Data Validation Package

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

January 2013

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Sampling Event Summary

Site: Shiprock, New Mexico, Disposal Site

Sampling Period: August 6-10, 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.

Alkalinity, conductivity, oxidation-reduction potential, pH, and temperature were measured in the field as 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	63
			0610	340
			0614	120
			0615	25
			0618	43
			0630	60
			0735	730
			0773	20
			0779	67
			0793	33
			0855	13
			1105	190
			1111	24
			1112	140
			1113	210
			1114	120
			1115	210
			1128	660
			1134	28

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code [b]	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	SHP01	1136	14
			1137	32
			1138	52
			1139	15
			1140	66
			1141	11
Selenium	0.01	SHP01	0610	0.083
			0614	1.4
			0615	0.062
			0618	0.37
			0630	0.29
			0734	0.019
			0735	0.042
			0773	0.11
			0779	0.024
			0793	0.19
			0855	0.073
			1105	0.17
			1111	0.27
			1112	0.44
			1113	0.19
			1114	0.017
			1115	0.018
			1128	0.02
			1140	0.36
			1141	0.30
Uranium	0.044	SHP01	0608	0.66
			0610	0.98
			0614	1.2
			0615	0.74
			0618	1.8
			0619	0.15
			0622	0.10
			0623	0.055
			0625	0.049
			0630	0.24
			0734	0.053
			0735	0.36
			0736	0.054
			0766	0.22
			0768	0.15
			0773	0.21
			0775	0.17
			0779	4.6
			0792	0.60
			0793	1.5
			0798	0.34
			0853	0.062
			0854	0.89
			0855	0.10

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code[b]	Location	Concentration
Uranium	0.044	SHP01	0856	0.060
			0857	0.54
			1008	0.69
			1009	0.20
			1089	0.21
			1104	0.49
			1105	2.0
			1111	1.1
			1112	1.2
			1113	0.48
			1114	0.56
			1115	0.82
			1128	1.5
			1135	0.11
			1136	0.12
			1137	0.60
			1138	1.3
			1139	0.72
			1140	1.2
			1141	0.99
			1143	0.062
Nitrate + Nitrite as Nitrogen	10	SHP02	0600	110
			0602	29
			0603	1800
			0604	1200
			0727	84
			0728	110
			0731	85
			0812	1600
			0813	2800
			0814	1000
			0815	720
			0816	17
			0817	610
			0818	800
			0819	16
			0824	270
			0825	30
			0826	54
			0827	21
			0830	110
			0833	140
			0835	65
			0836	41
			0838	530
			0841	670
			0843	11
			0844	950
			1007	680
			1048	640

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code[b]	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	SHP02	1049	550
			1057	1800
			1059	390
			1068	270
			1069	630
			1070	660
			1071	700
			1073	980
			1074	1400
			1078	590
			1079	350
			1091	860
			1092	610
			1093R	2400
			1095	1900
			1096	620
Selenium	0.01	SHP02	0603	0.10
			0604	0.84
			0731	0.012
			0812	6.4
			0813	0.061
			0814	2.2
			0815	0.020
			0816	0.011
			0818	2.9
			0819	0.019
			0826	0.032
			0827	0.020
			0828	0.010
			0830	0.028
			0833	0.32
			0835	0.36
			0836	0.29
			0837	0.15
			0838	0.87
			0841	3.8
			0843	0.60
			0844	2.0
			0848	0.052
			1007	0.14
			1048	1.3
			1049	1.3
			1057	0.15
			1059	0.011
			1068	0.022
			1069	0.024
			1070	3.0
			1071	2.9
			1073	2.5
			1074	0.38

Table 1 (continued). Shiprock Locations that Exceed Standards

Analyte	Standard [a]	Site Code[b]	Location	Concentration
Selenium	0.01	SHP02	1078	2.8
			1079	0.71
			1091	0.66
			1092	1.2
			1093R	0.40
			1095	0.13
			1096	2.8
Uranium	0.044	SHP02	0600	0.71
			0602	0.51
			0604	0.10
			0725	0.11
			0727	0.29
			0728	0.24
			0812	0.16
			0813	0.12
			0814	0.095
			0815	0.36
			0817	7.4
			0818	0.15
			0819	1.4
			0822	0.075
			0824	0.38
			0826	3.4
			0827	1.0
			0828	0.71
			0833	0.16
			0835	0.067
			0836	0.048
			0838	0.17
			0841	0.15
			0844	0.20
			1007	2.7
			1048	0.20
			1049	0.17
			1059	0.066
			1068	0.71
			1069	2.2
			1070	0.078
			1071	0.16
			1073	0.11
			1074	2.2
			1078	0.14
			1079	0.048
			1091	0.10
			1092	0.11
			1093R	0.15
			1095	0.058
			1096	0.087

[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 (Tables 2 and 3). 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. No benchmark values were exceeded.

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]	0.36	0.34	0.00085	0.77	110	0.0020
0897	ND	0.21	0.35	0.00079	0.76	110	0.0018
0898	ND	0.14	0.33	0.00064	0.68	98	0.0015
0899	ND	0.95	0.44	0.0017	1.1	120	0.0034
0940	ND	0.13	0.31	0.00059	0.69	98	0.0015
0956	ND	0.91	0.34	0.0013	0.92	110	0.0028
0965	ND	0.81	0.45	0.0016	1.0	120	0.0031
1203	ND	2.4	0.64	0.0048	1.8	180	0.0058
1205	ND	0.75	0.42	0.0019	0.99	120	0.0033

Units 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**	**0.0223**	**1.1007**	**0.0019**	**1.1878**	**253**	**0.0032**
0501	ND[b]	0.0070	0.36	0.00049	0.68	110	0.0015
0897	ND	0.0039	0.36	0.00047	0.72	110	0.0014
0898	ND	0.013	0.33	0.00041	0.66	110	0.0013
0899	ND	0.0022	0.46	0.00057	0.72	120	0.0016
0940	ND	0.0034	0.32	0.00043	0.65	99	0.0014
0956	ND	0.0054	0.36	0.00046	0.71	110	0.0014
0965	ND	0.0027	0.45	0.00054	0.72	120	0.0015
1203	ND	0.0034	0.65	0.00058	0.83	180	0.0018
1205	ND	0.0060	0.46	0.00048	0.70	120	0.0015

Units 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.

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

Table 4. Floodplain River Locations, Filtered and Unfiltered Samples

Location	Analyte	Result, Filtered	Result, Unfiltered	RPD[a]
0501	Calcium	55	65	17%
	Chloride	11	11	0%
	Magnesium	8.8	11	22%
	Manganese	0.007	0.36	192%
	Nitrate+Nitrite as N	0.36	0.34	6%
	Potassium	2.5	3.9	44%
	Selenium	0.00049	0.00085	54%
	Sodium	28	29	4%
	Strontium	0.68	0.77	12%
	Sulfate	110	110	0%
	Uranium	0.0015	0.002	29%
0897	Calcium	56	61	9%
	Chloride	11	11	0%
	Magnesium	8.4	11	27%
	Manganese	0.0039	0.21	193%
	Nitrate+Nitrite as N	0.36	0.35	3%
	Potassium	2.4	4.9	68%
	Selenium	0.00047	0.00079	51%
	Sodium	27	28	4%
	Strontium	0.72	0.76	5%
	Sulfate	110	110	0%
	Uranium	0.0014	0.0018	25%
0898	Calcium	52	55	6%
	Chloride	10	10	0%
	Magnesium	8.1	9.5	16%
	Manganese	0.013	0.14	166%
	Nitrate+Nitrite as N	0.33	0.33	0%
	Potassium	2.2	3.7	51%
	Selenium	0.00041	0.00064	44%
	Sodium	25	25	0%
	Strontium	0.66	0.68	3%
	Sulfate	110	98	12%
	Uranium	0.0013	0.0015	14%
0899	Calcium	57	90	45%
	Chloride	10	10	0%
	Magnesium	6.8	17	86%
	Manganese	0.0022	0.95	199%
	Nitrate+Nitrite as N	0.46	0.44	4%
	Potassium	3.1	8.1	89%
	Selenium	0.00057	0.0017	100%
	Sodium	32	35	9%
	Strontium	0.72	1.1	42%
	Sulfate	120	120	0%
	Uranium	0.0016	0.0034	72%
0940	Calcium	52	56	7%
	Chloride	10	10	0%
	Magnesium	8	9.1	13%
	Manganese	0.0034	0.13	190%
	Nitrate+Nitrite as N	0.32	0.31	3%
	Potassium	2.2	6.4	98%
	Selenium	0.00043	0.00059	31%
	Sodium	24	36	40%
	Strontium	0.65	0.69	6%

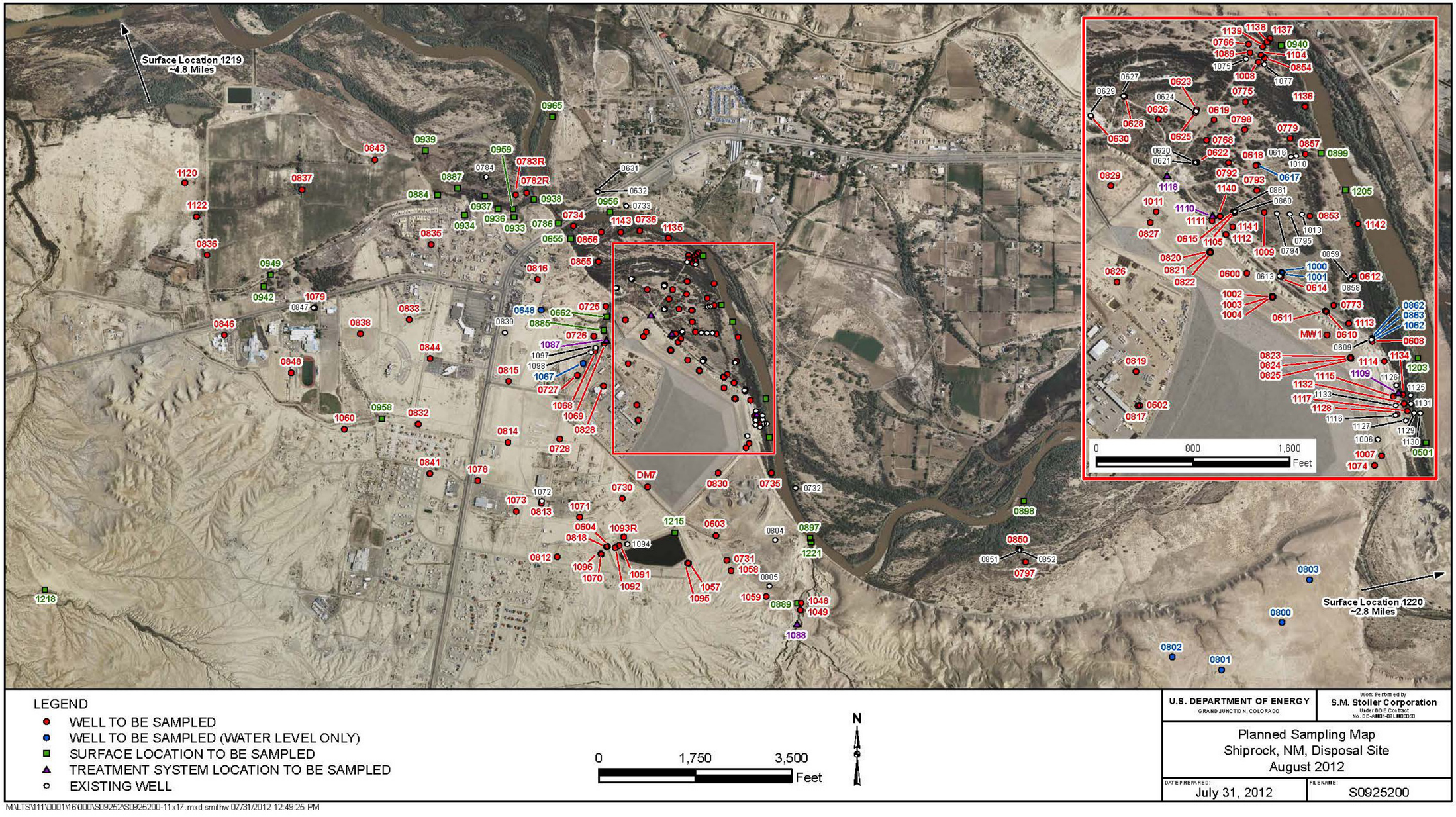
Table 4 (continued). Floodplain River Locations, Filtered and Unfiltered Samples

Location	Analyte	Result, Filtered	Result, Unfiltered	RPD[a]
	Sulfate	99	98	1%
	Uranium	0.0014	0.0015	7%
0956	Calcium	56	86	42%
	Chloride	10	11	10%
	Magnesium	8.3	15	58%
	Manganese	0.0054	0.91	198%
	Nitrate+Nitrite as N	0.36	0.34	6%
	Potassium	2.4	5.2	74%
	Selenium	0.00046	0.0013	95%
	Sodium	27	29	7%
	Strontium	0.71	0.92	26%
	Sulfate	110	110	0%
	Uranium	0.0014	0.0028	67%
0965	Calcium	55	82	39%
	Chloride	10	10	0%
	Magnesium	6.8	15	75%
	Manganese	0.0027	0.81	199%
	Nitrate+Nitrite as N	0.45	0.45	0%
	Potassium	3	11	114%
	Selenium	0.00054	0.0016	99%
	Sodium	31	44	35%
	Strontium	0.72	1	33
	Sulfate	120	120	0%
	Uranium	0.0015	0.0031	70%
1203	Calcium	65	140	73%
	Chloride	11	12	9%
	Magnesium	7.2	36	133%
	Manganese	0.0034	2.4	199%
	Nitrate+Nitrite as N	0.65	0.64	2%
	Potassium	3.9	20	135%
	Selenium	0.00058	0.0048	157%
	Sodium	45	52	14%
	Strontium	0.83	1.8	74%
	Sulfate	180	180	0%
	Uranium	0.0018	0.0058	105%
1205	Calcium	55	80	37%
	Chloride	11	11	0%
	Magnesium	6.8	16	81%
	Manganese	0.006	0.75	197%
	Nitrate+Nitrite as N	0.46	0.42	9%
	Potassium	2.9	8.2	95%
	Selenium	0.00048	0.0019	119%
	Sodium	30	33	10%
	Strontium	0.7	0.99	34%
	Sulfate	120	120	0%
	Uranium	0.0015	0.0033	75%

Results units are in milligrams per liter (mg/L).
[a] RPD= relative percent difference

David Miller
Site Lead, S. M. Stoller Corporation

3/22/13
Date



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**	August 6-10, 2012
Date(s) of Verification	December 5, 2012	**Name of Verifier**	Gretchen Baer

	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 July 10, 2012. Program Directive SHP 2012-01.
2. Were the sampling locations specified in the planning documents sampled?	No	Thirty-three 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?	Yes	Pre-trip calibrations were performed on August 2, 2012.
4. Was an operational check of the field equipment conducted daily?	Yes	
Did the operational checks meet criteria?	No	A turbidity check was low (-10.7 percent, acceptance range is +/ 10 percent); all previous and subsequent checks were in range, indicating that the instrument performance was acceptable.
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	No	At location SHP02 1069, there was insufficient water for field measurements. Field measurements were not recorded for SHP02 0662 or SHP02 1068.
6. Was the category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:	Yes	
Was one pump/tubing volume purged prior to sampling?		
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	Turbidity criterion was not met at location SHP01 1113. Samples 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?	NA	

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	Seven duplicate samples were collected.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated 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 SHP01 0734 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?	No	This information was inadvertently not recorded at one location.
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Report Number (RIN):	12074743
Sample Event:	August 6-10, 2012
Site(s):	Shiprock Disposal Site (Floodplain), New Mexico
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1208187
Analysis:	Metals and Wet Chemistry
Validator:	Gretchen Baer
Review Date:	December 5, 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 Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1208187-1	0501	Manganese	J	Serial dilution has positive bias
1208187-1	0501	Sodium	J	Serial dilution has positive bias
1208187-2	0501	Manganese	J	Serial dilution has positive bias
1208187-2	0501	Sodium	J	Serial dilution has positive bias
1208187-9	0618	Potassium	J	Matrix spike has positive bias
1208187-41	0899	Sodium	J	Serial dilution has positive bias
1208187-42	0899	Sodium	J	Serial dilution has positive bias
1208187-61	1117	Sodium	J	Serial dilution has positive bias
1208187-63	1128	Potassium	J	Field duplicate precision
1208187-79	1128 Duplicate	Potassium	J	Field duplicate precision
1208187-81	0618 Duplicate	Potassium	J	Matrix spike has positive bias
1208187-82	Equipment Blank	Sodium	U	Less than 5 times the calibration blank

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 82 water samples on August 15, 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 1.0, 0.8, 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 one exception. The laboratory noticed that two bottles for location 0782R had pH values that contradicted the bottles' labels, which indicated that the labels had been switched. The laboratory corrected the error and proceeded with sample 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 August 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 26 verification checks. All calibration checks met the acceptance criteria.

Method EPA 353.2
Calibrations were performed for nitrate + nitrite as N on August 23, 24, and 27, 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 16 verification checks. All calibration checks met the acceptance criteria.

Method SW-846 6010B
Calibrations for calcium, magnesium, manganese, potassium, sodium, and strontium were performed August 23, 24, and 27, 2012, and October 24, 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. Initial and continuing calibration verification checks were made at the required frequency resulting in 60 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 acceptance range of 70 to 130 percent.

Method SW-846 6020A
Calibrations for selenium and uranium were performed August 24 and 25, 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. Initial and continuing calibration verification checks were made at the required frequency resulting in 25 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 of 70 to 130 percent. 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 August 16, 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 23 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

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 exception. A potassium spike recovery from the field duplicate of location 0618 was slightly above the acceptance range with a positive bias of about 29 percent. 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 manganese and sodium prepared from sample 0501 and for sodium prepared from samples 0899 and 1117 did not meet the acceptance criteria, with a positive bias of about 26 percent for manganese and about 11 percent for sodium. Because of the possible reduced accuracy due to matrix interference, the 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 7 shows the total anion and cation results in groundwater samples from this event and the charge balance, which is an 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	124.93	131.13	2.42
SHP01	0610	166.70	170.11	1.01
SHP01	0611	118.87	130.85	4.80
SHP01	0612	11.99	12.83	3.38
SHP01	0614	165.92	174.08	2.40
SHP01	0615	99.35	101.53	1.08
SHP01	0618	266.34	283.82	3.18
SHP01	0619	86.01	93.12	3.97
SHP01	0622	64.23	78.16	9.78
SHP01	0623	61.59	72.66	8.25
SHP01	0625	61.75	70.62	6.69
SHP01	0626	45.66	54.08	8.44
SHP01	0628	63.66	78.03	10.15
SHP01	0630	111.21	116.42	2.29
SHP01	0734	65.60	7.28	Not Applicable
SHP01	0735	329.86	363.26	4.82
SHP01	0736	66.65	75.13	5.98
SHP01	0768	87.93	98.39	5.61
SHP01	0773	54.46	50.06	4.21
SHP01	0775	138.33	104.67	13.85
SHP01	0779	492.14	547.21	5.30
SHP01	0782R	16.62	17.50	2.59
SHP01	0783R	14.40	15.90	4.94
SHP01	0792	269.44	325.33	9.40
SHP01	0793	152.47	163.55	3.50
SHP01	0797	96.67	103.54	3.43
SHP01	0798	177.99	139.92	11.98
SHP01	0850	17.94	23.40	13.22
SHP01	0853	19.52	20.49	2.43
SHP01	0854	408.57	201.59	33.92
SHP01	0855	76.43	82.09	3.57
SHP01	0856	64.57	62.94	1.28
SHP01	0857	105.02	92.77	6.20

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

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP01	1008	139.45	147.43	2.78
SHP01	1009	43.87	45.70	2.03
SHP01	1089	97.98	104.45	3.20
SHP01	1104	135.43	143.92	3.04
SHP01	1105	221.19	225.18	0.90
SHP01	1109	58.43	65.13	5.41
SHP01	1110	145.56	144.08	0.51
SHP01	1111	284.57	295.07	1.81
SHP01	1112	187.70	197.94	2.66
SHP01	1113	107.13	116.66	4.26
SHP01	1114	88.72	96.67	4.29
SHP01	1115	132.84	142.46	3.49
SHP01	1117	5.31	5.55	2.25
SHP01	1118	147.41	160.12	4.13
SHP01	1128	267.42	274.99	1.40
SHP01	1132	6.03	6.28	1.96
SHP01	1134	16.87	17.80	2.67
SHP01	1135	80.22	91.41	6.52
SHP01	1136	38.84	41.71	3.57
SHP01	1137	107.41	115.55	3.65
SHP01	1138	165.14	184.46	5.53
SHP01	1139	146.81	160.46	4.44
SHP01	1140	168.15	194.57	7.29
SHP01	1141	104.88	114.30	4.30
SHP01	1142	4.84	5.45	5.93
SHP01	1143	53.04	60.49	6.56

milliequivalents = meq/L

The charge balance differences for all wells were below 10 percent with the exception of locations 0628, 0775, 0798, 0850, and 0854. There were no analytical errors identified during the review of the data. At location 0734, a sample was collected for metals only; the charge balance difference could not be calculated.

