculation. Typically, a charge balance difference of 10 percent is considered acceptable.

Table 7. Comparison of Major Anions and Cations in Groundwater Samples

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP01	0608	120.89	126.31	2.19
SHP01	0610	157.40	162.00	1.44
SHP01	0611	116.73	134.14	6.94
SHP01	0612	27.38	28.45	1.91
SHP01	0614	190.10	190.84	0.19
SHP01	0615	91.83	92.58	0.41
SHP01	0618	283.94	284.96	0.18
SHP01	0619	70.95	78.03	4.76
SHP01	0622	57.14	63.11	4.97
SHP01	0623	60.08	65.81	4.55
SHP01	0625	57.14	65.22	6.60
SHP01	0626	53.59	60.03	5.67
SHP01	0628	104.07	116.98	5.84
SHP01	0630	108.63	120.51	5.19
SHP01	0734	101.79	113.95	5.64
SHP01	0735	333.51	366.92	4.77
SHP01	0736	60.47	65.41	3.92
SHP01	0766	116.58	134.52	7.15
SHP01	0768	159.67	178.96	5.70
SHP01	0773	43.54	44.06	0.59
SHP01	0775	87.68	96.38	4.73
SHP01	0779	269.84	284.92	2.72
SHP01	0782R	10.83	10.35	2.28
SHP01	0783R	14.93	15.30	1.22
SHP01	0792	138.64	151.82	4.54
SHP01	0793	104.32	106.50	1.03
SHP01	0797	83.74	91.61	4.49
SHP01	0798	127.00	136.09	3.45
SHP01	0850	19.58	22.42	6.75
SHP01	0853	26.00	25.77	0.45
SHP01	0854	166.22	187.17	5.93
SHP01	0855	66.86	79.03	8.34
SHP01	0856	66.51	74.23	5.48
SHP01	0857	118.13	123.93	2.39
SHP01	1008	120.12	130.14	4.00
SHP01	1009	44.33	45.41	1.21
SHP01	1089	97.44	107.71	5.00
SHP01	1104	170.08	176.99	1.99
SHP01	1105	206.37	227.15	4.79
SHP01	1109	29.93	30.42	0.82
SHP01	1110	153.55	159.13	1.78
SHP01	1111	177.21	189.81	3.43
SHP01	1112	194.06	200.69	1.68
SHP01	1113	112.10	113.50	0.62
SHP01	1114	92.56	96.52	2.09

Table 7 (continued). Comparison of Major Anions and Cations in Groundwater Samples

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP01	1115	102.98	112.35	4.35
SHP01	1117	6.22	6.33	0.88
SHP01	1128	273.48	285.39	2.13
SHP01	1132	5.97	6.06	0.76
SHP01	1134	6.68	6.65	0.25
SHP01	1135	76.13	86.94	6.63
SHP01	1136	52.55	54.40	1.73
SHP01	1137	85.60	92.11	3.66
SHP01	1138	105.29	108.06	1.30
SHP01	1139	59.71	64.18	3.61
SHP01	1140	161.86	174.61	3.79
SHP01	1141	72.18	76.22	2.73
SHP01	1142	5.78	5.67	0.94
SHP01	1143	57.31	65.15	6.40

The charge balance value was less than ten percent for all locations.

Electronic Data Deliverable (EDD) File

The EDD file arrived on April 26, 2012. The Sample Management System EDD validation module was used to verify that the EDD files were complete and in compliance with requirements. The module compares the contents of the files to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 12034422 **Lab Code:** PAR **Validator:** Steve Donivan **Validation Date:** 5/16/2012

Project: Shiprock Monitoring **Analysis Type:** ☑ Metals ☑ General Chem ☐ Rad ☐ Organics

# of Samples: 83 **Matrix:** WATER **Requested Analysis Completed:** Yes

Chain of Custody

Present: OK **Signed:** OK **Dated:** OK

Sample

Integrity: OK **Preservation:** OK **Temperature:** OK

Select Quality Parameters

☑ Holding Times	All analyses were completed within the applicable holding times.
☑ Detection Limits	The reported detection limits are equal to or below contract requirements.
☐ Field/Trip Blanks	
☑ Field Duplicates	There were 4 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12034422 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 4/26/2012

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Calcium	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	94.0	101.0	100.0	0.0	101.0	1.0	103.0
Calcium	ICP/ES	04/11/2012								94.0				100.0	1.0	102.0
Calcium	ICP/ES	04/11/2012								97.0	100.0	100.0	0.0		0.0	
Calcium	ICP/ES	04/11/2012								97.0	117.0	111.0	1.0		3.0	
Calcium	ICP/ES	04/11/2012								98.0	93.0	88.0	1.0		1.0	
Magnesium	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0	99.0	98.0	1.0	103.0	0.0	102.0
Magnesium	ICP/ES	04/11/2012								97.0	119.0	120.0	0.0	103.0	1.0	103.0
Magnesium	ICP/ES	04/11/2012								98.0	98.0	98.0	0.0		1.0	
Magnesium	ICP/ES	04/11/2012								98.0	119.0	106.0	1.0		0.0	
Magnesium	ICP/ES	04/11/2012								99.0	95.0	95.0	0.0		1.0	
Manganese	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	94.0	93.0	1.0		2.0	104.0
Manganese	ICP/ES	04/11/2012								95.0	102.0	102.0	0.0	92.0	8.0	103.0
Manganese	ICP/ES	04/11/2012								97.0	95.0	95.0	0.0	90.0	19.0	
Manganese	ICP/ES	04/11/2012								97.0	104.0	99.0	1.0		2.0	
Manganese	ICP/ES	04/11/2012								97.0	96.0	95.0	1.0			
Potassium	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	99.0	107.0	106.0	2.0		38.0	79.0
Potassium	ICP/ES	04/11/2012								98.0	122.0	122.0	0.0			77.0
Potassium	ICP/ES	04/11/2012								98.0	105.0	105.0	1.0			

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12034422 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 4/26/2012

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Potassium	ICP/ES	04/11/2012								98.0	115.0	111.0	2.0			
Potassium	ICP/ES	04/11/2012								99.0	111.0	111.0	0.0			
Selenium	ICP/MS	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	101.0	99.0	96.0	3.0	99.0	10.0	
Selenium	ICP/MS	04/11/2012							OK	96.0	97.0	96.0	1.0	99.0		115.0
Selenium	ICP/MS	04/11/2012							OK	98.0	94.0	100.0	3.0			90.0
Selenium	ICP/MS	04/11/2012							OK	96.0	98.0	97.0	1.0			136.0
Selenium	ICP/MS	04/18/2012	0.0000	1.0000	OK	OK	OK	OK	OK	94.0	103.0	101.0	2.0			110.0
Sodium	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	96.0	104.0	102.0	1.0		13.0	81.0
Sodium	ICP/ES	04/11/2012								95.0					8.0	82.0
Sodium	ICP/ES	04/11/2012								95.0	102.0	101.0	0.0		13.0	
Sodium	ICP/ES	04/11/2012								95.0					8.0	
Sodium	ICP/ES	04/11/2012								96.0	100.0	97.0	0.0		11.0	
Strontium	ICP/ES	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	97.0	95.0	1.0	94.0	1.0	89.0
Strontium	ICP/ES	04/11/2012								96.0				94.0	4.0	88.0
Strontium	ICP/ES	04/11/2012								97.0	95.0	95.0	0.0		1.0	
Strontium	ICP/ES	04/11/2012								97.0	97.0	81.0	2.0		2.0	
Strontium	ICP/ES	04/11/2012								97.0	95.0	94.0	0.0		2.0	
Uranium	ICP/MS	04/11/2012	0.0000	1.0000	OK	OK	OK	OK	OK	101.0	101.0	100.0	1.0	97.0	3.0	100.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12034422 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 4/26/2012

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Uranium	ICP/MS	04/11/2012							OK	99.0	98.0	110.0	0.0	102.0	1.0	90.0
Uranium	ICP/MS	04/11/2012							OK	100.0	99.0	100.0	1.0		1.0	90.0
Uranium	ICP/MS	04/11/2012							OK	99.0			2.0		8.0	100.0
Uranium	ICP/MS	04/11/2012									86.0	81.0	0.0		6.0	
Uranium	ICP/MS	04/18/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0						

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12034422 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 4/26/2012

Analyte	Date Analyzed	CALIBRATION						Method	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB	Blank					
AMMONIA AS N	04/16/2012	0.000	1.0000	OK	OK	OK	OK	OK	100.00	112.0	114.0	1.00	
AMMONIA AS N	04/16/2012							OK	99.00	103.0	104.0	1.00	
AMMONIA AS N	04/16/2012							OK	100.00	112.0	112.0	1.00	
AMMONIA AS N	04/17/2012	0.000	1.0000	OK	OK	OK	OK	OK	99.00	98.0	93.0	1.00	
AMMONIA AS N	04/17/2012							OK	100.00				
CHLORIDE	04/09/2012	0.000	1.0000	OK	OK	OK	OK	OK	95.00	100.0	100.0	0	
CHLORIDE	04/10/2012							OK	94.00	96.0	95.0	2.00	
CHLORIDE	04/10/2012							OK	95.00	100.0	101.0	1.00	
CHLORIDE	04/10/2012								93.00	98.0			
CHLORIDE	04/10/2012									102.0			
CHLORIDE	04/10/2012									98.0			
CHLORIDE	04/11/2012			OK	OK	OK	OK	OK	95.00	98.0	99.0	2.00	
CHLORIDE	04/11/2012									102.0	98.0	0	
CHLORIDE	04/11/2012									98.0			
Nitrate+Nitrite as N	04/11/2012	0.000	1.0000	OK	OK	OK	OK	OK	97.00	102.0	102.0	0	
Nitrate+Nitrite as N	04/11/2012							OK	98.00	103.0	101.0	1.00	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12034422 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 4/26/2012

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
Nitrate+Nitrite as N	04/12/2012							OK	97.00	107.0	107.0	0	
Nitrate+Nitrite as N	04/12/2012							OK	97.00	95.0	96.0	0	
Nitrate+Nitrite as N	04/12/2012							OK	98.00	77.0		3.00	
SULFATE	04/09/2012	0.000	1.0000	OK	OK	OK	OK	OK	97.00	98.0	98.0	0	
SULFATE	04/09/2012							OK	97.00	91.0	89.0	0	
SULFATE	04/09/2012									89.0			
SULFATE	04/10/2012							OK	97.00	98.0	101.0	0	
SULFATE	04/10/2012							OK	95.00	101.0			
SULFATE	04/10/2012									101.0			
SULFATE	04/11/2012			OK	OK	OK	OK	OK	97.00	99.0	105.0	0	
SULFATE	04/11/2012									103.0			
SULFATE	04/12/2012									143.0	124.0	5.00	

General Information

RIN:	12034423
Sample Event:	March 26-30 and April 2-4, 2012
Site(s):	Shiprock Disposal Site (Terrace), New Mexico
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1204087
Analysis:	Metals and Wet Chemistry
Validator:	Steve Donivan
Review Date:	May 17, 2012

This validation was performed according to the *Environmental Procedures Catalog* (LMS/PRO/S04325, continually updated), "Standard Practice for Validation of Laboratory Data." The procedure was applied at Level 3, Data Validation. See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 8.

Table 8. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	EPA 350.1	EPA 350.1
Calcium, Magnesium, Manganese, Potassium, Sodium, Strontium	LMM-01	SW-846 3005	SW-846 6010B
Chloride, Sulfate	MIS-A-045	SW-846 9056	SW-846 9056
Nitrate + Nitrite as N	WCH-A-022	EPA 353.2	EPA 353.2
Selenium, Uranium	LMM-02	SW-846 3005	SW-846 6020

Data Qualifier Summary

Analytical results were qualified as listed in Table 9. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied.

Table 9. Data Qualifier Summary

Sample Number	Location	Analyte	Flag	Reason
1204087-18	0818	Uranium	J	Field duplicate precision
1204087-41	1057	Potassium	J	Serial dilution failure
1204087-46	1070	Potassium	J	Field duplicate precision
1204087-58	1096	Magnesium	J	Field duplicate precision
1204087-58	1096	Manganese	J	Field duplicate precision
1204087-61	1219	Potassium	J	Matrix spike failure
1204087-61	1219	Sodium	J	Serial dilution failure
1204087-64	0818 Duplicate	Uranium	J	Field duplicate precision
1204087-65	1096 Duplicate	Magnesium	J	Field duplicate precision
1204087-65	1096 Duplicate	Manganese	J	Field duplicate precision
1204087-66	1070 Duplicate	Potassium	J	Field duplicate precision

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 70 water samples on April 6, 2012, accompanied by Chain of Custody forms. Copies of the air bills were included in the receiving documentation. The Chain of Custody forms were checked to confirm that all of the samples were listed and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the Chain of Custody forms had no errors or omissions.

Preservation and Holding Times

The sample shipments were received intact with the temperatures inside the iced coolers at 0.4 °C and 0.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses with the following exception. The acidified aliquots for locations 0604, 844, 848, 1093R, and 1093R duplicate had pH values of 3 when received. The aliquots were preserved to pH values less than 2 and allowed to equilibrate prior to analysis. All samples were analyzed within the applicable holding times.

Detection and Quantitation Limits

The MDL was reported for all analytes as required. The MDL, as defined in 40 CFR 136, is the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The PQL for these analytes is the lowest concentration that can be reliably measured, and is defined as 5 times the MDL. The reported MDLs for all analytes demonstrate compliance with contractual requirements.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods. All calibration and laboratory spike standards were prepared from independent sources.

Method EPA 350.1
Calibrations were performed for ammonia as N on April 19, 2012, using six calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 17 verification checks. All calibration checks met the acceptance criteria.

Method EPA 353.2
Calibrations were performed for nitrate + nitrite as N on April 20, 2012, using seven calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the

absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 14 verification checks. All calibration checks met the acceptance criteria.

Method SW-846 6010B
Calibrations for calcium, magnesium, manganese, potassium, sodium, and strontium were performed April 16, 2012, using three calibration standards. The correlation coefficient values were greater than 0.995. The absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in 17 verification checks. All calibration checks associated with reported results met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the PQL and all results were within the acceptance range.

Method SW-846 6020A
Calibrations for selenium and uranium were performed April 18, 2012, using four calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in 17 verification checks. All calibration checks associated with reported results met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the PQL and all results were within the acceptance range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.

Method SW-846 9056
Calibrations were performed for chloride and sulfate on April 12, 2012, using five calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in 25 verification checks. All calibration checks met the acceptance criteria.

Method and Calibration Blanks

Method blanks are analyzed to assess any contamination that may have occurred during sample preparation. Calibration blanks are analyzed to assess instrument contamination prior to and during sample analysis. In cases where a blank concentration exceeds the MDL, the associated sample results are qualified with a "U" flag (not detected) when the sample result is greater than the MDL but less than 5 times the blank concentration. All method blank and calibration blank results associated with the samples were below the PQLs for all analytes.

Inductively Coupled Plasma Interference Check Sample Analysis

Interference check samples were analyzed at the required frequency to verify the instrumental interelement and background correction factors. All check sample results met the acceptance criteria.

Matrix Spike Analysis

MS/MSD samples are used to measure method performance in the sample matrix. The MS/MSD data are not evaluated when the concentration of the unspiked sample is greater than 4 times the spike concentration. The spikes met the recovery and precision criteria for all analytes evaluated with the following exception. The potassium spike recovery from sample 1219 was above the acceptance range. The associated sample result is qualified with a "J" flag as an estimated value.

Laboratory Replicate Analysis

Laboratory replicate analyses are used to determine laboratory precision for each sample matrix. The RPD for replicate results that are greater than 5 times the PQL should be less than 20 percent. For results that are less than 5 times the PQL, the range should be no greater than the PQL. The replicate results met these criteria, demonstrating acceptable laboratory precision.

Laboratory Control Samples

Laboratory control samples were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. The control sample results were acceptable for all analytes.

Metals Serial Dilution

Serial dilutions were prepared and analyzed for metals analyses to monitor chemical or physical interferences in the sample matrix. Serial dilution data are evaluated when the concentration of the undiluted sample is greater than 50 times the MDL. All evaluated serial dilution data were acceptable with the following exceptions. The serial dilution for potassium prepared from sample 1057, and the potassium and sodium prepared from sample 1219 did not meet the acceptance criteria. Associated results are qualified with a "J" flag as estimated values.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all chloride and sulfate data. All peak integrations were satisfactory.

Anion/Cation Balance

The anion/cation balance is used to determine if major ion concentrations have been quantified correctly. The total anions should balance with (be equal to) the total cations when expressed in milliequivalents per liter. Table 10 shows the total anion and cation results in groundwater samples from this event and the charge balance, which is a RPD calculation. Typically, a charge balance difference of 10 percent is considered acceptable.

Table 10. Comparison of Major Anions and Cations in Groundwater Samples

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP02	0600	242.43	267.34	4.89
SHP02	0602	401.77	450.69	5.74
SHP02	0603	193.08	185.67	1.96
SHP02	0604	375.36	380.30	0.65
SHP02	0725	68.03	69.55	1.10
SHP02	0726	109.81	123.80	5.99
SHP02	0727	263.83	275.49	2.16
SHP02	0728	137.51	141.70	1.50
SHP02	0730	50.50	49.92	0.57
SHP02	0731	89.53	96.11	3.55
SHP02	0812	484.37	514.19	2.99
SHP02	0813	399.23	403.04	0.47
SHP02	0814	359.00	371.90	1.77
SHP02	0815	383.79	401.91	2.31
SHP02	0816	38.64	40.48	2.32
SHP02	0817	315.46	331.93	2.54
SHP02	0818	329.49	341.18	1.74
SHP02	0819	309.25	328.57	3.03
SHP02	0820	306.44	365.78	8.83
SHP02	0822	278.50	290.05	2.03
SHP02	0824	205.84	252.15	10.11
SHP02	0825	283.47	338.39	8.83
SHP02	0826	338.06	318.68	2.95
SHP02	0827	161.63	172.23	3.18
SHP02	0828	70.13	69.69	0.31
SHP02	0830	37.37	37.20	0.24
SHP02	0833	136.42	141.74	1.91
SHP02	0835	89.95	93.69	2.04
SHP02	0836	59.78	61.73	1.61
SHP02	0837	58.34	60.06	1.45
SHP02	0838	234.37	229.28	1.10
SHP02	0841	352.00	390.82	5.23
SHP02	0843	41.65	41.23	0.51
SHP02	0844	275.79	278.52	0.49
SHP02	0848	342.69	370.56	3.91
SHP02	1007	338.36	334.96	0.51
SHP02	1048	384.89	440.42	6.73
SHP02	1049	385.39	441.35	6.77
SHP02	1057	223.91	219.28	1.04
SHP02	1058	140.29	154.16	4.71
SHP02	1059	216.08	235.31	4.26
SHP02	1068	128.67	132.19	1.35
SHP02	1070	373.88	380.28	0.85
SHP02	1071	334.23	351.71	2.55

Table 10 (continued). Comparison of Major Anions and Cations in Groundwater Samples

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP02	1073	302.67	311.80	1.49
SHP02	1074	302.36	317.04	2.37
SHP02	1078	326.56	349.64	3.41
SHP02	1079	76.98	74.10	1.91
SHP02	1087	182.73	180.19	0.70
SHP02	1088	415.76	490.50	8.25
SHP02	1091	386.34	399.19	1.64
SHP02	1092	368.47	379.81	1.52
SHP02	1093R	297.39	280.36	2.95
SHP02	1095	227.03	216.60	2.35
SHP02	1096	369.22	347.09	3.09
SHP02	MW1	176.12	208.12	8.33

The charge balance value was less than ten percent for all locations.

Electronic Data Deliverable File

The EDD file arrived on May 1, 2012. The Sample Management System EDD validation module was used to verify that the EDD files were complete and in compliance with requirements. The module compares the contents of the files to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 12034423 **Lab Code:** PAR **Validator:** Steve Donivan **Validation Date:** 5/17/2012

Project: Shiprock Monitoring **Analysis Type:** ☑ Metals ☑ General Chem ☐ Rad ☐ Organics

# of Samples: 70 **Matrix:** WATER **Requested Analysis Completed:** Yes

Chain of Custody

Present: OK **Signed:** OK **Dated:** OK

Sample

Integrity: OK **Preservation:** OK **Temperature:** OK

Select Quality Parameters

☑ Holding Times	All analyses were completed within the applicable holding times.
☑ Detection Limits	The reported detection limits are equal to or below contract requirements.
☑ Field/Trip Blanks	There was 1 trip/equipment blank evaluated.
☑ Field Duplicates	There were 5 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12034423 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 5/2/2012

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Calcium	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	96.0	90.0	86.0	1.0	110.0	10.0	104.0
Calcium	ICP/ES	04/16/2012							OK	96.0			2.0	105.0	10.0	103.0
Calcium	ICP/ES	04/16/2012							OK	97.0			0.0		3.0	
Calcium	ICP/ES	04/16/2012							OK	100.0	100.0	101.0	0.0		1.0	
Magnesium	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0	95.0	89.0	1.0	111.0	4.0	105.0
Magnesium	ICP/ES	04/16/2012							OK	97.0	81.0	85.0	1.0	104.0	10.0	103.0
Magnesium	ICP/ES	04/16/2012							OK	97.0			0.0		0.0	
Magnesium	ICP/ES	04/16/2012							OK	99.0	102.0	97.0	1.0		0.0	
Manganese	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	98.0	98.0	0.0	98.0		107.0
Manganese	ICP/ES	04/16/2012							OK	95.0	91.0	95.0	3.0	91.0		103.0
Manganese	ICP/ES	04/16/2012							OK	95.0			1.0			
Manganese	ICP/ES	04/16/2012							OK	97.0	89.0	88.0	1.0			
Potassium	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	96.0	111.0	107.0	2.0		27.0	80.0
Potassium	ICP/ES	04/16/2012							OK	95.0	102.0	106.0	2.0		32.0	77.0
Potassium	ICP/ES	04/16/2012							OK	95.0			1.0			
Potassium	ICP/ES	04/16/2012							OK	96.0	126.0	125.0	0.0			
Selenium	ICP/MS	04/18/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0	107.0	109.0	2.0	99.0	2.0	126.0
Selenium	ICP/MS	04/18/2012							OK	93.0	111.0	109.0	2.0		7.0	110.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12034423 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 5/2/2012

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Selenium	ICP/MS	04/18/2012							OK	95.0	108.0	101.0	3.0			
Selenium	ICP/MS	04/18/2012							OK	95.0	96.0	100.0	3.0			
Sodium	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0			1.0		8.0	84.0
Sodium	ICP/ES	04/16/2012							OK	92.0			1.0		5.0	82.0
Sodium	ICP/ES	04/16/2012							OK	92.0			1.0		4.0	
Sodium	ICP/ES	04/16/2012							OK	94.0	99.0	100.0	0.0		13.0	
Strontium	ICP/ES	04/16/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0	104.0	89.0	1.0	101.0	7.0	94.0
Strontium	ICP/ES	04/16/2012							OK	98.0			1.0	98.0	2.0	92.0
Strontium	ICP/ES	04/16/2012							OK	97.0	106.0	94.0	1.0		2.0	
Strontium	ICP/ES	04/16/2012							OK	99.0			0.0		4.0	
Uranium	ICP/MS	04/18/2012	0.0000	1.0000	OK	OK	OK	OK	OK	96.0			2.0	102.0	6.0	90.0
Uranium	ICP/MS	04/18/2012							OK	97.0	90.0	103.0	2.0		4.0	100.0
Uranium	ICP/MS	04/18/2012							OK	100.0	108.0	92.0	3.0		8.0	
Uranium	ICP/MS	04/18/2012							OK	99.0	93.0	93.0	0.0		2.0	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12034423 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 5/2/2012

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
AMMONIA AS N	04/19/2012	0.007	1.0000	OK	OK	OK	OK	OK	98.00	79.0	79.0	0	
AMMONIA AS N	04/19/2012							OK	98.00	97.0	100.0	3.00	
AMMONIA AS N	04/19/2012							OK	100.00				
AMMONIA AS N	04/19/2012							OK	98.00				
CHLORIDE	04/12/2012	0.000	1.0000	OK	OK	OK	OK	OK	96.00				
CHLORIDE	04/13/2012							OK	91.00	100.0	104.0	2.00	
CHLORIDE	04/13/2012									99.0	96.0	2.00	
CHLORIDE	04/16/2012							OK	91.00	99.0	96.0	1.00	
CHLORIDE	04/16/2012							OK	92.00	97.0			
CHLORIDE	04/17/2012									99.0			
Nitrate+Nitrite as N	04/20/2012	0.000	1.0000	OK	OK	OK	OK	OK	95.00	100.0	100.0	0	
Nitrate+Nitrite as N	04/20/2012							OK	95.00	113.0	120.0	3.00	
Nitrate+Nitrite as N	04/20/2012							OK	96.00	98.0	92.0	1.00	
Nitrate+Nitrite as N	04/20/2012							OK	96.00	110.0	108.0	1.00	
SULFATE	04/12/2012	0.000	1.0000	OK	OK	OK	OK	OK	99.00				
SULFATE	04/13/2012							OK	94.00	101.0	106.0	2.00	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12034423 **Lab Code:** PAR **Date Due:** 5/4/2012

Matrix: Water **Site Code:** SHP **Date Completed:** 5/2/2012

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
SULFATE	04/13/2012									100.0	103.0	0	
SULFATE	04/13/2012									104.0			
SULFATE	04/16/2012							OK	94.00	100.0	101.0	0	
SULFATE	04/16/2012							OK	94.00	99.0	101.0	0	
SULFATE	04/16/2012									102.0			
SULFATE	04/17/2012									119.0			

Sampling Quality Control Assessment

The following information summarizes and assesses quality control for this sampling event.

Sampling Protocol

Sample results for monitoring wells that met the Category I, II, or III low-flow sampling criteria were qualified with an "F" flag in the database, indicating the wells were purged and sampled using the low-flow sampling method. All wells met the Category I criteria and were sampled with dedicated tubing using the low-flow purge procedure with the following exceptions: floodplain wells 0734 and 0797, and terrace wells 0600, 0604, 0727, 0730, 0812, 0814, 0817, 0819, 0820, 0822, 0824, 0825, 0826, 0827, 1007, 1048, 1049, 1058, 1059, 1068, 1069, 1073, 1074, and MW1 were classified as Category II or III. The sample results for these wells were qualified with a "Q" flag, indicating the data are qualitative because of the sampling technique.

Both filtered and unfiltered samples were collected from floodplain river locations 0501, 0897, 0898, 0899, 0940, 0956, 0965, 1203, and 1205.

Field Measurements

Attempts to re-calibrate field instrument Sonde "G" failed on March 30, 2012. A replacement instrument, Sonde "K" was used but had not been fully calibrated. The field data collected with Sonde "K" from terrace locations 0619, 0622, 0626, 0630, 0775, 0956, 0965 and floodplain locations 0600, 0662, 0726, 0727, 0819, 0826, 0827, and 0860 are qualified with a "J" flag as estimated values.

Equipment Blank Assessment

Equipment blanks are prepared and analyzed to document contamination attributable to the sample collection process. An equipment blank (field ID 2813) was collected after decontamination of the tubing reel used to collect some surface water samples. Calcium, sodium, sulfate, and uranium were detected in the equipment blank. The concentrations of these analytes in the associated samples were greater than 10 times the blank concentration, requiring no qualification. The equipment blank results indicate adequate decontamination of the sampling equipment.

Field Duplicate Assessment

Field duplicate samples are collected and analyzed as an indication of overall precision of the measurement process. The precision observed includes both field and laboratory precision and has more variability than laboratory duplicates, which measure only laboratory performance. The RPD for duplicate results that are greater than 5 times the PQL should be less than 20 percent. The RPD is not used to evaluate results that are less than 5 times the PQL. For these results (RPD is NA on the Field Duplicates report), the range should be no greater than the PQL.

Duplicate floodplain samples were collected from locations 0773, 0792, 1111, and 1128. The duplicate results met the criteria with the exception of the ammonia as N and manganese results from location 0773, and the calcium, manganese, potassium, and strontium results from

location 0792. The sample and associated duplicate results are qualified with a “J” flag as estimated values.

Duplicate terrace samples were collected from locations 0818, 1070, 1087, 1093R, and 1096. The duplicate results met the criteria with the exception of the uranium results from location 0818, the potassium results from location 1070, and the magnesium and manganese results from location 1096. The sample and associated duplicate results are qualified with a “J” flag as estimated values.

During the review of the duplicate data, there were no analytical errors identified and sampling difficulties were not reported on the field data sheets. For those results were the RPD exceeded 20%, the precision observed is attributed to the complex sample matrix that required sample dilution prior to analysis for most analytes. The duplicate results are acceptable as qualified.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Equipment/Trip Blanks

RIN: 12034423 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 5/17/2012

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	1204087-69	SW6010	Calcium	14	B	12	UG/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
1204087-5	KEQ 283	0662	110000	5		
1204087-63	KEQ 291	1221	400000	50		

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	1204087-69	SW6010	Sodium	27	B	6.6	UG/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
1204087-5	KEQ 283	0662	710000	5		
1204087-63	KEQ 291	1221	7600000	100		

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	1204087-69	SW6020	Uranium	0.041		0.0029	UG/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
1204087-5	KEQ 283	0662	0.47	1		
1204087-63	KEQ 291	1221	210	100		

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	1204087-69	SW9056	SULFATE	0.56		0.5	MG/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
1204087-5	KEQ 283	0662	2000	50		
1204087-63	KEQ 291	1221	21000	500		

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12034422 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/29/2012

Duplicate: 2210 **Sample:** 1128

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	400			200	400			200	0		MG/L
Calcium	440000			10	450000			10	2.25		UG/L
CHLORIDE	370			200	370			200	0		MG/L
Magnesium	1700000			10	1700000			10	0		UG/L
Manganese	4100			10	4100			10	0		UG/L
Nitrate+Nitrite as N	680			500	620			500	9.23		MG/L
Potassium	180000			10	190000			10	5.41		UG/L
Selenium	15			50	17			50	12.50		UG/L
Sodium	1800000			20	1800000			20	0		UG/L
Strontium	9200			10	9200			10	0		UG/L
SULFATE	10000			200	9800	N		200	2.02		MG/L
Uranium	1400			50	1400			50	0		UG/L

Duplicate: 2211 **Sample:** 0773

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	4.6			1	3.5			1	27.16		MG/L
Calcium	210000			5	220000			5	4.65		UG/L
CHLORIDE	68			10	70			50	2.90		MG/L
Magnesium	230000			5	230000			5	0		UG/L
Manganese	35			5	27			5	25.81		UG/L
Nitrate+Nitrite as N	16			10	16			10	0		MG/L
Potassium	28000			5	27000			5	3.64		UG/L
Selenium	78			10	70			50	10.81		UG/L
Sodium	300000			5	300000	E		5	0		UG/L
Strontium	2200			5	2200			5	0		UG/L
SULFATE	1700			50	1800			50	5.71		MG/L
Uranium	290			10	280			50	3.51		UG/L

Duplicate: 2212 **Sample:** 1111

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.27			1	0.23			1			MG/L
Calcium	370000			20	370000			50	0		UG/L
CHLORIDE	340			100	340			100	0		MG/L
Magnesium	960000			20	940000			50	2.11		UG/L
Manganese	970			20	950			50	2.08		UG/L
Nitrate+Nitrite as N	30			20	30			50	0		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12034422 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/29/2012

Duplicate: 2212 **Sample:** 1111

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
Potassium	49000			20	31000	B		50	NA		UG/L
Selenium	220			200	200			50	9.52		UG/L
Sodium	1800000			20	1700000			50	5.71		UG/L
Strontium	10000			20	9700			50	3.05		UG/L
SULFATE	7500			100	7600			100	1.32		MG/L
Uranium	740			200	720			50	2.74		UG/L

Duplicate: 2215 **Sample:** 0792

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Calcium	390000			50	310000			1	22.86		UG/L
CHLORIDE	220			20	210			100	4.65		MG/L
Magnesium	380000			50	320000			1	17.14		UG/L
Manganese	8400			50	6500			1	25.50		UG/L
Nitrate+Nitrite as N	0.011			1	0.01	U		1			MG/L
Potassium	29000	B		50	77000			1	NA		UG/L
Selenium	2.5			10	1.9			1	NA		UG/L
Sodium	2000000			50	2200000			50	9.52		UG/L
Strontium	8100			50	6400			1	23.45		UG/L
SULFATE	6500			100	6900			100	5.97		MG/L
Uranium	200			10	200			10	0		UG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12034423 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/29/2012

Duplicate: 2319 **Sample:** 0818

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	61			20	59			20	3.33		MG/L
Calcium	470000			50	470000			50	0		UG/L
CHLORIDE	910			500	900			200	1.10		MG/L
Magnesium	1900000			50	1900000			50	0		UG/L
Manganese	520			50	520			50	0		UG/L
Nitrate+Nitrite as N	760			500	730			500	4.03		MG/L
Potassium	62000			50	62000			50	0		UG/L
Selenium	2000			100	2000			100	0		UG/L
Sodium	3300000			50	3300000			50	0		UG/L
Strontium	13000			50	13000			50	0		UG/L
SULFATE	12000			500	12000			200	0		MG/L
Uranium	160			100	110			100	37.04		UG/L

Duplicate: 2320 **Sample:** 1096

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.23			1	0.25			1			MG/L
Calcium	430000			50	420000			50	2.35		UG/L
CHLORIDE	900			200	970			200	7.49		MG/L
Magnesium	1300000			50	990000			50	27.07		UG/L
Manganese	160	B		50	92	B		50	NA		UG/L
Nitrate+Nitrite as N	530			500	530			500	0		MG/L
Potassium	54000			50	48000	B		50	11.76		UG/L
Selenium	2500			100	2600			100	3.92		UG/L
Sodium	5500000			50	5200000			50	5.61		UG/L
Strontium	10000			50	9200			50	8.33		UG/L
SULFATE	13000			200	14000			200	7.41		MG/L
Uranium	81			100	79			100	2.50		UG/L

Duplicate: 2810 **Sample:** 1070

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	3.8			1	3.8			1	0		MG/L
Calcium	430000			50	410000			10	4.76		UG/L
CHLORIDE	1100			200	1200			200	8.70		MG/L
Magnesium	1300000			50	1200000			10	8.00		UG/L
Manganese	160	B		50	160			10	0		UG/L
Nitrate+Nitrite as N	620			500	590			500	4.96		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12034423 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/29/2012

Duplicate: 2810 **Sample:** 1070

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
Potassium	55000			50	87000			10	NA		UG/L
Selenium	3000			100	2800			10	6.90		UG/L
Sodium	5600000			50	5400000			100	3.64		UG/L
Strontium	11000			50	9800			10	11.54		UG/L
SULFATE	14000			200	15000			200	6.90		MG/L
Uranium	89			100	80			10	10.65		UG/L

Duplicate: 2811 **Sample:** 1093R

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	340			100	350			100	2.90		MG/L
Calcium	860000			50	810000			20	5.99		UG/L
CHLORIDE	550			200	580			200	5.31		MG/L
Magnesium	1800000			50	1800000			20	0		UG/L
Manganese	18000			50	17000			20	5.71		UG/L
Nitrate+Nitrite as N	1700			2000	1800			2000	5.71		MG/L
Potassium	140000			50	160000			20	13.33		UG/L
Selenium	500			50	550			20	9.52		UG/L
Sodium	1800000			50	1800000			20	0		UG/L
Strontium	11000			50	11000			20	0		UG/L
SULFATE	6300			200	6400			200	1.57		MG/L
Uranium	110			50	110			20	0		UG/L

Duplicate: 2812 **Sample:** 1087

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	120			50	120			100	0		MG/L
Calcium	500000			20	500000			10	0		UG/L
CHLORIDE	260			100	260			200	0		MG/L
Magnesium	1200000			20	1200000			10	0		UG/L
Manganese	1100			20	1100			10	0		UG/L
Nitrate+Nitrite as N	270			200	270			200	0		MG/L
Potassium	96000			20	110000			10	13.59		UG/L
Selenium	28			50	30			20	6.90		UG/L
Sodium	1100000			20	1100000			10	0		UG/L
Strontium	9300			20	9000			10	3.28		UG/L
SULFATE	6800			100	6900			200	1.46		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12034423 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/29/2012

Duplicate: 2812 **Sample:** 1087

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
Uranium	500			50	510			20	1.98		UG/L

Certification

All laboratory analytical quality control criteria were met except as qualified in this report. The data qualifiers listed on the SEEPro database reports are defined on the last page of each report. All data in this package are considered validated and available for use.

Laboratory Coordinator: Steve Donivan — Date: 6-18-2012

Data Validation Lead: Steve Donivan — Date: 6-18-2012

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Attachment 1
Assessment of Anomalous Data

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Potential Outliers Report

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Potential Outliers Report

Potential outliers are measurements that are extremely large or small relative to the rest of the data and, therefore, are suspected of misrepresenting the population from which they were collected. Potential outliers may result from transcription errors, data-coding errors, or measurement system problems. However, outliers may also represent true extreme values of a distribution and indicate more variability in the population than was expected.

Statistical outlier tests give probabilistic evidence that an extreme value does not "fit" with the distribution of the remainder of the data and is therefore a statistical outlier. These tests should only be used to identify data points that require further investigation. The tests alone cannot determine whether a statistical outlier should be discarded or corrected within a data set.

There are three steps involved in identifying extreme values or outliers:

1. Identify extreme values that may be potential outliers by generating the Outliers Report using the Sample Management System from data in the environmental database. The application compares the new data set (in standard environmental database units) with historical data and lists the new data that fall outside the historical data range. A determination is also made if the data are normally distributed using the Shapiro-Wilk Test.
2. Apply the appropriate statistical test. Dixon's Extreme Value test is used to test for statistical outliers when the sample size is less than or equal to 25. This test considers both extreme values that are much smaller than the rest of the data (case 1) and extreme values that are much larger than the rest of the data (case 2). This test is valid only if the data without the suspected outlier are normally distributed. Rosner's Test is a parametric test that is used to detect outliers for sample sizes of 25 or more. This test also assumes that the data without the suspected outliers are normally distributed.
3. Scientifically review statistical outliers and decide on their disposition.

Data identified as potentially anomalous generally are from locations where analyte concentrations are trending upward or downward. There were no data errors indicated from the review of these potential outliers and the data from this event are acceptable as qualified.

The ammonia as N result for location SHP01 0773 for the sample collected in September 2011 was previously identified as potentially anomalous. The data from this sampling event confirm that the September 2011 result is an outlier likely due to a laboratory error. The ammonia as N result for location SHP01 0773 for the sample collected in September 2011 is qualified with an “R” flag as rejected.

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data for Filtered Samples
Laboratory: ALS Laboratory Group
RIN: 12034422
Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP01	0501	0002	03/27/2012	Potassium	1.7			4.6	N	J	1.95			15	0	No
SHP01	0897	0001	03/28/2012	Selenium	0.0031			0.0021	B		0.00027			28	3	No
SHP01	0899	0001	03/29/2012	Chloride	8.6			14			11			5	0	No
SHP01	0899	0001	03/29/2012	Potassium	1.5			3			2.1			8	0	No
SHP01	0899	0001	03/29/2012	Selenium	0.00045			0.0016			0.00055			5	1	No
SHP01	0899	0001	03/29/2012	Sodium	19			48			21.5			8	0	No
SHP01	0899	0001	03/29/2012	Strontium	0.57			0.85			0.69			5	0	No
SHP01	0956	0001	04/04/2012	Potassium	1.1			3.9	E		2			26	0	Yes
SHP01	0956	0001	04/04/2012	Sodium	18			95.4			20			26	0	No
SHP01	0965	0001	04/03/2012	Potassium	1.4			3.8			2.12	B		19	0	Yes
SHP01	0965	0001	04/03/2012	Sodium	15			102			20			19	0	No
SHP01	1203	0002	03/27/2012	Potassium	1.6			3.91			2.27	B		17	0	No
SHP01	1205	0001	03/28/2012	Potassium	1.5			5.6			2.16	B		25	0	Yes

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP01	0501	N001	03/27/2012	Chloride	9.3			14			10			6	0	No
SHP01	0501	N001	03/27/2012	Magnesium	10			30			11			6	0	No
SHP01	0501	N001	03/27/2012	Sodium	22	E	J	56			27			6	0	No
SHP01	0501	N001	03/27/2012	Strontium	0.65			1.7			0.75			6	0	No
SHP01	0501	N001	03/27/2012	Uranium	0.0015			0.0084			0.0017			6	0	No
SHP01	0608	N001	03/27/2012	Ammonia Total as N	66		F	240			68		F	14	0	No
SHP01	0608	N001	03/27/2012	Uranium	0.66		F	2.72			0.67		F	16	0	No
SHP01	0611	N001	03/27/2012	Manganese	0.057	B	F	0.51		F	0.064		F	5	0	No
SHP01	0611	N001	03/27/2012	Potassium	9.4	B	F	45		F	15.1		F	6	0	No
SHP01	0611	N001	03/27/2012	Selenium	0.0006		F	0.084		F	0.00061		F	5	0	No
SHP01	0614	N001	03/29/2012	Chloride	260		F	580		F	290		F	16	0	No
SHP01	0614	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	150		F	610		F	210		F	11	0	No
SHP01	0614	N001	03/29/2012	Strontium	7.6		F	13		F	7.9		F	10	0	No
SHP01	0614	N001	03/29/2012	Sulfate	7800		F	15000		F	8400		F	19	0	No
SHP01	0614	N001	03/29/2012	Uranium	1.3		F	2.8343			1.5		F	19	0	No
SHP01	0615	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	2.6		F	150		F	3		F	11	0	No
SHP01	0615	N001	03/29/2012	Strontium	4.7		F	8.44			4.8		F	10	0	No
SHP01	0618	N001	03/29/2012	Manganese	8.1		F	50	U		8.3		F	13	1	No
SHP01	0618	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	50		F	350		F	71			10	0	No
SHP01	0619	N001	04/03/2012	Potassium	15	B	F	76		F	20.2		F	16	0	No
SHP01	0619	N001	04/03/2012	Uranium	0.11		F	1.2			0.13		F	16	0	No
SHP01	0622	N001	04/03/2012	Magnesium	86		F	250		F	94		F	7	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP01	0622	N001	04/03/2012	Potassium	14		F	42		F	18		F	7	0	No
SHP01	0623	N001	03/26/2012	Uranium	0.047		F	0.0882			0.053		F	12	0	No
SHP01	0625	N001	03/26/2012	Magnesium	47		F	60			50		F	7	0	No
SHP01	0625	N001	03/26/2012	Uranium	0.029		F	0.06		F	0.04		F	7	0	No
SHP01	0628	N001	03/26/2012	Chloride	150		F	140		F	66		F	10	0	No
SHP01	0628	N001	03/26/2012	Sodium	1900		F	1600		F	730		F	10	0	No
SHP01	0628	N001	03/26/2012	Sulfate	5100		F	4800		F	2200		F	10	0	No
SHP01	0630	N001	04/03/2012	Chloride	210		F	199			65		F	12	0	No
SHP01	0630	N001	04/03/2012	Magnesium	310		F	264			28		F	14	0	No
SHP01	0630	N001	04/03/2012	Nitrate + Nitrite as Nitrogen	50		F	43		F	0.019		F	9	0	No
SHP01	0630	N001	04/03/2012	Selenium	0.27		F	0.26		F	0.0046		F	11	0	No
SHP01	0734	N001	03/28/2012	Potassium	10	B	FQ	26	N	FJ	14.3		JFQ	6	0	No
SHP01	0736	N001	03/27/2012	Calcium	320		F	530		F	372		F	9	0	No
SHP01	0736	N001	03/27/2012	Chloride	77		F	655			84.2		F	9	0	No
SHP01	0736	N001	03/27/2012	Magnesium	53		F	210		F	76.1		F	8	0	No
SHP01	0736	N001	03/27/2012	Potassium	18		F	52		F	19.5		F	8	0	No
SHP01	0736	N001	03/27/2012	Sodium	910		F	4300			1100		F	9	0	No
SHP01	0736	N001	03/27/2012	Strontium	4.3		F	11.1			5		F	8	0	No
SHP01	0736	N001	03/27/2012	Sulfate	2800		F	20800			3590		F	9	0	No
SHP01	0773	N002	03/29/2012	Calcium	220		F	490		F	249			11	0	No
SHP01	0773	N001	03/29/2012	Calcium	210		F	490		F	249			11	0	No
SHP01	0773	N002	03/29/2012	Magnesium	230		F	530		F	260			11	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP01	0773	N001	03/29/2012	Magnesium	230		F	530		F	260			11	0	No
SHP01	0773	N002	03/29/2012	Nitrate + Nitrite as Nitrogen	16		F	130		F	23			6	0	No
SHP01	0773	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	16		F	130		F	23			6	0	No
SHP01	0773	N002	03/29/2012	Potassium	27		F	66		F	29.1			11	0	No
SHP01	0773	N001	03/29/2012	Potassium	28		F	66		F	29.1			11	0	No
SHP01	0773	N002	03/29/2012	Sodium	300	E	F	780			411			11	0	No
SHP01	0773	N001	03/29/2012	Sodium	300		F	780			411			11	0	No
SHP01	0773	N002	03/29/2012	Sulfate	1800		F	4100		F	2110		J	11	0	No
SHP01	0773	N001	03/29/2012	Sulfate	1700		F	4100		F	2110		J	11	0	No
SHP01	0773	N002	03/29/2012	Uranium	0.28		F	0.9184			0.35		F	11	0	No
SHP01	0773	N001	03/29/2012	Uranium	0.29		F	0.9184			0.35		F	11	0	No
SHP01	0775	N001	04/03/2012	Magnesium	170		F	500			213			10	0	No
SHP01	0775	N001	04/03/2012	Sodium	1200		F	2480			1330			10	0	No
SHP01	0775	N001	04/03/2012	Uranium	0.17		F	0.65		F	0.205	E	F	10	0	No
SHP01	0779	N001	03/29/2012	Chloride	500		F	459			149			9	0	No
SHP01	0779	N001	03/29/2012	Magnesium	1500		F	1412			660		F	12	0	No
SHP01	0779	N001	03/29/2012	Sulfate	12000		F	11047.9			6060		F	12	0	No
SHP01	0792	N002	03/29/2012	Calcium	310		FJ	490		F	360		F	13	0	No
SHP01	0792	N002	03/29/2012	Magnesium	320		F	2100		F	367		F	13	0	No
SHP01	0792	N001	03/29/2012	Potassium	29	B	FJ	230		F	43.8	E	F	13	0	No
SHP01	0792	N001	03/29/2012	Sodium	2000		F	6500		F	2190		F	13	0	No
SHP01	0792	N001	03/29/2012	Strontium	8.1		FJ	21		F	8.29		F	7	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP01	0792	N002	03/29/2012	Strontium	6.4		FJ	21		F	8.29		F	7	0	No
SHP01	0793	N001	03/28/2012	Calcium	460		F	376			220		F	7	0	No
SHP01	0793	N001	03/28/2012	Manganese	0.0093	B	F	0.39		F	0.012	B	UF	6	1	No
SHP01	0793	N001	03/28/2012	Strontium	5.8		F	4.4		F	3.6		F	6	0	Yes
SHP01	0797	N001	03/29/2012	Uranium	0.021		FQ	0.037		FQ	0.0235	E	FQ	8	0	No
SHP01	0798	N001	04/03/2012	Potassium	41		F	170		F	64		F	7	0	No
SHP01	0798	N001	04/03/2012	Selenium	0.0028		F	0.14		F	0.0039		F	6	0	No
SHP01	0798	N001	04/03/2012	Sodium	1700		F	4800		F	1900		F	7	0	No
SHP01	0853	N001	03/29/2012	Magnesium	75		F	73		F	27		F	15	0	No
SHP01	0854	N001	03/30/2012	Calcium	330		F	490		F	346		F	6	0	No
SHP01	0854	N001	03/30/2012	Chloride	240		F	560		F	361			6	0	No
SHP01	0854	N001	03/30/2012	Magnesium	690		F	1500		F	940			6	0	No
SHP01	0854	N001	03/30/2012	Nitrate + Nitrite as Nitrogen	5.5		F	120		F	26		F	5	0	No
SHP01	0854	N001	03/30/2012	Selenium	0.0062		FJ	0.028		F	0.0091		F	5	0	No
SHP01	0854	N001	03/30/2012	Strontium	6		F	10		F	8.1		F	5	0	No
SHP01	0854	N001	03/30/2012	Sulfate	8000		F	12000		F	8421			6	0	No
SHP01	0854	N001	03/30/2012	Uranium	0.76		F	2		F	1.0843			6	0	No
SHP01	0855	N001	03/28/2012	Nitrate + Nitrite as Nitrogen	11		F	1.11		F	0.01	U	F	9	3	Yes
SHP01	0855	N001	03/28/2012	Selenium	0.049		F	0.044		F	0.0025		F	9	0	No
SHP01	0855	N001	03/28/2012	Strontium	13		F	11.7		F	6.6		F	7	0	No
SHP01	0857	N001	03/29/2012	Magnesium	570		F	410		F	51		F	7	0	No
SHP01	0857	N001	03/29/2012	Manganese	6.3		F	6.27		F	0.67		F	6	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP01	0857	N001	03/29/2012	Potassium	37		F	29		F	10		F	7	0	No
SHP01	0857	N001	03/29/2012	Selenium	0.0061		F	0.0015	U	F	0.00017		FQ	6	1	Yes
SHP01	0857	N001	03/29/2012	Sodium	880		F	780		F	140		F	7	0	No
SHP01	0857	N001	03/29/2012	Sulfate	5200		F	4500		F	470		F	7	0	No
SHP01	0897	N001	03/28/2012	Chloride	9.2			19			11			6	0	No
SHP01	0897	N001	03/28/2012	Sodium	22			53		J	28			7	0	No
SHP01	0897	N001	03/28/2012	Strontium	0.62			1.7			0.7			7	0	No
SHP01	0897	N001	03/28/2012	Sulfate	100			190			120			6	0	No
SHP01	0898	N001	03/29/2012	Chloride	9.9			18			11			7	0	No
SHP01	0898	N001	03/29/2012	Sodium	23			130			26			7	0	No
SHP01	0899	N001	03/29/2012	Chloride	8.6			14			11			5	0	No
SHP01	0899	N001	03/29/2012	Sodium	20			39			28			5	0	No
SHP01	0899	N001	03/29/2012	Strontium	0.62			1			0.74			5	0	No
SHP01	0899	N001	03/29/2012	Sulfate	100			140			110			5	0	No
SHP01	0940	N001	03/30/2012	Chloride	8.6			14			10			8	0	No
SHP01	0940	N001	03/30/2012	Magnesium	9.6			56			10			8	0	No
SHP01	0940	N001	03/30/2012	Sodium	21			71			26			8	0	No
SHP01	0940	N001	03/30/2012	Strontium	0.61			2.1			0.73			7	0	No
SHP01	0940	N001	03/30/2012	Sulfate	100			150			110			8	0	No
SHP01	0956	N001	04/04/2012	Calcium	56			100			61			7	0	No
SHP01	0956	N001	04/04/2012	Chloride	7			14			9.9			7	0	No
SHP01	0956	N001	04/04/2012	Magnesium	9.3			29			10			7	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP01	0956	N001	04/04/2012	Sodium	19			51			26			7	0	No
SHP01	0956	N001	04/04/2012	Strontium	0.55			1.5			0.73			7	0	No
SHP01	0956	N001	04/04/2012	Sulfate	87			140			110			7	0	No
SHP01	0965	N001	04/03/2012	Calcium	120			100			61			6	0	No
SHP01	0965	N001	04/03/2012	Chloride	6.5			14			10			6	0	No
SHP01	0965	N001	04/03/2012	Manganese	2.6			1.8			0.0578			6	0	No
SHP01	0965	N001	04/03/2012	Sodium	17			53			26			6	0	No
SHP01	0965	N001	04/03/2012	Sulfate	83			150			110			6	0	No
SHP01	1008	N001	03/30/2012	Ammonia Total as N	6		F	21		F	8.5		F	7	0	No
SHP01	1008	N001	03/30/2012	Calcium	390		F	461			399		F	7	0	No
SHP01	1008	N001	03/30/2012	Chloride	120		F	890		F	250		F	7	0	No
SHP01	1008	N001	03/30/2012	Magnesium	410		F	2300		F	915		F	7	0	No
SHP01	1008	N001	03/30/2012	Manganese	2.3		F	11		L	4.04		F	7	0	No
SHP01	1008	N001	03/30/2012	Nitrate + Nitrite as Nitrogen	0.011		F	170		F	18.4		F	6	0	No
SHP01	1008	N001	03/30/2012	Potassium	45		F	160		F	59		F	7	0	No
SHP01	1008	N001	03/30/2012	Selenium	0.0045		F	0.032		F	0.0085		F	7	0	No
SHP01	1008	N001	03/30/2012	Sodium	1500		F	4200			2400		F	7	0	No
SHP01	1008	N001	03/30/2012	Strontium	5.3		F	12		F	8.3		F	6	0	No
SHP01	1008	N001	03/30/2012	Sulfate	5600		F	18276			8070		F	8	0	No
SHP01	1008	N001	03/30/2012	Uranium	0.54		F	3.1		F	1.28		F	8	0	No
SHP01	1009	N001	03/29/2012	Strontium	3.3		F	5.3		F	3.58		F	7	0	No
SHP01	1009	N001	03/29/2012	Uranium	0.22		F	0.5313			0.24	E	F	14	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12034422

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP01	1089	N001	03/27/2012	Chloride	120			270		F	132			9	0	No
SHP01	1089	N001	03/27/2012	Magnesium	230			780		F	290			9	0	No
SHP01	1089	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	0.73			30		F	0.88			8	0	No
SHP01	1089	N001	03/27/2012	Selenium	0.0031			0.046			0.0054			8	0	No
SHP01	1089	N001	03/27/2012	Sodium	1400			3100			1500			9	0	No
SHP01	1089	N001	03/27/2012	Strontium	4.6			8.4		F	5			8	0	No
SHP01	1089	N001	03/27/2012	Sulfate	4600			7800			4760			9	0	No
SHP01	1089	N001	03/27/2012	Uranium	0.23			1.1			0.232			9	0	No
SHP01	1104	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	11			95			15			8	0	No
SHP01	1104	N001	03/27/2012	Selenium	0.0094			0.047			0.0097			8	0	No
SHP01	1110	N001	03/27/2012	Selenium	0.31			0.75			0.39			9	0	No
SHP01	1111	N002	03/29/2012	Magnesium	940		F	1750			960		F	10	0	No
SHP01	1111	N001	03/29/2012	Manganese	0.97		F	0.95		F	0.34		F	7	0	No
SHP01	1111	N002	03/29/2012	Potassium	31	B	F	97			49.2		F	10	0	No
SHP01	1111	N001	03/29/2012	Potassium	49		F	97			49.2		F	10	0	No
SHP01	1111	N002	03/29/2012	Selenium	0.2		F	0.71		F	0.3		F	7	0	No
SHP01	1111	N001	03/29/2012	Selenium	0.22		F	0.71		F	0.3		F	7	0	No
SHP01	1111	N001	03/29/2012	Sulfate	7500		F	13185			7900		F	10	0	No
SHP01	1111	N002	03/29/2012	Sulfate	7600		F	13185			7900		F	10	0	No
SHP01	1111	N002	03/29/2012	Uranium	0.72		F	1.588			0.79		F	10	0	No
SHP01	1111	N001	03/29/2012	Uranium	0.74		F	1.588			0.79		F	10	0	No
SHP01	1112	N001	03/29/2012	Manganese	1.9		F	80	U		2.2		F	12	2	No

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Laboratory: ALS Laboratory Group

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					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP01	1112	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	160		F	700		F	230		F	9	0	No
SHP01	1112	N001	03/29/2012	Sulfate	8100		F	14676			8300		F	14	0	No
SHP01	1132	N001	03/27/2012	Selenium	0.00026		F	0.0015	UN	F	0.00035		F	7	1	No
SHP01	1135	N001	03/28/2012	Chloride	90		F	110		F	91.4		F	5	0	No
SHP01	1135	N001	03/28/2012	Magnesium	170		F	360		F	190			8	0	No
SHP01	1135	N001	03/28/2012	Manganese	2		F	20	U		2.2			8	1	No
SHP01	1135	N001	03/28/2012	Selenium	0.00026		F	0.0075	UN	FJ	0.0003		F	5	2	No
SHP01	1135	N001	03/28/2012	Sodium	1000		F	1525			1100		F	8	0	No
SHP01	1135	N001	03/28/2012	Sulfate	3800		F	5800		F	3871.1			8	0	No
SHP01	1136	N001	03/28/2012	Calcium	480		F	258			62.9		F	9	0	Yes
SHP01	1136	N001	03/28/2012	Chloride	140		F	30.4		F	14.7			6	0	Yes
SHP01	1136	N001	03/28/2012	Magnesium	190		F	90			18.3		F	9	0	Yes
SHP01	1136	N001	03/28/2012	Nitrate + Nitrite as Nitrogen	27		F	1.2		F	0.01	U	F	6	4	No
SHP01	1136	N001	03/28/2012	Potassium	10		F	5.4			2.32	B		9	0	Yes
SHP01	1136	N001	03/28/2012	Sodium	290		F	220			64		F	9	0	No
SHP01	1136	N001	03/28/2012	Sulfate	2100		F	1026.8			190			9	0	Yes
SHP01	1136	N001	03/28/2012	Uranium	0.13		F	0.0511			0.00421	E	J	9	0	Yes
SHP01	1140	N001	03/29/2012	Calcium	390		F	510		F	405		F	5	0	No
SHP01	1140	N001	03/29/2012	Magnesium	950		F	1640		F	1000		F	5	0	No
SHP01	1140	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	82		F	320		F	110		F	5	0	No
SHP01	1140	N001	03/29/2012	Potassium	79		F	120		FJ	92		F	5	0	No
SHP01	1140	N001	03/29/2012	Strontium	6.2		F	9.23		F	6.3		F	5	0	No

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					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP01	1141	N001	03/29/2012	Ammonia Total as N	9.7		F	15		F	10		F	5	0	No
SHP01	1141	N001	03/29/2012	Calcium	440		F	520		F	450		F	5	0	No
SHP01	1141	N001	03/29/2012	Chloride	69		F	140		F	77		F	5	0	No
SHP01	1141	N001	03/29/2012	Magnesium	350		F	700		F	560		F	5	0	No
SHP01	1141	N001	03/29/2012	Manganese	1.4		F	2.1		F	1.7		F	5	0	No
SHP01	1141	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	8		F	58.5		F	12		F	5	0	No
SHP01	1141	N001	03/29/2012	Potassium	42		F	72		F	48.5		F	5	0	No
SHP01	1141	N001	03/29/2012	Sodium	450		F	844		F	540		F	5	0	No
SHP01	1141	N001	03/29/2012	Strontium	4.2		F	6.36		F	5		F	5	0	No
SHP01	1141	N001	03/29/2012	Sulfate	3200		F	5200		F	4100		F	5	0	No
SHP01	1141	N001	03/29/2012	Uranium	0.58		F	1.1		F	0.83		F	5	0	No
SHP01	1142	N001	03/28/2012	Potassium	1.8		F	4.6	BE	F	2		F	8	0	No
SHP01	1143	N001	03/28/2012	Potassium	12		F	22		F	13.2			8	0	No
SHP01	1203	N001	03/27/2012	Chloride	9.2			15			10			7	0	No
SHP01	1203	N001	03/27/2012	Sodium	22			52			26			7	0	No
SHP01	1203	N001	03/27/2012	Strontium	0.65			1.5			0.72			7	0	No
SHP01	1203	N001	03/27/2012	Sulfate	100			165			110			8	0	No
SHP01	1205	N001	03/28/2012	Chloride	9			15			11			7	0	No
SHP01	1205	N001	03/28/2012	Magnesium	9.7			89			9.8			7	0	No
SHP01	1205	N001	03/28/2012	Sodium	21			140			25			7	0	No
SHP01	1205	N001	03/28/2012	Strontium	0.61			4.8			0.71			7	0	No
SHP01	1205	N001	03/28/2012	Sulfate	100			190			110			8	0	No

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					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
SHP02	0600	N001	03/30/2012	Manganese	0.23	B	FQ	1.63		L	0.24		F	24	0	No
SHP02	0600	N001	03/30/2012	Potassium	30	B	FQ	103			34		JFQ	26	0	No
SHP02	0602	N001	03/29/2012	Ammonia Total as N	90		F	460			120		FQ	8	0	No
SHP02	0602	N001	03/29/2012	Chloride	2100		F	1700		FQ	610	N		26	0	No
SHP02	0602	N001	03/29/2012	Magnesium	1500		F	2940			1820			25	0	Yes
SHP02	0602	N001	03/29/2012	Manganese	0.8		F	2.4			1.28			26	0	Yes
SHP02	0602	N001	03/29/2012	Potassium	84		F	266			138		FQ	25	0	Yes
SHP02	0602	N001	03/29/2012	Sodium	5700		F	4300		FQ	2120			25	0	No
SHP02	0602	N001	03/29/2012	Strontium	19		F	15.6			7.84			25	0	No
SHP02	0662	N001	04/02/2012	Chloride	50			85.8			52.5			35	0	No
SHP02	0725	N001	03/27/2012	Manganese	0.62		F	0.61		F	0.0006	U		26	7	No
SHP02	0725	N001	03/27/2012	Potassium	5.4	U	F	19		FJ	8.24		JF	21	0	No
SHP02	0726	N001	03/30/2012	Nitrate + Nitrite as Nitrogen	36		F	27		FQ	2.2		F	8	0	No
SHP02	0726	N001	03/30/2012	Potassium	12	B	F	42		FJ	20.7		F	18	0	No
SHP02	0727	N001	03/30/2012	Manganese	0.98		FQ	1.61			0.99		FQ	22	0	No
SHP02	0730	0001	03/29/2012	Ammonia Total as N	50		FQ	120			50.5		F	12	0	No
SHP02	0731	N001	03/28/2012	Potassium	35		F	78.9			36.9		F	16	0	No
SHP02	0813	N001	03/29/2012	Calcium	670		F	669		F	506			19	0	No
SHP02	0814	0001	03/28/2012	Selenium	1.8		FQ	3.3		L	1.9		FQ	13	0	No
SHP02	0815	N001	03/28/2012	Ammonia Total as N	0.88		F	0.77		F	0.1	U	F	10	7	No
SHP02	0815	N001	03/28/2012	Calcium	480		F	466		F	410		FQ	15	0	No
SHP02	0815	N001	03/28/2012	Manganese	1.5		F	1.46			1.2		FQ	16	0	No

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						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP02	0816	N001	03/28/2012	Nitrate + Nitrite as Nitrogen	14		F	61		F	16.1		FQ	8	0	No
SHP02	0816	N001	03/28/2012	Potassium	9.9		F	18		F	10		FQ	15	0	No
SHP02	0818	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	760			1900			770			17	0	No
SHP02	0818	N002	03/27/2012	Nitrate + Nitrite as Nitrogen	730			1900			770			17	0	No
SHP02	0818	N002	03/27/2012	Potassium	62			150			67.7			17	0	No
SHP02	0818	N001	03/27/2012	Potassium	62			150			67.7			17	0	No
SHP02	0818	N001	03/27/2012	Uranium	0.16		J	0.15			0.046			30	0	No
SHP02	0820	0001	03/28/2012	Ammonia Total as N	0.18		FQ	4.73		FQ	1	U		7	1	No
SHP02	0820	0001	03/28/2012	Potassium	16	B	FQ	63.2	E	JL	18.6		FQ	11	0	No
SHP02	0820	0001	03/28/2012	Strontium	24		FQ	23		FQ	11.6		L	10	0	No
SHP02	0824	N001	03/28/2012	Ammonia Total as N	0.72		FQ	13		FQ	0.76		FQ	6	0	No
SHP02	0824	N001	03/28/2012	Manganese	0.086	B	FQ	0.939		L	0.1		FQ	11	0	No
SHP02	0825	N001	03/28/2012	Ammonia Total as N	2		FQ	9			2.2		FQ	6	0	No
SHP02	0825	N001	03/28/2012	Manganese	0.32		FQ	0.84		FQ	0.34		FQ	5	0	No
SHP02	0825	N001	03/28/2012	Selenium	0.00066		FQ	0.0015	UE	FQ	0.00071	B	FQ	5	1	No
SHP02	0825	N001	03/28/2012	Sulfate	4600		FQ	7358			5300		FQ	6	0	No
SHP02	0825	N001	03/28/2012	Uranium	0.027		FQ	0.0694			0.0304	*EN	FQ	6	0	No
SHP02	0826	0001	03/30/2012	Chloride	490		FQ	792			539		FQ	18	0	No
SHP02	0826	0001	03/30/2012	Nitrate + Nitrite as Nitrogen	24		FQ	125		FQ	40		F	9	0	No
SHP02	0827	N001	03/30/2012	Ammonia Total as N	2.2		FQ	22		FQ	2.7		FQ	8	0	No
SHP02	0833	N001	03/30/2012	Manganese	0.059		F	0.052		F	0.0006	U		14	3	No
SHP02	0833	N001	03/30/2012	Potassium	49		F	42		F	12.4	E	J	13	0	No

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					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP02	0836	N001	03/26/2012	Nitrate + Nitrite as Nitrogen	31		F	29		F	3.6		F	16	0	No
SHP02	0836	N001	03/26/2012	Selenium	0.24		F	0.231		F	0.035		F	29	0	No
SHP02	0838	N001	03/30/2012	Magnesium	1400		F	1300		F	87.6			27	0	No
SHP02	0838	N001	03/30/2012	Sulfate	8100		F	8000		F	1180			30	0	No
SHP02	0838	N001	03/30/2012	Uranium	0.15		F	0.138	*EN	F	0.023			30	0	No
SHP02	0841	0001	03/30/2012	Nitrate + Nitrite as Nitrogen	560		F	920		F	620		F	19	0	No
SHP02	0843	N001	03/29/2012	Selenium	0.47		F	0.26		F	0.00013	B		15	2	No
SHP02	0843	N001	03/29/2012	Uranium	0.036		F	0.033		F	0.022		F	16	0	No
SHP02	0848	N001	03/27/2012	Ammonia Total as N	2.6		F	13		FQ	2.8		F	9	0	No
SHP02	1049	0001	03/29/2012	Potassium	26	B	FQ	63		JFQ	26.6		F	8	0	No
SHP02	1057	N001	03/29/2012	Ammonia Total as N	260		F	1400		JF	410		F	10	0	No
SHP02	1057	N001	03/29/2012	Chloride	270		F	595		L	273			14	0	No
SHP02	1057	N001	03/29/2012	Potassium	170	E	FJ	407	E	J	200		F	14	0	No
SHP02	1057	N001	03/29/2012	Selenium	0.11		F	0.593		L	0.21		F	15	0	No
SHP02	1057	N001	03/29/2012	Sulfate	5000		F	16700		L	5500		F	15	0	No
SHP02	1057	N001	03/29/2012	Uranium	0.036		F	0.11		F	0.045		F	15	0	No
SHP02	1058	N001	03/29/2012	Potassium	5.4	U	FQ	22		FQ	11.9		JFQ	10	0	Yes
SHP02	1058	N001	03/29/2012	Selenium	0.00025		FQ	0.0015	UE	FQ	0.00028		FQ	11	2	No
SHP02	1059	N001	03/29/2012	Potassium	11	B	FQ	38		FQ	19.7		FQ	12	0	Yes
SHP02	1070	N001	03/27/2012	Calcium	430			421			350			11	0	No
SHP02	1070	N002	03/27/2012	Nitrate + Nitrite as Nitrogen	590			990		J	668			13	0	No
SHP02	1070	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	620			990		J	668			13	0	No

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					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP02	1070	N002	03/27/2012	Uranium	0.08			0.14			0.086			20	0	No
SHP02	1073	0001	03/29/2012	Ammonia Total as N	22		FQ	200		FQ	48		FQ	9	0	No
SHP02	1073	0001	03/29/2012	Manganese	0.36		FQ	1.3		FQ	0.82		FQ	8	0	No
SHP02	1073	0001	03/29/2012	Nitrate + Nitrite as Nitrogen	1000		FQ	1690		FQ	1200			8	0	No
SHP02	1073	0001	03/29/2012	Potassium	87		FQ	160		FQ	103		FQ	8	0	No
SHP02	1073	0001	03/29/2012	Sulfate	10000		FQ	9747			8290		FQ	9	0	No
SHP02	1073	0001	03/29/2012	Uranium	0.086		FQ	0.069		FQ	0.058		FQ	8	0	Yes
SHP02	1074	N001	03/29/2012	Potassium	32	B	FQ	67		FQ	44		FQ	8	0	No
SHP02	1078	N001	03/26/2012	Manganese	0.034	B		0.134			0.0597		J	16	0	No
SHP02	1078	N001	03/26/2012	Nitrate + Nitrite as Nitrogen	550			830			555			18	0	No
SHP02	1078	N001	03/26/2012	Potassium	44	B		110			46.6			16	0	Yes
SHP02	1079	N001	03/29/2012	Calcium	880		F	820		F	450		F	22	0	No
SHP02	1079	N001	03/29/2012	Chloride	260		F	190		F	35.7		F	22	0	Yes
SHP02	1079	N001	03/29/2012	Magnesium	180		F	170		F	99		F	22	0	No
SHP02	1079	N001	03/29/2012	Nitrate + Nitrite as Nitrogen	230		F	140		F	35		F	18	0	Yes
SHP02	1079	N001	03/29/2012	Strontium	8.2		F	7.6		F	4.2		F	22	0	No
SHP02	1087	N001	03/27/2012	Calcium	500			490			350			16	0	No
SHP02	1087	N002	03/27/2012	Calcium	500			490			350			16	0	No
SHP02	1088	0001	03/27/2012	Potassium	24	B		88			39.1			15	0	Yes
SHP02	1091	N001	03/27/2012	Potassium	38	B		130			59			12	0	No
SHP02	1092	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	570			2900			860			16	0	No
SHP02	1092	N001	03/27/2012	Potassium	64			240			65.1			12	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: ALS Laboratory Group

RIN: 12034423

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP02	1093R	N002	03/27/2012	Calcium	810			1150			840			8	0	No
SHP02	1093R	N002	03/27/2012	Manganese	17			40			24			8	0	No
SHP02	1093R	N001	03/27/2012	Manganese	18			40			24			8	0	No
SHP02	1093R	N002	03/27/2012	Nitrate + Nitrite as Nitrogen	1800			2900			2060			8	0	No
SHP02	1093R	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	1700			2900			2060			8	0	No
SHP02	1095	N001	03/27/2012	Ammonia Total as N	450			1100			468			11	0	No
SHP02	1095	N001	03/27/2012	Selenium	0.14			0.3			0.17			10	0	No
SHP02	1095	N001	03/27/2012	Uranium	0.046			0.07			0.047			12	0	No
SHP02	1096	N001	03/27/2012	Ammonia Total as N	0.23			23			2.7			11	0	No
SHP02	1096	N002	03/27/2012	Ammonia Total as N	0.25			23			2.7			11	0	No
SHP02	1096	N001	03/27/2012	Calcium	430			420			390			11	0	No
SHP02	1096	N001	03/27/2012	Chloride	900			1200			950			11	0	No
SHP02	1096	N002	03/27/2012	Magnesium	990		J	1300			1000			11	0	No
SHP02	1096	N002	03/27/2012	Manganese	0.092	B	J	0.48			0.113			11	0	No
SHP02	1096	N002	03/27/2012	Nitrate + Nitrite as Nitrogen	530			780			610			12	0	No
SHP02	1096	N001	03/27/2012	Nitrate + Nitrite as Nitrogen	530			780			610			12	0	No
SHP02	1096	N002	03/27/2012	Potassium	48	B		110			48.7			11	0	No
SHP02	1096	N002	03/27/2012	Uranium	0.079			0.12			0.093			12	0	No
SHP02	1096	N001	03/27/2012	Uranium	0.081			0.12			0.093			12	0	No
SHP02	1215	N001	03/27/2012	Calcium	920			630			310			10	0	Yes
SHP02	1215	N001	03/27/2012	Manganese	4.3			1.1			0.096	B		10	0	Yes
SHP02	1215	N001	03/27/2012	Potassium	110			870			270			10	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: ALS Laboratory Group

RIN: 12034423

Report Date: 5/22/2012

					Current			Historical Maximum			Historical Minimum			Number of		Statistical
						Qualifiers			Qualifiers			Qualifiers		Data Points		Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
SHP02	1215	N001	03/27/2012	Strontium	23			17			6.7			10	0	No
SHP02	MW1	0001	03/28/2012	Manganese	0.056	B	FQ	0.197		L	0.067		FQ	8	0	No
SHP02	MW1	0001	03/28/2012	Nitrate + Nitrite as Nitrogen	1.3		FQ	0.49		FQ	0.057		FQ	7	1	Yes
SHP02	MW1	0001	03/28/2012	Potassium	7.2	B	FQ	24		FQ	10.9		L	9	0	No

STATISTICAL TESTS:
The distribution of the data is tested for normality or lognormality using the Shapiro-Wilk Test
Outliers are identified using Dixon's Test when there are 25 or fewer data points.
Outliers are identified using Rosner's Test when there are 26 or more data points.
See Data Quality Assessment: Statistical Methods for Practitioners, EPA QC/G-9S, February 2006.