Electronic Data Deliverable (EDD) File

Revised EDD files arrived on October 30, 2012, and December 12, 2012. The revisions included updated sample and quality control results for client sample 0768 and corrections to results for 1009 and 1109. 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: 12074743 **Lab Code:** PAR **Validator:** Gretchen Baer **Validation Date:** 10/9/2012

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

# of Samples: 82 **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 3 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0			1.0	106.0		108.0
Calcium	ICP/ES	08/23/2012							OK	98.0	99.0	94.0	2.0	104.0	1.0	109.0
Calcium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0			2.0	105.0	0.0	108.0
Calcium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0	96.0	92.0	2.0	109.0	0.0	113.0
Calcium	ICP/ES	08/23/2012							OK	97.0	101.0	97.0	1.0	105.0	2.0	108.0
Calcium	ICP/ES	08/23/2012							OK	101.0			2.0	110.0	2.0	113.0
Magnesium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0			2.0	105.0	0.0	107.0
Magnesium	ICP/ES	08/23/2012							OK	97.0			2.0	107.0	1.0	109.0
Magnesium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	95.0	94.0	2.0	108.0	2.0	110.0
Magnesium	ICP/ES	08/23/2012							OK	95.0	97.0	94.0	2.0	104.0	1.0	106.0
Magnesium	ICP/ES	08/23/2012							OK	93.0	96.0	94.0	2.0	105.0	0.0	107.0
Magnesium	ICP/ES	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0			1.0	108.0		107.0
Manganese	ICP/ES	08/23/2012							OK	95.0			1.0	98.0	2.0	110.0
Manganese	ICP/ES	08/23/2012							OK	91.0	94.0	92.0	2.0	96.0		108.0
Manganese	ICP/ES	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0			1.0	99.0		109.0
Manganese	ICP/ES	08/23/2012							OK	90.0	92.0	90.0	1.0	96.0	0.0	105.0
Manganese	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0	94.0	93.0	1.0	100.0	26.0	111.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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								
Manganese	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0			2.0	99.0	0.0	110.0
Potassium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	94.0	102.0	101.0	1.0			81.0
Potassium	ICP/ES	08/23/2012							OK	94.0	103.0	101.0	1.0			77.0
Potassium	ICP/ES	08/23/2012							OK	95.0	102.0		1.0			83.0
Potassium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0	122.0	129.0	2.0			79.0
Potassium	ICP/ES	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0						83.0
Potassium	ICP/ES	08/23/2012							OK	94.0	103.0	101.0	2.0			80.0
Sodium	ICP/ES	08/27/2012	0.0000	1.0000	OK	OK	OK	OK								81.0
Sodium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0			2.0		8.0	86.0
Sodium	ICP/ES	08/27/2012														86.0
Sodium	ICP/ES	08/27/2012														87.0
Sodium	ICP/ES	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0			0.0			89.0
Sodium	ICP/ES	08/23/2012							OK	92.0	101.0	99.0	1.0		11.0	80.0
Sodium	ICP/ES	08/23/2012							OK	92.0	100.0	96.0	2.0		12.0	88.0
Sodium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0	98.0	95.0	1.0		11.0	84.0
Sodium	ICP/ES	08/23/2012							OK	93.0			1.0		8.0	88.0
Strontium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	96.0			1.0	96.0	7.0	96.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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								
Strontium	ICP/ES	08/23/2012							OK	96.0	95.0	92.0	1.0	100.0	3.0	103.0
Strontium	ICP/ES	08/23/2012							OK	96.0	96.0	94.0	1.0	96.0	2.0	94.0
Strontium	ICP/ES	10/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	99.0			0.0	101.0		92.0
Strontium	ICP/ES	08/23/2012							OK	98.0			1.0	103.0	2.0	102.0
Strontium	ICP/ES	08/23/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	92.0	91.0	1.0	102.0	2.0	102.0
Selenium	ICP/MS	08/25/2012							OK	100.0				101.0	4.0	
Selenium	ICP/MS	08/25/2012							OK	99.0						87.0
Selenium	ICP/MS	08/24/2012									100.0	102.0	2.0			
Selenium	ICP/MS	08/24/2012									101.0	102.0	1.0			
Selenium	ICP/MS	08/24/2012									108.0	107.0	0.0			
Selenium	ICP/MS	08/25/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0	108.0	101.0	7.0	98.0		
Selenium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK			104.0	105.0	2.0			
Selenium	ICP/MS	08/25/2012							OK	100.0				105.0		
Selenium	ICP/MS	08/25/2012							OK	99.0						113.0
Uranium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK					4.0			
Uranium	ICP/MS	08/24/2012									104.0	106.0	1.0			
Uranium	ICP/MS	08/24/2012									105.0	104.0	1.0			

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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	08/24/2012											1.0			
Uranium	ICP/MS	08/25/2012	0.0000	1.0000	OK	OK	OK	OK	OK	106.0	114.0	106.0	6.0	104.0	0.0	
Uranium	ICP/MS	08/25/2012							OK	105.0			6.0	102.0	8.0	
Uranium	ICP/MS	08/25/2012							OK	105.0				101.0	0.0	
Uranium	ICP/MS	08/25/2012							OK	103.0					1.0	110.0
Uranium	ICP/MS	08/25/2012							OK	107.0					1.0	81.0

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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	08/16/2012	0.000	1.0000	OK	OK	OK	OK	OK	103.00				
AMMONIA AS N	08/17/2012	0.000	1.0000	OK	OK	OK	OK	OK	101.00	89.0	87.0	2.00	
AMMONIA AS N	08/17/2012							OK	97.00	100.0	103.0	3.00	
AMMONIA AS N	08/17/2012							OK	96.00	91.0	92.0	1.00	
AMMONIA AS N	08/17/2012							OK	97.00	90.0	90.0	0	
CHLORIDE	08/16/2012	0.000	1.0000	OK	OK	OK	OK						
CHLORIDE	08/22/2012							OK	97.00	102.0	103.0	0	
CHLORIDE	08/22/2012							OK	97.00	105.0	104.0	1.00	
CHLORIDE	08/22/2012									106.0			
CHLORIDE	08/22/2012									109.0			
CHLORIDE	08/23/2012							OK	97.00	105.0	106.0	0	
CHLORIDE	08/23/2012							OK	96.00	104.0	104.0	2.00	
CHLORIDE	08/23/2012									103.0			
CHLORIDE	08/24/2012							OK	96.00	106.0	103.0	2.00	
CHLORIDE	08/24/2012									106.0			

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12074743 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/5/2012

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	08/23/2012	0.000	1.0000	OK	OK	OK	OK	OK	99.00	105.0	104.0	1.00	
Nitrate+Nitrite as N	08/23/2012							OK	101.00	101.0	103.0	1.00	
Nitrate+Nitrite as N	08/23/2012							OK	99.00	106.0	104.0	3.00	
Nitrate+Nitrite as N	08/24/2012	0.000	1.0000	OK	OK	OK	OK	OK	97.00	102.0	103.0	0	
Nitrate+Nitrite as N	08/27/2012	0.000	1.0000	OK	OK	OK	OK	OK	103.00	106.0	108.0	2.00	
SULFATE	08/16/2012	0.000	1.0000	OK	OK	OK	OK						
SULFATE	08/22/2012							OK	98.00	96.0	100.0	1.00	
SULFATE	08/22/2012							OK	98.00	99.0	88.0	1.00	
SULFATE	08/22/2012									93.0			
SULFATE	08/22/2012									108.0			
SULFATE	08/23/2012							OK	98.00	97.0	98.0	0	
SULFATE	08/23/2012							OK	97.00	103.0	105.0	2.00	
SULFATE	08/23/2012									103.0			
SULFATE	08/24/2012							OK	97.00	103.0			

General Information

Report Number (RIN):	12074744
Sample Event:	August 6-10, 2012
Site(s):	Shiprock Disposal Site (Terrace), New Mexico
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1208185
Analysis:	Metals and Wet Chemistry
Validator:	Gretchen Baer
Review Date:	December 5, 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
All	All	Potassium	J	MS & serial dilutions have positive bias
1208185-21	0826	Manganese	J	Matrix spike has positive bias
1208185-41	1068	Sodium	J	Serial dilution has positive bias

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 64 water samples on August 15, 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 1.0, 0.8, 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 one exception. The laboratory noticed that two bottles for location 1069 had pH values that contradicted the bottles' labels, which indicated that the labels had been switched. The laboratory corrected the error and proceeded with sample 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 August 16, 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 13 verification checks. All calibration checks met the acceptance criteria.

Method EPA 353.2
Calibrations were performed for nitrate + nitrite as N on August 21 and 22, 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 August 22 and 23, 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. Initial and continuing calibration verification checks were made at the required frequency resulting in 28 verification checks. All calibration checks associated with reported results met the acceptance criteria acceptance range of 70 to 130 percent. 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 August 24 and 25, 2012, and October 23, 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. Initial and continuing calibration verification checks were made at the required frequency resulting in 18 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 of 70 to 130 percent. 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 August 16, 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 19 verification checks. All calibration checks met the acceptance criteria with the exception of three sulfate 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 exceptions. The recoveries for most potassium spikes and post spikes were above the acceptance range with a positive bias of about 35 percent, which indicates systematic matrix interference. All potassium results are qualified with a "J" flag (estimated). For one of the spiked samples, the concentration of manganese in the unspiked sample was only slightly greater than 4 times the spike concentration and the spike recoveries were significantly above the

acceptance criteria with a positive bias of about 55 percent. The associated sample result is 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 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 potassium and sodium prepared from sample 1068 did not meet the acceptance criteria. Because of the possible reduced accuracy due to matrix interference, the 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 an 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	240.33	280.25	7.67
SHP02	0602	379.89	426.49	5.78
SHP02	0603	193.61	192.21	0.36
SHP02	0604	380.58	389.72	1.19
SHP02	0725	64.10	72.93	6.44
SHP02	0727	235.81	246.17	2.15
SHP02	0728	106.96	110.97	1.84
SHP02	0731	92.27	107.98	7.85
SHP02	0812	529.51	503.92	2.48
SHP02	0813	429.67	399.09	3.69
SHP02	0814	341.88	360.32	2.63
SHP02	0815	378.66	386.88	1.07
SHP02	0816	38.33	40.94	3.29
SHP02	0817	318.54	341.47	3.47
SHP02	0818	354.70	389.81	4.72
SHP02	0819	311.38	355.11	6.56
SHP02	0822	246.33	302.72	10.27
SHP02	0824	210.81	246.72	7.85
SHP02	0825	273.95	309.52	6.10
SHP02	0826	315.51	321.74	0.98
SHP02	0827	186.39	172.86	3.77
SHP02	0828	60.85	63.25	1.93
SHP02	0830	43.81	44.52	0.81
SHP02	0833	124.29	135.40	4.28
SHP02	0835	85.06	86.78	1.00
SHP02	0836	60.52	64.81	3.42
SHP02	0837	60.67	61.21	0.44
SHP02	0838	224.22	233.25	1.97
SHP02	0841	346.71	388.30	5.66
SHP02	0843	40.10	43.43	3.98
SHP02	0844	314.50	308.65	0.94
SHP02	0848	346.64	375.00	3.93
SHP02	1007	325.11	317.33	1.21
SHP02	1048	373.40	449.05	9.20
SHP02	1049	394.04	443.17	5.87
SHP02	1057	205.76	232.36	6.07
SHP02	1058	134.82	156.50	7.44
SHP02	1059	206.44	229.12	5.21
SHP02	1068	148.87	158.06	3.00
SHP02	1069	281.40	288.68	Not Applicable
SHP02	1070	328.97	378.82	7.04
SHP02	1071	318.52	379.87	8.78
SHP02	1073	305.71	334.12	4.44
SHP02	1074	311.41	323.98	1.98
SHP02	1078	339.28	352.83	1.96

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

Site Code	Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
SHP02	1079	84.42	86.54	1.24
SHP02	1087	198.53	214.70	3.91
SHP02	1088	405.30	475.12	7.93
SHP02	1091	385.88	399.77	1.77
SHP02	1092	355.24	384.15	3.91
SHP02	1093R	270.61	281.62	1.99
SHP02	1095	230.46	237.48	1.50
SHP02	1096	330.48	376.79	6.55
SHP02	MW1	176.44	206.11	7.76

milliequivalents = meq/L

The charge balance differences for all wells were below 10 percent with the exception of location 0822. There were no analytical errors identified during the review of the data. At location 1069, alkalinity could not be measured; the charge balance difference could not be calculated.

EDD File

A revised EDD file arrived on November 2, 2012. The revision included corrections to the metals results for client samples 2810 and 2811 and to the selenium result for sample 0817. 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: 12074744 **Lab Code:** PAR **Validator:** Gretchen Baer **Validation Date:** 11/28/2012

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

# of Samples: 64 **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

Wet Chemistry Data Validation Worksheet

RIN: 12074744 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/4/2012

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	08/16/2012	0.000	1.0000	OK	OK	OK	OK	OK	104	105	113	8	
AMMONIA AS N	08/16/2012							OK	100				
AMMONIA AS N	08/16/2012							OK	102				
AMMONIA AS N	08/16/2012							OK	103				
CHLORIDE	08/16/2012	0.000	1.0000	OK	OK	OK	OK						
CHLORIDE	08/20/2012							OK	98	103	104	1	
CHLORIDE	08/20/2012							OK	100	99	98	2	
CHLORIDE	08/20/2012									100			
CHLORIDE	08/20/2012									102			
CHLORIDE	08/21/2012							OK	96	104	101	2	
CHLORIDE	08/21/2012							OK	96	104	102	0	
CHLORIDE	08/21/2012									102			
Nitrate+Nitrite as N	08/21/2012							OK	99	117	91	7	
Nitrate+Nitrite as N	08/21/2012	0.000	1.0000	OK	OK	OK	OK	OK	98	112	82	8	
Nitrate+Nitrite as N	08/22/2012	0.000	1.0000	OK	OK	OK	OK	OK	102	96	109	3	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 12074744 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/4/2012

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	08/22/2012							OK	103				
Sulfate	08/16/2012	0.000	1.0000	OK	OK	OK	OK						
SULFATE	08/20/2012							OK	99	103	105	1	
SULFATE	08/20/2012							OK	100	100	102	1	
SULFATE	08/20/2012									104			
SULFATE	08/20/2012									108			
SULFATE	08/21/2012							OK	97	99	93	1	
SULFATE	08/21/2012							OK	97	111	105	0	
SULFATE	08/21/2012									104			

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074744 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/4/2012

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	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0			3.0	106.0	5.0	105.0
Calcium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	99.0			3.0	109.0	4.0	113.0
Calcium	ICP/ES	08/22/2012							OK	97.0			0.0	108.0	2.0	108.0
Calcium	ICP/ES	08/22/2012							OK	98.0	115.0	82.0	5.0	107.0	3.0	108.0
Magnesium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0			4.0	108.0	2.0	104.0
Magnesium	ICP/ES	08/22/2012							OK	94.0			3.0	107.0	3.0	103.0
Magnesium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	97.0	116.0	82.0	5.0	108.0	0.0	105.0
Magnesium	ICP/ES	08/22/2012							OK	96.0	88.0	87.0	0.0	108.0	0.0	110.0
Manganese	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	95.0	89.0	5.0	100.0		111.0
Manganese	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	167.0	146.0	3.0	98.0	4.0	109.0
Manganese	ICP/ES	08/22/2012							OK	92.0	98.0	88.0	3.0	100.0	5.0	112.0
Manganese	ICP/ES	08/22/2012							OK	93.0	92.0	91.0	0.0	96.0	0.0	106.0
Potassium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	90.0	128.0	119.0	3.0		30.0	78.0
Potassium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0	153.0	135.0	4.0			79.0
Potassium	ICP/ES	08/22/2012							OK	92.0	152.0	138.0	5.0			77.0
Potassium	ICP/ES	08/22/2012							OK	91.0	114.0	112.0	1.0			
Potassium	ICP/ES	08/22/2012									187.0					

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074744 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/4/2012

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	08/22/2012									119.0					
Potassium	ICP/ES	08/22/2012									136.0					81.0
Sodium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0			6.0		7.0	84.0
Sodium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	92.0			5.0		11.0	86.0
Sodium	ICP/ES	08/22/2012							OK	89.0			1.0		10.0	85.0
Sodium	ICP/ES	08/22/2012							OK	90.0	93.0	81.0	1.0		9.0	82.0
Strontium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0			1.0	102.0	1.0	102.0
Strontium	ICP/ES	08/22/2012	0.0000	1.0000	OK	OK	OK	OK	OK	93.0			5.0	98.0	2.0	99.0
Strontium	ICP/ES	08/22/2012							OK	94.0			4.0	97.0	2.0	99.0
Strontium	ICP/ES	08/22/2012							OK	91.0			3.0	96.0	4.0	97.0
Selenium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	104.0	106.0	106.0	0.0	101.0	3.0	88.0
Selenium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	101.0	113.0	115.0	2.0	101.0		114.0
Selenium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	98.0	119.0	123.0	2.0	105.0		87.0
Selenium	ICP/MS	08/24/2012							OK	101.0			0.0	98.0		113.0
Uranium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	108.0			1.0		1.0	
Uranium	ICP/MS	08/24/2012	0.0000	1.0000	OK	OK	OK	OK	OK	102.0			5.0	104.0	8.0	
Uranium	ICP/MS	08/24/2012							OK	103.0			2.0	102.0	3.0	110.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 12074744 **Lab Code:** PAR **Date Due:** 9/12/2012

Matrix: Water **Site Code:** SHP01 **Date Completed:** 9/4/2012

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	08/24/2012							OK	110.0	104.0	104.0	0.0	101.0	1.0	80.0

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, 0773, and 0797, and terrace wells 0600, 0602, 0604, 0727, 0812, 0814, 0817, 0822, 0824, 0825, 0826, 0827, 1007, 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.

Equipment Blank Assessment

Equipment blanks are prepared and analyzed to document contamination attributable to the sample collection process. Equipment blanks are prepared and analyzed to document contamination attributable the sample collection process. An equipment blank (field ID 2215) was collected after decontamination of the tubing reel used to collect some surface water samples. Uranium was detected in this blank. The associated sample concentrations for uranium were greater than 5 times the blank concentration, so no further qualification is necessary. Sodium was detected in the blank by the laboratory, but this analyte has been qualified during data validation with a "U" flag as not detected. 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 0608, 0618, and 1128. The duplicate results met the criteria with the exception of the potassium results from location 1128, which was above the criteria at 27 percent. The laboratory used a different dilution factor for this sample and its associated field duplicate; therefore, the duplicate results may indicate matrix interference rather than field or laboratory imprecision. The sample and associated duplicate results are qualified with a "J" flag as estimated values.

Duplicate terrace samples were collected from locations 0728, 0844, 1079, and 1087. The duplicate results met the criteria with the exception of the potassium results from locations 0844,

1079, and 1087. The laboratory used a different dilution factor for these samples and their associated field duplicates; therefore, the duplicate results indicate matrix interference in addition to the field or laboratory imprecision. All potassium results have been previously qualified for serial dilution results above the acceptance criteria.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Equipment/Trip Blanks

RIN: 12074743 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/9/2012

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	1208187-82	SW6020	Uranium	0.011		0.0029	UG/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
1208187-41	KIT 402	0899	1.6	1		
1208187-42	KIT 421	0899	3.4	1		
1208187-45	KIT 369	0956	1.4	1		
1208187-46	KIT 406	0956	2.8	1		
1208187-77	KIT 365	1205	1.5	1		
1208187-78	KIT 373	1205	3.3	1		

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12074743 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/9/2012

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	380			200	370			200	2.67		MG/L
Calcium	430000			10	450000			50	4.55		UG/L
CHLORIDE	340			200	350			200	2.90		MG/L
Magnesium	1600000			10	1600000			50	0		UG/L
Manganese	4000			10	4200			50	4.88		UG/L
Nitrate+Nitrite as N	660			500	670			500	1.50		MG/L
Potassium	170000			10	130000			50	26.67		UG/L
Selenium	18			50	20			50	10.53		UG/L
Sodium	1900000			50	1700000			50	11.11		UG/L
Strontium	9300			10	9500			50	2.13		UG/L
SULFATE	9600			200	9800			200	2.06		MG/L
Uranium	1500			50	1500			50	0		UG/L

Duplicate: 2211 **Sample:** 0608

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	78			20	72			20	8.00		MG/L
Calcium	330000			10	320000			5	3.08		UG/L
CHLORIDE	190			100	200			50	5.13		MG/L
Magnesium	490000			10	490000			5	0		UG/L
Manganese	2700			10	2600			5	3.77		UG/L
Nitrate+Nitrite as N	63			50	66			50	4.65		MG/L
Potassium	60000			10	68000			5	12.50		UG/L
Selenium	4.2			10	4.1			5	2.41		UG/L
Sodium	1400000			10	1300000			50	7.41		UG/L
Strontium	6900			10	6700			5	2.94		UG/L
SULFATE	5500			100	5700			100	3.57		MG/L
Uranium	660			10	680			50	2.99		UG/L

Duplicate: 2212 **Sample:** 0618

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	36			10	35			10	2.82		MG/L
Calcium	400000			20	420000			50	4.88		UG/L
CHLORIDE	500			100	470			100	6.19		MG/L
Magnesium	1400000			20	1400000			50	0		UG/L
Manganese	7200			20	7400			50	2.74		UG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12074743 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 10/9/2012

Duplicate: 2212 **Sample:** 0618

Analyte	Sample Result	Flag	Error	Dilution	Duplicate Result	Flag	Error	Dilution	RPD	RER	Units
Nitrate+Nitrite as N	43			50	42			50	2.35		MG/L
Potassium	91000			20	77000	N		50	16.67		UG/L
Selenium	360			100	370			50	2.74		UG/L
Sodium	2900000			20	2800000			50	3.51		UG/L
Strontium	8900			20	8800			50	1.13		UG/L
SULFATE	12000			200	12000			200	0		MG/L
Uranium	1700			100	1800			50	5.71		UG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12074744 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 1/3/2013

Duplicate: 2319 **Sample:** 1087

	Sample				Duplicate						
Analyte	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution	RPD	RER	Units
AMMONIA AS N	160			100	160			100	0		MG/L
Calcium	500000			25	490000			5	2.02		UG/L
CHLORIDE	290			200	280			200	3.51		MG/L
Magnesium	1300000			25	1400000			5	7.41		UG/L
Manganese	1200			25	1200			5	0		UG/L
Nitrate+Nitrite as N	340			200	360			200	5.71		MG/L
Potassium	110000			25	150000			5	30.77		UG/L
Selenium	26			10	24			10	8.00		UG/L
Sodium	1200000			25	1200000			50	0		UG/L
Strontium	9600			25	9400			5	2.11		UG/L
SULFATE	8100			200	7600			200	6.37		MG/L
Uranium	570			10	560			10	1.77		UG/L

Duplicate: 2320 **Sample:** 1079

	Sample				Duplicate						
Analyte	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Calcium	940000			10	980000			5	4.17		UG/L
CHLORIDE	370			100	380			100	2.67		MG/L
Magnesium	190000			1	200000			5	5.13		UG/L
Manganese	5.2			1	3.3	B		5	NA		UG/L
Nitrate+Nitrite as N	340			200	350			200	2.90		MG/L
Potassium	15000			1	11000			5	30.77		UG/L
Selenium	710			10	710			10	0		UG/L
Sodium	490000			10	520000			5	5.94		UG/L
Strontium	8300			1	9100			5	9.20		UG/L
SULFATE	2200			100	2300			100	4.44		MG/L
Uranium	48			10	46			10	4.26		UG/L

Duplicate: 2810 **Sample:** 0844

	Sample				Duplicate						
Analyte	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Calcium	530000			10	510000			20	3.85		UG/L
CHLORIDE	790			200	790			200	0		MG/L
Magnesium	2000000			10	1800000			20	10.53		UG/L
Manganese	9.3	B		10	2.3	U		20			UG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 12074744 **Lab Code:** PAR **Project:** Shiprock Monitoring **Validation Date:** 1/3/2013

Duplicate: 2810 **Sample:** 0844

Analyte	Sample Result	Flag	Error	Dilution	Duplicate Result	Flag	Error	Dilution	RPD	RER	Units
Nitrate+Nitrite as N	950			500	850			500	11.11		MG/L
Potassium	58000			10	47000			20	20.95		UG/L
Selenium	2000			50	1900			20	5.13		UG/L
Sodium	2800000			50	2400000			20	15.38		UG/L
Strontium	13000			10	13000			20	0		UG/L
SULFATE	9800			200	9700			200	1.03		MG/L
Uranium	210			50	200			20	4.88		UG/L

Duplicate: 2811 **Sample:** 0728

Analyte	Sample Result	Flag	Error	Dilution	Duplicate Result	Flag	Error	Dilution	RPD	RER	Units
AMMONIA AS N	86			20	83			100	3.55		MG/L
Calcium	480000			5	490000			5	2.06		UG/L
CHLORIDE	45			50	49			10			MG/L
Magnesium	620000			5	640000			5	3.17		UG/L
Manganese	1100			5	1100			5	0		UG/L
Nitrate+Nitrite as N	110			100	100			100	9.52		MG/L
Potassium	71000			5	75000			5	5.48		UG/L
Selenium	1.8			5	2			5	10.53		UG/L
Sodium	550000			5	580000			5	5.31		UG/L
Strontium	5700			5	5900			5	3.45		UG/L
SULFATE	4500			50	4300			100	4.55		MG/L
Uranium	240			5	240			5	0		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: 3-25-2013

Data Validation Lead: Gretchen Baer — Date: 3-28-2013

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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. The review should include an evaluation of any notable trends in the data that may indicate the outliers represent true extreme values.

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

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Filtered Samples

Laboratory: ALS Laboratory Group

RIN: 12074743

Report Date: 1/15/2013

					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	0899	0001	08/07/2012	Magnesium	6.8			13			8			9	0	No
SHP01	0899	0001	08/07/2012	Potassium	3.1			3			1.5			9	0	No
SHP01	0965	0001	08/07/2012	Manganese	0.0027	B		0.061			0.0032	B		20	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.

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12074743

Report Date: 1/15/2013

					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	0608	N002	08/07/2012	Magnesium	490		F	2370			500		F	16	0	No
SHP01	0608	N001	08/07/2012	Magnesium	490		F	2370			500		F	16	0	No
SHP01	0611	N001	08/07/2012	Calcium	150		F	350		F	160		F	7	0	No
SHP01	0611	N001	08/07/2012	Magnesium	76		F	500			87		F	7	0	No
SHP01	0611	N001	08/07/2012	Manganese	0.053		F	0.51		F	0.057	B	F	6	0	No
SHP01	0611	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	0.016		F	120		F	0.042		F	6	0	No
SHP01	0611	N001	08/07/2012	Selenium	0.00049		F	0.084		F	0.0006		F	6	0	No
SHP01	0611	N001	08/07/2012	Strontium	6.6		F	8.7		F	7		F	6	0	No
SHP01	0611	N001	08/07/2012	Uranium	0.0063		F	0.5263			0.0067		F	7	0	No
SHP01	0612	N001	08/07/2012	Selenium	0.00021		F	0.043	NS		0.00029		F	9	1	No
SHP01	0614	N001	08/07/2012	Chloride	210		F	580		F	260		F	17	0	No
SHP01	0614	N001	08/07/2012	Magnesium	940		F	2900			1200		F	20	0	No
SHP01	0614	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	120		F	610		F	150		F	12	0	No
SHP01	0614	N001	08/07/2012	Sodium	1400		F	3600			1500		F	20	0	No
SHP01	0614	N001	08/07/2012	Strontium	7.2		F	13		F	7.6		F	11	0	No
SHP01	0614	N001	08/07/2012	Sulfate	7200		F	15000		F	7800		F	20	0	No
SHP01	0614	N001	08/07/2012	Uranium	1.2		F	2.8343			1.3		F	20	0	No
SHP01	0618	N002	08/07/2012	Chloride	470		F	720		F	497			15	0	No
SHP01	0618	N001	08/07/2012	Magnesium	1400		F	2200			1450			18	0	No
SHP01	0618	N002	08/07/2012	Magnesium	1400		F	2200			1450			18	0	No
SHP01	0618	N002	08/07/2012	Manganese	7.4		F	50	U		8.1		F	14	1	No
SHP01	0618	N001	08/07/2012	Manganese	7.2		F	50	U		8.1		F	14	1	No
SHP01	0618	N002	08/07/2012	Nitrate + Nitrite as Nitrogen	42		F	350		F	50		F	11	0	No
SHP01	0618	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	43		F	350		F	50		F	11	0	No
SHP01	0618	N002	08/07/2012	Strontium	8.8		F	11		F	8.9		F	9	0	No
SHP01	0618	N002	08/07/2012	Uranium	1.8		F	2.83		F	1.9		F	18	0	No
SHP01	0618	N001	08/07/2012	Uranium	1.7		F	2.83		F	1.9		F	18	0	No
SHP01	0622	N001	08/09/2012	Selenium	0.0091		F	0.23		F	0.024		F	7	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data for Unfiltered Samples
Laboratory: ALS Laboratory Group
RIN: 12074743
Report Date: 1/15/2013

					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	0623	N001	08/09/2012	Selenium	0.00064		F	0.0075	UN	FJ	0.0014		F	9	4	No
SHP01	0623	N001	08/09/2012	Strontium	10		F	9.9		F	8.1		F	6	0	No
SHP01	0625	N001	08/09/2012	Selenium	0.0011		F	0.002		F	0.0013		F	7	1	No
SHP01	0626	N001	08/09/2012	Calcium	160		F	325		F	172			15	0	Yes
SHP01	0626	N001	08/09/2012	Chloride	62		F	124		F	68		F	12	0	No
SHP01	0626	N001	08/09/2012	Magnesium	23		F	151			35		F	15	0	No
SHP01	0626	N001	08/09/2012	Sodium	810		F	1470		F	820		F	15	0	No
SHP01	0626	N001	08/09/2012	Sulfate	2300		F	3990		F	2346.3			15	0	No
SHP01	0630	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	60		F	50		F	0.019		F	10	0	No
SHP01	0630	N001	08/09/2012	Selenium	0.29		F	0.27		F	0.0046		F	12	0	No
SHP01	0734	N001	08/08/2012	Magnesium	96		FQ	380		F	110		FQ	7	0	No
SHP01	0736	N001	08/08/2012	Chloride	76		F	655			77		F	10	0	No
SHP01	0766	N001	08/08/2012	Calcium	310		F	420		F	321		F	6	0	No
SHP01	0766	N001	08/08/2012	Magnesium	230		F	960			276		F	6	0	No
SHP01	0768	N001	08/09/2012	Calcium	190		F	428			250		F	13	0	Yes
SHP01	0768	N001	08/09/2012	Magnesium	150		F	1390		F	180		F	13	0	No
SHP01	0768	N001	08/09/2012	Potassium	28		F	180		F	50	EN	FJ	13	0	No
SHP01	0768	N001	08/09/2012	Strontium	6.4		F	14.8		F	6.9		F	6	0	No
SHP01	0768	N001	08/09/2012	Sulfate	4100		F	18600		F	4300	N	FJ	13	0	No
SHP01	0768	N001	08/09/2012	Uranium	0.15		F	1.4		F	0.16		F	13	0	No
SHP01	0773	N001	08/07/2012	Ammonia Total as N	27		FQ	4.6		FJ	0.016	U	F	12	2	Yes
SHP01	0773	N001	08/07/2012	Uranium	0.21		FQ	0.9184			0.28		F	13	0	No
SHP01	0775	N001	08/09/2012	Calcium	650		F	486			378			11	0	Yes
SHP01	0775	N001	08/09/2012	Strontium	8.5		F	7.1		F	5.1		F	5	0	No
SHP01	0779	N001	08/07/2012	Ammonia Total as N	0.1	U	F	11		F	0.96		F	13	0	No
SHP01	0779	N001	08/07/2012	Chloride	960		F	500		F	149			10	0	Yes
SHP01	0779	N001	08/07/2012	Magnesium	2900		F	1500		F	660		F	13	0	Yes
SHP01	0779	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	67		F	41		F	0.01	U	F	9	3	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data for Unfiltered Samples
Laboratory: ALS Laboratory Group
RIN: 12074743
Report Date: 1/15/2013

					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	0779	N001	08/07/2012	Potassium	230		F	120		F	54.2			13	0	Yes
SHP01	0779	N001	08/07/2012	Sodium	5100		F	3230			1500		F	13	0	Yes
SHP01	0779	N001	08/07/2012	Strontium	21		F	13		F	6		F	7	0	Yes
SHP01	0779	N001	08/07/2012	Sulfate	23000		F	12000		F	6060		F	13	0	Yes
SHP01	0779	N001	08/07/2012	Uranium	4.6		F	2.3615			0.59		F	13	0	Yes
SHP01	0782R	N001	08/07/2012	Sodium	180		F	170		F	72		F	8	0	No
SHP01	0783R	N001	08/07/2012	Uranium	0.0066		F	0.0104	E	F	0.007		F	8	0	No
SHP01	0793	N001	08/08/2012	Ammonia Total as N	12		F	10		F	2.3		F	8	0	No
SHP01	0793	N001	08/08/2012	Calcium	540		F	460		F	220		F	8	0	No
SHP01	0793	N001	08/08/2012	Chloride	250		F	161			82		F	8	0	No
SHP01	0793	N001	08/08/2012	Magnesium	860		F	640		F	400		F	8	0	No
SHP01	0793	N001	08/08/2012	Nitrate + Nitrite as Nitrogen	33		F	31		F	4		F	7	0	No
SHP01	0793	N001	08/08/2012	Sodium	1200		F	1100		F	510		F	8	0	No
SHP01	0793	N001	08/08/2012	Strontium	8.3		F	5.8		F	3.6		F	7	0	Yes
SHP01	0793	N001	08/08/2012	Sulfate	6800		F	5100		F	3000		F	8	0	No
SHP01	0793	N001	08/08/2012	Uranium	1.5		F	1		F	0.54		F	8	0	Yes
SHP01	0798	N001	08/09/2012	Calcium	610		F	520		F	387		F	8	0	No
SHP01	0798	N001	08/09/2012	Selenium	0.0022		F	0.14		F	0.0028		F	7	0	No
SHP01	0853	N001	08/07/2012	Selenium	0.000075	B	F	0.0075	UN	FJ	0.000091	B	UF	11	5	No
SHP01	0854	N001	08/08/2012	Calcium	840		F	490		F	330		F	7	0	Yes
SHP01	0854	N001	08/08/2012	Magnesium	1700		F	1500		F	690		F	7	0	No
SHP01	0854	N001	08/08/2012	Manganese	7.1		F	3.8		F	2.5		F	6	0	Yes
SHP01	0854	N001	08/08/2012	Potassium	170		F	120		F	30			7	0	No
SHP01	0854	N001	08/08/2012	Selenium	0.006		F	0.028		F	0.0062		FJ	6	0	No
SHP01	0854	N001	08/08/2012	Sodium	5100		F	3400		F	1900		FJ	7	0	Yes
SHP01	0854	N001	08/08/2012	Strontium	16		F	10		F	6		F	6	0	Yes
SHP01	0855	N001	08/08/2012	Nitrate + Nitrite as Nitrogen	13		F	11		F	0.01	U	F	10	3	No
SHP01	0855	N001	08/08/2012	Selenium	0.073		F	0.049		F	0.0025		F	10	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12074743

Report Date: 1/15/2013

					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	0897	N002	08/08/2012	Nitrate + Nitrite as Nitrogen	0.35			2			0.36		J	7	0	No
SHP01	0898	N002	08/09/2012	Calcium	55			320			57.9			8	0	No
SHP01	0898	N002	08/09/2012	Magnesium	9.5			120			9.8			8	0	No
SHP01	0898	N002	08/09/2012	Selenium	0.00064			0.013	E	J	0.00071			8	1	No
SHP01	0898	N002	08/09/2012	Sulfate	98			240			110			8	0	No
SHP01	0899	N002	08/07/2012	Calcium	90			80			59			6	0	No
SHP01	0899	N002	08/07/2012	Manganese	0.95			0.7			0.053			6	0	No
SHP01	0899	N002	08/07/2012	Strontium	1.1			1			0.62			6	0	No
SHP01	0940	N002	08/09/2012	Magnesium	9.1			56			9.6			9	0	No
SHP01	0940	N002	08/09/2012	Sulfate	98			150			100			9	0	No
SHP01	1008	N001	08/08/2012	Ammonia Total as N	3.9		F	21		F	6		F	8	0	No
SHP01	1009	N001	08/07/2012	Selenium	0.007		F	0.34		F	0.0084		F	11	0	No
SHP01	1009	N001	08/07/2012	Sodium	210		F	630			240		F	14	0	No
SHP01	1009	N001	08/07/2012	Uranium	0.2		F	0.5313			0.22		F	15	0	No
SHP01	1089	N001	08/09/2012	Chloride	110			270		F	120			10	0	No
SHP01	1089	N001	08/09/2012	Magnesium	210			780		F	230			10	0	No
SHP01	1089	N001	08/09/2012	Selenium	0.0026			0.046			0.0031			9	0	No
SHP01	1089	N001	08/09/2012	Sulfate	4400			7800			4600			10	0	No
SHP01	1089	N001	08/09/2012	Uranium	0.21			1.1			0.23			10	0	No
SHP01	1104	N001	08/09/2012	Chloride	150			540			204			10	0	No
SHP01	1104	N001	08/09/2012	Magnesium	460			1400			583			10	0	No
SHP01	1104	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	2.9			95			11			9	0	No
SHP01	1104	N001	08/09/2012	Selenium	0.0055			0.047			0.0094			9	0	No
SHP01	1104	N001	08/09/2012	Strontium	5.9			9.7			6.4			9	0	No
SHP01	1104	N001	08/09/2012	Uranium	0.49			1.8			0.595			10	0	No
SHP01	1109	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	140			130			27.3			9	0	No
SHP01	1110	N001	08/09/2012	Chloride	220			510			228			11	0	No
SHP01	1111	N001	08/07/2012	Calcium	560		F	436			364			12	0	Yes

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data for Unfiltered Samples
Laboratory: ALS Laboratory Group
RIN: 12074743
Report Date: 1/15/2013