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Attachment 2
Data Presentation

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Groundwater Quality Data
Floodplain Locations

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Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0608 WELL SE part of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	10	-	15	298		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	10	-	15	66		F	#	2	
Calcium	mg/L	03/27/2012	N001	10	-	15	320		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	10	-	15	190		F	#	20	
Magnesium	mg/L	03/27/2012	N001	10	-	15	510		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	10	-	15	2.7		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	10	-	15	65		F	#	0.5	
Oxidation Reduction Potential	mV	03/27/2012	N001	10	-	15	148.3		F	#		
pH	s.u.	03/27/2012	N001	10	-	15	7.1		F	#		
Potassium	mg/L	03/27/2012	N001	10	-	15	61		F	#	1.1	
Selenium	mg/L	03/27/2012	N001	10	-	15	0.0035		F	#	0.00032	
Sodium	mg/L	03/27/2012	N001	10	-	15	1300		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	10	-	15	9373		F	#		
Strontium	mg/L	03/27/2012	N001	10	-	15	6.6		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	10	-	15	5300		F	#	50	
Temperature	C	03/27/2012	N001	10	-	15	10.9		F	#		
Turbidity	NTU	03/27/2012	N001	10	-	15	3.59		F	#		
Uranium	mg/L	03/27/2012	N001	10	-	15	0.66		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0610 WELL SE part of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	4	-	9	330		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	4	-	9	4.7		F	#	0.1	
Calcium	mg/L	03/27/2012	N001	4	-	9	460		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	4	-	9	220		F	#	20	
Magnesium	mg/L	03/27/2012	N001	4	-	9	960		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	4	-	9	0.017	B	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	4	-	9	340		F	#	2	
Oxidation Reduction Potential	mV	03/27/2012	N001	4	-	9	102.3		F	#		
pH	s.u.	03/27/2012	N001	4	-	9	7.13		F	#		
Potassium	mg/L	03/27/2012	N001	4	-	9	110		F	#	1.1	
Selenium	mg/L	03/27/2012	N001	4	-	9	0.061		F	#	0.0032	
Sodium	mg/L	03/27/2012	N001	4	-	9	1200		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	4	-	9	11069		F	#		
Strontium	mg/L	03/27/2012	N001	4	-	9	6.7		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	4	-	9	6000		F	#	50	
Temperature	C	03/27/2012	N001	4	-	9	11.92		F	#		
Turbidity	NTU	03/27/2012	N001	4	-	9	1.92		F	#		
Uranium	mg/L	03/27/2012	N001	4	-	9	1.1		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0611 WELL SE part of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	9.5	-	14.5	602		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	9.5	-	14.5	2.2		F	#	0.1	
Calcium	mg/L	03/27/2012	N001	9.5	-	14.5	170		F	#	0.24	
Chloride	mg/L	03/27/2012	N001	9.5	-	14.5	490		F	#	20	
Magnesium	mg/L	03/27/2012	N001	9.5	-	14.5	93		F	#	0.26	
Manganese	mg/L	03/27/2012	N001	9.5	-	14.5	0.057	B	F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	9.5	-	14.5	0.2		F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	9.5	-	14.5	93.4		F	#		
pH	s.u.	03/27/2012	N001	9.5	-	14.5	7.19		F	#		
Potassium	mg/L	03/27/2012	N001	9.5	-	14.5	9.4	B	F	#	2.2	
Selenium	mg/L	03/27/2012	N001	9.5	-	14.5	0.0006		F	#	0.000032	
Sodium	mg/L	03/27/2012	N001	9.5	-	14.5	2300		F	#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	9.5	-	14.5	10938		F	#		
Strontium	mg/L	03/27/2012	N001	9.5	-	14.5	7.1		F	#	0.0016	
Sulfate	mg/L	03/27/2012	N001	9.5	-	14.5	5200		F	#	50	
Temperature	C	03/27/2012	N001	9.5	-	14.5	12.86		F	#		
Turbidity	NTU	03/27/2012	N001	9.5	-	14.5	6.68		F	#		
Uranium	mg/L	03/27/2012	N001	9.5	-	14.5	0.0073		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0612 WELL SE part of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	5	-	10	324		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	5	-	10	0.72		F	#	0.1	
Calcium	mg/L	03/29/2012	N001	5	-	10	150		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	5	-	10	48		F	#	4	
Magnesium	mg/L	03/29/2012	N001	5	-	10	96		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	5	-	10	1.1		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	5	-	10	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	5	-	10	-93.9		F	#		
pH	s.u.	03/29/2012	N001	5	-	10	7.29		F	#		
Potassium	mg/L	03/29/2012	N001	5	-	10	6.6		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	5	-	10	0.00031		F	#	0.000032	
Sodium	mg/L	03/29/2012	N001	5	-	10	270		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	5	-	10	2418		F	#		
Strontium	mg/L	03/29/2012	N001	5	-	10	1.7		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	5	-	10	990		F	#	10	
Temperature	C	03/29/2012	N001	5	-	10	9.75		F	#		
Turbidity	NTU	03/29/2012	N001	5	-	10	1.81		F	#		
Uranium	mg/L	03/29/2012	N001	5	-	10	0.088		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0614 WELL SE part of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	10	-	15	520		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	10	-	15	24		F	#	0.5	
Calcium	mg/L	03/29/2012	N001	10	-	15	420		F	#	0.12	
Chloride	mg/L	03/29/2012	N001	10	-	15	260		F	#	20	
Magnesium	mg/L	03/29/2012	N001	10	-	15	1200		F	#	0.13	
Manganese	mg/L	03/29/2012	N001	10	-	15	2.2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	10	-	15	150		F	#	1	
Oxidation Reduction Potential	mV	03/29/2012	N001	10	-	15	26.1		F	#		
pH	s.u.	03/29/2012	N001	10	-	15	7.15		F	#		
Potassium	mg/L	03/29/2012	N001	10	-	15	130		F	#	1.1	
Selenium	mg/L	03/29/2012	N001	10	-	15	1.3		F	#	0.0032	
Sodium	mg/L	03/29/2012	N001	10	-	15	1500		F	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	10	-	15	12657		F	#		
Strontium	mg/L	03/29/2012	N001	10	-	15	7.6		F	#	0.00078	
Sulfate	mg/L	03/29/2012	N001	10	-	15	7800		F	#	50	
Temperature	C	03/29/2012	N001	10	-	15	10.76		F	#		
Turbidity	NTU	03/29/2012	N001	10	-	15	1.93		F	#		
Uranium	mg/L	03/29/2012	N001	10	-	15	1.3		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0615 WELL S of floodplain fence, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	4.5	-	9.5	430		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	4.5	-	9.5	2.3		F	#	0.1	
Calcium	mg/L	03/29/2012	N001	4.5	-	9.5	450		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	4.5	-	9.5	92		F	#	10	
Magnesium	mg/L	03/29/2012	N001	4.5	-	9.5	480		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	4.5	-	9.5	2		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	4.5	-	9.5	2.6		F	#	0.05	
Oxidation Reduction Potential	mV	03/29/2012	N001	4.5	-	9.5	84.3		F	#		
pH	s.u.	03/29/2012	N001	4.5	-	9.5	7.08		F	#		
Potassium	mg/L	03/29/2012	N001	4.5	-	9.5	53		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	4.5	-	9.5	0.053		F	#	0.0016	
Sodium	mg/L	03/29/2012	N001	4.5	-	9.5	650		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	4.5	-	9.5	6434		F	#		
Strontium	mg/L	03/29/2012	N001	4.5	-	9.5	4.7		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	4.5	-	9.5	3900		F	#	25	
Temperature	C	03/29/2012	N001	4.5	-	9.5	12.09		F	#		
Turbidity	NTU	03/29/2012	N001	4.5	-	9.5	2.27		F	#		
Uranium	mg/L	03/29/2012	N001	4.5	-	9.5	0.58		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0618 WELL Center of floodplain, well nest, just N of floodplain fence

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	11	-	16	844		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	11	-	16	35		F	#	1	
Calcium	mg/L	03/29/2012	N001	11	-	16	420		F	#	0.24	
Chloride	mg/L	03/29/2012	N001	11	-	16	520		F	#	40	
Magnesium	mg/L	03/29/2012	N001	11	-	16	1600		F	#	0.26	
Manganese	mg/L	03/29/2012	N001	11	-	16	8.1		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	11	-	16	50		F	#	0.5	
Oxidation Reduction Potential	mV	03/29/2012	N001	11	-	16	127.1		F	#		
pH	s.u.	03/29/2012	N001	11	-	16	6.85		F	#		
Potassium	mg/L	03/29/2012	N001	11	-	16	100		F	#	2.2	
Selenium	mg/L	03/29/2012	N001	11	-	16	0.39		F	#	0.0032	
Sodium	mg/L	03/29/2012	N001	11	-	16	2900		F	#	0.13	
Specific Conductance	umhos /cm	03/29/2012	N001	11	-	16	18626		F	#		
Strontium	mg/L	03/29/2012	N001	11	-	16	8.9		F	#	0.0016	
Sulfate	mg/L	03/29/2012	N001	11	-	16	12000		F	#	100	
Temperature	C	03/29/2012	N001	11	-	16	14.22		F	#		
Turbidity	NTU	03/29/2012	N001	11	-	16	2.99		F	#		
Uranium	mg/L	03/29/2012	N001	11	-	16	1.9		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0619 WELL Center of floodplain

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	8	-	13	442		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	8	-	13	0.3		F	#	0.1	
Calcium	mg/L	04/03/2012	N001	8	-	13	270		F	#	0.24	
Chloride	mg/L	04/03/2012	N001	8	-	13	91		F	#	10	
Magnesium	mg/L	04/03/2012	N001	8	-	13	110		F	#	0.26	
Manganese	mg/L	04/03/2012	N001	8	-	13	1.7		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	8	-	13	0.025		F	#	0.01	
pH	s.u.	04/03/2012	N001	8	-	13	7.2		FJ	#		
Potassium	mg/L	04/03/2012	N001	8	-	13	15	B	F	#	2.2	
Selenium	mg/L	04/03/2012	N001	8	-	13	0.001		F	#	0.00016	
Sodium	mg/L	04/03/2012	N001	8	-	13	1100		F	#	0.13	
Specific Conductance	umhos /cm	04/03/2012	N001	8	-	13	6090		FJ	#		
Strontium	mg/L	04/03/2012	N001	8	-	13	7.7		F	#	0.0016	
Sulfate	mg/L	04/03/2012	N001	8	-	13	3200		F	#	25	
Temperature	C	04/03/2012	N001	8	-	13	11.5		FJ	#		
Turbidity	NTU	04/03/2012	N001	8	-	13	2.59		F	#		
Uranium	mg/L	04/03/2012	N001	8	-	13	0.11		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0622 WELL Center of floodplain, well nest, N of floodplain fence

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	5	-	10	346		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	5	-	10	0.1	U	F	#	0.1	
Calcium	mg/L	04/03/2012	N001	5	-	10	200		F	#	0.12	
Chloride	mg/L	04/03/2012	N001	5	-	10	73		F	#	10	
Magnesium	mg/L	04/03/2012	N001	5	-	10	86		F	#	0.13	
Manganese	mg/L	04/03/2012	N001	5	-	10	1.4		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	5	-	10	0.01	U	F	#	0.01	
pH	s.u.	04/03/2012	N001	5	-	10	7.39		FJ	#		
Potassium	mg/L	04/03/2012	N001	5	-	10	14		F	#	1.1	
Selenium	mg/L	04/03/2012	N001	5	-	10	0.03		F	#	0.00032	
Sodium	mg/L	04/03/2012	N001	5	-	10	910		F	#	0.066	
Specific Conductance	umhos /cm	04/03/2012	N001	5	-	10	5150		FJ	#		
Strontium	mg/L	04/03/2012	N001	5	-	10	6.1		F	#	0.00078	
Sulfate	mg/L	04/03/2012	N001	5	-	10	2600		F	#	25	
Temperature	C	04/03/2012	N001	5	-	10	9.6		FJ	#		
Turbidity	NTU	04/03/2012	N001	5	-	10	1.93		F	#		
Uranium	mg/L	04/03/2012	N001	5	-	10	0.08		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0623 WELL Center of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	10	-	15	368		F	#		
Ammonia Total as N	mg/L	03/26/2012	N001	10	-	15	0.1	U	F	#	0.1	
Calcium	mg/L	03/26/2012	N001	10	-	15	240		F	#	0.12	
Chloride	mg/L	03/26/2012	N001	10	-	15	79		F	#	10	
Magnesium	mg/L	03/26/2012	N001	10	-	15	55		F	#	0.13	
Manganese	mg/L	03/26/2012	N001	10	-	15	4.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	10	-	15	0.028		F	#	0.01	
Oxidation Reduction Potential	mV	03/26/2012	N001	10	-	15	26.8		F	#		
pH	s.u.	03/26/2012	N001	10	-	15	7.09		F	#		
Potassium	mg/L	03/26/2012	N001	10	-	15	12		F	#	1.1	
Selenium	mg/L	03/26/2012	N001	10	-	15	0.0015		F	#	0.00016	
Sodium	mg/L	03/26/2012	N001	10	-	15	990		F	#	0.066	
Specific Conductance	umhos /cm	03/26/2012	N001	10	-	15	5548		F	#		
Strontium	mg/L	03/26/2012	N001	10	-	15	8.9		F	#	0.00078	
Sulfate	mg/L	03/26/2012	N001	10	-	15	2700		F	#	25	
Temperature	C	03/26/2012	N001	10	-	15	13.58		F	#		
Turbidity	NTU	03/26/2012	N001	10	-	15	3.81		F	#		
Uranium	mg/L	03/26/2012	N001	10	-	15	0.047		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0625 WELL Center of floodplain, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	4.5	-	9.5	340		F	#		
Ammonia Total as N	mg/L	03/26/2012	N001	4.5	-	9.5	0.1	U	F	#	0.1	
Calcium	mg/L	03/26/2012	N001	4.5	-	9.5	230		F	#	0.12	
Chloride	mg/L	03/26/2012	N001	4.5	-	9.5	78		F	#	10	
Magnesium	mg/L	03/26/2012	N001	4.5	-	9.5	47		F	#	0.13	
Manganese	mg/L	03/26/2012	N001	4.5	-	9.5	3		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	4.5	-	9.5	0.017		F	#	0.01	
Oxidation Reduction Potential	mV	03/26/2012	N001	4.5	-	9.5	-6.6		F	#		
pH	s.u.	03/26/2012	N001	4.5	-	9.5	6.98		F	#		
Potassium	mg/L	03/26/2012	N001	4.5	-	9.5	10		F	#	1.1	
Selenium	mg/L	03/26/2012	N001	4.5	-	9.5	0.0013		F	#	0.00016	
Sodium	mg/L	03/26/2012	N001	4.5	-	9.5	950		F	#	0.066	
Specific Conductance	umhos /cm	03/26/2012	N001	4.5	-	9.5	5429		F	#		
Strontium	mg/L	03/26/2012	N001	4.5	-	9.5	9.2		F	#	0.00078	
Sulfate	mg/L	03/26/2012	N001	4.5	-	9.5	2700		F	#	25	
Temperature	C	03/26/2012	N001	4.5	-	9.5	12.71		F	#		
Turbidity	NTU	03/26/2012	N001	4.5	-	9.5	9.9		F	#		
Uranium	mg/L	03/26/2012	N001	4.5	-	9.5	0.029		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0626 WELL Center of floodplain, just NE of wetland

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	9.5	-	14.5	282		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	9.5	-	14.5	0.1	U	F	#	0.1	
Calcium	mg/L	04/03/2012	N001	9.5	-	14.5	230		F	#	0.12	
Chloride	mg/L	04/03/2012	N001	9.5	-	14.5	83		F	#	10	
Magnesium	mg/L	04/03/2012	N001	9.5	-	14.5	41		F	#	0.13	
Manganese	mg/L	04/03/2012	N001	9.5	-	14.5	2.6		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	9.5	-	14.5	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	04/03/2012	N001	9.5	-	14.5	200		FJ	#		
pH	s.u.	04/03/2012	N001	9.5	-	14.5	7.3		FJ	#		
Potassium	mg/L	04/03/2012	N001	9.5	-	14.5	7.9	B	F	#	1.1	
Selenium	mg/L	04/03/2012	N001	9.5	-	14.5	0.0016		F	#	0.000032	
Sodium	mg/L	04/03/2012	N001	9.5	-	14.5	880		F	#	0.066	
Specific Conductance	umhos /cm	04/03/2012	N001	9.5	-	14.5	4980		FJ	#		
Strontium	mg/L	04/03/2012	N001	9.5	-	14.5	11		F	#	0.00078	
Sulfate	mg/L	04/03/2012	N001	9.5	-	14.5	2500		F	#	25	
Temperature	C	04/03/2012	N001	9.5	-	14.5	8.7		FJ	#		
Turbidity	NTU	04/03/2012	N001	9.5	-	14.5	3.2		F	#		
Uranium	mg/L	04/03/2012	N001	9.5	-	14.5	0.03		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0628 WELL Center of floodplain, well nest, just N of wetland

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	6	-	10	328		F	#		
Ammonia Total as N	mg/L	03/26/2012	N001	6	-	10	0.29		F	#	0.1	
Calcium	mg/L	03/26/2012	N001	6	-	10	250		F	#	0.12	
Chloride	mg/L	03/26/2012	N001	6	-	10	150		F	#	4	
Magnesium	mg/L	03/26/2012	N001	6	-	10	100		F	#	0.13	
Manganese	mg/L	03/26/2012	N001	6	-	10	4.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	6	-	10	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/26/2012	N001	6	-	10	-127		F	#		
pH	s.u.	03/26/2012	N001	6	-	10	7.21		F	#		
Potassium	mg/L	03/26/2012	N001	6	-	10	16		F	#	1.1	
Selenium	mg/L	03/26/2012	N001	6	-	10	0.00088		F	#	0.000032	
Sodium	mg/L	03/26/2012	N001	6	-	10	1900		F	#	0.13	
Specific Conductance	umhos /cm	03/26/2012	N001	6	-	10	9326		F	#		
Strontium	mg/L	03/26/2012	N001	6	-	10	13		F	#	0.00078	
Sulfate	mg/L	03/26/2012	N001	6	-	10	5100		F	#	50	
Temperature	C	03/26/2012	N001	6	-	10	8.16		F	#		
Turbidity	NTU	03/26/2012	N001	6	-	10	4.74		F	#		
Uranium	mg/L	03/26/2012	N001	6	-	10	0.07		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0630 WELL Just N of mouth of Bob Lee Wash, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	5	-	10	658		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	5	-	10	0.1	U	F	#	0.1	
Calcium	mg/L	04/03/2012	N001	5	-	10	430		F	#	0.12	
Chloride	mg/L	04/03/2012	N001	5	-	10	210		F	#	4	
Magnesium	mg/L	04/03/2012	N001	5	-	10	310		F	#	0.13	
Manganese	mg/L	04/03/2012	N001	5	-	10	1.8		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	5	-	10	50		F	#	0.5	
pH	s.u.	04/03/2012	N001	5	-	10	6.99		FJ	#		
Potassium	mg/L	04/03/2012	N001	5	-	10	15		F	#	1.1	
Selenium	mg/L	04/03/2012	N001	5	-	10	0.27		F	#	0.0016	
Sodium	mg/L	04/03/2012	N001	5	-	10	1400		F	#	0.066	
Specific Conductance	umhos /cm	04/03/2012	N001	5	-	10	8705		FJ	#		
Strontium	mg/L	04/03/2012	N001	5	-	10	17		F	#	0.00078	
Sulfate	mg/L	04/03/2012	N001	5	-	10	4700		F	#	50	
Temperature	C	04/03/2012	N001	5	-	10	8.7		FJ	#		
Turbidity	NTU	04/03/2012	N001	5	-	10	0.98		F	#		
Uranium	mg/L	04/03/2012	N001	5	-	10	0.23		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0734 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	2	-	4	412		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	N001	2	-	4	0.1	U	FQ	#	0.1	
Calcium	mg/L	03/28/2012	N001	2	-	4	410		FQ	#	0.24	
Chloride	mg/L	03/28/2012	N001	2	-	4	130		FQ	#	4	
Magnesium	mg/L	03/28/2012	N001	2	-	4	190		FQ	#	0.26	
Manganese	mg/L	03/28/2012	N001	2	-	4	1.1		FQ	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	2	-	4	0.37		FQ	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	2	-	4	99.3		FQ	#		
pH	s.u.	03/28/2012	N001	2	-	4	7.18		FQ	#		
Potassium	mg/L	03/28/2012	N001	2	-	4	10	B	FQ	#	2.2	
Selenium	mg/L	03/28/2012	N001	2	-	4	0.0055		FQ	#	0.00032	
Sodium	mg/L	03/28/2012	N001	2	-	4	1500		FQ	#	0.13	
Specific Conductance	umhos /cm	03/28/2012	N001	2	-	4	8649		FQ	#		
Strontium	mg/L	03/28/2012	N001	2	-	4	8.5		FQ	#	0.0016	
Sulfate	mg/L	03/28/2012	N001	2	-	4	4900		FQ	#	50	
Temperature	C	03/28/2012	N001	2	-	4	10.25		FQ	#		
Turbidity	NTU	03/28/2012	N001	2	-	4	7.9		FQ	#		
Uranium	mg/L	03/28/2012	N001	2	-	4	0.097		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0735 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	3	-	8	1120		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	3	-	8	18		F	#	0.5	
Calcium	mg/L	03/27/2012	N001	3	-	8	500		F	#	0.6	
Chloride	mg/L	03/27/2012	N001	3	-	8	720		F	#	20	
Magnesium	mg/L	03/27/2012	N001	3	-	8	1600		F	#	0.65	
Manganese	mg/L	03/27/2012	N001	3	-	8	3.8		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	3	-	8	750		F	#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	3	-	8	266.8		F	#		
pH	s.u.	03/27/2012	N001	3	-	8	6.92		F	#		
Potassium	mg/L	03/27/2012	N001	3	-	8	55		F	#	5.4	
Selenium	mg/L	03/27/2012	N001	3	-	8	0.054		F	#	0.0032	
Sodium	mg/L	03/27/2012	N001	3	-	8	4000		F	#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	3	-	8	22567		F	#		
Strontium	mg/L	03/27/2012	N001	3	-	8	13		F	#	0.0039	
Sulfate	mg/L	03/27/2012	N001	3	-	8	13000		F	#	100	
Temperature	C	03/27/2012	N001	3	-	8	7.08		F	#		
Turbidity	NTU	03/27/2012	N001	3	-	8	4.96		F	#		
Uranium	mg/L	03/27/2012	N001	3	-	8	0.4		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0736 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	3	-	5	247		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	3	-	5	0.1	U	F	#	0.1	
Calcium	mg/L	03/27/2012	N001	3	-	5	320		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	3	-	5	77		F	#	2	
Magnesium	mg/L	03/27/2012	N001	3	-	5	53		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	3	-	5	1.8		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	3	-	5	0.015		F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	3	-	5	24.2		F	#		
pH	s.u.	03/27/2012	N001	3	-	5	7.41		F	#		
Potassium	mg/L	03/27/2012	N001	3	-	5	18		F	#	1.1	
Selenium	mg/L	03/27/2012	N001	3	-	5	0.00042		F	#	0.000032	
Sodium	mg/L	03/27/2012	N001	3	-	5	910		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	3	-	5	5317		F	#		
Strontium	mg/L	03/27/2012	N001	3	-	5	4.3		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	3	-	5	2800		F	#	25	
Temperature	C	03/27/2012	N001	3	-	5	12.19		F	#		
Turbidity	NTU	03/27/2012	N001	3	-	5	2.78		F	#		
Uranium	mg/L	03/27/2012	N001	3	-	5	0.061		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0766 WELL Well Point

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	6.25	-	8.75	420		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	6.25	-	8.75	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	6.25	-	8.75	370		F	#	0.24	
Chloride	mg/L	03/30/2012	N001	6.25	-	8.75	190		F	#	4	
Magnesium	mg/L	03/30/2012	N001	6.25	-	8.75	280		F	#	0.26	
Manganese	mg/L	03/30/2012	N001	6.25	-	8.75	0.39		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	6.25	-	8.75	0.04		F	#	0.01	
Oxidation Reduction Potential	mV	03/30/2012	N001	6.25	-	8.75	-25.2		F	#		
pH	s.u.	03/30/2012	N001	6.25	-	8.75	7.36		F	#		
Potassium	mg/L	03/30/2012	N001	6.25	-	8.75	40	N	FJ	#	2.2	
Selenium	mg/L	03/30/2012	N001	6.25	-	8.75	0.00096		FJ	#	0.00016	
Sodium	mg/L	03/30/2012	N001	6.25	-	8.75	1700		F	#	0.13	
Specific Conductance	umhos /cm	03/30/2012	N001	6.25	-	8.75	9765		F	#		
Strontium	mg/L	03/30/2012	N001	6.25	-	8.75	5		F	#	0.0016	
Sulfate	mg/L	03/30/2012	N001	6.25	-	8.75	5800		F	#	50	
Temperature	C	03/30/2012	N001	6.25	-	8.75	13.18		F	#		
Turbidity	NTU	03/30/2012	N001	6.25	-	8.75	3.33		F	#		
Uranium	mg/L	03/30/2012	N001	6.25	-	8.75	0.26		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0768 WELL Well Point

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	4.58	-	7.08	934		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	4.58	-	7.08	0.1	U	F	#	0.1	
Calcium	mg/L	04/03/2012	N001	4.58	-	7.08	340		F	#	0.24	
Chloride	mg/L	04/03/2012	N001	4.58	-	7.08	220		F	#	4	
Magnesium	mg/L	04/03/2012	N001	4.58	-	7.08	340		F	#	0.26	
Manganese	mg/L	04/03/2012	N001	4.58	-	7.08	1.7		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	4.58	-	7.08	0.01	U	F	#	0.01	
pH	s.u.	04/03/2012	N001	4.58	-	7.08	7.34		F	#		
Potassium	mg/L	04/03/2012	N001	4.58	-	7.08	56		F	#	2.2	
Selenium	mg/L	04/03/2012	N001	4.58	-	7.08	0.0017		F	#	0.00032	
Sodium	mg/L	04/03/2012	N001	4.58	-	7.08	2600		F	#	0.13	
Specific Conductance	umhos /cm	04/03/2012	N001	4.58	-	7.08	13310		F	#		
Strontium	mg/L	04/03/2012	N001	4.58	-	7.08	9.1		F	#	0.0016	
Sulfate	mg/L	04/03/2012	N001	4.58	-	7.08	7400		F	#	50	
Temperature	C	04/03/2012	N001	4.58	-	7.08	9.8		F	#		
Turbidity	NTU	04/03/2012	N001	4.58	-	7.08	5.31		F	#		
Uranium	mg/L	04/03/2012	N001	4.58	-	7.08	0.31		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0773 WELL Well Point

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	4	-	6.5	280		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	4	-	6.5	4.6		FJ	#	0.1	
Ammonia Total as N	mg/L	03/29/2012	N002	4	-	6.5	3.5		FJ	#	0.1	
Calcium	mg/L	03/29/2012	N001	4	-	6.5	210		F	#	0.06	
Calcium	mg/L	03/29/2012	N002	4	-	6.5	220		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	4	-	6.5	68		F	#	2	
Chloride	mg/L	03/29/2012	N002	4	-	6.5	70		F	#	10	
Magnesium	mg/L	03/29/2012	N001	4	-	6.5	230		F	#	0.065	
Magnesium	mg/L	03/29/2012	N002	4	-	6.5	230		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	4	-	6.5	0.035		FJ	#	0.00057	
Manganese	mg/L	03/29/2012	N002	4	-	6.5	0.027		FJ	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	4	-	6.5	16		F	#	0.1	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N002	4	-	6.5	16		F	#	0.1	
Oxidation Reduction Potential	mV	03/29/2012	N001	4	-	6.5	112.9		F	#		
pH	s.u.	03/29/2012	N001	4	-	6.5	7.34		F	#		
Potassium	mg/L	03/29/2012	N001	4	-	6.5	28		F	#	0.54	
Potassium	mg/L	03/29/2012	N002	4	-	6.5	27		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	4	-	6.5	0.078		F	#	0.00032	
Selenium	mg/L	03/29/2012	N002	4	-	6.5	0.07		F	#	0.0016	
Sodium	mg/L	03/29/2012	N001	4	-	6.5	300		F	#	0.033	
Sodium	mg/L	03/29/2012	N002	4	-	6.5	300	E	F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	4	-	6.5	3439		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0773 WELL Well Point

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/29/2012	N001	4	-	6.5	2.2		F	#	0.00039	
Strontium	mg/L	03/29/2012	N002	4	-	6.5	2.2		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	4	-	6.5	1700		F	#	25	
Sulfate	mg/L	03/29/2012	N002	4	-	6.5	1800		F	#	25	
Temperature	C	03/29/2012	N001	4	-	6.5	11.54		F	#		
Turbidity	NTU	03/29/2012	N001	4	-	6.5	2.14		F	#		
Uranium	mg/L	03/29/2012	N001	4	-	6.5	0.29		F	#	0.000029	
Uranium	mg/L	03/29/2012	N002	4	-	6.5	0.28		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0775 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	4.25	-	6.75	410		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	4.25	-	6.75	0.1	U	F	#	0.1	
Calcium	mg/L	04/03/2012	N001	4.25	-	6.75	410		F	#	0.12	
Chloride	mg/L	04/03/2012	N001	4.25	-	6.75	100		F	#	2	
Magnesium	mg/L	04/03/2012	N001	4.25	-	6.75	170		F	#	0.13	
Manganese	mg/L	04/03/2012	N001	4.25	-	6.75	1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	4.25	-	6.75	0.01	U	F	#	0.01	
pH	s.u.	04/03/2012	N001	4.25	-	6.75	7.3		FJ	#		
Potassium	mg/L	04/03/2012	N001	4.25	-	6.75	36		F	#	1.1	
Selenium	mg/L	04/03/2012	N001	4.25	-	6.75	0.001		F	#	0.00016	
Sodium	mg/L	04/03/2012	N001	4.25	-	6.75	1200		F	#	0.066	
Specific Conductance	umhos /cm	04/03/2012	N001	4.25	-	6.75	7360		FJ	#		
Strontium	mg/L	04/03/2012	N001	4.25	-	6.75	5.1		F	#	0.00078	
Sulfate	mg/L	04/03/2012	N001	4.25	-	6.75	4100		F	#	50	
Temperature	C	04/03/2012	N001	4.25	-	6.75	12.2		FJ	#		
Turbidity	NTU	04/03/2012	N001	4.25	-	6.75	2.81		F	#		
Uranium	mg/L	04/03/2012	N001	4.25	-	6.75	0.17		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0779 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7	-	9.5	920		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7	-	9.5	3.5		F	#	0.1	
Calcium	mg/L	03/29/2012	N001	7	-	9.5	510		F	#	0.24	
Chloride	mg/L	03/29/2012	N001	7	-	9.5	500		F	#	10	
Magnesium	mg/L	03/29/2012	N001	7	-	9.5	1500		F	#	0.26	
Manganese	mg/L	03/29/2012	N001	7	-	9.5	5.5		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7	-	9.5	36		F	#	0.5	
Oxidation Reduction Potential	mV	03/29/2012	N001	7	-	9.5	95.2		F	#		
pH	s.u.	03/29/2012	N001	7	-	9.5	7.22		F	#		
Potassium	mg/L	03/29/2012	N001	7	-	9.5	120		F	#	2.2	
Selenium	mg/L	03/29/2012	N001	7	-	9.5	0.031		F	#	0.0016	
Sodium	mg/L	03/29/2012	N001	7	-	9.5	2700		F	#	0.13	
Specific Conductance	umhos /cm	03/29/2012	N001	7	-	9.5	17365		F	#		
Strontium	mg/L	03/29/2012	N001	7	-	9.5	12		F	#	0.0016	
Sulfate	mg/L	03/29/2012	N001	7	-	9.5	12000		F	#	100	
Temperature	C	03/29/2012	N001	7	-	9.5	12.87		F	#		
Turbidity	NTU	03/29/2012	N001	7	-	9.5	4.17		F	#		
Uranium	mg/L	03/29/2012	N001	7	-	9.5	2.2		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0782R WELL Island area NW of US Hwy 666 bridge.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	4.71	-	9.46	159		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	4.71	-	9.46	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	4.71	-	9.46	81		F	#	0.012	
Chloride	mg/L	03/29/2012	N001	4.71	-	9.46	18		F	#	1	
Magnesium	mg/L	03/29/2012	N001	4.71	-	9.46	23		F	#	0.013	
Manganese	mg/L	03/29/2012	N001	4.71	-	9.46	1.7		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	4.71	-	9.46	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	4.71	-	9.46	22.8		F	#		
pH	s.u.	03/29/2012	N001	4.71	-	9.46	7.34		F	#		
Potassium	mg/L	03/29/2012	N001	4.71	-	9.46	3.4		F	#	0.11	
Selenium	mg/L	03/29/2012	N001	4.71	-	9.46	0.000091	B	F	#	0.000032	
Sodium	mg/L	03/29/2012	N001	4.71	-	9.46	110		F	#	0.0066	
Specific Conductance	umhos /cm	03/29/2012	N001	4.71	-	9.46	1049		F	#		
Strontium	mg/L	03/29/2012	N001	4.71	-	9.46	0.97		F	#	0.000078	
Sulfate	mg/L	03/29/2012	N001	4.71	-	9.46	320		F	#	2.5	
Temperature	C	03/29/2012	N001	4.71	-	9.46	12		F	#		
Turbidity	NTU	03/29/2012	N001	4.71	-	9.46	2.07		F	#		
Uranium	mg/L	03/29/2012	N001	4.71	-	9.46	0.0049		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0783R WELL Island area NW of US Hwy 666 bridge.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	4.375	-	9.375	173		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	4.375	-	9.375	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	4.375	-	9.375	110		F	#	0.012	
Chloride	mg/L	03/29/2012	N001	4.375	-	9.375	21		F	#	1	
Magnesium	mg/L	03/29/2012	N001	4.375	-	9.375	39		F	#	0.013	
Manganese	mg/L	03/29/2012	N001	4.375	-	9.375	1.3		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	4.375	-	9.375	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	4.375	-	9.375	20.5		F	#		
pH	s.u.	03/29/2012	N001	4.375	-	9.375	7.46		F	#		
Potassium	mg/L	03/29/2012	N001	4.375	-	9.375	4.1		F	#	0.11	
Selenium	mg/L	03/29/2012	N001	4.375	-	9.375	0.00091		F	#	0.000032	
Sodium	mg/L	03/29/2012	N001	4.375	-	9.375	140		F	#	0.0066	
Specific Conductance	umhos /cm	03/29/2012	N001	4.375	-	9.375	1455		F	#		
Strontium	mg/L	03/29/2012	N001	4.375	-	9.375	1.3		F	#	0.000078	
Sulfate	mg/L	03/29/2012	N001	4.375	-	9.375	540		F	#	10	
Temperature	C	03/29/2012	N001	4.375	-	9.375	13.14		F	#		
Turbidity	NTU	03/29/2012	N001	4.375	-	9.375	3.77		F	#		
Uranium	mg/L	03/29/2012	N001	4.375	-	9.375	0.0082		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0792 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	6	-	8	514		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	6	-	8	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	03/29/2012	N002	6	-	8	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	6	-	8	390		FJ	#	0.6	
Calcium	mg/L	03/29/2012	N002	6	-	8	310		FJ	#	0.012	
Chloride	mg/L	03/29/2012	N001	6	-	8	220		F	#	4	
Chloride	mg/L	03/29/2012	N002	6	-	8	210		F	#	20	
Magnesium	mg/L	03/29/2012	N001	6	-	8	380		F	#	0.65	
Magnesium	mg/L	03/29/2012	N002	6	-	8	320		F	#	0.013	
Manganese	mg/L	03/29/2012	N001	6	-	8	8.4		FJ	#	0.0057	
Manganese	mg/L	03/29/2012	N002	6	-	8	6.5		FJ	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	6	-	8	0.011		F	#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N002	6	-	8	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	6	-	8	-64.7		F	#		
pH	s.u.	03/29/2012	N001	6	-	8	7.42		F	#		
Potassium	mg/L	03/29/2012	N001	6	-	8	29	B	FJ	#	5.4	
Potassium	mg/L	03/29/2012	N002	6	-	8	77		FJ	#	0.11	
Selenium	mg/L	03/29/2012	N001	6	-	8	0.0025		F	#	0.00032	
Selenium	mg/L	03/29/2012	N002	6	-	8	0.0019		F	#	0.000032	
Sodium	mg/L	03/29/2012	N001	6	-	8	2000		F	#	0.33	
Sodium	mg/L	03/29/2012	N002	6	-	8	2200		FJ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	6	-	8	11370		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0792 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/29/2012	N001	6	-	8	8.1		FJ	#	0.0039	
Strontium	mg/L	03/29/2012	N002	6	-	8	6.4		FJ	#	0.000078	
Sulfate	mg/L	03/29/2012	N001	6	-	8	6500		F	#	50	
Sulfate	mg/L	03/29/2012	N002	6	-	8	6900		F	#	50	
Temperature	C	03/29/2012	N001	6	-	8	11.52		F	#		
Turbidity	NTU	03/29/2012	N001	6	-	8	8.92		F	#		
Uranium	mg/L	03/29/2012	N001	6	-	8	0.2		F	#	0.000029	
Uranium	mg/L	03/29/2012	N002	6	-	8	0.2		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0793 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	5.2	-	7.2	426		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	5.2	-	7.2	7.3		F	#	0.2	
Calcium	mg/L	03/28/2012	N001	5.2	-	7.2	460		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	5.2	-	7.2	160		F	#	4	
Magnesium	mg/L	03/28/2012	N001	5.2	-	7.2	610		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	5.2	-	7.2	0.0093	B	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	5.2	-	7.2	26		F	#	0.2	
Oxidation Reduction Potential	mV	03/28/2012	N001	5.2	-	7.2	155.4		F	#		
pH	s.u.	03/28/2012	N001	5.2	-	7.2	7.05		F	#		
Potassium	mg/L	03/28/2012	N001	5.2	-	7.2	38		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	5.2	-	7.2	0.18		F	#	0.0016	
Sodium	mg/L	03/28/2012	N001	5.2	-	7.2	680		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	5.2	-	7.2	7297		F	#		
Strontium	mg/L	03/28/2012	N001	5.2	-	7.2	5.8		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	5.2	-	7.2	4400		F	#	50	
Temperature	C	03/28/2012	N001	5.2	-	7.2	11.33		F	#		
Turbidity	NTU	03/28/2012	N001	5.2	-	7.2	7.98		F	#		
Uranium	mg/L	03/28/2012	N001	5.2	-	7.2	0.91		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0797 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7.3	-	9.3	418		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7.3	-	9.3	0.1	U	FQ	#	0.1	
Calcium	mg/L	03/29/2012	N001	7.3	-	9.3	310		FQ	#	0.12	
Chloride	mg/L	03/29/2012	N001	7.3	-	9.3	220		FQ	#	20	
Magnesium	mg/L	03/29/2012	N001	7.3	-	9.3	86		FQ	#	0.13	
Manganese	mg/L	03/29/2012	N001	7.3	-	9.3	0.024	B	FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7.3	-	9.3	0.076		FQ	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	7.3	-	9.3	181.9		FQ	#		
pH	s.u.	03/29/2012	N001	7.3	-	9.3	7.59		FQ	#		
Potassium	mg/L	03/29/2012	N001	7.3	-	9.3	6.5	B	FQ	#	1.1	
Selenium	mg/L	03/29/2012	N001	7.3	-	9.3	0.00057		FQ	#	0.000032	
Sodium	mg/L	03/29/2012	N001	7.3	-	9.3	1400		FQ	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	7.3	-	9.3	7476		FQ	#		
Strontium	mg/L	03/29/2012	N001	7.3	-	9.3	5.7		FQ	#	0.00078	
Sulfate	mg/L	03/29/2012	N001	7.3	-	9.3	3700		FQ	#	50	
Temperature	C	03/29/2012	N001	7.3	-	9.3	14.21		FQ	#		
Turbidity	NTU	03/29/2012	N001	7.3	-	9.3	3.87		FQ	#		
Uranium	mg/L	03/29/2012	N001	7.3	-	9.3	0.021		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0798 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	7.1	-	9.1	512		F	#		
Ammonia Total as N	mg/L	04/03/2012	N001	7.1	-	9.1	1.8		F	#	0.1	
Calcium	mg/L	04/03/2012	N001	7.1	-	9.1	460		F	#	0.24	
Chloride	mg/L	04/03/2012	N001	7.1	-	9.1	180		F	#	20	
Magnesium	mg/L	04/03/2012	N001	7.1	-	9.1	350		F	#	0.26	
Manganese	mg/L	04/03/2012	N001	7.1	-	9.1	2.1		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	7.1	-	9.1	0.15		F	#	0.01	
pH	s.u.	04/03/2012	N001	7.1	-	9.1	7.21		F	#		
Potassium	mg/L	04/03/2012	N001	7.1	-	9.1	41		F	#	2.2	
Selenium	mg/L	04/03/2012	N001	7.1	-	9.1	0.0028		F	#	0.00032	
Sodium	mg/L	04/03/2012	N001	7.1	-	9.1	1700		F	#	0.13	
Specific Conductance	umhos /cm	04/03/2012	N001	7.1	-	9.1	9630		F	#		
Strontium	mg/L	04/03/2012	N001	7.1	-	9.1	6.3		F	#	0.0016	
Sulfate	mg/L	04/03/2012	N001	7.1	-	9.1	5800		F	#	50	
Temperature	C	04/03/2012	N001	7.1	-	9.1	11.5		F	#		
Turbidity	NTU	04/03/2012	N001	7.1	-	9.1	1.32		F	#		
Uranium	mg/L	04/03/2012	N001	7.1	-	9.1	0.32		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0850 WELL Background area 1 mi E of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	5.6	-	15.4	333		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	5.6	-	15.4	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	5.6	-	15.4	42		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	5.6	-	15.4	42		F	#	4	
Magnesium	mg/L	03/29/2012	N001	5.6	-	15.4	11		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	5.6	-	15.4	0.37		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	5.6	-	15.4	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	5.6	-	15.4	-16.5		F	#		
pH	s.u.	03/29/2012	N001	5.6	-	15.4	7.56		F	#		
Potassium	mg/L	03/29/2012	N001	5.6	-	15.4	1.2	B	F	#	0.54	
Selenium	mg/L	03/29/2012	N001	5.6	-	15.4	0.0016		F	#	0.000032	
Sodium	mg/L	03/29/2012	N001	5.6	-	15.4	380		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	5.6	-	15.4	2124		F	#		
Strontium	mg/L	03/29/2012	N001	5.6	-	15.4	0.68		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	5.6	-	15.4	700		F	#	10	
Temperature	C	03/29/2012	N001	5.6	-	15.4	13.65		F	#		
Turbidity	NTU	03/29/2012	N001	5.6	-	15.4	6.45		F	#		
Uranium	mg/L	03/29/2012	N001	5.6	-	15.4	0.026		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0853 WELL S of floodplain fence

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	10	-	15	218		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	10	-	15	17		F	#	1	
Calcium	mg/L	03/29/2012	N001	10	-	15	250		F	#	0.012	
Chloride	mg/L	03/29/2012	N001	10	-	15	21		F	#	4	
Magnesium	mg/L	03/29/2012	N001	10	-	15	75		F	#	0.013	
Manganese	mg/L	03/29/2012	N001	10	-	15	1.1		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	10	-	15	0.02		F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	10	-	15	13.3		F	#		
pH	s.u.	03/29/2012	N001	10	-	15	7.12		F	#		
Potassium	mg/L	03/29/2012	N001	10	-	15	17		F	#	0.11	
Selenium	mg/L	03/29/2012	N001	10	-	15	0.00011		FJ	#	0.000032	
Sodium	mg/L	03/29/2012	N001	10	-	15	130		F	#	0.0066	
Specific Conductance	umhos /cm	03/29/2012	N001	10	-	15	2214		F	#		
Strontium	mg/L	03/29/2012	N001	10	-	15	2.4		F	#	0.000078	
Sulfate	mg/L	03/29/2012	N001	10	-	15	1000		F	#	10	
Temperature	C	03/29/2012	N001	10	-	15	13.58		F	#		
Turbidity	NTU	03/29/2012	N001	10	-	15	5.34		F	#		
Uranium	mg/L	03/29/2012	N001	10	-	15	0.09		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0854 WELL NE part of floodplain

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	9.05	-	11.55	672		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	9.05	-	11.55	3.9		F	#	0.1	
Calcium	mg/L	03/30/2012	N001	9.05	-	11.55	330		F	#	0.6	
Chloride	mg/L	03/30/2012	N001	9.05	-	11.55	240		F	#	20	
Magnesium	mg/L	03/30/2012	N001	9.05	-	11.55	690		F	#	0.65	
Manganese	mg/L	03/30/2012	N001	9.05	-	11.55	2.7		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	9.05	-	11.55	5.5		F	#	0.1	
Oxidation Reduction Potential	mV	03/30/2012	N001	9.05	-	11.55	178.3		F	#		
pH	s.u.	03/30/2012	N001	9.05	-	11.55	7.2		F	#		
Potassium	mg/L	03/30/2012	N001	9.05	-	11.55	49	B	F	#	5.4	
Selenium	mg/L	03/30/2012	N001	9.05	-	11.55	0.0062		FJ	#	0.00032	
Sodium	mg/L	03/30/2012	N001	9.05	-	11.55	2100		F	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	9.05	-	11.55	12683		F	#		
Strontium	mg/L	03/30/2012	N001	9.05	-	11.55	6		F	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	9.05	-	11.55	8000		F	#	50	
Temperature	C	03/30/2012	N001	9.05	-	11.55	11.45		F	#		
Turbidity	NTU	03/30/2012	N001	9.05	-	11.55	7.23		F	#		
Uranium	mg/L	03/30/2012	N001	9.05	-	11.55	0.76		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0855 WELL NW part of floodplain

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	4.9	-	14.9	340		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	4.9	-	14.9	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	4.9	-	14.9	330		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	4.9	-	14.9	97		F	#	10	
Magnesium	mg/L	03/28/2012	N001	4.9	-	14.9	77		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	4.9	-	14.9	2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	4.9	-	14.9	11		F	#	0.1	
Oxidation Reduction Potential	mV	03/28/2012	N001	4.9	-	14.9	83.7		F	#		
pH	s.u.	03/28/2012	N001	4.9	-	14.9	7.25		F	#		
Potassium	mg/L	03/28/2012	N001	4.9	-	14.9	10		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	4.9	-	14.9	0.049		F	#	0.00032	
Sodium	mg/L	03/28/2012	N001	4.9	-	14.9	1000		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	4.9	-	14.9	6244		F	#		
Strontium	mg/L	03/28/2012	N001	4.9	-	14.9	13		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	4.9	-	14.9	3300		F	#	25	
Temperature	C	03/28/2012	N001	4.9	-	14.9	9.79		F	#		
Turbidity	NTU	03/28/2012	N001	4.9	-	14.9	9.66		F	#		
Uranium	mg/L	03/28/2012	N001	4.9	-	14.9	0.091		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0856 WELL NW part of floodplain

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	18.8	-	23.8	256		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	18.8	-	23.8	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	18.8	-	23.8	250		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	18.8	-	23.8	88		F	#	10	
Magnesium	mg/L	03/28/2012	N001	18.8	-	23.8	69		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	18.8	-	23.8	1.6		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	18.8	-	23.8	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	18.8	-	23.8	89.9		F	#		
pH	s.u.	03/28/2012	N001	18.8	-	23.8	7.35		F	#		
Potassium	mg/L	03/28/2012	N001	18.8	-	23.8	14		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	18.8	-	23.8	0.00063		F	#	0.00016	
Sodium	mg/L	03/28/2012	N001	18.8	-	23.8	1100		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	18.8	-	23.8	6077		F	#		
Strontium	mg/L	03/28/2012	N001	18.8	-	23.8	6.6		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	18.8	-	23.8	3200		F	#	25	
Temperature	C	03/28/2012	N001	18.8	-	23.8	12.23		F	#		
Turbidity	NTU	03/28/2012	N001	18.8	-	23.8	3.19		F	#		
Uranium	mg/L	03/28/2012	N001	18.8	-	23.8	0.07		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0857 WELL Near E end of floodplain fence

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	13.2	-	18.2	486		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	13.2	-	18.2	13		F	#	0.5	
Calcium	mg/L	03/29/2012	N001	13.2	-	18.2	620		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	13.2	-	18.2	190		F	#	20	
Magnesium	mg/L	03/29/2012	N001	13.2	-	18.2	570		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	13.2	-	18.2	6.3		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	13.2	-	18.2	8.2		F	#	0.1	
Oxidation Reduction Potential	mV	03/29/2012	N001	13.2	-	18.2	89.4		F	#		
pH	s.u.	03/29/2012	N001	13.2	-	18.2	7		F	#		
Potassium	mg/L	03/29/2012	N001	13.2	-	18.2	37		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	13.2	-	18.2	0.0061		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	13.2	-	18.2	880		F	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	13.2	-	18.2	8140		F	#		
Strontium	mg/L	03/29/2012	N001	13.2	-	18.2	7.3		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	13.2	-	18.2	5200		F	#	50	
Temperature	C	03/29/2012	N001	13.2	-	18.2	14.21		F	#		
Turbidity	NTU	03/29/2012	N001	13.2	-	18.2	3.36		F	#		
Uranium	mg/L	03/29/2012	N001	13.2	-	18.2	0.66		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1008 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	6.9	-	16.9	508		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	6.9	-	16.9	6		F	#	0.2	
Calcium	mg/L	03/30/2012	N001	6.9	-	16.9	390		F	#	0.24	
Chloride	mg/L	03/30/2012	N001	6.9	-	16.9	120		F	#	20	
Magnesium	mg/L	03/30/2012	N001	6.9	-	16.9	410		F	#	0.26	
Manganese	mg/L	03/30/2012	N001	6.9	-	16.9	2.3		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	6.9	-	16.9	0.011		F	#	0.01	
Oxidation Reduction Potential	mV	03/30/2012	N001	6.9	-	16.9	166.6		F	#		
pH	s.u.	03/30/2012	N001	6.9	-	16.9	7.12		F	#		
Potassium	mg/L	03/30/2012	N001	6.9	-	16.9	45		F	#	2.2	
Selenium	mg/L	03/30/2012	N001	6.9	-	16.9	0.0045		F	#	0.00016	
Sodium	mg/L	03/30/2012	N001	6.9	-	16.9	1500		F	#	0.13	
Specific Conductance	umhos /cm	03/30/2012	N001	6.9	-	16.9	9514		F	#		
Strontium	mg/L	03/30/2012	N001	6.9	-	16.9	5.3		F	#	0.0016	
Sulfate	mg/L	03/30/2012	N001	6.9	-	16.9	5600		F	#	50	
Temperature	C	03/30/2012	N001	6.9	-	16.9	11.87		F	#		
Turbidity	NTU	03/30/2012	N001	6.9	-	16.9	4.52		F	#		
Uranium	mg/L	03/30/2012	N001	6.9	-	16.9	0.54		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1009 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7.4	-	17.4	246		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7.4	-	17.4	12		F	#	0.5	
Calcium	mg/L	03/29/2012	N001	7.4	-	17.4	370		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	7.4	-	17.4	33		F	#	10	
Magnesium	mg/L	03/29/2012	N001	7.4	-	17.4	170		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	7.4	-	17.4	0.86		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7.4	-	17.4	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	7.4	-	17.4	60.6		F	#		
pH	s.u.	03/29/2012	N001	7.4	-	17.4	6.89		F	#		
Potassium	mg/L	03/29/2012	N001	7.4	-	17.4	20		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	7.4	-	17.4	0.018		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	7.4	-	17.4	240		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	7.4	-	17.4	3717		F	#		
Strontium	mg/L	03/29/2012	N001	7.4	-	17.4	3.3		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	7.4	-	17.4	1900		F	#	25	
Temperature	C	03/29/2012	N001	7.4	-	17.4	15.16		F	#		
Turbidity	NTU	03/29/2012	N001	7.4	-	17.4	1.63		F	#		
Uranium	mg/L	03/29/2012	N001	7.4	-	17.4	0.22		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1089 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	4.8	-	14.8	425			#		
Ammonia Total as N	mg/L	03/27/2012	N001	4.8	-	14.8	0.55			#	0.1	
Calcium	mg/L	03/27/2012	N001	4.8	-	14.8	330			#	0.12	
Chloride	mg/L	03/27/2012	N001	4.8	-	14.8	120			#	20	
Magnesium	mg/L	03/27/2012	N001	4.8	-	14.8	230			#	0.13	
Manganese	mg/L	03/27/2012	N001	4.8	-	14.8	0.77			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	4.8	-	14.8	0.73			#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	4.8	-	14.8	20			#		
pH	s.u.	03/27/2012	N001	4.8	-	14.8	7.27			#		
Potassium	mg/L	03/27/2012	N001	4.8	-	14.8	40			#	1.1	
Selenium	mg/L	03/27/2012	N001	4.8	-	14.8	0.0031			#	0.00032	
Sodium	mg/L	03/27/2012	N001	4.8	-	14.8	1400			#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	4.8	-	14.8	8310			#		
Strontium	mg/L	03/27/2012	N001	4.8	-	14.8	4.6			#	0.00078	
Sulfate	mg/L	03/27/2012	N001	4.8	-	14.8	4600			#	50	
Temperature	C	03/27/2012	N001	4.8	-	14.8	12.4			#		
Turbidity	NTU	03/27/2012	N001	4.8	-	14.8	5.36			#		
Uranium	mg/L	03/27/2012	N001	4.8	-	14.8	0.23			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1104 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	-	560			#		
Ammonia Total as N	mg/L	03/27/2012	N001	-	2.2			#	0.1	
Calcium	mg/L	03/27/2012	N001	-	370			#	0.24	
Chloride	mg/L	03/27/2012	N001	-	240			#	20	
Magnesium	mg/L	03/27/2012	N001	-	710			#	0.26	
Manganese	mg/L	03/27/2012	N001	-	1.8			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	-	11			#	0.1	
Oxidation Reduction Potential	mV	03/27/2012	N001	-	30			#		
pH	s.u.	03/27/2012	N001	-	7.12			#		
Potassium	mg/L	03/27/2012	N001	-	62			#	2.2	
Selenium	mg/L	03/27/2012	N001	-	0.0094			#	0.0016	
Sodium	mg/L	03/27/2012	N001	-	2100			#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	-	12305			#		
Strontium	mg/L	03/27/2012	N001	-	6.4			#	0.0016	
Sulfate	mg/L	03/27/2012	N001	-	7600			#	50	
Temperature	C	03/27/2012	N001	-	12.1			#		
Turbidity	NTU	03/27/2012	N001	-	1.82			#		
Uranium	mg/L	03/27/2012	N001	-	0.77			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1105 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	4.5	-	14.5	630		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	4.5	-	14.5	24		F	#	1	
Calcium	mg/L	03/29/2012	N001	4.5	-	14.5	430		F	#	0.24	
Chloride	mg/L	03/29/2012	N001	4.5	-	14.5	360		F	#	40	
Magnesium	mg/L	03/29/2012	N001	4.5	-	14.5	1300		F	#	0.26	
Manganese	mg/L	03/29/2012	N001	4.5	-	14.5	4.2		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	4.5	-	14.5	180		F	#	1	
Oxidation Reduction Potential	mV	03/29/2012	N001	4.5	-	14.5	121.7		F	#		
pH	s.u.	03/29/2012	N001	4.5	-	14.5	6.91		F	#		
Potassium	mg/L	03/29/2012	N001	4.5	-	14.5	84		F	#	2.2	
Selenium	mg/L	03/29/2012	N001	4.5	-	14.5	0.17		F	#	0.0065	
Sodium	mg/L	03/29/2012	N001	4.5	-	14.5	1700		F	#	0.13	
Specific Conductance	umhos /cm	03/29/2012	N001	4.5	-	14.5	14298		F	#		
Strontium	mg/L	03/29/2012	N001	4.5	-	14.5	8.7		F	#	0.0016	
Sulfate	mg/L	03/29/2012	N001	4.5	-	14.5	9200		F	#	100	
Temperature	C	03/29/2012	N001	4.5	-	14.5	13.91		F	#		
Turbidity	NTU	03/29/2012	N001	4.5	-	14.5	2.91		F	#		
Uranium	mg/L	03/29/2012	N001	4.5	-	14.5	2		F	#	0.00058	

General Water Quality Data by Location (USEE105) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1109 TREATMENT SYSTEM Sump to the Trench 2 Treatment System

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	0 - 0	215			#		
Ammonia Total as N	mg/L	03/27/2012	N001	0 - 0	24			#	1	
Calcium	mg/L	03/27/2012	N001	0 - 0	100			#	0.012	
Chloride	mg/L	03/27/2012	N001	0 - 0	51			#	10	
Magnesium	mg/L	03/27/2012	N001	0 - 0	160			#	0.013	
Manganese	mg/L	03/27/2012	N001	0 - 0	0.4			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0 - 0	57			#	0.5	
Oxidation Reduction Potential	mV	03/27/2012	N001	0 - 0	5			#		
pH	s.u.	03/27/2012	N001	0 - 0	7.11			#		
Potassium	mg/L	03/27/2012	N001	0 - 0	18			#	0.11	
Selenium	mg/L	03/27/2012	N001	0 - 0	0.013			#	0.00032	
Sodium	mg/L	03/27/2012	N001	0 - 0	220			#	0.033	
Specific Conductance	umhos /cm	03/27/2012	N001	0 - 0	3290			#		
Strontium	mg/L	03/27/2012	N001	0 - 0	1.4			#	0.000078	
Sulfate	mg/L	03/27/2012	N001	0 - 0	990			#	25	
Temperature	C	03/27/2012	N001	0 - 0	10.8			#		
Turbidity	NTU	03/27/2012	N001	0 - 0	4.11			#		
Uranium	mg/L	03/27/2012	N001	0 - 0	0.15			#	0.000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1110 TREATMENT SYSTEM Sump to the Trench 1 Treatment System

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	0 - 0	573			#		
Ammonia Total as N	mg/L	03/27/2012	N001	0 - 0	2.5			#	0.1	
Calcium	mg/L	03/27/2012	N001	0 - 0	380			#	0.24	
Chloride	mg/L	03/27/2012	N001	0 - 0	240			#	20	
Magnesium	mg/L	03/27/2012	N001	0 - 0	770			#	0.26	
Manganese	mg/L	03/27/2012	N001	0 - 0	1.1			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0 - 0	78			#	0.5	
Oxidation Reduction Potential	mV	03/27/2012	N001	0 - 0	20			#		
pH	s.u.	03/27/2012	N001	0 - 0	7.09			#		
Potassium	mg/L	03/27/2012	N001	0 - 0	51			#	2.2	
Selenium	mg/L	03/27/2012	N001	0 - 0	0.31			#	0.0065	
Sodium	mg/L	03/27/2012	N001	0 - 0	1600			#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	0 - 0	10300			#		
Strontium	mg/L	03/27/2012	N001	0 - 0	8.4			#	0.0016	
Sulfate	mg/L	03/27/2012	N001	0 - 0	6500			#	50	
Temperature	C	03/27/2012	N001	0 - 0	11			#		
Turbidity	NTU	03/27/2012	N001	0 - 0	4.29			#		
Uranium	mg/L	03/27/2012	N001	0 - 0	0.72			#	0.00058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1111 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7	-	12	1096		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7	-	12	0.27		F	#	0.1	
Ammonia Total as N	mg/L	03/29/2012	N002	7	-	12	0.23		F	#	0.1	
Calcium	mg/L	03/29/2012	N001	7	-	12	370		F	#	0.24	
Calcium	mg/L	03/29/2012	N002	7	-	12	370		F	#	0.6	
Chloride	mg/L	03/29/2012	N001	7	-	12	340		F	#	20	
Chloride	mg/L	03/29/2012	N002	7	-	12	340		F	#	20	
Magnesium	mg/L	03/29/2012	N001	7	-	12	960		F	#	0.26	
Magnesium	mg/L	03/29/2012	N002	7	-	12	940		F	#	0.65	
Manganese	mg/L	03/29/2012	N001	7	-	12	0.97		F	#	0.0023	
Manganese	mg/L	03/29/2012	N002	7	-	12	0.95		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7	-	12	30		F	#	0.2	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N002	7	-	12	30		F	#	0.5	
Oxidation Reduction Potential	mV	03/29/2012	N001	7	-	12	76.2		F	#		
pH	s.u.	03/29/2012	N001	7	-	12	6.85		F	#		
Potassium	mg/L	03/29/2012	N001	7	-	12	49		F	#	2.2	
Potassium	mg/L	03/29/2012	N002	7	-	12	31	B	F	#	5.4	
Selenium	mg/L	03/29/2012	N001	7	-	12	0.22		F	#	0.0065	
Selenium	mg/L	03/29/2012	N002	7	-	12	0.2		F	#	0.0016	
Sodium	mg/L	03/29/2012	N001	7	-	12	1800		F	#	0.13	
Sodium	mg/L	03/29/2012	N002	7	-	12	1700		F	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	7	-	12	12073		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1111 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/29/2012	N001	7	-	12	10		F	#	0.0016	
Strontium	mg/L	03/29/2012	N002	7	-	12	9.7		F	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	7	-	12	7500		F	#	50	
Sulfate	mg/L	03/29/2012	N002	7	-	12	7600		F	#	50	
Temperature	C	03/29/2012	N001	7	-	12	11.22		F	#		
Turbidity	NTU	03/29/2012	N001	7	-	12	2		F	#		
Uranium	mg/L	03/29/2012	N001	7	-	12	0.74		F	#	0.00058	
Uranium	mg/L	03/29/2012	N002	7	-	12	0.72		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1112 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7	-	12	608		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7	-	12	18		F	#	1	
Calcium	mg/L	03/29/2012	N001	7	-	12	430		F	#	0.24	
Chloride	mg/L	03/29/2012	N001	7	-	12	300		F	#	20	
Magnesium	mg/L	03/29/2012	N001	7	-	12	1100		F	#	0.26	
Manganese	mg/L	03/29/2012	N001	7	-	12	1.9		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7	-	12	160		F	#	1	
Oxidation Reduction Potential	mV	03/29/2012	N001	7	-	12	71.9		F	#		
pH	s.u.	03/29/2012	N001	7	-	12	7.05		F	#		
Potassium	mg/L	03/29/2012	N001	7	-	12	93		F	#	2.2	
Selenium	mg/L	03/29/2012	N001	7	-	12	0.74		F	#	0.0065	
Sodium	mg/L	03/29/2012	N001	7	-	12	1800		F	#	0.13	
Specific Conductance	umhos /cm	03/29/2012	N001	7	-	12	12899		F	#		
Strontium	mg/L	03/29/2012	N001	7	-	12	8.1		F	#	0.0016	
Sulfate	mg/L	03/29/2012	N001	7	-	12	8100		F	#	50	
Temperature	C	03/29/2012	N001	7	-	12	10.51		F	#		
Turbidity	NTU	03/29/2012	N001	7	-	12	4.35		F	#		
Uranium	mg/L	03/29/2012	N001	7	-	12	1.3		F	#	0.00058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1113 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	0001	7	-	12	233		F	#		
Ammonia Total as N	mg/L	03/27/2012	0001	7	-	12	0.17		F	#	0.1	
Calcium	mg/L	03/27/2012	0001	7	-	12	470		F	#	0.12	
Chloride	mg/L	03/27/2012	0001	7	-	12	170		F	#	20	
Magnesium	mg/L	03/27/2012	0001	7	-	12	620		F	#	0.13	
Manganese	mg/L	03/27/2012	0001	7	-	12	0.0089	B	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	0001	7	-	12	320		F	#	2	
Oxidation Reduction Potential	mV	03/27/2012	N001	7	-	12	117.2		F	#		
pH	s.u.	03/27/2012	N001	7	-	12	7.31		F	#		
Potassium	mg/L	03/27/2012	0001	7	-	12	89		F	#	1.1	
Selenium	mg/L	03/27/2012	0001	7	-	12	0.18		F	#	0.0016	
Sodium	mg/L	03/27/2012	0001	7	-	12	810		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	7	-	12	8292		F	#		
Strontium	mg/L	03/27/2012	0001	7	-	12	6.2		F	#	0.00078	
Sulfate	mg/L	03/27/2012	0001	7	-	12	3900		F	#	50	
Temperature	C	03/27/2012	N001	7	-	12	9.57		F	#		
Turbidity	NTU	03/27/2012	N001	7	-	12	77.9		F	#		
Uranium	mg/L	03/27/2012	0001	7	-	12	0.48		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1114 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	7	-	12	485		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	7	-	12	86		F	#	5	
Calcium	mg/L	03/27/2012	N001	7	-	12	310		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	7	-	12	140		F	#	20	
Magnesium	mg/L	03/27/2012	N001	7	-	12	530		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	7	-	12	3		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	7	-	12	140		F	#	1	
Oxidation Reduction Potential	mV	03/27/2012	N001	7	-	12	133.4		F	#		
pH	s.u.	03/27/2012	N001	7	-	12	6.95		F	#		
Potassium	mg/L	03/27/2012	N001	7	-	12	45		F	#	1.1	
Selenium	mg/L	03/27/2012	N001	7	-	12	0.033		F	#	0.0016	
Sodium	mg/L	03/27/2012	N001	7	-	12	600		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	7	-	12	7110		F	#		
Strontium	mg/L	03/27/2012	N001	7	-	12	4.5		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	7	-	12	3500		F	#	50	
Temperature	C	03/27/2012	N001	7	-	12	8.4		F	#		
Turbidity	NTU	03/27/2012	N001	7	-	12	4.72		F	#		
Uranium	mg/L	03/27/2012	N001	7	-	12	0.57		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1115 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	7	-	12	568		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	7	-	12	140		F	#	10	
Calcium	mg/L	03/27/2012	N001	7	-	12	240		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	7	-	12	170		F	#	20	
Magnesium	mg/L	03/27/2012	N001	7	-	12	530		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	7	-	12	2.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	7	-	12	210		F	#	2	
Oxidation Reduction Potential	mV	03/27/2012	N001	7	-	12	121.2		F	#		
pH	s.u.	03/27/2012	N001	7	-	12	6.88		F	#		
Potassium	mg/L	03/27/2012	N001	7	-	12	64	E	FJ	#	1.1	
Selenium	mg/L	03/27/2012	N001	7	-	12	0.1		F	#	0.0016	
Sodium	mg/L	03/27/2012	N001	7	-	12	820		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	7	-	12	8964		F	#		
Strontium	mg/L	03/27/2012	N001	7	-	12	4.2		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	7	-	12	3900		F	#	50	
Temperature	C	03/27/2012	N001	7	-	12	11.39		F	#		
Turbidity	NTU	03/27/2012	N001	7	-	12	2.68		F	#		
Uranium	mg/L	03/27/2012	N001	7	-	12	0.61		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1117 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	7	-	12	139		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	7	-	12	0.1	U	F	#	0.1	
Calcium	mg/L	03/27/2012	N001	7	-	12	72		F	#	0.012	
Chloride	mg/L	03/27/2012	N001	7	-	12	15		F	#	1	
Magnesium	mg/L	03/27/2012	N001	7	-	12	12		F	#	0.013	
Manganese	mg/L	03/27/2012	N001	7	-	12	0.42		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	7	-	12	0.042		F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	7	-	12	119.1		F	#		
pH	s.u.	03/27/2012	N001	7	-	12	7.41		F	#		
Potassium	mg/L	03/27/2012	N001	7	-	12	1.9		F	#	0.11	
Selenium	mg/L	03/27/2012	N001	7	-	12	0.0028		F	#	0.000032	
Sodium	mg/L	03/27/2012	N001	7	-	12	36		F	#	0.0066	
Specific Conductance	umhos /cm	03/27/2012	N001	7	-	12	676		F	#		
Strontium	mg/L	03/27/2012	N001	7	-	12	0.74		F	#	0.000078	
Sulfate	mg/L	03/27/2012	N001	7	-	12	150		F	#	2.5	
Temperature	C	03/27/2012	N001	7	-	12	9.6		F	#		
Turbidity	NTU	03/27/2012	N001	7	-	12	3.93		F	#		
Uranium	mg/L	03/27/2012	N001	7	-	12	0.0063		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1128 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	6.81	-	11.81	910		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	6.81	-	11.81	400		F	#	20	
Ammonia Total as N	mg/L	03/27/2012	N002	6.81	-	11.81	400		F	#	20	
Calcium	mg/L	03/27/2012	N001	6.81	-	11.81	440		F	#	0.12	
Calcium	mg/L	03/27/2012	N002	6.81	-	11.81	450		F	#	0.12	
Chloride	mg/L	03/27/2012	N001	6.81	-	11.81	370		F	#	40	
Chloride	mg/L	03/27/2012	N002	6.81	-	11.81	370		F	#	40	
Magnesium	mg/L	03/27/2012	N001	6.81	-	11.81	1700		F	#	0.13	
Magnesium	mg/L	03/27/2012	N002	6.81	-	11.81	1700		F	#	0.13	
Manganese	mg/L	03/27/2012	N001	6.81	-	11.81	4.1		F	#	0.0011	
Manganese	mg/L	03/27/2012	N002	6.81	-	11.81	4.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	6.81	-	11.81	680		FJ	#	5	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	6.81	-	11.81	620		FJ	#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	6.81	-	11.81	260.5		F	#		
pH	s.u.	03/27/2012	N001	6.81	-	11.81	6.64		F	#		
Potassium	mg/L	03/27/2012	N001	6.81	-	11.81	180		F	#	1.1	
Potassium	mg/L	03/27/2012	N002	6.81	-	11.81	190		F	#	1.1	
Selenium	mg/L	03/27/2012	N001	6.81	-	11.81	0.015		F	#	0.0016	
Selenium	mg/L	03/27/2012	N002	6.81	-	11.81	0.017		F	#	0.0016	
Sodium	mg/L	03/27/2012	N001	6.81	-	11.81	1800		F	#	0.13	
Sodium	mg/L	03/27/2012	N002	6.81	-	11.81	1800		F	#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	6.81	-	11.81	18311		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1128 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	6.81	-	11.81	9.2		F	#	0.00078	
Strontium	mg/L	03/27/2012	N002	6.81	-	11.81	9.2		F	#	0.00078	
Sulfate	mg/L	03/27/2012	N001	6.81	-	11.81	10000		F	#	100	
Sulfate	mg/L	03/27/2012	N002	6.81	-	11.81	9800	N	F	#	100	
Temperature	C	03/27/2012	N001	6.81	-	11.81	11		F	#		
Turbidity	NTU	03/27/2012	N001	6.81	-	11.81	7.15		F	#		
Uranium	mg/L	03/27/2012	N001	6.81	-	11.81	1.4		F	#	0.00015	
Uranium	mg/L	03/27/2012	N002	6.81	-	11.81	1.4		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1132 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	6.07	-	11.07	127		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	6.07	-	11.07	1.4		F	#	0.1	
Calcium	mg/L	03/27/2012	N001	6.07	-	11.07	50		F	#	0.012	
Chloride	mg/L	03/27/2012	N001	6.07	-	11.07	14		F	#	1	
Magnesium	mg/L	03/27/2012	N001	6.07	-	11.07	20		F	#	0.013	
Manganese	mg/L	03/27/2012	N001	6.07	-	11.07	0.32		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	6.07	-	11.07	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	6.07	-	11.07	17.9		F	#		
pH	s.u.	03/27/2012	N001	6.07	-	11.07	7.72		F	#		
Potassium	mg/L	03/27/2012	N001	6.07	-	11.07	2.4		F	#	0.11	
Selenium	mg/L	03/27/2012	N001	6.07	-	11.07	0.00026		F	#	0.000032	
Sodium	mg/L	03/27/2012	N001	6.07	-	11.07	38		F	#	0.0066	
Specific Conductance	umhos /cm	03/27/2012	N001	6.07	-	11.07	612		F	#		
Strontium	mg/L	03/27/2012	N001	6.07	-	11.07	0.62		F	#	0.000078	
Sulfate	mg/L	03/27/2012	N001	6.07	-	11.07	150		F	#	2.5	
Temperature	C	03/27/2012	N001	6.07	-	11.07	9.63		F	#		
Turbidity	NTU	03/27/2012	N001	6.07	-	11.07	5.22		F	#		
Uranium	mg/L	03/27/2012	N001	6.07	-	11.07	0.016		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1134 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	8.16	-	13.16	155		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	8.16	-	13.16	0.86		F	#	0.1	
Calcium	mg/L	03/27/2012	N001	8.16	-	13.16	69		F	#	0.012	
Chloride	mg/L	03/27/2012	N001	8.16	-	13.16	15		F	#	1	
Magnesium	mg/L	03/27/2012	N001	8.16	-	13.16	15		F	#	0.013	
Manganese	mg/L	03/27/2012	N001	8.16	-	13.16	0.47		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	8.16	-	13.16	0.038		F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	8.16	-	13.16	13.7		F	#		
pH	s.u.	03/27/2012	N001	8.16	-	13.16	7.47		F	#		
Potassium	mg/L	03/27/2012	N001	8.16	-	13.16	2.2		F	#	0.11	
Selenium	mg/L	03/27/2012	N001	8.16	-	13.16	0.00012		F	#	0.000032	
Sodium	mg/L	03/27/2012	N001	8.16	-	13.16	43		F	#	0.0066	
Specific Conductance	umhos /cm	03/27/2012	N001	8.16	-	13.16	668		F	#		
Strontium	mg/L	03/27/2012	N001	8.16	-	13.16	0.76		F	#	0.000078	
Sulfate	mg/L	03/27/2012	N001	8.16	-	13.16	150		F	#	2.5	
Temperature	C	03/27/2012	N001	8.16	-	13.16	9.71		F	#		
Turbidity	NTU	03/27/2012	N001	8.16	-	13.16	2.13		F	#		
Uranium	mg/L	03/27/2012	N001	8.16	-	13.16	0.016		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1135 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	6.39	-	11.39	264		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	6.39	-	11.39	0.11		F	#	0.1	
Calcium	mg/L	03/28/2012	N001	6.39	-	11.39	360		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	6.39	-	11.39	90		F	#	10	
Magnesium	mg/L	03/28/2012	N001	6.39	-	11.39	170		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	6.39	-	11.39	2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	6.39	-	11.39	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	6.39	-	11.39	55		F	#		
pH	s.u.	03/28/2012	N001	6.39	-	11.39	7.19		F	#		
Potassium	mg/L	03/28/2012	N001	6.39	-	11.39	23		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	6.39	-	11.39	0.00026		F	#	0.000065	
Sodium	mg/L	03/28/2012	N001	6.39	-	11.39	1000		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	6.39	-	11.39	6635		F	#		
Strontium	mg/L	03/28/2012	N001	6.39	-	11.39	4.1		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	6.39	-	11.39	3800		F	#	25	
Temperature	C	03/28/2012	N001	6.39	-	11.39	11.29		F	#		
Turbidity	NTU	03/28/2012	N001	6.39	-	11.39	9.26		F	#		
Uranium	mg/L	03/28/2012	N001	6.39	-	11.39	0.12		F	#	0.0000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1136 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	6.29	-	11.29	240		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	6.29	-	11.29	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	6.29	-	11.29	480		F	#	0.012	
Chloride	mg/L	03/28/2012	N001	6.29	-	11.29	140		F	#	10	
Magnesium	mg/L	03/28/2012	N001	6.29	-	11.29	190		F	#	0.013	
Manganese	mg/L	03/28/2012	N001	6.29	-	11.29	3.5		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	6.29	-	11.29	27		F	#	0.2	
Oxidation Reduction Potential	mV	03/28/2012	N001	6.29	-	11.29	87.6		F	#		
pH	s.u.	03/28/2012	N001	6.29	-	11.29	7.61		F	#		
Potassium	mg/L	03/28/2012	N001	6.29	-	11.29	10		F	#	0.11	
Selenium	mg/L	03/28/2012	N001	6.29	-	11.29	0.00055		F	#	0.000032	
Sodium	mg/L	03/28/2012	N001	6.29	-	11.29	290		F	#	0.033	
Specific Conductance	umhos /cm	03/28/2012	N001	6.29	-	11.29	4118		F	#		
Strontium	mg/L	03/28/2012	N001	6.29	-	11.29	4.3		F	#	0.000078	
Sulfate	mg/L	03/28/2012	N001	6.29	-	11.29	2100		F	#	25	
Temperature	C	03/28/2012	N001	6.29	-	11.29	11.98		F	#		
Turbidity	NTU	03/28/2012	N001	6.29	-	11.29	3.82		F	#		
Uranium	mg/L	03/28/2012	N001	6.29	-	11.29	0.13		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1137 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	9.4	-	14.4	286		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	9.4	-	14.4	1.3		F	#	0.1	
Calcium	mg/L	03/30/2012	N001	9.4	-	14.4	300		F	#	0.06	
Chloride	mg/L	03/30/2012	N001	9.4	-	14.4	94		F	#	10	
Magnesium	mg/L	03/30/2012	N001	9.4	-	14.4	410		F	#	0.065	
Manganese	mg/L	03/30/2012	N001	9.4	-	14.4	2		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	9.4	-	14.4	6.4		F	#	0.05	
Oxidation Reduction Potential	mV	03/30/2012	N001	9.4	-	14.4	174.4		F	#		
pH	s.u.	03/30/2012	N001	9.4	-	14.4	7.37		F	#		
Potassium	mg/L	03/30/2012	N001	9.4	-	14.4	25		F	#	0.54	
Selenium	mg/L	03/30/2012	N001	9.4	-	14.4	0.0063		F	#	0.00032	
Sodium	mg/L	03/30/2012	N001	9.4	-	14.4	830		F	#	0.066	
Specific Conductance	umhos /cm	03/30/2012	N001	9.4	-	14.4	6696		F	#		
Strontium	mg/L	03/30/2012	N001	9.4	-	14.4	3.4		F	#	0.00039	
Sulfate	mg/L	03/30/2012	N001	9.4	-	14.4	4000		F	#	25	
Temperature	C	03/30/2012	N001	9.4	-	14.4	8.79		F	#		
Turbidity	NTU	03/30/2012	N001	9.4	-	14.4	4.08		F	#		
Uranium	mg/L	03/30/2012	N001	9.4	-	14.4	0.31		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1138 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	8.09	-	13.09	340		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	8.09	-	13.09	0.43		F	#	0.1	
Calcium	mg/L	03/30/2012	N001	8.09	-	13.09	430		F	#	0.06	
Chloride	mg/L	03/30/2012	N001	8.09	-	13.09	200		F	#	10	
Magnesium	mg/L	03/30/2012	N001	8.09	-	13.09	590		F	#	0.065	
Manganese	mg/L	03/30/2012	N001	8.09	-	13.09	2.5		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	8.09	-	13.09	27		F	#	0.2	
Oxidation Reduction Potential	mV	03/30/2012	N001	8.09	-	13.09	177.2		F	#		
pH	s.u.	03/30/2012	N001	8.09	-	13.09	7.33		F	#		
Potassium	mg/L	03/30/2012	N001	8.09	-	13.09	31		F	#	0.54	
Selenium	mg/L	03/30/2012	N001	8.09	-	13.09	0.0051		F	#	0.00032	
Sodium	mg/L	03/30/2012	N001	8.09	-	13.09	790		F	#	0.066	
Specific Conductance	umhos /cm	03/30/2012	N001	8.09	-	13.09	7483		F	#		
Strontium	mg/L	03/30/2012	N001	8.09	-	13.09	5.5		F	#	0.00039	
Sulfate	mg/L	03/30/2012	N001	8.09	-	13.09	4500		F	#	25	
Temperature	C	03/30/2012	N001	8.09	-	13.09	9.52		F	#		
Turbidity	NTU	03/30/2012	N001	8.09	-	13.09	5.47		F	#		
Uranium	mg/L	03/30/2012	N001	8.09	-	13.09	0.6		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1139 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	6.19	-	11.19	480		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	6.19	-	11.19	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	6.19	-	11.19	230		F	#	0.06	
Chloride	mg/L	03/30/2012	N001	6.19	-	11.19	81		F	#	10	
Magnesium	mg/L	03/30/2012	N001	6.19	-	11.19	300		F	#	0.065	
Manganese	mg/L	03/30/2012	N001	6.19	-	11.19	0.075		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	6.19	-	11.19	3.4		F	#	0.05	
Oxidation Reduction Potential	mV	03/30/2012	N001	6.19	-	11.19	173		F	#		
pH	s.u.	03/30/2012	N001	6.19	-	11.19	7.34		F	#		
Potassium	mg/L	03/30/2012	N001	6.19	-	11.19	17		F	#	0.54	
Selenium	mg/L	03/30/2012	N001	6.19	-	11.19	0.0036		F	#	0.00032	
Sodium	mg/L	03/30/2012	N001	6.19	-	11.19	530		F	#	0.033	
Specific Conductance	umhos /cm	03/30/2012	N001	6.19	-	11.19	4598		F	#		
Strontium	mg/L	03/30/2012	N001	6.19	-	11.19	3		F	#	0.00039	
Sulfate	mg/L	03/30/2012	N001	6.19	-	11.19	2500		F	#	25	
Temperature	C	03/30/2012	N001	6.19	-	11.19	9.81		F	#		
Turbidity	NTU	03/30/2012	N001	6.19	-	11.19	4.6		F	#		
Uranium	mg/L	03/30/2012	N001	6.19	-	11.19	0.3		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1140 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	7.6	-	12.6	590		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	7.6	-	12.6	17		F	#	1	
Calcium	mg/L	03/29/2012	N001	7.6	-	12.6	390		F	#	0.12	
Chloride	mg/L	03/29/2012	N001	7.6	-	12.6	250		F	#	20	
Magnesium	mg/L	03/29/2012	N001	7.6	-	12.6	950		F	#	0.13	
Manganese	mg/L	03/29/2012	N001	7.6	-	12.6	2.6		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	7.6	-	12.6	82		F	#	0.5	
Oxidation Reduction Potential	mV	03/29/2012	N001	7.6	-	12.6	99.2		F	#		
pH	s.u.	03/29/2012	N001	7.6	-	12.6	6.96		F	#		
Potassium	mg/L	03/29/2012	N001	7.6	-	12.6	79		F	#	1.1	
Selenium	mg/L	03/29/2012	N001	7.6	-	12.6	0.16		F	#	0.0032	
Sodium	mg/L	03/29/2012	N001	7.6	-	12.6	1400		F	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	7.6	-	12.6	11518		F	#		
Strontium	mg/L	03/29/2012	N001	7.6	-	12.6	6.2		F	#	0.00078	
Sulfate	mg/L	03/29/2012	N001	7.6	-	12.6	7200		F	#	50	
Temperature	C	03/29/2012	N001	7.6	-	12.6	12.85		F	#		
Turbidity	NTU	03/29/2012	N001	7.6	-	12.6	5.82		F	#		
Uranium	mg/L	03/29/2012	N001	7.6	-	12.6	1.3		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1141 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	5.6	-	10.6	354		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	5.6	-	10.6	9.7		F	#	0.5	
Calcium	mg/L	03/29/2012	N001	5.6	-	10.6	440		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	5.6	-	10.6	69		F	#	10	
Magnesium	mg/L	03/29/2012	N001	5.6	-	10.6	350		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	5.6	-	10.6	1.4		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	5.6	-	10.6	8		F	#	0.05	
Oxidation Reduction Potential	mV	03/29/2012	N001	5.6	-	10.6	96.9		F	#		
pH	s.u.	03/29/2012	N001	5.6	-	10.6	7.03		F	#		
Potassium	mg/L	03/29/2012	N001	5.6	-	10.6	42		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	5.6	-	10.6	0.14		F	#	0.0016	
Sodium	mg/L	03/29/2012	N001	5.6	-	10.6	450		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	5.6	-	10.6	5329		F	#		
Strontium	mg/L	03/29/2012	N001	5.6	-	10.6	4.2		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	5.6	-	10.6	3200		F	#	25	
Temperature	C	03/29/2012	N001	5.6	-	10.6	11.94		F	#		
Turbidity	NTU	03/29/2012	N001	5.6	-	10.6	5.01		F	#		
Uranium	mg/L	03/29/2012	N001	5.6	-	10.6	0.58		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1142 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	9	-	14	118		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	9	-	14	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	9	-	14	65		F	#	0.012	
Chloride	mg/L	03/28/2012	N001	9	-	14	14		F	#	1	
Magnesium	mg/L	03/28/2012	N001	9	-	14	12		F	#	0.013	
Manganese	mg/L	03/28/2012	N001	9	-	14	0.39		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	9	-	14	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	9	-	14	37.7		F	#		
pH	s.u.	03/28/2012	N001	9	-	14	7.45		F	#		
Potassium	mg/L	03/28/2012	N001	9	-	14	1.8		F	#	0.11	
Selenium	mg/L	03/28/2012	N001	9	-	14	0.0011		F	#	0.000032	
Sodium	mg/L	03/28/2012	N001	9	-	14	34		F	#	0.0066	
Specific Conductance	umhos /cm	03/28/2012	N001	9	-	14	620		F	#		
Strontium	mg/L	03/28/2012	N001	9	-	14	0.7		F	#	0.000078	
Sulfate	mg/L	03/28/2012	N001	9	-	14	140		F	#	2.5	
Temperature	C	03/28/2012	N001	9	-	14	11.15		F	#		
Turbidity	NTU	03/28/2012	N001	9	-	14	5.47		F	#		
Uranium	mg/L	03/28/2012	N001	9	-	14	0.0048		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1143 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	8.3	-	13.3	231		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	8.3	-	13.3	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	8.3	-	13.3	210		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	8.3	-	13.3	79		F	#	10	
Magnesium	mg/L	03/28/2012	N001	8.3	-	13.3	73		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	8.3	-	13.3	1.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	8.3	-	13.3	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	8.3	-	13.3	87.4		F	#		
pH	s.u.	03/28/2012	N001	8.3	-	13.3	7.4		F	#		
Potassium	mg/L	03/28/2012	N001	8.3	-	13.3	12		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	8.3	-	13.3	0.00018		F	#	0.000032	
Sodium	mg/L	03/28/2012	N001	8.3	-	13.3	930		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	8.3	-	13.3	5454		F	#		
Strontium	mg/L	03/28/2012	N001	8.3	-	13.3	2.6		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	8.3	-	13.3	2800		F	#	25	
Temperature	C	03/28/2012	N001	8.3	-	13.3	9.66		F	#		
Turbidity	NTU	03/28/2012	N001	8.3	-	13.3	9.69		F	#		
Uranium	mg/L	03/28/2012	N001	8.3	-	13.3	0.058		F	#	0.0000029	

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

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	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
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined 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.

Groundwater Quality Data
Terrace Locations

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Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0600 WELL Just N of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	29	-	48.8	1254		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	N001	29	-	48.8	19		FQ	#	0.5	
Calcium	mg/L	03/30/2012	N001	29	-	48.8	270		FQ	#	0.6	
Chloride	mg/L	03/30/2012	N001	29	-	48.8	1300		FQ	#	40	
Magnesium	mg/L	03/30/2012	N001	29	-	48.8	270		FQ	#	0.65	
Manganese	mg/L	03/30/2012	N001	29	-	48.8	0.23	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	29	-	48.8	80		FQ	#	1	
Oxidation Reduction Potential	mV	03/30/2012	N001	29	-	48.8	140		FQJ	#		
pH	s.u.	03/30/2012	N001	29	-	48.8	6.8		FQJ	#		
Potassium	mg/L	03/30/2012	N001	29	-	48.8	30	B	FQ	#	5.4	
Selenium	mg/L	03/30/2012	N001	29	-	48.8	0.0019		FQ	#	0.00032	
Sodium	mg/L	03/30/2012	N001	29	-	48.8	4700		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	29	-	48.8	20570		FQJ	#		
Strontium	mg/L	03/30/2012	N001	29	-	48.8	8.4		FQ	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	29	-	48.8	9600		FQ	#	100	
Temperature	C	03/30/2012	N001	29	-	48.8	15.3		FQJ	#		
Turbidity	NTU	03/30/2012	N001	29	-	48.8	3.24		FQ	#		
Uranium	mg/L	03/30/2012	N001	29	-	48.8	0.66		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0602 WELL Just W of Disposal Cell; NECA yard

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	27	-	47	1786		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	27	-	47	90		F	#	2	
Calcium	mg/L	03/29/2012	N001	27	-	47	430		F	#	0.6	
Chloride	mg/L	03/29/2012	N001	27	-	47	2100		F	#	100	
Magnesium	mg/L	03/29/2012	N001	27	-	47	1500		F	#	0.65	
Manganese	mg/L	03/29/2012	N001	27	-	47	0.8		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	27	-	47	25		F	#	0.5	
Oxidation Reduction Potential	mV	03/29/2012	N001	27	-	47	95		F	#		
pH	s.u.	03/29/2012	N001	27	-	47	6.87		F	#		
Potassium	mg/L	03/29/2012	N001	27	-	47	84		F	#	5.4	
Selenium	mg/L	03/29/2012	N001	27	-	47	0.0054		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	27	-	47	5700		F	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	27	-	47	28320		F	#		
Strontium	mg/L	03/29/2012	N001	27	-	47	19		F	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	27	-	47	17000		F	#	250	
Temperature	C	03/29/2012	N001	27	-	47	17.3		F	#		
Turbidity	NTU	03/29/2012	N001	27	-	47	2.71		F	#		
Uranium	mg/L	03/29/2012	N001	27	-	47	0.51		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0603 WELL Just SE of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	25.9	-	35.9	164		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	25.9	-	35.9	760		F	#	20	
Calcium	mg/L	03/28/2012	N001	25.9	-	35.9	1000		F	#	0.06	
Chloride	mg/L	03/28/2012	N001	25.9	-	35.9	170		F	#	10	
Magnesium	mg/L	03/28/2012	N001	25.9	-	35.9	680		F	#	0.065	
Manganese	mg/L	03/28/2012	N001	25.9	-	35.9	50		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	25.9	-	35.9	1700		F	#	10	
Oxidation Reduction Potential	mV	03/28/2012	N001	25.9	-	35.9	100		F	#		
pH	s.u.	03/28/2012	N001	25.9	-	35.9	6.31		F	#		
Potassium	mg/L	03/28/2012	N001	25.9	-	35.9	160		F	#	0.54	
Selenium	mg/L	03/28/2012	N001	25.9	-	35.9	0.084		F	#	0.00032	
Sodium	mg/L	03/28/2012	N001	25.9	-	35.9	660		F	#	0.033	
Specific Conductance	umhos /cm	03/28/2012	N001	25.9	-	35.9	17300		F	#		
Strontium	mg/L	03/28/2012	N001	25.9	-	35.9	4.6		F	#	0.00039	
Sulfate	mg/L	03/28/2012	N001	25.9	-	35.9	2700		F	#	25	
Temperature	C	03/28/2012	N001	25.9	-	35.9	17.3		F	#		
Turbidity	NTU	03/28/2012	N001	25.9	-	35.9	2.31		F	#		
Uranium	mg/L	03/28/2012	N001	25.9	-	35.9	0.0089		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0604 WELL Just W of radon cover borrow pit

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	62.7	-	72.7	891		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	0001	62.7	-	72.7	2.3		FQ	#	0.1	
Calcium	mg/L	03/30/2012	0001	62.7	-	72.7	520		FQ	#	0.6	
Chloride	mg/L	03/30/2012	0001	62.7	-	72.7	2200		FQ	#	40	
Magnesium	mg/L	03/30/2012	0001	62.7	-	72.7	1900		FQ	#	0.65	
Manganese	mg/L	03/30/2012	0001	62.7	-	72.7	0.79		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	0001	62.7	-	72.7	1000		FQ	#	10	
Oxidation Reduction Potential	mV	03/30/2012	N001	62.7	-	72.7	257.2		FQ	#		
pH	s.u.	03/30/2012	N001	62.7	-	72.7	6.86		FQ	#		
Potassium	mg/L	03/30/2012	0001	62.7	-	72.7	47	B	FQ	#	5.4	
Selenium	mg/L	03/30/2012	0001	62.7	-	72.7	0.79		FQ	#	0.0016	
Sodium	mg/L	03/30/2012	0001	62.7	-	72.7	4400		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	62.7	-	72.7	26564		FQ	#		
Strontium	mg/L	03/30/2012	0001	62.7	-	72.7	18		FQ	#	0.0039	
Sulfate	mg/L	03/30/2012	0001	62.7	-	72.7	11000		FQ	#	100	
Temperature	C	03/30/2012	N001	62.7	-	72.7	14.99		FQ	#		
Turbidity	NTU	03/30/2012	N001	62.7	-	72.7	13.4		FQ	#		
Uranium	mg/L	03/30/2012	0001	62.7	-	72.7	0.086		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0725 WELL West side, lower Bob Lee Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	7.5	-	17.5	287		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	7.5	-	17.5	0.1	U	F	#	0.1	
Calcium	mg/L	03/27/2012	N001	7.5	-	17.5	300		F	#	0.6	
Chloride	mg/L	03/27/2012	N001	7.5	-	17.5	81		F	#	10	
Magnesium	mg/L	03/27/2012	N001	7.5	-	17.5	170		F	#	0.65	
Manganese	mg/L	03/27/2012	N001	7.5	-	17.5	0.62		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	7.5	-	17.5	16		F	#	0.1	
Oxidation Reduction Potential	mV	03/27/2012	N001	7.5	-	17.5	59.4		F	#		
pH	s.u.	03/27/2012	N001	7.5	-	17.5	7.22		F	#		
Potassium	mg/L	03/27/2012	N001	7.5	-	17.5	5.4	U	F	#	5.4	
Selenium	mg/L	03/27/2012	N001	7.5	-	17.5	0.0084		F	#	0.00016	
Sodium	mg/L	03/27/2012	N001	7.5	-	17.5	890		F	#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	7.5	-	17.5	5288		F	#		
Strontium	mg/L	03/27/2012	N001	7.5	-	17.5	9.6		F	#	0.0039	
Sulfate	mg/L	03/27/2012	N001	7.5	-	17.5	2900		F	#	25	
Temperature	C	03/27/2012	N001	7.5	-	17.5	11.69		F	#		
Turbidity	NTU	03/27/2012	N001	7.5	-	17.5	2.64		F	#		
Uranium	mg/L	03/27/2012	N001	7.5	-	17.5	0.11		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0726 WELL West side, upper Bob Lee Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	27.2	-	37.2	504		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	27.2	-	37.2	0.87		F	#	0.1	
Calcium	mg/L	03/30/2012	N001	27.2	-	37.2	280		F	#	0.6	
Chloride	mg/L	03/30/2012	N001	27.2	-	37.2	250		F	#	20	
Magnesium	mg/L	03/30/2012	N001	27.2	-	37.2	260		F	#	0.65	
Manganese	mg/L	03/30/2012	N001	27.2	-	37.2	0.51		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	27.2	-	37.2	36		F	#	0.2	
Oxidation Reduction Potential	mV	03/30/2012	N001	27.2	-	37.2	105		FJ	#		
pH	s.u.	03/30/2012	N001	27.2	-	37.2	7.25		FJ	#		
Potassium	mg/L	03/30/2012	N001	27.2	-	37.2	12	B	F	#	5.4	
Selenium	mg/L	03/30/2012	N001	27.2	-	37.2	0.13		F	#	0.00016	
Sodium	mg/L	03/30/2012	N001	27.2	-	37.2	1700		F	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	27.2	-	37.2	10600		FJ	#		
Strontium	mg/L	03/30/2012	N001	27.2	-	37.2	6.3		F	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	27.2	-	37.2	5000		F	#	50	
Temperature	C	03/30/2012	N001	27.2	-	37.2	15.6		FJ	#		
Turbidity	NTU	03/30/2012	N001	27.2	-	37.2	9		F	#		
Uranium	mg/L	03/30/2012	N001	27.2	-	37.2	0.024		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0727 WELL West side, upper Bob Lee Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	6.7	-	16.7	1420		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	N001	6.7	-	16.7	0.33		FQ	#	0.1	
Calcium	mg/L	03/30/2012	N001	6.7	-	16.7	440		FQ	#	0.6	
Chloride	mg/L	03/30/2012	N001	6.7	-	16.7	390		FQ	#	40	
Magnesium	mg/L	03/30/2012	N001	6.7	-	16.7	1600		FQ	#	0.65	
Manganese	mg/L	03/30/2012	N001	6.7	-	16.7	0.98		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	6.7	-	16.7	99		FQ	#	1	
Oxidation Reduction Potential	mV	03/30/2012	N001	6.7	-	16.7	95		FQJ	#		
pH	s.u.	03/30/2012	N001	6.7	-	16.7	6.59		FQJ	#		
Potassium	mg/L	03/30/2012	N001	6.7	-	16.7	48	B	FQ	#	5.4	
Selenium	mg/L	03/30/2012	N001	6.7	-	16.7	0.0019		FQ	#	0.00032	
Sodium	mg/L	03/30/2012	N001	6.7	-	16.7	2500		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	6.7	-	16.7	16570		FQJ	#		
Strontium	mg/L	03/30/2012	N001	6.7	-	16.7	13		FQ	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	6.7	-	16.7	11000		FQ	#	100	
Temperature	C	03/30/2012	N001	6.7	-	16.7	13.5		FQJ	#		
Turbidity	NTU	03/30/2012	N001	6.7	-	16.7	6.83		FQ	#		
Uranium	mg/L	03/30/2012	N001	6.7	-	16.7	0.21		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0728 WELL W of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	17	-	27	480		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	17	-	27	99		F	#	2	
Calcium	mg/L	03/27/2012	N001	17	-	27	470		F	#	0.06	
Chloride	mg/L	03/27/2012	N001	17	-	27	71		F	#	2	
Magnesium	mg/L	03/27/2012	N001	17	-	27	850		F	#	0.065	
Manganese	mg/L	03/27/2012	N001	17	-	27	1.3		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	17	-	27	160		F	#	1	
Oxidation Reduction Potential	mV	03/27/2012	N001	17	-	27	55		F	#		
pH	s.u.	03/27/2012	N001	17	-	27	6.63		F	#		
Potassium	mg/L	03/27/2012	N001	17	-	27	100		F	#	0.54	
Selenium	mg/L	03/27/2012	N001	17	-	27	0.002		F	#	0.00016	
Sodium	mg/L	03/27/2012	N001	17	-	27	790		F	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	17	-	27	9110		F	#		
Strontium	mg/L	03/27/2012	N001	17	-	27	6.9		F	#	0.00039	
Sulfate	mg/L	03/27/2012	N001	17	-	27	5700		F	#	50	
Temperature	C	03/27/2012	N001	17	-	27	15.7		F	#		
Turbidity	NTU	03/27/2012	N001	17	-	27	1.46		F	#		
Uranium	mg/L	03/27/2012	N001	17	-	27	0.27		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0730 WELL Just SW of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	26.93	-	36.93	0		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	26.93	-	36.93	50		FQ	#	2	
Calcium	mg/L	03/29/2012	0001	26.93	-	36.93	630		FQ	#	0.06	
Chloride	mg/L	03/29/2012	0001	26.93	-	36.93	13		FQ	#	1	
Magnesium	mg/L	03/29/2012	0001	26.93	-	36.93	140		FQ	#	0.013	
Manganese	mg/L	03/29/2012	0001	26.93	-	36.93	23		FQ	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	26.93	-	36.93	140		FQ	#	1	
Oxidation Reduction Potential	mV	03/29/2012	0001	26.93	-	36.93	100		FQ	#		
pH	s.u.	03/29/2012	0001	26.93	-	36.93	5.55		FQ	#		
Potassium	mg/L	03/29/2012	0001	26.93	-	36.93	20		FQ	#	0.11	
Selenium	mg/L	03/29/2012	0001	26.93	-	36.93	0.011		FQ	#	0.00016	
Sodium	mg/L	03/29/2012	0001	26.93	-	36.93	78		FQ	#	0.0066	
Specific Conductance	umhos /cm	03/29/2012	0001	26.93	-	36.93	3800		FQ	#		
Strontium	mg/L	03/29/2012	0001	26.93	-	36.93	2.8		FQ	#	0.000078	
Sulfate	mg/L	03/29/2012	0001	26.93	-	36.93	1900		FQ	#	25	
Temperature	C	03/29/2012	0001	26.93	-	36.93	18.1		FQ	#		
Turbidity	NTU	03/29/2012	0001	26.93	-	36.93	453		FQ	#		
Uranium	mg/L	03/29/2012	0001	26.93	-	36.93	0.0073		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0731 WELL SE of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	17	-	27	268		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	17	-	27	27		F	#	1	
Calcium	mg/L	03/28/2012	N001	17	-	27	430		F	#	0.12	
Chloride	mg/L	03/28/2012	N001	17	-	27	90		F	#	20	
Magnesium	mg/L	03/28/2012	N001	17	-	27	400		F	#	0.13	
Manganese	mg/L	03/28/2012	N001	17	-	27	0.11		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	17	-	27	69		F	#	0.5	
Oxidation Reduction Potential	mV	03/28/2012	N001	17	-	27	25		F	#		
pH	s.u.	03/28/2012	N001	17	-	27	6.79		F	#		
Potassium	mg/L	03/28/2012	N001	17	-	27	35		F	#	1.1	
Selenium	mg/L	03/28/2012	N001	17	-	27	0.018		F	#	0.00016	
Sodium	mg/L	03/28/2012	N001	17	-	27	740		F	#	0.066	
Specific Conductance	umhos /cm	03/28/2012	N001	17	-	27	8400		F	#		
Strontium	mg/L	03/28/2012	N001	17	-	27	7		F	#	0.00078	
Sulfate	mg/L	03/28/2012	N001	17	-	27	4000		F	#	50	
Temperature	C	03/28/2012	N001	17	-	27	15.6		F	#		
Turbidity	NTU	03/28/2012	N001	17	-	27	2.67		F	#		
Uranium	mg/L	03/28/2012	N001	17	-	27	0.024		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0812 WELL W of radon cover borrow pit

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	51.3	-	61.3	670		FQ	#		
Ammonia Total as N	mg/L	03/26/2012	N001	51.3	-	61.3	0.1	U	FQ	#	0.1	
Calcium	mg/L	03/26/2012	N001	51.3	-	61.3	480		FQ	#	0.6	
Chloride	mg/L	03/26/2012	N001	51.3	-	61.3	2400		FQ	#	100	
Magnesium	mg/L	03/26/2012	N001	51.3	-	61.3	2400		FQ	#	0.65	
Manganese	mg/L	03/26/2012	N001	51.3	-	61.3	0.053	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	51.3	-	61.3	1400		FQ	#	10	
Oxidation Reduction Potential	mV	03/26/2012	N001	51.3	-	61.3	85		FQ	#		
pH	s.u.	03/26/2012	N001	51.3	-	61.3	6.91		FQ	#		
Potassium	mg/L	03/26/2012	N001	51.3	-	61.3	67		FQ	#	5.4	
Selenium	mg/L	03/26/2012	N001	51.3	-	61.3	5.5		FQ	#	0.0032	
Sodium	mg/L	03/26/2012	N001	51.3	-	61.3	6000		FQ	#	0.33	
Specific Conductance	umhos /cm	03/26/2012	N001	51.3	-	61.3	33150		FQ	#		
Strontium	mg/L	03/26/2012	N001	51.3	-	61.3	15		FQ	#	0.0039	
Sulfate	mg/L	03/26/2012	N001	51.3	-	61.3	16000		FQ	#	250	
Temperature	C	03/26/2012	N001	51.3	-	61.3	15.6		FQ	#		
Turbidity	NTU	03/26/2012	N001	51.3	-	61.3	8.8		FQ	#		
Uranium	mg/L	03/26/2012	N001	51.3	-	61.3	0.14		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0813 WELL W of radon cover borrow pit

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	40.8	-	50.8	844		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	40.8	-	50.8	42		F	#	1	
Calcium	mg/L	03/29/2012	N001	40.8	-	50.8	670		F	#	0.6	
Chloride	mg/L	03/29/2012	N001	40.8	-	50.8	740		F	#	100	
Magnesium	mg/L	03/29/2012	N001	40.8	-	50.8	3000		F	#	0.65	
Manganese	mg/L	03/29/2012	N001	40.8	-	50.8	0.77		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	40.8	-	50.8	2200		F	#	20	
Oxidation Reduction Potential	mV	03/29/2012	N001	40.8	-	50.8	75		F	#		
pH	s.u.	03/29/2012	N001	40.8	-	50.8	6.14		F	#		
Potassium	mg/L	03/29/2012	N001	40.8	-	50.8	100		F	#	5.4	
Selenium	mg/L	03/29/2012	N001	40.8	-	50.8	0.062		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	40.8	-	50.8	2600		F	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	40.8	-	50.8	26200		F	#		
Strontium	mg/L	03/29/2012	N001	40.8	-	50.8	19		F	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	40.8	-	50.8	10000		F	#	250	
Temperature	C	03/29/2012	N001	40.8	-	50.8	16.2		F	#		
Turbidity	NTU	03/29/2012	N001	40.8	-	50.8	2.77		F	#		
Uranium	mg/L	03/29/2012	N001	40.8	-	50.8	0.11		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0814 WELL South edge of fairgrounds, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	0001	23.8	-	33.8	588		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	0001	23.8	-	33.8	48		FQ	#	2	
Calcium	mg/L	03/28/2012	0001	23.8	-	33.8	470		FQ	#	0.6	
Chloride	mg/L	03/28/2012	0001	23.8	-	33.8	970		FQ	#	100	
Magnesium	mg/L	03/28/2012	0001	23.8	-	33.8	2100		FQ	#	0.65	
Manganese	mg/L	03/28/2012	0001	23.8	-	33.8	1.4		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	0001	23.8	-	33.8	870		FQ	#	5	
Oxidation Reduction Potential	mV	03/28/2012	N001	23.8	-	33.8	140		FQ	#		
pH	s.u.	03/28/2012	N001	23.8	-	33.8	6		FQ	#		
Potassium	mg/L	03/28/2012	0001	23.8	-	33.8	99		FQ	#	5.4	
Selenium	mg/L	03/28/2012	0001	23.8	-	33.8	1.8		FQ	#	0.0032	
Sodium	mg/L	03/28/2012	0001	23.8	-	33.8	3600		FQ	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	23.8	-	33.8	22500		FQ	#		
Strontium	mg/L	03/28/2012	0001	23.8	-	33.8	13		FQ	#	0.0039	
Sulfate	mg/L	03/28/2012	0001	23.8	-	33.8	13000		FQ	#	250	
Temperature	C	03/28/2012	N001	23.8	-	33.8	13		FQ	#		
Turbidity	NTU	03/28/2012	N001	23.8	-	33.8	22		FQ	#		
Uranium	mg/L	03/28/2012	0001	23.8	-	33.8	0.082		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0815 WELL Fairgrounds, just N of Uranium Blvd., flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	22.3	-	32.3	1384		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	22.3	-	32.3	0.88		F	#	0.1	
Calcium	mg/L	03/28/2012	N001	22.3	-	32.3	480		F	#	0.6	
Chloride	mg/L	03/28/2012	N001	22.3	-	32.3	550		F	#	100	
Magnesium	mg/L	03/28/2012	N001	22.3	-	32.3	2600		F	#	0.65	
Manganese	mg/L	03/28/2012	N001	22.3	-	32.3	1.5		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	22.3	-	32.3	650		F	#	5	
Oxidation Reduction Potential	mV	03/28/2012	N001	22.3	-	32.3	70		F	#		
pH	s.u.	03/28/2012	N001	22.3	-	32.3	6.24		F	#		
Potassium	mg/L	03/28/2012	N001	22.3	-	32.3	83		F	#	5.4	
Selenium	mg/L	03/28/2012	N001	22.3	-	32.3	0.02		F	#	0.00016	
Sodium	mg/L	03/28/2012	N001	22.3	-	32.3	3300		F	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	22.3	-	32.3	22780		F	#		
Strontium	mg/L	03/28/2012	N001	22.3	-	32.3	13		F	#	0.0039	
Sulfate	mg/L	03/28/2012	N001	22.3	-	32.3	15000		F	#	250	
Temperature	C	03/28/2012	N001	22.3	-	32.3	16.3		F	#		
Turbidity	NTU	03/28/2012	N001	22.3	-	32.3	2.16		F	#		
Uranium	mg/L	03/28/2012	N001	22.3	-	32.3	0.33		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0816 WELL N of artesian well 648

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	20.1	-	25.1	232		F	#		
Ammonia Total as N	mg/L	03/28/2012	N001	20.1	-	25.1	0.1	U	F	#	0.1	
Calcium	mg/L	03/28/2012	N001	20.1	-	25.1	140		F	#	0.06	
Chloride	mg/L	03/28/2012	N001	20.1	-	25.1	54		F	#	10	
Magnesium	mg/L	03/28/2012	N001	20.1	-	25.1	180		F	#	0.065	
Manganese	mg/L	03/28/2012	N001	20.1	-	25.1	0.00057	U	F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	20.1	-	25.1	14		F	#	0.1	
Oxidation Reduction Potential	mV	03/28/2012	N001	20.1	-	25.1	-4		F	#		
pH	s.u.	03/28/2012	N001	20.1	-	25.1	7.29		F	#		
Potassium	mg/L	03/28/2012	N001	20.1	-	25.1	9.9		F	#	0.54	
Selenium	mg/L	03/28/2012	N001	20.1	-	25.1	0.013		F	#	0.00016	
Sodium	mg/L	03/28/2012	N001	20.1	-	25.1	380		F	#	0.033	
Specific Conductance	umhos /cm	03/28/2012	N001	20.1	-	25.1	3400		F	#		
Strontium	mg/L	03/28/2012	N001	20.1	-	25.1	2.7		F	#	0.00039	
Sulfate	mg/L	03/28/2012	N001	20.1	-	25.1	1600		F	#	25	
Temperature	C	03/28/2012	N001	20.1	-	25.1	18.1		F	#		
Turbidity	NTU	03/28/2012	N001	20.1	-	25.1	1.96		F	#		
Uranium	mg/L	03/28/2012	N001	20.1	-	25.1	0.016		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0817 WELL Just W of Disposal Cell, NECA yard

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	21.6	-	31.62	1600		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	N001	21.6	-	31.62	900		FQ	#	20	
Calcium	mg/L	03/29/2012	N001	21.6	-	31.62	480		FQ	#	0.6	
Chloride	mg/L	03/29/2012	N001	21.6	-	31.62	510		FQ	#	100	
Magnesium	mg/L	03/29/2012	N001	21.6	-	31.62	1900		FQ	#	0.65	
Manganese	mg/L	03/29/2012	N001	21.6	-	31.62	2.3		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	21.6	-	31.62	500		FQ	#	5	
Oxidation Reduction Potential	mV	03/29/2012	N001	21.6	-	31.62	110		FQ	#		
pH	s.u.	03/29/2012	N001	21.6	-	31.62	6.15		FQ	#		
Potassium	mg/L	03/29/2012	N001	21.6	-	31.62	210		FQ	#	5.4	
Selenium	mg/L	03/29/2012	N001	21.6	-	31.62	0.0039		FQ	#	0.00032	
Sodium	mg/L	03/29/2012	N001	21.6	-	31.62	1500		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	21.6	-	31.62	20800		FQ	#		
Strontium	mg/L	03/29/2012	N001	21.6	-	31.62	12		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	21.6	-	31.62	12000		FQ	#	250	
Temperature	C	03/29/2012	N001	21.6	-	31.62	18.2		FQ	#		
Turbidity	NTU	03/29/2012	N001	21.6	-	31.62	7.92		FQ	#		
Uranium	mg/L	03/29/2012	N001	21.6	-	31.62	7		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0818 WELL Just W of radon cover borrow pit

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	52	-	61.5	570			#		
Ammonia Total as N	mg/L	03/27/2012	N001	52	-	61.5	61			#	2	
Ammonia Total as N	mg/L	03/27/2012	N002	52	-	61.5	59			#	2	
Calcium	mg/L	03/27/2012	N001	52	-	61.5	470			#	0.6	
Calcium	mg/L	03/27/2012	N002	52	-	61.5	470			#	0.6	
Chloride	mg/L	03/27/2012	N001	52	-	61.5	910			#	100	
Chloride	mg/L	03/27/2012	N002	52	-	61.5	900			#	40	
Magnesium	mg/L	03/27/2012	N001	52	-	61.5	1900			#	0.65	
Magnesium	mg/L	03/27/2012	N002	52	-	61.5	1900			#	0.65	
Manganese	mg/L	03/27/2012	N001	52	-	61.5	0.52			#	0.0057	
Manganese	mg/L	03/27/2012	N002	52	-	61.5	0.52			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	52	-	61.5	760			#	5	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	52	-	61.5	730			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	52	-	61.5	35			#		
pH	s.u.	03/27/2012	N001	52	-	61.5	6.86			#		
Potassium	mg/L	03/27/2012	N001	52	-	61.5	62			#	5.4	
Potassium	mg/L	03/27/2012	N002	52	-	61.5	62			#	5.4	
Selenium	mg/L	03/27/2012	N001	52	-	61.5	2			#	0.0032	
Selenium	mg/L	03/27/2012	N002	52	-	61.5	2			#	0.0032	
Sodium	mg/L	03/27/2012	N001	52	-	61.5	3300			#	0.33	
Sodium	mg/L	03/27/2012	N002	52	-	61.5	3300			#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	52	-	61.5	22530			#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0818 WELL Just W of radon cover borrow pit

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	52	-	61.5	13			#	0.0039	
Strontium	mg/L	03/27/2012	N002	52	-	61.5	13			#	0.0039	
Sulfate	mg/L	03/27/2012	N001	52	-	61.5	12000			#	250	
Sulfate	mg/L	03/27/2012	N002	52	-	61.5	12000			#	100	
Temperature	C	03/27/2012	N001	52	-	61.5	14.9			#		
Turbidity	NTU	03/27/2012	N001	52	-	61.5	3.83			#		
Uranium	mg/L	03/27/2012	N001	52	-	61.5	0.16		J	#	0.00029	
Uranium	mg/L	03/27/2012	N002	52	-	61.5	0.11		J	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0819 WELL Just W of Disposal Cell, NECA yard, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	15.67	-	25.67	1844		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	N001	15.67	-	25.67	400		FQ	#	10	
Calcium	mg/L	03/30/2012	N001	15.67	-	25.67	460		FQ	#	0.6	
Chloride	mg/L	03/30/2012	N001	15.67	-	25.67	710		FQ	#	100	
Magnesium	mg/L	03/30/2012	N001	15.67	-	25.67	1600		FQ	#	0.65	
Manganese	mg/L	03/30/2012	N001	15.67	-	25.67	1.8		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	15.67	-	25.67	14		FQ	#	0.1	
Oxidation Reduction Potential	mV	03/30/2012	N001	15.67	-	25.67	120		FQJ	#		
pH	s.u.	03/30/2012	N001	15.67	-	25.67	6.44		FQJ	#		
Potassium	mg/L	03/30/2012	N001	15.67	-	25.67	160		FQ	#	5.4	
Selenium	mg/L	03/30/2012	N001	15.67	-	25.67	0.0086		FQ	#	0.00032	
Sodium	mg/L	03/30/2012	N001	15.67	-	25.67	2800		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	15.67	-	25.67	20325		FQJ	#		
Strontium	mg/L	03/30/2012	N001	15.67	-	25.67	10		FQ	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	15.67	-	25.67	13000		FQ	#	250	
Temperature	C	03/30/2012	N001	15.67	-	25.67	16.9		FQJ	#		
Turbidity	NTU	03/30/2012	N001	15.67	-	25.67	6.85		FQ	#		
Uranium	mg/L	03/30/2012	N001	15.67	-	25.67	1.1		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0820 WELL Just N of Disposal Cell, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	0001	149	-	151.5	440		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	0001	149	-	151.5	0.18		FQ	#	0.1	
Calcium	mg/L	03/28/2012	0001	149	-	151.5	230		FQ	#	0.6	
Chloride	mg/L	03/28/2012	0001	149	-	151.5	8800		FQ	#	100	
Magnesium	mg/L	03/28/2012	0001	149	-	151.5	84		FQ	#	0.65	
Manganese	mg/L	03/28/2012	0001	149	-	151.5	0.72		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	0001	149	-	151.5	6.7		FQ	#	0.05	
Oxidation Reduction Potential	mV	03/28/2012	N001	149	-	151.5	45		FQ	#		
pH	s.u.	03/28/2012	N001	149	-	151.5	7.18		FQ	#		
Potassium	mg/L	03/28/2012	0001	149	-	151.5	16	B	FQ	#	5.4	
Selenium	mg/L	03/28/2012	0001	149	-	151.5	0.0021		FQ	#	0.00016	
Sodium	mg/L	03/28/2012	0001	149	-	151.5	6600		FQ	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	149	-	151.5	31300		FQ	#		
Strontium	mg/L	03/28/2012	0001	149	-	151.5	24		FQ	#	0.0039	
Sulfate	mg/L	03/28/2012	0001	149	-	151.5	5200		FQ	#	250	
Temperature	C	03/28/2012	N001	149	-	151.5	19.9		FQ	#		
Turbidity	NTU	03/28/2012	N001	149	-	151.5	65.4		FQ	#		
Uranium	mg/L	03/28/2012	0001	149	-	151.5	0.068		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0822 WELL Just N of Disposal Cell, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	199	-	201.5	390		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	199	-	201.5	0.25		FQ	#	0.1	
Calcium	mg/L	03/29/2012	0001	199	-	201.5	180		FQ	#	0.6	
Chloride	mg/L	03/29/2012	0001	199	-	201.5	6000		FQ	#	100	
Magnesium	mg/L	03/29/2012	0001	199	-	201.5	79		FQ	#	0.65	
Manganese	mg/L	03/29/2012	0001	199	-	201.5	0.26		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	199	-	201.5	7.9		FQ	#	0.2	
Oxidation Reduction Potential	mV	03/29/2012	N001	199	-	201.5	110		FQ	#		
pH	s.u.	03/29/2012	N001	199	-	201.5	7.11		FQ	#		
Potassium	mg/L	03/29/2012	0001	199	-	201.5	62		FQ	#	5.4	
Selenium	mg/L	03/29/2012	0001	199	-	201.5	0.001		FQ	#	0.00016	
Sodium	mg/L	03/29/2012	0001	199	-	201.5	6000		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	199	-	201.5	25200		FQ	#		
Strontium	mg/L	03/29/2012	0001	199	-	201.5	19		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	0001	199	-	201.5	5400		FQ	#	100	
Temperature	C	03/29/2012	N001	199	-	201.5	17		FQ	#		
Turbidity	NTU	03/29/2012	N001	199	-	201.5	65.9		FQ	#		
Uranium	mg/L	03/29/2012	0001	199	-	201.5	0.074		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0824 WELL Just NE of Disposal Cell, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	198.5	-	201	126		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	N001	198.5	-	201	0.72		FQ	#	0.1	
Calcium	mg/L	03/28/2012	N001	198.5	-	201	150		FQ	#	0.6	
Chloride	mg/L	03/28/2012	N001	198.5	-	201	4600		FQ	#	100	
Magnesium	mg/L	03/28/2012	N001	198.5	-	201	93		FQ	#	0.65	
Manganese	mg/L	03/28/2012	N001	198.5	-	201	0.086	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	198.5	-	201	250		FQ	#	2	
Oxidation Reduction Potential	mV	03/28/2012	N001	198.5	-	201	25		FQ	#		
pH	s.u.	03/28/2012	N001	198.5	-	201	6.94		FQ	#		
Potassium	mg/L	03/28/2012	N001	198.5	-	201	130		FQ	#	5.4	
Selenium	mg/L	03/28/2012	N001	198.5	-	201	0.0026		FQ	#	0.00032	
Sodium	mg/L	03/28/2012	N001	198.5	-	201	4300		FQ	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	198.5	-	201	22970		FQ	#		
Strontium	mg/L	03/28/2012	N001	198.5	-	201	13		FQ	#	0.0039	
Sulfate	mg/L	03/28/2012	N001	198.5	-	201	4900		FQ	#	100	
Temperature	C	03/28/2012	N001	198.5	-	201	16.6		FQ	#		
Turbidity	NTU	03/28/2012	N001	198.5	-	201	2.21		FQ	#		
Uranium	mg/L	03/28/2012	N001	198.5	-	201	0.34		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0825 WELL Just NE of Disposal Cell, well nest

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	147.79	-	150.23	194		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	N001	147.79	-	150.23	2		FQ	#	0.1	
Calcium	mg/L	03/28/2012	N001	147.79	-	150.23	240		FQ	#	0.6	
Chloride	mg/L	03/28/2012	N001	147.79	-	150.23	8400		FQ	#	100	
Magnesium	mg/L	03/28/2012	N001	147.79	-	150.23	91		FQ	#	0.65	
Manganese	mg/L	03/28/2012	N001	147.79	-	150.23	0.32		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	147.79	-	150.23	25		FQ	#	0.2	
Oxidation Reduction Potential	mV	03/28/2012	N001	147.79	-	150.23	55		FQ	#		
pH	s.u.	03/28/2012	N001	147.79	-	150.23	7.28		FQ	#		
Potassium	mg/L	03/28/2012	N001	147.79	-	150.23	95		FQ	#	5.4	
Selenium	mg/L	03/28/2012	N001	147.79	-	150.23	0.00066		FQ	#	0.000065	
Sodium	mg/L	03/28/2012	N001	147.79	-	150.23	6000		FQ	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	147.79	-	150.23	28000		FQ	#		
Strontium	mg/L	03/28/2012	N001	147.79	-	150.23	20		FQ	#	0.0039	
Sulfate	mg/L	03/28/2012	N001	147.79	-	150.23	4600		FQ	#	100	
Temperature	C	03/28/2012	N001	147.79	-	150.23	16.7		FQ	#		
Turbidity	NTU	03/28/2012	N001	147.79	-	150.23	1.48		FQ	#		
Uranium	mg/L	03/28/2012	N001	147.79	-	150.23	0.027		FQ	#	0.0000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0826 WELL Just West of Disposal Cell, NECA yard, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	0001	10	-	20	1624		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	0001	10	-	20	99		FQ	#	2	
Calcium	mg/L	03/30/2012	0001	10	-	20	450		FQ	#	0.6	
Chloride	mg/L	03/30/2012	0001	10	-	20	490		FQ	#	40	
Magnesium	mg/L	03/30/2012	0001	10	-	20	2600		FQ	#	0.65	
Manganese	mg/L	03/30/2012	0001	10	-	20	2.8		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	0001	10	-	20	24		FQ	#	0.2	
Oxidation Reduction Potential	mV	03/30/2012	N001	10	-	20	105		FQJ	#		
pH	s.u.	03/30/2012	N001	10	-	20	6.5		FQJ	#		
Potassium	mg/L	03/30/2012	0001	10	-	20	120		FQ	#	5.4	
Selenium	mg/L	03/30/2012	0001	10	-	20	0.0094		FQ	#	0.0016	
Sodium	mg/L	03/30/2012	0001	10	-	20	2100		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	10	-	20	18960		FQJ	#		
Strontium	mg/L	03/30/2012	0001	10	-	20	13		FQ	#	0.0039	
Sulfate	mg/L	03/30/2012	0001	10	-	20	13000		FQ	#	100	
Temperature	C	03/30/2012	N001	10	-	20	15.3		FQJ	#		
Turbidity	NTU	03/30/2012	N001	10	-	20	23.1		FQ	#		
Uranium	mg/L	03/30/2012	0001	10	-	20	3.3		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0827 WELL Just NW of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	19.9	-	29.9	1190		FQ	#		
Ammonia Total as N	mg/L	03/30/2012	N001	19.9	-	29.9	2.2		FQ	#	0.1	
Calcium	mg/L	03/30/2012	N001	19.9	-	29.9	450		FQ	#	0.06	
Chloride	mg/L	03/30/2012	N001	19.9	-	29.9	340		FQ	#	20	
Magnesium	mg/L	03/30/2012	N001	19.9	-	29.9	880		FQ	#	0.065	
Manganese	mg/L	03/30/2012	N001	19.9	-	29.9	0.21		FQ	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	19.9	-	29.9	20		FQ	#	0.2	
Oxidation Reduction Potential	mV	03/30/2012	N001	19.9	-	29.9	150		FQJ	#		
pH	s.u.	03/30/2012	N001	19.9	-	29.9	6.56		FQJ	#		
Potassium	mg/L	03/30/2012	N001	19.9	-	29.9	47		FQ	#	0.54	
Selenium	mg/L	03/30/2012	N001	19.9	-	29.9	0.023		FQ	#	0.0016	
Sodium	mg/L	03/30/2012	N001	19.9	-	29.9	1500		FQ	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	19.9	-	29.9	12995		FQJ	#		
Strontium	mg/L	03/30/2012	N001	19.9	-	29.9	8.9		FQ	#	0.00039	
Sulfate	mg/L	03/30/2012	N001	19.9	-	29.9	6600		FQ	#	50	
Temperature	C	03/30/2012	N001	19.9	-	29.9	14.9		FQJ	#		
Turbidity	NTU	03/30/2012	N001	19.9	-	29.9	9.34		FQ	#		
Uranium	mg/L	03/30/2012	N001	19.9	-	29.9	0.97		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0828 WELL Just E of upper Bob Lee Wash, NECA yard

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	5.3	-	15.3	778		F	#		
Ammonia Total as N	mg/L	03/26/2012	N001	5.3	-	15.3	0.47		F	#	0.1	
Calcium	mg/L	03/26/2012	N001	5.3	-	15.3	400		F	#	0.06	
Chloride	mg/L	03/26/2012	N001	5.3	-	15.3	260		F	#	10	
Magnesium	mg/L	03/26/2012	N001	5.3	-	15.3	280		F	#	0.065	
Manganese	mg/L	03/26/2012	N001	5.3	-	15.3	0.61		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	5.3	-	15.3	43		F	#	0.5	
Oxidation Reduction Potential	mV	03/26/2012	N001	5.3	-	15.3	80		F	#		
pH	s.u.	03/26/2012	N001	5.3	-	15.3	6.63		F	#		
Potassium	mg/L	03/26/2012	N001	5.3	-	15.3	18		F	#	0.54	
Selenium	mg/L	03/26/2012	N001	5.3	-	15.3	0.021		F	#	0.0016	
Sodium	mg/L	03/26/2012	N001	5.3	-	15.3	610		F	#	0.033	
Specific Conductance	umhos /cm	03/26/2012	N001	5.3	-	15.3	5490		F	#		
Strontium	mg/L	03/26/2012	N001	5.3	-	15.3	4.9		F	#	0.00039	
Sulfate	mg/L	03/26/2012	N001	5.3	-	15.3	2100		F	#	25	
Temperature	C	03/26/2012	N001	5.3	-	15.3	13.2		F	#		
Turbidity	NTU	03/26/2012	N001	5.3	-	15.3	3.9		F	#		
Uranium	mg/L	03/26/2012	N001	5.3	-	15.3	0.68		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0830 WELL Just SE of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	7.7	-	17.7	0		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	7.7	-	17.7	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	7.7	-	17.7	550		F	#	0.12	
Chloride	mg/L	03/30/2012	N001	7.7	-	17.7	44		F	#	1	
Magnesium	mg/L	03/30/2012	N001	7.7	-	17.7	45		F	#	0.013	
Manganese	mg/L	03/30/2012	N001	7.7	-	17.7	2.9		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	7.7	-	17.7	37		F	#	0.5	
Oxidation Reduction Potential	mV	03/30/2012	N001	7.7	-	17.7	195		FJ	#		
pH	s.u.	03/30/2012	N001	7.7	-	17.7	3.6		FJ	#		
Potassium	mg/L	03/30/2012	N001	7.7	-	17.7	4.9		F	#	0.11	
Selenium	mg/L	03/30/2012	N001	7.7	-	17.7	0.024		F	#	0.00032	
Sodium	mg/L	03/30/2012	N001	7.7	-	17.7	140		F	#	0.0066	
Specific Conductance	umhos /cm	03/30/2012	N001	7.7	-	17.7	2965		FJ	#		
Strontium	mg/L	03/30/2012	N001	7.7	-	17.7	0.23		F	#	0.000078	
Sulfate	mg/L	03/30/2012	N001	7.7	-	17.7	1600		F	#	25	
Temperature	C	03/30/2012	N001	7.7	-	17.7	13.3		FJ	#		
Turbidity	NTU	03/30/2012	N001	7.7	-	17.7	1.65		F	#		
Uranium	mg/L	03/30/2012	N001	7.7	-	17.7	0.0051		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0833 WELL Just NE of Dine College tract

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	24.9	-	34.9	512		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	24.9	-	34.9	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	24.9	-	34.9	440		F	#	0.12	
Chloride	mg/L	03/30/2012	N001	24.9	-	34.9	370		F	#	20	
Magnesium	mg/L	03/30/2012	N001	24.9	-	34.9	740		F	#	0.13	
Manganese	mg/L	03/30/2012	N001	24.9	-	34.9	0.059		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	24.9	-	34.9	150		F	#	1	
Oxidation Reduction Potential	mV	03/30/2012	N001	24.9	-	34.9	193.3		F	#		
pH	s.u.	03/30/2012	N001	24.9	-	34.9	7.04		F	#		
Potassium	mg/L	03/30/2012	N001	24.9	-	34.9	49		F	#	1.1	
Selenium	mg/L	03/30/2012	N001	24.9	-	34.9	0.3		F	#	0.00032	
Sodium	mg/L	03/30/2012	N001	24.9	-	34.9	1200		F	#	0.066	
Specific Conductance	umhos /cm	03/30/2012	N001	24.9	-	34.9	10164		F	#		
Strontium	mg/L	03/30/2012	N001	24.9	-	34.9	6.8		F	#	0.00078	
Sulfate	mg/L	03/30/2012	N001	24.9	-	34.9	5300		F	#	50	
Temperature	C	03/30/2012	N001	24.9	-	34.9	16.35		F	#		
Turbidity	NTU	03/30/2012	N001	24.9	-	34.9	8.45		F	#		
Uranium	mg/L	03/30/2012	N001	24.9	-	34.9	0.16		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0835 WELL Housing area between 2nd Wash and 3rd Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/02/2012	0001	21.9	-	31.9	400		F	#		
Ammonia Total as N	mg/L	04/02/2012	0001	21.9	-	31.9	0.1	U	F	#	0.1	
Calcium	mg/L	04/02/2012	0001	21.9	-	31.9	470		F	#	0.06	
Chloride	mg/L	04/02/2012	0001	21.9	-	31.9	150		F	#	10	
Magnesium	mg/L	04/02/2012	0001	21.9	-	31.9	390		F	#	0.065	
Manganese	mg/L	04/02/2012	0001	21.9	-	31.9	0.0028	B	F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	04/02/2012	0001	21.9	-	31.9	62		F	#	0.5	
Oxidation Reduction Potential	mV	04/02/2012	N001	21.9	-	31.9	140		F	#		
pH	s.u.	04/02/2012	N001	21.9	-	31.9	7.34		F	#		
Potassium	mg/L	04/02/2012	0001	21.9	-	31.9	14		F	#	0.54	
Selenium	mg/L	04/02/2012	0001	21.9	-	31.9	0.34		F	#	0.00032	
Sodium	mg/L	04/02/2012	0001	21.9	-	31.9	780		F	#	0.066	
Specific Conductance	umhos /cm	04/02/2012	N001	21.9	-	31.9	6660		F	#		
Strontium	mg/L	04/02/2012	0001	21.9	-	31.9	5.6		F	#	0.00039	
Sulfate	mg/L	04/02/2012	0001	21.9	-	31.9	3700		F	#	25	
Temperature	C	04/02/2012	N001	21.9	-	31.9	15.6		F	#		
Turbidity	NTU	04/02/2012	N001	21.9	-	31.9	225		F	#		
Uranium	mg/L	04/02/2012	0001	21.9	-	31.9	0.067		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0836 WELL SW part of Blueeyes Ranch, N of US Hwy 64

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	26.8	-	36.8	297		F	#		
Ammonia Total as N	mg/L	03/26/2012	N001	26.8	-	36.8	0.1	U	F	#	0.1	
Calcium	mg/L	03/26/2012	N001	26.8	-	36.8	510		F	#	0.12	
Chloride	mg/L	03/26/2012	N001	26.8	-	36.8	54		F	#	1	
Magnesium	mg/L	03/26/2012	N001	26.8	-	36.8	240		F	#	0.13	
Manganese	mg/L	03/26/2012	N001	26.8	-	36.8	1.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	26.8	-	36.8	31		F	#	0.2	
Oxidation Reduction Potential	mV	03/26/2012	N001	26.8	-	36.8	144.1		F	#		
pH	s.u.	03/26/2012	N001	26.8	-	36.8	6.92		F	#		
Potassium	mg/L	03/26/2012	N001	26.8	-	36.8	3.2	B	F	#	1.1	
Selenium	mg/L	03/26/2012	N001	26.8	-	36.8	0.24		F	#	0.00032	
Sodium	mg/L	03/26/2012	N001	26.8	-	36.8	330		F	#	0.066	
Specific Conductance	umhos /cm	03/26/2012	N001	26.8	-	36.8	4432		F	#		
Strontium	mg/L	03/26/2012	N001	26.8	-	36.8	6.4		F	#	0.00078	
Sulfate	mg/L	03/26/2012	N001	26.8	-	36.8	2500		F	#	25	
Temperature	C	03/26/2012	N001	26.8	-	36.8	15.35		F	#		
Turbidity	NTU	03/26/2012	N001	26.8	-	36.8	8.61		F	#		
Uranium	mg/L	03/26/2012	N001	26.8	-	36.8	0.04		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0837 WELL Center of Blueeyes Ranch, N of US Hwy 64

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	17	-	27.1	486		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	17	-	27.1	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	17	-	27.1	530		F	#	0.12	
Chloride	mg/L	03/29/2012	N001	17	-	27.1	64		F	#	10	
Magnesium	mg/L	03/29/2012	N001	17	-	27.1	220		F	#	0.13	
Manganese	mg/L	03/29/2012	N001	17	-	27.1	3.9		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	17	-	27.1	9		F	#	0.1	
Oxidation Reduction Potential	mV	03/29/2012	N001	17	-	27.1	26.7		F	#		
pH	s.u.	03/29/2012	N001	17	-	27.1	6.84		F	#		
Potassium	mg/L	03/29/2012	N001	17	-	27.1	6.7	B	F	#	1.1	
Selenium	mg/L	03/29/2012	N001	17	-	27.1	0.15		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	17	-	27.1	310		F	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	17	-	27.1	4307		F	#		
Strontium	mg/L	03/29/2012	N001	17	-	27.1	5.9		F	#	0.00078	
Sulfate	mg/L	03/29/2012	N001	17	-	27.1	2300		F	#	25	
Temperature	C	03/29/2012	N001	17	-	27.1	14.58		F	#		
Turbidity	NTU	03/29/2012	N001	17	-	27.1	6.62		F	#		
Uranium	mg/L	03/29/2012	N001	17	-	27.1	0.035		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0838 WELL W part of Dine College tract

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	21.9	-	31.9	500		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	21.9	-	31.9	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	21.9	-	31.9	540		F	#	0.24	
Chloride	mg/L	03/30/2012	N001	21.9	-	31.9	580		F	#	40	
Magnesium	mg/L	03/30/2012	N001	21.9	-	31.9	1400		F	#	0.26	
Manganese	mg/L	03/30/2012	N001	21.9	-	31.9	0.011	B	F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	21.9	-	31.9	480		F	#	5	
Oxidation Reduction Potential	mV	03/30/2012	N001	21.9	-	31.9	196		F	#		
pH	s.u.	03/30/2012	N001	21.9	-	31.9	7.01		F	#		
Potassium	mg/L	03/30/2012	N001	21.9	-	31.9	25		F	#	2.2	
Selenium	mg/L	03/30/2012	N001	21.9	-	31.9	0.83		F	#	0.0016	
Sodium	mg/L	03/30/2012	N001	21.9	-	31.9	2100		F	#	0.13	
Specific Conductance	umhos /cm	03/30/2012	N001	21.9	-	31.9	15934		F	#		
Strontium	mg/L	03/30/2012	N001	21.9	-	31.9	13		F	#	0.0016	
Sulfate	mg/L	03/30/2012	N001	21.9	-	31.9	8100		F	#	100	
Temperature	C	03/30/2012	N001	21.9	-	31.9	15.51		F	#		
Turbidity	NTU	03/30/2012	N001	21.9	-	31.9	5.6		F	#		
Uranium	mg/L	03/30/2012	N001	21.9	-	31.9	0.15		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0841 WELL S of Multipurpose Center tract, W of US Hwy 666

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	42	-	52	798		F	#		
Ammonia Total as N	mg/L	03/30/2012	0001	42	-	52	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	0001	42	-	52	430		F	#	0.6	
Chloride	mg/L	03/30/2012	0001	42	-	52	800		F	#	40	
Magnesium	mg/L	03/30/2012	0001	42	-	52	880		F	#	0.65	
Manganese	mg/L	03/30/2012	0001	42	-	52	0.016	B	F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	0001	42	-	52	560		F	#	5	
Oxidation Reduction Potential	mV	03/30/2012	N001	42	-	52	209.1		F	#		
pH	s.u.	03/30/2012	N001	42	-	52	7.14		F	#		
Potassium	mg/L	03/30/2012	0001	42	-	52	52		F	#	5.4	
Selenium	mg/L	03/30/2012	0001	42	-	52	3.3		F	#	0.0016	
Sodium	mg/L	03/30/2012	0001	42	-	52	5900		F	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	42	-	52	26423		F	#		
Strontium	mg/L	03/30/2012	0001	42	-	52	9		F	#	0.0039	
Sulfate	mg/L	03/30/2012	0001	42	-	52	15000		F	#	100	
Temperature	C	03/30/2012	N001	42	-	52	15.67		F	#		
Turbidity	NTU	03/30/2012	N001	42	-	52	47.1		F	#		
Uranium	mg/L	03/30/2012	0001	42	-	52	0.13		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0843 WELL E part of Blueeyes Ranch, N of US Hwy 64

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	11.9	-	21.9	289		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	11.9	-	21.9	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	11.9	-	21.9	380		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	11.9	-	21.9	55		F	#	10	
Magnesium	mg/L	03/29/2012	N001	11.9	-	21.9	140		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	11.9	-	21.9	1.8		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	11.9	-	21.9	8.2		F	#	0.1	
Oxidation Reduction Potential	mV	03/29/2012	N001	11.9	-	21.9	-91		F	#		
pH	s.u.	03/29/2012	N001	11.9	-	21.9	7		F	#		
Potassium	mg/L	03/29/2012	N001	11.9	-	21.9	7.8		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	11.9	-	21.9	0.47		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	11.9	-	21.9	250		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	11.9	-	21.9	3265		F	#		
Strontium	mg/L	03/29/2012	N001	11.9	-	21.9	4.3		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	11.9	-	21.9	1600		F	#	25	
Temperature	C	03/29/2012	N001	11.9	-	21.9	15.05		F	#		
Turbidity	NTU	03/29/2012	N001	11.9	-	21.9	7.84		F	#		
Uranium	mg/L	03/29/2012	N001	11.9	-	21.9	0.036		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0844 WELL W part of Multipurpose Center tract, W of US Hwy 666, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	N001	28.91	-	38.91	720		F	#		
Ammonia Total as N	mg/L	03/30/2012	N001	28.91	-	38.91	0.1	U	F	#	0.1	
Calcium	mg/L	03/30/2012	N001	28.91	-	38.91	530		F	#	0.6	
Chloride	mg/L	03/30/2012	N001	28.91	-	38.91	780		F	#	40	
Magnesium	mg/L	03/30/2012	N001	28.91	-	38.91	1800		F	#	0.65	
Manganese	mg/L	03/30/2012	N001	28.91	-	38.91	0.0057	U	F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	28.91	-	38.91	650		F	#	5	
pH	s.u.	03/30/2012	N001	28.91	-	38.91	7.35		F	#		
Potassium	mg/L	03/30/2012	N001	28.91	-	38.91	38	B	F	#	5.4	
Selenium	mg/L	03/30/2012	N001	28.91	-	38.91	1.7		F	#	0.0016	
Sodium	mg/L	03/30/2012	N001	28.91	-	38.91	2300		F	#	0.33	
Specific Conductance	umhos /cm	03/30/2012	N001	28.91	-	38.91	18603		F	#		
Strontium	mg/L	03/30/2012	N001	28.91	-	38.91	13		F	#	0.0039	
Sulfate	mg/L	03/30/2012	N001	28.91	-	38.91	9400		F	#	100	
Temperature	C	03/30/2012	N001	28.91	-	38.91	16.23		F	#		
Turbidity	NTU	03/30/2012	N001	28.91	-	38.91	4.69		F	#		
Uranium	mg/L	03/30/2012	N001	28.91	-	38.91	0.19		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0848 WELL Just W of Shiprock High School track, S of US Hwy 64

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	45	-	142.58	1502		F	#		
Ammonia Total as N	mg/L	03/27/2012	N001	45	-	142.58	2.6		F	#	0.1	
Calcium	mg/L	03/27/2012	N001	45	-	142.58	390		F	#	0.6	
Chloride	mg/L	03/27/2012	N001	45	-	142.58	1000		F	#	40	
Magnesium	mg/L	03/27/2012	N001	45	-	142.58	530		F	#	0.65	
Manganese	mg/L	03/27/2012	N001	45	-	142.58	3.1		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	45	-	142.58	0.018		F	#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	45	-	142.58	-13.9		F	#		
pH	s.u.	03/27/2012	N001	45	-	142.58	6.79		F	#		
Potassium	mg/L	03/27/2012	N001	45	-	142.58	24	B	F	#	5.4	
Selenium	mg/L	03/27/2012	N001	45	-	142.58	0.052		F	#	0.00032	
Sodium	mg/L	03/27/2012	N001	45	-	142.58	6400		F	#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	45	-	142.58	26060		F	#		
Strontium	mg/L	03/27/2012	N001	45	-	142.58	20		F	#	0.0039	
Sulfate	mg/L	03/27/2012	N001	45	-	142.58	15000		F	#	100	
Temperature	C	03/27/2012	N001	45	-	142.58	15.69		F	#		
Turbidity	NTU	03/27/2012	N001	45	-	142.58	6.7		F	#		
Uranium	mg/L	03/27/2012	N001	45	-	142.58	0.02		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1007 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	36.8	-	46.3	1288		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	36.8	-	46.3	19		FQ	#	1	
Calcium	mg/L	03/29/2012	0001	36.8	-	46.3	470		FQ	#	0.6	
Chloride	mg/L	03/29/2012	0001	36.8	-	46.3	560		FQ	#	40	
Magnesium	mg/L	03/29/2012	0001	36.8	-	46.3	2400		FQ	#	0.65	
Manganese	mg/L	03/29/2012	0001	36.8	-	46.3	0.78		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	36.8	-	46.3	610		FQ	#	5	
Oxidation Reduction Potential	mV	03/29/2012	N001	36.8	-	46.3	90		FQ	#		
pH	s.u.	03/29/2012	N001	36.8	-	46.3	6.56		FQ	#		
Potassium	mg/L	03/29/2012	0001	36.8	-	46.3	110		FQ	#	5.4	
Selenium	mg/L	03/29/2012	0001	36.8	-	46.3	0.14		FQ	#	0.0032	
Sodium	mg/L	03/29/2012	0001	36.8	-	46.3	2600		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	36.8	-	46.3	20400		FQ	#		
Strontium	mg/L	03/29/2012	0001	36.8	-	46.3	12		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	0001	36.8	-	46.3	12000		FQ	#	100	
Temperature	C	03/29/2012	N001	36.8	-	46.3	17.5		FQ	#		
Turbidity	NTU	03/29/2012	N001	36.8	-	46.3	30		FQ	#		
Uranium	mg/L	03/29/2012	0001	36.8	-	46.3	2.5		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1048 WELL Many Devils Wash, just E of knickpoint, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	3.6	-	8.6	600		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	3.6	-	8.6	0.1	U	FQ	#	0.1	
Calcium	mg/L	03/29/2012	0001	3.6	-	8.6	410		FQ	#	0.6	
Chloride	mg/L	03/29/2012	0001	3.6	-	8.6	1400		FQ	#	100	
Magnesium	mg/L	03/29/2012	0001	3.6	-	8.6	1300		FQ	#	0.65	
Manganese	mg/L	03/29/2012	0001	3.6	-	8.6	0.0057	U	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	3.6	-	8.6	490		FQ	#	5	
Oxidation Reduction Potential	mV	03/29/2012	N001	3.6	-	8.6	-200		FQ	#		
pH	s.u.	03/29/2012	N001	3.6	-	8.6	6.94		FQ	#		
Potassium	mg/L	03/29/2012	0001	3.6	-	8.6	26	B	FQ	#	5.4	
Selenium	mg/L	03/29/2012	0001	3.6	-	8.6	1.3		FQ	#	0.0016	
Sodium	mg/L	03/29/2012	0001	3.6	-	8.6	5900		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	3.6	-	8.6	29100		FQ	#		
Strontium	mg/L	03/29/2012	0001	3.6	-	8.6	9.6		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	0001	3.6	-	8.6	17000		FQ	#	250	
Temperature	C	03/29/2012	N001	3.6	-	8.6	12.3		FQ	#		
Turbidity	NTU	03/29/2012	N001	3.6	-	8.6	127		FQ	#		
Uranium	mg/L	03/29/2012	0001	3.6	-	8.6	0.16		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1049 WELL Many Devils Wash, just E of knickpoint, flush mount.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	4.3	-	9.3	575		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	4.3	-	9.3	0.1	U	FQ	#	0.1	
Calcium	mg/L	03/29/2012	0001	4.3	-	9.3	420		FQ	#	0.6	
Chloride	mg/L	03/29/2012	0001	4.3	-	9.3	1400		FQ	#	100	
Magnesium	mg/L	03/29/2012	0001	4.3	-	9.3	1300		FQ	#	0.65	
Manganese	mg/L	03/29/2012	0001	4.3	-	9.3	0.0057	U	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	4.3	-	9.3	510		FQ	#	5	
Oxidation Reduction Potential	mV	03/29/2012	N001	4.3	-	9.3	-175		FQ	#		
pH	s.u.	03/29/2012	N001	4.3	-	9.3	6.25		FQ	#		
Potassium	mg/L	03/29/2012	0001	4.3	-	9.3	26	B	FQ	#	5.4	
Selenium	mg/L	03/29/2012	0001	4.3	-	9.3	1.2		FQ	#	0.0016	
Sodium	mg/L	03/29/2012	0001	4.3	-	9.3	5900		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	4.3	-	9.3	27670		FQ	#		
Strontium	mg/L	03/29/2012	0001	4.3	-	9.3	9.5		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	0001	4.3	-	9.3	17000		FQ	#	250	
Temperature	C	03/29/2012	N001	4.3	-	9.3	11.6		FQ	#		
Turbidity	NTU	03/29/2012	N001	4.3	-	9.3	78.2		FQ	#		
Uranium	mg/L	03/29/2012	0001	4.3	-	9.3	0.15		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1057 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	36.66	-	41.66	380		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	36.66	-	41.66	260		F	#	10	
Calcium	mg/L	03/29/2012	N001	36.66	-	41.66	670		F	#	0.12	
Chloride	mg/L	03/29/2012	N001	36.66	-	41.66	270		F	#	40	
Magnesium	mg/L	03/29/2012	N001	36.66	-	41.66	1400		F	#	0.13	
Manganese	mg/L	03/29/2012	N001	36.66	-	41.66	13		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	36.66	-	41.66	1400		F	#	10	
Oxidation Reduction Potential	mV	03/29/2012	N001	36.66	-	41.66	-150		F	#		
pH	s.u.	03/29/2012	N001	36.66	-	41.66	6.46		F	#		
Potassium	mg/L	03/29/2012	N001	36.66	-	41.66	170	E	FJ	#	1.1	
Selenium	mg/L	03/29/2012	N001	36.66	-	41.66	0.11		F	#	0.00032	
Sodium	mg/L	03/29/2012	N001	36.66	-	41.66	1200		F	#	0.066	
Specific Conductance	umhos /cm	03/29/2012	N001	36.66	-	41.66	16505		F	#		
Strontium	mg/L	03/29/2012	N001	36.66	-	41.66	8.9		F	#	0.00078	
Sulfate	mg/L	03/29/2012	N001	36.66	-	41.66	5000		F	#	100	
Temperature	C	03/29/2012	N001	36.66	-	41.66	15.7		F	#		
Turbidity	NTU	03/29/2012	N001	36.66	-	41.66	8.49		F	#		
Uranium	mg/L	03/29/2012	N001	36.66	-	41.66	0.036		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1058 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	41.7	-	51.2	602		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	N001	41.7	-	51.2	4		FQ	#	0.1	
Calcium	mg/L	03/29/2012	N001	41.7	-	51.2	230		FQ	#	0.6	
Chloride	mg/L	03/29/2012	N001	41.7	-	51.2	1200		FQ	#	40	
Magnesium	mg/L	03/29/2012	N001	41.7	-	51.2	130		FQ	#	0.65	
Manganese	mg/L	03/29/2012	N001	41.7	-	51.2	0.16	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	41.7	-	51.2	0.01	U	FQ	#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	41.7	-	51.2	54		FQ	#		
pH	s.u.	03/29/2012	N001	41.7	-	51.2	6.75		FQ	#		
Potassium	mg/L	03/29/2012	N001	41.7	-	51.2	5.4	U	FQ	#	5.4	
Selenium	mg/L	03/29/2012	N001	41.7	-	51.2	0.00025		FQ	#	0.000032	
Sodium	mg/L	03/29/2012	N001	41.7	-	51.2	2700		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	41.7	-	51.2	13200		FQ	#		
Strontium	mg/L	03/29/2012	N001	41.7	-	51.2	11		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	41.7	-	51.2	5200		FQ	#	100	
Temperature	C	03/29/2012	N001	41.7	-	51.2	16.1		FQ	#		
Turbidity	NTU	03/29/2012	N001	41.7	-	51.2	6.75		FQ	#		
Uranium	mg/L	03/29/2012	N001	41.7	-	51.2	0.0033		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1059 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	39.5	-	49	618		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	N001	39.5	-	49	3.3		FQ	#	0.1	
Calcium	mg/L	03/29/2012	N001	39.5	-	49	340		FQ	#	0.6	
Chloride	mg/L	03/29/2012	N001	39.5	-	49	670		FQ	#	40	
Magnesium	mg/L	03/29/2012	N001	39.5	-	49	400		FQ	#	0.65	
Manganese	mg/L	03/29/2012	N001	39.5	-	49	0.064	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	39.5	-	49	350		FQ	#	2	
Oxidation Reduction Potential	mV	03/29/2012	N001	39.5	-	49	72		FQ	#		
pH	s.u.	03/29/2012	N001	39.5	-	49	6.74		FQ	#		
Potassium	mg/L	03/29/2012	N001	39.5	-	49	11	B	FQ	#	5.4	
Selenium	mg/L	03/29/2012	N001	39.5	-	49	0.007		FQ	#	0.00016	
Sodium	mg/L	03/29/2012	N001	39.5	-	49	3800		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	39.5	-	49	17800		FQ	#		
Strontium	mg/L	03/29/2012	N001	39.5	-	49	18		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	39.5	-	49	8600		FQ	#	100	
Temperature	C	03/29/2012	N001	39.5	-	49	16.1		FQ	#		
Turbidity	NTU	03/29/2012	N001	39.5	-	49	5.22		FQ	#		
Uranium	mg/L	03/29/2012	N001	39.5	-	49	0.061		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1068 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	0001	6.95	-	8.95	470		FQ	#		
Ammonia Total as N	mg/L	03/27/2012	0001	6.95	-	8.95	12		FQ	#	0.5	
Calcium	mg/L	03/27/2012	0001	6.95	-	8.95	420		FQ	#	0.12	
Chloride	mg/L	03/27/2012	0001	6.95	-	8.95	230		FQ	#	20	
Magnesium	mg/L	03/27/2012	0001	6.95	-	8.95	810		FQ	#	0.13	
Manganese	mg/L	03/27/2012	0001	6.95	-	8.95	1		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	0001	6.95	-	8.95	200		FQ	#	1	
Oxidation Reduction Potential	mV	03/27/2012	N001	6.95	-	8.95	105		FQ	#		
pH	s.u.	03/27/2012	N001	6.95	-	8.95	7.04		FQ	#		
Potassium	mg/L	03/27/2012	0001	6.95	-	8.95	36		FQ	#	1.1	
Selenium	mg/L	03/27/2012	0001	6.95	-	8.95	0.042		FQ	#	0.0016	
Sodium	mg/L	03/27/2012	0001	6.95	-	8.95	900		FQ	#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	6.95	-	8.95	9590		FQ	#		
Strontium	mg/L	03/27/2012	0001	6.95	-	8.95	7.7		FQ	#	0.00078	
Sulfate	mg/L	03/27/2012	0001	6.95	-	8.95	4900		FQ	#	50	
Temperature	C	03/27/2012	N001	6.95	-	8.95	13.6		FQ	#		
Turbidity	NTU	03/27/2012	N001	6.95	-	8.95	30.8		FQ	#		
Uranium	mg/L	03/27/2012	0001	6.95	-	8.95	0.72		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1069 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Calcium	mg/L	03/27/2012	0001	4.35	-	6.35	430		FQ	#	0.6	
Magnesium	mg/L	03/27/2012	0001	4.35	-	6.35	1300		FQ	#	0.65	
Manganese	mg/L	03/27/2012	0001	4.35	-	6.35	0.0057	U	FQ	#	0.0057	
Oxidation Reduction Potential	mV	03/27/2012	N001	4.35	-	6.35	150		FQ	#		
pH	s.u.	03/27/2012	N001	4.35	-	6.35	7.05		FQ	#		
Potassium	mg/L	03/27/2012	0001	4.35	-	6.35	32	B	FQ	#	5.4	
Selenium	mg/L	03/27/2012	0001	4.35	-	6.35	0.013		FQ	#	0.0016	
Sodium	mg/L	03/27/2012	0001	4.35	-	6.35	1800		FQ	#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	4.35	-	6.35	15000		FQ	#		
Strontium	mg/L	03/27/2012	0001	4.35	-	6.35	11		FQ	#	0.0039	
Temperature	C	03/27/2012	N001	4.35	-	6.35	14.5		FQ	#		
Turbidity	NTU	03/27/2012	N001	4.35	-	6.35	1000	>	FQ	#		
Uranium	mg/L	03/27/2012	0001	4.35	-	6.35	1.9		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1070 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	52.5 - 62	675			#		
Ammonia Total as N	mg/L	03/27/2012	N001	52.5 - 62	3.8			#	0.1	
Ammonia Total as N	mg/L	03/27/2012	N002	52.5 - 62	3.8			#	0.1	
Calcium	mg/L	03/27/2012	N001	52.5 - 62	430			#	0.6	
Calcium	mg/L	03/27/2012	N002	52.5 - 62	410			#	0.12	
Chloride	mg/L	03/27/2012	N001	52.5 - 62	1100			#	40	
Chloride	mg/L	03/27/2012	N002	52.5 - 62	1200			#	40	
Magnesium	mg/L	03/27/2012	N001	52.5 - 62	1300			#	0.65	
Magnesium	mg/L	03/27/2012	N002	52.5 - 62	1200			#	0.13	
Manganese	mg/L	03/27/2012	N001	52.5 - 62	0.16	B		#	0.0057	
Manganese	mg/L	03/27/2012	N002	52.5 - 62	0.16			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	52.5 - 62	620			#	5	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	52.5 - 62	590			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	52.5 - 62	10			#		
pH	s.u.	03/27/2012	N001	52.5 - 62	6.87			#		
Potassium	mg/L	03/27/2012	N001	52.5 - 62	55		J	#	5.4	
Potassium	mg/L	03/27/2012	N002	52.5 - 62	87		J	#	1.1	
Selenium	mg/L	03/27/2012	N001	52.5 - 62	3			#	0.0032	
Selenium	mg/L	03/27/2012	N002	52.5 - 62	2.8			#	0.00032	
Sodium	mg/L	03/27/2012	N001	52.5 - 62	5600			#	0.33	
Sodium	mg/L	03/27/2012	N002	52.5 - 62	5400			#	0.66	
Specific Conductance	umhos /cm	03/27/2012	N001	52.5 - 62	27025			#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1070 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	52.5	-	62	11			#	0.0039	
Strontium	mg/L	03/27/2012	N002	52.5	-	62	9.8			#	0.00078	
Sulfate	mg/L	03/27/2012	N001	52.5	-	62	14000			#	100	
Sulfate	mg/L	03/27/2012	N002	52.5	-	62	15000			#	100	
Temperature	C	03/27/2012	N001	52.5	-	62	13.1			#		
Turbidity	NTU	03/27/2012	N001	52.5	-	62	2.87			#		
Uranium	mg/L	03/27/2012	N001	52.5	-	62	0.089			#	0.00029	
Uranium	mg/L	03/27/2012	N002	52.5	-	62	0.08			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1071 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	36.5	-	46	500			#		
Ammonia Total as N	mg/L	03/27/2012	N001	36.5	-	46	35			#	1	
Calcium	mg/L	03/27/2012	N001	36.5	-	46	470			#	0.6	
Chloride	mg/L	03/27/2012	N001	36.5	-	46	1000			#	40	
Magnesium	mg/L	03/27/2012	N001	36.5	-	46	1400			#	0.65	
Manganese	mg/L	03/27/2012	N001	36.5	-	46	2.2			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	36.5	-	46	600			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	36.5	-	46	35			#		
pH	s.u.	03/27/2012	N001	36.5	-	46	6.91			#		
Potassium	mg/L	03/27/2012	N001	36.5	-	46	58			#	5.4	
Selenium	mg/L	03/27/2012	N001	36.5	-	46	2.9			#	0.0032	
Sodium	mg/L	03/27/2012	N001	36.5	-	46	4400			#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	36.5	-	46	23270			#		
Strontium	mg/L	03/27/2012	N001	36.5	-	46	12			#	0.0039	
Sulfate	mg/L	03/27/2012	N001	36.5	-	46	13000			#	100	
Temperature	C	03/27/2012	N001	36.5	-	46	14.6			#		
Turbidity	NTU	03/27/2012	N001	36.5	-	46	4.21			#		
Uranium	mg/L	03/27/2012	N001	36.5	-	46	0.16			#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1073 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	40.5	-	50	284		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	0001	40.5	-	50	22		FQ	#	1	
Calcium	mg/L	03/29/2012	0001	40.5	-	50	500		FQ	#	0.6	
Chloride	mg/L	03/29/2012	0001	40.5	-	50	940		FQ	#	40	
Magnesium	mg/L	03/29/2012	0001	40.5	-	50	1900		FQ	#	0.65	
Manganese	mg/L	03/29/2012	0001	40.5	-	50	0.36		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	40.5	-	50	1000		FQ	#	10	
Oxidation Reduction Potential	mV	03/29/2012	N001	40.5	-	50	130		FQ	#		
pH	s.u.	03/29/2012	N001	40.5	-	50	6.26		FQ	#		
Potassium	mg/L	03/29/2012	0001	40.5	-	50	87		FQ	#	5.4	
Selenium	mg/L	03/29/2012	0001	40.5	-	50	2.3		FQ	#	0.0032	
Sodium	mg/L	03/29/2012	0001	40.5	-	50	2700		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	40.5	-	50	20830		FQ	#		
Strontium	mg/L	03/29/2012	0001	40.5	-	50	10		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	0001	40.5	-	50	10000		FQ	#	100	
Temperature	C	03/29/2012	N001	40.5	-	50	16.7		FQ	#		
Turbidity	NTU	03/29/2012	N001	40.5	-	50	48		FQ	#		
Uranium	mg/L	03/29/2012	0001	40.5	-	50	0.086		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1074 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	27	-	36.5	1160		FQ	#		
Ammonia Total as N	mg/L	03/29/2012	N001	27	-	36.5	8.1		FQ	#	0.5	
Calcium	mg/L	03/29/2012	N001	27	-	36.5	570		FQ	#	0.6	
Chloride	mg/L	03/29/2012	N001	27	-	36.5	1000		FQ	#	40	
Magnesium	mg/L	03/29/2012	N001	27	-	36.5	2200		FQ	#	0.65	
Manganese	mg/L	03/29/2012	N001	27	-	36.5	1.7		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	27	-	36.5	1300		FQ	#	10	
Oxidation Reduction Potential	mV	03/29/2012	N001	27	-	36.5	90		FQ	#		
pH	s.u.	03/29/2012	N001	27	-	36.5	6.31		FQ	#		
Potassium	mg/L	03/29/2012	N001	27	-	36.5	32	B	FQ	#	5.4	
Selenium	mg/L	03/29/2012	N001	27	-	36.5	0.31		FQ	#	0.0032	
Sodium	mg/L	03/29/2012	N001	27	-	36.5	2100		FQ	#	0.33	
Specific Conductance	umhos /cm	03/29/2012	N001	27	-	36.5	20770		FQ	#		
Strontium	mg/L	03/29/2012	N001	27	-	36.5	11		FQ	#	0.0039	
Sulfate	mg/L	03/29/2012	N001	27	-	36.5	8300		FQ	#	100	
Temperature	C	03/29/2012	N001	27	-	36.5	18		FQ	#		
Turbidity	NTU	03/29/2012	N001	27	-	36.5	6.3		FQ	#		
Uranium	mg/L	03/29/2012	N001	27	-	36.5	1.9		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1078 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/26/2012	N001	35.5	-	45	589			#		
Ammonia Total as N	mg/L	03/26/2012	N001	35.5	-	45	2.1			#	0.1	
Calcium	mg/L	03/26/2012	N001	35.5	-	45	430			#	0.6	
Chloride	mg/L	03/26/2012	N001	35.5	-	45	990			#	40	
Magnesium	mg/L	03/26/2012	N001	35.5	-	45	1100			#	0.65	
Manganese	mg/L	03/26/2012	N001	35.5	-	45	0.034	B		#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/26/2012	N001	35.5	-	45	550			#	5	
Oxidation Reduction Potential	mV	03/26/2012	N001	35.5	-	45	50			#		
pH	s.u.	03/26/2012	N001	35.5	-	45	7.09			#		
Potassium	mg/L	03/26/2012	N001	35.5	-	45	44	B		#	5.4	
Selenium	mg/L	03/26/2012	N001	35.5	-	45	2.6			#	0.0032	
Sodium	mg/L	03/26/2012	N001	35.5	-	45	4900			#	0.33	
Specific Conductance	umhos /cm	03/26/2012	N001	35.5	-	45	24870			#		
Strontium	mg/L	03/26/2012	N001	35.5	-	45	10			#	0.0039	
Sulfate	mg/L	03/26/2012	N001	35.5	-	45	13000			#	100	
Temperature	C	03/26/2012	N001	35.5	-	45	17.1			#		
Turbidity	NTU	03/26/2012	N001	35.5	-	45	3.94			#		
Uranium	mg/L	03/26/2012	N001	35.5	-	45	0.14			#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1079 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	10.5	-	20	331		F	#		
Ammonia Total as N	mg/L	03/29/2012	N001	10.5	-	20	0.1	U	F	#	0.1	
Calcium	mg/L	03/29/2012	N001	10.5	-	20	880		F	#	0.06	
Chloride	mg/L	03/29/2012	N001	10.5	-	20	260		F	#	20	
Magnesium	mg/L	03/29/2012	N001	10.5	-	20	180		F	#	0.065	
Manganese	mg/L	03/29/2012	N001	10.5	-	20	0.00057	U	F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	10.5	-	20	230		F	#	2	
Oxidation Reduction Potential	mV	03/29/2012	N001	10.5	-	20	215.3		F	#		
pH	s.u.	03/29/2012	N001	10.5	-	20	6.79		F	#		
Potassium	mg/L	03/29/2012	N001	10.5	-	20	9.4		F	#	0.54	
Selenium	mg/L	03/29/2012	N001	10.5	-	20	0.54		F	#	0.0032	
Sodium	mg/L	03/29/2012	N001	10.5	-	20	410		F	#	0.033	
Specific Conductance	umhos /cm	03/29/2012	N001	10.5	-	20	6014		F	#		
Strontium	mg/L	03/29/2012	N001	10.5	-	20	8.2		F	#	0.00039	
Sulfate	mg/L	03/29/2012	N001	10.5	-	20	2100		F	#	50	
Temperature	C	03/29/2012	N001	10.5	-	20	14.2		F	#		
Turbidity	NTU	03/29/2012	N001	10.5	-	20	6.84		F	#		
Uranium	mg/L	03/29/2012	N001	10.5	-	20	0.038		F	#	0.00029	