					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	1111	N001	08/07/2012	Potassium	110		F	97			31	B	F	12	0	No
SHP01	1111	N001	08/07/2012	Strontium	19		F	14.2		F	9.1		F	9	0	Yes
SHP01	1112	N001	08/07/2012	Chloride	290		F	529			300		F	12	0	No
SHP01	1112	N001	08/07/2012	Magnesium	1000		F	2100		F	1100		F	15	0	No
SHP01	1112	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	140		F	700		F	160		F	10	0	No
SHP01	1112	N001	08/07/2012	Sulfate	8000		F	14676			8100		F	15	0	No
SHP01	1117	N001	08/06/2012	Selenium	0.00014		F	0.0075	UN	FJ	0.00019		F	12	3	No
SHP01	1118	N001	08/09/2012	Manganese	0.00058	B		0.06			0.0023	U		8	3	No
SHP01	1128	N001	08/06/2012	Manganese	4		F	5.33		F	4.1		F	6	0	No
SHP01	1134	N001	08/06/2012	Calcium	190		F	140		F	39.8			7	0	No
SHP01	1134	N001	08/06/2012	Chloride	32		F	21		F	11		F	7	0	Yes
SHP01	1134	N001	08/06/2012	Manganese	1.2		F	0.63		F	0.25		F	6	0	Yes
SHP01	1134	N001	08/06/2012	Nitrate + Nitrite as Nitrogen	28		F	5.14		F	0.01	U	F	6	3	Yes
SHP01	1134	N001	08/06/2012	Potassium	4.9		F	4.2		FJ	1.9		F	7	0	No
SHP01	1134	N001	08/06/2012	Sodium	84		F	78		FJ	35		F	7	0	No
SHP01	1134	N001	08/06/2012	Strontium	2		F	1.5		F	0.64		F	6	0	No
SHP01	1134	N001	08/06/2012	Sulfate	560		F	410		F	120		F	7	0	No
SHP01	1134	N001	08/06/2012	Uranium	0.024		F	0.02		F	0.009		F	7	0	No
SHP01	1135	N001	08/08/2012	Magnesium	160		F	360		F	170		F	9	0	No
SHP01	1135	N001	08/08/2012	Uranium	0.11		F	0.24		F	0.12		F	9	0	No
SHP01	1137	N001	08/09/2012	Calcium	400		F	300		F	124		F	5	0	No
SHP01	1137	N001	08/09/2012	Chloride	230		F	120		F	48.4		F	5	0	No
SHP01	1137	N001	08/09/2012	Magnesium	560		F	440		F	184		F	5	0	No
SHP01	1137	N001	08/09/2012	Manganese	2.8		F	2		F	0.924		F	5	0	No
SHP01	1137	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	32		F	27		F	3.99		F	5	0	No
SHP01	1137	N001	08/09/2012	Potassium	29		F	25		F	12		F	5	0	No
SHP01	1137	N001	08/09/2012	Selenium	0.0086		F	0.0063		F	0.002		F	5	0	No
SHP01	1137	N001	08/09/2012	Strontium	5.2		F	3.4		F	1.72		F	5	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12074743

Report Date: 1/15/2013

					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	1137	N001	08/09/2012	Sulfate	4800		F	4000		F	2010		F	5	0	No
SHP01	1137	N001	08/09/2012	Uranium	0.6		F	0.49		F	0.172		F	5	0	No
SHP01	1138	N001	08/09/2012	Calcium	620		F	430		F	110		F	5	0	No
SHP01	1138	N001	08/09/2012	Chloride	360		F	200		F	58		F	5	0	No
SHP01	1138	N001	08/09/2012	Magnesium	980		F	590		F	120		F	5	0	No
SHP01	1138	N001	08/09/2012	Manganese	4.2		F	2.5		F	0.56		F	5	0	No
SHP01	1138	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	52		F	27		F	5.8		F	5	0	No
SHP01	1138	N001	08/09/2012	Potassium	46		F	31		F	17.8		F	5	0	No
SHP01	1138	N001	08/09/2012	Selenium	0.0085		F	0.00516	N	F	0.0014		F	5	0	No
SHP01	1138	N001	08/09/2012	Sodium	1200		F	790		F	490		F	5	0	No
SHP01	1138	N001	08/09/2012	Strontium	9.2		F	5.5		F	1.1		F	5	0	No
SHP01	1138	N001	08/09/2012	Sulfate	7700		F	4500		F	1700		F	5	0	No
SHP01	1138	N001	08/09/2012	Uranium	1.3		F	0.6		F	0.16		F	5	0	No
SHP01	1139	N001	08/08/2012	Potassium	55		F	40			9.4	E	F	10	0	No
SHP01	1140	N001	08/07/2012	Ammonia Total as N	2.3		F	25		F	6.93		F	6	0	No
SHP01	1140	N001	08/07/2012	Magnesium	940		F	1640		F	950		F	6	0	No
SHP01	1140	N001	08/07/2012	Manganese	1		F	3.6		F	1.97		F	6	0	No
SHP01	1140	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	66		F	320		F	82		F	6	0	No
SHP01	1141	N001	08/07/2012	Ammonia Total as N	1.8		F	15		F	9.7		F	6	0	Yes
SHP01	1141	N001	08/07/2012	Calcium	530		F	520		F	440		F	6	0	No
SHP01	1142	N001	08/07/2012	Magnesium	10		F	14		F	11		F	9	0	No
SHP01	1142	N001	08/07/2012	Manganese	0.58		F	0.466			0.2			9	0	No
SHP01	1142	N001	08/07/2012	Sodium	30		F	62			31		F	9	0	No
SHP01	1142	N001	08/07/2012	Strontium	0.6		F	0.72		F	0.61		F	5	0	No
SHP01	1142	N001	08/07/2012	Sulfate	110		F	156		F	119.8			9	0	No
SHP01	1143	N001	08/08/2012	Calcium	190		F	242		F	210		F	9	0	No
SHP01	1143	N001	08/08/2012	Chloride	68		F	96.1			72		F	7	0	No
SHP01	1143	N001	08/08/2012	Magnesium	65		F	88.6		F	72		F	9	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data for Unfiltered Samples

Laboratory: ALS Laboratory Group

RIN: 12074743

Report Date: 1/15/2013

					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	1143	N001	08/08/2012	Manganese	8.9		F	1.53			0.89		F	9	0	Yes
SHP01	1203	N002	08/07/2012	Calcium	140			100			58.6			8	0	No
SHP01	1203	N002	08/07/2012	Magnesium	36			28			10			8	0	No
SHP01	1203	N002	08/07/2012	Manganese	2.4			1.8			0.0268			9	0	No
SHP01	1203	N002	08/07/2012	Potassium	20			14			2.34			8	0	No
SHP01	1203	N002	08/07/2012	Selenium	0.0048			0.0037			0.00013	B		9	1	No
SHP01	1203	N002	08/07/2012	Strontium	1.8			1.5			0.65			8	0	No
SHP01	1203	N002	08/07/2012	Sulfate	180			165			100			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.

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: ALS Laboratory Group

RIN: 12074744

Report Date: 1/3/2013

					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	
SHP02	0600	N001	08/08/2012	Magnesium	250		FQ	858			260		FQ	27	0	No
SHP02	0602	N001	08/09/2012	Magnesium	1400		FQ	2940			1500		F	26	0	No
SHP02	0602	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	29		FQ	28		F	5.17		FQ	9	0	No
SHP02	0602	N001	08/09/2012	Potassium	75		JFQ	266			84		F	26	0	Yes
SHP02	0604	0001	08/09/2012	Manganese	0.85		FQ	0.82		L	0.0079	B	L	13	0	No
SHP02	0604	0001	08/09/2012	Uranium	0.1		FQ	0.0977	*EN	FQ	0.00016	B	UL	17	1	No
SHP02	0662	N001	08/09/2012	Ammonia Total as N	1.1			0.549			0.1	U	J	19	18	No
SHP02	0662	N001	08/09/2012	Manganese	1.2			0.075			0.00048	U		37	9	No
SHP02	0662	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	0.046			5.85			0.099			19	0	No
SHP02	0662	N001	08/09/2012	Potassium	28		J	16			5.97			36	0	No
SHP02	0727	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	84		FQ	180		F	92		FQ	8	0	No
SHP02	0727	N001	08/09/2012	Sulfate	10000		FQ	18100			10500		F	24	0	No
SHP02	0731	N001	08/08/2012	Selenium	0.012		F	0.554		L	0.013		FQ	20	0	No
SHP02	0812	0001	08/08/2012	Calcium	530		FQ	496		FQ	440		FQ	16	0	No
SHP02	0812	0001	08/08/2012	Magnesium	2600		FQ	2400		FQ	2050		L	16	0	No
SHP02	0812	0001	08/08/2012	Nitrate + Nitrite as Nitrogen	1600		FQ	1500		FQ	1300		FQ	9	0	No
SHP02	0812	0001	08/08/2012	Strontium	16		FQ	15.8		FQ	13		FQ	16	0	No
SHP02	0813	N001	08/07/2012	Calcium	750		F	670		F	506			20	0	No
SHP02	0813	N001	08/07/2012	Strontium	21		F	20.7		F	16.2			20	0	No
SHP02	0813	N001	08/07/2012	Sulfate	8000		F	15100			8181			24	0	No
SHP02	0814	N001	08/08/2012	Chloride	920		FQ	1100		FQ	946		FQ	12	0	No
SHP02	0814	N001	08/08/2012	Nitrate + Nitrite as Nitrogen	1000		FQ	980		FQ	710		FQ	8	0	No
SHP02	0816	N001	08/09/2012	Selenium	0.011		F	0.242			0.013		F	17	0	No
SHP02	0818	N001	08/09/2012	Potassium	57		J	150			62			19	0	No
SHP02	0819	N001	08/08/2012	Sulfate	14000		F	13400		L	8000		FQ	18	0	No
SHP02	0822	0001	08/08/2012	Magnesium	67		FQ	85			70		FQ	5	0	No
SHP02	0824	N001	08/08/2012	Ammonia Total as N	0.7		FQ	13		FQ	0.72		FQ	7	0	No
SHP02	0825	N001	08/08/2012	Ammonia Total as N	1.8		FQ	9			2		FQ	7	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: ALS Laboratory Group

RIN: 12074744

Report Date: 1/3/2013

					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	
SHP02	0825	N001	08/08/2012	Manganese	0.21		FQ	0.84		FQ	0.32		FQ	6	0	No
SHP02	0825	N001	08/08/2012	Selenium	0.00064		FQ	0.0015	UE	FQ	0.00066		FQ	6	1	No
SHP02	0826	N001	08/08/2012	Potassium	97	N	JFQ	170		F	102			18	0	No
SHP02	0828	N001	08/09/2012	Manganese	0.94		F	0.671			0.0001	UE	JF	15	4	No
SHP02	0828	N001	08/09/2012	Nitrate + Nitrite as Nitrogen	7		F	177		F	36		F	7	0	No
SHP02	0833	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	140		F	1260		F	150		F	9	0	No
SHP02	0833	N001	08/07/2012	Strontium	6.4		F	10		F	6.79			14	0	No
SHP02	0836	N001	08/06/2012	Manganese	0.22		F	7.2		F	0.322		F	30	0	No
SHP02	0836	N001	08/06/2012	Nitrate + Nitrite as Nitrogen	41		F	31		F	3.6		F	17	0	No
SHP02	0836	N001	08/06/2012	Potassium	2.9	B	JF	9.1		F	3.2	B	F	29	0	No
SHP02	0836	N001	08/06/2012	Selenium	0.29		F	0.24		F	0.035		F	30	0	No
SHP02	0838	N001	08/07/2012	Sulfate	8200		F	8100		F	1180			31	0	No
SHP02	0838	N001	08/07/2012	Uranium	0.17		F	0.15		F	0.023			31	0	No
SHP02	0843	N001	08/06/2012	Selenium	0.6		F	0.47		F	0.00013	B		16	2	No
SHP02	0844	N001	08/07/2012	Magnesium	2000		F	1900		F	355			16	0	No
SHP02	0844	N002	08/07/2012	Nitrate + Nitrite as Nitrogen	850		F	800		F	650		F	9	0	No
SHP02	0844	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	950		F	800		F	650		F	9	0	No
SHP02	0844	N001	08/07/2012	Selenium	2		F	1.9		F	0.155			17	0	No
SHP02	0844	N001	08/07/2012	Sodium	2800		F	2640		F	397			16	0	No
SHP02	0844	N001	08/07/2012	Sulfate	9800		F	9700		F	2670			18	0	No
SHP02	0844	N001	08/07/2012	Uranium	0.21		F	0.2		F	0.0404			18	0	No
SHP02	0889	N001	08/08/2012	Calcium	610			506			280			31	0	Yes
SHP02	0889	N001	08/08/2012	Potassium	120		J	117			29			31	0	No
SHP02	1007	N001	08/08/2012	Ammonia Total as N	17		FQ	39		FQ	18		FQ	8	0	No
SHP02	1048	N001	08/08/2012	Uranium	0.2		F	0.16		F	0.104			5	0	No
SHP02	1057	N001	08/09/2012	Magnesium	1100		F	2590			1400		F	15	0	No
SHP02	1057	N001	08/09/2012	Sulfate	4300		F	16700		L	5000		F	16	0	No
SHP02	1057	N001	08/09/2012	Uranium	0.031		F	0.11		F	0.036		F	16	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 12074744
Report Date: 1/3/2013

					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	
SHP02	1058	N001	08/08/2012	Selenium	0.0002		FQ	0.0015	UE	FQ	0.00025		FQ	12	2	No
SHP02	1070	N001	08/09/2012	Manganese	0.1			3.5			0.129			13	0	No
SHP02	1070	N001	08/09/2012	Sodium	4800			7300			4900			13	0	No
SHP02	1070	N001	08/09/2012	Uranium	0.078			0.14			0.08			22	0	No
SHP02	1071	N001	08/09/2012	Calcium	440			1700			450			15	0	No
SHP02	1071	N001	08/09/2012	Potassium	47	B	J	270			53.3	E	J	15	0	No
SHP02	1073	0001	08/07/2012	Ammonia Total as N	20		FQ	200		FQ	22		FQ	10	0	No
SHP02	1073	0001	08/07/2012	Calcium	460		FQ	606		FQ	500		FQ	9	0	No
SHP02	1073	0001	08/07/2012	Manganese	0.13		FQ	1.3		FQ	0.36		FQ	9	0	No
SHP02	1073	0001	08/07/2012	Nitrate + Nitrite as Nitrogen	980		FQ	1690		FQ	1000		FQ	9	0	No
SHP02	1073	0001	08/07/2012	Sulfate	11000		FQ	10000		FQ	8290		FQ	10	0	Yes
SHP02	1073	0001	08/07/2012	Uranium	0.11		FQ	0.086		FQ	0.058		FQ	9	0	No
SHP02	1074	N001	08/08/2012	Selenium	0.38		FQ	0.33		FQ	0.25		FQ	9	0	No
SHP02	1074	N001	08/08/2012	Uranium	2.2		FQ	2.1		FQ	1.7		FQ	9	0	No
SHP02	1079	N001	08/07/2012	Calcium	940		F	880		F	450		F	23	0	No
SHP02	1079	N002	08/07/2012	Calcium	980		F	880		F	450		F	23	0	No
SHP02	1079	N001	08/07/2012	Chloride	370		F	260		F	35.7		F	23	0	No
SHP02	1079	N002	08/07/2012	Chloride	380		F	260		F	35.7		F	23	0	No
SHP02	1079	N001	08/07/2012	Magnesium	190		F	180		F	99		F	23	0	No
SHP02	1079	N002	08/07/2012	Magnesium	200		F	180		F	99		F	23	0	No
SHP02	1079	N001	08/07/2012	Nitrate + Nitrite as Nitrogen	340		F	230		F	35		F	19	0	No
SHP02	1079	N002	08/07/2012	Nitrate + Nitrite as Nitrogen	350		F	230		F	35		F	19	0	No
SHP02	1079	N001	08/07/2012	Potassium	15		JF	13		F	4.9		F	23	0	No
SHP02	1079	N002	08/07/2012	Selenium	0.71		F	0.65		F	0.0873		F	23	0	No
SHP02	1079	N001	08/07/2012	Selenium	0.71		F	0.65		F	0.0873		F	23	0	No
SHP02	1079	N001	08/07/2012	Sodium	490		F	420		F	115		F	23	0	No
SHP02	1079	N002	08/07/2012	Sodium	520		F	420		F	115		F	23	0	No
SHP02	1079	N002	08/07/2012	Strontium	9.1		F	8.2		F	4.2		F	23	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 12074744
Report Date: 1/3/2013

					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	
SHP02	1079	N001	08/07/2012	Strontium	8.3		F	8.2		F	4.2		F	23	0	No
SHP02	1079	N001	08/07/2012	Uranium	0.048		F	0.0454	*EN	F	0.023		F	23	0	Yes
SHP02	1079	N002	08/07/2012	Uranium	0.046		F	0.0454	*EN	F	0.023		F	23	0	No
SHP02	1087	N001	08/07/2012	Selenium	0.026			0.066			0.0275			18	0	No
SHP02	1087	N002	08/07/2012	Selenium	0.024			0.066			0.0275			18	0	No
SHP02	1091	0001	08/09/2012	Nitrate + Nitrite as Nitrogen	860			2300			1000			17	0	No
SHP02	1092	N001	08/09/2012	Calcium	430			1000			440			13	0	No
SHP02	1092	N001	08/09/2012	Potassium	56		J	240			64			13	0	No
SHP02	1093R	N001	08/09/2012	Calcium	1200			1150			810			10	0	No
SHP02	1093R	N001	08/09/2012	Sodium	1400			2200			1460			10	0	No
SHP02	1093R	N001	08/09/2012	Strontium	9.6			12			9.94			10	0	No
SHP02	1093R	N001	08/09/2012	Sulfate	4200			7600			4340			10	0	No
SHP02	1093R	N001	08/09/2012	Uranium	0.15			0.14			0.0851	*EN		10	0	Yes
SHP02	1095	N001	08/09/2012	Selenium	0.13			0.3			0.14			11	0	No
SHP02	1095	N001	08/09/2012	Sulfate	4200			7500			4500			13	0	No
SHP02	1215	N001	08/08/2012	Chloride	4300			3600			1100			11	0	No
SHP02	1215	N001	08/08/2012	Magnesium	11000			9400			2400			11	0	No
SHP02	1215	N001	08/08/2012	Potassium	890		J	870			110			11	0	No
SHP02	1215	N001	08/08/2012	Selenium	4.9			3.8			0.86			11	0	No
SHP02	1215	N001	08/08/2012	Sodium	19000			16000			4600			11	0	No
SHP02	1215	N001	08/08/2012	Sulfate	85000			70000			19000			12	0	No
SHP02	1215	N001	08/08/2012	Uranium	6.9			5.7			1.7			12	0	No
SHP02	1220	N001	08/09/2012	Chloride	16			38			20			5	0	No
SHP02	1220	N001	08/09/2012	Manganese	0.004	B		0.37			0.012			5	0	No
SHP02	1221	N001	08/08/2012	Calcium	450			440			400			5	0	No
SHP02	1221	N001	08/08/2012	Nitrate + Nitrite as Nitrogen	1100			930			640			5	0	No
SHP02	1221	N001	08/08/2012	Strontium	11			10.4			9.2			5	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.