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1087 TREATMENT SYSTEM Sump from interceptor trenches in Bob Lee Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	0	-	0	600			#		
Ammonia Total as N	mg/L	03/27/2012	N001	0	-	0	120			#	5	
Ammonia Total as N	mg/L	03/27/2012	N002	0	-	0	120			#	10	
Calcium	mg/L	03/27/2012	N001	0	-	0	500			#	0.24	
Calcium	mg/L	03/27/2012	N002	0	-	0	500			#	0.12	
Chloride	mg/L	03/27/2012	N001	0	-	0	260			#	20	
Chloride	mg/L	03/27/2012	N002	0	-	0	260			#	40	
Magnesium	mg/L	03/27/2012	N001	0	-	0	1200			#	0.26	
Magnesium	mg/L	03/27/2012	N002	0	-	0	1200			#	0.13	
Manganese	mg/L	03/27/2012	N001	0	-	0	1.1			#	0.0023	
Manganese	mg/L	03/27/2012	N002	0	-	0	1.1			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0	-	0	270			#	2	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	0	-	0	270			#	2	
Oxidation Reduction Potential	mV	03/27/2012	N001	0	-	0	65			#		
pH	s.u.	03/27/2012	N001	0	-	0	6.72			#		
Potassium	mg/L	03/27/2012	N001	0	-	0	96			#	2.2	
Potassium	mg/L	03/27/2012	N002	0	-	0	110			#	1.1	
Selenium	mg/L	03/27/2012	N001	0	-	0	0.028			#	0.0016	
Selenium	mg/L	03/27/2012	N002	0	-	0	0.03			#	0.00065	
Sodium	mg/L	03/27/2012	N001	0	-	0	1100			#	0.13	
Sodium	mg/L	03/27/2012	N002	0	-	0	1100			#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	0	-	0	12350			#		

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1087 TREATMENT SYSTEM Sump from interceptor trenches in Bob Lee Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	0	-	0	9.3			#	0.0016	
Strontium	mg/L	03/27/2012	N002	0	-	0	9			#	0.00078	
Sulfate	mg/L	03/27/2012	N001	0	-	0	6800			#	50	
Sulfate	mg/L	03/27/2012	N002	0	-	0	6900			#	100	
Temperature	C	03/27/2012	N001	0	-	0	12.8			#		
Turbidity	NTU	03/27/2012	N001	0	-	0	5.21			#		
Uranium	mg/L	03/27/2012	N001	0	-	0	0.5			#	0.00015	
Uranium	mg/L	03/27/2012	N002	0	-	0	0.51			#	0.000058	

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1088 TREATMENT SYSTEM Sump from interceptor trenches in Many Devils Wash

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	0001	0	-	0	665			#		
Ammonia Total as N	mg/L	03/27/2012	0001	0	-	0	0.1	U		#	0.1	
Calcium	mg/L	03/27/2012	0001	0	-	0	410			#	1.2	
Chloride	mg/L	03/27/2012	0001	0	-	0	1400			#	100	
Magnesium	mg/L	03/27/2012	0001	0	-	0	1200			#	1.3	
Manganese	mg/L	03/27/2012	0001	0	-	0	0.011	U		#	0.011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	0001	0	-	0	590			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	0	-	0	35			#		
pH	s.u.	03/27/2012	N001	0	-	0	7.14			#		
Potassium	mg/L	03/27/2012	0001	0	-	0	24	B		#	11	
Selenium	mg/L	03/27/2012	0001	0	-	0	1.5			#	0.0016	
Sodium	mg/L	03/27/2012	0001	0	-	0	6800			#	0.66	
Specific Conductance	umhos /cm	03/27/2012	N001	0	-	0	31650			#		
Strontium	mg/L	03/27/2012	0001	0	-	0	9.6			#	0.0078	
Sulfate	mg/L	03/27/2012	0001	0	-	0	19000			#	250	
Temperature	C	03/27/2012	N001	0	-	0	11.5			#		
Turbidity	NTU	03/27/2012	N001	0	-	0	30.2			#		
Uranium	mg/L	03/27/2012	0001	0	-	0	0.17			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1091 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	33	-	43	948			#		
Ammonia Total as N	mg/L	03/27/2012	N001	33	-	43	32			#	1	
Calcium	mg/L	03/27/2012	N001	33	-	43	490			#	1.2	
Chloride	mg/L	03/27/2012	N001	33	-	43	1100			#	40	
Magnesium	mg/L	03/27/2012	N001	33	-	43	2400			#	1.3	
Manganese	mg/L	03/27/2012	N001	33	-	43	1.7			#	0.011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	33	-	43	1100			#	10	
Oxidation Reduction Potential	mV	03/27/2012	N001	33	-	43	50			#		
pH	s.u.	03/27/2012	N001	33	-	43	6.59			#		
Potassium	mg/L	03/27/2012	N001	33	-	43	38	B		#	11	
Selenium	mg/L	03/27/2012	N001	33	-	43	0.73			#	0.0016	
Sodium	mg/L	03/27/2012	N001	33	-	43	3700			#	0.66	
Specific Conductance	umhos /cm	03/27/2012	N001	33	-	43	25600			#		
Strontium	mg/L	03/27/2012	N001	33	-	43	14			#	0.0078	
Sulfate	mg/L	03/27/2012	N001	33	-	43	13000			#	100	
Temperature	C	03/27/2012	N001	33	-	43	12.2			#		
Turbidity	NTU	03/27/2012	N001	33	-	43	6.42			#		
Uranium	mg/L	03/27/2012	N001	33	-	43	0.12			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1092 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	33	-	43	830			#		
Ammonia Total as N	mg/L	03/27/2012	N001	33	-	43	25			#	1	
Calcium	mg/L	03/27/2012	N001	33	-	43	440			#	0.6	
Chloride	mg/L	03/27/2012	N001	33	-	43	1100			#	40	
Magnesium	mg/L	03/27/2012	N001	33	-	43	2000			#	0.65	
Manganese	mg/L	03/27/2012	N001	33	-	43	1.7			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	33	-	43	570			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	33	-	43	40			#		
pH	s.u.	03/27/2012	N001	33	-	43	6.65			#		
Potassium	mg/L	03/27/2012	N001	33	-	43	64			#	5.4	
Selenium	mg/L	03/27/2012	N001	33	-	43	1.1			#	0.0016	
Sodium	mg/L	03/27/2012	N001	33	-	43	4100			#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	33	-	43	24400			#		
Strontium	mg/L	03/27/2012	N001	33	-	43	12			#	0.0039	
Sulfate	mg/L	03/27/2012	N001	33	-	43	14000			#	100	
Temperature	C	03/27/2012	N001	33	-	43	13.1			#		
Turbidity	NTU	03/27/2012	N001	33	-	43	9.82			#		
Uranium	mg/L	03/27/2012	N001	33	-	43	0.11			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1093R WELL a replacement extraction well for 1093

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	34	-	38	615			#		
Ammonia Total as N	mg/L	03/27/2012	N001	34	-	38	340			#	10	
Ammonia Total as N	mg/L	03/27/2012	N002	34	-	38	350			#	10	
Calcium	mg/L	03/27/2012	N001	34	-	38	860			#	0.6	
Calcium	mg/L	03/27/2012	N002	34	-	38	810			#	0.24	
Chloride	mg/L	03/27/2012	N001	34	-	38	550			#	40	
Chloride	mg/L	03/27/2012	N002	34	-	38	580			#	40	
Magnesium	mg/L	03/27/2012	N001	34	-	38	1800			#	0.65	
Magnesium	mg/L	03/27/2012	N002	34	-	38	1800			#	0.26	
Manganese	mg/L	03/27/2012	N001	34	-	38	18			#	0.0057	
Manganese	mg/L	03/27/2012	N002	34	-	38	17			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	34	-	38	1700			#	20	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	34	-	38	1800			#	20	
Oxidation Reduction Potential	mV	03/27/2012	N001	34	-	38	90			#		
pH	s.u.	03/27/2012	N001	34	-	38	6.56			#		
Potassium	mg/L	03/27/2012	N001	34	-	38	140			#	5.4	
Potassium	mg/L	03/27/2012	N002	34	-	38	160			#	2.2	
Selenium	mg/L	03/27/2012	N001	34	-	38	0.5			#	0.0016	
Selenium	mg/L	03/27/2012	N002	34	-	38	0.55			#	0.00065	
Sodium	mg/L	03/27/2012	N001	34	-	38	1800			#	0.33	
Sodium	mg/L	03/27/2012	N002	34	-	38	1800			#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	34	-	38	22630			#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1093R WELL a replacement extraction well for 1093

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	34	-	38	11			#	0.0039	
Strontium	mg/L	03/27/2012	N002	34	-	38	11			#	0.0016	
Sulfate	mg/L	03/27/2012	N001	34	-	38	6300			#	100	
Sulfate	mg/L	03/27/2012	N002	34	-	38	6400			#	100	
Temperature	C	03/27/2012	N001	34	-	38	15.2			#		
Turbidity	NTU	03/27/2012	N001	34	-	38	3.44			#		
Uranium	mg/L	03/27/2012	N001	34	-	38	0.11			#	0.00015	
Uranium	mg/L	03/27/2012	N002	34	-	38	0.11			#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1095 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	39	-	49	350			#		
Ammonia Total as N	mg/L	03/27/2012	N001	39	-	49	450			#	10	
Calcium	mg/L	03/27/2012	N001	39	-	49	810			#	0.12	
Chloride	mg/L	03/27/2012	N001	39	-	49	270			#	40	
Magnesium	mg/L	03/27/2012	N001	39	-	49	1300			#	0.13	
Manganese	mg/L	03/27/2012	N001	39	-	49	32			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	39	-	49	1400			#	10	
Oxidation Reduction Potential	mV	03/27/2012	N001	39	-	49	100			#		
pH	s.u.	03/27/2012	N001	39	-	49	6.42			#		
Potassium	mg/L	03/27/2012	N001	39	-	49	150			#	1.1	
Selenium	mg/L	03/27/2012	N001	39	-	49	0.14			#	0.0016	
Sodium	mg/L	03/27/2012	N001	39	-	49	1000			#	0.066	
Specific Conductance	umhos /cm	03/27/2012	N001	39	-	49	18070			#		
Strontium	mg/L	03/27/2012	N001	39	-	49	8			#	0.00078	
Sulfate	mg/L	03/27/2012	N001	39	-	49	4900			#	100	
Temperature	C	03/27/2012	N001	39	-	49	14.3			#		
Turbidity	NTU	03/27/2012	N001	39	-	49	4.11			#		
Uranium	mg/L	03/27/2012	N001	39	-	49	0.046			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1096 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	57.5	-	66.5	660			#		
Ammonia Total as N	mg/L	03/27/2012	N001	57.5	-	66.5	0.23			#	0.1	
Ammonia Total as N	mg/L	03/27/2012	N002	57.5	-	66.5	0.25			#	0.1	
Calcium	mg/L	03/27/2012	N001	57.5	-	66.5	430			#	0.6	
Calcium	mg/L	03/27/2012	N002	57.5	-	66.5	420			#	0.6	
Chloride	mg/L	03/27/2012	N001	57.5	-	66.5	900			#	40	
Chloride	mg/L	03/27/2012	N002	57.5	-	66.5	970			#	40	
Magnesium	mg/L	03/27/2012	N001	57.5	-	66.5	1300		J	#	0.65	
Magnesium	mg/L	03/27/2012	N002	57.5	-	66.5	990		J	#	0.65	
Manganese	mg/L	03/27/2012	N001	57.5	-	66.5	0.16	B	J	#	0.0057	
Manganese	mg/L	03/27/2012	N002	57.5	-	66.5	0.092	B	J	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	57.5	-	66.5	530			#	5	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N002	57.5	-	66.5	530			#	5	
Oxidation Reduction Potential	mV	03/27/2012	N001	57.5	-	66.5	20			#		
pH	s.u.	03/27/2012	N001	57.5	-	66.5	7.05			#		
Potassium	mg/L	03/27/2012	N001	57.5	-	66.5	54			#	5.4	
Potassium	mg/L	03/27/2012	N002	57.5	-	66.5	48	B		#	5.4	
Selenium	mg/L	03/27/2012	N001	57.5	-	66.5	2.5			#	0.0032	
Selenium	mg/L	03/27/2012	N002	57.5	-	66.5	2.6			#	0.0032	
Sodium	mg/L	03/27/2012	N001	57.5	-	66.5	5500			#	0.33	
Sodium	mg/L	03/27/2012	N002	57.5	-	66.5	5200			#	0.33	
Specific Conductance	umhos /cm	03/27/2012	N001	57.5	-	66.5	25225			#		

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1096 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	N001	57.5	-	66.5	10			#	0.0039	
Strontium	mg/L	03/27/2012	N002	57.5	-	66.5	9.2			#	0.0039	
Sulfate	mg/L	03/27/2012	N001	57.5	-	66.5	13000			#	100	
Sulfate	mg/L	03/27/2012	N002	57.5	-	66.5	14000			#	100	
Temperature	C	03/27/2012	N001	57.5	-	66.5	13.5			#		
Turbidity	NTU	03/27/2012	N001	57.5	-	66.5	9.64			#		
Uranium	mg/L	03/27/2012	N001	57.5	-	66.5	0.081			#	0.00029	
Uranium	mg/L	03/27/2012	N002	57.5	-	66.5	0.079			#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: MW1 WELL Just N of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	0001	-	1586		FQ	#		
Ammonia Total as N	mg/L	03/28/2012	0001	-	0.83		FQ	#	0.1	
Calcium	mg/L	03/28/2012	0001	-	67		FQ	#	0.6	
Chloride	mg/L	03/28/2012	0001	-	4700		FQ	#	100	
Magnesium	mg/L	03/28/2012	0001	-	33	B	FQ	#	0.65	
Manganese	mg/L	03/28/2012	0001	-	0.056	B	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	0001	-	1.3		FQ	#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	-	4		FQ	#		
pH	s.u.	03/28/2012	N001	-	7.03		FQ	#		
Potassium	mg/L	03/28/2012	0001	-	7.2	B	FQ	#	5.4	
Selenium	mg/L	03/28/2012	0001	-	0.00044		FQ	#	0.000032	
Sodium	mg/L	03/28/2012	0001	-	3900		FQ	#	0.33	
Specific Conductance	umhos /cm	03/28/2012	N001	-	19050		FQ	#		
Strontium	mg/L	03/28/2012	0001	-	8.1		FQ	#	0.0039	
Sulfate	mg/L	03/28/2012	0001	-	2100		FQ	#	100	
Temperature	C	03/28/2012	N001	-	16.7		FQ	#		
Turbidity	NTU	03/28/2012	N001	-	52.1		FQ	#		
Uranium	mg/L	03/28/2012	0001	-	0.00072		FQ	#	0.0000029	

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

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	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
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined 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.

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Surface Water Quality Data
Floodplain Locations

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Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0501 SURFACE LOCATION S. bank San Juan River just E of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	0001	101			#		
Ammonia Total as N	mg/L	03/27/2012	0002	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/27/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/27/2012	0002	53			#	0.012	
Calcium	mg/L	03/27/2012	N001	62			#	0.012	
Chloride	mg/L	03/27/2012	0002	9.1			#	0.4	
Chloride	mg/L	03/27/2012	N001	9.3			#	0.4	
Magnesium	mg/L	03/27/2012	0002	8.8			#	0.013	
Magnesium	mg/L	03/27/2012	N001	10			#	0.013	
Manganese	mg/L	03/27/2012	0002	0.014			#	0.00011	
Manganese	mg/L	03/27/2012	N001	0.4			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	0002	0.39			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0.36			#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	60.7			#		
pH	s.u.	03/27/2012	N001	8.06			#		
Potassium	mg/L	03/27/2012	0002	1.7			#	0.11	
Potassium	mg/L	03/27/2012	N001	2.9			#	0.11	
Selenium	mg/L	03/27/2012	0002	0.00045			#	0.000032	
Selenium	mg/L	03/27/2012	N001	0.00067			#	0.000032	
Sodium	mg/L	03/27/2012	0002	21			#	0.0066	
Sodium	mg/L	03/27/2012	N001	22	E	J	#	0.0066	
Specific Conductance	umhos/cm	03/27/2012	N001	671			#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0501 SURFACE LOCATION S. bank San Juan River just E of Disposal Cell

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	0002	0.61			#	0.000078	
Strontium	mg/L	03/27/2012	N001	0.65			#	0.000078	
Sulfate	mg/L	03/27/2012	0002	100			#	1	
Sulfate	mg/L	03/27/2012	N001	110			#	1	
Temperature	C	03/27/2012	N001	14.48			#		
Turbidity	NTU	03/27/2012	N001	162			#		
Uranium	mg/L	03/27/2012	0002	0.0013			#	0.0000029	
Uranium	mg/L	03/27/2012	N001	0.0015			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0655 SURFACE LOCATION Ditch in NW end of floodplain

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	322			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	N001	310			#	0.12	
Chloride	mg/L	03/28/2012	N001	95			#	2	
Magnesium	mg/L	03/28/2012	N001	91			#	0.13	
Manganese	mg/L	03/28/2012	N001	0.21			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	3.8			#	0.05	
Oxidation Reduction Potential	mV	03/28/2012	N001	101.3			#		
pH	s.u.	03/28/2012	N001	7.88			#		
Potassium	mg/L	03/28/2012	N001	12			#	1.1	
Selenium	mg/L	03/28/2012	N001	0.0095			#	0.000032	
Sodium	mg/L	03/28/2012	N001	1100			#	0.066	
Specific Conductance	umhos/cm	03/28/2012	N001	6444			#		
Strontium	mg/L	03/28/2012	N001	12			#	0.00078	
Sulfate	mg/L	03/28/2012	N001	3400			#	25	
Temperature	C	03/28/2012	N001	11.82			#		
Turbidity	NTU	03/28/2012	N001	15.4			#		
Uranium	mg/L	03/28/2012	N001	0.048			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0897 SURFACE LOCATION S. bank San Juan River, just below Many Devils Wash confluence

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	105			#		
Ammonia Total as N	mg/L	03/28/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	0001	52			#	0.012	
Calcium	mg/L	03/28/2012	N001	58			#	0.012	
Chloride	mg/L	03/28/2012	0001	9.2			#	0.4	
Chloride	mg/L	03/28/2012	N001	9.2			#	0.4	
Magnesium	mg/L	03/28/2012	0001	8.7			#	0.013	
Magnesium	mg/L	03/28/2012	N001	10			#	0.013	
Manganese	mg/L	03/28/2012	0001	0.016			#	0.00011	
Manganese	mg/L	03/28/2012	N001	0.35			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	0001	0.52			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	0.43			#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	10		J	#		
pH	s.u.	03/28/2012	N001	7.51		J	#		
Potassium	mg/L	03/28/2012	0001	1.6			#	0.11	
Potassium	mg/L	03/28/2012	N001	2.6			#	0.11	
Selenium	mg/L	03/28/2012	0001	0.0031			#	0.000032	
Selenium	mg/L	03/28/2012	N001	0.00093			#	0.000032	
Sodium	mg/L	03/28/2012	0001	21			#	0.0066	
Sodium	mg/L	03/28/2012	N001	22			#	0.0066	
Specific Conductance	umhos/cm	03/28/2012	N001	520		J	#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0897 SURFACE LOCATION S. bank San Juan River, just below Many Devils Wash confluence

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Strontium	mg/L	03/28/2012	0001	0.58			#	0.000078	
Strontium	mg/L	03/28/2012	N001	0.62			#	0.000078	
Sulfate	mg/L	03/28/2012	0001	110			#	1	
Sulfate	mg/L	03/28/2012	N001	100			#	1	
Temperature	C	03/28/2012	N001	12.5		J	#		
Turbidity	NTU	03/28/2012	N001	105			#		
Uranium	mg/L	03/28/2012	0001	0.0013			#	0.0000029	
Uranium	mg/L	03/28/2012	N001	0.0016			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0898 SURFACE LOCATION S. bank San Juan River, N of floodplain background area

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	0001	112			#		
Ammonia Total as N	mg/L	03/29/2012	0002	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/29/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/29/2012	0002	53			#	0.012	
Calcium	mg/L	03/29/2012	N001	64			#	0.012	
Chloride	mg/L	03/29/2012	0002	9.6			#	0.4	
Chloride	mg/L	03/29/2012	N001	9.9			#	0.4	
Magnesium	mg/L	03/29/2012	0002	9.1			#	0.013	
Magnesium	mg/L	03/29/2012	N001	11			#	0.013	
Manganese	mg/L	03/29/2012	0002	0.012	E	J	#	0.00011	
Manganese	mg/L	03/29/2012	N001	0.48			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0002	0.37			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	0.35			#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	25.8			#		
pH	s.u.	03/29/2012	N001	8.12			#		
Potassium	mg/L	03/29/2012	0002	1.7			#	0.11	
Potassium	mg/L	03/29/2012	N001	3			#	0.11	
Selenium	mg/L	03/29/2012	0002	0.00047			#	0.000032	
Selenium	mg/L	03/29/2012	N001	0.00094			#	0.00016	
Sodium	mg/L	03/29/2012	0002	22	E	J	#	0.0066	
Sodium	mg/L	03/29/2012	N001	23			#	0.0066	
Specific Conductance	umhos/cm	03/29/2012	N001	448			#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0898 SURFACE LOCATION S. bank San Juan River, N of floodplain background area

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/29/2012	0002	0.6			#	0.000078	
Strontium	mg/L	03/29/2012	N001	0.67			#	0.000078	
Sulfate	mg/L	03/29/2012	0002	110			#	1	
Sulfate	mg/L	03/29/2012	N001	110			#	1	
Temperature	C	03/29/2012	N001	14.78			#		
Turbidity	NTU	03/29/2012	N001	190			#		
Uranium	mg/L	03/29/2012	0002	0.0013			#	0.0000029	
Uranium	mg/L	03/29/2012	N001	0.0018			#	0.000015	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0899 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/29/2012	N001	97			#		
Ammonia Total as N	mg/L	03/29/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/29/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/29/2012	0001	50			#	0.012	
Calcium	mg/L	03/29/2012	N001	60			#	0.012	
Chloride	mg/L	03/29/2012	0001	8.6			#	0.4	
Chloride	mg/L	03/29/2012	N001	8.6			#	0.4	
Magnesium	mg/L	03/29/2012	0001	8.3			#	0.013	
Magnesium	mg/L	03/29/2012	N001	10			#	0.013	
Manganese	mg/L	03/29/2012	0001	0.013			#	0.00011	
Manganese	mg/L	03/29/2012	N001	0.39			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	0001	0.38			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/29/2012	N001	0.38			#	0.01	
Oxidation Reduction Potential	mV	03/29/2012	N001	-.7			#		
pH	s.u.	03/29/2012	N001	8.09			#		
Potassium	mg/L	03/29/2012	0001	1.5			#	0.11	
Potassium	mg/L	03/29/2012	N001	2.6			#	0.11	
Selenium	mg/L	03/29/2012	0001	0.00045			#	0.000032	
Selenium	mg/L	03/29/2012	N001	0.00078			#	0.000032	
Sodium	mg/L	03/29/2012	0001	19			#	0.0066	
Sodium	mg/L	03/29/2012	N001	20			#	0.0066	
Specific Conductance	umhos/cm	03/29/2012	N001	504			#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0899 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/29/2012	0001	0.57			#	0.000078	
Strontium	mg/L	03/29/2012	N001	0.62			#	0.000078	
Sulfate	mg/L	03/29/2012	0001	100			#	1	
Sulfate	mg/L	03/29/2012	N001	100			#	1	
Temperature	C	03/29/2012	N001	21.86			#		
Turbidity	NTU	03/29/2012	N001	102			#		
Uranium	mg/L	03/29/2012	0001	0.0012			#	0.0000029	
Uranium	mg/L	03/29/2012	N001	0.0017			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0940 SURFACE LOCATION S. bank San Juan River about 2500 ft E of US Hwy 666 bridge

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/30/2012	0001	98			#		
Ammonia Total as N	mg/L	03/30/2012	0002	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/30/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/30/2012	0002	51			#	0.012	
Calcium	mg/L	03/30/2012	N001	58			#	0.012	
Chloride	mg/L	03/30/2012	0002	8.7			#	0.4	
Chloride	mg/L	03/30/2012	N001	8.6			#	0.4	
Magnesium	mg/L	03/30/2012	0002	8.3			#	0.013	
Magnesium	mg/L	03/30/2012	N001	9.6			#	0.013	
Manganese	mg/L	03/30/2012	0002	0.013			#	0.00011	
Manganese	mg/L	03/30/2012	N001	0.35			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	0002	0.39			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/30/2012	N001	0.38			#	0.01	
Oxidation Reduction Potential	mV	03/30/2012	N001	163.6			#		
pH	s.u.	03/30/2012	N001	7.6			#		
Potassium	mg/L	03/30/2012	0002	1.5			#	0.11	
Potassium	mg/L	03/30/2012	N001	2.5			#	0.11	
Selenium	mg/L	03/30/2012	0002	0.00044			#	0.000032	
Selenium	mg/L	03/30/2012	N001	0.00075			#	0.000032	
Sodium	mg/L	03/30/2012	0002	20			#	0.0066	
Sodium	mg/L	03/30/2012	N001	21			#	0.0066	
Specific Conductance	umhos/cm	03/30/2012	N001	464			#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0940 SURFACE LOCATION S. bank San Juan River about 2500 ft E of US Hwy 666 bridge

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/30/2012	0002	0.57			#	0.000078	
Strontium	mg/L	03/30/2012	N001	0.61			#	0.000078	
Sulfate	mg/L	03/30/2012	0002	100			#	1	
Sulfate	mg/L	03/30/2012	N001	100			#	1	
Temperature	C	03/30/2012	N001	9.78			#		
Turbidity	NTU	03/30/2012	N001	147			#		
Uranium	mg/L	03/30/2012	0002	0.0012			#	0.0000029	
Uranium	mg/L	03/30/2012	N001	0.0015			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0956 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/04/2012	N001	268			#		
Ammonia Total as N	mg/L	04/04/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	04/04/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	04/04/2012	0001	42			#	0.012	
Calcium	mg/L	04/04/2012	N001	56			#	0.012	
Chloride	mg/L	04/04/2012	0001	7			#	0.4	
Chloride	mg/L	04/04/2012	N001	7			#	0.4	
Magnesium	mg/L	04/04/2012	0001	6.8			#	0.013	
Magnesium	mg/L	04/04/2012	N001	9.3			#	0.013	
Manganese	mg/L	04/04/2012	0001	0.0081			#	0.00011	
Manganese	mg/L	04/04/2012	N001	0.65			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	04/04/2012	0001	0.33			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	04/04/2012	N001	0.31			#	0.01	
pH	s.u.	04/04/2012	N001	7.89		J	#		
Potassium	mg/L	04/04/2012	0001	1.1			#	0.11	
Potassium	mg/L	04/04/2012	N001	2.7			#	0.11	
Selenium	mg/L	04/04/2012	0001	0.00039			#	0.000032	
Selenium	mg/L	04/04/2012	N001	0.00092			#	0.000032	
Sodium	mg/L	04/04/2012	0001	18			#	0.0066	
Sodium	mg/L	04/04/2012	N001	19			#	0.0066	
Specific Conductance	umhos/cm	04/04/2012	N001	375		J	#		
Strontium	mg/L	04/04/2012	0001	0.46			#	0.000078	
Strontium	mg/L	04/04/2012	N001	0.55			#	0.000078	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0956 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	04/04/2012	0001	87			#	1	
Sulfate	mg/L	04/04/2012	N001	87			#	1	
Temperature	C	04/04/2012	N001	10.8		J	#		
Turbidity	NTU	04/04/2012	N001	234			#		
Uranium	mg/L	04/04/2012	0001	0.0012			#	0.0000029	
Uranium	mg/L	04/04/2012	N001	0.0019			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0965 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/03/2012	N001	134			#		
Ammonia Total as N	mg/L	04/03/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	04/03/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	04/03/2012	0001	44			#	0.012	
Calcium	mg/L	04/03/2012	N001	120			#	0.012	
Chloride	mg/L	04/03/2012	0001	6.5			#	0.4	
Chloride	mg/L	04/03/2012	N001	6.5			#	0.4	
Magnesium	mg/L	04/03/2012	0001	7.1			#	0.013	
Magnesium	mg/L	04/03/2012	N001	20			#	0.013	
Manganese	mg/L	04/03/2012	0001	0.01			#	0.00011	
Manganese	mg/L	04/03/2012	N001	2.6			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	0001	0.26			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	04/03/2012	N001	0.25			#	0.01	
Oxidation Reduction Potential	mV	04/03/2012	N001	212			#		
pH	s.u.	04/03/2012	N001	7.87		J	#		
Potassium	mg/L	04/03/2012	0001	1.4			#	0.11	
Potassium	mg/L	04/03/2012	N001	6.4			#	0.11	
Selenium	mg/L	04/03/2012	0001	0.00036			#	0.000032	
Selenium	mg/L	04/03/2012	N001	0.002			#	0.000032	
Sodium	mg/L	04/03/2012	0001	15			#	0.0066	
Sodium	mg/L	04/03/2012	N001	17			#	0.0066	
Specific Conductance	umhos/cm	04/03/2012	N001	570		J	#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 0965 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	04/03/2012	0001	0.48			#	0.000078	
Strontium	mg/L	04/03/2012	N001	0.83			#	0.000078	
Sulfate	mg/L	04/03/2012	0001	82			#	1	
Sulfate	mg/L	04/03/2012	N001	83			#	1	
Temperature	C	04/03/2012	N001	12.2		J	#		
Turbidity	NTU	04/03/2012	N001	242			#		
Uranium	mg/L	04/03/2012	0001	0.0011			#	0.0000029	
Uranium	mg/L	04/03/2012	N001	0.0034			#	0.0000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1118 TREATMENT SYSTEM Sump - seep vault

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	0	-	0	800			#		
Ammonia Total as N	mg/L	03/27/2012	N001	0	-	0	0.1	U		#	0.1	
Calcium	mg/L	03/27/2012	N001	0	-	0	410			#	0.24	
Chloride	mg/L	03/27/2012	N001	0	-	0	310			#	20	
Magnesium	mg/L	03/27/2012	N001	0	-	0	880			#	0.26	
Manganese	mg/L	03/27/2012	N001	0	-	0	0.0023	U		#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0	-	0	71			#	0.5	
Oxidation Reduction Potential	mV	03/27/2012	N001	0	-	0	30			#		
pH	s.u.	03/27/2012	N001	0	-	0	7.28			#		
Potassium	mg/L	03/27/2012	N001	0	-	0	40			#	2.2	
Selenium	mg/L	03/27/2012	N001	0	-	0	0.18			#	0.0016	
Sodium	mg/L	03/27/2012	N001	0	-	0	1600			#	0.13	
Specific Conductance	umhos /cm	03/27/2012	N001	0	-	0	11735			#		
Strontium	mg/L	03/27/2012	N001	0	-	0	9.8			#	0.0016	
Sulfate	mg/L	03/27/2012	N001	0	-	0	6900			#	50	
Temperature	C	03/27/2012	N001	0	-	0	10.2			#		
Turbidity	NTU	03/27/2012	N001	0	-	0	3.18			#		
Uranium	mg/L	03/27/2012	N001	0	-	0	0.55			#	0.00015	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1203 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	0001	114			#		
Ammonia Total as N	mg/L	03/27/2012	0002	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/27/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/27/2012	0002	53			#	0.012	
Calcium	mg/L	03/27/2012	N001	63			#	0.012	
Chloride	mg/L	03/27/2012	0002	9.2			#	0.4	
Chloride	mg/L	03/27/2012	N001	9.2			#	0.4	
Magnesium	mg/L	03/27/2012	0002	8.7			#	0.013	
Magnesium	mg/L	03/27/2012	N001	10			#	0.013	
Manganese	mg/L	03/27/2012	0002	0.017			#	0.00011	
Manganese	mg/L	03/27/2012	N001	0.44			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	0002	0.38			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	0.38			#	0.01	
Oxidation Reduction Potential	mV	03/27/2012	N001	53.6			#		
pH	s.u.	03/27/2012	N001	8.06			#		
Potassium	mg/L	03/27/2012	0002	1.6			#	0.11	
Potassium	mg/L	03/27/2012	N001	2.7			#	0.11	
Selenium	mg/L	03/27/2012	0002	0.00047			#	0.000032	
Selenium	mg/L	03/27/2012	N001	0.00064			#	0.000032	
Sodium	mg/L	03/27/2012	0002	21			#	0.0066	
Sodium	mg/L	03/27/2012	N001	22			#	0.0066	
Specific Conductance	umhos/cm	03/27/2012	N001	453			#		

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1203 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	03/27/2012	0002	0.59			#	0.000078	
Strontium	mg/L	03/27/2012	N001	0.65			#	0.000078	
Sulfate	mg/L	03/27/2012	0002	100			#	1	
Sulfate	mg/L	03/27/2012	N001	100			#	1	
Temperature	C	03/27/2012	N001	15.39			#		
Turbidity	NTU	03/27/2012	N001	156			#		
Uranium	mg/L	03/27/2012	0002	0.0013			#	0.0000029	
Uranium	mg/L	03/27/2012	N001	0.0017			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1205 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Ammonia Total as N	mg/L	03/28/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	0001	51			#	0.012	
Calcium	mg/L	03/28/2012	N001	58			#	0.012	
Chloride	mg/L	03/28/2012	0001	9.3			#	0.4	
Chloride	mg/L	03/28/2012	N001	9			#	0.4	
Magnesium	mg/L	03/28/2012	0001	8.5			#	0.013	
Magnesium	mg/L	03/28/2012	N001	9.7			#	0.013	
Manganese	mg/L	03/28/2012	0001	0.024			#	0.00011	
Manganese	mg/L	03/28/2012	N001	0.34			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	0001	0.38			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	0.37			#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	82.7			#		
pH	s.u.	03/28/2012	N001	8.09			#		
Potassium	mg/L	03/28/2012	0001	1.5			#	0.11	
Potassium	mg/L	03/28/2012	N001	2.5			#	0.11	
Selenium	mg/L	03/28/2012	0001	0.00052			#	0.000032	
Selenium	mg/L	03/28/2012	N001	0.00073			#	0.000032	
Sodium	mg/L	03/28/2012	0001	20			#	0.0066	
Sodium	mg/L	03/28/2012	N001	21			#	0.0066	
Specific Conductance	umhos/cm	03/28/2012	N001	448			#		
Strontium	mg/L	03/28/2012	0001	0.57			#	0.000078	
Strontium	mg/L	03/28/2012	N001	0.61			#	0.000078	
Sulfate	mg/L	03/28/2012	0001	100			#	1	
Sulfate	mg/L	03/28/2012	N001	100			#	1	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location: 1205 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Temperature	C	03/28/2012	N001	13.78			#		
Turbidity	NTU	03/28/2012	N001	115			#		
Uranium	mg/L	03/28/2012	0001	0.0012			#	0.0000029	
Uranium	mg/L	03/28/2012	N001	0.0015			#	0.0000029	

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

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	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
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined 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
Terrace Locations

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Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 0662 SURFACE LOCATION Bob Lee Wash, just below outflow ditch confluence

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	04/02/2012	N001	184			#		
Ammonia Total as N	mg/L	04/02/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	04/02/2012	N001	110			#	0.06	
Chloride	mg/L	04/02/2012	N001	50			#	10	
Magnesium	mg/L	04/02/2012	N001	14			#	0.065	
Manganese	mg/L	04/02/2012	N001	0.037			#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	04/02/2012	N001	0.36			#	0.01	
Oxidation Reduction Potential	mV	04/02/2012	N001	194		J	#		
pH	s.u.	04/02/2012	N001	8.15		J	#		
Potassium	mg/L	04/02/2012	N001	9.5			#	0.54	
Selenium	mg/L	04/02/2012	N001	0.00015			#	0.000032	
Sodium	mg/L	04/02/2012	N001	710			#	0.033	
Specific Conductance	umhos/cm	04/02/2012	N001	3715		J	#		
Strontium	mg/L	04/02/2012	N001	12			#	0.00039	
Sulfate	mg/L	04/02/2012	N001	2000			#	25	
Temperature	C	04/02/2012	N001	16.1		J	#		
Turbidity	NTU	04/02/2012	N001	59.9			#		
Uranium	mg/L	04/02/2012	N001	0.00047			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 5/22/2012
Location: 0889 SURFACE LOCATION Many Devils Wash, just below knickpoint

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	626			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	N001	420			#	0.6	
Chloride	mg/L	03/28/2012	N001	1400			#	100	
Magnesium	mg/L	03/28/2012	N001	1400			#	0.65	
Manganese	mg/L	03/28/2012	N001	0.0057	U		#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	610			#	5	
Oxidation Reduction Potential	mV	03/28/2012	N001	40			#		
pH	s.u.	03/28/2012	N001	8.08			#		
Potassium	mg/L	03/28/2012	N001	37	B		#	5.4	
Selenium	mg/L	03/28/2012	N001	1.8			#	0.00032	
Sodium	mg/L	03/28/2012	N001	7200			#	0.33	
Specific Conductance	umhos/cm	03/28/2012	N001	33010			#		
Strontium	mg/L	03/28/2012	N001	10			#	0.0039	
Sulfate	mg/L	03/28/2012	N001	19000			#	250	
Temperature	C	03/28/2012	N001	21.1			#		
Turbidity	NTU	03/28/2012	N001	10.4			#		
Uranium	mg/L	03/28/2012	N001	0.18			#	0.000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1215 SURFACE LOCATION Evaporation Pond

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/27/2012	N001	685			#		
Ammonia Total as N	mg/L	03/27/2012	N001	25			#	1	
Calcium	mg/L	03/27/2012	N001	920			#	1.2	
Chloride	mg/L	03/27/2012	N001	2200			#	100	
Magnesium	mg/L	03/27/2012	N001	2700			#	1.3	
Manganese	mg/L	03/27/2012	N001	4.3			#	0.011	
Nitrate + Nitrite as Nitrogen	mg/L	03/27/2012	N001	1400			#	10	
Oxidation Reduction Potential	mV	03/27/2012	N001	45			#		
pH	s.u.	03/27/2012	N001	7.04			#		
Potassium	mg/L	03/27/2012	N001	110			#	11	
Selenium	mg/L	03/27/2012	N001	2.2			#	0.0065	
Sodium	mg/L	03/27/2012	N001	8700			#	0.66	
Specific Conductance	umhos/cm	03/27/2012	N001	50820			#		
Strontium	mg/L	03/27/2012	N001	23			#	0.0078	
Sulfate	mg/L	03/27/2012	N001	43000			#	250	
Temperature	C	03/27/2012	N001	10.7			#		
Turbidity	NTU	03/27/2012	N001	9.2			#		
Uranium	mg/L	03/27/2012	N001	3.4			#	0.00058	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1218 SURFACE LOCATION Seep in Washing Machine Draw

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	0			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.78			#	0.1	
Calcium	mg/L	03/28/2012	N001	510			#	0.6	
Chloride	mg/L	03/28/2012	N001	720			#	100	
Magnesium	mg/L	03/28/2012	N001	1900			#	0.65	
Manganese	mg/L	03/28/2012	N001	0.36			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	520			#	5	
Oxidation Reduction Potential	mV	03/28/2012	N001	10			#		
pH	s.u.	03/28/2012	N001	8.1			#		
Potassium	mg/L	03/28/2012	N001	87			#	5.4	
Selenium	mg/L	03/28/2012	N001	3.3			#	0.0032	
Sodium	mg/L	03/28/2012	N001	2700			#	0.33	
Specific Conductance	umhos/cm	03/28/2012	N001	43550			#		
Strontium	mg/L	03/28/2012	N001	10			#	0.0039	
Sulfate	mg/L	03/28/2012	N001	36000	N		#	250	
Temperature	C	03/28/2012	N001	24.5			#		
Turbidity	NTU	03/28/2012	N001	18.8			#		
Uranium	mg/L	03/28/2012	N001	0.45			#	0.00029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1219 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	244			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	N001	560			#	0.06	
Chloride	mg/L	03/28/2012	N001	18			#	1	
Magnesium	mg/L	03/28/2012	N001	150			#	0.013	
Manganese	mg/L	03/28/2012	N001	0.0019	B		#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	5.5			#	0.05	
Oxidation Reduction Potential	mV	03/28/2012	N001	-20			#		
pH	s.u.	03/28/2012	N001	7.94			#		
Potassium	mg/L	03/28/2012	N001	12	EN	J	#	0.11	
Selenium	mg/L	03/28/2012	N001	0.035			#	0.00032	
Sodium	mg/L	03/28/2012	N001	120	E	J	#	0.033	
Specific Conductance	umhos/cm	03/28/2012	N001	3290			#		
Strontium	mg/L	03/28/2012	N001	5.9			#	0.000078	
Sulfate	mg/L	03/28/2012	N001	1900			#	25	
Temperature	C	03/28/2012	N001	24.8			#		
Turbidity	NTU	03/28/2012	N001	3.19			#		
Uranium	mg/L	03/28/2012	N001	0.028			#	0.000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1220 SURFACE LOCATION Seep at the Eagles Nest Arroyo east of town

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	222			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	N001	220			#	0.012	
Chloride	mg/L	03/28/2012	N001	20			#	4	
Magnesium	mg/L	03/28/2012	N001	63			#	0.013	
Manganese	mg/L	03/28/2012	N001	0.012			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	0.36			#	0.01	
Oxidation Reduction Potential	mV	03/28/2012	N001	-30			#		
pH	s.u.	03/28/2012	N001	7.6			#		
Potassium	mg/L	03/28/2012	N001	3.1			#	0.11	
Selenium	mg/L	03/28/2012	N001	0.023			#	0.00016	
Sodium	mg/L	03/28/2012	N001	80			#	0.0066	
Specific Conductance	umhos/cm	03/28/2012	N001	1675			#		
Strontium	mg/L	03/28/2012	N001	2.4			#	0.000078	
Sulfate	mg/L	03/28/2012	N001	670			#	10	
Temperature	C	03/28/2012	N001	13.2			#		
Turbidity	NTU	03/28/2012	N001	3.5			#		
Uranium	mg/L	03/28/2012	N001	0.022			#	0.000015	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location: 1221 SURFACE LOCATION Many Devils Wash, 10 feet up from the river.

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	03/28/2012	N001	480			#		
Ammonia Total as N	mg/L	03/28/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	03/28/2012	N001	400			#	0.6	
Chloride	mg/L	03/28/2012	N001	1800			#	100	
Magnesium	mg/L	03/28/2012	N001	1600			#	0.65	
Manganese	mg/L	03/28/2012	N001	0.0057	U		#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	03/28/2012	N001	650			#	5	
Oxidation Reduction Potential	mV	03/28/2012	N001	40			#		
pH	s.u.	03/28/2012	N001	7.75			#		
Potassium	mg/L	03/28/2012	N001	43	B		#	5.4	
Selenium	mg/L	03/28/2012	N001	1.7			#	0.0032	
Sodium	mg/L	03/28/2012	N001	7600			#	0.66	
Specific Conductance	umhos/cm	03/28/2012	N001	35300			#		
Strontium	mg/L	03/28/2012	N001	9.3			#	0.0039	
Sulfate	mg/L	03/28/2012	N001	21000			#	250	
Temperature	C	03/28/2012	N001	16.1			#		
Turbidity	NTU	03/28/2012	N001	23.9			#		
Uranium	mg/L	03/28/2012	N001	0.21			#	0.00029	

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

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	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
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined 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.

Equipment Blank Data

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BLANKS REPORT

LAB: PARAGON/ALS LABORATORY GROUP (Fort Collins, CO)

RIN: 12034423

Report Date: 5/22/2012

Parameter	Site Code	Location ID	Sample Date	ID	Units	Result	Qualifiers Lab	Qualifiers Data	Detection Limit	Uncertainty	Sample Type
Ammonia Total as N	SHP02	0999	04/05/2012	N001	mg/L	0.1	U		0.1		E
Calcium	SHP02	0999	04/05/2012	N001	mg/L	0.014	B		0.012		E
Chloride	SHP02	0999	04/05/2012	N001	mg/L	0.2	U		0.2		E
Magnesium	SHP02	0999	04/05/2012	N001	mg/L	0.013	U		0.013		E
Manganese	SHP02	0999	04/05/2012	N001	mg/L	0.00011	U		0.00011		E
Nitrate + Nitrite as Nitrogen	SHP02	0999	04/05/2012	N001	mg/L	0.01	U		0.01		E
Potassium	SHP02	0999	04/05/2012	N001	mg/L	0.11	U		0.11		E
Selenium	SHP02	0999	04/05/2012	N001	mg/L	0.000032	U		0.000032		E
Sodium	SHP02	0999	04/05/2012	N001	mg/L	0.027	B		0.0066		E
Strontium	SHP02	0999	04/05/2012	N001	mg/L	0.000078	U		0.000078		E
Sulfate	SHP02	0999	04/05/2012	N001	mg/L	0.56			0.5		E
Uranium	SHP02	0999	04/05/2012	N001	mg/L	0.000041			0.0000029		E

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

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	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
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined 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.		

SAMPLE TYPES:

E	Equipment Blank.

Static Water Level Data
Floodplain Locations

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STATIC WATER LEVELS (USEE700) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)
0608		4893.35	03/27/2012	14:50:20	6	4887.35
0610		4895.7	03/27/2012	16:40:48	9.77	4885.93
0611		4895.62	03/27/2012	16:25:55	9.63	4885.99
0612		4893.35	03/29/2012	09:35:06	7.1	4886.25
0614		4892.79	03/29/2012	10:00:28	7.78	4885.01
0615		4892.23	03/29/2012	13:35:46	8.37	4883.86
0617		4891.9	03/27/2012	16:30:00	7.37	4884.53
0618		4891.51	03/29/2012	16:20:51	7.04	4884.47
0619		4892.19	04/03/2012	09:45:24	7.2	4884.99
0622		4890.06	04/03/2012	08:50:56	4.49	4885.57
0623		4891.19	03/26/2012	17:30:45	5.94	4885.25
0625		4891.23	03/26/2012	17:05:43	5.91	4885.32
0626		4891.4	04/03/2012	08:25:03	5.47	4885.93
0628		4889.87	03/26/2012	16:10:50	4.04	4885.83
0630		4887.62	04/03/2012	10:25:26	1.77	4885.85
0734		4886.55	03/28/2012	11:00:32	5.81	4880.74
0735		4895.85	03/27/2012	09:00:38	6.3	4889.55
0736		4887.99	03/27/2012	16:06:15	5.89	4882.1
0766		4892.55	03/30/2012	11:50:53	10.76	4881.79
0768		4892.33	04/03/2012	09:10:18	7.1	4885.23
0773		4894.87	03/29/2012	09:05:25	8.66	4886.21
0775		4892.2	04/03/2012	10:05:59	8.01	4884.19
0779		4893.86	03/29/2012	15:20:22	9.99	4883.87
0782R		4884.75	03/29/2012	16:10:07	6.72	4878.03
0783R		4884.09	03/29/2012	15:45:31	6.97	4877.12
0792		4891.52	03/29/2012	17:00:05	6.84	4884.68
0793		4891.05	03/28/2012	14:30:47	6.76	4884.29
0797		4908.04	03/29/2012	11:20:57	8.6	4899.44
0798		4891.55	04/03/2012	09:30:50	7.19	4884.36
0850	B	4907.51	03/29/2012	12:12:48	8.18	4899.33
0853		4891.41	03/29/2012	14:30:26	7.14	4884.27
0854		4890.09	03/30/2012	10:45:48	8	4882.09
0855		4888.18	03/28/2012	16:00:52	5.05	4883.13
0856		4887.57	03/28/2012	10:50:54	6.22	4881.35
0857		4894.02	03/29/2012	15:50:14	9.91	4884.11
0862		4893.83	03/27/2012	14:49:00	90.8	4803.03
0863		4893	03/27/2012	14:56:00	81.02	4811.98
1000		4892.17	03/29/2012	09:45:00	7.68	4884.49
1001		4892.44	03/29/2012	09:50:00	17.49	4874.95

STATIC WATER LEVELS (USEE700) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)

REPORT DATE: 5/22/2012

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)
1008		4890.8	03/30/2012	10:15:16	8.17	4882.63
1009		4892.1	03/29/2012	14:00:10	7.8	4884.3
1062		4892.51	03/27/2012	14:47:00	8.01	4884.5
1105	O	4892.4	03/29/2012	13:05:26	8.32	4884.08
1111		4889.85	03/29/2012	11:25:53	7.54	4882.31
1112		4890.01	03/29/2012	10:55:16	7.22	4882.79
1113		4892	03/27/2012	15:55:12	5.34	4886.66
1114		4892.86	03/27/2012	11:40:19	5.14	4887.72
1115		4895.59	03/27/2012	11:05:56	7.73	4887.86
1117		4896.7	03/27/2012	09:50:00	8.55	4888.15
1128		4897.63	03/27/2012	09:25:34	9.64	4887.99
1132		4894.5	03/27/2012	10:15:29	6.49	4888.01
1134		4895.88	03/27/2012	10:40:24	7.96	4887.92
1135		4890.71	03/28/2012	13:10:29	8.03	4882.68
1136		4892.47	03/28/2012	15:05:01	8.83	4883.64
1137		4891.3	03/30/2012	09:10:29	8.55	4882.75
1138		4891.48	03/30/2012	09:25:30	8.95	4882.53
1139		4890.44	03/30/2012	09:50:57	8.3	4882.14
1140		4891.53	03/29/2012	12:05:58	8.7	4882.83
1141		4892.48	03/29/2012	12:35:55	8.92	4883.56
1142		4894.34	03/28/2012	13:45:40	9.14	4885.2
1143		4888.07	03/28/2012	10:25:27	6.1	4881.97

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT F OFF SITE
N UNKNOWN O ON SITE U UPGRADIENT

Static Water Level Data
Terrace Locations

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STATIC WATER LEVELS (USEE700) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0600		4955.87	03/30/2012	09:15:02	33.79	4922.08	
0602		4956.89	03/29/2012	16:40:32	22.51	4934.38	
0603		4978.62	03/28/2012	11:35:13	29.99	4948.63	
0604		4995.87	03/30/2012	09:10:32	56.04	4939.83	
0648		4943.8	03/29/2012	12:05:00			F
0725		4908.58	03/27/2012	15:30:54	13.69	4894.89	
0726		4939.95	03/30/2012	10:40:13			B
0727		4940.65	03/30/2012	10:10:30	7.44	4933.21	
0728		4964.46	03/27/2012	16:20:19	24.72	4939.74	
0730		4977.75	03/29/2012	15:10:28	36.09	4941.66	
0731		4972.15	03/28/2012	11:55:12	24.91	4947.24	
0800		4995.76	03/29/2012	12:00:00			D
0801		4995.29	03/29/2012	12:05:00			D
0802		4996.01	03/29/2012	12:10:00			D
0803		4994.4	03/29/2012	12:15:00			D
0804		4936.93	03/29/2012	12:10:00			D
0812		5004.98	03/26/2012	16:50:16	61.63	4943.35	
0813		4984.37	03/29/2012	16:00:50	43.75	4940.62	
0814		4968.12	03/28/2012	09:20:04	32.46	4935.66	
0815		4953.67	03/28/2012	09:50:48	26.52	4927.15	
0816		4937.92	03/28/2012	10:40:19			B
0817		4957.34	03/29/2012	16:20:33	19.01	4938.33	
0819		4955.76	03/30/2012	09:35:55	20.19	4935.57	
0820		4954.95	03/28/2012	15:15:59	151.8	4803.15	
0821		4955.46	03/29/2012	20:24:00			D
0822		4954.42	03/29/2012	11:10:07	148.8	4805.62	
0823		4957.65	03/28/2012	16:04:00			D
0824		4958.21	03/28/2012	16:40:46	173.61	4784.6	
0825		4958.68	03/28/2012	16:20:19	140.11	4818.57	
0826		4950.73	03/30/2012	09:55:50	17.69	4933.04	
0827		4946.92	03/30/2012	08:55:49	26.79	4920.13	
0828		4957.43	03/26/2012	16:15:40	21.88	4935.55	
0829		4941.94	03/29/2012	20:26:00			D
0830		4960.77	03/30/2012	11:30:21	17.06	4943.71	
0832		4964.65	03/28/2012	12:00:00			D
0833		4940.52	03/30/2012	11:55:51	29.4	4911.12	
0835		4930.48	04/02/2012	18:15:26	22.31	4908.17	
0836		4901.74	03/26/2012	17:41:00	31.05	4870.69	
0837		4889.54	03/29/2012	17:20:28	22.15	4867.39	

STATIC WATER LEVELS (USEE700) FOR SITE SHP02, Shiprock Disposal Site (Terrace)

REPORT DATE: 5/22/2012

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0838		4937.7	03/30/2012	11:30:11	30.48	4907.22	
0841		4984.05	03/30/2012	10:30:48	45.22	4938.83	
0843		4883.56	03/29/2012	14:53:25	14.55	4869.01	
0844		4948.46	03/30/2012	11:05:19	32.23	4916.23	
0846		4934.57	03/28/2012	12:00:00			D
0848		4949.91	03/27/2012	09:35:15	44.31	4905.6	
1002		4957.63	03/28/2012	15:56:00			D
1003		4957.84	03/28/2012	15:58:00			D
1004		4957.61	03/28/2012	16:00:00			D
1006		4962.16	03/29/2012	12:15:00			D
1007		4962.01	03/29/2012	14:30:57	46.21	4915.8	
1011		4945.96	03/30/2012	08:46:00			D
1048		4921.35	03/29/2012	09:00:24	5.07	4916.28	
1049		4923.89	03/29/2012	08:45:43	6.65	4917.24	
1057		4984.83	03/29/2012	10:10:10	39.42	4945.41	
1058		4973.58	03/29/2012	12:45:01	28.33	4945.25	
1059		4970.52	03/29/2012	13:55:29	23.49	4947.03	
1060		4970.62	03/28/2012	12:00:00			D
1067		4930.77	03/29/2012	12:00:00			D
1068		4927.97	03/27/2012	14:00:47	7.42	4920.55	
1069		4922.62	03/27/2012	13:45:12	4.81	4917.81	
1073		4991.43	03/29/2012	15:30:34	48.85	4942.58	
1074		4959.52	03/29/2012	14:50:57	34.75	4924.77	
1079		4925.22	03/29/2012	09:05:28	20.43	4904.79	
1120		4890.98	03/28/2012	12:00:00			D
1122		4893.62	03/28/2012	12:00:00			D
MW1		4955.64	03/28/2012	17:00:50	53.29	4902.35	

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT F OFF SITE
N UNKNOWN O ON SITE U UPGRADIENT

WATER LEVEL FLAGS: D Dry F Flowing B Below top of pump

Time-Concentration Graphs
Floodplain Groundwater Locations

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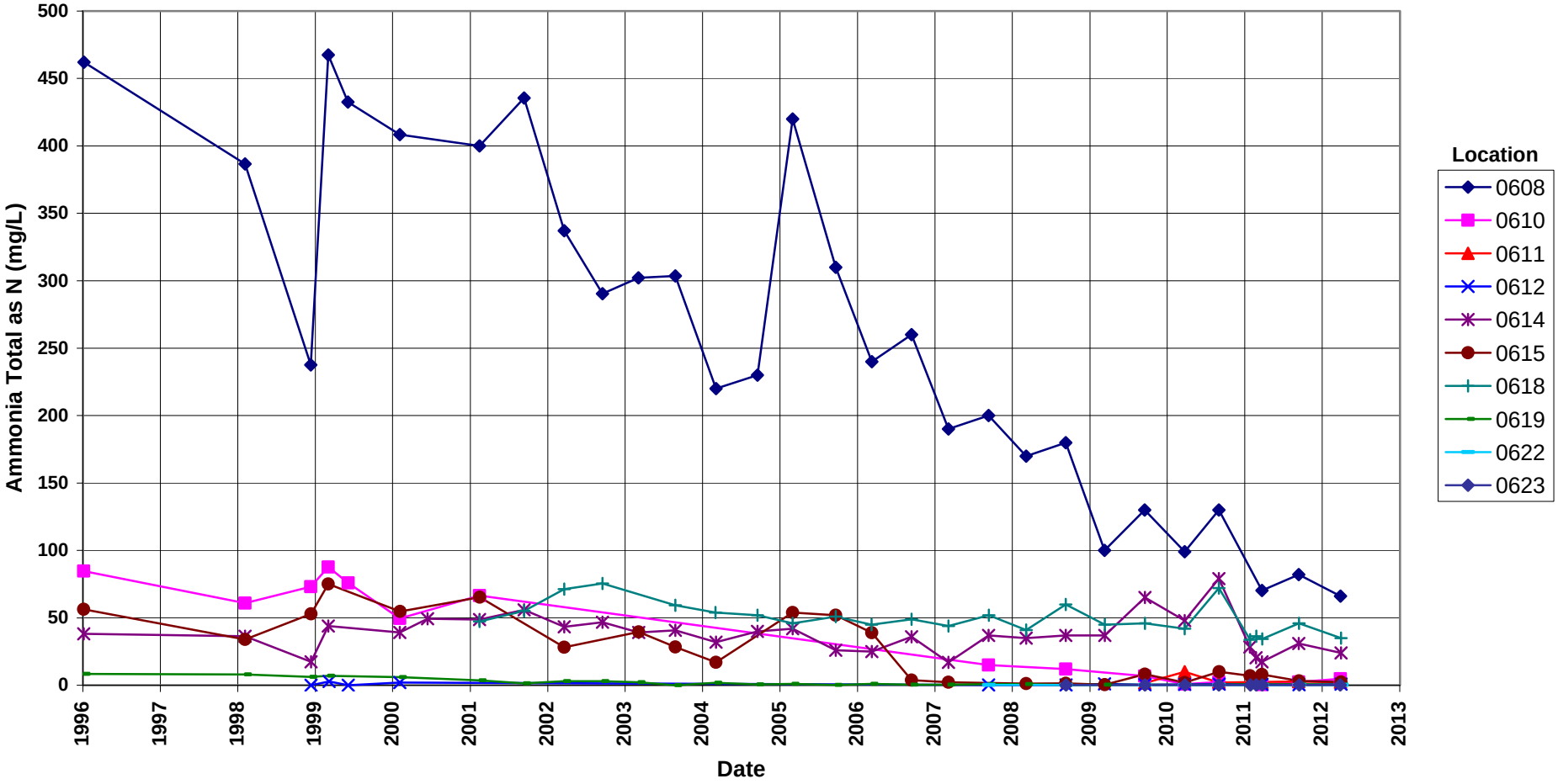
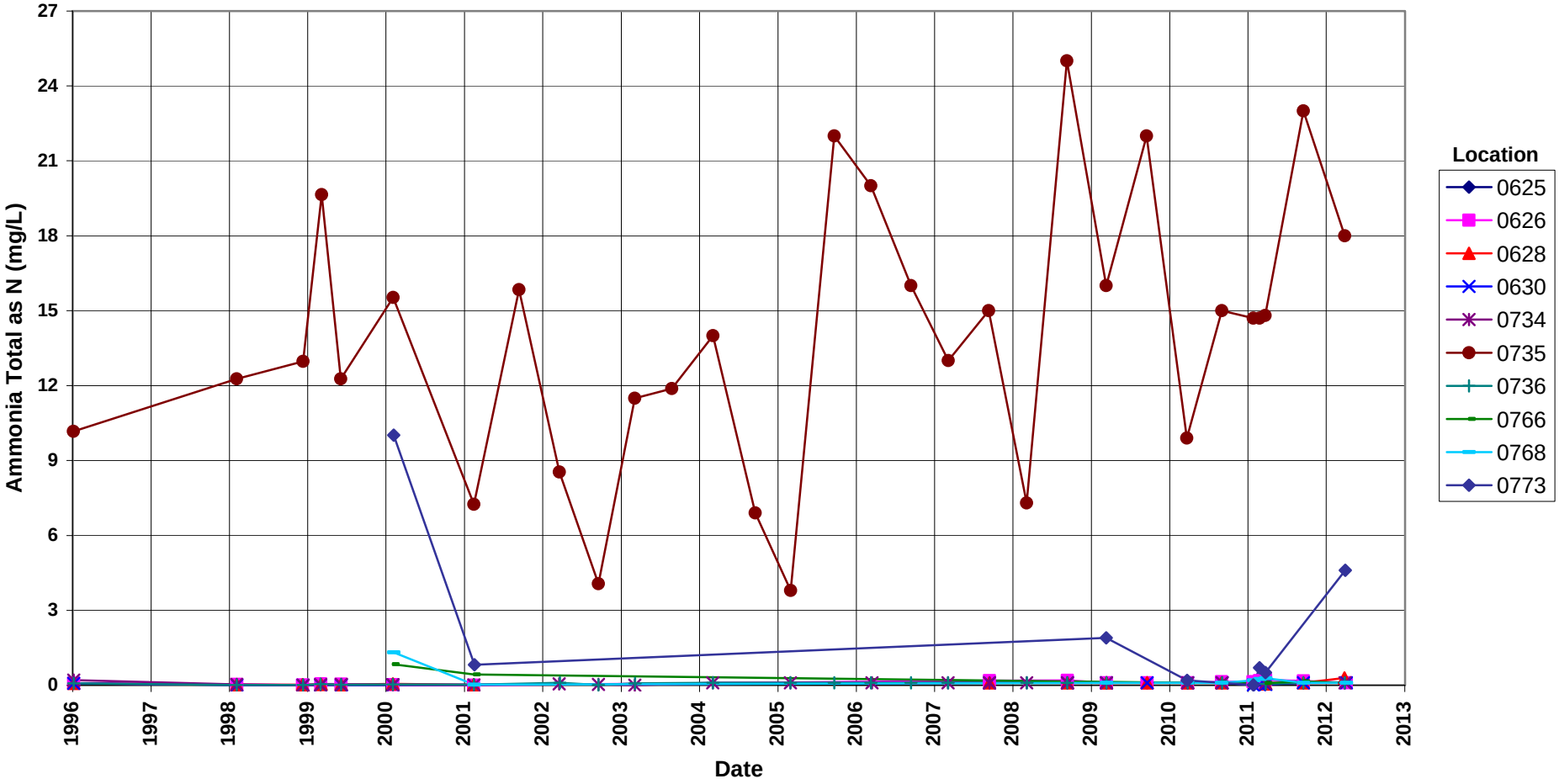
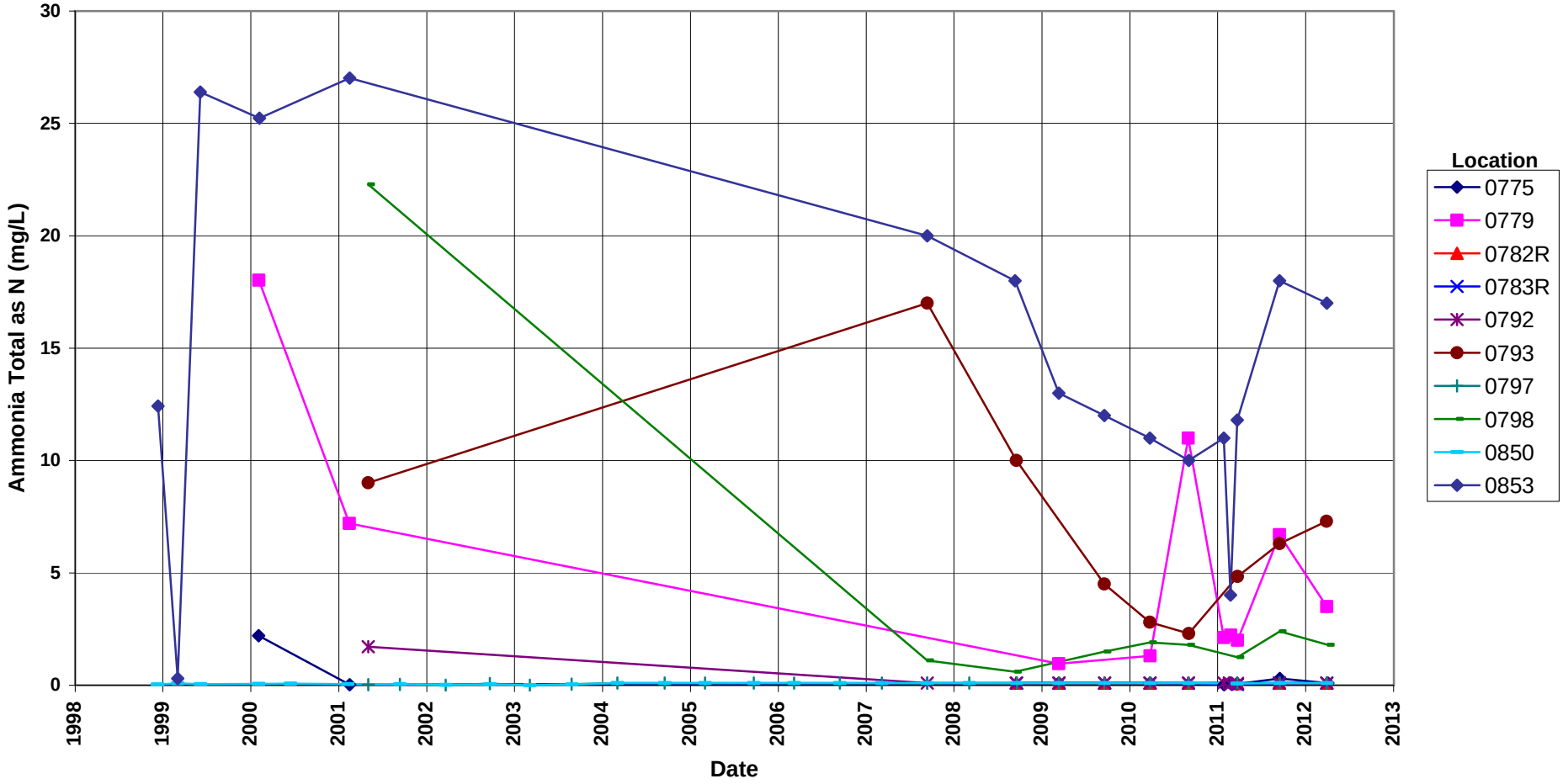
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



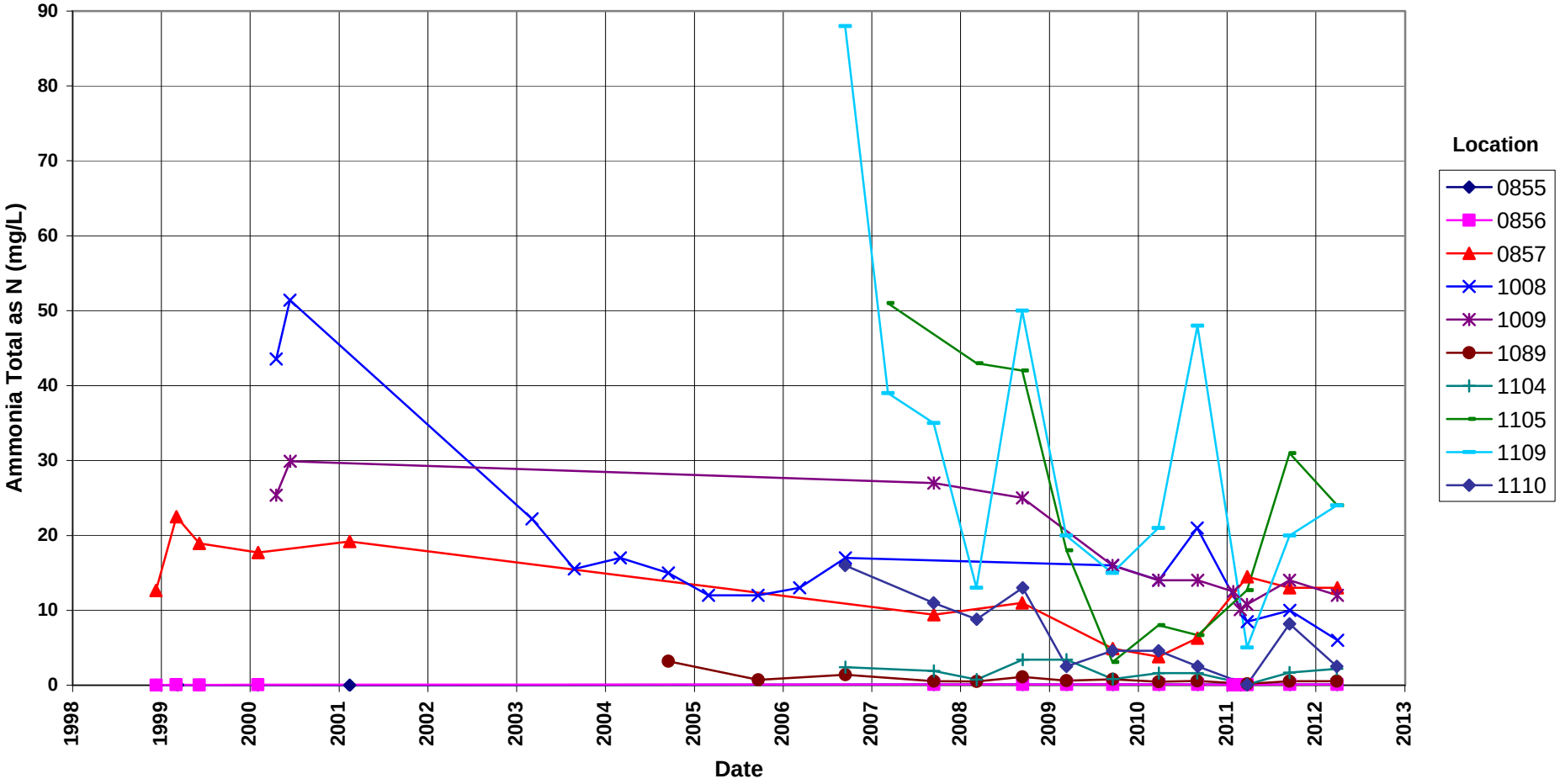
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



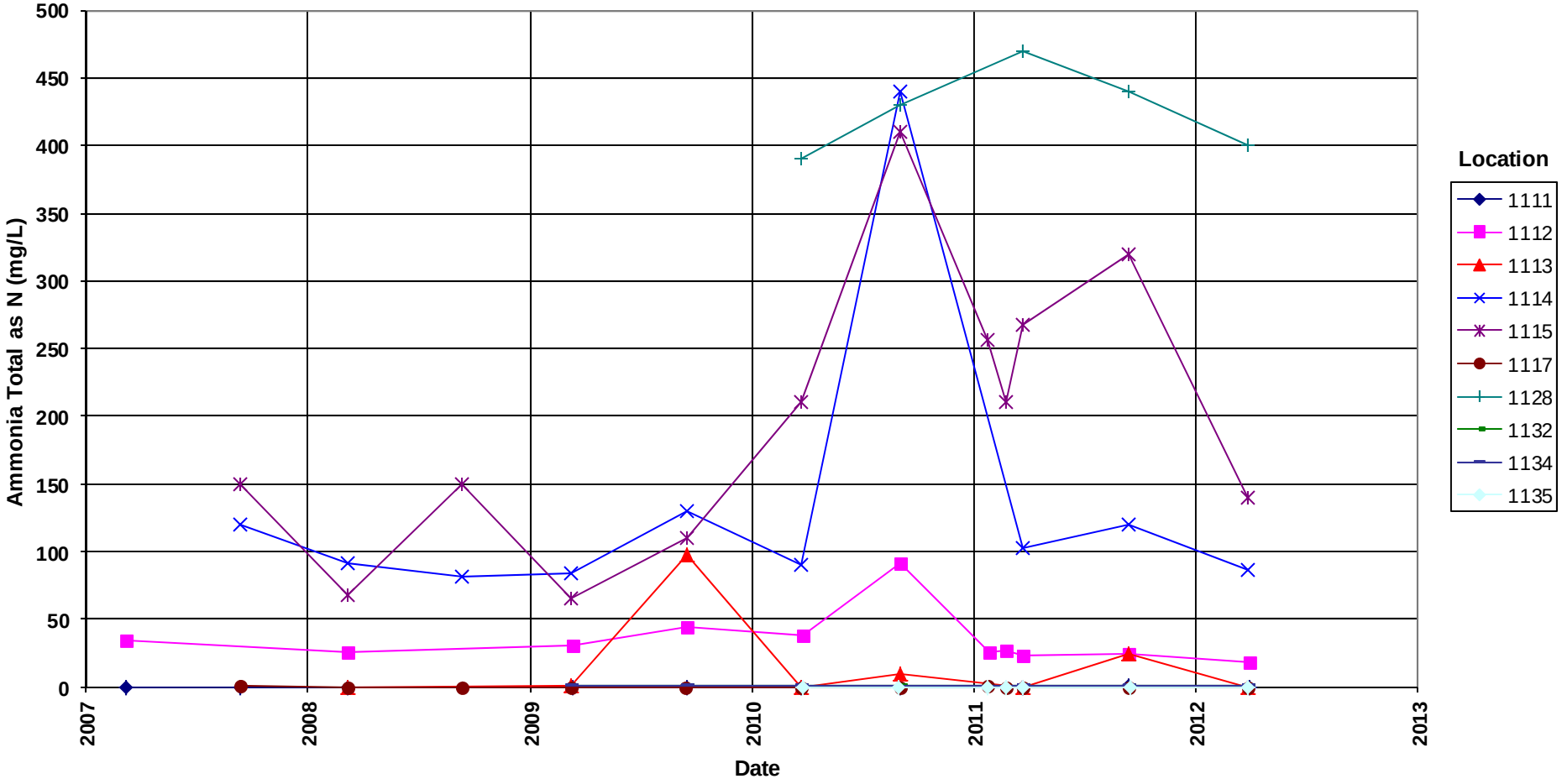
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



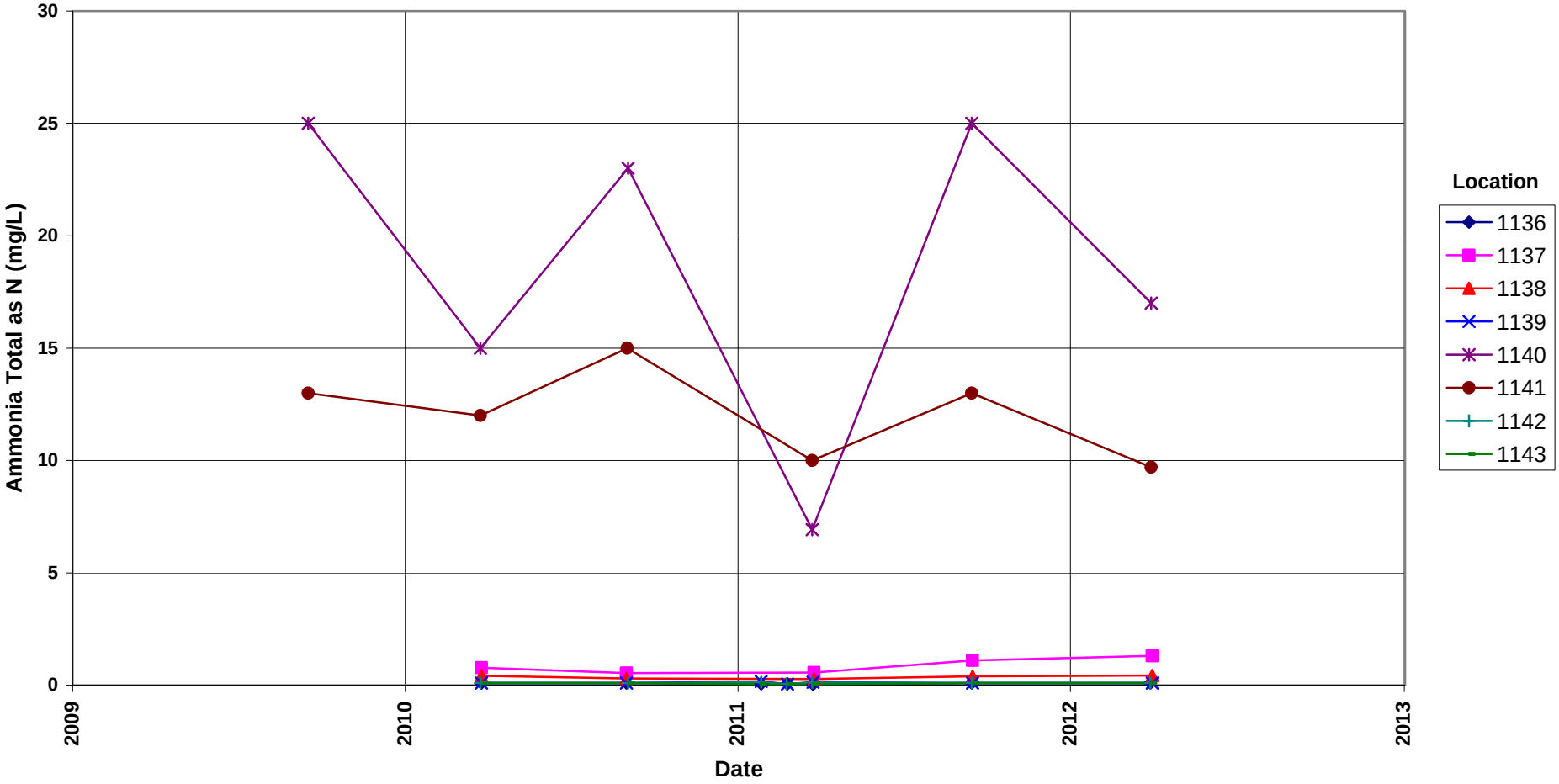
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



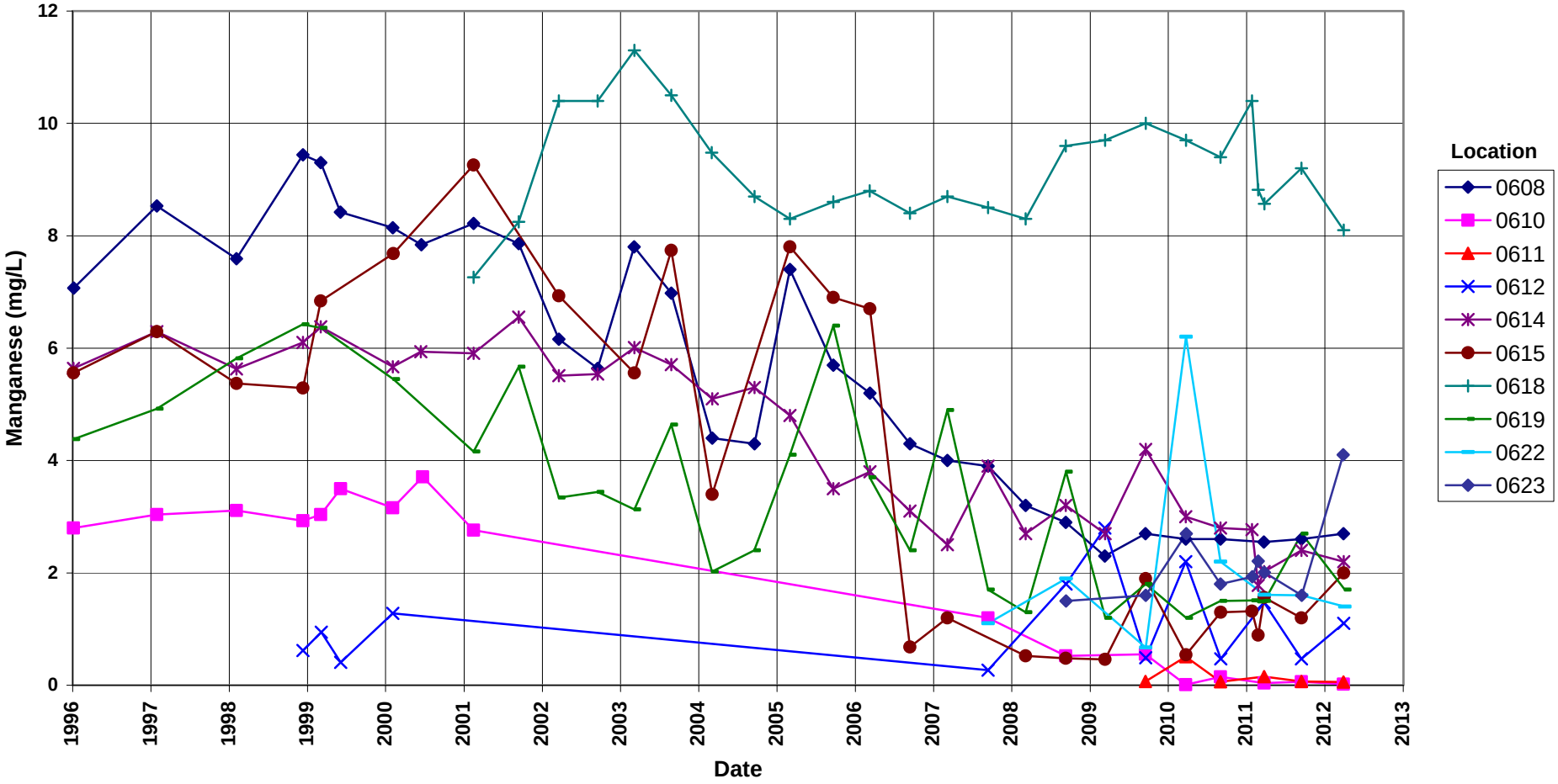
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



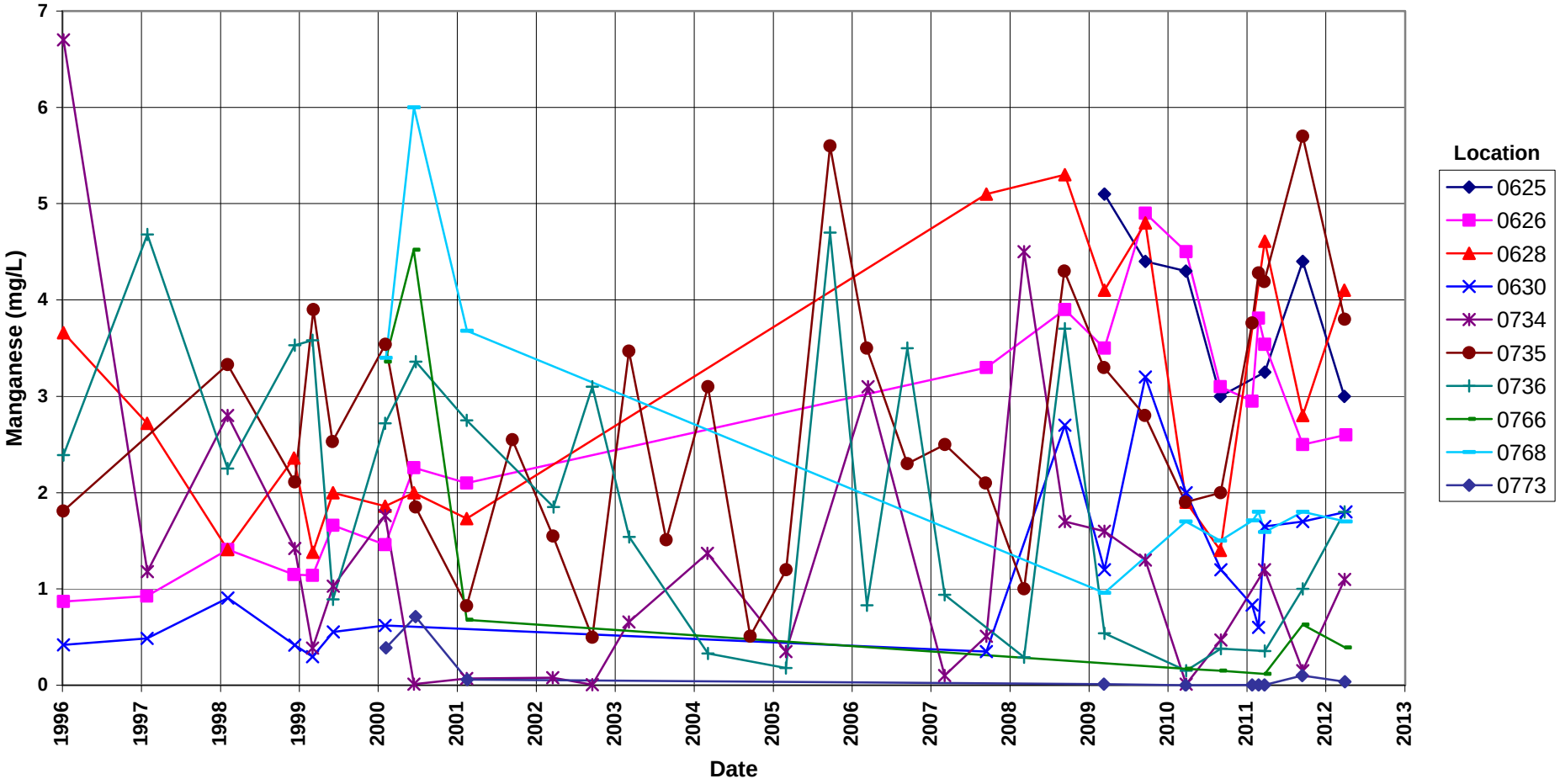
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



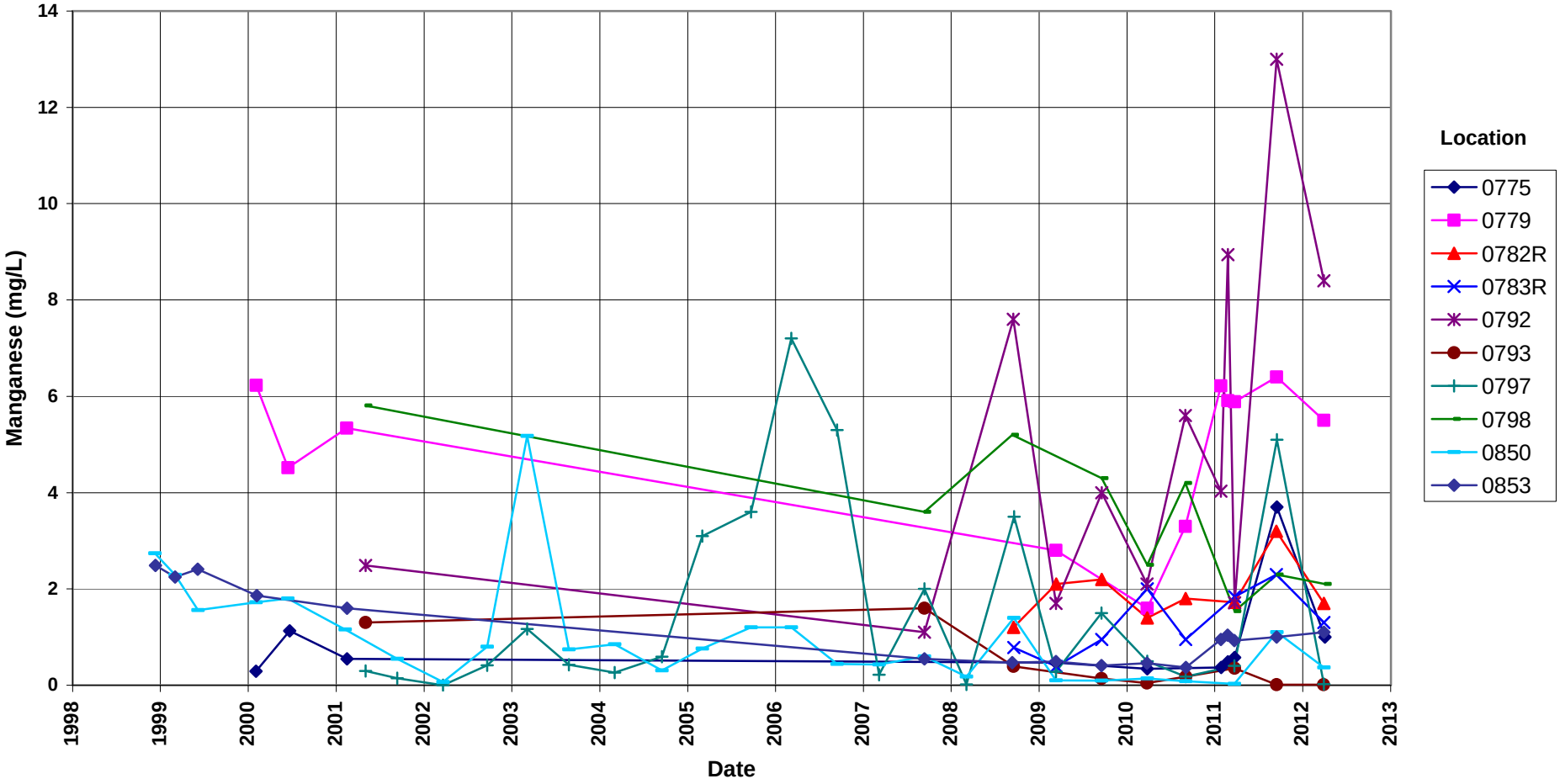
Shiprock Disposal Site (Floodplain)
Manganese Concentration



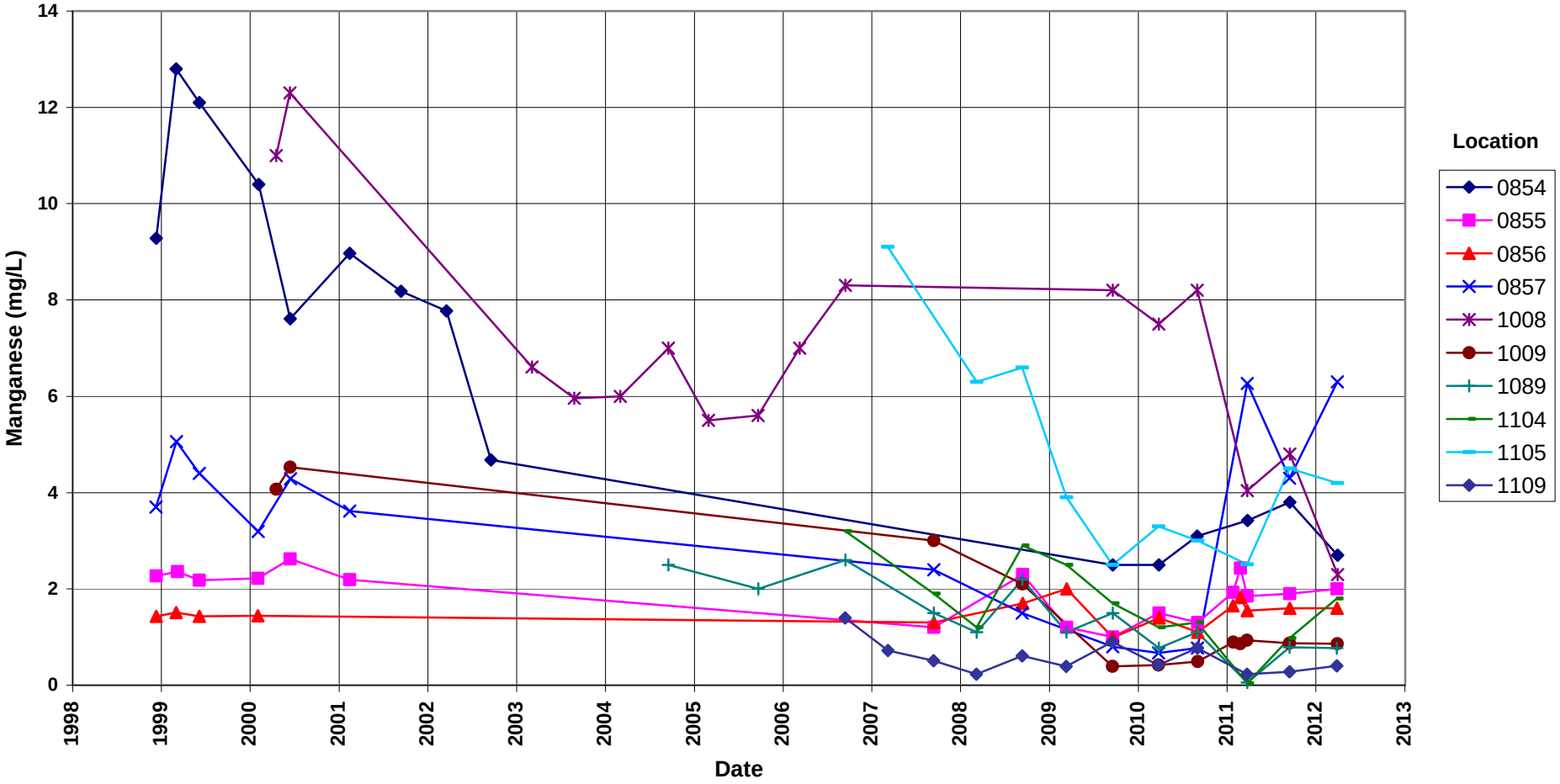
Shiprock Disposal Site (Floodplain)
Manganese Concentration



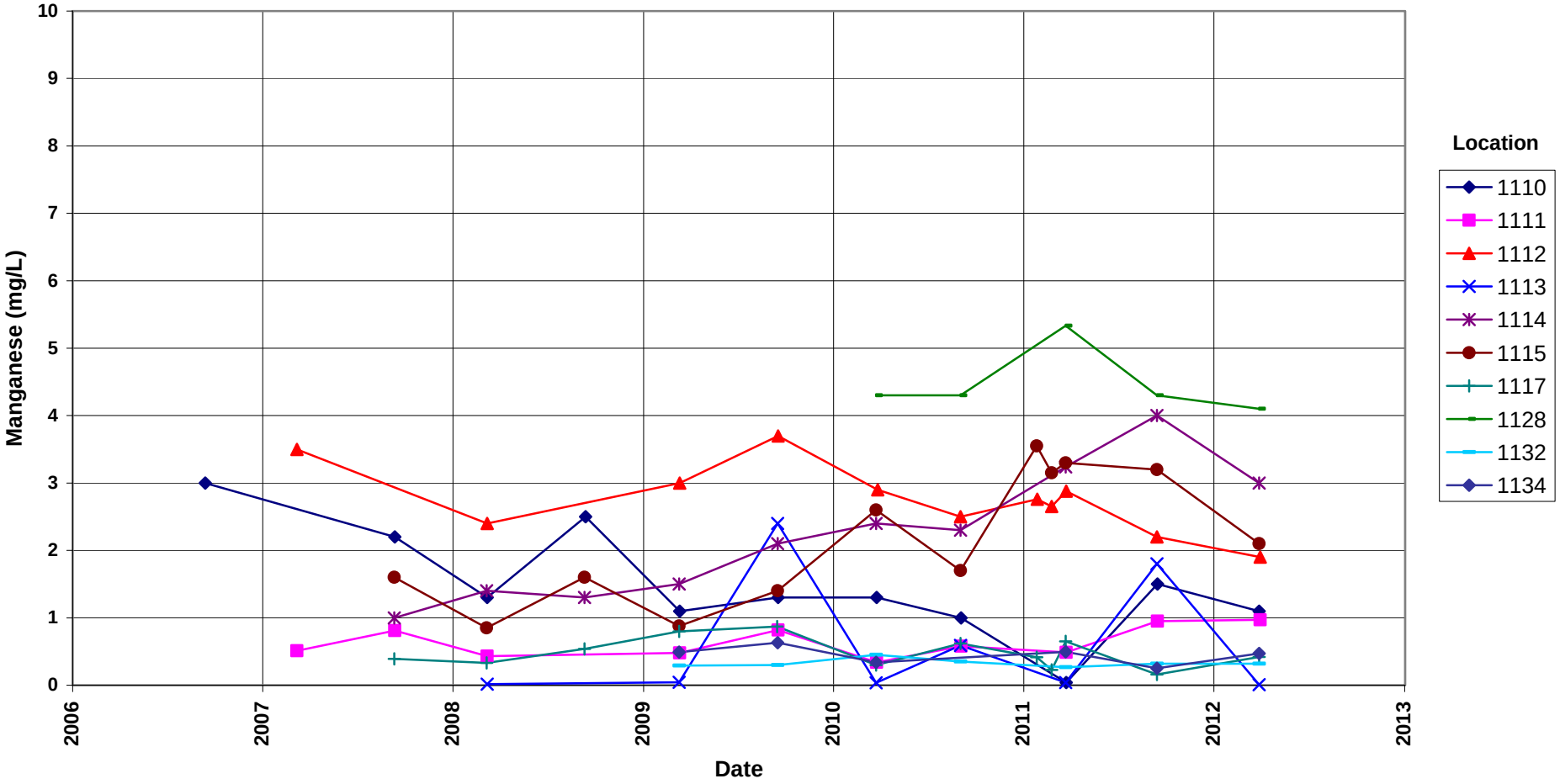
Shiprock Disposal Site (Floodplain)
Manganese Concentration



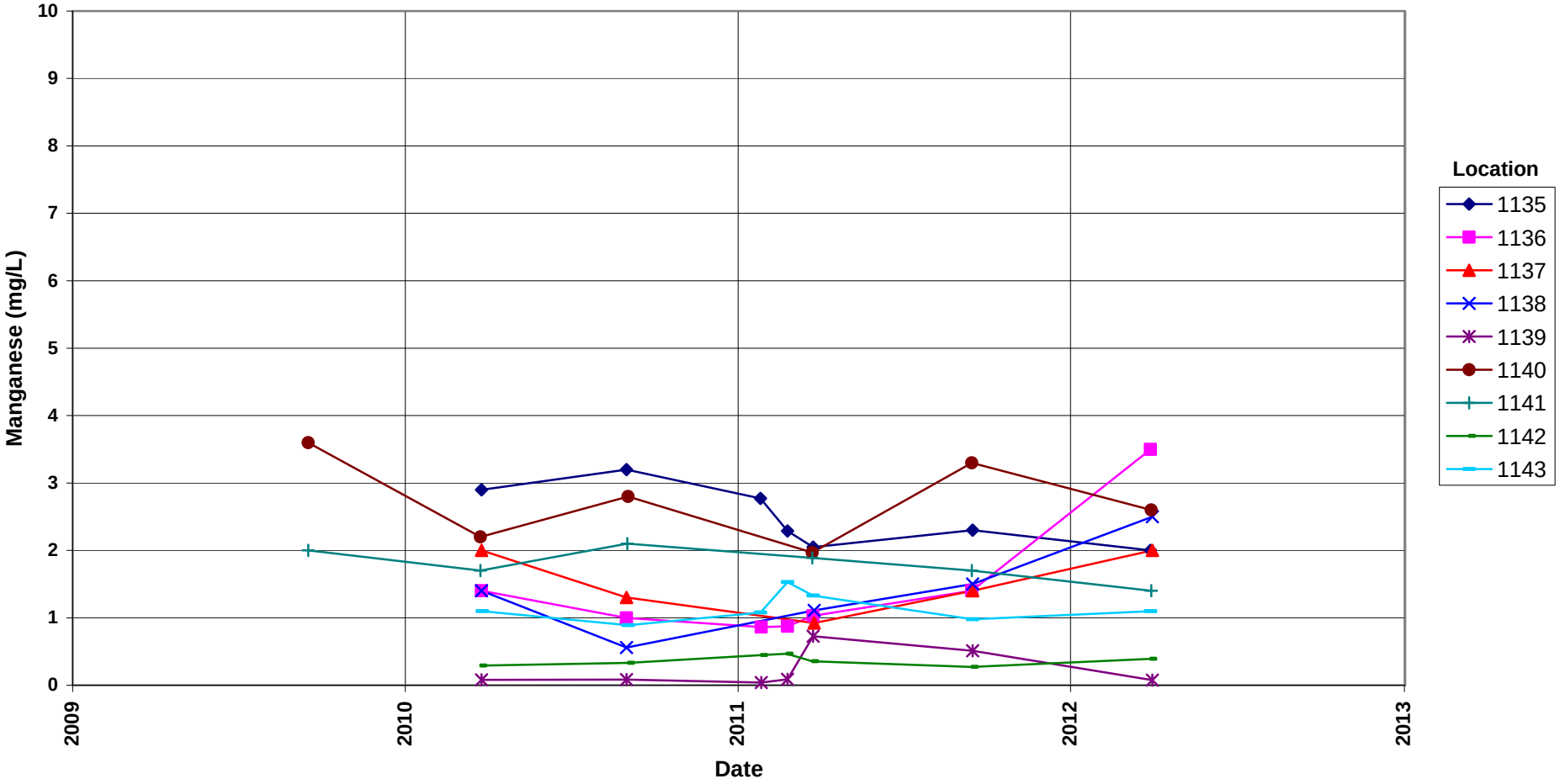
Shiprock Disposal Site (Floodplain)
Manganese Concentration



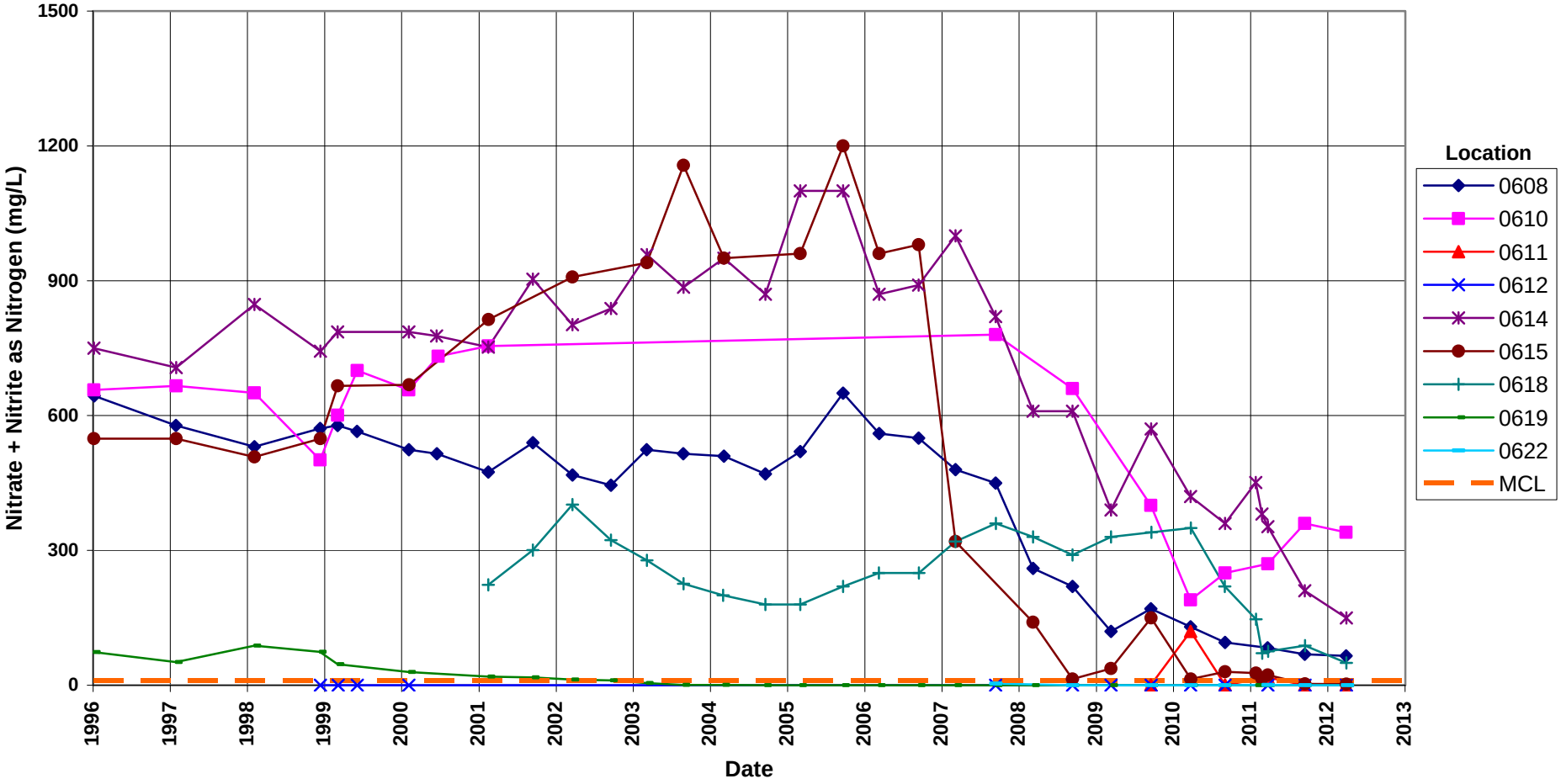
Shiprock Disposal Site (Floodplain)
Manganese Concentration



Shiprock Disposal Site (Floodplain)
Manganese Concentration



Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L



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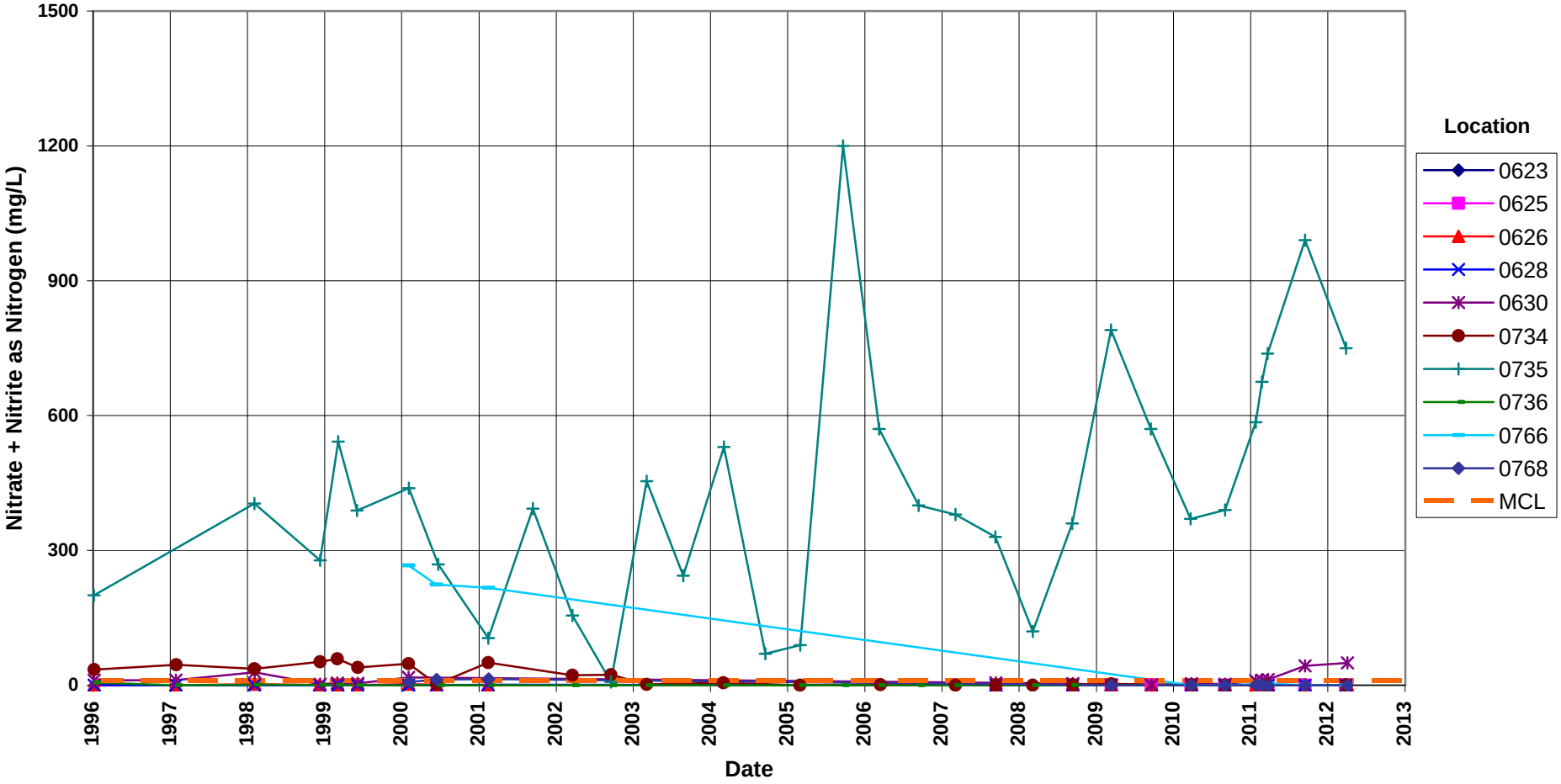

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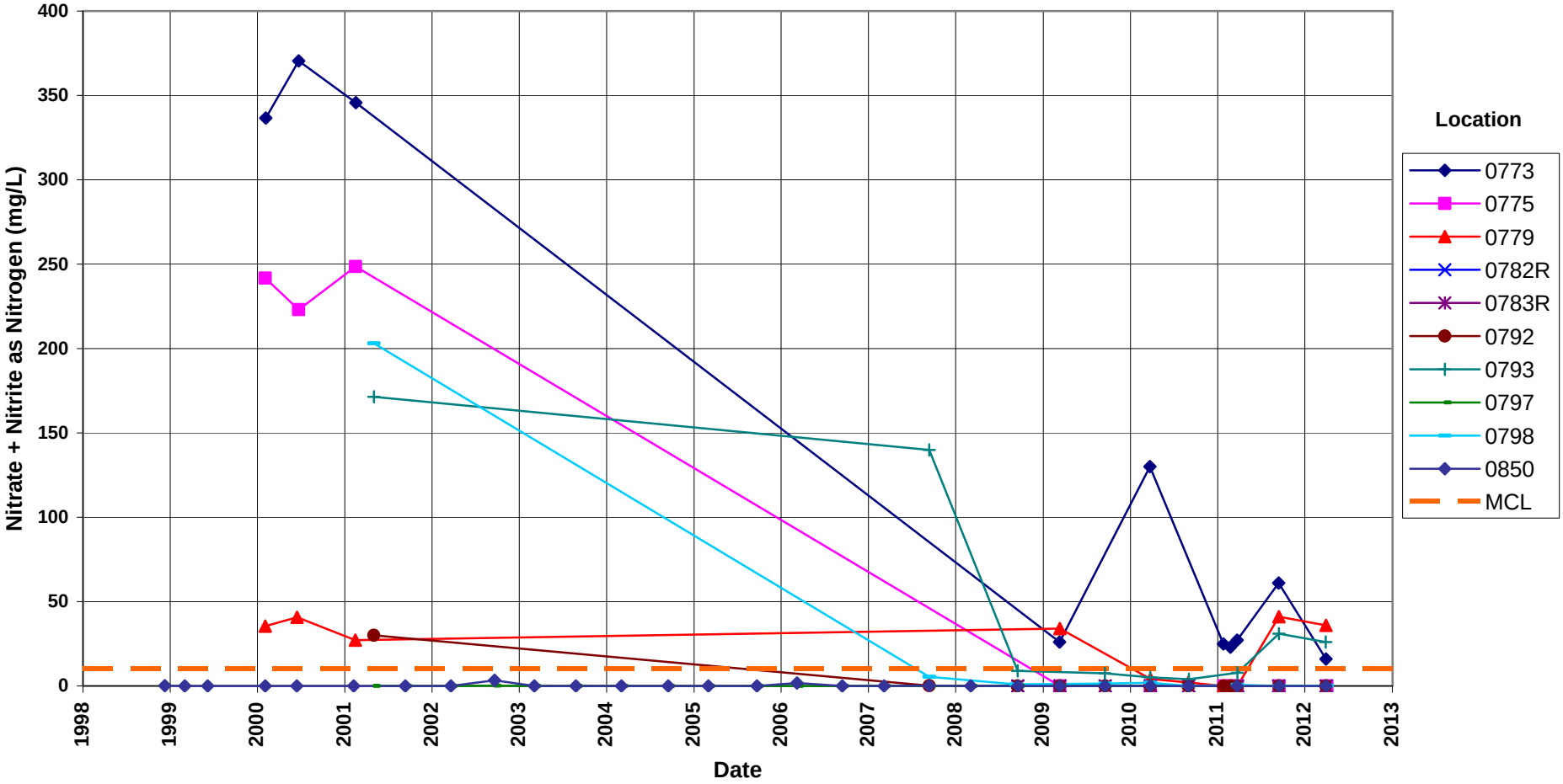

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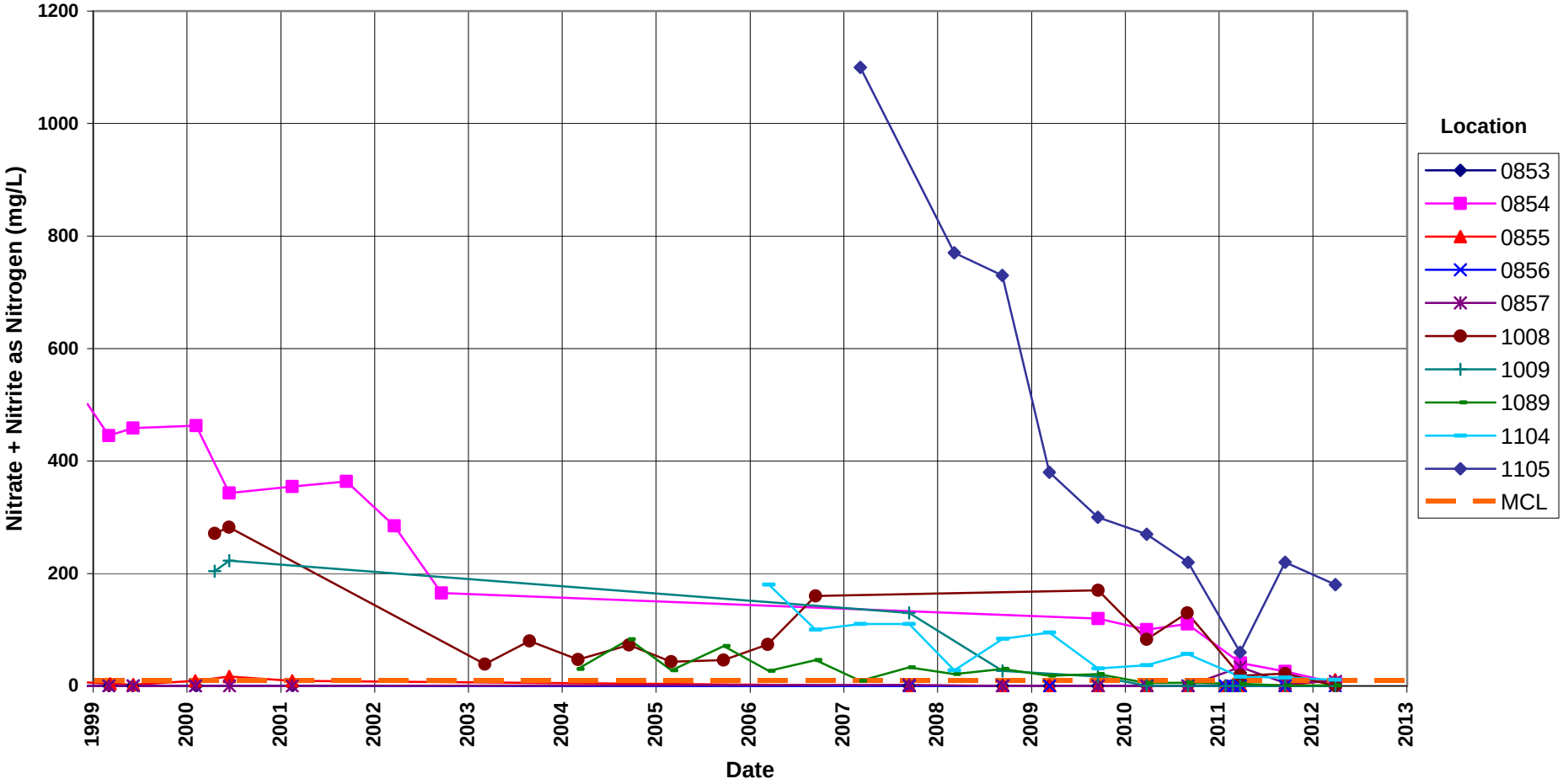

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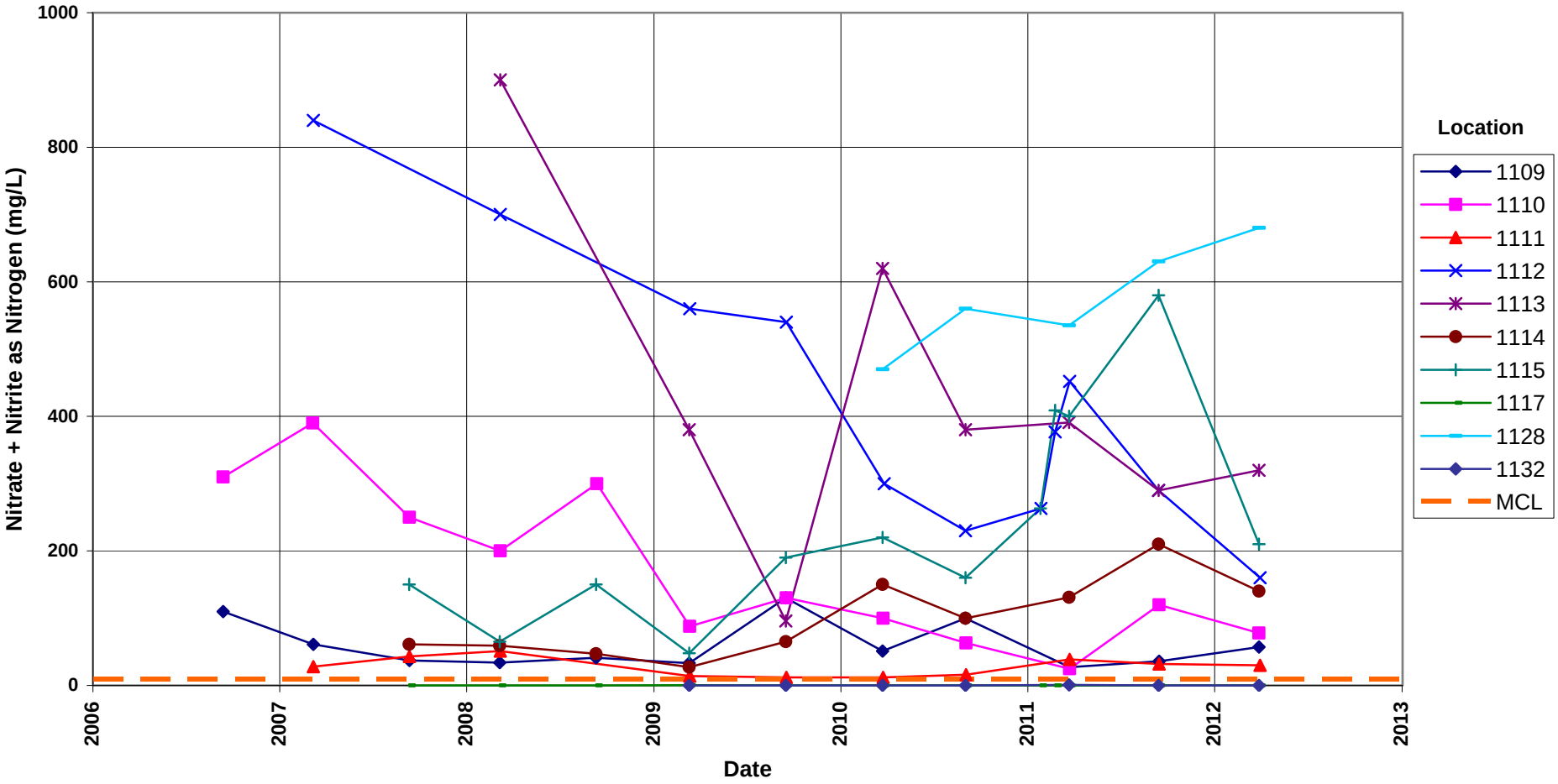

Shiprock Disposal Site (Floodplain)
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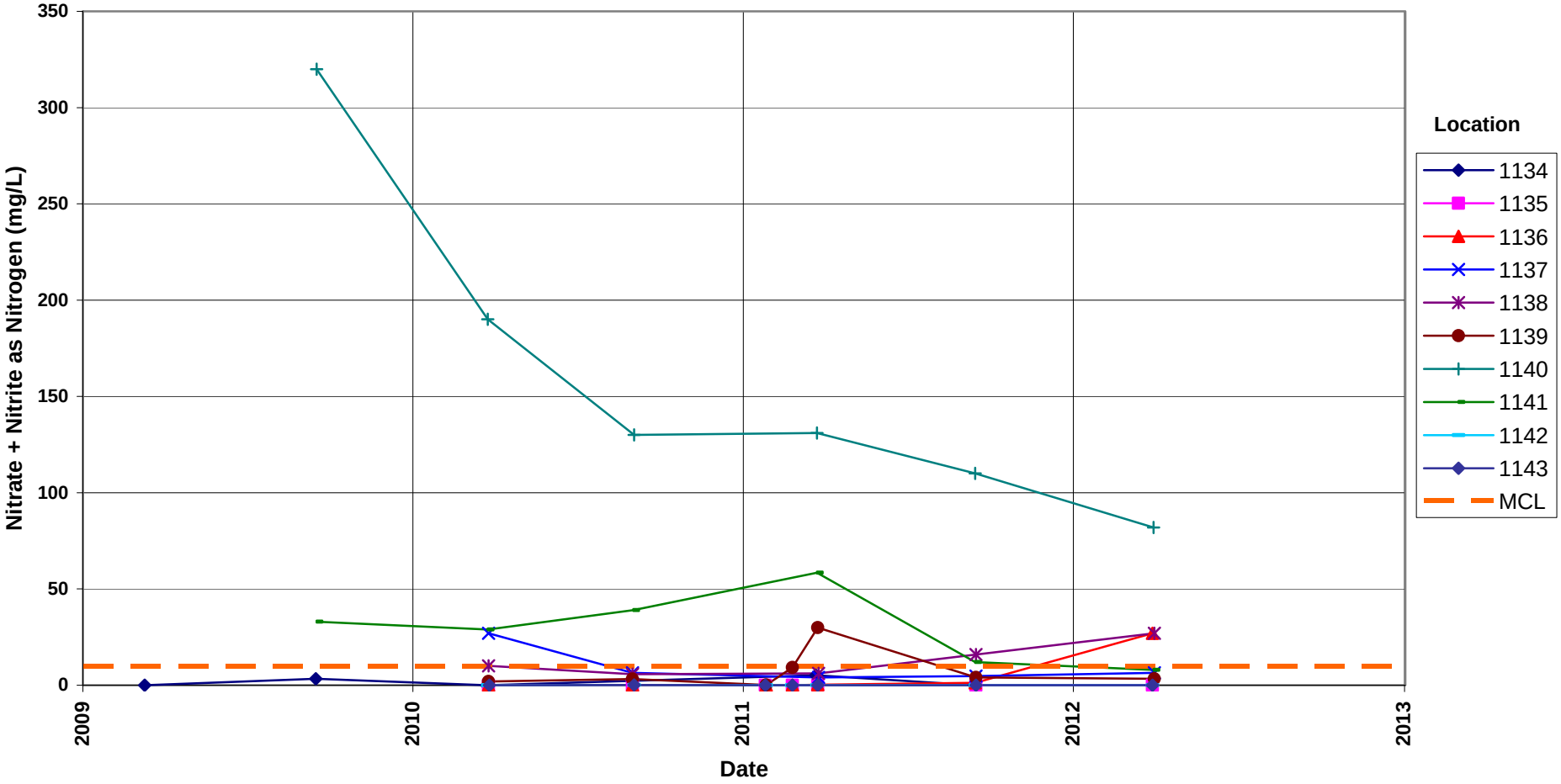
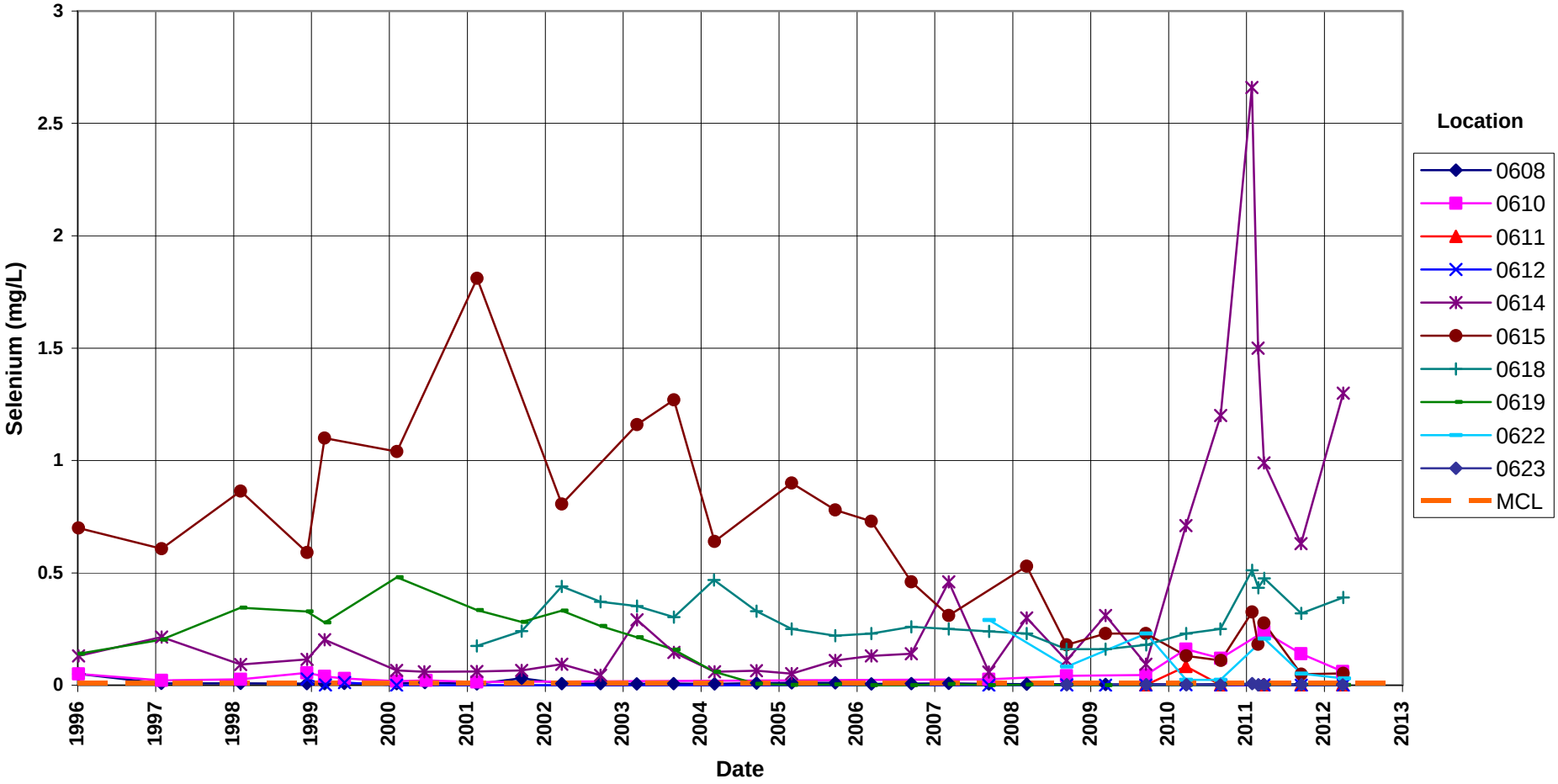
Maximum Contaminant Level (MCL) = 10 mg/L

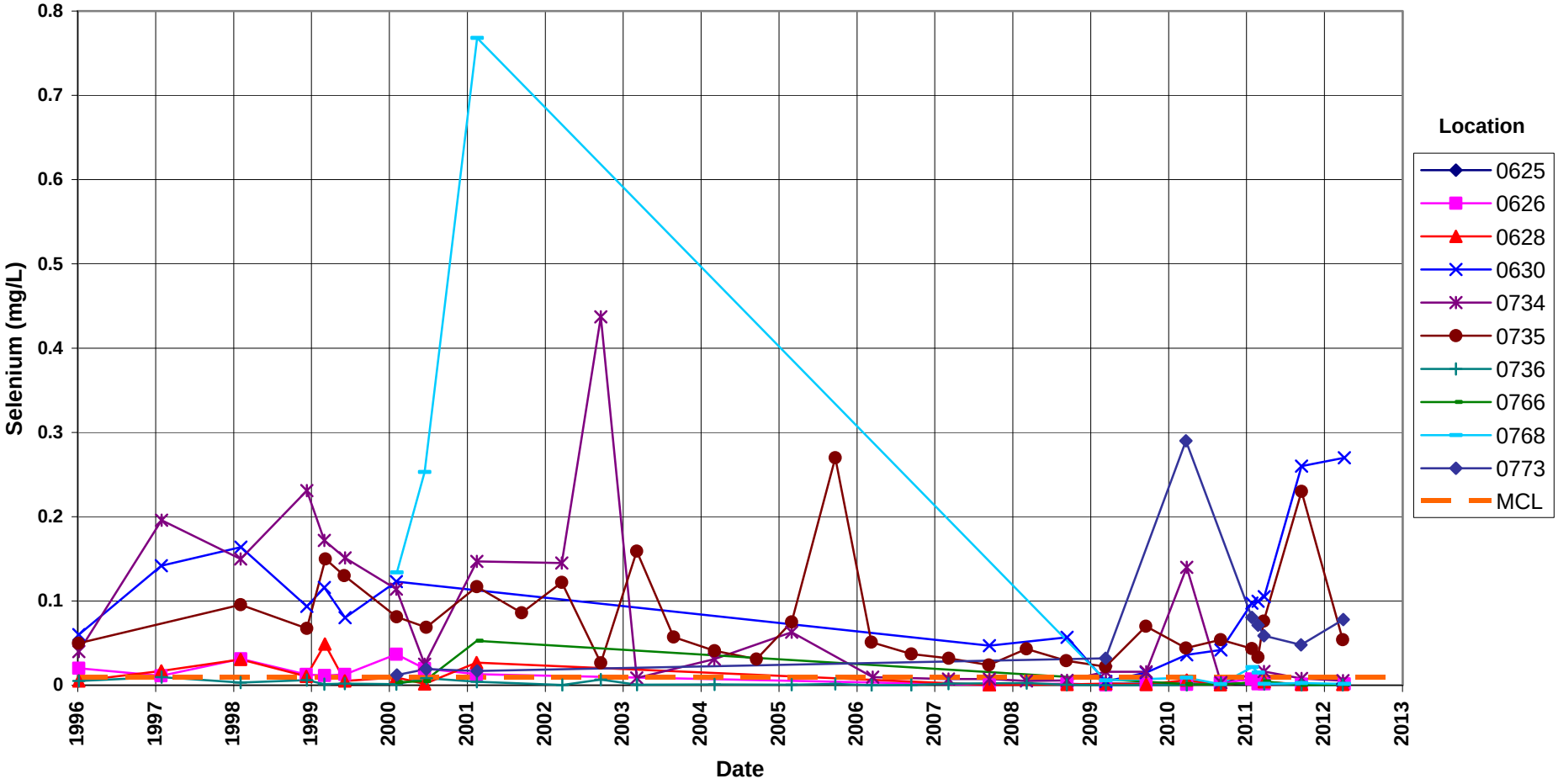


Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



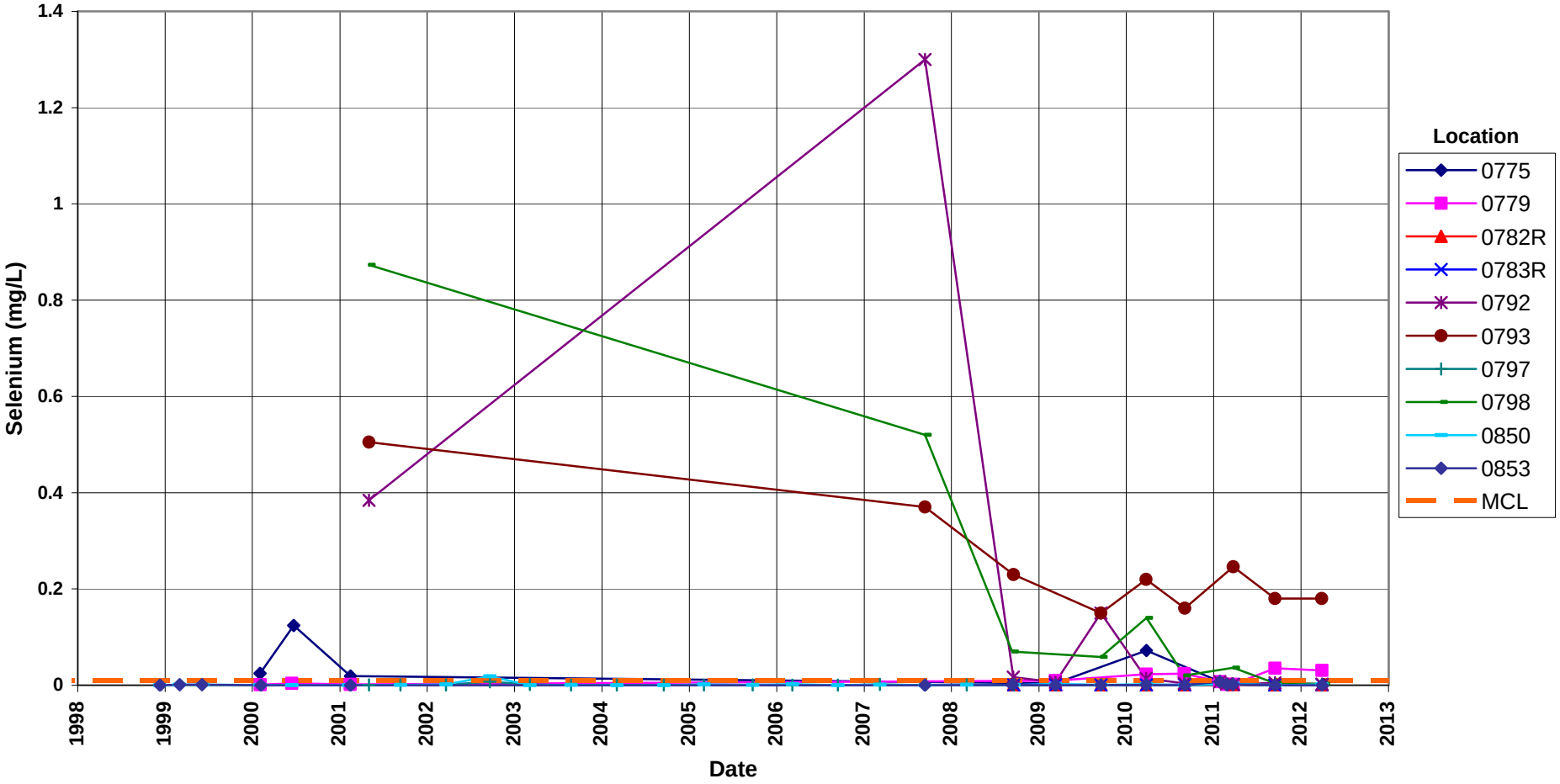
Shiprock Disposal Site (Floodplain)
Selenium Concentration

Maximum Contaminant Level (MCL) = 0.01 mg/L



Shiprock Disposal Site (Floodplain)
Selenium Concentration

Maximum Contaminant Level (MCL) = 0.01 mg/L



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Selenium Concentration
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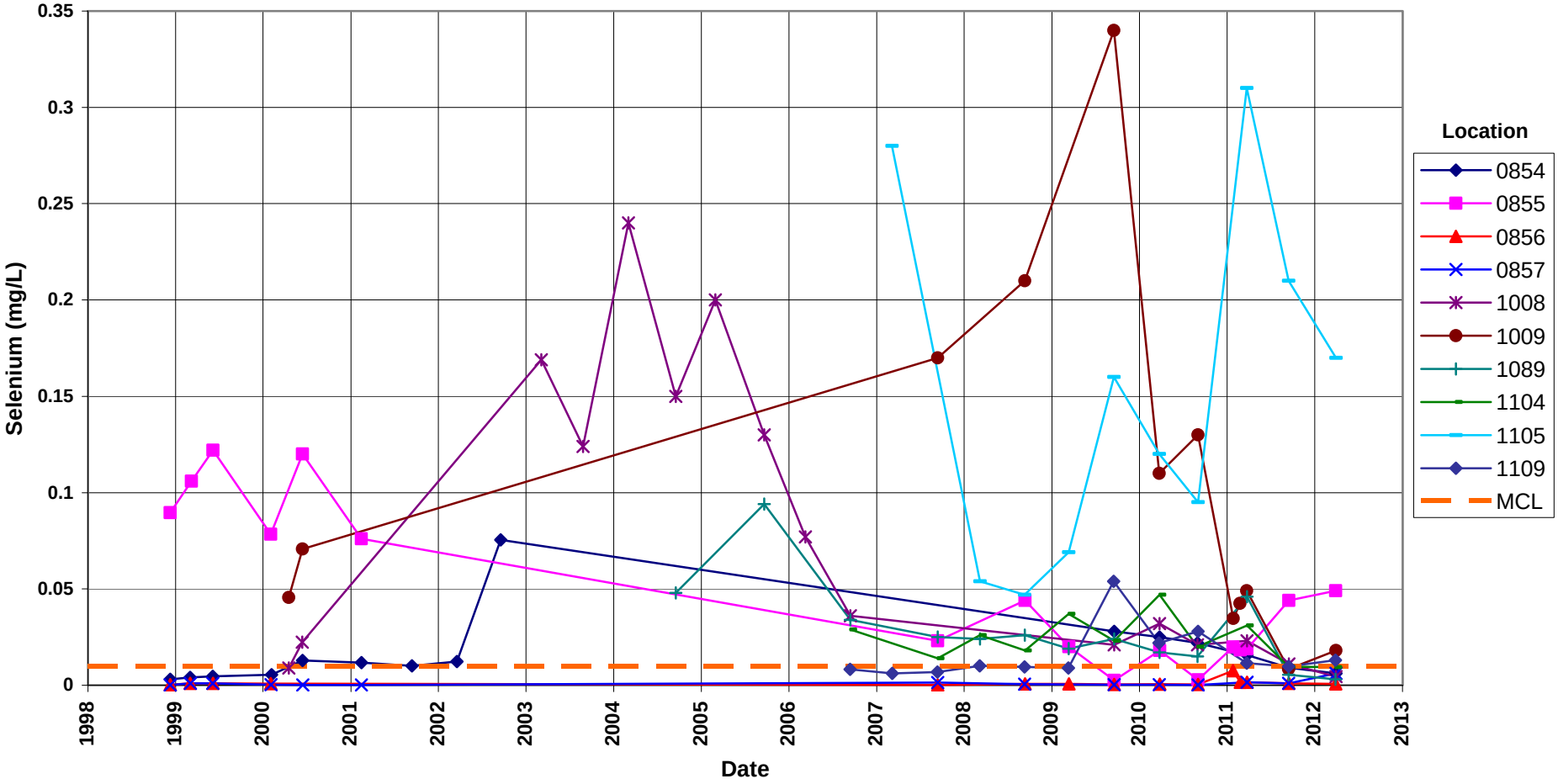