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: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	10	-	15	338		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	10	-	15	78		F	#	2	
Ammonia Total as N	mg/L	08/07/2012	N002	10	-	15	72		F	#	2	
Calcium	mg/L	08/07/2012	N001	10	-	15	330		F	#	0.12	
Calcium	mg/L	08/07/2012	N002	10	-	15	320		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	10	-	15	190		F	#	20	
Chloride	mg/L	08/07/2012	N002	10	-	15	200		F	#	10	
Magnesium	mg/L	08/07/2012	N001	10	-	15	490		F	#	0.13	
Magnesium	mg/L	08/07/2012	N002	10	-	15	490		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	10	-	15	2.7		F	#	0.0011	
Manganese	mg/L	08/07/2012	N002	10	-	15	2.6		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	10	-	15	63		F	#	0.5	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	10	-	15	66		F	#	0.5	
Oxidation Reduction Potential	mV	08/07/2012	N001	10	-	15	217.4		F	#		
pH	s.u.	08/07/2012	N001	10	-	15	7.04		F	#		
Potassium	mg/L	08/07/2012	N001	10	-	15	60		F	#	1.1	
Potassium	mg/L	08/07/2012	N002	10	-	15	68		F	#	0.54	
Selenium	mg/L	08/07/2012	N001	10	-	15	0.0042		F	#	0.00032	
Selenium	mg/L	08/07/2012	N002	10	-	15	0.0041		F	#	0.00016	
Sodium	mg/L	08/07/2012	N001	10	-	15	1400		F	#	0.066	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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
Sodium	mg/L	08/07/2012	N002	10	-	15	1300		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	10	-	15	9605		F	#		
Strontium	mg/L	08/07/2012	N001	10	-	15	6.9		F	#	0.00078	
Strontium	mg/L	08/07/2012	N002	10	-	15	6.7		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	10	-	15	5500		F	#	50	
Sulfate	mg/L	08/07/2012	N002	10	-	15	5700		F	#	50	
Temperature	C	08/07/2012	N001	10	-	15	19.58		F	#		
Turbidity	NTU	08/07/2012	N001	10	-	15	3.07		F	#		
Uranium	mg/L	08/07/2012	N001	10	-	15	0.66		F	#	0.000029	
Uranium	mg/L	08/07/2012	N002	10	-	15	0.68		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4	-	9	319		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4	-	9	10		F	#	0.5	
Calcium	mg/L	08/07/2012	N001	4	-	9	480		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	4	-	9	220		F	#	20	
Magnesium	mg/L	08/07/2012	N001	4	-	9	1000		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	4	-	9	0.14		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4	-	9	340		F	#	2	
Oxidation Reduction Potential	mV	08/07/2012	N001	4	-	9	228.2		F	#		
pH	s.u.	08/07/2012	N001	4	-	9	7.07		F	#		
Potassium	mg/L	08/07/2012	N001	4	-	9	120		F	#	1.1	
Selenium	mg/L	08/07/2012	N001	4	-	9	0.083		F	#	0.0032	
Sodium	mg/L	08/07/2012	N001	4	-	9	1300		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	4	-	9	11677		F	#		
Strontium	mg/L	08/07/2012	N001	4	-	9	7.7		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	4	-	9	6400		F	#	50	
Temperature	C	08/07/2012	N001	4	-	9	25.75		F	#		
Turbidity	NTU	08/07/2012	N001	4	-	9	1.66		F	#		
Uranium	mg/L	08/07/2012	N001	4	-	9	0.98		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	9.5	-	14.5	556		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	9.5	-	14.5	2.5		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	9.5	-	14.5	150		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	9.5	-	14.5	480		F	#	20	
Magnesium	mg/L	08/07/2012	N001	9.5	-	14.5	76		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	9.5	-	14.5	0.053		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	9.5	-	14.5	0.016		F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	9.5	-	14.5	56.4		F	#		
pH	s.u.	08/07/2012	N001	9.5	-	14.5	7.14		F	#		
Potassium	mg/L	08/07/2012	N001	9.5	-	14.5	16		F	#	0.54	
Selenium	mg/L	08/07/2012	N001	9.5	-	14.5	0.00049		F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	9.5	-	14.5	2400		F	#	0.13	
Specific Conductance	umhos /cm	08/07/2012	N001	9.5	-	14.5	11064		F	#		
Strontium	mg/L	08/07/2012	N001	9.5	-	14.5	6.6		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	9.5	-	14.5	5100		F	#	50	
Temperature	C	08/07/2012	N001	9.5	-	14.5	23.54		F	#		
Turbidity	NTU	08/07/2012	N001	9.5	-	14.5	2.45		F	#		
Uranium	mg/L	08/07/2012	N001	9.5	-	14.5	0.0063		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	5 - 10	262		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	5 - 10	0.56		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	5 - 10	71		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	5 - 10	18		F	#	2	
Magnesium	mg/L	08/07/2012	N001	5 - 10	42		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	5 - 10	0.6		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	5 - 10	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	5 - 10	-213.2		F	#		
pH	s.u.	08/07/2012	N001	5 - 10	7.25		F	#		
Potassium	mg/L	08/07/2012	N001	5 - 10	5.7		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	5 - 10	0.00021		F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	5 - 10	110		F	#	0.0066	
Specific Conductance	umhos /cm	08/07/2012	N001	5 - 10	1208		F	#		
Strontium	mg/L	08/07/2012	N001	5 - 10	0.89		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	5 - 10	340		F	#	5	
Temperature	C	08/07/2012	N001	5 - 10	20.39		F	#		
Turbidity	NTU	08/07/2012	N001	5 - 10	3.72		F	#		
Uranium	mg/L	08/07/2012	N001	5 - 10	0.04		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	10	-	15	484		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	10	-	15	46		F	#	1	
Calcium	mg/L	08/07/2012	N001	10	-	15	430		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	10	-	15	210		F	#	20	
Magnesium	mg/L	08/07/2012	N001	10	-	15	940		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	10	-	15	2.6		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	10	-	15	120		F	#	1	
Oxidation Reduction Potential	mV	08/07/2012	N001	10	-	15	46.4		F	#		
pH	s.u.	08/07/2012	N001	10	-	15	6.96		F	#		
Potassium	mg/L	08/07/2012	N001	10	-	15	110		F	#	1.1	
Selenium	mg/L	08/07/2012	N001	10	-	15	1.4		F	#	0.0032	
Sodium	mg/L	08/07/2012	N001	10	-	15	1400		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	10	-	15	11398		F	#		
Strontium	mg/L	08/07/2012	N001	10	-	15	7.2		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	10	-	15	7200		F	#	50	
Temperature	C	08/07/2012	N001	10	-	15	25.61		F	#		
Turbidity	NTU	08/07/2012	N001	10	-	15	2.37		F	#		
Uranium	mg/L	08/07/2012	N001	10	-	15	1.2		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4.5	-	9.5	460		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4.5	-	9.5	1.2		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	4.5	-	9.5	510		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	4.5	-	9.5	110		F	#	10	
Magnesium	mg/L	08/07/2012	N001	4.5	-	9.5	500		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	4.5	-	9.5	2.3		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4.5	-	9.5	25		F	#	0.2	
Oxidation Reduction Potential	mV	08/07/2012	N001	4.5	-	9.5	120		F	#		
pH	s.u.	08/07/2012	N001	4.5	-	9.5	6.85		F	#		
Potassium	mg/L	08/07/2012	N001	4.5	-	9.5	66		F	#	0.54	
Selenium	mg/L	08/07/2012	N001	4.5	-	9.5	0.062		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	4.5	-	9.5	710		F	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	4.5	-	9.5	6930		F	#		
Strontium	mg/L	08/07/2012	N001	4.5	-	9.5	5.7		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	4.5	-	9.5	4200		F	#	25	
Temperature	C	08/07/2012	N001	4.5	-	9.5	22.3		F	#		
Turbidity	NTU	08/07/2012	N001	4.5	-	9.5	8.42		F	#		
Uranium	mg/L	08/07/2012	N001	4.5	-	9.5	0.74		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	11	-	16	840		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	11	-	16	36		F	#	1	
Ammonia Total as N	mg/L	08/07/2012	N002	11	-	16	35		F	#	1	
Calcium	mg/L	08/07/2012	N001	11	-	16	400		F	#	0.24	
Calcium	mg/L	08/07/2012	N002	11	-	16	420		F	#	0.6	
Chloride	mg/L	08/07/2012	N001	11	-	16	500		F	#	20	
Chloride	mg/L	08/07/2012	N002	11	-	16	470		F	#	20	
Magnesium	mg/L	08/07/2012	N001	11	-	16	1400		F	#	0.26	
Magnesium	mg/L	08/07/2012	N002	11	-	16	1400		F	#	0.65	
Manganese	mg/L	08/07/2012	N001	11	-	16	7.2		F	#	0.0023	
Manganese	mg/L	08/07/2012	N002	11	-	16	7.4		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	11	-	16	43		F	#	0.5	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	11	-	16	42		F	#	0.5	
Oxidation Reduction Potential	mV	08/07/2012	N001	11	-	16	149.9		F	#		
pH	s.u.	08/07/2012	N001	11	-	16	6.81		F	#		
Potassium	mg/L	08/07/2012	N001	11	-	16	91		JF	#	2.2	
Potassium	mg/L	08/07/2012	N002	11	-	16	77	N	JF	#	5.4	
Selenium	mg/L	08/07/2012	N001	11	-	16	0.36		F	#	0.0032	
Selenium	mg/L	08/07/2012	N002	11	-	16	0.37		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	11	-	16	2900		F	#	0.13	
Sodium	mg/L	08/07/2012	N002	11	-	16	2800		F	#	0.33	