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Selenium Concentration
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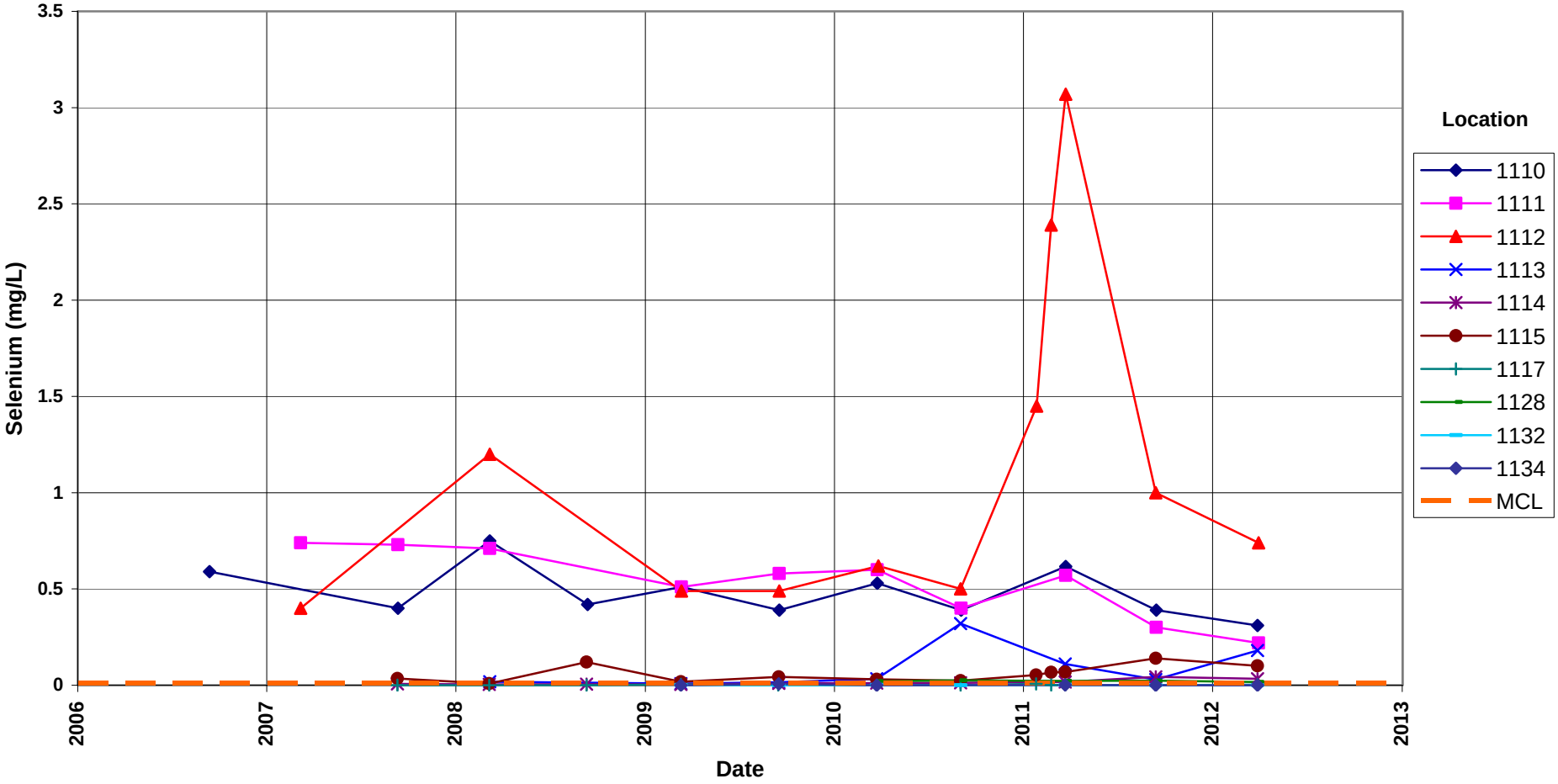

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Selenium Concentration
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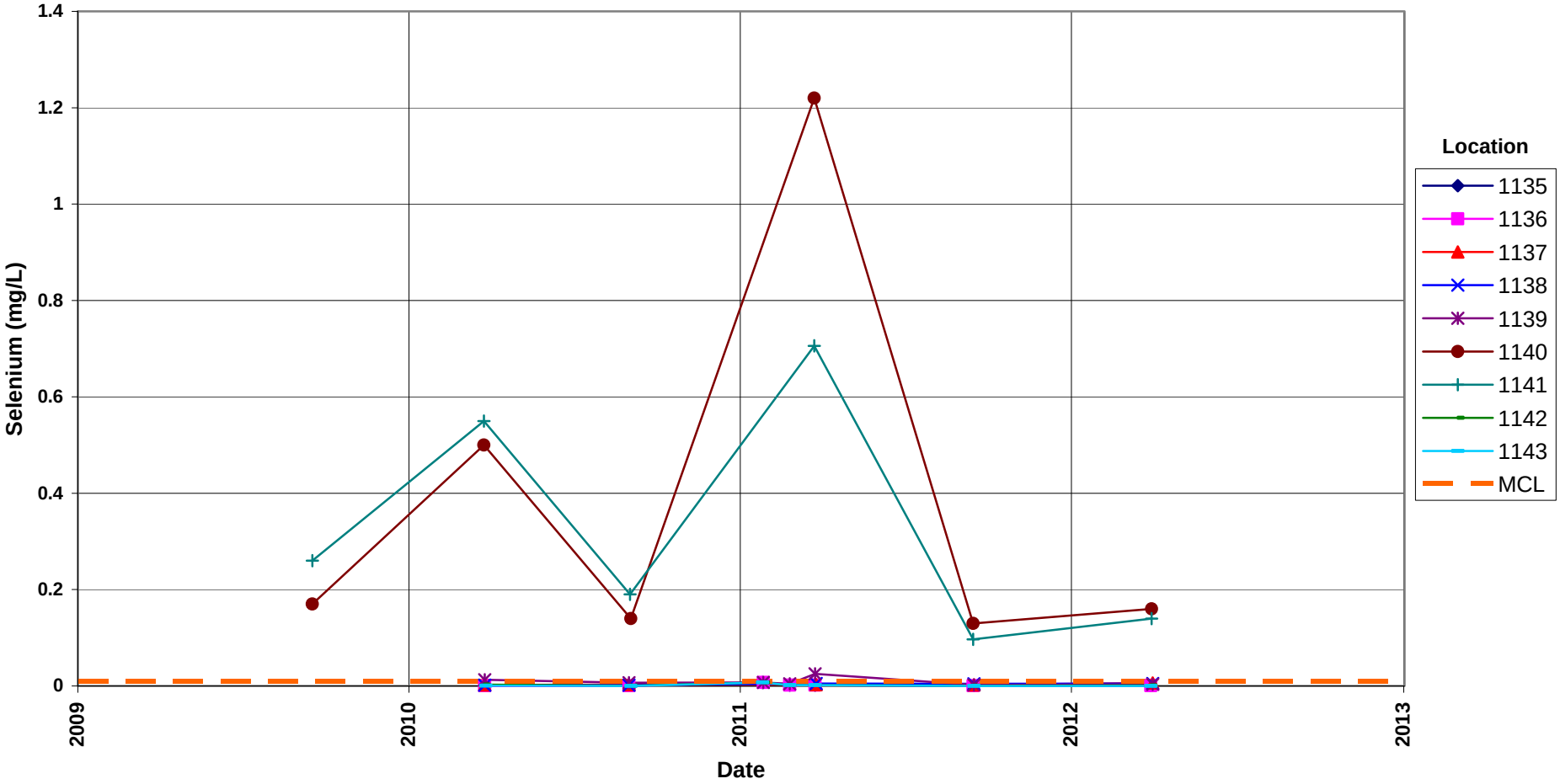
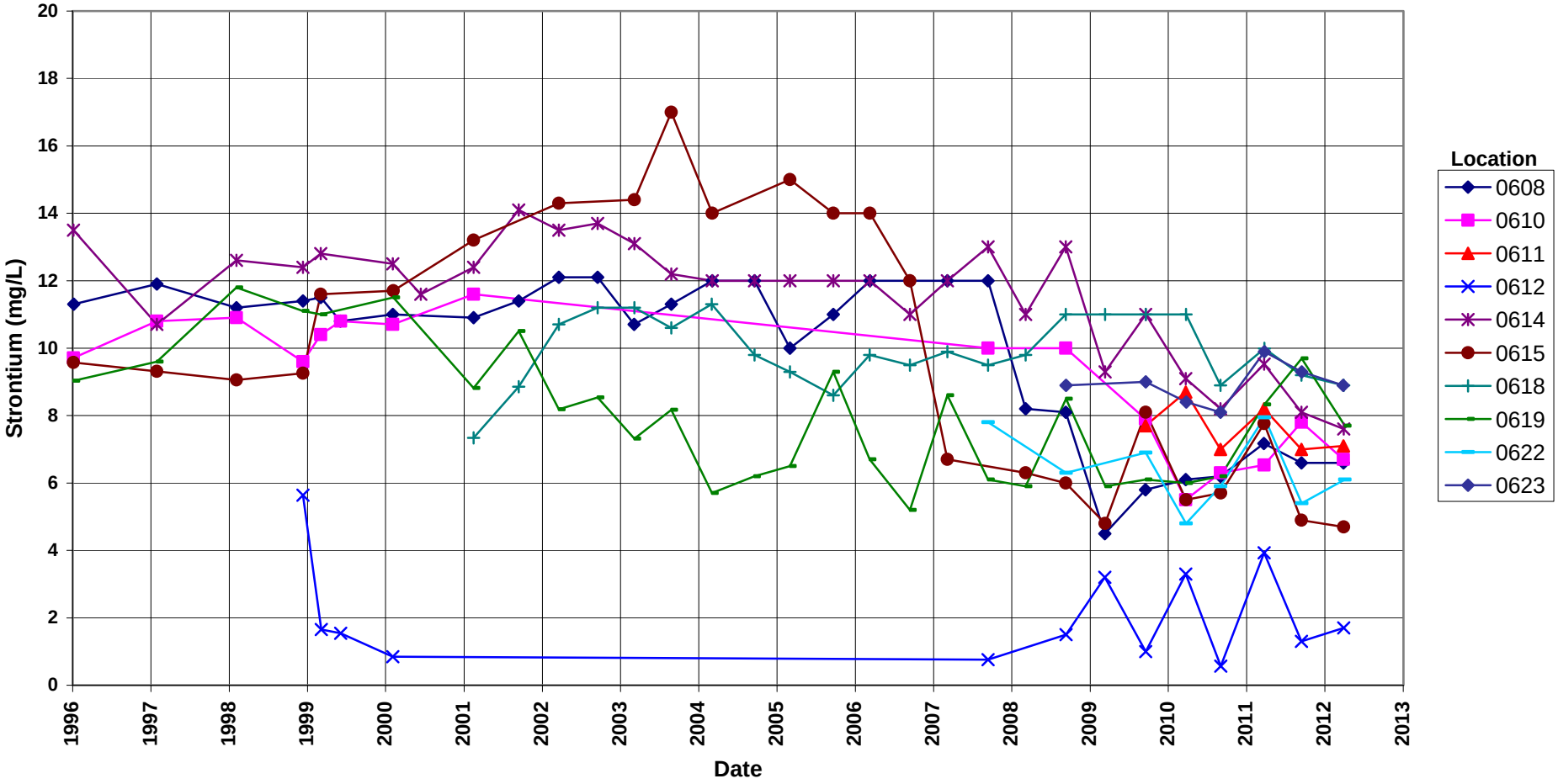
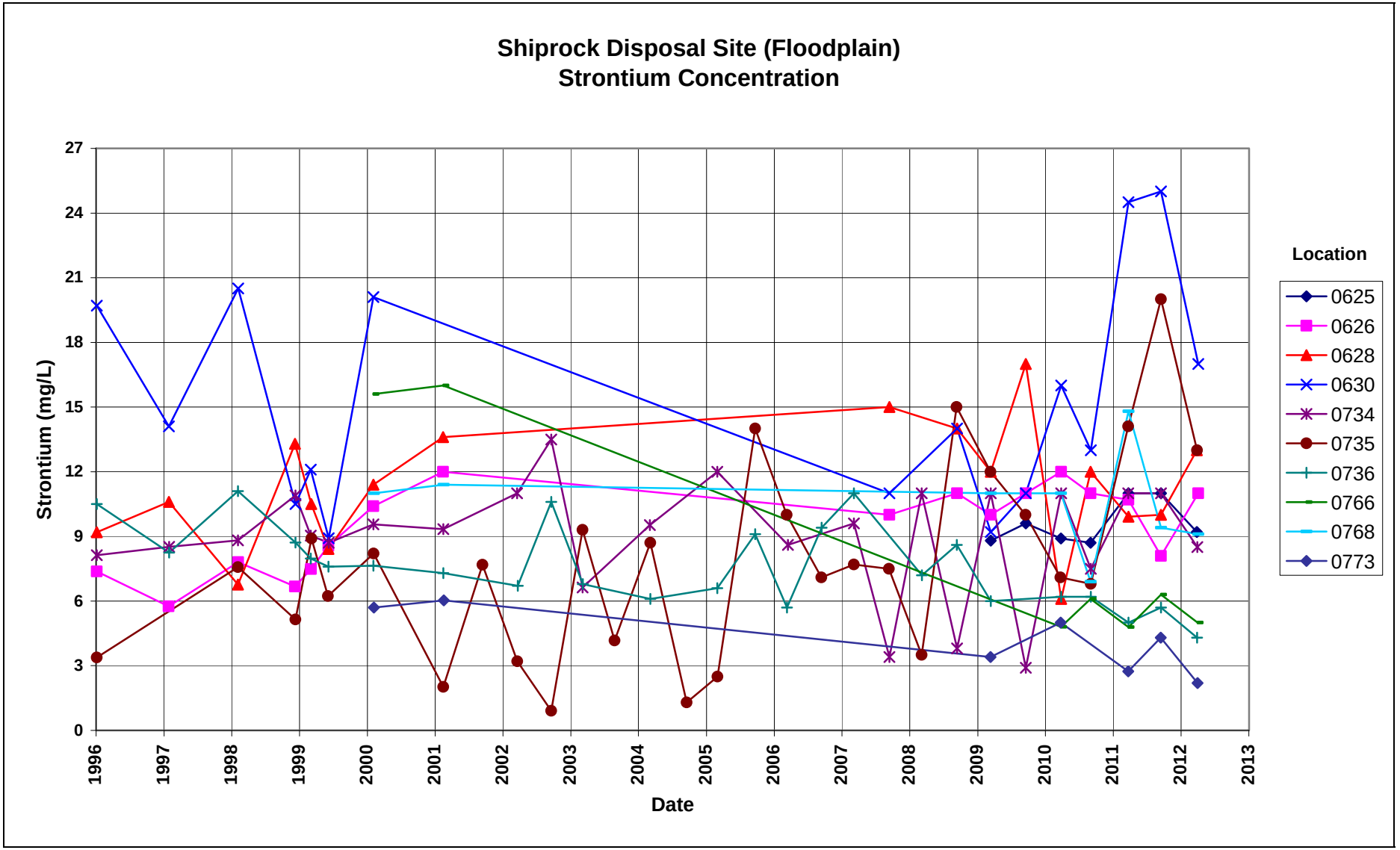
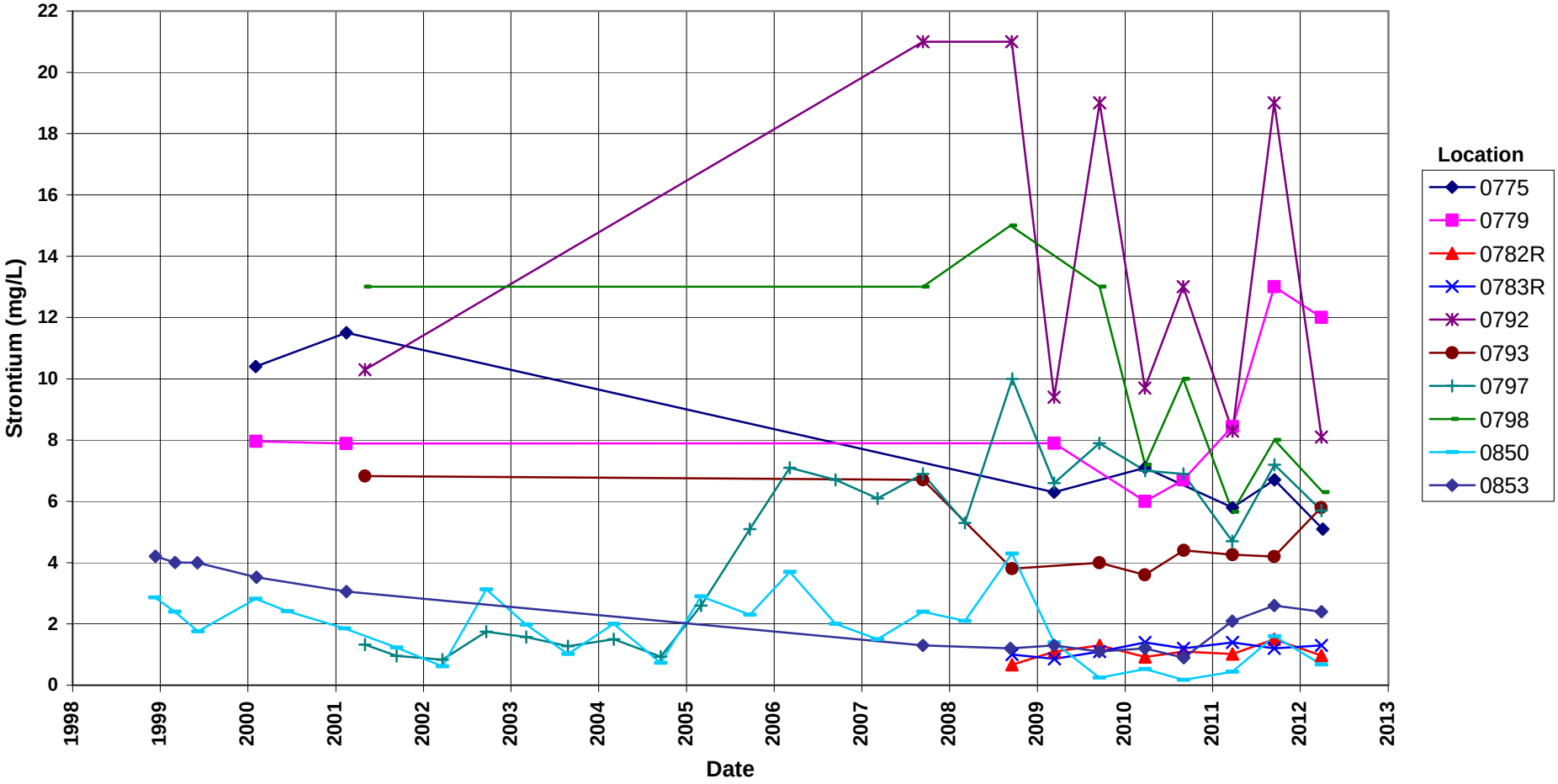


Shiprock Disposal Site (Floodplain)
Strontium Concentration

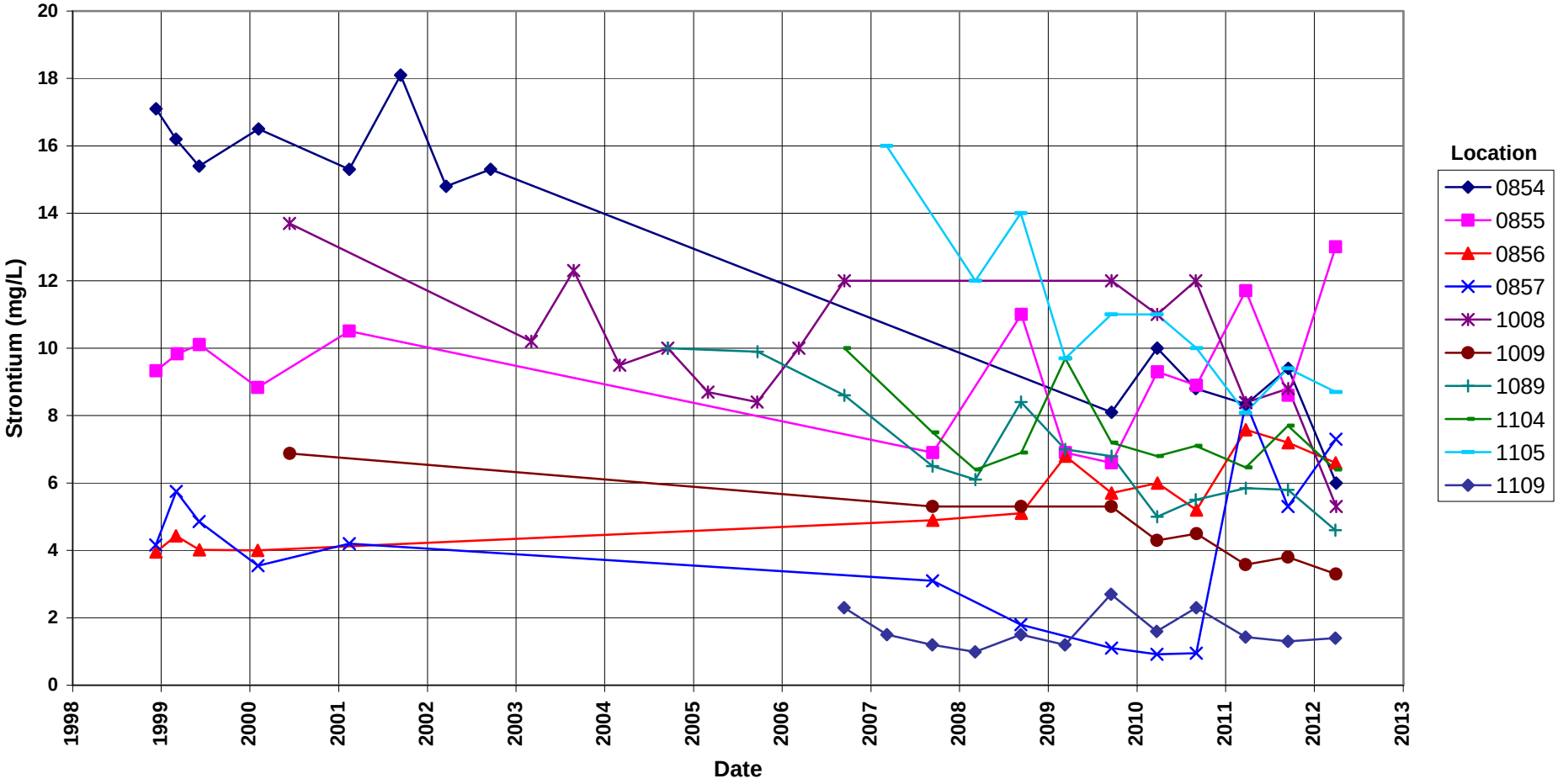



Shiprock Disposal Site (Floodplain)
Strontium Concentration
Strontium (mg/L)
0
3
6
9
12
15
18
21
24
27
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0625
0626
0628
0630
0734
0735
0736
0766
0768
0773

Shiprock Disposal Site (Floodplain)
Strontium Concentration



Shiprock Disposal Site (Floodplain)
Strontium Concentration



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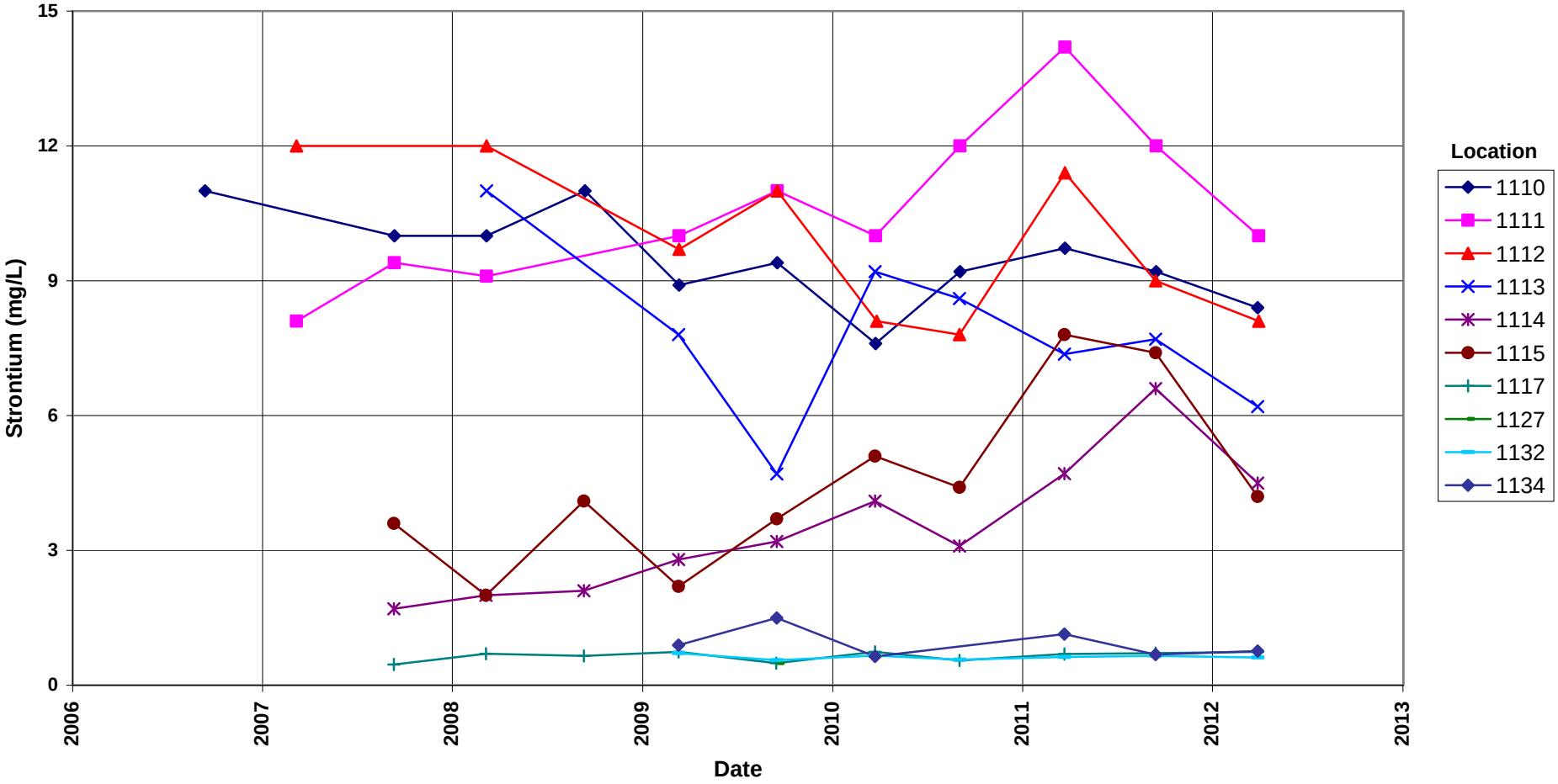
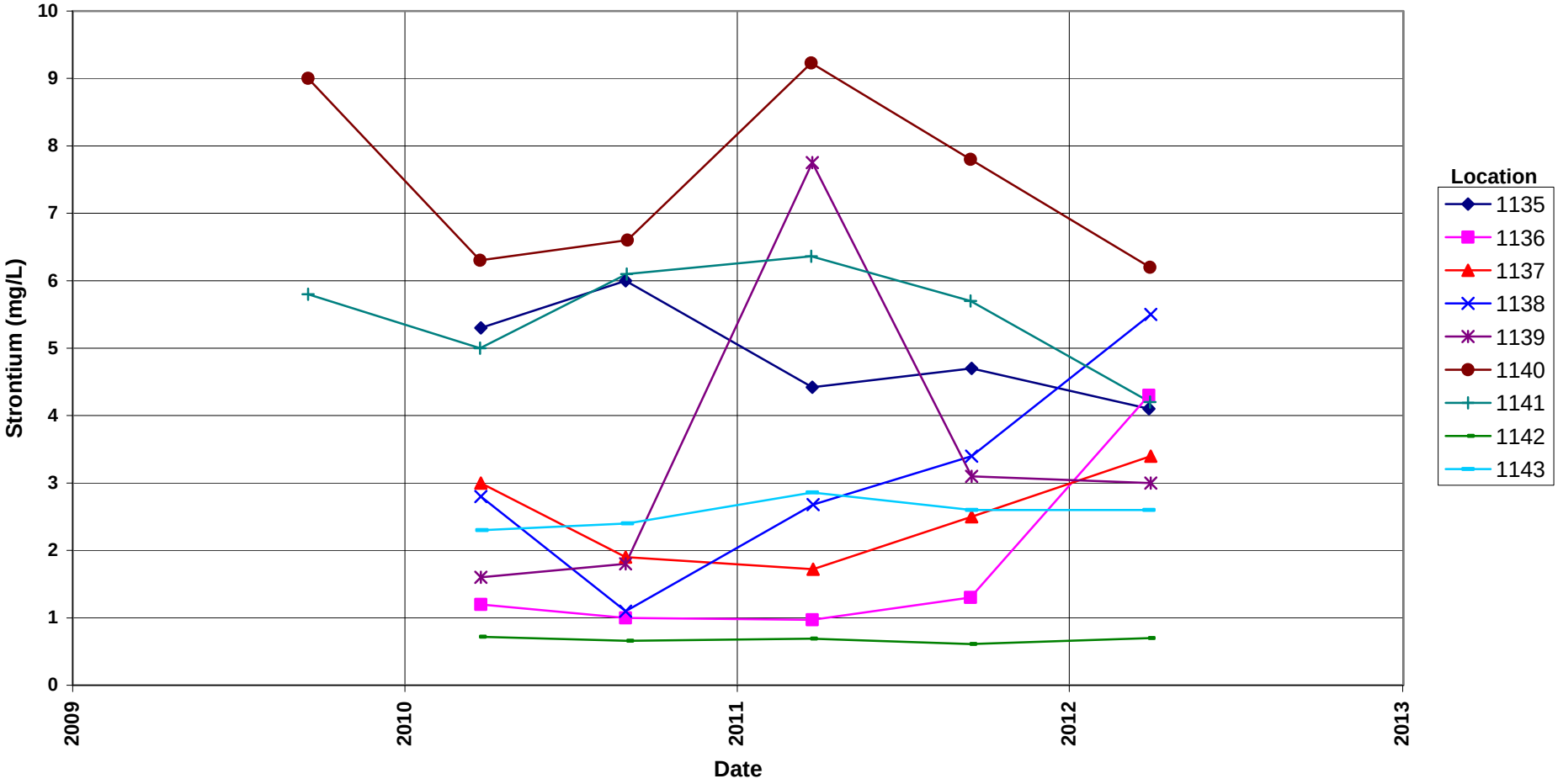
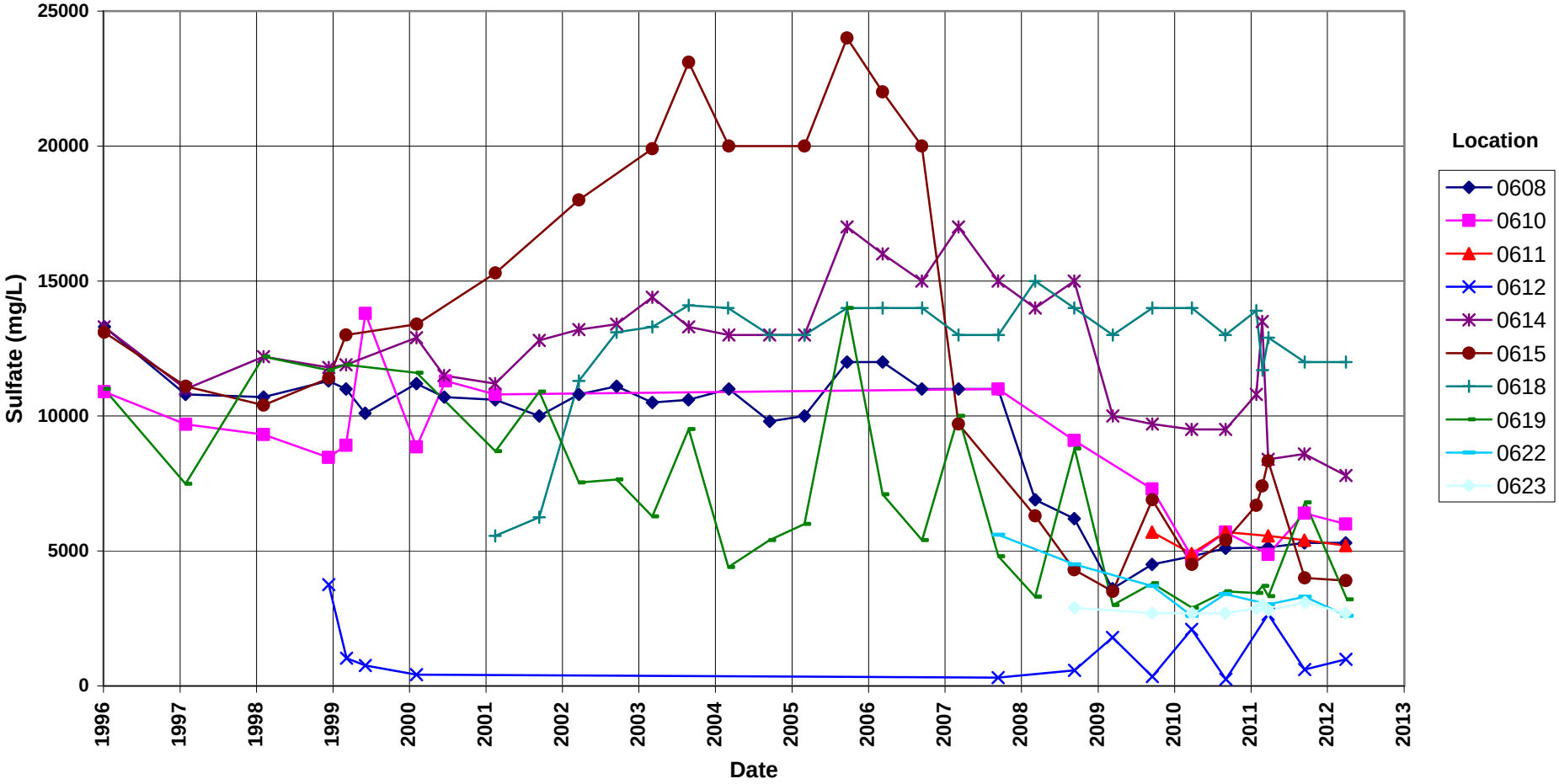


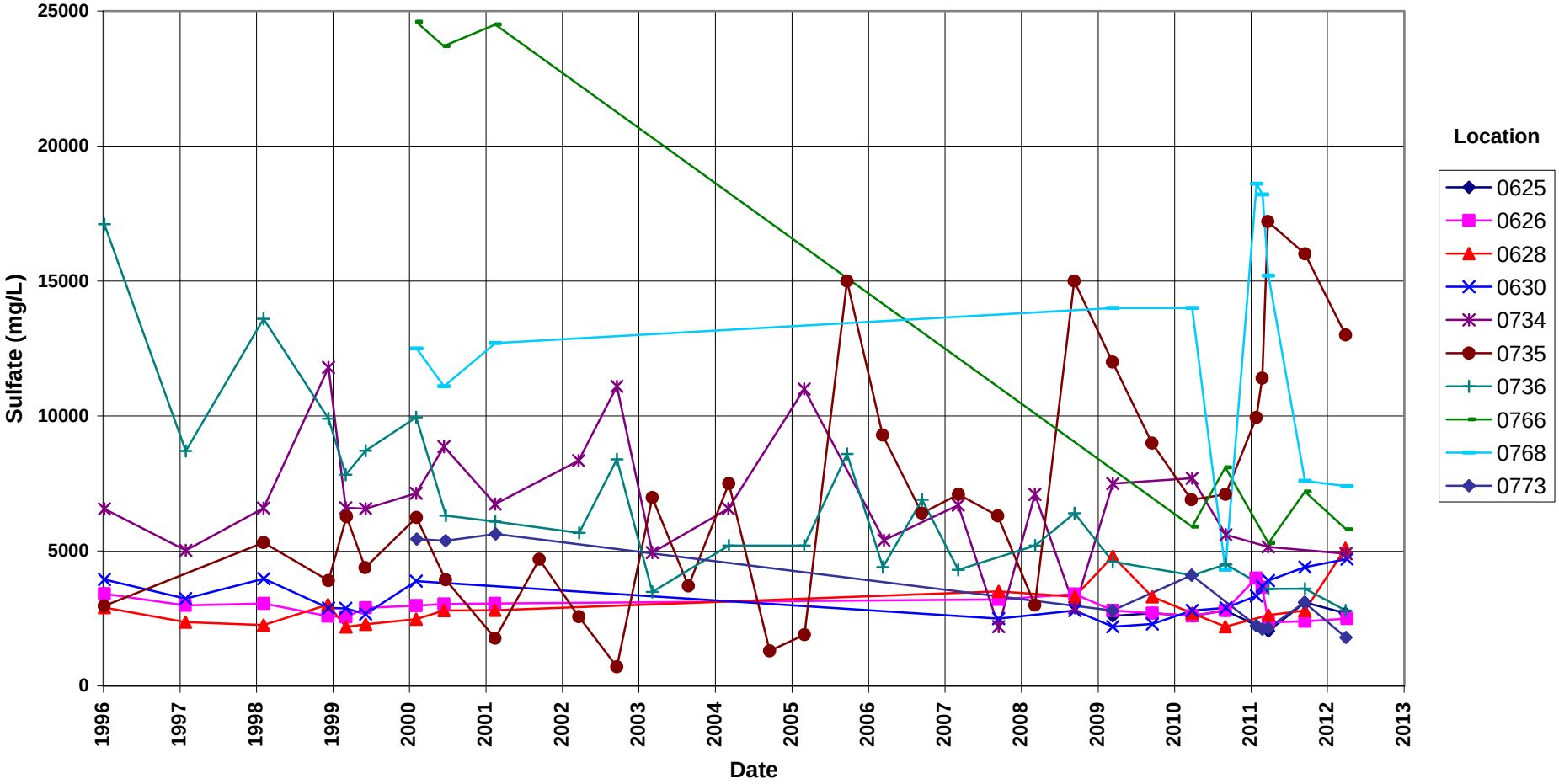
Shiprock Disposal Site (Floodplain)
Strontium Concentration



Shiprock Disposal Site (Floodplain)
Sulfate Concentration



Shiprock Disposal Site (Floodplain)
Sulfate Concentration



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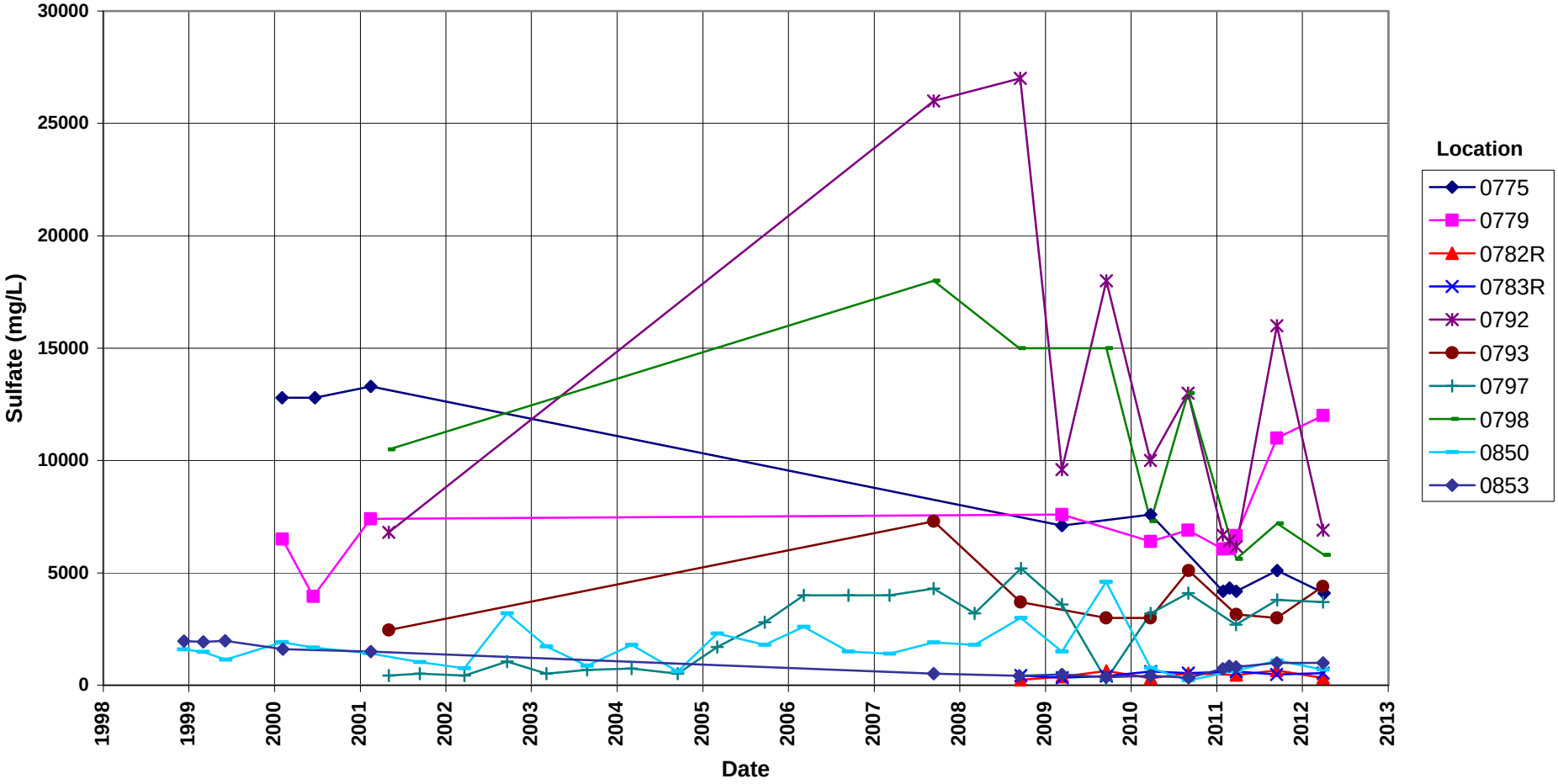
Sulfate Concentration



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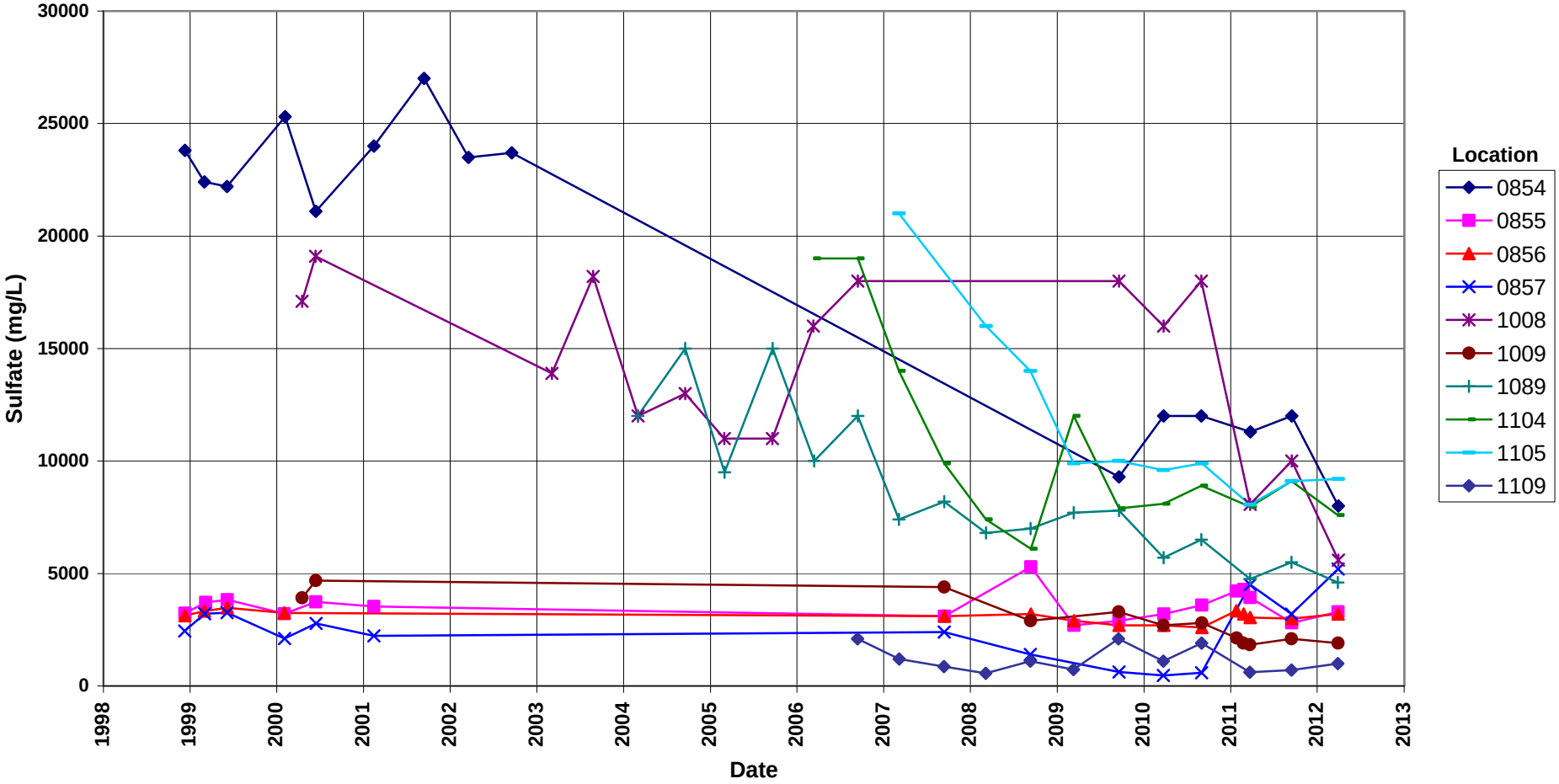
Sulfate Concentration



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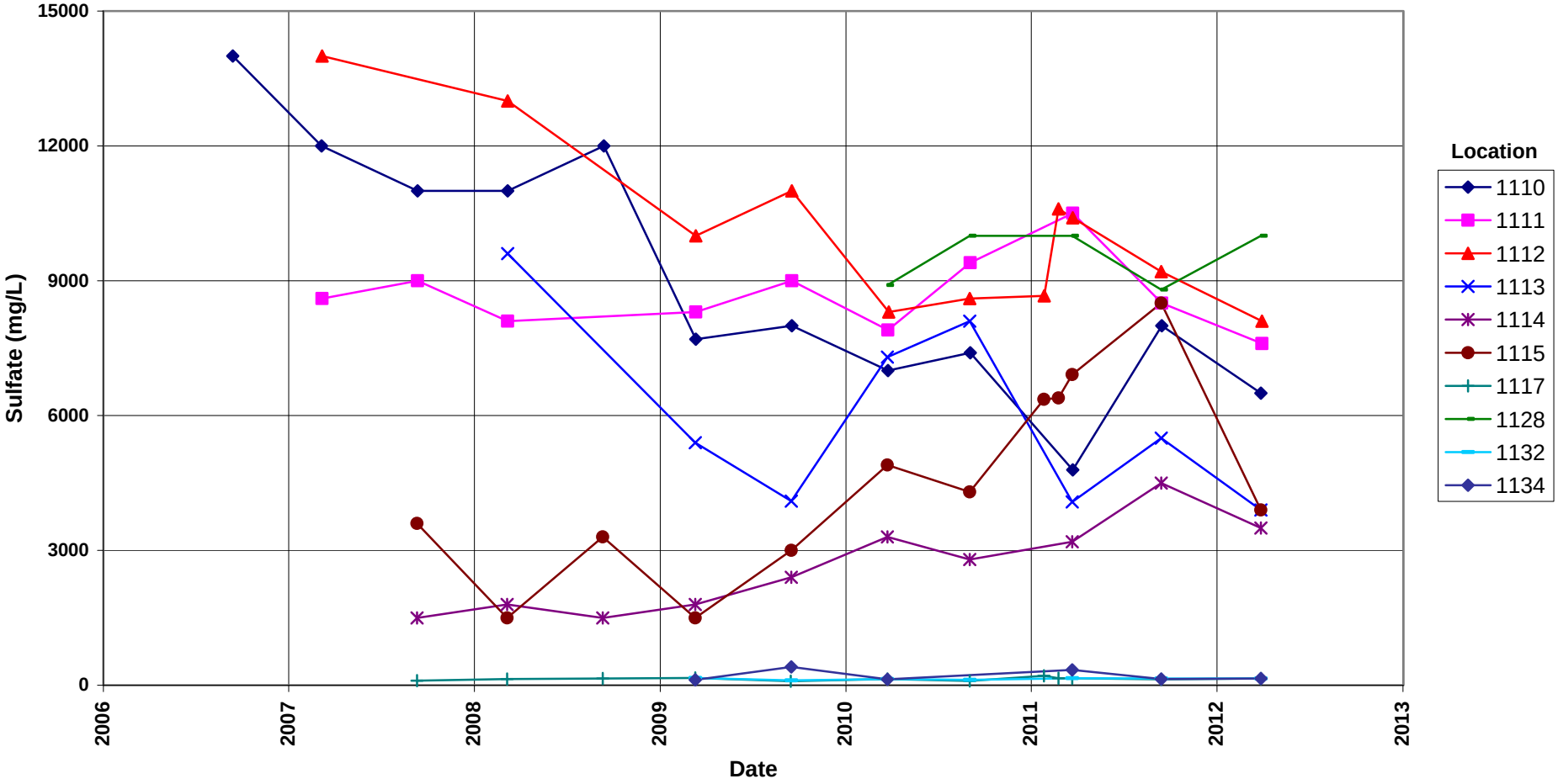

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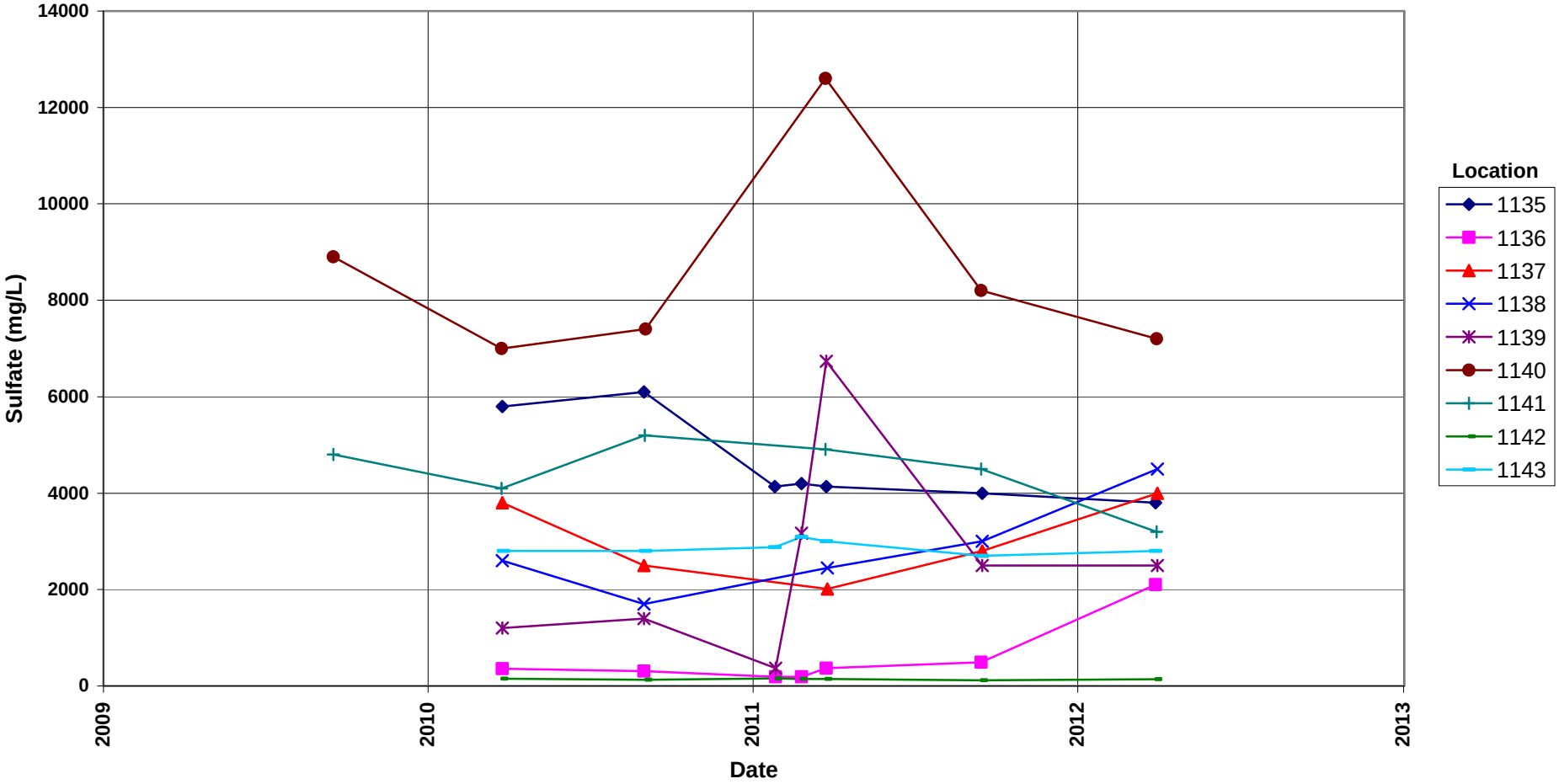
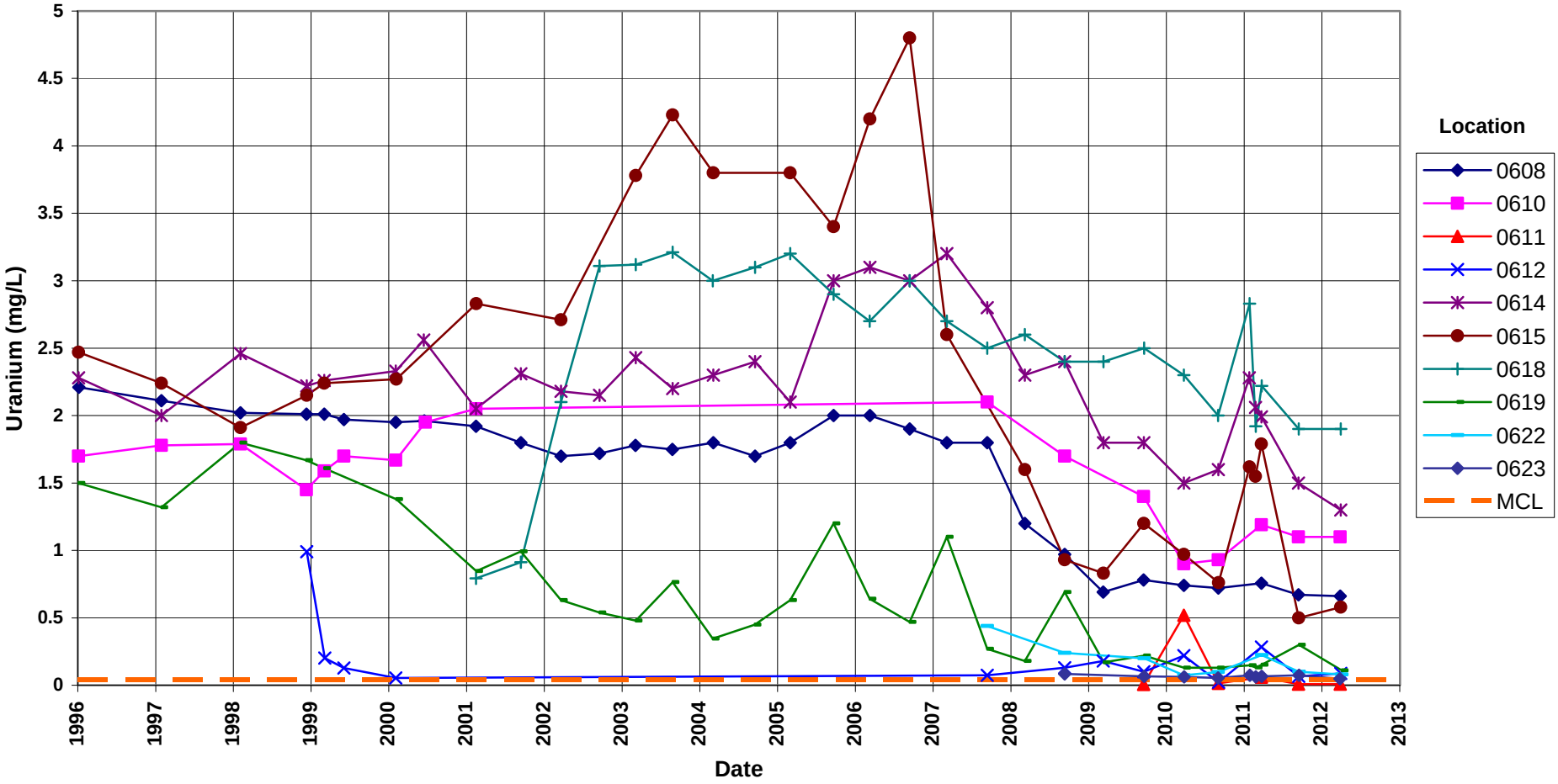
Sulfate Concentration



Shiprock Disposal Site (Floodplain)
Uranium Concentration

Maximum Contaminant Level (MCL) = 0.044 mg/L



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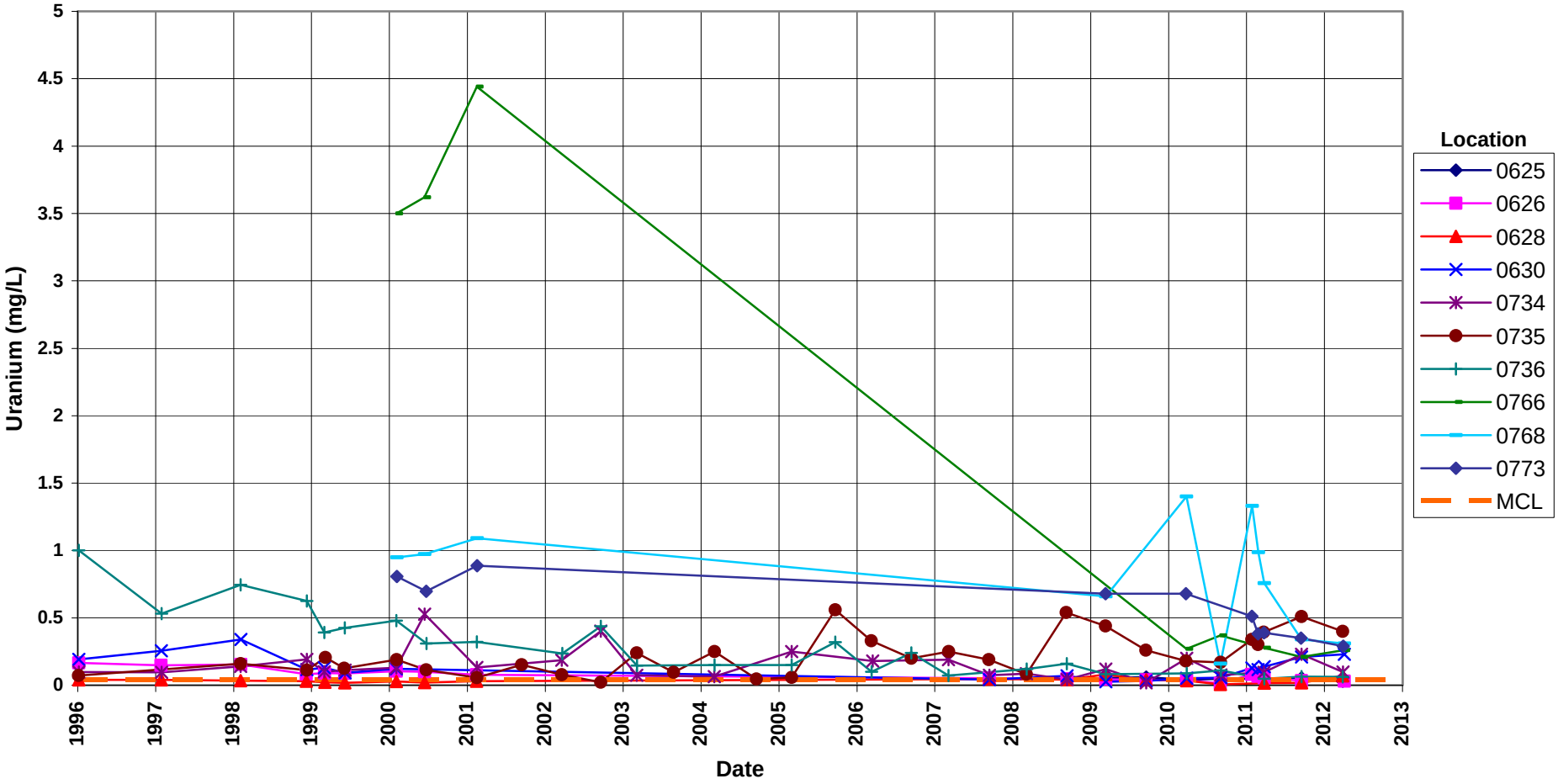

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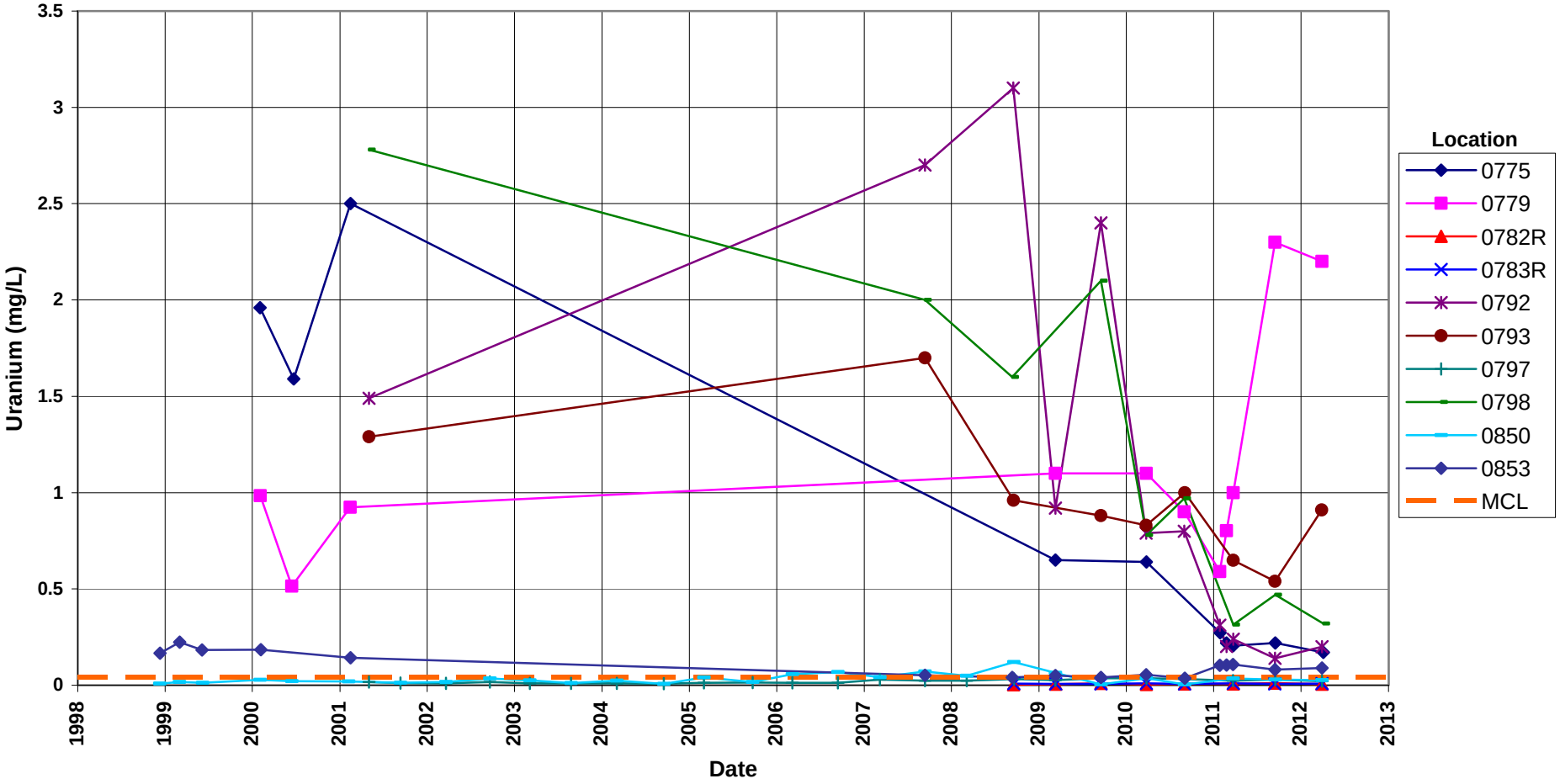

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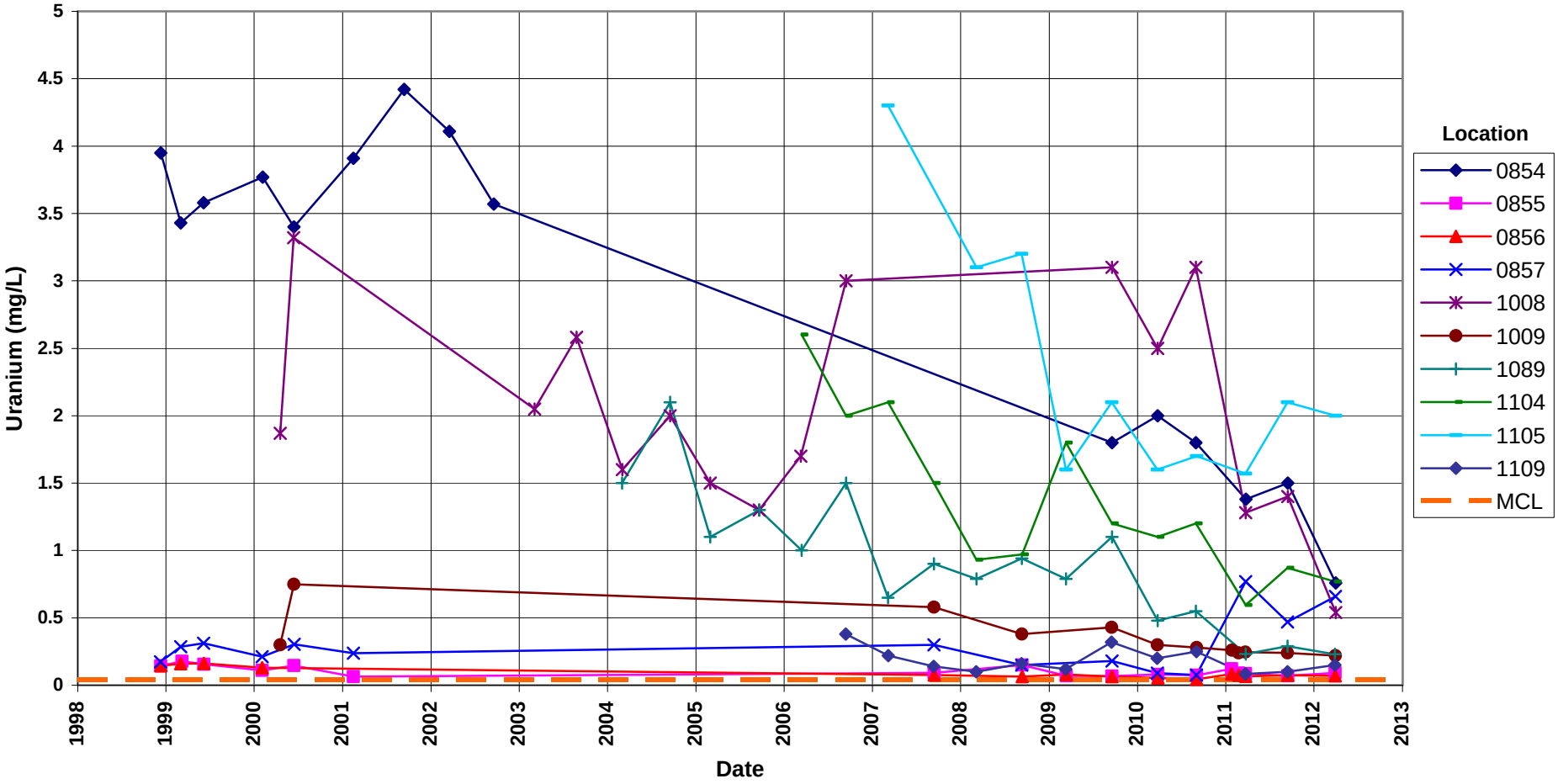

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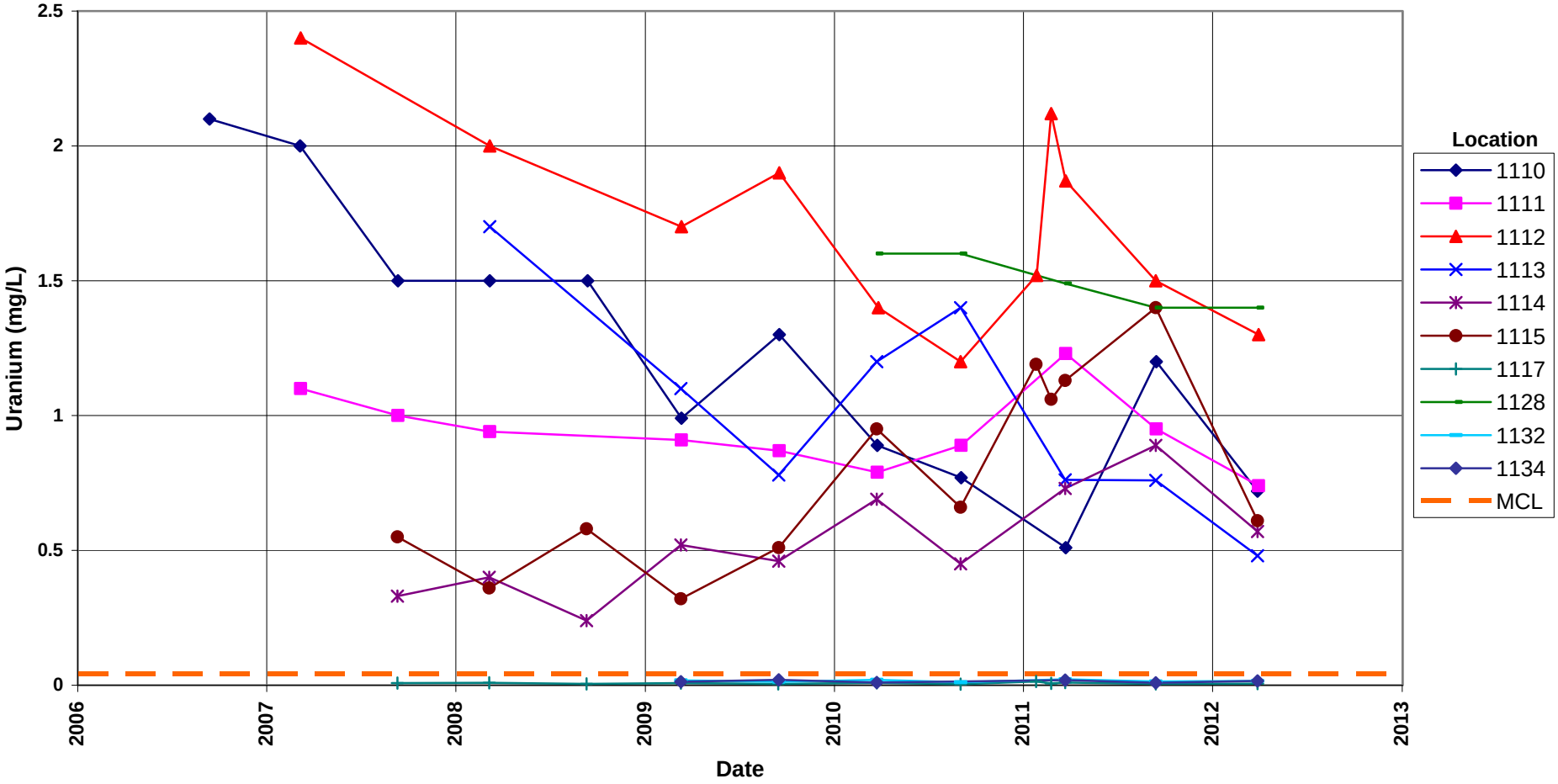

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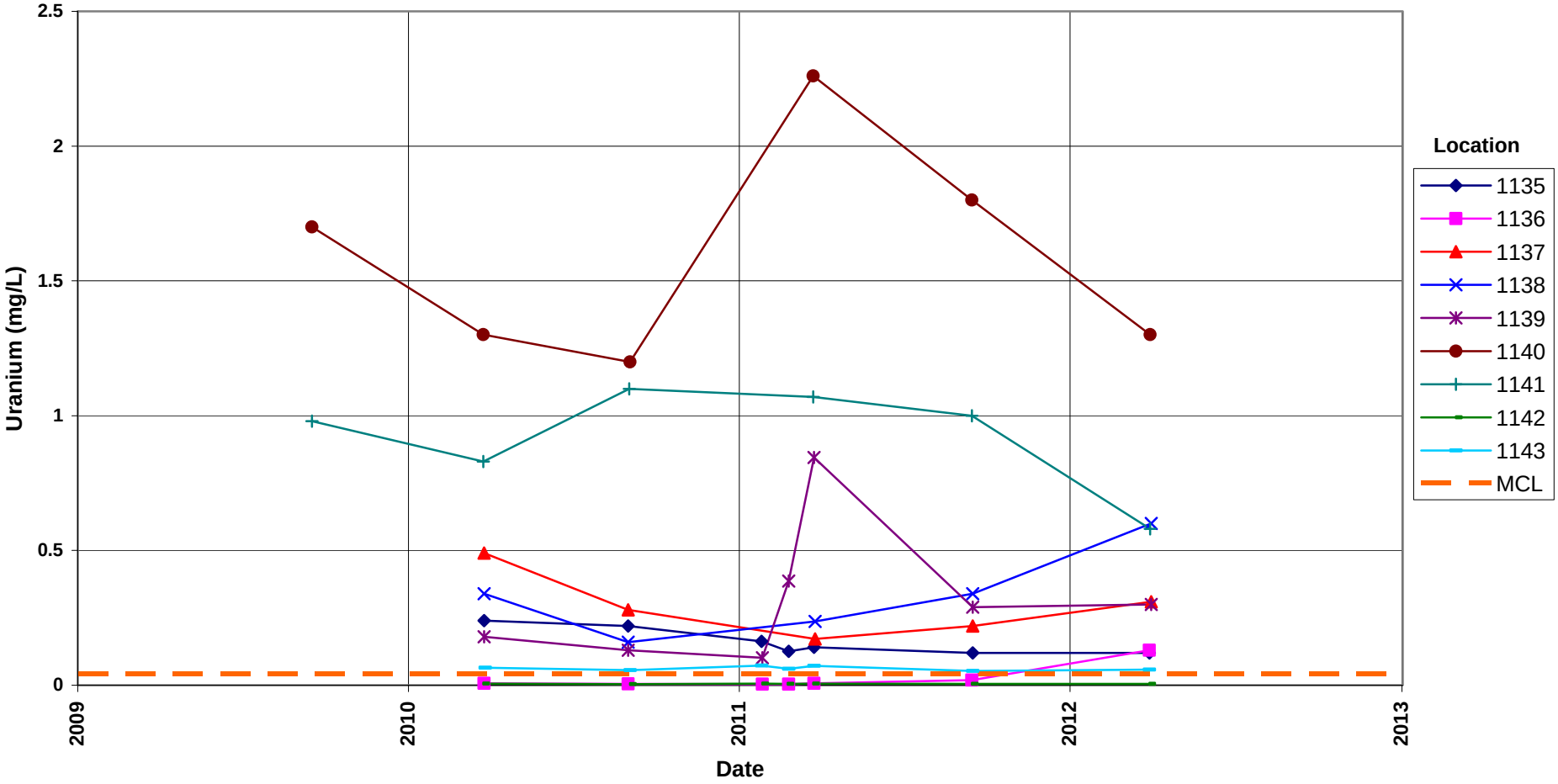