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

REPORT DATE: 1/15/2013

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
Specific Conductance	umhos /cm	08/07/2012	N001	11	-	16	18176		F	#		
Strontium	mg/L	08/07/2012	N001	11	-	16	8.9		F	#	0.0016	
Strontium	mg/L	08/07/2012	N002	11	-	16	8.8		F	#	0.0039	
Sulfate	mg/L	08/07/2012	N001	11	-	16	12000		F	#	100	
Sulfate	mg/L	08/07/2012	N002	11	-	16	12000		F	#	100	
Temperature	C	08/07/2012	N001	11	-	16	19.96		F	#		
Turbidity	NTU	08/07/2012	N001	11	-	16	3.75		F	#		
Uranium	mg/L	08/07/2012	N001	11	-	16	1.7		F	#	0.00029	
Uranium	mg/L	08/07/2012	N002	11	-	16	1.8		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	8	-	13	441		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	8	-	13	0.48		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	8	-	13	310		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	8	-	13	110		F	#	10	
Magnesium	mg/L	08/07/2012	N001	8	-	13	160		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	8	-	13	1.9		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	8	-	13	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	8	-	13	-131.8		F	#		
pH	s.u.	08/07/2012	N001	8	-	13	7.07		F	#		
Potassium	mg/L	08/07/2012	N001	8	-	13	24		F	#	2.2	
Selenium	mg/L	08/07/2012	N001	8	-	13	0.00075		F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	8	-	13	1300		F	#	0.13	
Specific Conductance	umhos /cm	08/07/2012	N001	8	-	13	7269		F	#		
Strontium	mg/L	08/07/2012	N001	8	-	13	8.1		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	8	-	13	3900		F	#	25	
Temperature	C	08/07/2012	N001	8	-	13	19.14		F	#		
Turbidity	NTU	08/07/2012	N001	8	-	13	2.03		F	#		
Uranium	mg/L	08/07/2012	N001	8	-	13	0.15		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	5 - 10	340		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	5 - 10	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	5 - 10	220		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	5 - 10	94		F	#	10	
Magnesium	mg/L	08/09/2012	N001	5 - 10	110		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	5 - 10	4.5		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	5 - 10	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	5 - 10	-92.9		F	#		
pH	s.u.	08/09/2012	N001	5 - 10	7.34		F	#		
Potassium	mg/L	08/09/2012	N001	5 - 10	21		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	5 - 10	0.0091		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	5 - 10	1000		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	5 - 10	6132		F	#		
Strontium	mg/L	08/09/2012	N001	5 - 10	7.3		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	5 - 10	3300		F	#	25	
Temperature	C	08/09/2012	N001	5 - 10	20.79		F	#		
Turbidity	NTU	08/09/2012	N001	5 - 10	4.64		F	#		
Uranium	mg/L	08/09/2012	N001	5 - 10	0.1		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	10	-	15	400		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	10	-	15	0.13		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	10	-	15	260		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	10	-	15	78		F	#	10	
Magnesium	mg/L	08/09/2012	N001	10	-	15	55		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	10	-	15	3.5		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	10	-	15	0.014		F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	10	-	15	-135.6		F	#		
pH	s.u.	08/09/2012	N001	10	-	15	7.09		F	#		
Potassium	mg/L	08/09/2012	N001	10	-	15	14		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	10	-	15	0.00064		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	10	-	15	1000		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	10	-	15	5797		F	#		
Strontium	mg/L	08/09/2012	N001	10	-	15	10		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	10	-	15	3000		F	#	25	
Temperature	C	08/09/2012	N001	10	-	15	19.32		F	#		
Turbidity	NTU	08/09/2012	N001	10	-	15	1.21		F	#		
Uranium	mg/L	08/09/2012	N001	10	-	15	0.055		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	4.5	-	9.5	406		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	4.5	-	9.5	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	4.5	-	9.5	270		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	4.5	-	9.5	75		F	#	10	
Magnesium	mg/L	08/09/2012	N001	4.5	-	9.5	51		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	4.5	-	9.5	3.1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	4.5	-	9.5	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	4.5	-	9.5	166.4		F	#		
pH	s.u.	08/09/2012	N001	4.5	-	9.5	7.02		F	#		
Potassium	mg/L	08/09/2012	N001	4.5	-	9.5	13		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	4.5	-	9.5	0.0011		F	#	0.00016	
Sodium	mg/L	08/09/2012	N001	4.5	-	9.5	1000		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	4.5	-	9.5	5864		F	#		
Strontium	mg/L	08/09/2012	N001	4.5	-	9.5	11		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	4.5	-	9.5	2900		F	#	25	
Temperature	C	08/09/2012	N001	4.5	-	9.5	22.28		F	#		
Turbidity	NTU	08/09/2012	N001	4.5	-	9.5	3.9		F	#		
Uranium	mg/L	08/09/2012	N001	4.5	-	9.5	0.049		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	9.5 - 14.5	222		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	9.5 - 14.5	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	9.5 - 14.5	160		F	#	0.012	
Chloride	mg/L	08/09/2012	N001	9.5 - 14.5	62		F	#	10	
Magnesium	mg/L	08/09/2012	N001	9.5 - 14.5	23		F	#	0.013	
Manganese	mg/L	08/09/2012	N001	9.5 - 14.5	2.1		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	9.5 - 14.5	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	9.5 - 14.5	-21.3		F	#		
pH	s.u.	08/09/2012	N001	9.5 - 14.5	7.34		F	#		
Potassium	mg/L	08/09/2012	N001	9.5 - 14.5	14		F	#	0.11	
Selenium	mg/L	08/09/2012	N001	9.5 - 14.5	0.0021		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	9.5 - 14.5	810		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	9.5 - 14.5	4591		F	#		
Strontium	mg/L	08/09/2012	N001	9.5 - 14.5	8		F	#	0.000078	
Sulfate	mg/L	08/09/2012	N001	9.5 - 14.5	2300		F	#	25	
Temperature	C	08/09/2012	N001	9.5 - 14.5	19.38		F	#		
Turbidity	NTU	08/09/2012	N001	9.5 - 14.5	3.22		F	#		
Uranium	mg/L	08/09/2012	N001	9.5 - 14.5	0.016		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	6	-	10	660		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	6	-	10	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	6	-	10	220		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	6	-	10	84		F	#	10	
Magnesium	mg/L	08/09/2012	N001	6	-	10	51		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	6	-	10	2.9		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	6	-	10	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	6	-	10	-163.4		F	#		
pH	s.u.	08/09/2012	N001	6	-	10	7.35		F	#		
Potassium	mg/L	08/09/2012	N001	6	-	10	13		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	6	-	10	0.00094		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	6	-	10	1100		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	6	-	10	5867		F	#		
Strontium	mg/L	08/09/2012	N001	6	-	10	13		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	6	-	10	3000		F	#	25	
Temperature	C	08/09/2012	N001	6	-	10	17.66		F	#		
Turbidity	NTU	08/09/2012	N001	6	-	10	1.11		F	#		
Uranium	mg/L	08/09/2012	N001	6	-	10	0.035		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	5	-	10	640		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	5	-	10	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	5	-	10	410		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	5	-	10	200		F	#	10	
Magnesium	mg/L	08/09/2012	N001	5	-	10	300		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	5	-	10	5.7		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	5	-	10	60		F	#	0.5	
Oxidation Reduction Potential	mV	08/09/2012	N001	5	-	10	163		F	#		
pH	s.u.	08/09/2012	N001	5	-	10	6.92		F	#		
Potassium	mg/L	08/09/2012	N001	5	-	10	17		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	5	-	10	0.29		F	#	0.0016	
Sodium	mg/L	08/09/2012	N001	5	-	10	1500		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	5	-	10	8879		F	#		
Strontium	mg/L	08/09/2012	N001	5	-	10	17		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	5	-	10	4500		F	#	25	
Temperature	C	08/09/2012	N001	5	-	10	20.42		F	#		
Turbidity	NTU	08/09/2012	N001	5	-	10	3.42		F	#		
Uranium	mg/L	08/09/2012	N001	5	-	10	0.24		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	2	-	4	364		FQ	#		
Calcium	mg/L	08/08/2012	N001	2	-	4	190		FQ	#	0.06	
Magnesium	mg/L	08/08/2012	N001	2	-	4	96		FQ	#	0.065	
Manganese	mg/L	08/08/2012	N001	2	-	4	0.88		FQ	#	0.00057	
Oxidation Reduction Potential	mV	08/08/2012	N001	2	-	4	146		FQ	#		
pH	s.u.	08/08/2012	N001	2	-	4	7.4		FQ	#		
Potassium	mg/L	08/08/2012	N001	2	-	4	11		FQ	#	0.54	
Selenium	mg/L	08/08/2012	N001	2	-	4	0.019		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	N001	2	-	4	1100		FQ	#	0.13	
Specific Conductance	umhos /cm	08/08/2012	N001	2	-	4	6373		FQ	#		
Strontium	mg/L	08/08/2012	N001	2	-	4	4.4		FQ	#	0.00039	
Temperature	C	08/08/2012	N001	2	-	4	30.58		FQ	#		
Turbidity	NTU	08/08/2012	N001	2	-	4	8.46		FQ	#		
Uranium	mg/L	08/08/2012	N001	2	-	4	0.053		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	3	-	8	1008		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	3	-	8	18		F	#	1	
Calcium	mg/L	08/06/2012	N001	3	-	8	500		F	#	0.6	
Chloride	mg/L	08/06/2012	N001	3	-	8	720		F	#	40	
Magnesium	mg/L	08/06/2012	N001	3	-	8	1500		F	#	0.65	
Manganese	mg/L	08/06/2012	N001	3	-	8	3.8		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	3	-	8	730		F	#	5	
Oxidation Reduction Potential	mV	08/06/2012	N001	3	-	8	253.4		F	#		
pH	s.u.	08/06/2012	N001	3	-	8	6.85		F	#		
Potassium	mg/L	08/06/2012	N001	3	-	8	63		F	#	5.4	
Selenium	mg/L	08/06/2012	N001	3	-	8	0.042		F	#	0.0032	
Sodium	mg/L	08/06/2012	N001	3	-	8	4100		F	#	0.33	
Specific Conductance	umhos /cm	08/06/2012	N001	3	-	8	23142		F	#		
Strontium	mg/L	08/06/2012	N001	3	-	8	14		F	#	0.0039	
Sulfate	mg/L	08/06/2012	N001	3	-	8	13000		F	#	100	
Temperature	C	08/06/2012	N001	3	-	8	19.43		F	#		
Turbidity	NTU	08/06/2012	N001	3	-	8	1.59		F	#		
Uranium	mg/L	08/06/2012	N001	3	-	8	0.36		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	3	-	5	214		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	3	-	5	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	3	-	5	370		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	3	-	5	76		F	#	10	
Magnesium	mg/L	08/08/2012	N001	3	-	5	65		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	3	-	5	1.4		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	3	-	5	0.022		F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	3	-	5	61.8		F	#		
pH	s.u.	08/08/2012	N001	3	-	5	7.46		F	#		
Potassium	mg/L	08/08/2012	N001	3	-	5	21		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	3	-	5	0.00036		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	3	-	5	970		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	3	-	5	6001		F	#		
Strontium	mg/L	08/08/2012	N001	3	-	5	4.8		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	3	-	5	3300		F	#	25	
Temperature	C	08/08/2012	N001	3	-	5	26.24		F	#		
Turbidity	NTU	08/08/2012	N001	3	-	5	7.11		F	#		
Uranium	mg/L	08/08/2012	N001	3	-	5	0.054		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	6.25	-	8.75	450		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	6.25	-	8.75	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	6.25	-	8.75	310		F	#	0.24	
Chloride	mg/L	08/08/2012	N001	6.25	-	8.75	130		F	#	20	
Magnesium	mg/L	08/08/2012	N001	6.25	-	8.75	230		F	#	0.26	
Manganese	mg/L	08/08/2012	N001	6.25	-	8.75	0.41		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	6.25	-	8.75	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	6.25	-	8.75	-140.5		F	#		
pH	s.u.	08/08/2012	N001	6.25	-	8.75	7.38		F	#		
Potassium	mg/L	08/08/2012	N001	6.25	-	8.75	48		F	#	2.2	
Selenium	mg/L	08/08/2012	N001	6.25	-	8.75	0.00061		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	6.25	-	8.75	1900		F	#	0.13	
Specific Conductance	umhos /cm	08/08/2012	N001	6.25	-	8.75	10091		F	#		
Strontium	mg/L	08/08/2012	N001	6.25	-	8.75	4.8		F	#	0.0016	
Sulfate	mg/L	08/08/2012	N001	6.25	-	8.75	5800		F	#	50	
Temperature	C	08/08/2012	N001	6.25	-	8.75	25.81		F	#		
Turbidity	NTU	08/08/2012	N001	6.25	-	8.75	2.47		F	#		
Uranium	mg/L	08/08/2012	N001	6.25	-	8.75	0.22		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	4.58	-	7.08	496		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	4.58	-	7.08	0.13		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	4.58	-	7.08	190		F	#	0.24	
Chloride	mg/L	08/09/2012	N001	4.58	-	7.08	110		F	#	10	
Magnesium	mg/L	08/09/2012	N001	4.58	-	7.08	150		F	#	0.26	
Manganese	mg/L	08/09/2012	N001	4.58	-	7.08	1.4		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	4.58	-	7.08	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	4.58	-	7.08	-84.1		F	#		
pH	s.u.	08/09/2012	N001	4.58	-	7.08	7.38		F	#		
Potassium	mg/L	08/09/2012	N001	4.58	-	7.08	28		F	#	2.2	
Selenium	mg/L	08/09/2012	N001	4.58	-	7.08	0.0013		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	4.58	-	7.08	1500		F	#	0.13	
Specific Conductance	umhos /cm	08/09/2012	N001	4.58	-	7.08	7496		F	#		
Strontium	mg/L	08/09/2012	N001	4.58	-	7.08	6.4		F	#	0.0016	
Sulfate	mg/L	08/09/2012	N001	4.58	-	7.08	4100		F	#	25	
Temperature	C	08/09/2012	N001	4.58	-	7.08	22.44		F	#		
Turbidity	NTU	08/09/2012	N001	4.58	-	7.08	2.37		F	#		
Uranium	mg/L	08/09/2012	N001	4.58	-	7.08	0.15		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4	-	6.5	262		FQ	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4	-	6.5	27		FQ	#	1	
Calcium	mg/L	08/07/2012	N001	4	-	6.5	240		FQ	#	0.06	
Chloride	mg/L	08/07/2012	N001	4	-	6.5	62		FQ	#	10	
Magnesium	mg/L	08/07/2012	N001	4	-	6.5	290		FQ	#	0.065	
Manganese	mg/L	08/07/2012	N001	4	-	6.5	0.54		FQ	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4	-	6.5	20		FQ	#	0.1	
Oxidation Reduction Potential	mV	08/07/2012	N001	4	-	6.5	126.8		FQ	#		
pH	s.u.	08/07/2012	N001	4	-	6.5	7.3		FQ	#		
Potassium	mg/L	08/07/2012	N001	4	-	6.5	38		FQ	#	0.54	
Selenium	mg/L	08/07/2012	N001	4	-	6.5	0.11		FQ	#	0.00032	
Sodium	mg/L	08/07/2012	N001	4	-	6.5	360		FQ	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	4	-	6.5	4082		FQ	#		
Strontium	mg/L	08/07/2012	N001	4	-	6.5	3.3		FQ	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	4	-	6.5	2000		FQ	#	25	
Temperature	C	08/07/2012	N001	4	-	6.5	29.58		FQ	#		
Turbidity	NTU	08/07/2012	N001	4	-	6.5	3.6		FQ	#		
Uranium	mg/L	08/07/2012	N001	4	-	6.5	0.21		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	4.25 - 6.75	408		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	4.25 - 6.75	0.14		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	4.25 - 6.75	650		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	4.25 - 6.75	100		F	#	10	
Magnesium	mg/L	08/09/2012	N001	4.25 - 6.75	260		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	4.25 - 6.75	2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	4.25 - 6.75	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	4.25 - 6.75	-42.7		F	#		
pH	s.u.	08/09/2012	N001	4.25 - 6.75	7.24		F	#		
Potassium	mg/L	08/09/2012	N001	4.25 - 6.75	65		F	#	1.1	
Selenium	mg/L	08/09/2012	N001	4.25 - 6.75	0.0014		F	#	0.00016	
Sodium	mg/L	08/09/2012	N001	4.25 - 6.75	1900		F	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	4.25 - 6.75	8128		F	#		
Strontium	mg/L	08/09/2012	N001	4.25 - 6.75	8.5		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	4.25 - 6.75	4500		F	#	25	
Temperature	C	08/09/2012	N001	4.25 - 6.75	24.34		F	#		
Turbidity	NTU	08/09/2012	N001	4.25 - 6.75	1.98		F	#		
Uranium	mg/L	08/09/2012	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: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7 - 9.5	1824		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7 - 9.5	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	7 - 9.5	510		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	7 - 9.5	960		F	#	100	
Magnesium	mg/L	08/07/2012	N001	7 - 9.5	2900		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	7 - 9.5	4		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7 - 9.5	67		F	#	0.5	
Oxidation Reduction Potential	mV	08/07/2012	N001	7 - 9.5	154		F	#		
pH	s.u.	08/07/2012	N001	7 - 9.5	7.17		F	#		
Potassium	mg/L	08/07/2012	N001	7 - 9.5	230		F	#	2.2	
Selenium	mg/L	08/07/2012	N001	7 - 9.5	0.024		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	7 - 9.5	5100		F	#	1.3	
Specific Conductance	umhos /cm	08/07/2012	N001	7 - 9.5	30570		F	#		
Strontium	mg/L	08/07/2012	N001	7 - 9.5	21		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	7 - 9.5	23000		F	#	250	
Temperature	C	08/07/2012	N001	7 - 9.5	21.83		F	#		
Turbidity	NTU	08/07/2012	N001	7 - 9.5	2.82		F	#		
Uranium	mg/L	08/07/2012	N001	7 - 9.5	4.6		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4.71	-	9.46	157		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4.71	-	9.46	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	4.71	-	9.46	110		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	4.71	-	9.46	22		F	#	2	
Magnesium	mg/L	08/07/2012	N001	4.71	-	9.46	38		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	4.71	-	9.46	2.3		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4.71	-	9.46	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	4.71	-	9.46	30.5		F	#		
pH	s.u.	08/07/2012	N001	4.71	-	9.46	7.38		F	#		
Potassium	mg/L	08/07/2012	N001	4.71	-	9.46	5.3		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	4.71	-	9.46	0.000075	B	F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	4.71	-	9.46	180		F	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	4.71	-	9.46	1591		F	#		
Strontium	mg/L	08/07/2012	N001	4.71	-	9.46	1.4		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	4.71	-	9.46	660		F	#	5	
Temperature	C	08/07/2012	N001	4.71	-	9.46	19.09		F	#		
Turbidity	NTU	08/07/2012	N001	4.71	-	9.46	0.83		F	#		
Uranium	mg/L	08/07/2012	N001	4.71	-	9.46	0.0095		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4.375	-	9.375	169		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4.375	-	9.375	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	4.375	-	9.375	100		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	4.375	-	9.375	23		F	#	2	
Magnesium	mg/L	08/07/2012	N001	4.375	-	9.375	33		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	4.375	-	9.375	1.5		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4.375	-	9.375	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	4.375	-	9.375	82.4		F	#		
pH	s.u.	08/07/2012	N001	4.375	-	9.375	7.31		F	#		
Potassium	mg/L	08/07/2012	N001	4.375	-	9.375	5.3		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	4.375	-	9.375	0.00062		F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	4.375	-	9.375	150		F	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	4.375	-	9.375	1528		F	#		
Strontium	mg/L	08/07/2012	N001	4.375	-	9.375	1.3		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	4.375	-	9.375	570		F	#	5	
Temperature	C	08/07/2012	N001	4.375	-	9.375	25.21		F	#		
Turbidity	NTU	08/07/2012	N001	4.375	-	9.375	3.93		F	#		
Uranium	mg/L	08/07/2012	N001	4.375	-	9.375	0.0066		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	6	-	8	1100		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	6	-	8	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	6	-	8	470		F	#	0.6	
Chloride	mg/L	08/09/2012	N001	6	-	8	420		F	#	40	
Magnesium	mg/L	08/09/2012	N001	6	-	8	740		F	#	0.65	
Manganese	mg/L	08/09/2012	N001	6	-	8	12		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	6	-	8	0.013		F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	6	-	8	-106.5		F	#		
pH	s.u.	08/09/2012	N001	6	-	8	7.34		F	#		
Potassium	mg/L	08/09/2012	N001	6	-	8	81		F	#	5.4	
Selenium	mg/L	08/09/2012	N001	6	-	8	0.0042		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	6	-	8	4200		F	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	6	-	8	20895		F	#		
Strontium	mg/L	08/09/2012	N001	6	-	8	16		F	#	0.0039	
Sulfate	mg/L	08/09/2012	N001	6	-	8	14000		F	#	100	
Temperature	C	08/09/2012	N001	6	-	8	21.86		F	#		
Turbidity	NTU	08/09/2012	N001	6	-	8	6.79		F	#		
Uranium	mg/L	08/09/2012	N001	6	-	8	0.6		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	5.2 - 7.2	628		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	5.2 - 7.2	12		F	#	1	
Calcium	mg/L	08/08/2012	N001	5.2 - 7.2	540		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	5.2 - 7.2	250		F	#	20	
Magnesium	mg/L	08/08/2012	N001	5.2 - 7.2	860		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	5.2 - 7.2	0.015	B	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	5.2 - 7.2	33		F	#	0.2	
Oxidation Reduction Potential	mV	08/08/2012	N001	5.2 - 7.2	211.8		F	#		
pH	s.u.	08/08/2012	N001	5.2 - 7.2	6.99		F	#		
Potassium	mg/L	08/08/2012	N001	5.2 - 7.2	61		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	5.2 - 7.2	0.19		F	#	0.0016	
Sodium	mg/L	08/08/2012	N001	5.2 - 7.2	1200		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	5.2 - 7.2	10465		F	#		
Strontium	mg/L	08/08/2012	N001	5.2 - 7.2	8.3		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	5.2 - 7.2	6800		F	#	50	
Temperature	C	08/08/2012	N001	5.2 - 7.2	21.48		F	#		
Turbidity	NTU	08/08/2012	N001	5.2 - 7.2	1.86		F	#		
Uranium	mg/L	08/08/2012	N001	5.2 - 7.2	1.5		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	7.3	-	9.3	452		FQ	#		
Ammonia Total as N	mg/L	08/09/2012	N001	7.3	-	9.3	0.1	U	FQ	#	0.1	
Calcium	mg/L	08/09/2012	N001	7.3	-	9.3	440		FQ	#	0.12	
Chloride	mg/L	08/09/2012	N001	7.3	-	9.3	250		FQ	#	10	
Magnesium	mg/L	08/09/2012	N001	7.3	-	9.3	110		FQ	#	0.13	
Manganese	mg/L	08/09/2012	N001	7.3	-	9.3	2.4		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	7.3	-	9.3	0.025		FQ	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	7.3	-	9.3	59.4		FQ	#		
pH	s.u.	08/09/2012	N001	7.3	-	9.3	7.07		FQ	#		
Potassium	mg/L	08/09/2012	N001	7.3	-	9.3	9.5	B	FQ	#	1.1	
Selenium	mg/L	08/09/2012	N001	7.3	-	9.3	0.00034		FQ	#	0.000032	
Sodium	mg/L	08/09/2012	N001	7.3	-	9.3	1500		FQ	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	7.3	-	9.3	7669		FQ	#		
Strontium	mg/L	08/09/2012	N001	7.3	-	9.3	7.6		FQ	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	7.3	-	9.3	4200		FQ	#	25	
Temperature	C	08/09/2012	N001	7.3	-	9.3	22.44		FQ	#		
Turbidity	NTU	08/09/2012	N001	7.3	-	9.3	10.7		FQ	#		
Uranium	mg/L	08/09/2012	N001	7.3	-	9.3	0.024		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	7.1	-	9.1	496		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	7.1	-	9.1	1.7		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	7.1	-	9.1	610		F	#	0.24	
Chloride	mg/L	08/09/2012	N001	7.1	-	9.1	180		F	#	20	
Magnesium	mg/L	08/09/2012	N001	7.1	-	9.1	500		F	#	0.26	
Manganese	mg/L	08/09/2012	N001	7.1	-	9.1	3.2		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	7.1	-	9.1	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	7.1	-	9.1	94.6		F	#		
pH	s.u.	08/09/2012	N001	7.1	-	9.1	7.14		F	#		
Potassium	mg/L	08/09/2012	N001	7.1	-	9.1	67		F	#	2.2	
Selenium	mg/L	08/09/2012	N001	7.1	-	9.1	0.0022		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	7.1	-	9.1	2400		F	#	0.13	
Specific Conductance	umhos /cm	08/09/2012	N001	7.1	-	9.1	10321		F	#		
Strontium	mg/L	08/09/2012	N001	7.1	-	9.1	9.1		F	#	0.0016	
Sulfate	mg/L	08/09/2012	N001	7.1	-	9.1	6000		F	#	50	
Temperature	C	08/09/2012	N001	7.1	-	9.1	19.73		F	#		
Turbidity	NTU	08/09/2012	N001	7.1	-	9.1	1.71		F	#		
Uranium	mg/L	08/09/2012	N001	7.1	-	9.1	0.34		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	5.6	-	15.4	480		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	5.6	-	15.4	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	5.6	-	15.4	50		F	#	0.012	
Chloride	mg/L	08/09/2012	N001	5.6	-	15.4	39		F	#	4	
Magnesium	mg/L	08/09/2012	N001	5.6	-	15.4	12		F	#	0.013	
Manganese	mg/L	08/09/2012	N001	5.6	-	15.4	0.45		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	5.6	-	15.4	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	5.6	-	15.4	-146.5		F	#		
pH	s.u.	08/09/2012	N001	5.6	-	15.4	7.54		F	#		
Potassium	mg/L	08/09/2012	N001	5.6	-	15.4	3		F	#	0.11	
Selenium	mg/L	08/09/2012	N001	5.6	-	15.4	0.00019		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	5.6	-	15.4	330		F	#	0.033	
Specific Conductance	umhos /cm	08/09/2012	N001	5.6	-	15.4	1959		F	#		
Strontium	mg/L	08/09/2012	N001	5.6	-	15.4	0.78		F	#	0.000078	
Sulfate	mg/L	08/09/2012	N001	5.6	-	15.4	610		F	#	10	
Temperature	C	08/09/2012	N001	5.6	-	15.4	18.44		F	#		
Turbidity	NTU	08/09/2012	N001	5.6	-	15.4	7.15		F	#		
Uranium	mg/L	08/09/2012	N001	5.6	-	15.4	0.031		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	10	-	15	260		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	10	-	15	17		F	#	1	
Calcium	mg/L	08/07/2012	N001	10	-	15	180		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	10	-	15	18		F	#	4	
Magnesium	mg/L	08/07/2012	N001	10	-	15	50		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	10	-	15	0.75		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	10	-	15	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	10	-	15	10		F	#		
pH	s.u.	08/07/2012	N001	10	-	15	6.96		F	#		
Potassium	mg/L	08/07/2012	N001	10	-	15	15		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	10	-	15	0.000075	B	F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	10	-	15	110		F	#	0.0066	
Specific Conductance	umhos /cm	08/07/2012	N001	10	-	15	1760		F	#		
Strontium	mg/L	08/07/2012	N001	10	-	15	1.8		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	10	-	15	710		F	#	10	
Temperature	C	08/07/2012	N001	10	-	15	24.4		F	#		
Turbidity	NTU	08/07/2012	N001	10	-	15	1.47		F	#		
Uranium	mg/L	08/07/2012	N001	10	-	15	0.062		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	9.05 - 11.55	648		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	9.05 - 11.55	4.2		F	#	0.1	
Calcium	mg/L	08/08/2012	N001	9.05 - 11.55	840		F	#	0.6	
Chloride	mg/L	08/08/2012	N001	9.05 - 11.55	250		F	#	20	
Magnesium	mg/L	08/08/2012	N001	9.05 - 11.55	1700		F	#	0.65	
Manganese	mg/L	08/08/2012	N001	9.05 - 11.55	7.1		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	9.05 - 11.55	6.2		F	#	0.1	
Oxidation Reduction Potential	mV	08/08/2012	N001	9.05 - 11.55	81.4		F	#		
pH	s.u.	08/08/2012	N001	9.05 - 11.55	7.1		F	#		
Potassium	mg/L	08/08/2012	N001	9.05 - 11.55	170		F	#	5.4	
Selenium	mg/L	08/08/2012	N001	9.05 - 11.55	0.006		F	#	0.00065	
Sodium	mg/L	08/08/2012	N001	9.05 - 11.55	5100		F	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	9.05 - 11.55	13915		F	#		
Strontium	mg/L	08/08/2012	N001	9.05 - 11.55	16		F	#	0.0039	
Sulfate	mg/L	08/08/2012	N001	9.05 - 11.55	8700		F	#	50	
Temperature	C	08/08/2012	N001	9.05 - 11.55	24.34		F	#		
Turbidity	NTU	08/08/2012	N001	9.05 - 11.55	8.3		F	#		
Uranium	mg/L	08/08/2012	N001	9.05 - 11.55	0.89		F	#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	4.9	-	14.9	379		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	4.9	-	14.9	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	4.9	-	14.9	340		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	4.9	-	14.9	99		F	#	10	
Magnesium	mg/L	08/08/2012	N001	4.9	-	14.9	80		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	4.9	-	14.9	1.9		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	4.9	-	14.9	13		F	#	0.1	
Oxidation Reduction Potential	mV	08/08/2012	N001	4.9	-	14.9	171.6		F	#		
pH	s.u.	08/08/2012	N001	4.9	-	14.9	7.17		F	#		
Potassium	mg/L	08/08/2012	N001	4.9	-	14.9	15		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	4.9	-	14.9	0.073		F	#	0.00032	
Sodium	mg/L	08/08/2012	N001	4.9	-	14.9	1200		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	4.9	-	14.9	6480		F	#		
Strontium	mg/L	08/08/2012	N001	4.9	-	14.9	13		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	4.9	-	14.9	3400		F	#	25	
Temperature	C	08/08/2012	N001	4.9	-	14.9	16.89		F	#		
Turbidity	NTU	08/08/2012	N001	4.9	-	14.9	3.44		F	#		
Uranium	mg/L	08/08/2012	N001	4.9	-	14.9	0.1		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	18.8	-	23.8	236		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	18.8	-	23.8	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	18.8	-	23.8	230		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	18.8	-	23.8	71		F	#	10	
Magnesium	mg/L	08/08/2012	N001	18.8	-	23.8	57		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	18.8	-	23.8	1.4		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	18.8	-	23.8	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	18.8	-	23.8	126.9		F	#		
pH	s.u.	08/08/2012	N001	18.8	-	23.8	7.4		F	#		
Potassium	mg/L	08/08/2012	N001	18.8	-	23.8	15		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	18.8	-	23.8	0.00047		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	18.8	-	23.8	1100		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	18.8	-	23.8	5278		F	#		
Strontium	mg/L	08/08/2012	N001	18.8	-	23.8	7.2		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	18.8	-	23.8	2700		F	#	25	
Temperature	C	08/08/2012	N001	18.8	-	23.8	15.96		F	#		
Turbidity	NTU	08/08/2012	N001	18.8	-	23.8	2.56		F	#		
Uranium	mg/L	08/08/2012	N001	18.8	-	23.8	0.06		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	13.2 - 18.2	402		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	13.2 - 18.2	13		F	#	0.5	
Calcium	mg/L	08/07/2012	N001	13.2 - 18.2	660		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	13.2 - 18.2	120		F	#	10	
Magnesium	mg/L	08/07/2012	N001	13.2 - 18.2	450		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	13.2 - 18.2	5.8		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	13.2 - 18.2	2		F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	13.2 - 18.2	120.7		F	#		
pH	s.u.	08/07/2012	N001	13.2 - 18.2	7.01		F	#		
Potassium	mg/L	08/07/2012	N001	13.2 - 18.2	36		F	#	0.54	
Selenium	mg/L	08/07/2012	N001	13.2 - 18.2	0.0028		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	13.2 - 18.2	760		F	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	13.2 - 18.2	6497		F	#		
Strontium	mg/L	08/07/2012	N001	13.2 - 18.2	7.5		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	13.2 - 18.2	3900		F	#	25	
Temperature	C	08/07/2012	N001	13.2 - 18.2	19.24		F	#		
Turbidity	NTU	08/07/2012	N001	13.2 - 18.2	1.32		F	#		
Uranium	mg/L	08/07/2012	N001	13.2 - 18.2	0.54		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	6.9	-	16.9	496		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	6.9	-	16.9	3.9		F	#	0.1	
Calcium	mg/L	08/08/2012	N001	6.9	-	16.9	420		F	#	0.24	
Chloride	mg/L	08/08/2012	N001	6.9	-	16.9	150		F	#	20	
Magnesium	mg/L	08/08/2012	N001	6.9	-	16.9	520		F	#	0.26	
Manganese	mg/L	08/08/2012	N001	6.9	-	16.9	2.8		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	6.9	-	16.9	0.36		F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	6.9	-	16.9	175.2		F	#		
pH	s.u.	08/08/2012	N001	6.9	-	16.9	7.01		F	#		
Potassium	mg/L	08/08/2012	N001	6.9	-	16.9	53		F	#	2.2	
Selenium	mg/L	08/08/2012	N001	6.9	-	16.9	0.0062		F	#	0.00065	
Sodium	mg/L	08/08/2012	N001	6.9	-	16.9	1700		F	#	0.13	
Specific Conductance	umhos /cm	08/08/2012	N001	6.9	-	16.9	10517		F	#		
Strontium	mg/L	08/08/2012	N001	6.9	-	16.9	6.6		F	#	0.0016	
Sulfate	mg/L	08/08/2012	N001	6.9	-	16.9	6400		F	#	50	
Temperature	C	08/08/2012	N001	6.9	-	16.9	19.98		F	#		
Turbidity	NTU	08/08/2012	N001	6.9	-	16.9	2.06		F	#		
Uranium	mg/L	08/08/2012	N001	6.9	-	16.9	0.69		F	#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7.4	-	17.4	262		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7.4	-	17.4	14		F	#	1	
Calcium	mg/L	08/07/2012	N001	7.4	-	17.4	380		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	7.4	-	17.4	32		F	#	10	
Magnesium	mg/L	08/07/2012	N001	7.4	-	17.4	170		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	7.4	-	17.4	0.8		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7.4	-	17.4	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	7.4	-	17.4	45		F	#		
pH	s.u.	08/07/2012	N001	7.4	-	17.4	6.83		F	#		
Potassium	mg/L	08/07/2012	N001	7.4	-	17.4	28		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	7.4	-	17.4	0.007		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	7.4	-	17.4	210		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	7.4	-	17.4	3510		F	#		
Strontium	mg/L	08/07/2012	N001	7.4	-	17.4	3.3		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	7.4	-	17.4	1900		F	#	25	
Temperature	C	08/07/2012	N001	7.4	-	17.4	22.1		F	#		
Turbidity	NTU	08/07/2012	N001	7.4	-	17.4	2.04		F	#		
Uranium	mg/L	08/07/2012	N001	7.4	-	17.4	0.2		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	4.8	-	14.8	484			#		
Ammonia Total as N	mg/L	08/09/2012	N001	4.8	-	14.8	0.69			#	0.1	
Calcium	mg/L	08/09/2012	N001	4.8	-	14.8	370			#	0.12	
Chloride	mg/L	08/09/2012	N001	4.8	-	14.8	110			#	10	
Magnesium	mg/L	08/09/2012	N001	4.8	-	14.8	210			#	0.13	
Manganese	mg/L	08/09/2012	N001	4.8	-	14.8	1.2			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	4.8	-	14.8	0.74			#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	4.8	-	14.8	235			#		
pH	s.u.	08/09/2012	N001	4.8	-	14.8	7.2			#		
Potassium	mg/L	08/09/2012	N001	4.8	-	14.8	46			#	1.1	
Selenium	mg/L	08/09/2012	N001	4.8	-	14.8	0.0026			#	0.00032	
Sodium	mg/L	08/09/2012	N001	4.8	-	14.8	1400			#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	4.8	-	14.8	8290			#		
Strontium	mg/L	08/09/2012	N001	4.8	-	14.8	5.4			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	4.8	-	14.8	4400			#	25	
Temperature	C	08/09/2012	N001	4.8	-	14.8	23.6			#		
Turbidity	NTU	08/09/2012	N001	4.8	-	14.8	4.22			#		
Uranium	mg/L	08/09/2012	N001	4.8	-	14.8	0.21			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	-	520			#		
Ammonia Total as N	mg/L	08/09/2012	N001	-	0.99			#	0.1	
Calcium	mg/L	08/09/2012	N001	-	350			#	0.24	
Chloride	mg/L	08/09/2012	N001	-	150			#	20	
Magnesium	mg/L	08/09/2012	N001	-	460			#	0.26	
Manganese	mg/L	08/09/2012	N001	-	1.7			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	-	2.9			#	0.02	
Oxidation Reduction Potential	mV	08/09/2012	N001	-	225			#		
pH	s.u.	08/09/2012	N001	-	7.1			#		
Potassium	mg/L	08/09/2012	N001	-	64			#	2.2	
Selenium	mg/L	08/09/2012	N001	-	0.0055			#	0.00016	
Sodium	mg/L	08/09/2012	N001	-	1800			#	0.13	
Specific Conductance	umhos /cm	08/09/2012	N001	-	10725			#		
Strontium	mg/L	08/09/2012	N001	-	5.9			#	0.0016	
Sulfate	mg/L	08/09/2012	N001	-	6200			#	50	
Temperature	C	08/09/2012	N001	-	23.1			#		
Turbidity	NTU	08/09/2012	N001	-	3.24			#		
Uranium	mg/L	08/09/2012	N001	-	0.49			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	4.5 - 14.5	642		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	4.5 - 14.5	27		F	#	1	
Calcium	mg/L	08/07/2012	N001	4.5 - 14.5	470		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	4.5 - 14.5	330		F	#	40	
Magnesium	mg/L	08/07/2012	N001	4.5 - 14.5	1400		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	4.5 - 14.5	4.4		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	4.5 - 14.5	190		F	#	1	
Oxidation Reduction Potential	mV	08/07/2012	N001	4.5 - 14.5	115		F	#		
pH	s.u.	08/07/2012	N001	4.5 - 14.5	6.73		F	#		
Potassium	mg/L	08/07/2012	N001	4.5 - 14.5	84		F	#	2.2	
Selenium	mg/L	08/07/2012	N001	4.5 - 14.5	0.17		F	#	0.0065	
Sodium	mg/L	08/07/2012	N001	4.5 - 14.5	1800		F	#	0.13	
Specific Conductance	umhos /cm	08/07/2012	N001	4.5 - 14.5	13975		F	#		
Strontium	mg/L	08/07/2012	N001	4.5 - 14.5	9.9		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	4.5 - 14.5	9100		F	#	100	
Temperature	C	08/07/2012	N001	4.5 - 14.5	21.3		F	#		
Turbidity	NTU	08/07/2012	N001	4.5 - 14.5	2.6		F	#		
Uranium	mg/L	08/07/2012	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: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	0	-	0	328			#		
Ammonia Total as N	mg/L	08/09/2012	N001	0	-	0	53			#	2	
Calcium	mg/L	08/09/2012	N001	0	-	0	170			#	0.12	
Chloride	mg/L	08/09/2012	N001	0	-	0	98			#	10	
Magnesium	mg/L	08/09/2012	N001	0	-	0	320			#	0.13	
Manganese	mg/L	08/09/2012	N001	0	-	0	0.88			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	0	-	0	140			#	1	
Oxidation Reduction Potential	mV	08/09/2012	N001	0	-	0	160			#		
pH	s.u.	08/09/2012	N001	0	-	0	7.02			#		
Potassium	mg/L	08/09/2012	N001	0	-	0	25			#	1.1	
Selenium	mg/L	08/09/2012	N001	0	-	0	0.018			#	0.00032	
Sodium	mg/L	08/09/2012	N001	0	-	0	440			#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	0	-	0	5310			#		
Strontium	mg/L	08/09/2012	N001	0	-	0	2.6			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	0	-	0	2200			#	25	
Temperature	C	08/09/2012	N001	0	-	0	22.9			#		
Turbidity	NTU	08/09/2012	N001	0	-	0	5.05			#		
Uranium	mg/L	08/09/2012	N001	0	-	0	0.3			#	0.000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	0	-	0	638			#		
Ammonia Total as N	mg/L	08/09/2012	N001	0	-	0	2.9			#	0.1	
Calcium	mg/L	08/09/2012	N001	0	-	0	400			#	0.24	
Chloride	mg/L	08/09/2012	N001	0	-	0	220			#	20	
Magnesium	mg/L	08/09/2012	N001	0	-	0	660			#	0.26	
Manganese	mg/L	08/09/2012	N001	0	-	0	1.2			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	0	-	0	61			#	0.5	
Oxidation Reduction Potential	mV	08/09/2012	N001	0	-	0	180			#		
pH	s.u.	08/09/2012	N001	0	-	0	7.46			#		
Potassium	mg/L	08/09/2012	N001	0	-	0	51			#	2.2	
Selenium	mg/L	08/09/2012	N001	0	-	0	0.33			#	0.0065	
Sodium	mg/L	08/09/2012	N001	0	-	0	1600			#	0.13	
Specific Conductance	umhos /cm	08/09/2012	N001	0	-	0	10820			#		
Strontium	mg/L	08/09/2012	N001	0	-	0	9.5			#	0.0016	
Sulfate	mg/L	08/09/2012	N001	0	-	0	5800			#	50	
Temperature	C	08/09/2012	N001	0	-	0	23.9			#		
Turbidity	NTU	08/09/2012	N001	0	-	0	7.55			#		
Uranium	mg/L	08/09/2012	N001	0	-	0	0.61			#	0.00058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7 - 12	1414		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7 - 12	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	7 - 12	560		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	7 - 12	540		F	#	40	
Magnesium	mg/L	08/07/2012	N001	7 - 12	1600		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	7 - 12	0.71		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7 - 12	24		F	#	0.2	
Oxidation Reduction Potential	mV	08/07/2012	N001	7 - 12	135		F	#		
pH	s.u.	08/07/2012	N001	7 - 12	6.89		F	#		
Potassium	mg/L	08/07/2012	N001	7 - 12	110		F	#	2.2	
Selenium	mg/L	08/07/2012	N001	7 - 12	0.27		F	#	0.0065	
Sodium	mg/L	08/07/2012	N001	7 - 12	2800		F	#	0.66	
Specific Conductance	umhos /cm	08/07/2012	N001	7 - 12	18850		F	#		
Strontium	mg/L	08/07/2012	N001	7 - 12	19		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	7 - 12	12000		F	#	100	
Temperature	C	08/07/2012	N001	7 - 12	23.9		F	#		
Turbidity	NTU	08/07/2012	N001	7 - 12	5.33		F	#		
Uranium	mg/L	08/07/2012	N001	7 - 12	1.1		F	#	0.00058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7	-	12	660		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7	-	12	21		F	#	2	
Calcium	mg/L	08/07/2012	N001	7	-	12	460		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	7	-	12	290		F	#	20	
Magnesium	mg/L	08/07/2012	N001	7	-	12	1000		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	7	-	12	2		F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7	-	12	140		F	#	1	
Oxidation Reduction Potential	mV	08/07/2012	N001	7	-	12	140		F	#		
pH	s.u.	08/07/2012	N001	7	-	12	6.8		F	#		
Potassium	mg/L	08/07/2012	N001	7	-	12	98		F	#	2.2	
Selenium	mg/L	08/07/2012	N001	7	-	12	0.44		F	#	0.0065	
Sodium	mg/L	08/07/2012	N001	7	-	12	1800		F	#	0.13	
Specific Conductance	umhos /cm	08/07/2012	N001	7	-	12	12880		F	#		
Strontium	mg/L	08/07/2012	N001	7	-	12	8.9		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	7	-	12	8000		F	#	50	
Temperature	C	08/07/2012	N001	7	-	12	22.1		F	#		
Turbidity	NTU	08/07/2012	N001	7	-	12	2.54		F	#		
Uranium	mg/L	08/07/2012	N001	7	-	12	1.2		F	#	0.00058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	0001	7 - 12	277		F	#		
Ammonia Total as N	mg/L	08/07/2012	0001	7 - 12	7.8		F	#	0.5	
Calcium	mg/L	08/07/2012	0001	7 - 12	490		F	#	0.12	
Chloride	mg/L	08/07/2012	0001	7 - 12	160		F	#	10	
Magnesium	mg/L	08/07/2012	0001	7 - 12	560		F	#	0.13	
Manganese	mg/L	08/07/2012	0001	7 - 12	0.26		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	7 - 12	210		F	#	2	
Oxidation Reduction Potential	mV	08/07/2012	N001	7 - 12	221.3		F	#		
pH	s.u.	08/07/2012	N001	7 - 12	7.04		F	#		
Potassium	mg/L	08/07/2012	0001	7 - 12	95		F	#	1.1	
Selenium	mg/L	08/07/2012	0001	7 - 12	0.19		F	#	0.0016	
Sodium	mg/L	08/07/2012	0001	7 - 12	770		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	7 - 12	8024		F	#		
Strontium	mg/L	08/07/2012	0001	7 - 12	6.2		F	#	0.00078	
Sulfate	mg/L	08/07/2012	0001	7 - 12	4400		F	#	25	
Temperature	C	08/07/2012	N001	7 - 12	21.86		F	#		
Turbidity	NTU	08/07/2012	N001	7 - 12	45		F	#		
Uranium	mg/L	08/07/2012	0001	7 - 12	0.48		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7 - 12	550		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7 - 12	99		F	#	10	
Calcium	mg/L	08/07/2012	N001	7 - 12	260		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	7 - 12	150		F	#	10	
Magnesium	mg/L	08/07/2012	N001	7 - 12	480		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	7 - 12	3.3		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7 - 12	120		F	#	1	
Oxidation Reduction Potential	mV	08/07/2012	N001	7 - 12	211.5		F	#		
pH	s.u.	08/07/2012	N001	7 - 12	6.88		F	#		
Potassium	mg/L	08/07/2012	N001	7 - 12	66		F	#	1.1	
Selenium	mg/L	08/07/2012	N001	7 - 12	0.017		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	7 - 12	630		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	7 - 12	7166		F	#		
Strontium	mg/L	08/07/2012	N001	7 - 12	4.4		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	7 - 12	3500		F	#	25	
Temperature	C	08/07/2012	N001	7 - 12	20.82		F	#		
Turbidity	NTU	08/07/2012	N001	7 - 12	1.57		F	#		
Uranium	mg/L	08/07/2012	N001	7 - 12	0.56		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7	-	12	720		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7	-	12	240		F	#	20	
Calcium	mg/L	08/07/2012	N001	7	-	12	270		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	7	-	12	170		F	#	20	
Magnesium	mg/L	08/07/2012	N001	7	-	12	750		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	7	-	12	2.2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7	-	12	210		F	#	2	
Oxidation Reduction Potential	mV	08/07/2012	N001	7	-	12	227.9		F	#		
pH	s.u.	08/07/2012	N001	7	-	12	6.74		F	#		
Potassium	mg/L	08/07/2012	N001	7	-	12	100		F	#	1.1	
Selenium	mg/L	08/07/2012	N001	7	-	12	0.018		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	7	-	12	870		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	7	-	12	9970		F	#		
Strontium	mg/L	08/07/2012	N001	7	-	12	5.4		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	7	-	12	5200		F	#	50	
Temperature	C	08/07/2012	N001	7	-	12	19.76		F	#		
Turbidity	NTU	08/07/2012	N001	7	-	12	2		F	#		
Uranium	mg/L	08/07/2012	N001	7	-	12	0.82		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	7 - 12	137		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	7 - 12	0.12		F	#	0.1	
Calcium	mg/L	08/06/2012	N001	7 - 12	58		F	#	0.012	
Chloride	mg/L	08/06/2012	N001	7 - 12	11		F	#	0.4	
Magnesium	mg/L	08/06/2012	N001	7 - 12	9.8		F	#	0.013	
Manganese	mg/L	08/06/2012	N001	7 - 12	0.34		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	7 - 12	0.011		F	#	0.01	
Oxidation Reduction Potential	mV	08/06/2012	N001	7 - 12	-94.3		F	#		
pH	s.u.	08/06/2012	N001	7 - 12	7.52		F	#		
Potassium	mg/L	08/06/2012	N001	7 - 12	2.3		F	#	0.11	
Selenium	mg/L	08/06/2012	N001	7 - 12	0.00014		F	#	0.000032	
Sodium	mg/L	08/06/2012	N001	7 - 12	35	E	JF	#	0.0066	
Specific Conductance	umhos /cm	08/06/2012	N001	7 - 12	537		F	#		
Strontium	mg/L	08/06/2012	N001	7 - 12	0.64		F	#	0.000078	
Sulfate	mg/L	08/06/2012	N001	7 - 12	120		F	#	1	
Temperature	C	08/06/2012	N001	7 - 12	21.79		F	#		
Turbidity	NTU	08/06/2012	N001	7 - 12	5.99		F	#		
Uranium	mg/L	08/06/2012	N001	7 - 12	0.0044		F	#	0.0000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	0 - 0	720			#		
Ammonia Total as N	mg/L	08/09/2012	N001	0 - 0	0.1	U		#	0.1	
Calcium	mg/L	08/09/2012	N001	0 - 0	400			#	0.06	
Chloride	mg/L	08/09/2012	N001	0 - 0	280			#	20	
Magnesium	mg/L	08/09/2012	N001	0 - 0	740			#	0.065	
Manganese	mg/L	08/09/2012	N001	0 - 0	0.00058	B		#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	0 - 0	64			#	0.5	
Oxidation Reduction Potential	mV	08/09/2012	N001	0 - 0	205			#		
pH	s.u.	08/09/2012	N001	0 - 0	7.47			#		
Potassium	mg/L	08/09/2012	N001	0 - 0	44			#	0.54	
Selenium	mg/L	08/09/2012	N001	0 - 0	0.17			#	0.0016	
Sodium	mg/L	08/09/2012	N001	0 - 0	1500			#	0.13	
Specific Conductance	umhos /cm	08/09/2012	N001	0 - 0	11050			#		
Strontium	mg/L	08/09/2012	N001	0 - 0	9.5			#	0.00039	
Sulfate	mg/L	08/09/2012	N001	0 - 0	6400			#	50	
Temperature	C	08/09/2012	N001	0 - 0	22.5			#		
Turbidity	NTU	08/09/2012	N001	0 - 0	4.43			#		
Uranium	mg/L	08/09/2012	N001	0 - 0	0.53			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	6.81	-	11.81	920		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	6.81	-	11.81	380		F	#	20	
Ammonia Total as N	mg/L	08/06/2012	N002	6.81	-	11.81	370		F	#	20	
Calcium	mg/L	08/06/2012	N001	6.81	-	11.81	430		F	#	0.12	
Calcium	mg/L	08/06/2012	N002	6.81	-	11.81	450		F	#	0.6	
Chloride	mg/L	08/06/2012	N001	6.81	-	11.81	340		F	#	40	
Chloride	mg/L	08/06/2012	N002	6.81	-	11.81	350		F	#	40	
Magnesium	mg/L	08/06/2012	N001	6.81	-	11.81	1600		F	#	0.13	
Magnesium	mg/L	08/06/2012	N002	6.81	-	11.81	1600		F	#	0.65	
Manganese	mg/L	08/06/2012	N001	6.81	-	11.81	4		F	#	0.0011	
Manganese	mg/L	08/06/2012	N002	6.81	-	11.81	4.2		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	6.81	-	11.81	660		F	#	5	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N002	6.81	-	11.81	670		F	#	5	
Oxidation Reduction Potential	mV	08/06/2012	N001	6.81	-	11.81	235.2		F	#		
pH	s.u.	08/06/2012	N001	6.81	-	11.81	6.57		F	#		
Potassium	mg/L	08/06/2012	N001	6.81	-	11.81	170		JF	#	1.1	
Potassium	mg/L	08/06/2012	N002	6.81	-	11.81	130		JF	#	5.4	
Selenium	mg/L	08/06/2012	N001	6.81	-	11.81	0.018		F	#	0.0016	
Selenium	mg/L	08/06/2012	N002	6.81	-	11.81	0.02		F	#	0.0016	
Sodium	mg/L	08/06/2012	N001	6.81	-	11.81	1900		F	#	0.33	
Sodium	mg/L	08/06/2012	N002	6.81	-	11.81	1700		F	#	0.33	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 1128 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	08/06/2012	N001	6.81	-	11.81	18224		F	#		
Strontium	mg/L	08/06/2012	N001	6.81	-	11.81	9.3		F	#	0.00078	
Strontium	mg/L	08/06/2012	N002	6.81	-	11.81	9.5		F	#	0.0039	
Sulfate	mg/L	08/06/2012	N001	6.81	-	11.81	9600		F	#	100	
Sulfate	mg/L	08/06/2012	N002	6.81	-	11.81	9800		F	#	100	
Temperature	C	08/06/2012	N001	6.81	-	11.81	20.95		F	#		
Turbidity	NTU	08/06/2012	N001	6.81	-	11.81	2.26		F	#		
Uranium	mg/L	08/06/2012	N001	6.81	-	11.81	1.5		F	#	0.00015	
Uranium	mg/L	08/06/2012	N002	6.81	-	11.81	1.5		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	6.07 - 11.07	126		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	6.07 - 11.07	1.2		F	#	0.1	
Calcium	mg/L	08/06/2012	N001	6.07 - 11.07	52		F	#	0.012	
Chloride	mg/L	08/06/2012	N001	6.07 - 11.07	15		F	#	0.4	
Magnesium	mg/L	08/06/2012	N001	6.07 - 11.07	18		F	#	0.013	
Manganese	mg/L	08/06/2012	N001	6.07 - 11.07	0.3		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	6.07 - 11.07	0.019		F	#	0.01	
Oxidation Reduction Potential	mV	08/06/2012	N001	6.07 - 11.07	-78.5		F	#		
pH	s.u.	08/06/2012	N001	6.07 - 11.07	7.62		F	#		
Potassium	mg/L	08/06/2012	N001	6.07 - 11.07	2.9		F	#	0.11	
Selenium	mg/L	08/06/2012	N001	6.07 - 11.07	0.00037		F	#	0.000032	
Sodium	mg/L	08/06/2012	N001	6.07 - 11.07	41		F	#	0.0066	
Specific Conductance	umhos /cm	08/06/2012	N001	6.07 - 11.07	628		F	#		
Strontium	mg/L	08/06/2012	N001	6.07 - 11.07	0.68		F	#	0.000078	
Sulfate	mg/L	08/06/2012	N001	6.07 - 11.07	160		F	#	1	
Temperature	C	08/06/2012	N001	6.07 - 11.07	22.64		F	#		
Turbidity	NTU	08/06/2012	N001	6.07 - 11.07	2.35		F	#		
Uranium	mg/L	08/06/2012	N001	6.07 - 11.07	0.013		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	8.16 - 13.16	162		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	8.16 - 13.16	1.6		F	#	0.1	
Calcium	mg/L	08/06/2012	N001	8.16 - 13.16	190		F	#	0.012	
Chloride	mg/L	08/06/2012	N001	8.16 - 13.16	32		F	#	2	
Magnesium	mg/L	08/06/2012	N001	8.16 - 13.16	42		F	#	0.013	
Manganese	mg/L	08/06/2012	N001	8.16 - 13.16	1.2		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	8.16 - 13.16	28		F	#	0.2	
Oxidation Reduction Potential	mV	08/06/2012	N001	8.16 - 13.16	-71.6		F	#		
pH	s.u.	08/06/2012	N001	8.16 - 13.16	7.28		F	#		
Potassium	mg/L	08/06/2012	N001	8.16 - 13.16	4.9		F	#	0.11	
Selenium	mg/L	08/06/2012	N001	8.16 - 13.16	0.00053		F	#	0.000032	
Sodium	mg/L	08/06/2012	N001	8.16 - 13.16	84		F	#	0.0066	
Specific Conductance	umhos /cm	08/06/2012	N001	8.16 - 13.16	1534		F	#		
Strontium	mg/L	08/06/2012	N001	8.16 - 13.16	2		F	#	0.000078	
Sulfate	mg/L	08/06/2012	N001	8.16 - 13.16	560		F	#	5	
Temperature	C	08/06/2012	N001	8.16 - 13.16	17.86		F	#		
Turbidity	NTU	08/06/2012	N001	8.16 - 13.16	1.37		F	#		
Uranium	mg/L	08/06/2012	N001	8.16 - 13.16	0.024		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	6.39 - 11.39	278		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	6.39 - 11.39	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	6.39 - 11.39	370		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	6.39 - 11.39	91		F	#	10	
Magnesium	mg/L	08/08/2012	N001	6.39 - 11.39	160		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	6.39 - 11.39	2.2		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	6.39 - 11.39	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	6.39 - 11.39	3.2		F	#		
pH	s.u.	08/08/2012	N001	6.39 - 11.39	7.2		F	#		
Potassium	mg/L	08/08/2012	N001	6.39 - 11.39	25		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	6.39 - 11.39	0.00029		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	6.39 - 11.39	1100		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	6.39 - 11.39	6828		F	#		
Strontium	mg/L	08/08/2012	N001	6.39 - 11.39	4.5		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	6.39 - 11.39	4000		F	#	25	
Temperature	C	08/08/2012	N001	6.39 - 11.39	18.6		F	#		
Turbidity	NTU	08/08/2012	N001	6.39 - 11.39	9.4		F	#		
Uranium	mg/L	08/08/2012	N001	6.39 - 11.39	0.11		F	#	0.0000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	6.29 - 11.29	257		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	6.29 - 11.29	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	6.29 - 11.29	290		F	#	0.012	
Chloride	mg/L	08/09/2012	N001	6.29 - 11.29	80		F	#	4	
Magnesium	mg/L	08/09/2012	N001	6.29 - 11.29	150		F	#	0.013	
Manganese	mg/L	08/09/2012	N001	6.29 - 11.29	2.4		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	6.29 - 11.29	14		F	#	0.1	
Oxidation Reduction Potential	mV	08/09/2012	N001	6.29 - 11.29	69.3		F	#		
pH	s.u.	08/09/2012	N001	6.29 - 11.29	7.28		F	#		
Potassium	mg/L	08/09/2012	N001	6.29 - 11.29	8		F	#	0.11	
Selenium	mg/L	08/09/2012	N001	6.29 - 11.29	0.00086		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	6.29 - 11.29	270		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	6.29 - 11.29	3248		F	#		
Strontium	mg/L	08/09/2012	N001	6.29 - 11.29	3.2		F	#	0.000078	
Sulfate	mg/L	08/09/2012	N001	6.29 - 11.29	1600		F	#	10	
Temperature	C	08/09/2012	N001	6.29 - 11.29	17.51		F	#		
Turbidity	NTU	08/09/2012	N001	6.29 - 11.29	1.09		F	#		
Uranium	mg/L	08/09/2012	N001	6.29 - 11.29	0.12		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	9.4	-	14.4	342		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	9.4	-	14.4	1.2		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	9.4	-	14.4	400		F	#	0.06	
Chloride	mg/L	08/09/2012	N001	9.4	-	14.4	230		F	#	10	
Magnesium	mg/L	08/09/2012	N001	9.4	-	14.4	560		F	#	0.065	
Manganese	mg/L	08/09/2012	N001	9.4	-	14.4	2.8		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	9.4	-	14.4	32		F	#	0.2	
Oxidation Reduction Potential	mV	08/09/2012	N001	9.4	-	14.4	198		F	#		
pH	s.u.	08/09/2012	N001	9.4	-	14.4	7.35		F	#		
Potassium	mg/L	08/09/2012	N001	9.4	-	14.4	29		F	#	0.54	
Selenium	mg/L	08/09/2012	N001	9.4	-	14.4	0.0086		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	9.4	-	14.4	930		F	#	0.16	
Specific Conductance	umhos /cm	08/09/2012	N001	9.4	-	14.4	7922		F	#		
Strontium	mg/L	08/09/2012	N001	9.4	-	14.4	5.2		F	#	0.00039	
Sulfate	mg/L	08/09/2012	N001	9.4	-	14.4	4800		F	#	25	
Temperature	C	08/09/2012	N001	9.4	-	14.4	14.33		F	#		
Turbidity	NTU	08/09/2012	N001	9.4	-	14.4	5.01		F	#		
Uranium	mg/L	08/09/2012	N001	9.4	-	14.4	0.6		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	8.09 - 13.09	514		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	8.09 - 13.09	0.39		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	8.09 - 13.09	620		F	#	0.06	
Chloride	mg/L	08/09/2012	N001	8.09 - 13.09	360		F	#	20	
Magnesium	mg/L	08/09/2012	N001	8.09 - 13.09	980		F	#	0.065	
Manganese	mg/L	08/09/2012	N001	8.09 - 13.09	4.2		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	8.09 - 13.09	52		F	#	0.5	
Oxidation Reduction Potential	mV	08/09/2012	N001	8.09 - 13.09	197.3		F	#		
pH	s.u.	08/09/2012	N001	8.09 - 13.09	7.24		F	#		
Potassium	mg/L	08/09/2012	N001	8.09 - 13.09	46		F	#	0.54	
Selenium	mg/L	08/09/2012	N001	8.09 - 13.09	0.0085		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	8.09 - 13.09	1200		F	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	8.09 - 13.09	11341		F	#		
Strontium	mg/L	08/09/2012	N001	8.09 - 13.09	9.2		F	#	0.00039	
Sulfate	mg/L	08/09/2012	N001	8.09 - 13.09	7700		F	#	50	
Temperature	C	08/09/2012	N001	8.09 - 13.09	16.17		F	#		
Turbidity	NTU	08/09/2012	N001	8.09 - 13.09	9.83		F	#		
Uranium	mg/L	08/09/2012	N001	8.09 - 13.09	1.3		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/08/2012	N001	6.19 - 11.19	566		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	6.19 - 11.19	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	6.19 - 11.19	400		F	#	0.06	
Chloride	mg/L	08/08/2012	N001	6.19 - 11.19	230		F	#	20	
Magnesium	mg/L	08/08/2012	N001	6.19 - 11.19	730		F	#	0.065	
Manganese	mg/L	08/08/2012	N001	6.19 - 11.19	0.62		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	6.19 - 11.19	15		F	#	0.1	
Oxidation Reduction Potential	mV	08/08/2012	N001	6.19 - 11.19	98		F	#		
pH	s.u.	08/08/2012	N001	6.19 - 11.19	7.2		F	#		
Potassium	mg/L	08/08/2012	N001	6.19 - 11.19	55		F	#	0.54	
Selenium	mg/L	08/08/2012	N001	6.19 - 11.19	0.0075		F	#	0.00032	
Sodium	mg/L	08/08/2012	N001	6.19 - 11.19	1500		F	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	6.19 - 11.19	10806		F	#		
Strontium	mg/L	08/08/2012	N001	6.19 - 11.19	7		F	#	0.00039	
Sulfate	mg/L	08/08/2012	N001	6.19 - 11.19	6800		F	#	50	
Temperature	C	08/08/2012	N001	6.19 - 11.19	22.72		F	#		
Turbidity	NTU	08/08/2012	N001	6.19 - 11.19	6.3		F	#		
Uranium	mg/L	08/08/2012	N001	6.19 - 11.19	0.72		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	7.6 - 12.6	694		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	7.6 - 12.6	2.3		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	7.6 - 12.6	450		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	7.6 - 12.6	260		F	#	20	
Magnesium	mg/L	08/07/2012	N001	7.6 - 12.6	940		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	7.6 - 12.6	1		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	7.6 - 12.6	66		F	#	0.5	
Oxidation Reduction Potential	mV	08/07/2012	N001	7.6 - 12.6	110		F	#		
pH	s.u.	08/07/2012	N001	7.6 - 12.6	6.91		F	#		
Potassium	mg/L	08/07/2012	N001	7.6 - 12.6	110		F	#	1.1	
Selenium	mg/L	08/07/2012	N001	7.6 - 12.6	0.36		F	#	0.0032	
Sodium	mg/L	08/07/2012	N001	7.6 - 12.6	1500		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	7.6 - 12.6	12150		F	#		
Strontium	mg/L	08/07/2012	N001	7.6 - 12.6	7.2		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	7.6 - 12.6	8100		F	#	50	
Temperature	C	08/07/2012	N001	7.6 - 12.6	23.8		F	#		
Turbidity	NTU	08/07/2012	N001	7.6 - 12.6	2.85		F	#		
Uranium	mg/L	08/07/2012	N001	7.6 - 12.6	1.2		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	5.6 - 10.6	732		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	5.6 - 10.6	1.8		F	#	0.1	
Calcium	mg/L	08/07/2012	N001	5.6 - 10.6	530		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	5.6 - 10.6	110		F	#	10	
Magnesium	mg/L	08/07/2012	N001	5.6 - 10.6	550		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	5.6 - 10.6	1.4		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	5.6 - 10.6	11		F	#	0.1	
Oxidation Reduction Potential	mV	08/07/2012	N001	5.6 - 10.6	140		F	#		
pH	s.u.	08/07/2012	N001	5.6 - 10.6	6.76		F	#		
Potassium	mg/L	08/07/2012	N001	5.6 - 10.6	63		F	#	0.54	
Selenium	mg/L	08/07/2012	N001	5.6 - 10.6	0.3		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	5.6 - 10.6	720		F	#	0.033	
Specific Conductance	umhos /cm	08/07/2012	N001	5.6 - 10.6	7230		F	#		
Strontium	mg/L	08/07/2012	N001	5.6 - 10.6	6.2		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	5.6 - 10.6	4600		F	#	25	
Temperature	C	08/07/2012	N001	5.6 - 10.6	21.6		F	#		
Turbidity	NTU	08/07/2012	N001	5.6 - 10.6	6.32		F	#		
Uranium	mg/L	08/07/2012	N001	5.6 - 10.6	0.99		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/07/2012	N001	9	-	14	144		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	9	-	14	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	9	-	14	53		F	#	0.012	
Chloride	mg/L	08/07/2012	N001	9	-	14	10		F	#	0.4	
Magnesium	mg/L	08/07/2012	N001	9	-	14	10		F	#	0.013	
Manganese	mg/L	08/07/2012	N001	9	-	14	0.58		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	9	-	14	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	9	-	14	35		F	#		
pH	s.u.	08/07/2012	N001	9	-	14	7.2		F	#		
Potassium	mg/L	08/07/2012	N001	9	-	14	1.9		F	#	0.11	
Selenium	mg/L	08/07/2012	N001	9	-	14	0.00074		F	#	0.000032	
Sodium	mg/L	08/07/2012	N001	9	-	14	30		F	#	0.0066	
Specific Conductance	umhos /cm	08/07/2012	N001	9	-	14	500		F	#		
Strontium	mg/L	08/07/2012	N001	9	-	14	0.6		F	#	0.000078	
Sulfate	mg/L	08/07/2012	N001	9	-	14	110		F	#	1	
Temperature	C	08/07/2012	N001	9	-	14	16.1		F	#		
Turbidity	NTU	08/07/2012	N001	9	-	14	3.43		F	#		
Uranium	mg/L	08/07/2012	N001	9	-	14	0.0045		F	#	0.0000029	