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Time-Concentration Graphs
Terrace Groundwater Locations

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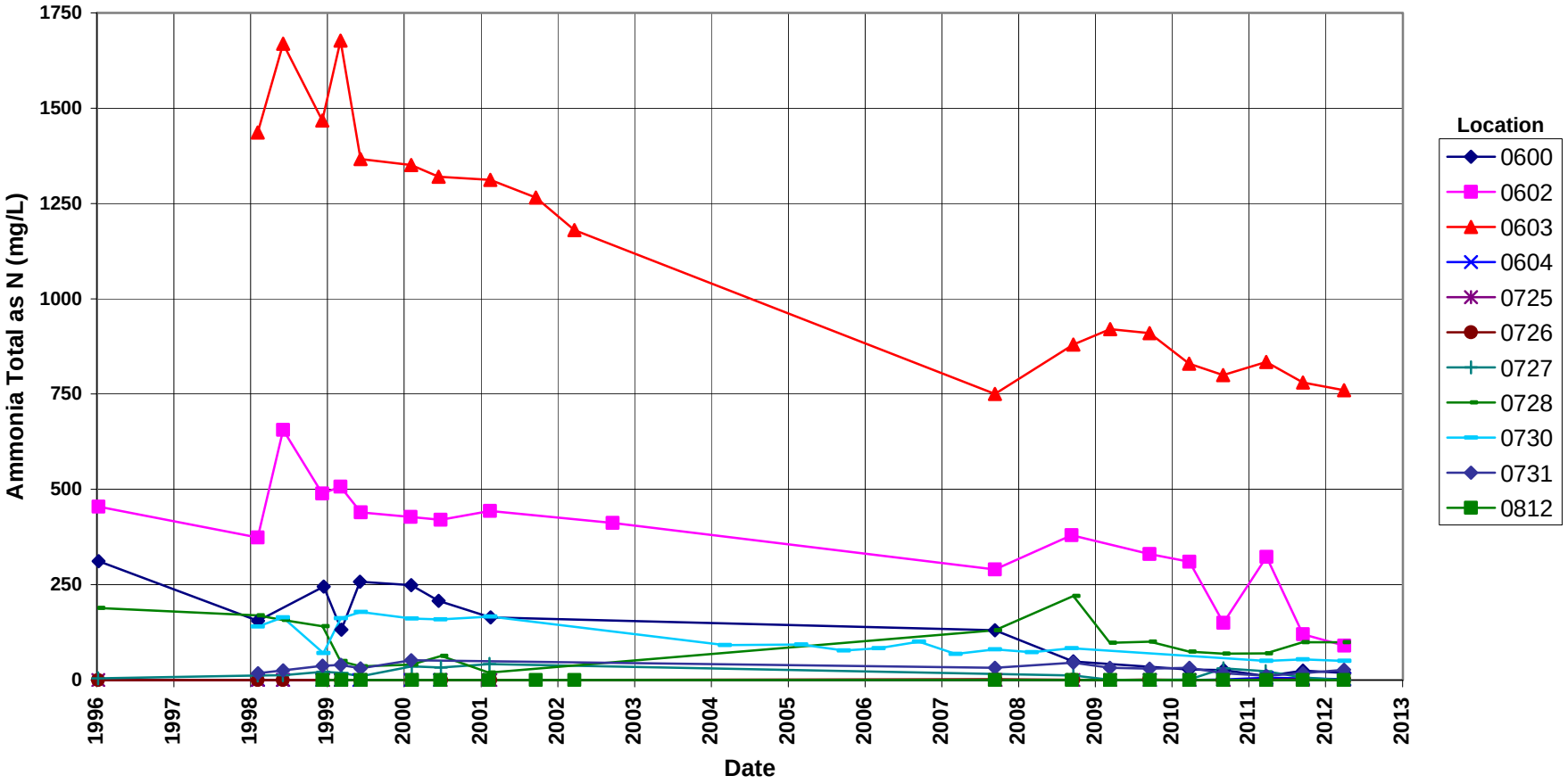
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration



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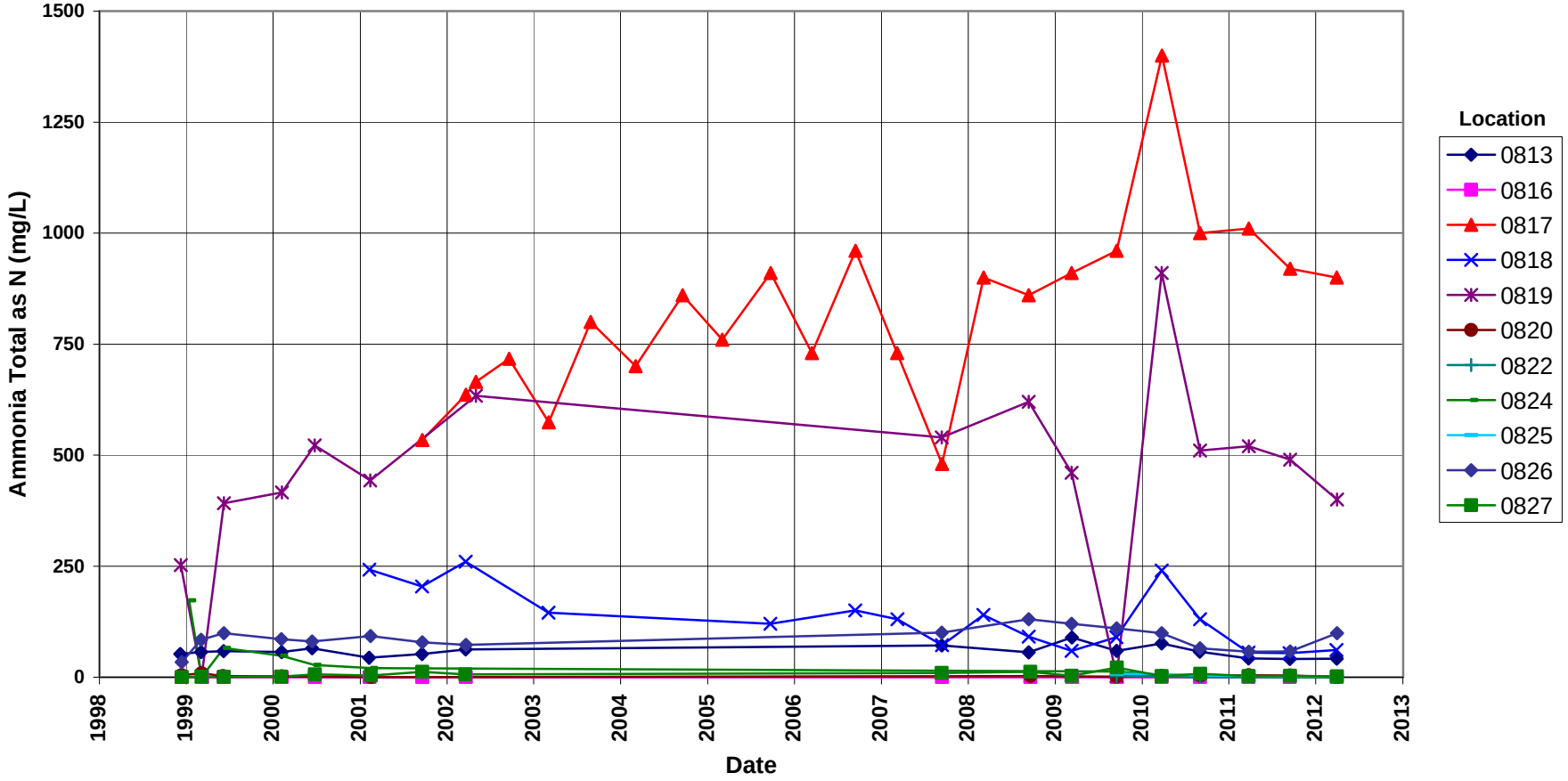
Ammonia Total as N Concentration



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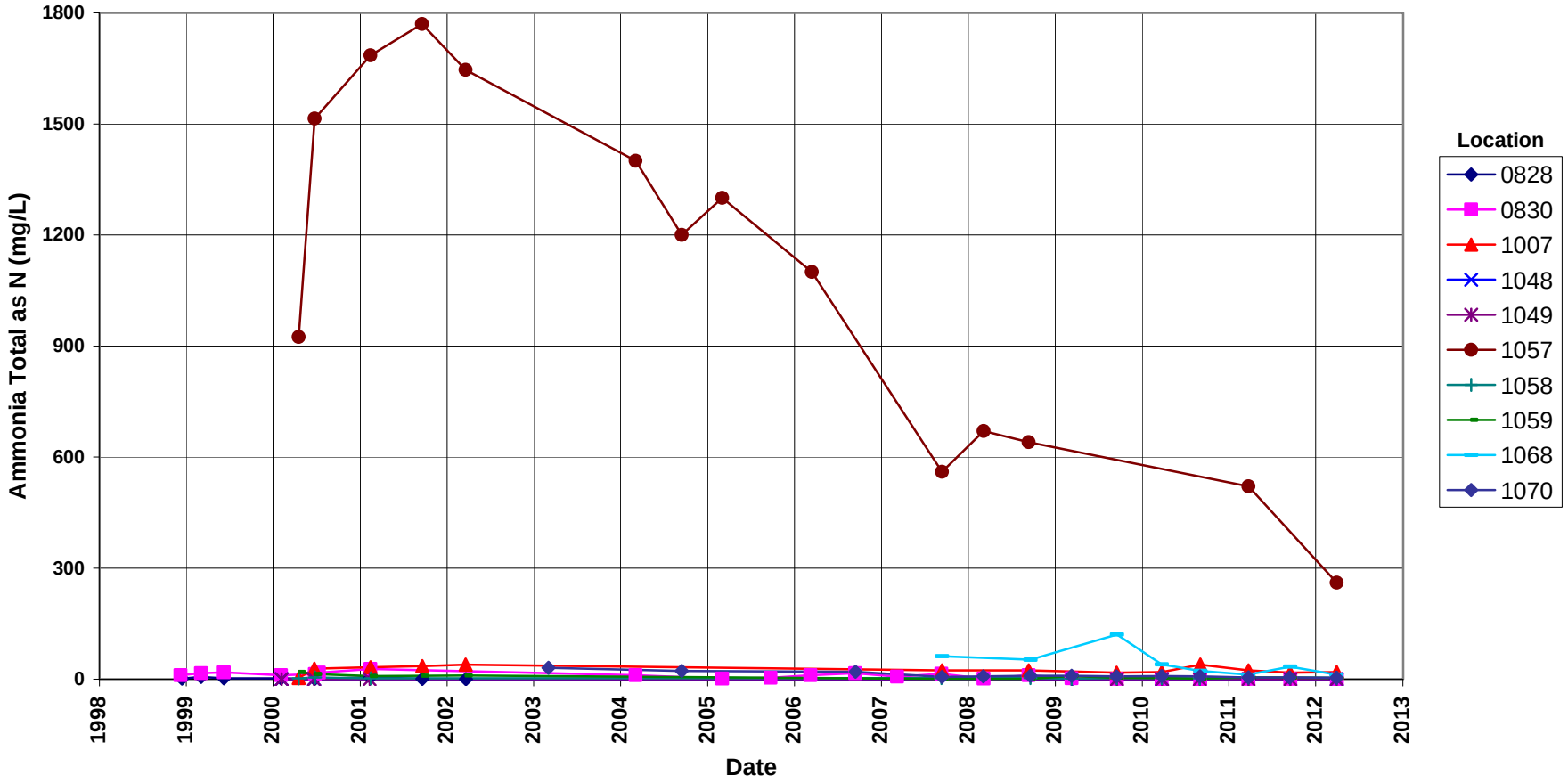

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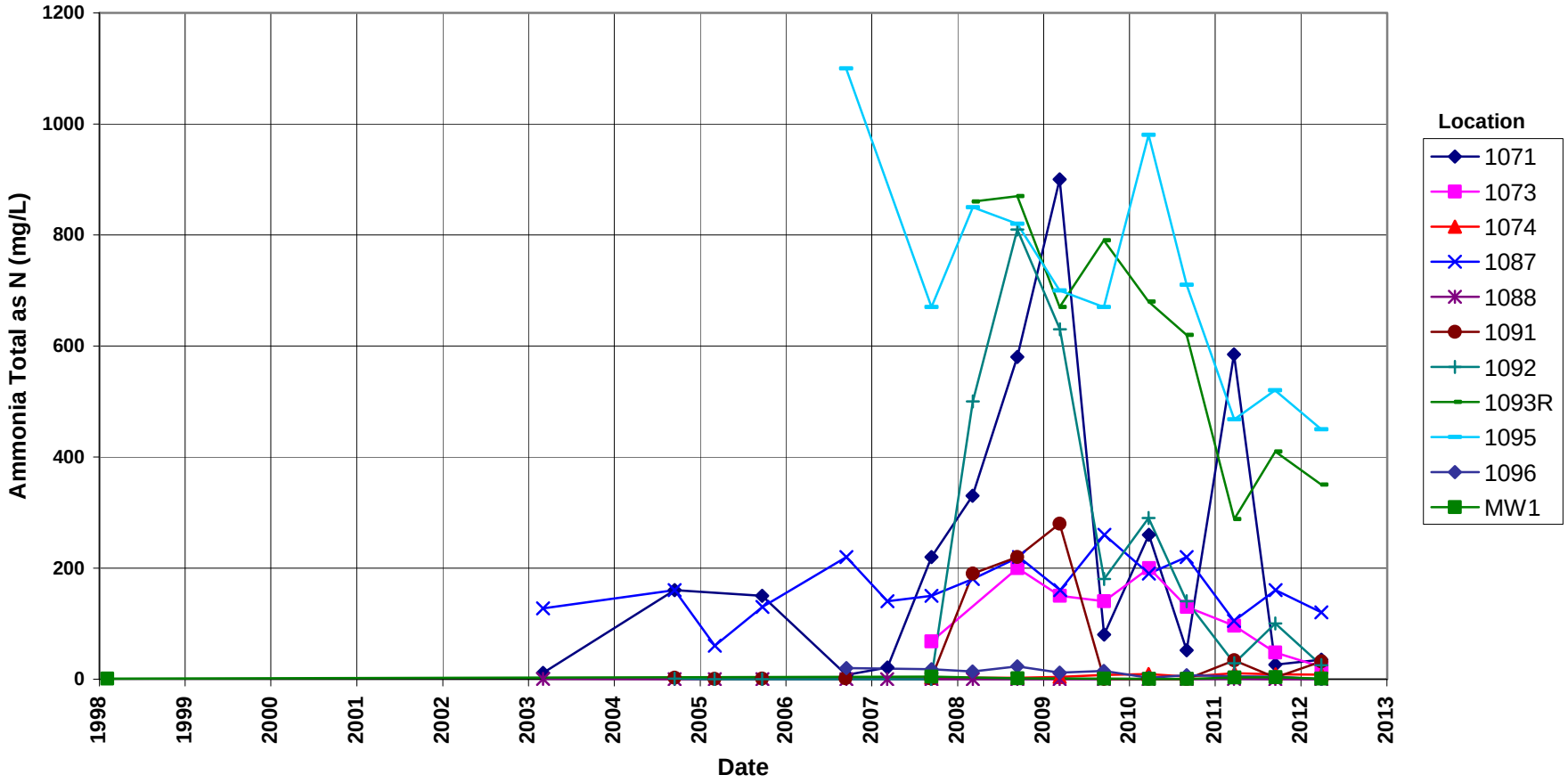
Ammonia Total as N Concentration



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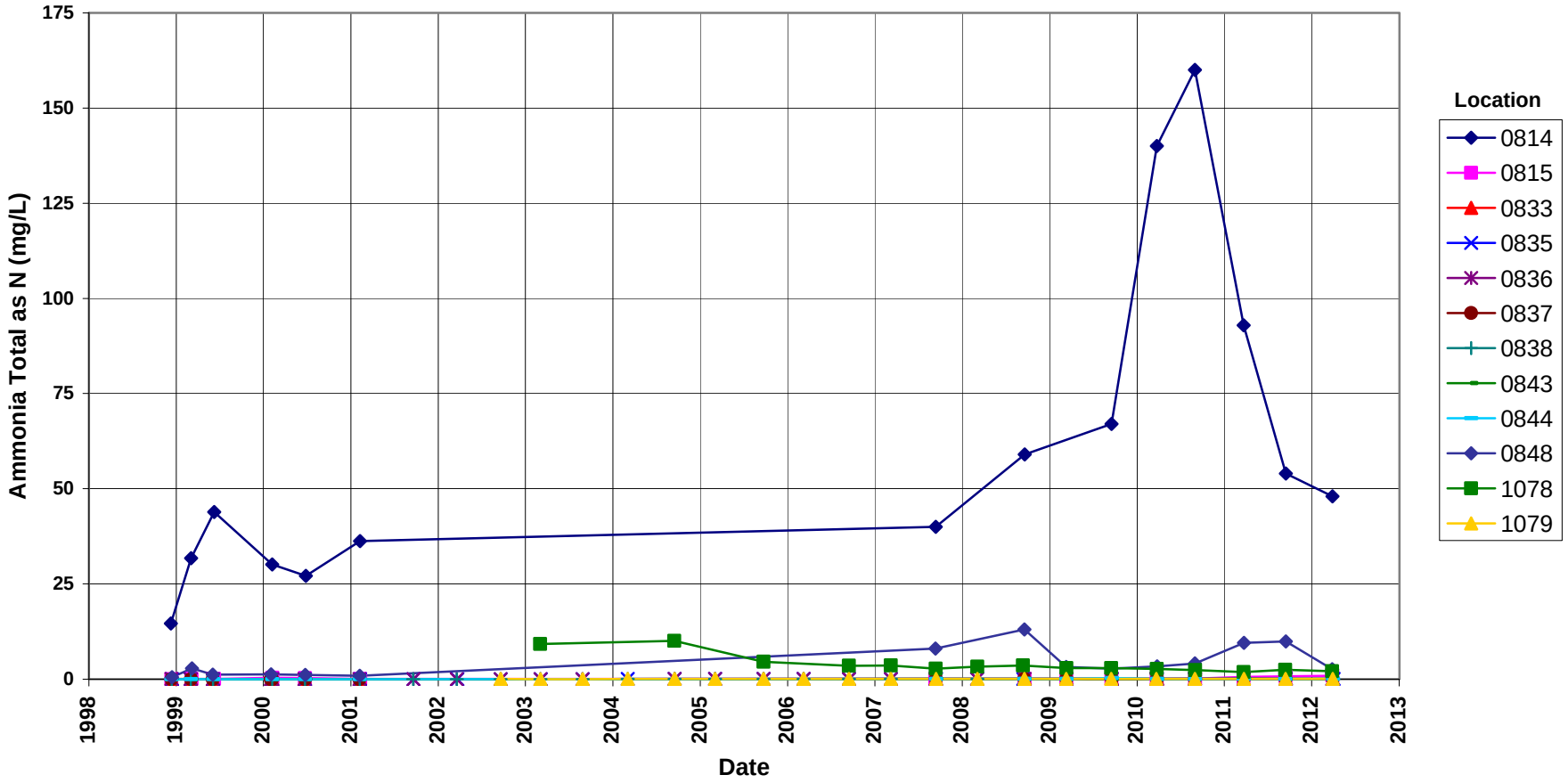
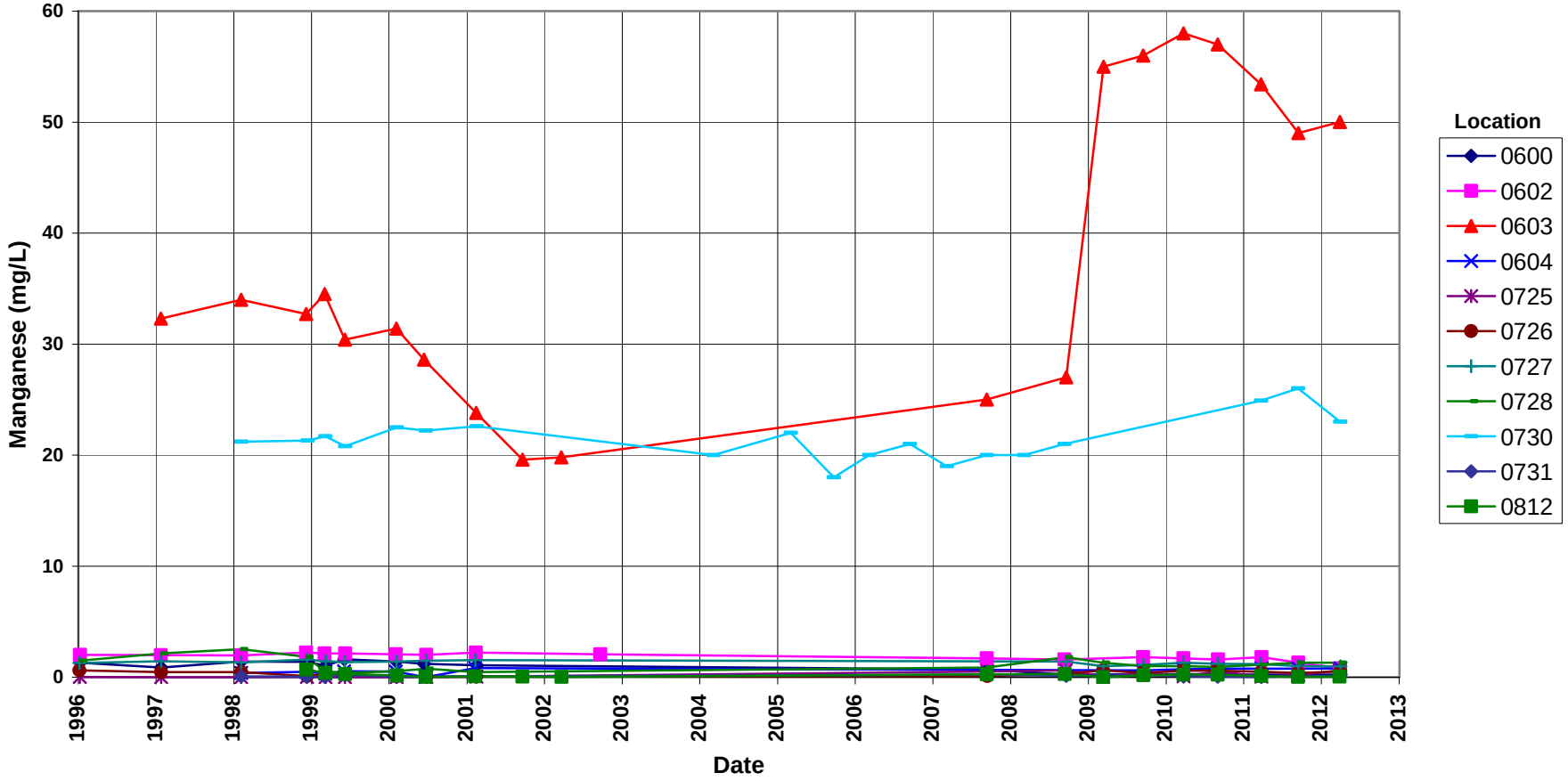
Ammonia Total as N Concentration



Shiprock Disposal Site (Terrace)
Manganese Concentration



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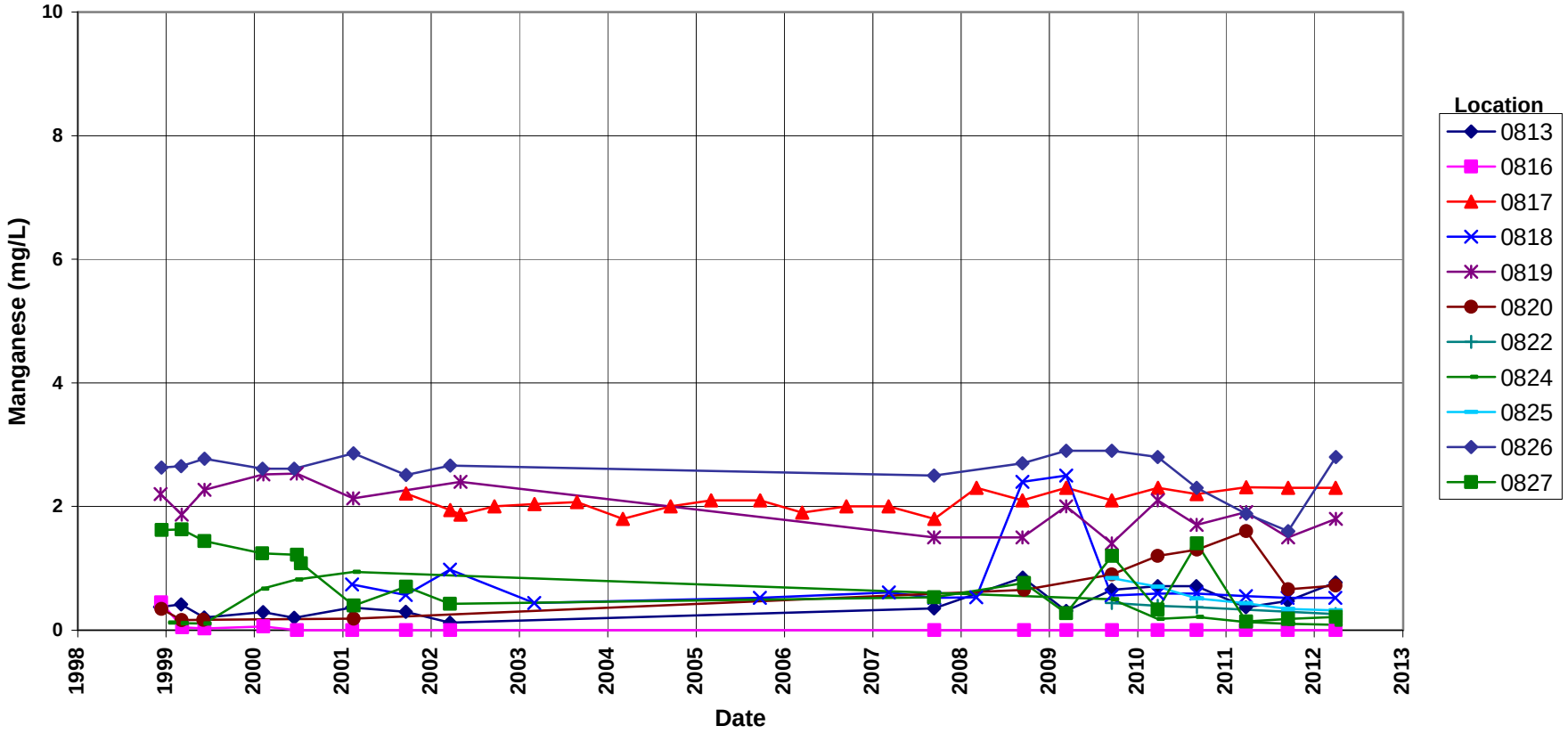
Manganese Concentration



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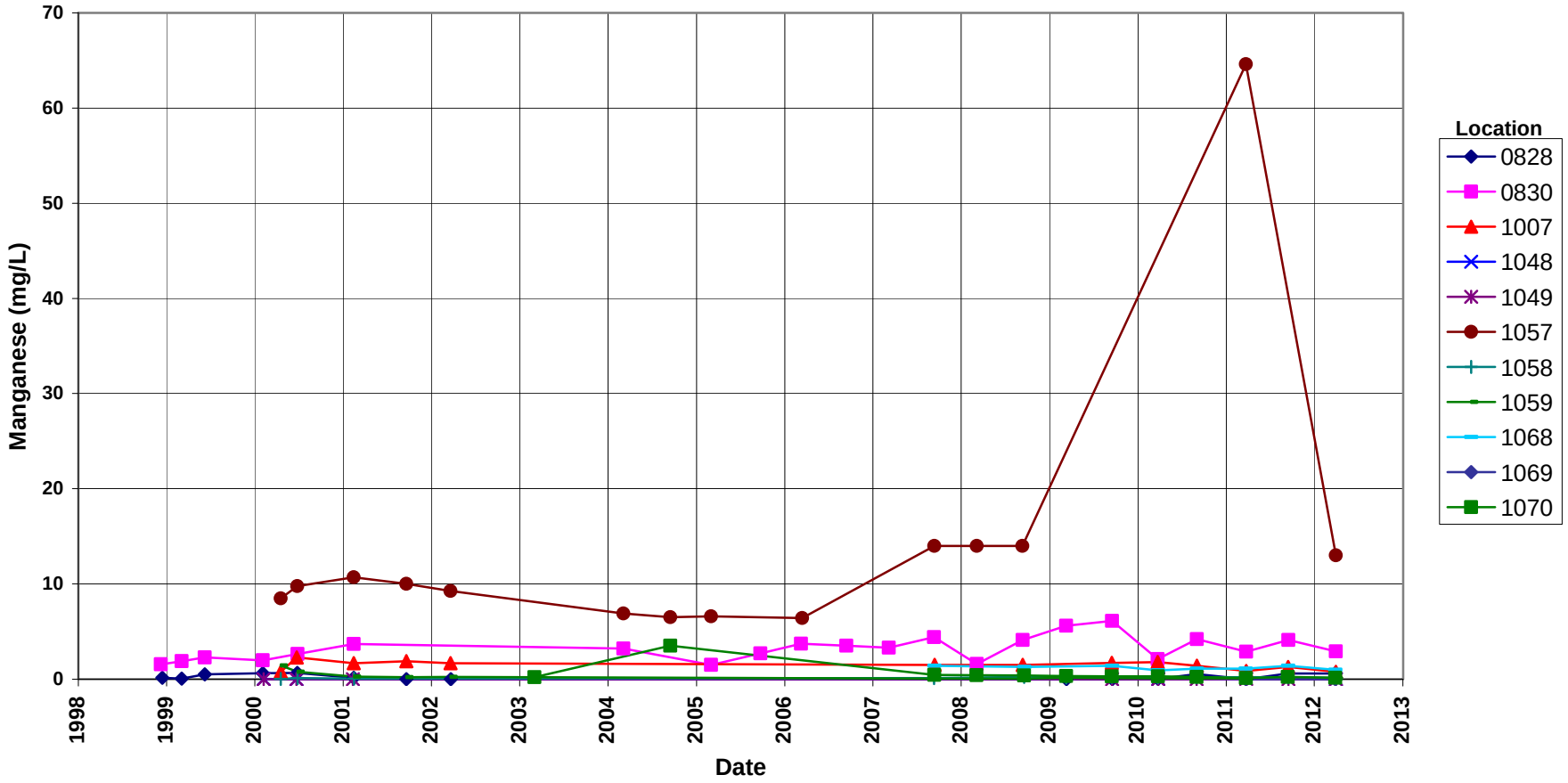
Manganese Concentration



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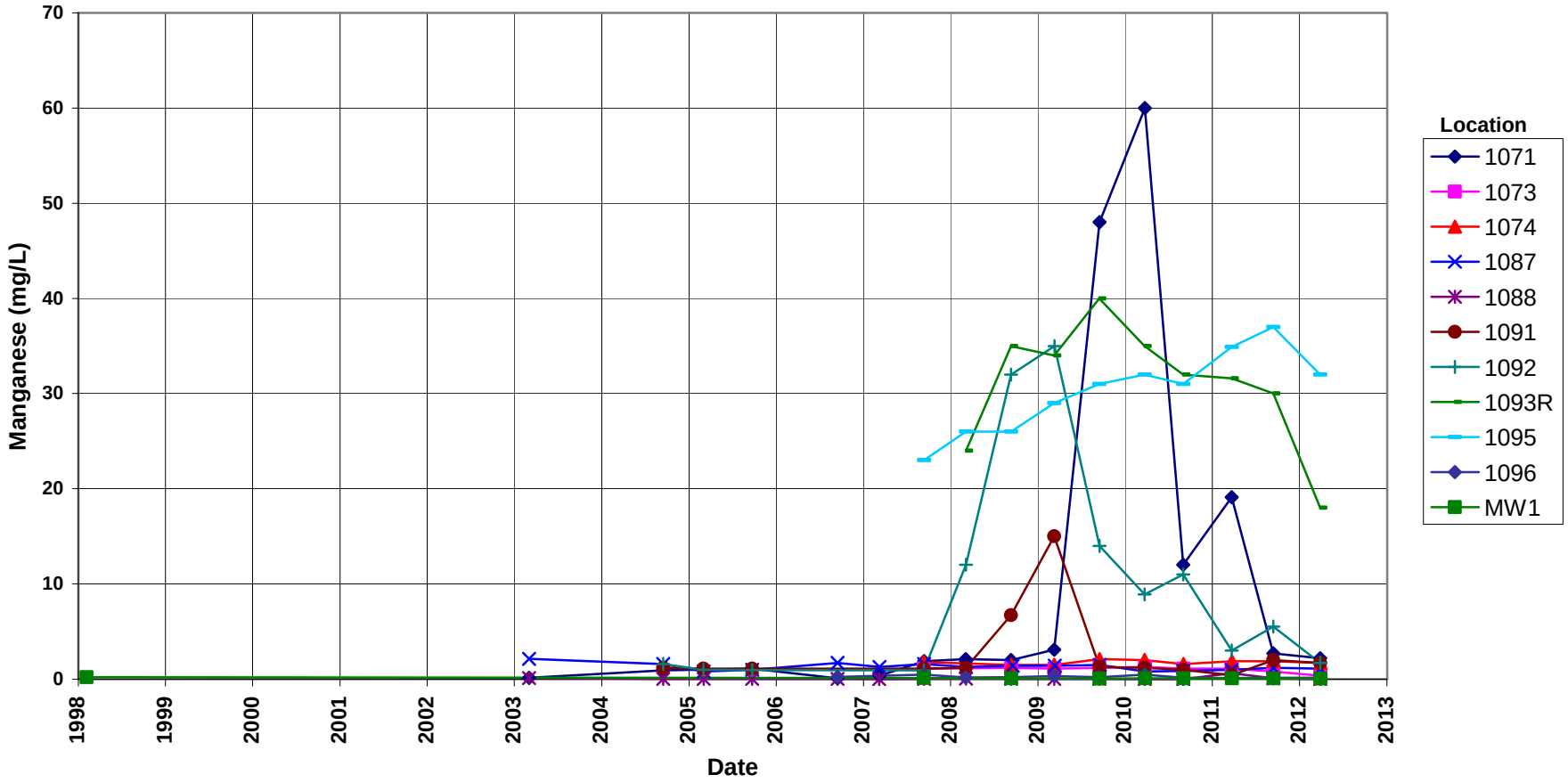
Manganese Concentration



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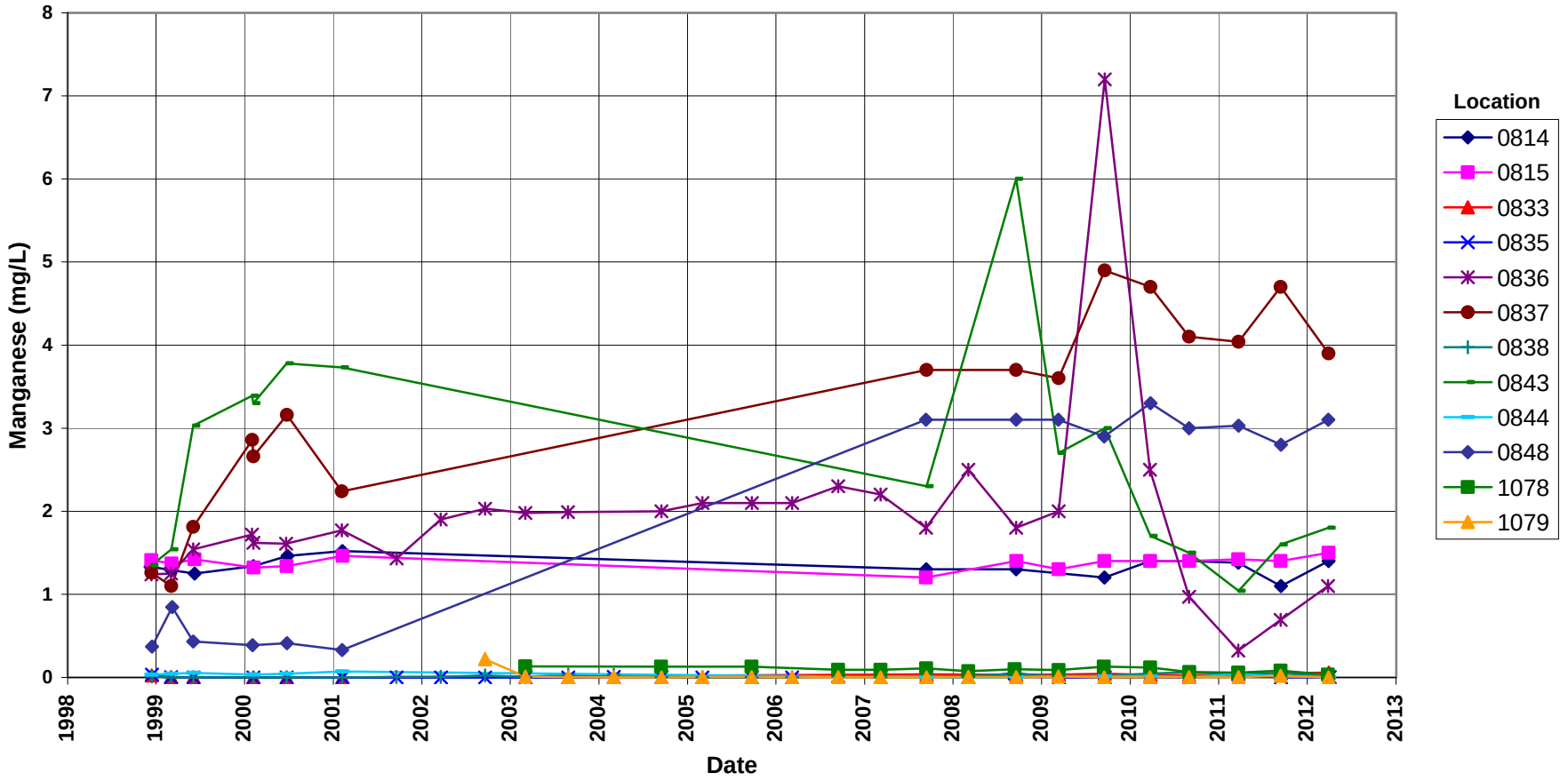
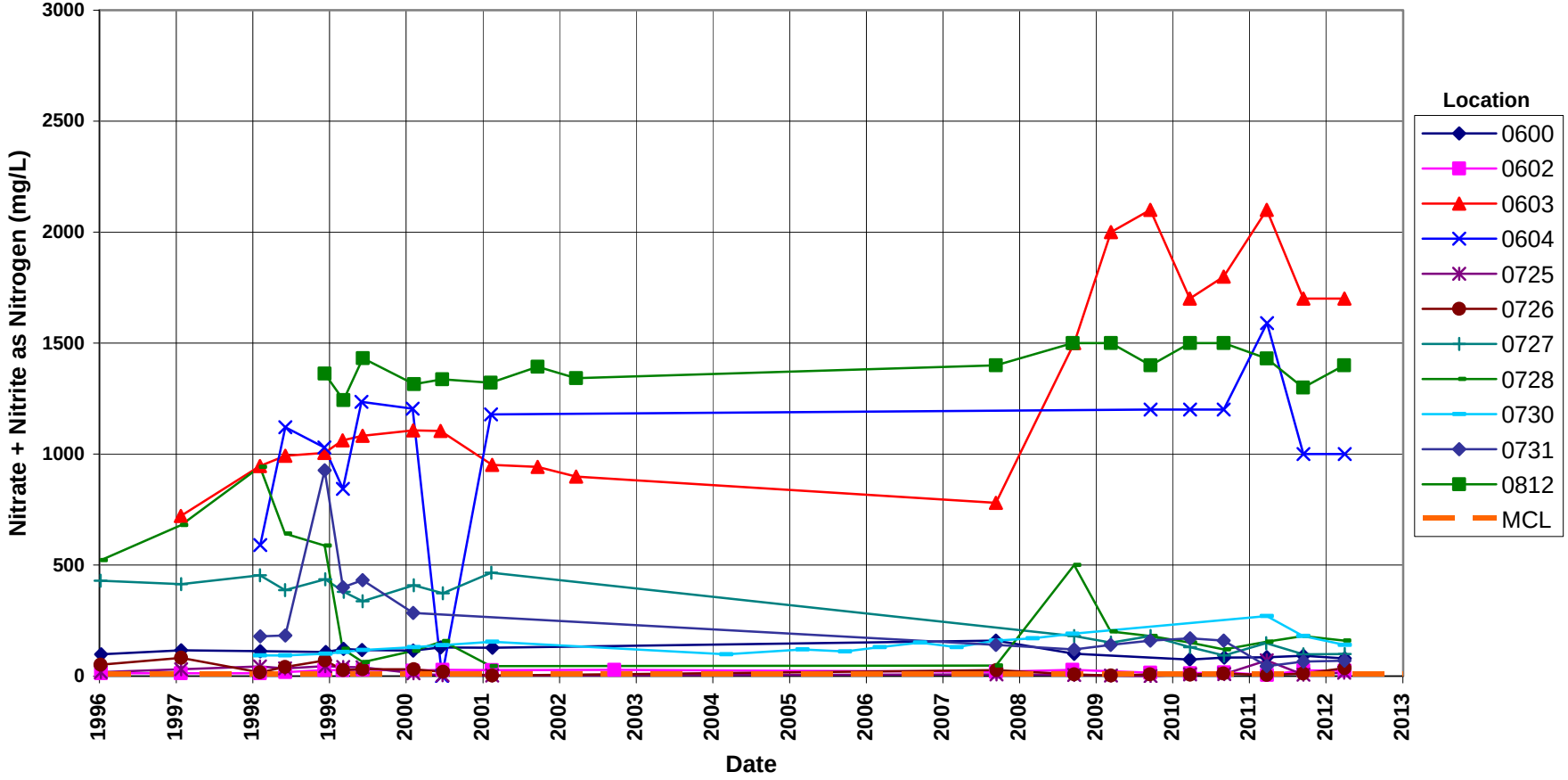
Manganese Concentration



Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Limit (MCL) = 10 mg/L



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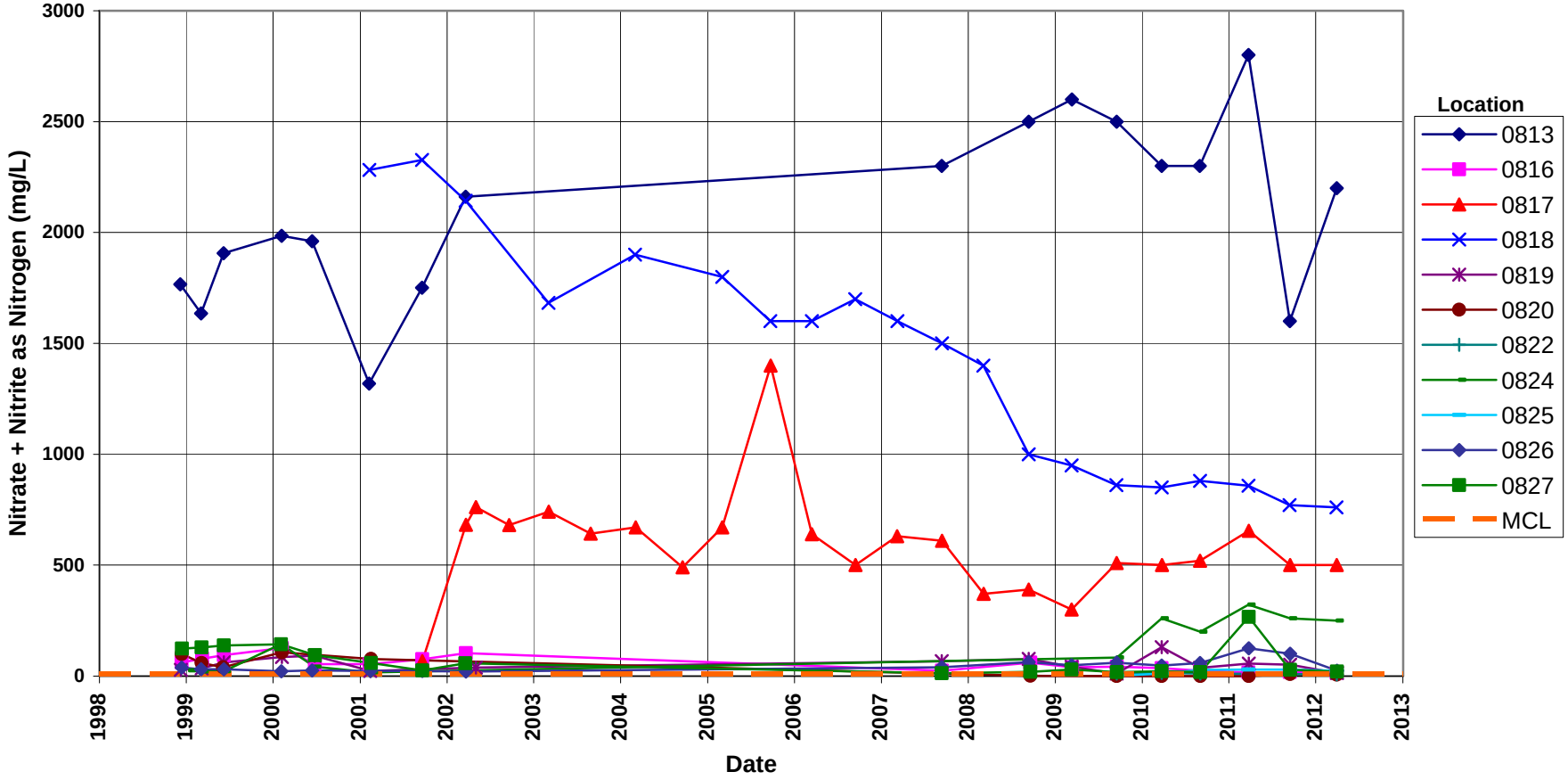
Maximum Contaminant Limit (MCL) = 10 mg/L



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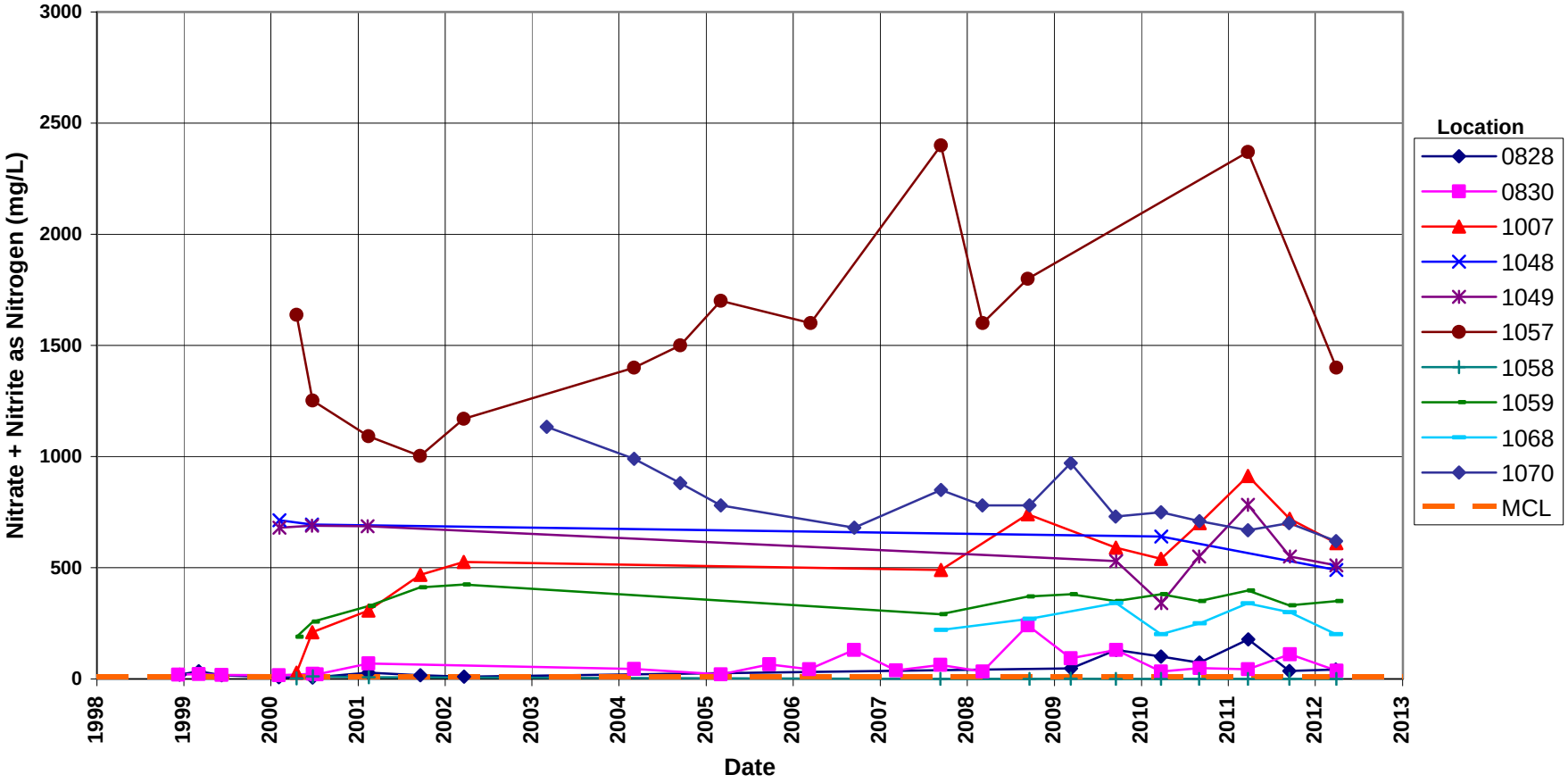
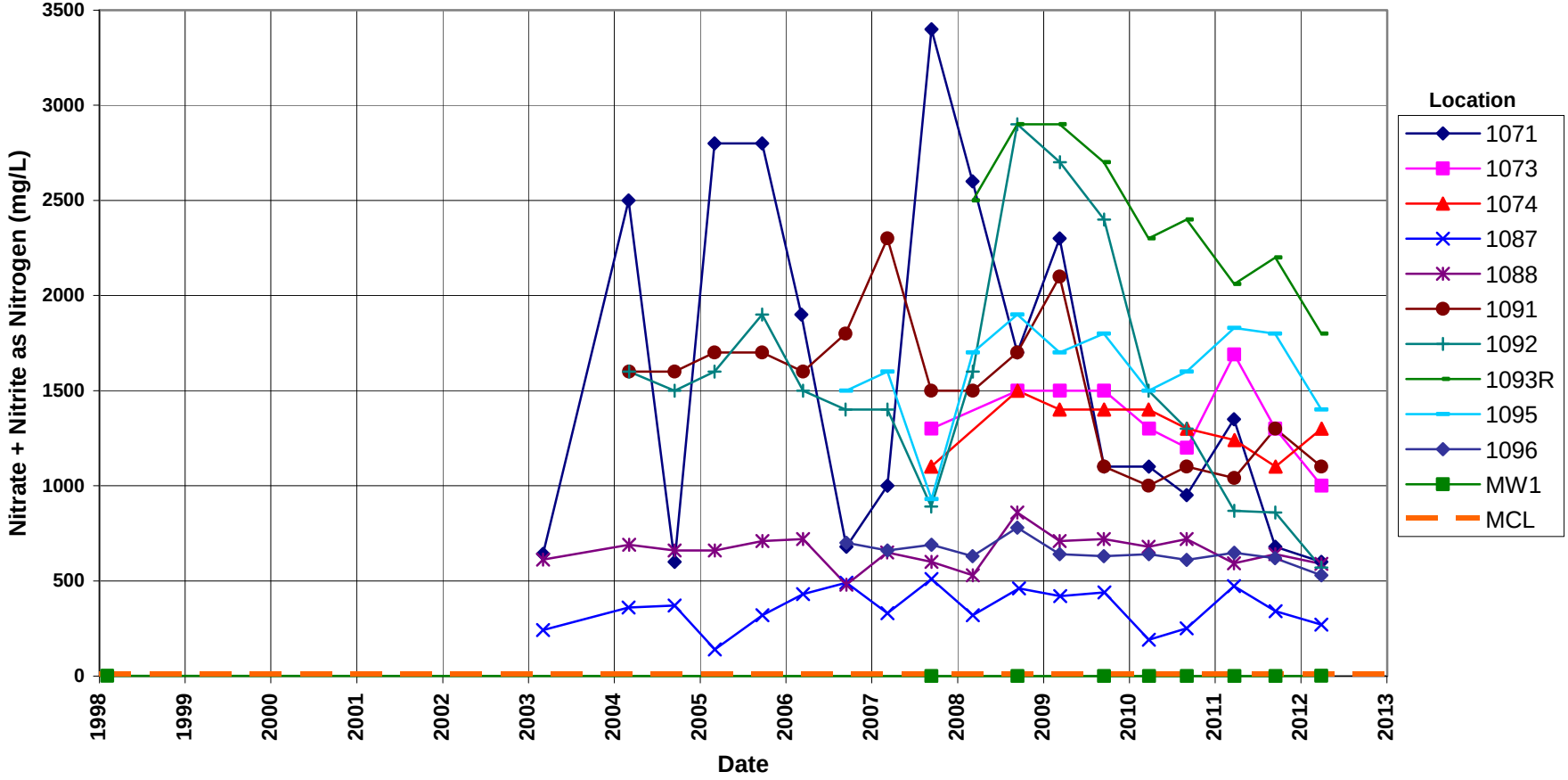
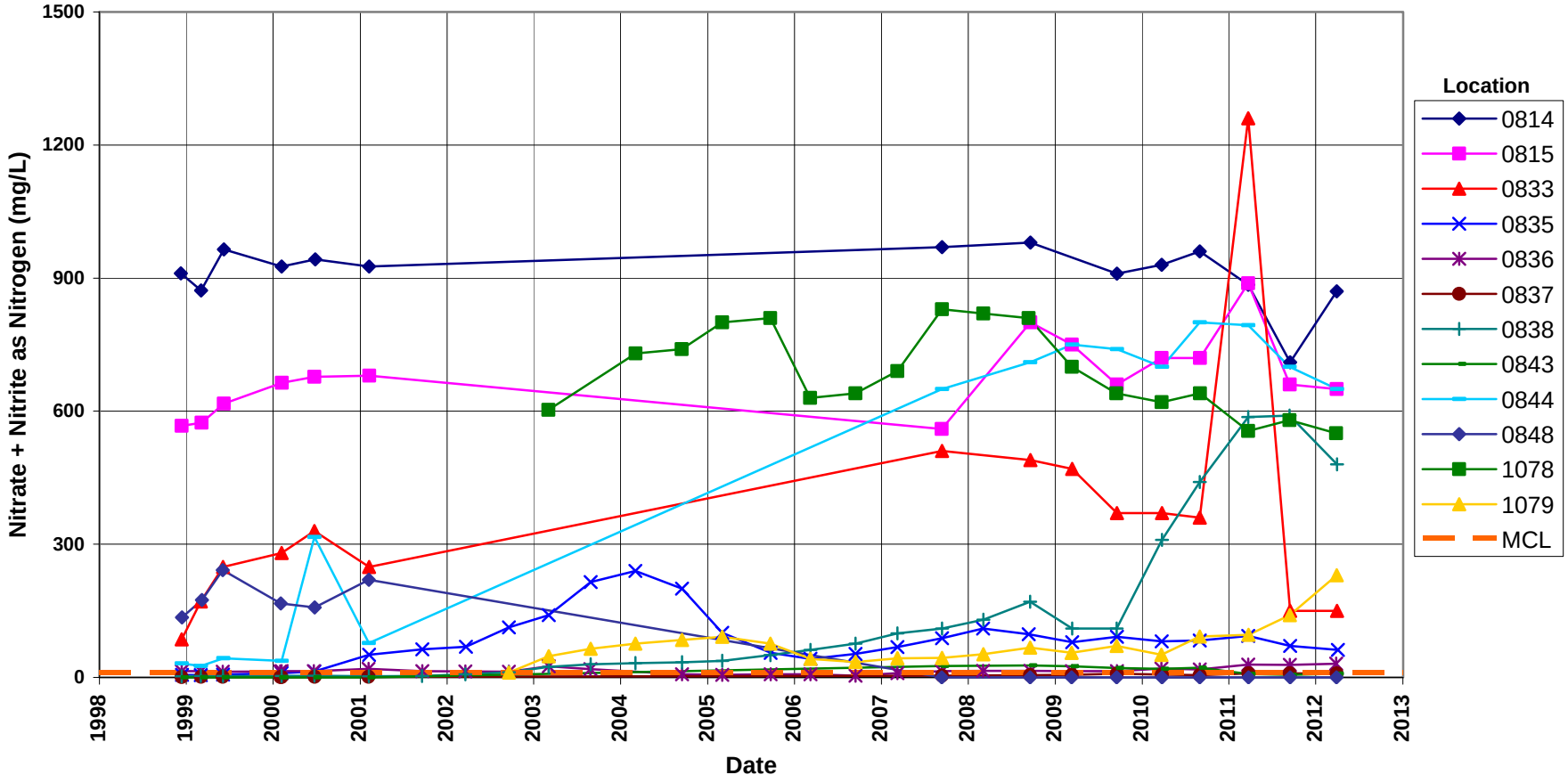


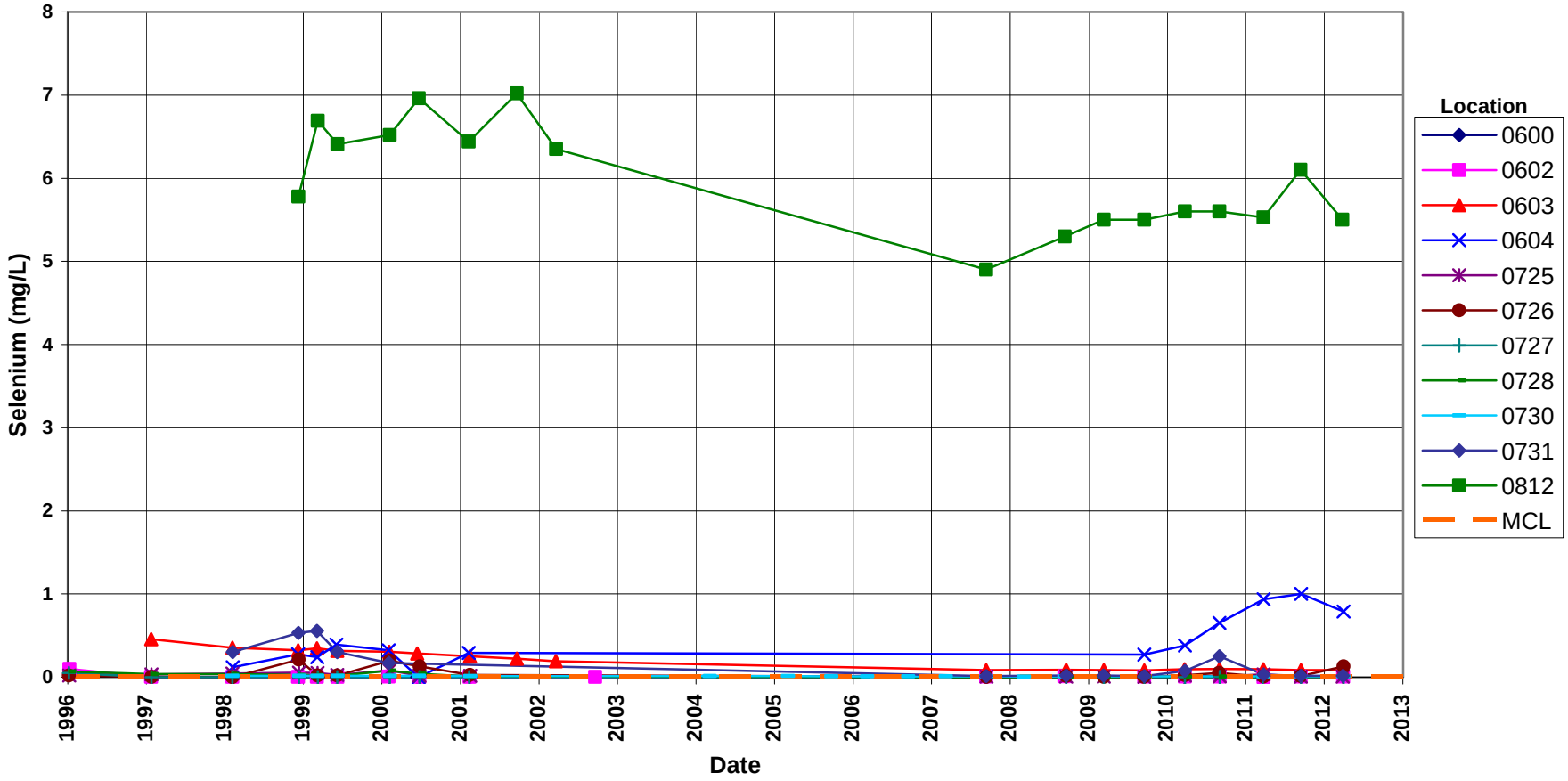
Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Limit (MCL) = 10 mg/L



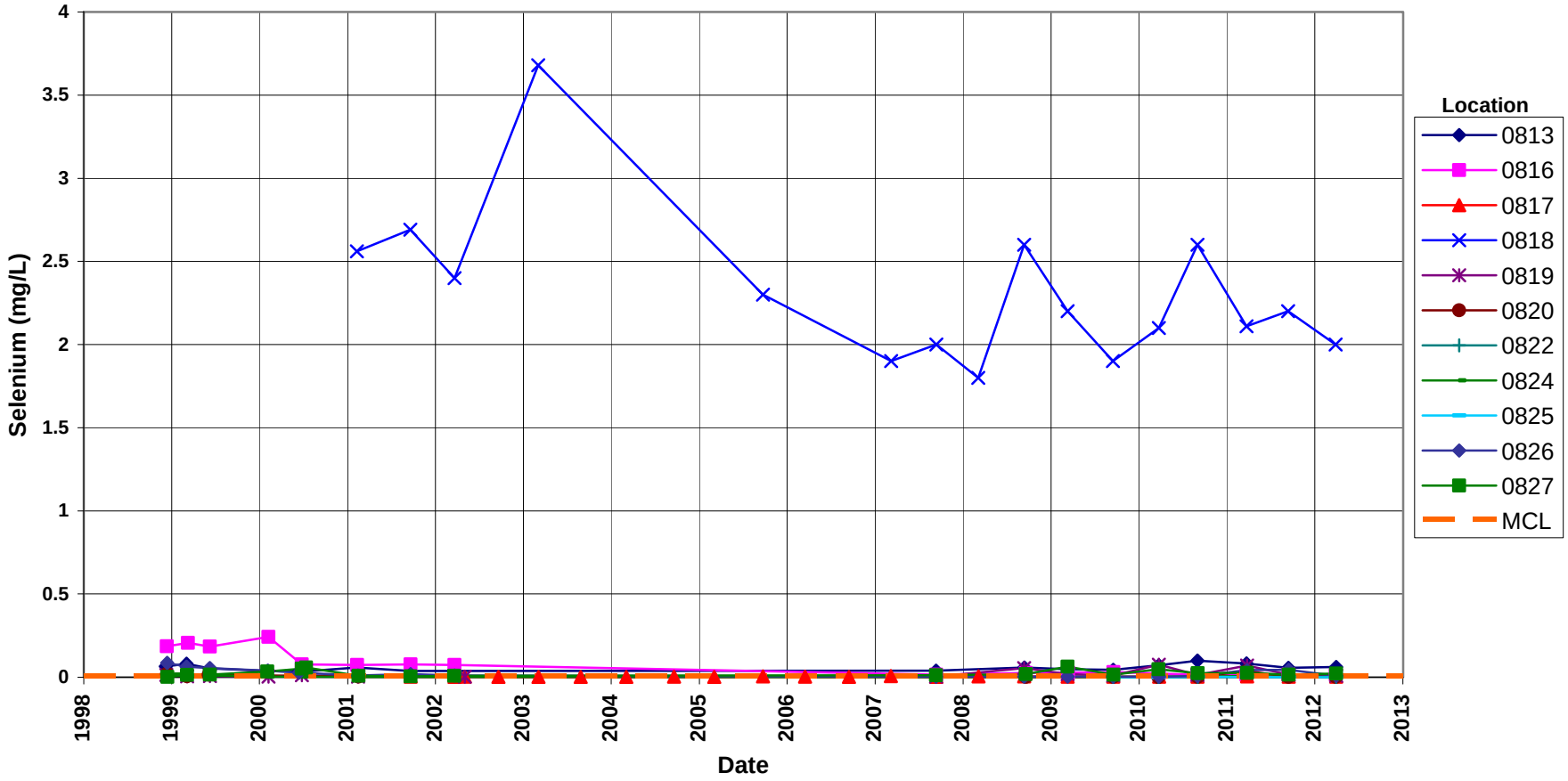
Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L



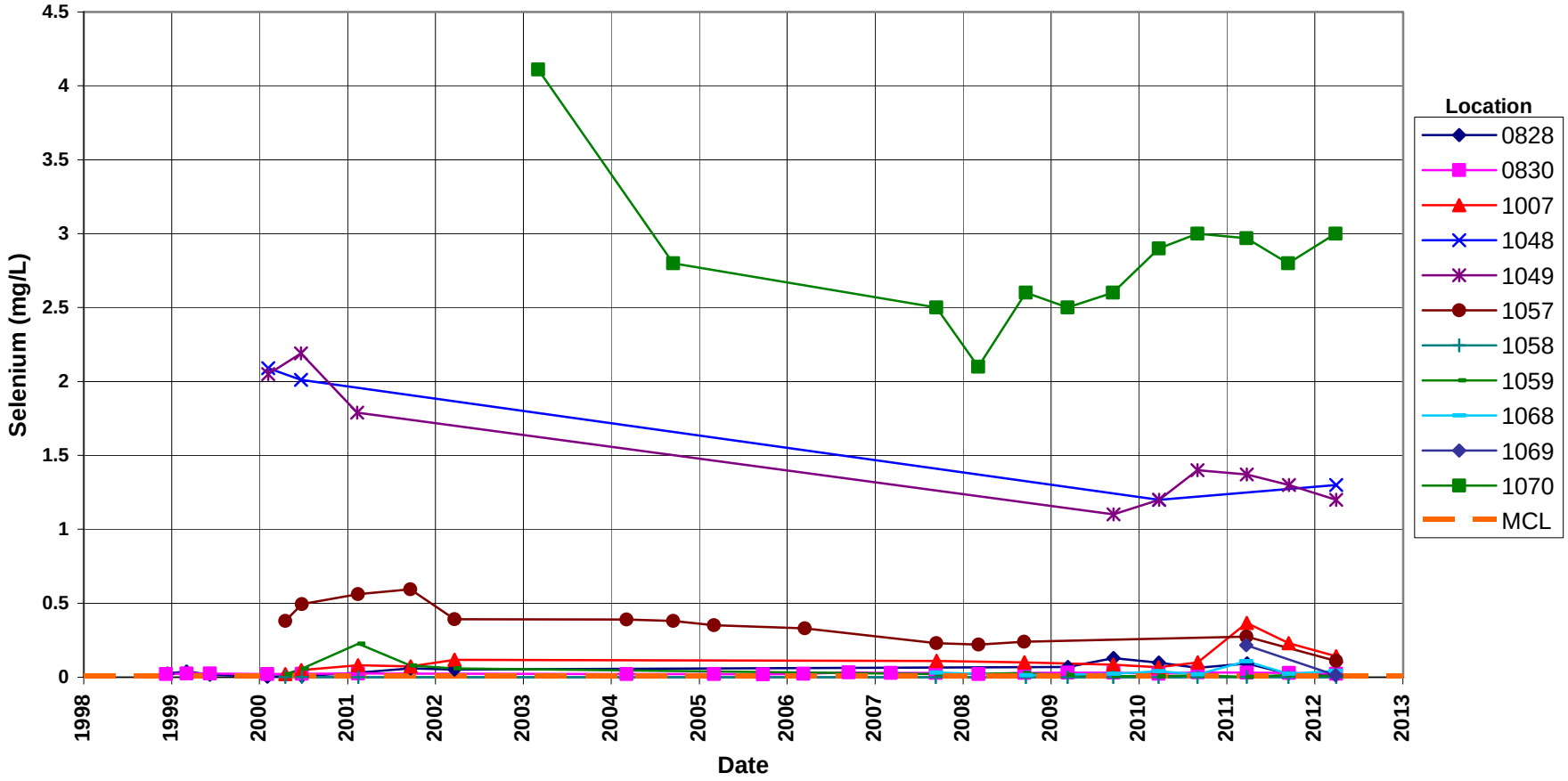
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Limit (MCL) = 0.01 mg/L



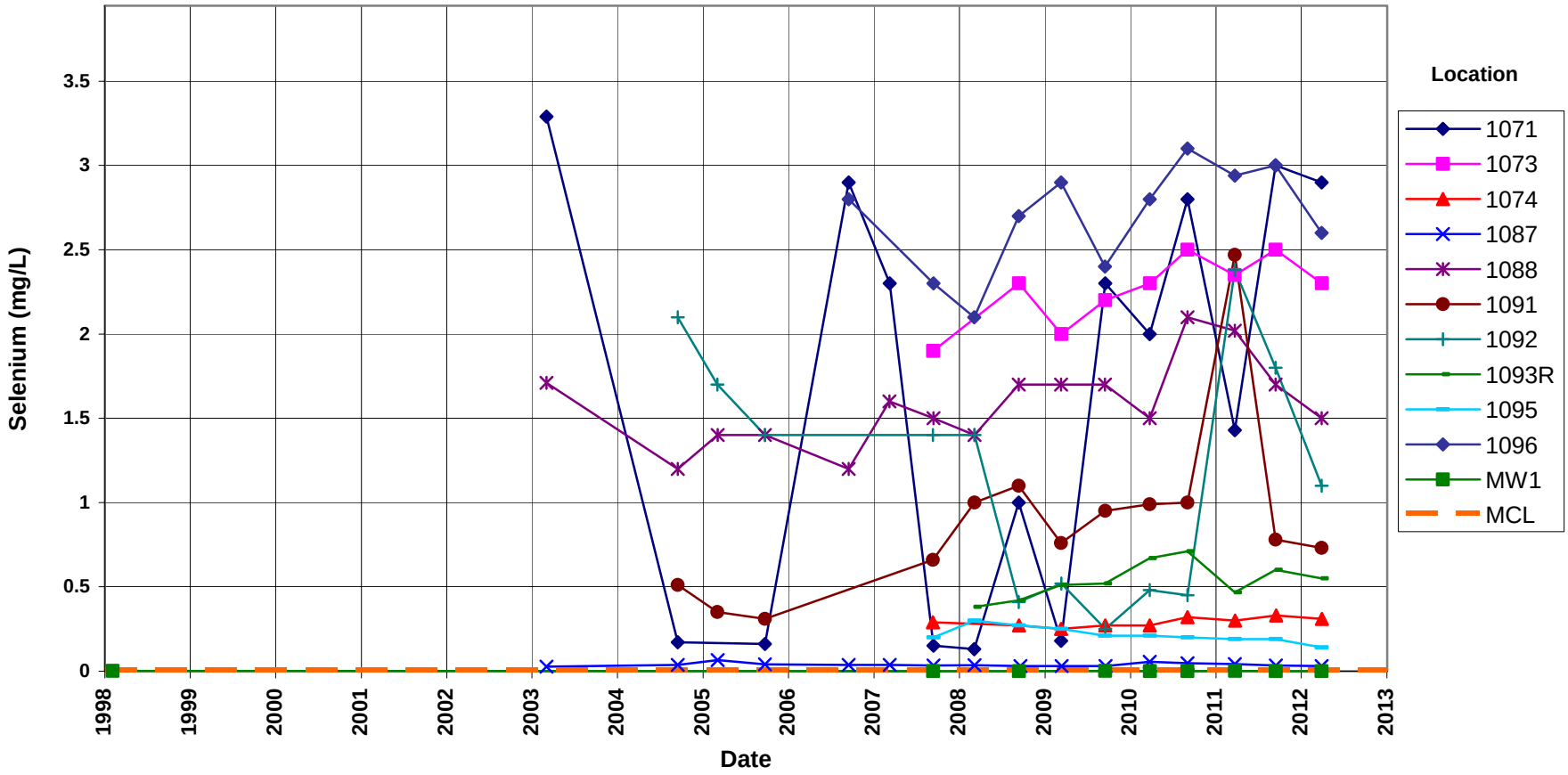
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Limit (MCL) = 0.01 mg/L



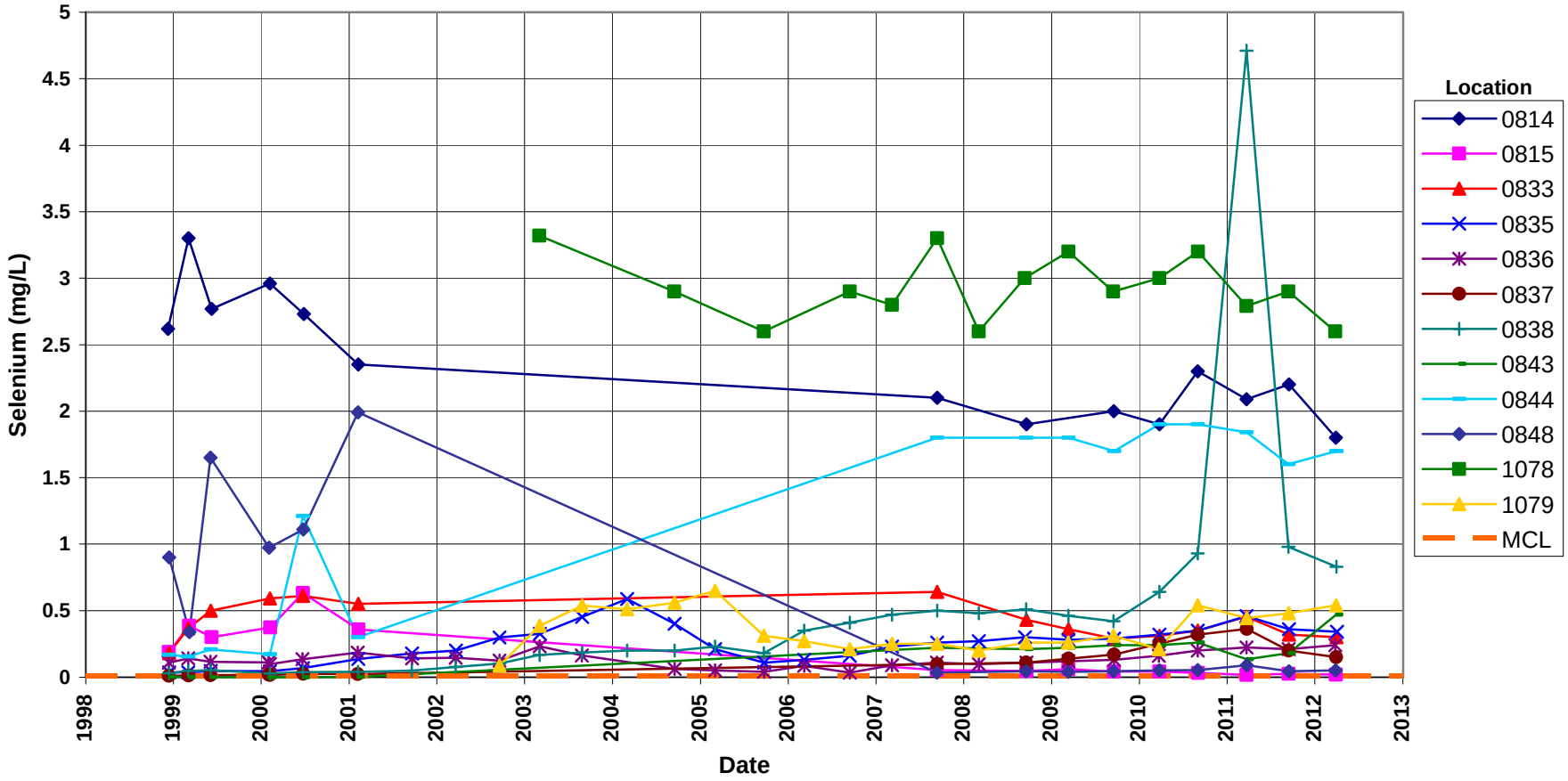
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Limit (MCL) = 0.01 mg/L



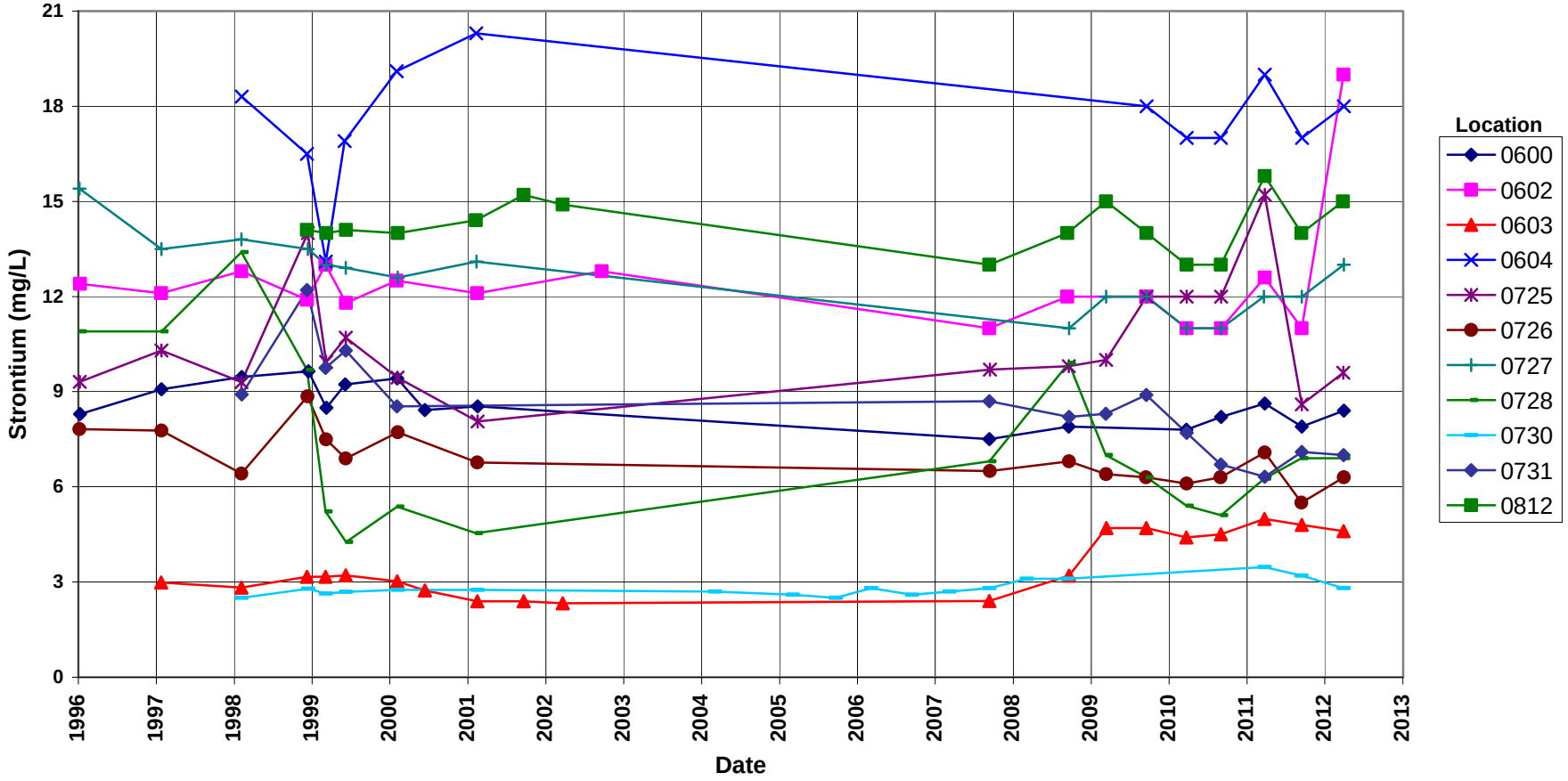
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Limit (MCL) = 0.01 mg/L



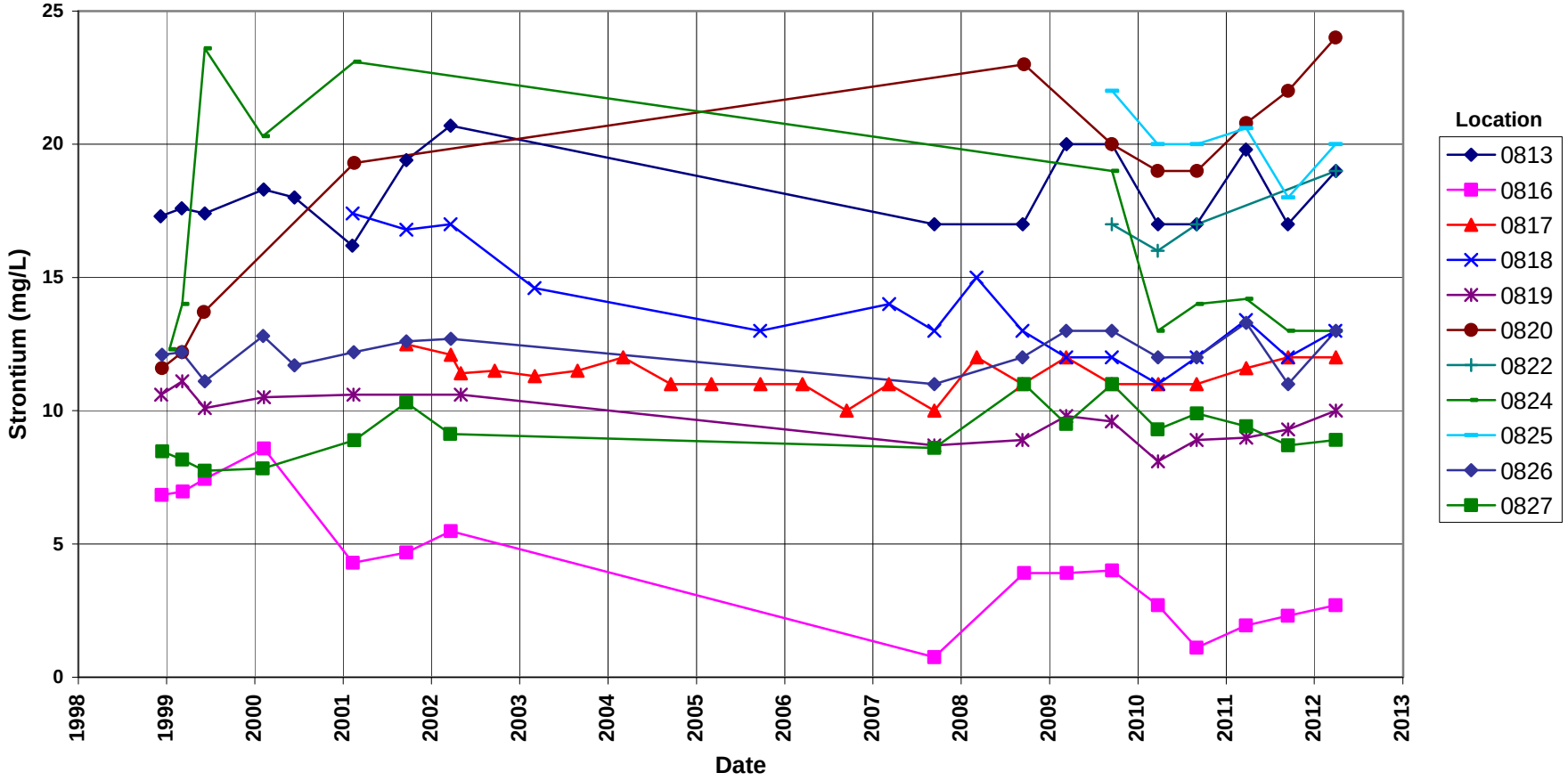
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Limit (MCL) = 0.01 mg/L



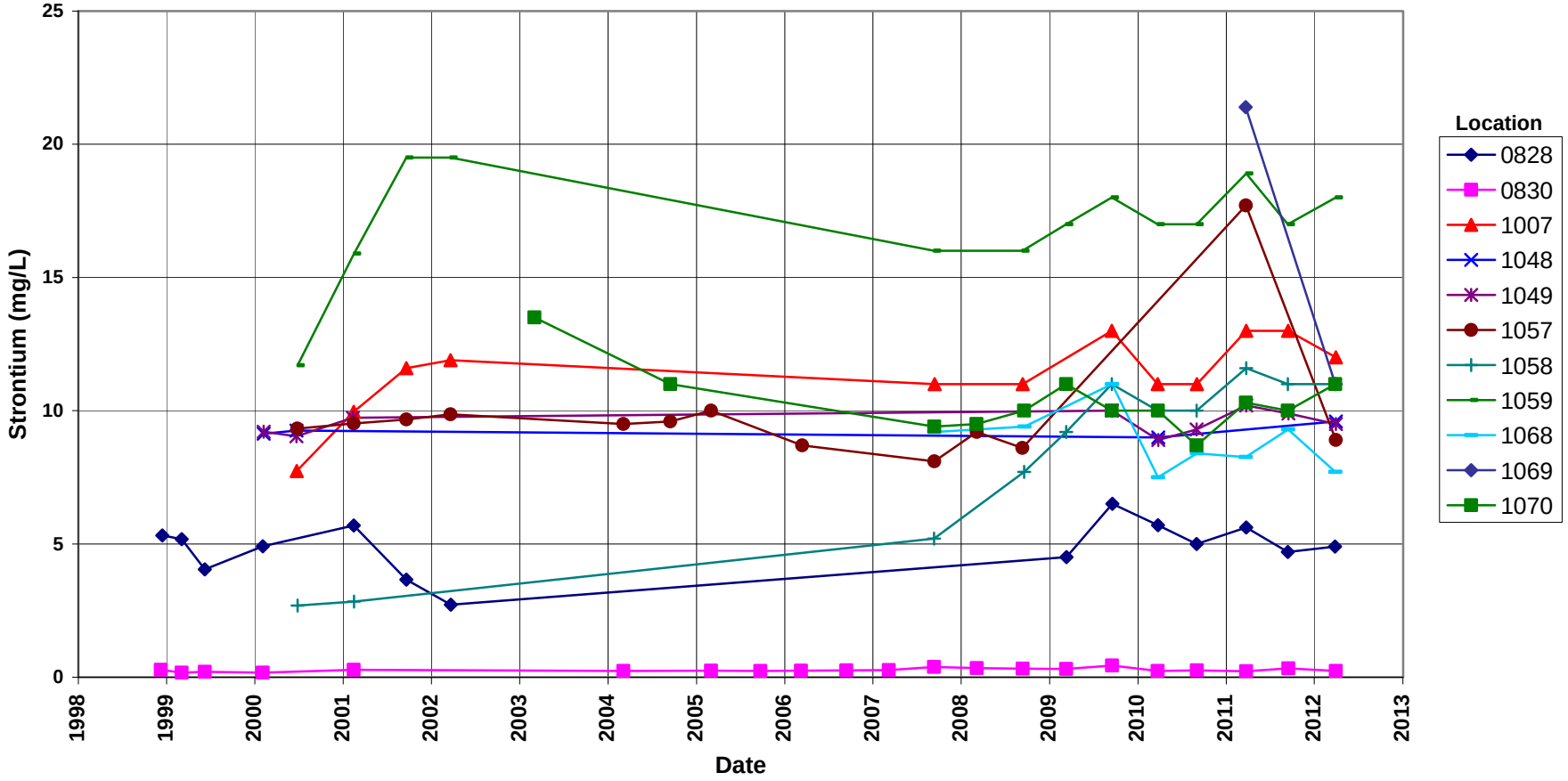
Shiprock Disposal Site (Terrace)
Strontium Concentration



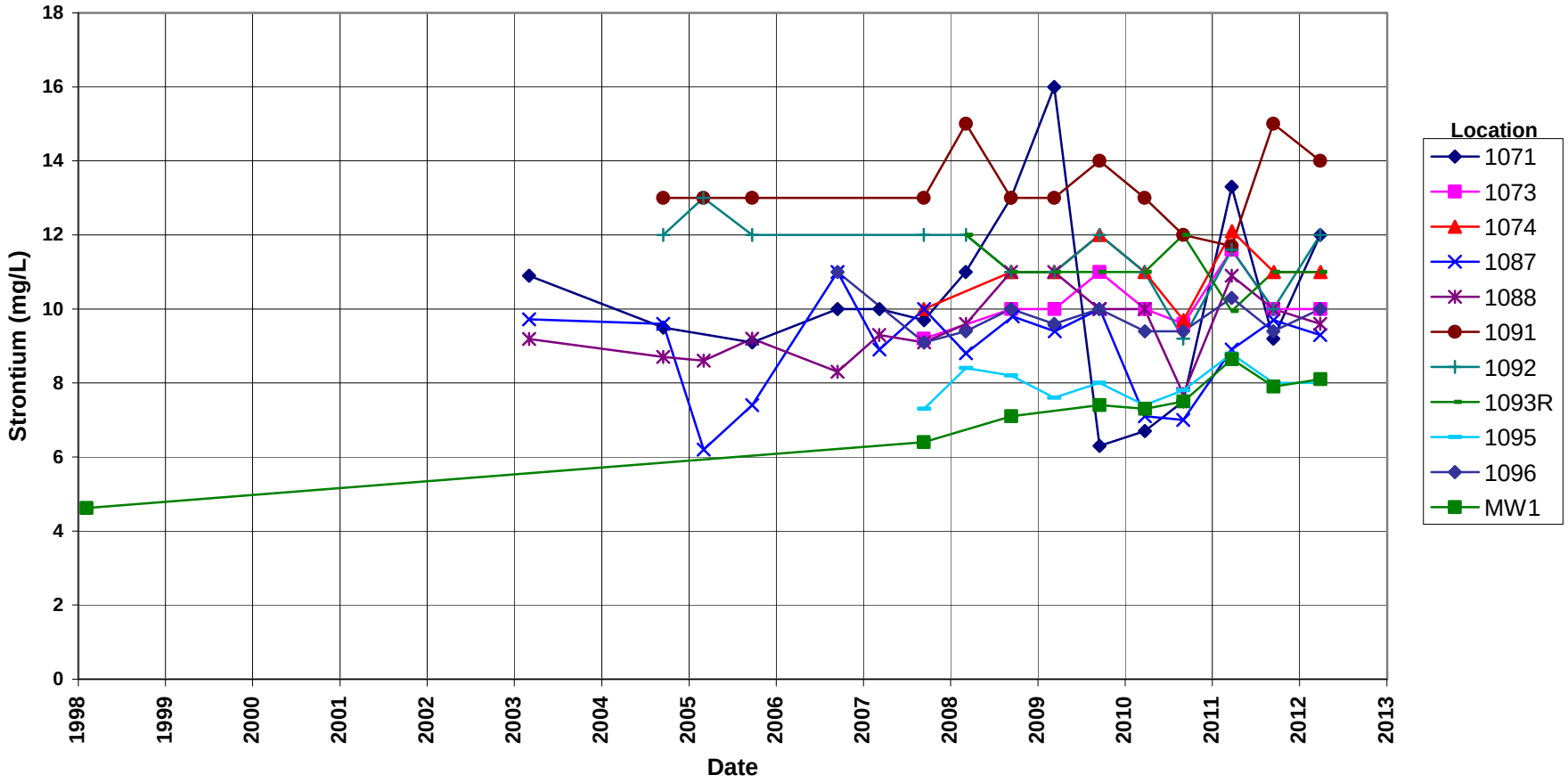
Shiprock Disposal Site (Terrace)
Strontium Concentration



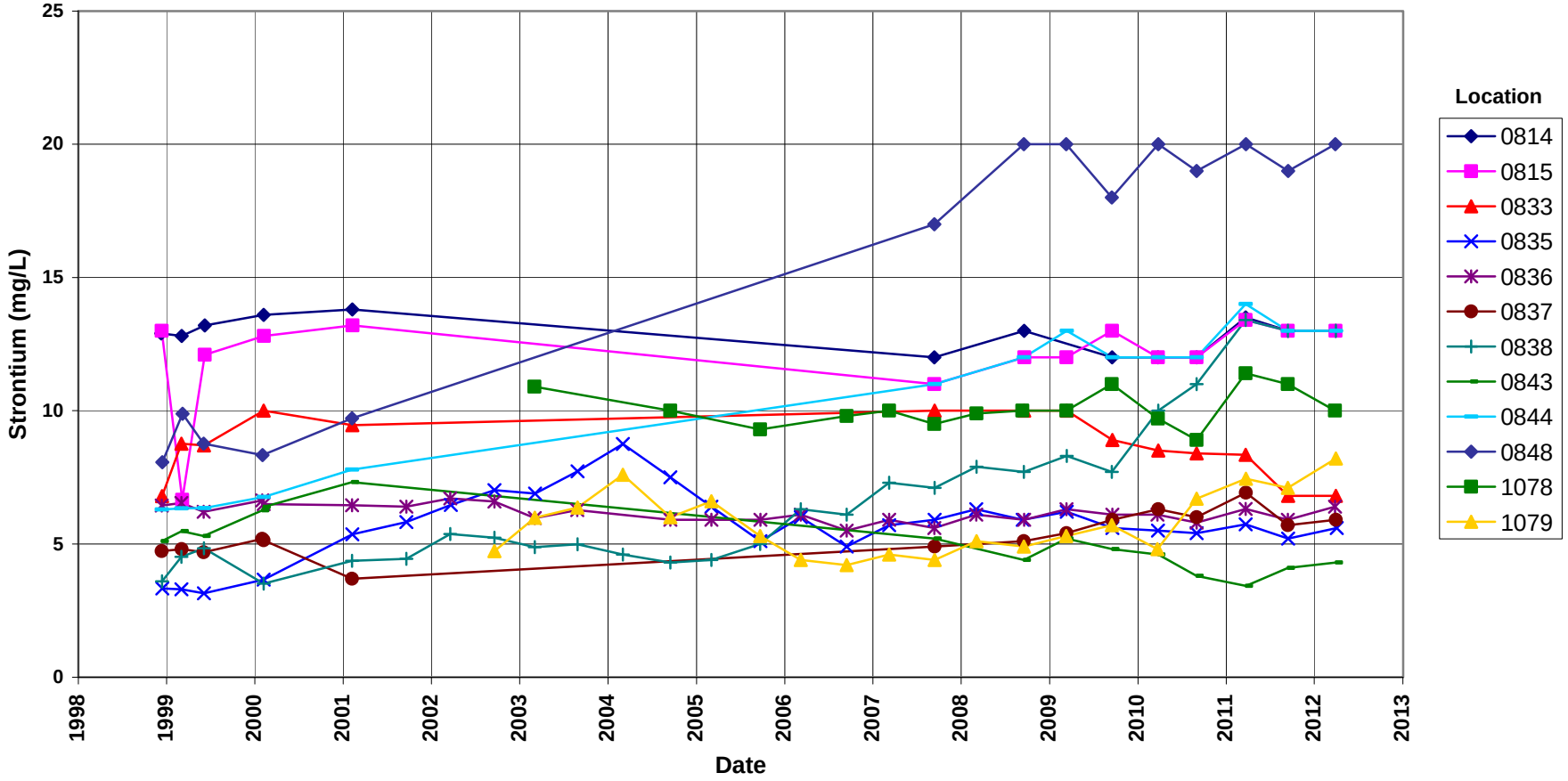
Shiprock Disposal Site (Terrace)
Strontium Concentration



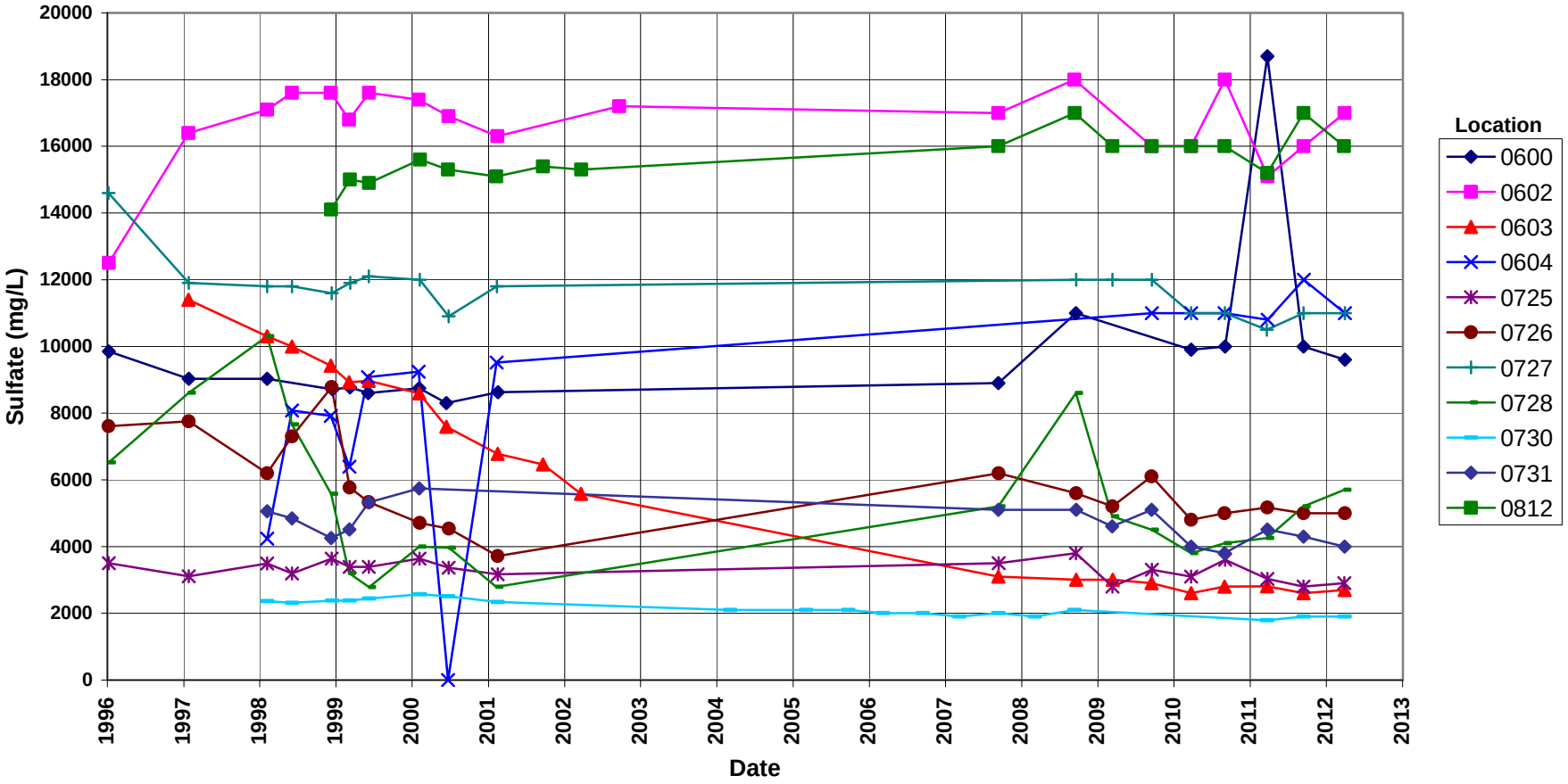
Shiprock Disposal Site (Terrace)
Strontium Concentration



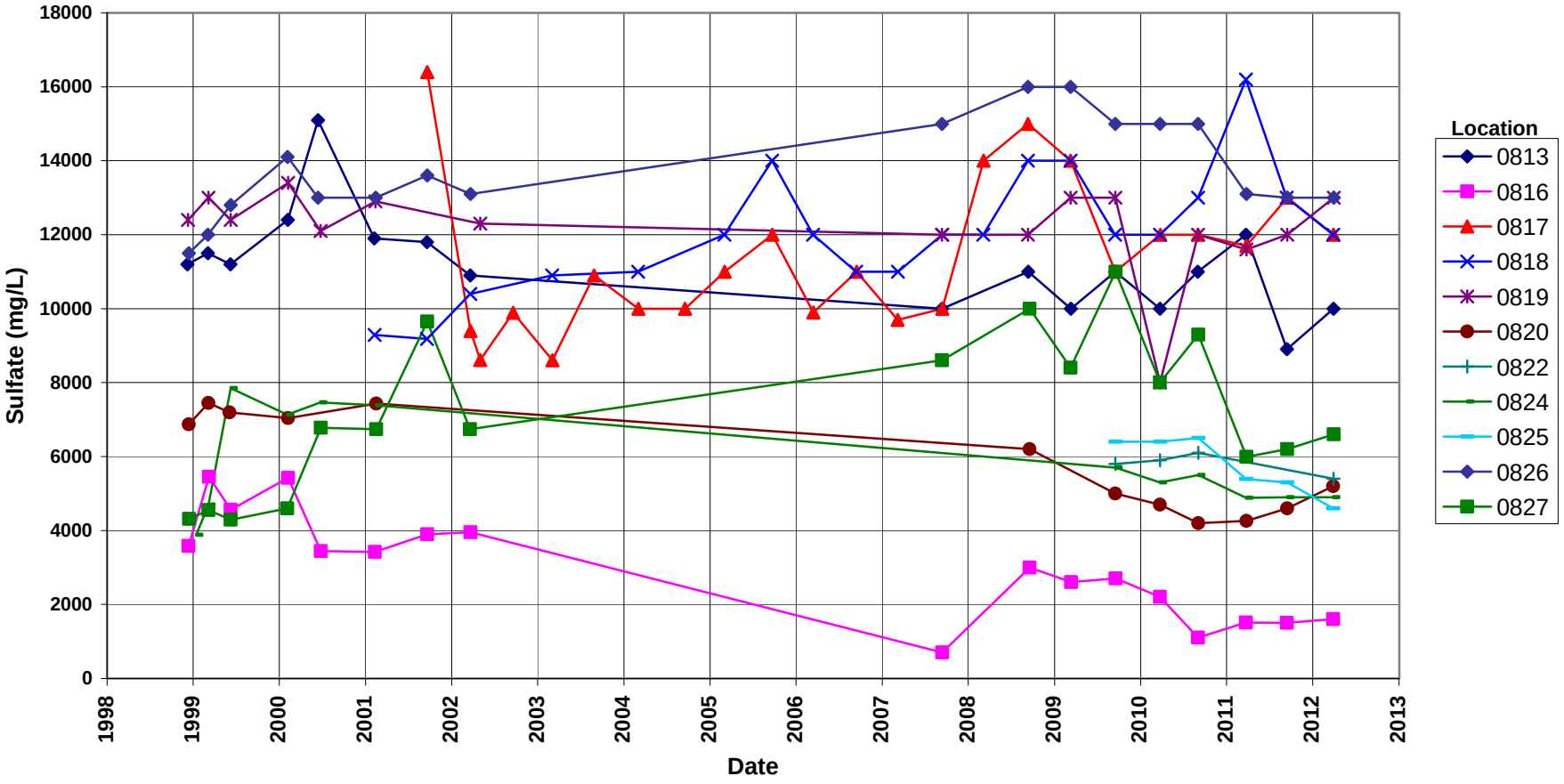
Shiprock Disposal Site (Terrace)
Strontium Concentration



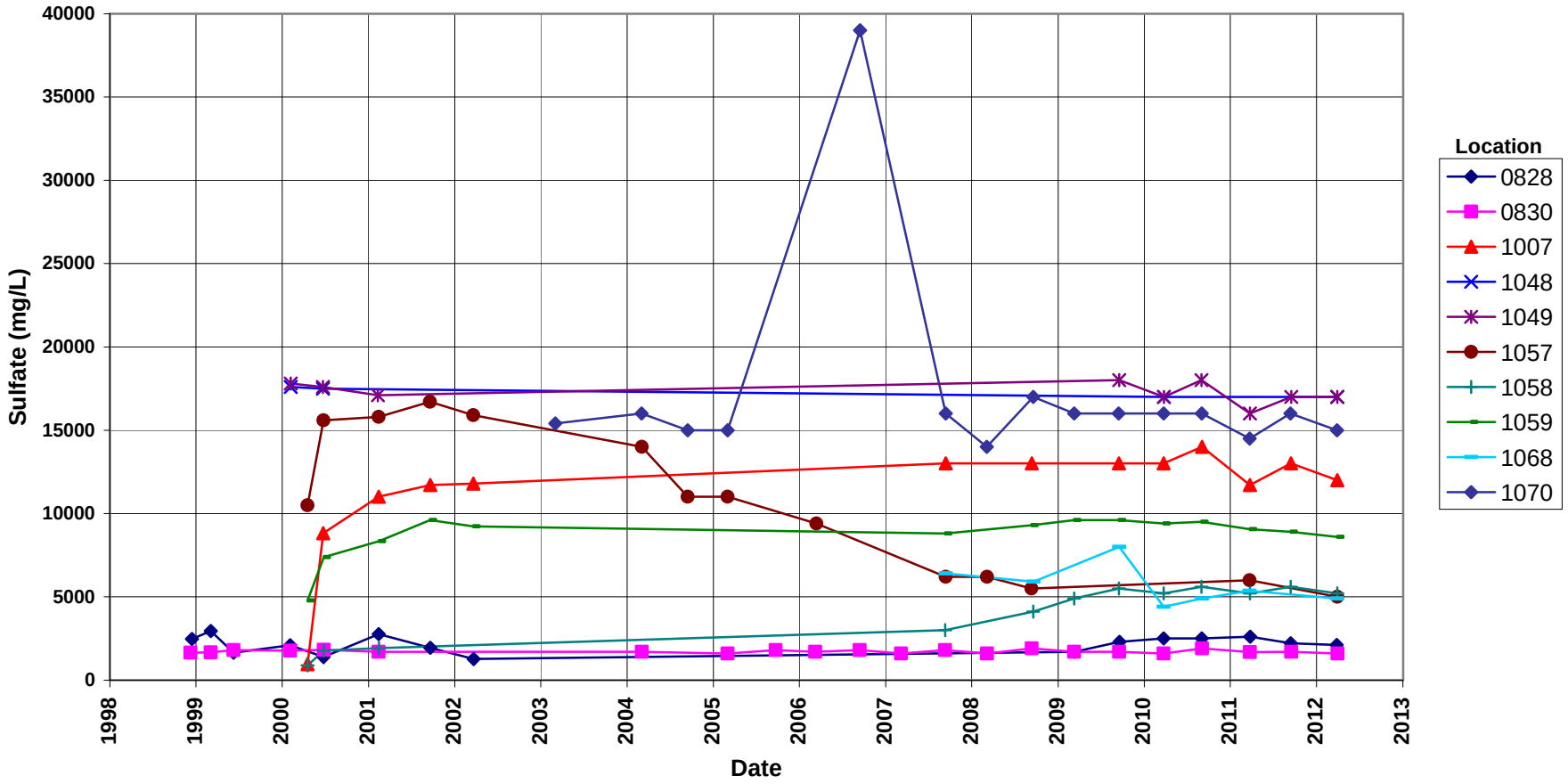
Shiprock Disposal Site (Terrace)
Sulfate Concentration



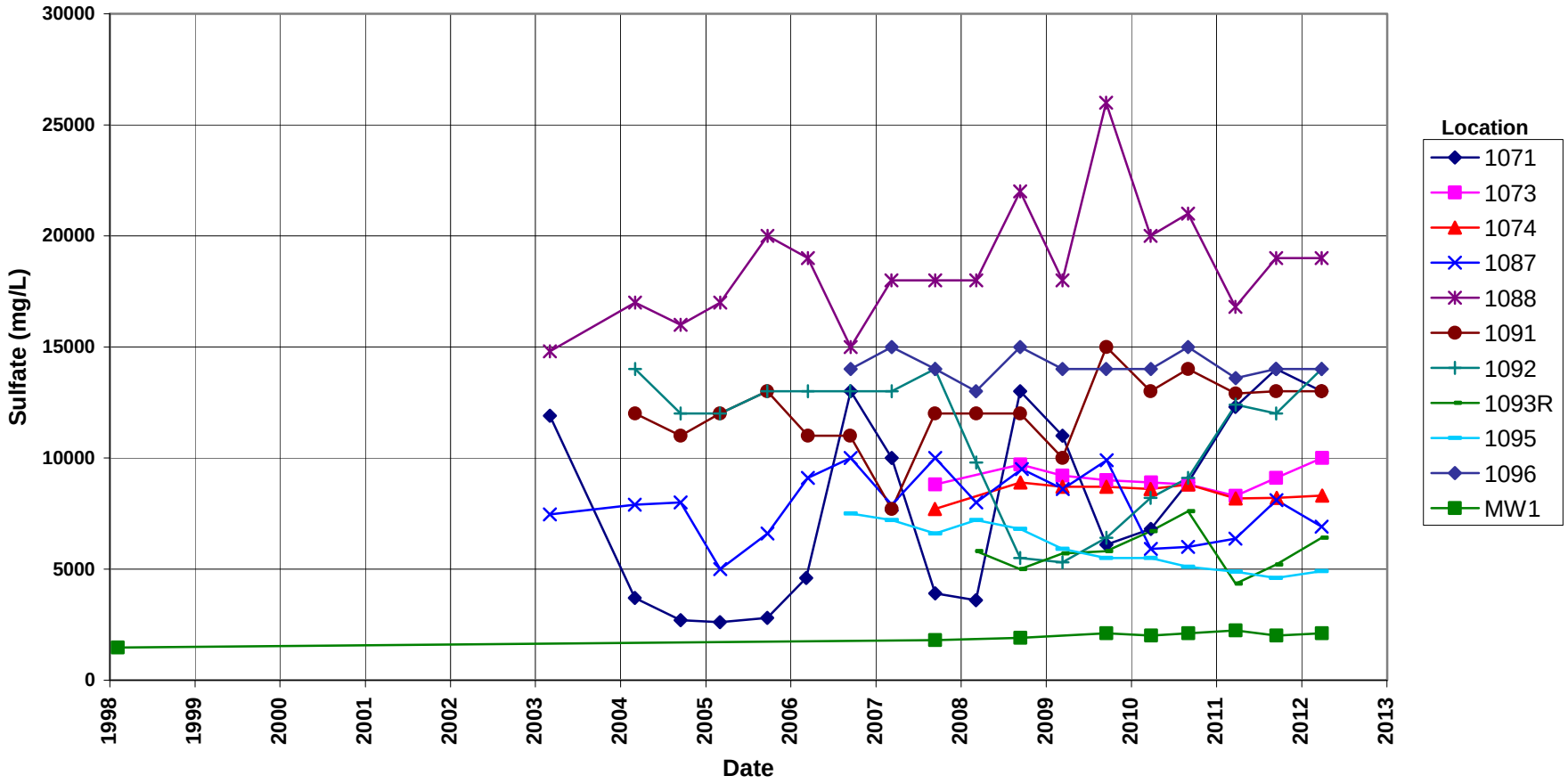
Shiprock Disposal Site (Terrace)
Sulfate Concentration



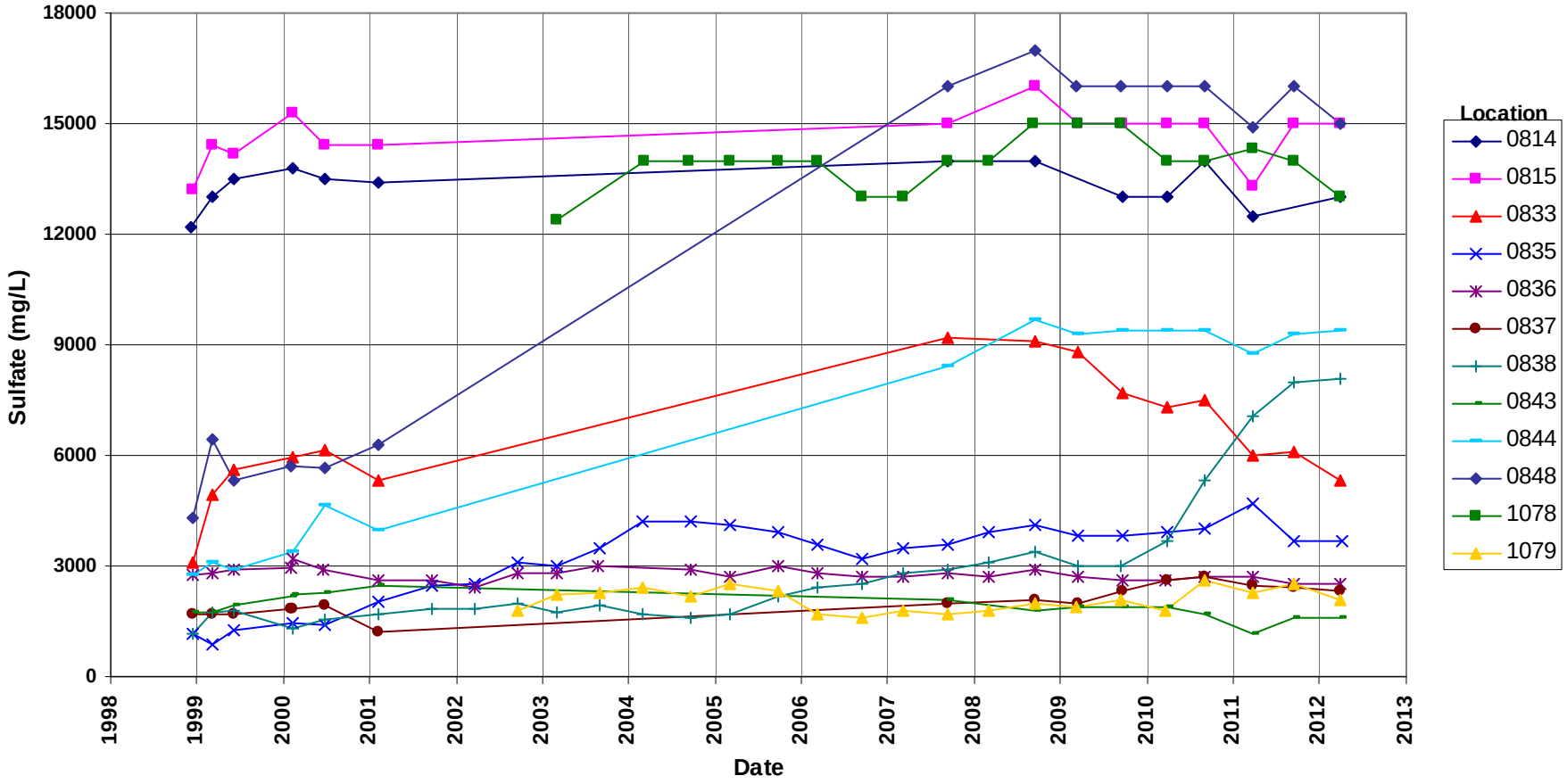
Shiprock Disposal Site (Terrace)
Sulfate Concentration



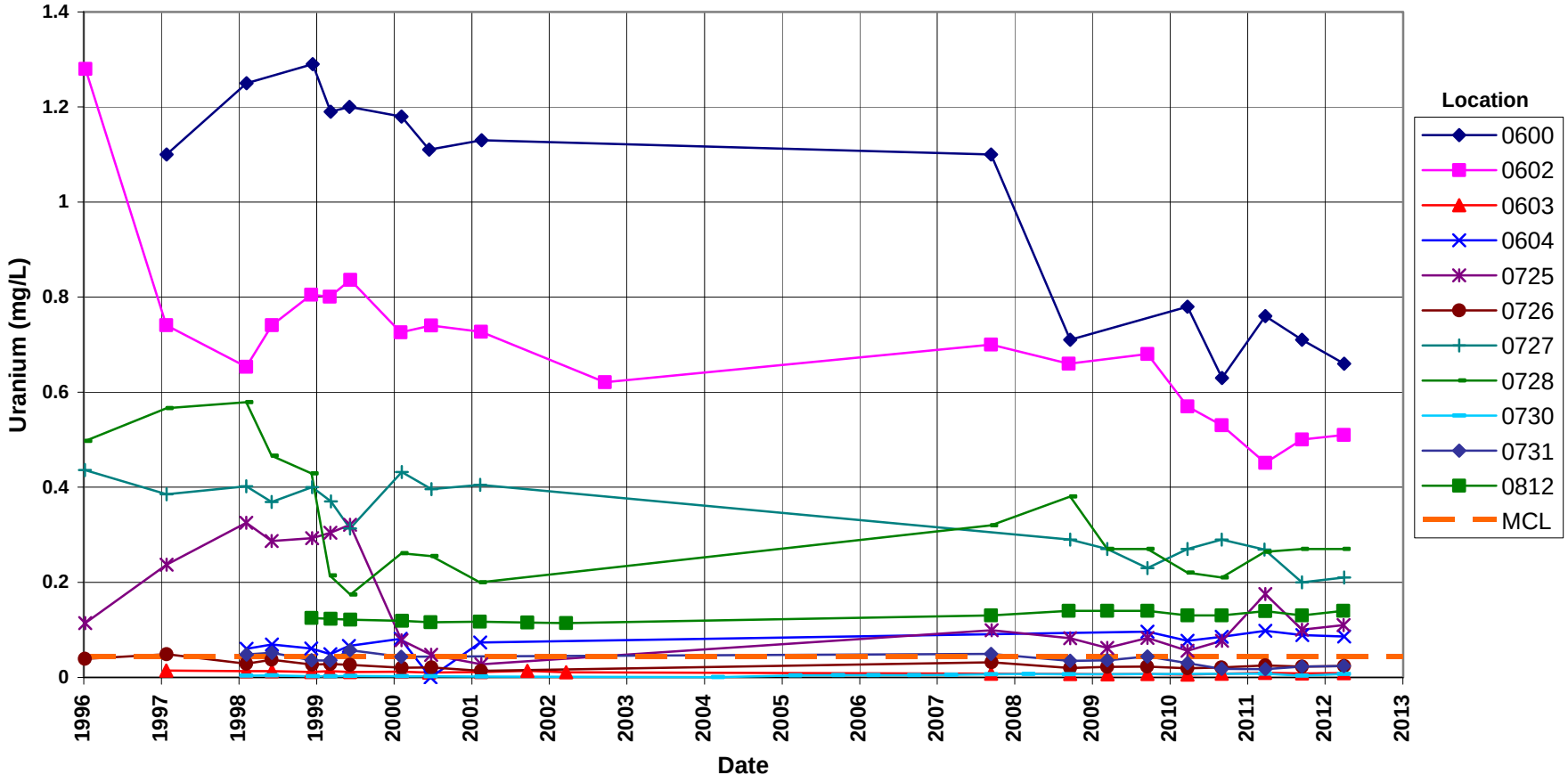
Shiprock Disposal Site (Terrace)
Sulfate Concentration



Shiprock Disposal Site (Terrace)
Sulfate Concentration

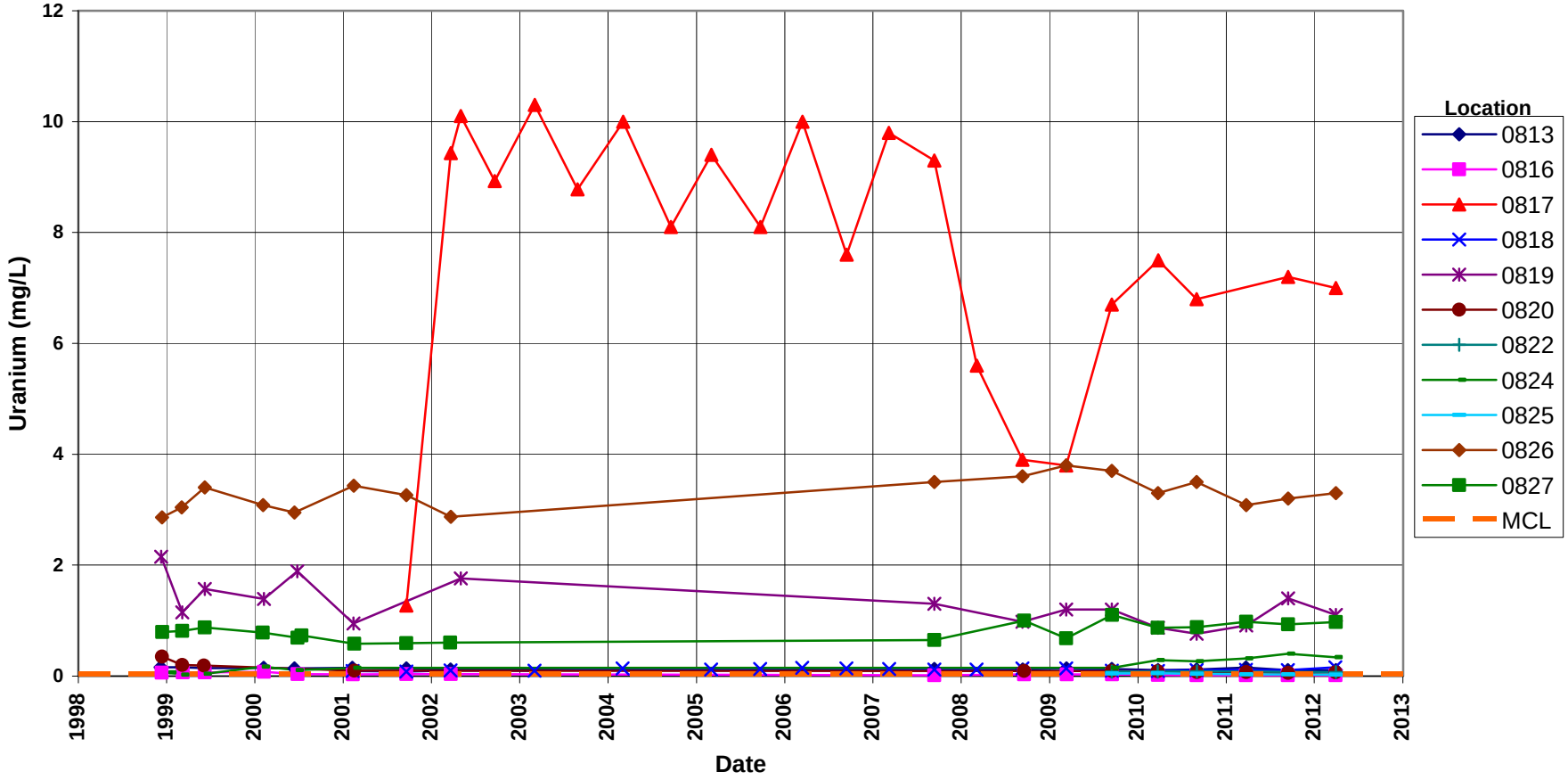


Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Limit (MCL) = 0.044 mg/L

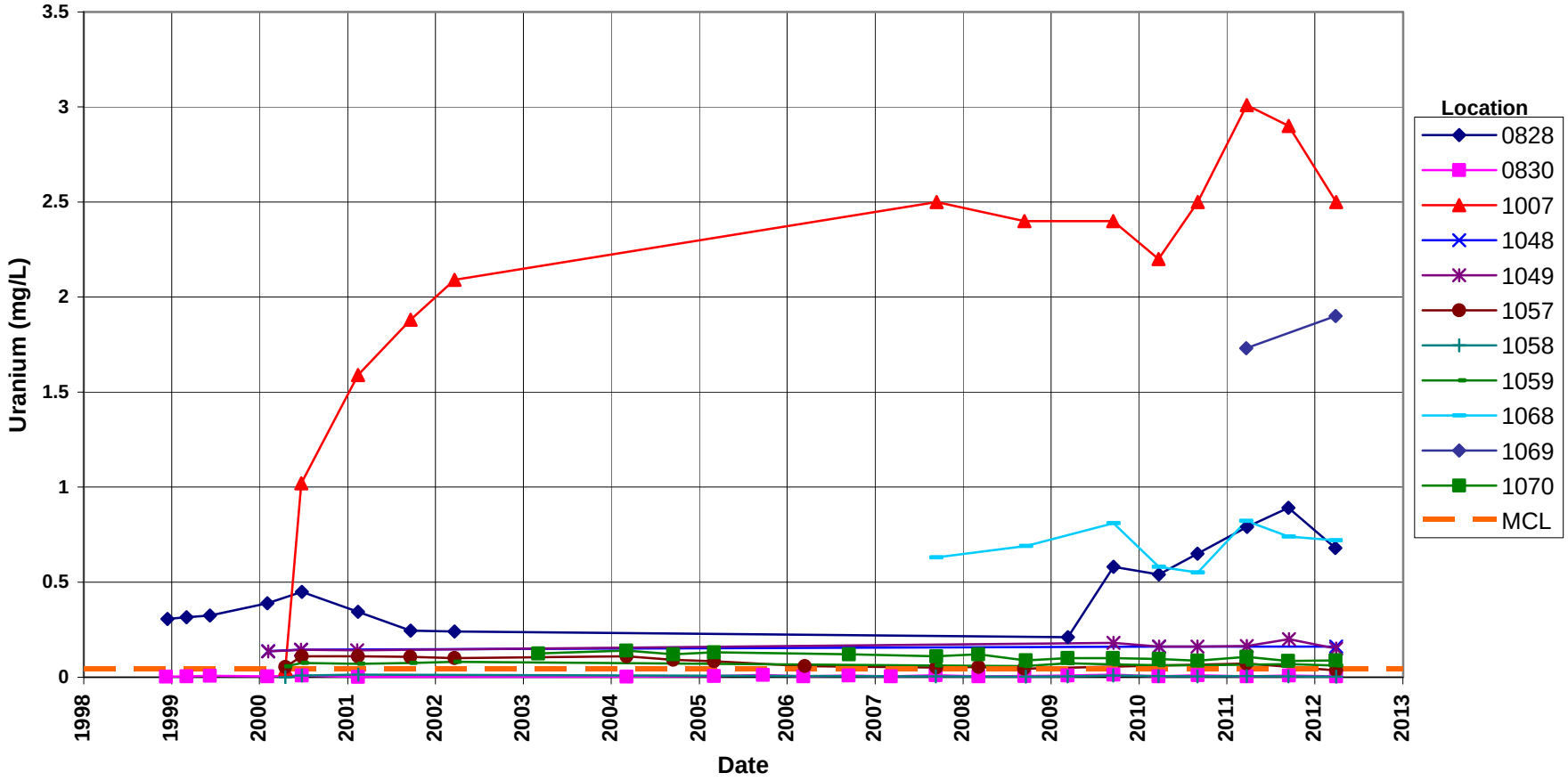


Shiprock Disposal Site (Terrace)
Uranium Concentration

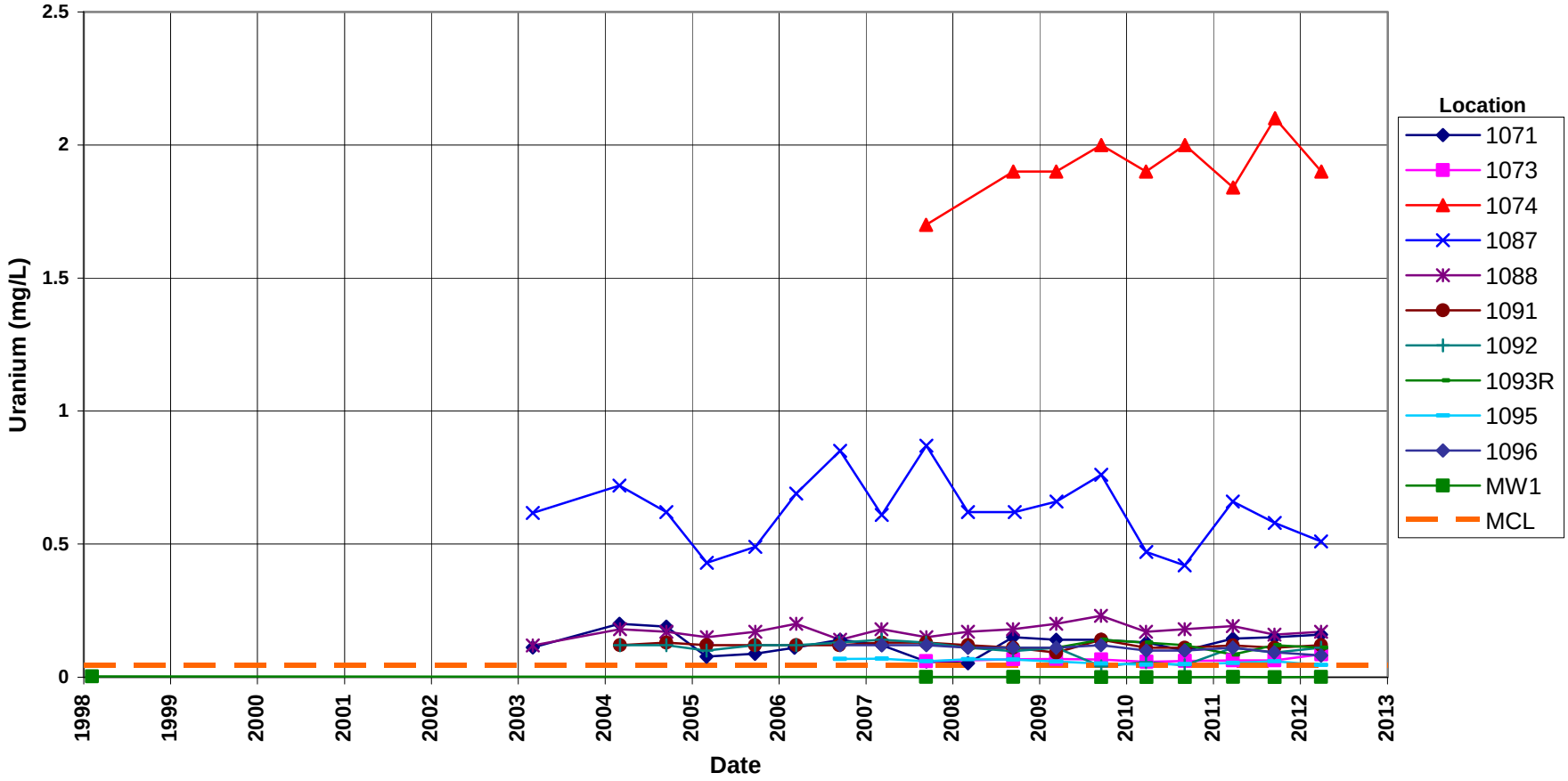
Maximum Contaminant Limit (MCL) = 0.044 mg/L



Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Limit (MCL) = 0.044 mg/L

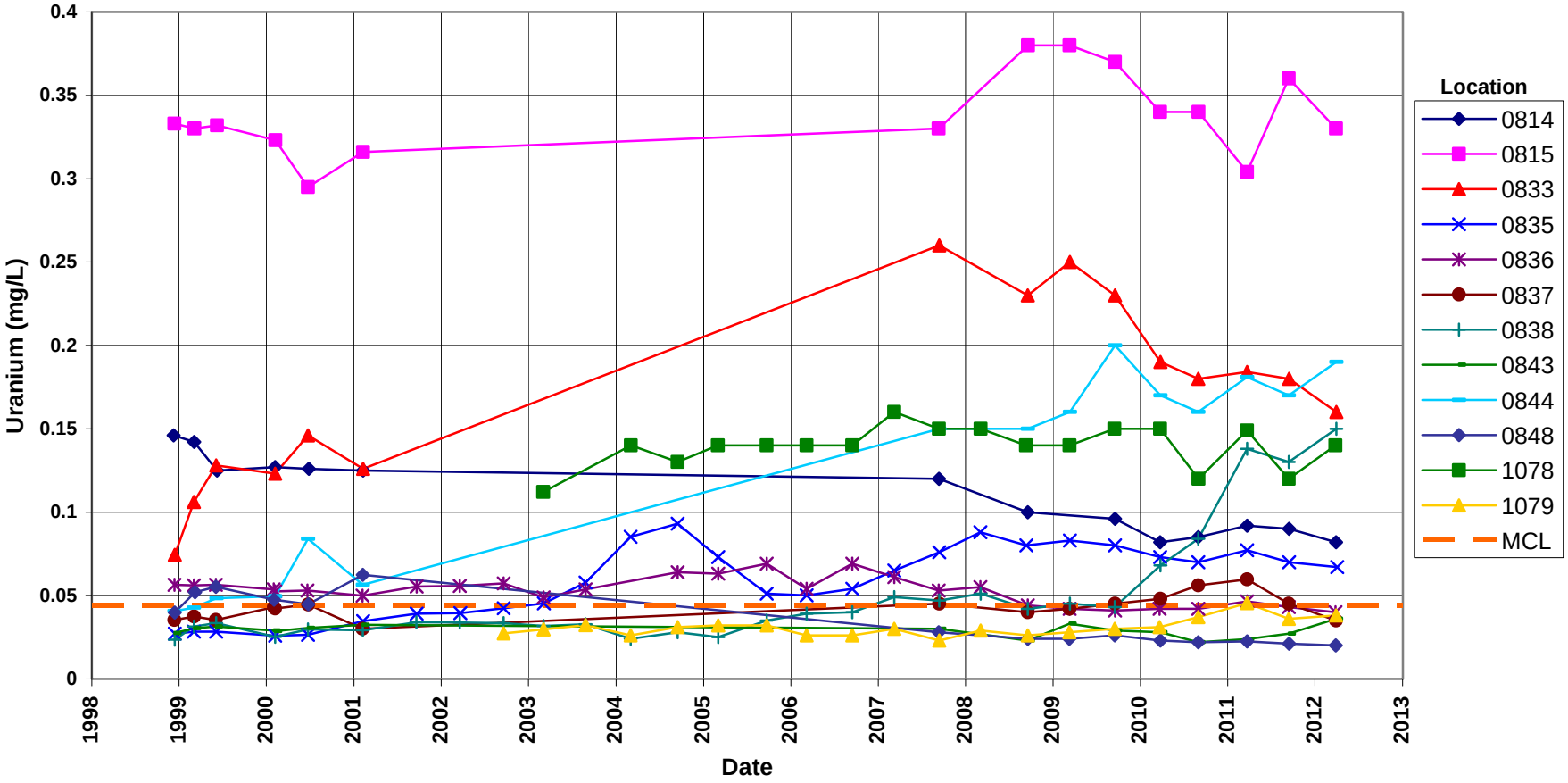


Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Limit (MCL) = 0.044 mg/L



Shiprock Disposal Site (Terrace)
Uranium Concentration

Maximum Contaminant Limit (MCL) = 0.044 mg/L



Attachment 3
Sampling and Analysis Work Order

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Stoller

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Task Order LM00–501
Control Number 12-0377

February 16, 2012

U.S. Department of Energy
Office of Legacy Management
ATTN: Deborah Steckley
Site Manager
2597 Legacy Way
Grand Junction, CO 81503

SUBJECT: Contract No. DE-AM01-07LM00060, S.M. Stoller Corporation (Stoller)
March 2012 Environmental Sampling at Shiprock, New Mexico, Disposal Site

REFERENCE: Task Order LM00-501-02-119-402, Shiprock, New Mexico, Disposal Site

Dear Ms. Steckley:

The purpose of this letter is to inform you of the upcoming sampling event at Shiprock, New Mexico. Enclosed are the map and tables specifying sample locations and analytes for monitoring at the Shiprock. Water quality data will be collected at this site as part of the routine environmental sampling currently scheduled to begin the week of March 26, 2012.

Samples collected at the following SHP01 (floodplain) locations will be both filtered and unfiltered: 0501, 0897, 0898, 0899, 0940, 0956, 0965, 1203, and 1205.

The following lists show the monitoring wells (along with associated zone of completion) and surface locations scheduled for sampling during this event.

MONITORING WELLS

Floodplain

608 Km	623 Al	768 Al	798 Al	1009 Al	1113 Al	1136 Al
610 Al	625 Al	773 Al	850 Al	1089 Al	1114 Al	1137 Al
611 Al/Km	626 Al	775 Al	853 Al	1104 Al	1115 Al	1138 Al
612 Al	628 Al	779 Al	854 Al	1105 Al	1117 Al	1139 Al
614 Al	630 Al	782R Al	855 Al	1109 Nr	1128 Al	1140 Al
615 Al	734 Al	783R Al	856 Al	1110 Nr	1132 Al	1141 Al
618 Al	735 Al	792 Al	857 Al	1111 Al	1134 Al	1142 Al
619 Al	736 Al	793 Al	1008 Al	1112 Al	1135 Al	1143 Al
622 Al	766 Al	797 Al				

Terrace

600 Km	812 Al/Km	822 Km	833 Al	1002 Km	1060 Al/Km	1088 Nr
602 Km	813 Al/Km	823 Km	835 Al	1003 Km	1068 Al	1091 Al
603 Al/Km	814 Al/Km	824 Km	836 Al	1004 Km	1069 Al/Km	1092 Al
604 Km	815 Al/Km	825 Km	837 Al	1007 Al/Km	1070 Al/Km	1093R Al

The S.M. Stoller Corporation 2597 Legacy Way Grand Junction, CO 81503 (970) 248-6000 Fax (970) 248-6040

725 Al/Km	816 Al/Km	826 Al/Km	838 Al	1011 Al/Km	1071 Al/Km	1095 Al
726 Km	817 Km	827 Al/Km	841 Al	1048 Al/Km	1073 Al	1096 Al
727 Km	818 Al	828 Al/Km	843 Al	1049 Al/Km	1074 Al/Km	1120 Al
728 Al/Km	819 Km	829 Km	844 Al/Km	1057 Al/Km	1078 Al/Km	1122 Al
730 Al	820 Km	830 Km	846 Al	1058 Km	1079 Al	DM7 Km
731 Al/Km	821 Km	832 Al/Km	848 Al/Km	1059 Km	1087 Nr	MW1 Km

*NOTE: Al = Alluvium; Ju = Jurassic Morrison Formation; Km = Mancos Shale; Nr = No recovery of data for classifying

SURFACE LOCATIONS

Floodplain

501	897	937	939	956	965	1203
655	898	938	940	959	1118	1205
887	899					

Terrace

662	885	934	942	958	1218	1220
786	889	936	949	1215	1219	1221
884	933					

Water levels will be collected from additional (non-sampled) wells as shown in the enclosure. All samples will be collected as directed in the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*.

Please contact me at (970) 248-6652 if you have any questions.

Sincerely,

David Miller
Site Lead

DM/lcg/lb

Enclosures (3)

cc: (electronic)
Karl Stoeckle, DOE
Steve Donivan, Stoller
Lauren Goodknight, Stoller
David Miller, Stoller
EDD Delivery
rc-grand.junction
File: SHP 410.02(A)

Sampling Frequencies for Locations at Shiprock, New Mexico

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
SHP01						
608		X				Low flow
610		X				
611		X				
612		X				
614		X				Low flow
615		X				Low flow
617					X	Data logger only
618		X				Low flow
619		X				Low flow
622		X				
623		X				
625		X				
626		X				
628		X				
630		X				
734		X				Low flow
735		X				Low flow
736		X				Low flow; data logger
766		X				
768		X				
773		X				
775		X				
779		X				
782R		X				
783R		X				
792		X				
793		X				
797		X				Low flow
798		X				
850		X				Low flow
853		X				
854		X				Data logger
855		X				
856		X				
857		X				Data logger
862					X	WLs only
863					X	WLs only
1000					X	WLs only
1001					X	WLs only
1008		X				Data logger
1009		X				

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
1062					X	WLs only
1089		X				U, SO_4, N as NO_3 only at vault
1104		X				U, SO_4, N as NO_3 only at vault
1105		X				
1109		X				Trench 2; U, SO_4, N as NO_3 only at vault
1110		X				Trench 1; U, SO_4, N as NO_3 only at vault
SHP01						
1111		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1112		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1113		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1114		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1115		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1117		X				Well point; U, SO_4, N as NO_3 only. Purge 1 casing vol then sample
1128		X				
1132		X				
1134		X				
1135		X				
1136		X				
1137		X				
1138		X				
1139		X				
1142		X				
1143		X				
1140		X				
1141		X				
SHP02						
600		X				
602		X				Data logger
603		X				
604		X				Data logger
648				Odd year		Measure flow rate semiannually; sample biennially; next in 2013
725		X				Data logger
726		X				
727		X				
728		X				Data logger

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
730		X				Data logger
731		X				Data logger
800					X	WLs only
801					X	WLs only
802					X	WLs only
803					X	WLs only
812		X				
813		X				Data logger
814		X				
815		X				
816		X				
817		X				Low flow
818		X				Ext. well; U, SO_4, N as NO_3 only at vault
819		X				Data logger
820		X				
SHP02						
821		X				
822		X				
823		X				
824		X				
825		X				
826		X				Data logger
827		X				Data logger
828		X				Data logger
829		X				
830		X				Data logger
832		X				Low flow
833		X				
835		X				Low flow; data logger
836		X				Low flow; data logger
837		X				Data logger
838		X				Low flow
841		X				Low flow; data logger
843		X				Data logger
844		X				
846		X				Low flow; data logger
848		X				Data logger
1002		X				
1003		X				
1004		X				
1007		X				
1011		X				
1048		X				
1049		X				
1057		X				

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
1058		X				
1059		X				
1060		X				Low flow; data logger
1067					X	WL only; Bob Lee Wash
1068		X				Bob Lee Wash
1069		X				Bob Lee Wash; data logger
1070		X				Ext. well; U, SO_4, N as NO_3 only at vault
1071		X				Ext. well; U, SO_4, N as NO_3 only at vault
1073		X				Data logger
1074		X				
1078		X				Ext. well; U, SO_4, N as NO_3 only at vault
1079		X				Low flow
1087		X				SUMP-Bob Lee Wash
1088		X				SUMP-Many Devils Wash
1091		X				Ext. well; U, SO_4, N as NO_3 only at vault
1092		X				Ext. well; U, SO_4, N as NO_3 only at vault
1093R		X				Ext. well; U, SO_4, N as NO_3 only at vault
1095		X				Ext. well; U, SO_4, N as NO_3 only at vault
1096		X				Ext. well; U, SO_4, N as NO_3 only at vault
SHP02						
1120		X				
1122		X				
MW1		X				
DM7		X				
Surface Locations						
SHP01						
501		X				East of disposal cell
655		X				Drainage channel
887		X				Distributary channel
897		X				Just below mouth of Many Devils Wash
898		X				San Juan River upgradient
899		X				
937		X				
938		X				
939		X				
940		X				Just NE of 1004, San Juan River
956		X				San Juan River at intake
959		X				Distributary channel just below 1st wash
965		X				San Juan River about 1500' below dist. Channel

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
1118		X				Seep sump (423/426) U, SO_4, N as NO_3 only at vault
1203		X				East of disposal cell
1205		X				San Juan River E of well 853
SHP02						
662		X				Lower Bob Lee Wash
786		X				Seep below US Hwy 491 bridge; FLOW RATE
884		X				Irrigation return flow
885		X				Upper Bob Lee Wash; water level
889		X				Many Devils Wash
933		X				1st wash W of Highway 491
934		X				2nd wash W of Highway 491
936		X				Seep between 1st & 2nd washes
942		X				Pond NW of 847
949		X				
958		X				Helium lateral canal where water comes into canal at pump station
1215		X				
1218		X				NEW LOCATION
1219		X				NEW LOCATION
1220		X				NEW LOCATION
1221		X				NEW LOCATION

Sampling conducted in March and September

NOTE: All San Juan River locations will have both filtered and unfiltered samples collected

Constituent Sampling Breakdown

Site	Shiprock				
Analyte	**Groundwater**	**Surface Water**	**Required Detection Limit (mg/L)**	**Analytical Method**	**Line Item Code**
Approx. No. Samples/yr	244	56			
Field Measurements					
Alkalinity	X	X			
Dissolved Oxygen					
Redox Potential	X	X			
pH	X	X			
Specific Conductance	X	X			
Turbidity	X	X			
Temperature	X	X			
Laboratory Measurements					
Aluminum					
Ammonia as N (NH3-N)	X	X	0.1	EPA 350.1	WCH-A-005
Calcium	X	X	5	SW-846 6010	LMM-01
Chloride	X	X	0.5	SW-846 9056	MIS-A-039
Chromium					
Gross Alpha					
Gross Beta					
Iron					
Lead					
Magnesium	X	X	5	SW-846 6010	LMM-01
Manganese	X	X	0.005	SW-846 6010	LMM-01
Molybdenum					
Nickel					
Nickel-63					
Nitrate + Nitrite as N ((NO_3+NO_2)-N	X	X	0.05	EPA 353.1	WCH-A-022
Potassium	X	X	1	SW-846 6010	LMM-01
Radium-226					
Radium-228					
Selenium	X	X	0.0001	SW-846 6020	LMM-02
Silica					
Sodium	X	X	1	SW-846 6010	LMM-01
Strontium	X	X	0.2	SW-846 6010	LMM-01
Sulfate	X	X	0.5	SW-846 9056	MIS-A-044
Sulfide					
Total Dissolved Solids					
Total Organic Carbon					
Uranium	X	X	0.0001	SW-846 6020	LMM-02
Vanadium					
Zinc					
Total No. of Analytes	12	12			

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

Attachment 4
Trip Report

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Stoller
Grand Junction Office
established 1959

Memorandum

DATE: May 15, 2012

TO: David Miller

FROM: Dan Sellers

SUBJECT: REVISED Trip Report

Site: Shiprock, NM- Floodplain (SHP01) and Terrace (SHP02)

Dates of Sampling Event: March 26-30, 2012 and April 2-4, 2012

Team Members: Gretchen Baer, David Miller, Kent Moe, Jeff Price, Joe Treviño and Dan Sellers.

Number of Locations Sampled: Samples were collected from 134 of the 161 locations identified on the sampling notification letter as follows:

	Locations Sampled	Locations Planned
SHP01 monitoring wells	59	59
SHP01 surface locations	11	16
SHP02 monitoring wells	57	70
SHP02 Surface locations	7	16
Total	134	161

Locations Not Sampled/Reason:

27 locations were not sampled due to insufficient water or dry.

- 5 SHP01 surface locations: 0887, 0937, 0938, 0939, and 0959
- 13 SHP02 monitoring wells: 0821, 0823, 0829, 0832, 0846, 1002, 1003, 1004, 1011, 1060, 1120, 1122, and DM7;
- 9 SHP02 surface locations: 0786, 0884, 0885, 0933, 0934, 0936, 0942, 0949, and 0958

Location Specific Information: Filtered and unfiltered samples were collected at all river surface locations. All other surface location samples collected were unfiltered. Specific information at various well locations is listed below:

SHP01 Locations

Location ID's	Comments
0612, 0628	Sulfur odor
1105	WL in side casing = 6.98 ft
0766	Small particles and roots.

SHP02 Well locations

Location ID's	Comments
0814, 0820, 0841, 1049, 1068, 1069, 1088, and MW-1	Filtered samples due to either Cat II or Cat III wells.
1069	Limited volume – only 250 ml in metals container, no alkalinity, and no other analytes
0841	Could not reach turbidity. Well needs to be developed.

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

Site	False ID	True ID	Ticket Number	Sample Type	Associated Matrix
SHP01	2210	1128	KEQ 233	Duplicate	Groundwater
SHP01	2211	0773	KEQ 234	Duplicate	Groundwater
SHP01	2212	1111	KEQ 170	Duplicate	Groundwater
SHP01	2215	0792	KEQ 232	Duplicate	Groundwater
SHP02	2813	NA	KEQ 296	Equip. Blank	Surface Water
SHP02	2319	0818	KEQ 339	Duplicate	Groundwater
SHP02	2320	1096	KEQ 340	Duplicate	Groundwater
SHP02	2810	1070	KEQ 288	Duplicate	Groundwater
SHP02	2811	1093R	KEQ 289	Duplicate	Groundwater
SHP02	2812	1087	KEQ 293	Duplicate	Groundwater

RIN Number Assigned: All samples were assigned to RINs 12034422 (SHP01) and 12034423 (SHP02). Field data sheets can be found in Crow\SMS\12034422 and Crow\SMS\12034423 in the Field Data folders.

Sample Shipment: Samples were shipped overnight via FedEx from Grand Junction to ALS Laboratory Group in Ft Collins, CO on April 4, 2012.

Water Level Measurements: Water levels collected in all sampled wells are in the Field Data Collection System (FDCS) Water Sampling Logs. Water levels for wells not sampled were collected using the PDAs. A water level data report (SHP01_4112012 and SHP01_452012.pdf) can be found in Crow\SMS\FDCS\WATER LEVELS.

Well Inspection Summary: Inspections were performed at all wells accessed for sampling or water levels. All wells were in good condition unless otherwise noted in the FDCS Water Sampling Logs or PDA inspection reports.

Field Variance:

Location ID's	Site	Comments
1089, 1104	SHP01	Samples collected twice by two different sample teams. Samples taken on March 30, 2012 were discarded.
0619, 0622, 0630, 0768, 0775, 0798, 0956	SHP01	eH probe failure
662	SHP02	Samples taken twice. Sample taken on March 30, 2012 was discarded.

Equipment: Monitoring wells on the floodplain were sampled using a peristaltic pump and dedicated tubing. Extraction wells on the floodplain and terrace were sampled by spigot and/or a peristaltic pump and tubing reel with weight, from the extraction sump. Monitoring wells on the terrace were sampled with a peristaltic pump and dedicated tubing or a dedicated bladder pump. Surface water locations were sampled with a peristaltic pump and tubing reel with stainless steel weight or container immersion. Multi-gas meters were used to verify air quality in the extraction well vaults prior to entry.

Institutional Controls:

Fences, Gates, Locks: All appeared in working condition.
Trespassing/Site Disturbances: None.

Site Issues:

Disposal Cell/Drainage Structure Integrity: None observed.
Vegetation/Noxious Weed Concerns: Some wells and surface water locations on the floodplain are overgrown and difficult to access.
Maintenance Requirements: None.

Access Issues: Some wells on the floodplain are only accessible by ATV due to sandy or muddy conditions.

Safety Issues: None.

Corrective Action Taken: None.

(DLS/lcg)

cc: (electronic)
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EDD Delivery

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