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

REPORT DATE: 1/15/2013

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 CaCO3)	mg/L	08/08/2012	N001	8.3	-	13.3	222		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	8.3	-	13.3	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	8.3	-	13.3	190		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	8.3	-	13.3	68		F	#	10	
Magnesium	mg/L	08/08/2012	N001	8.3	-	13.3	65		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	8.3	-	13.3	8.9		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	8.3	-	13.3	0.01	U	F	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	8.3	-	13.3	21		F	#		
pH	s.u.	08/08/2012	N001	8.3	-	13.3	7.43		F	#		
Potassium	mg/L	08/08/2012	N001	8.3	-	13.3	12		F	#	1.1	
Selenium	mg/L	08/08/2012	N001	8.3	-	13.3	0.00018		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	8.3	-	13.3	870		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	8.3	-	13.3	5075		F	#		
Strontium	mg/L	08/08/2012	N001	8.3	-	13.3	2.5		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	8.3	-	13.3	2600		F	#	25	
Temperature	C	08/08/2012	N001	8.3	-	13.3	18.19		F	#		
Turbidity	NTU	08/08/2012	N001	8.3	-	13.3	2.74		F	#		
Uranium	mg/L	08/08/2012	N001	8.3	-	13.3	0.062		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.		

Groundwater Quality Data
Terrace Locations

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Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	29 - 48.8	1480		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	29 - 48.8	22		FQ	#	0.5	
Calcium	mg/L	08/08/2012	N001	29 - 48.8	250		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	29 - 48.8	1300		FQ	#	40	
Magnesium	mg/L	08/08/2012	N001	29 - 48.8	250		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	29 - 48.8	0.23		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	29 - 48.8	110		FQ	#	1	
Oxidation Reduction Potential	mV	08/08/2012	N001	29 - 48.8	105		FQ	#		
pH	s.u.	08/08/2012	N001	29 - 48.8	6.73		FQ	#		
Potassium	mg/L	08/08/2012	N001	29 - 48.8	43	N	JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	29 - 48.8	0.0018		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	N001	29 - 48.8	4700		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	29 - 48.8	21500		FQ	#		
Strontium	mg/L	08/08/2012	N001	29 - 48.8	7.9		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	29 - 48.8	9900		FQ	#	100	
Temperature	C	08/08/2012	N001	29 - 48.8	18		FQ	#		
Turbidity	NTU	08/08/2012	N001	29 - 48.8	5.26		FQ	#		
Uranium	mg/L	08/08/2012	N001	29 - 48.8	0.71		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	27	-	47	1744		FQ	#		
Ammonia Total as N	mg/L	08/09/2012	N001	27	-	47	99		FQ	#	2	
Calcium	mg/L	08/09/2012	N001	27	-	47	410		FQ	#	0.6	
Chloride	mg/L	08/09/2012	N001	27	-	47	2000		FQ	#	200	
Magnesium	mg/L	08/09/2012	N001	27	-	47	1400		FQ	#	0.65	
Manganese	mg/L	08/09/2012	N001	27	-	47	0.8		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	27	-	47	29		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/09/2012	N001	27	-	47	115		FQ	#		
pH	s.u.	08/09/2012	N001	27	-	47	7		FQ	#		
Potassium	mg/L	08/09/2012	N001	27	-	47	75		JFQ	#	5.4	
Selenium	mg/L	08/09/2012	N001	27	-	47	0.0056		FQ	#	0.00016	
Sodium	mg/L	08/09/2012	N001	27	-	47	5400		FQ	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	27	-	47	29170		FQ	#		
Strontium	mg/L	08/09/2012	N001	27	-	47	18		FQ	#	0.0039	
Sulfate	mg/L	08/09/2012	N001	27	-	47	16000		FQ	#	500	
Temperature	C	08/09/2012	N001	27	-	47	19.5		FQ	#		
Turbidity	NTU	08/09/2012	N001	27	-	47	3.57		FQ	#		
Uranium	mg/L	08/09/2012	N001	27	-	47	0.51		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	25.9 - 35.9	252		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	25.9 - 35.9	800		F	#	20	
Calcium	mg/L	08/08/2012	N001	25.9 - 35.9	1000		F	#	0.06	
Chloride	mg/L	08/08/2012	N001	25.9 - 35.9	160		F	#	20	
Magnesium	mg/L	08/08/2012	N001	25.9 - 35.9	660		F	#	0.065	
Manganese	mg/L	08/08/2012	N001	25.9 - 35.9	55		F	#	0.0028	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	25.9 - 35.9	1800		F	#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	25.9 - 35.9	220		F	#		
pH	s.u.	08/08/2012	N001	25.9 - 35.9	6.04		F	#		
Potassium	mg/L	08/08/2012	N001	25.9 - 35.9	150		JF	#	0.54	
Selenium	mg/L	08/08/2012	N001	25.9 - 35.9	0.1		F	#	0.00032	
Sodium	mg/L	08/08/2012	N001	25.9 - 35.9	650		F	#	0.033	
Specific Conductance	umhos /cm	08/08/2012	N001	25.9 - 35.9	17480		F	#		
Strontium	mg/L	08/08/2012	N001	25.9 - 35.9	4.5		F	#	0.00039	
Sulfate	mg/L	08/08/2012	N001	25.9 - 35.9	2600		F	#	50	
Temperature	C	08/08/2012	N001	25.9 - 35.9	21		F	#		
Turbidity	NTU	08/08/2012	N001	25.9 - 35.9	2.93		F	#		
Uranium	mg/L	08/08/2012	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: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	0001	62.7	-	72.7	930		FQ	#		
Ammonia Total as N	mg/L	08/09/2012	0001	62.7	-	72.7	1.2		FQ	#	0.1	
Calcium	mg/L	08/09/2012	0001	62.7	-	72.7	540		FQ	#	0.6	
Chloride	mg/L	08/09/2012	0001	62.7	-	72.7	2000		FQ	#	200	
Magnesium	mg/L	08/09/2012	0001	62.7	-	72.7	1900		FQ	#	0.65	
Manganese	mg/L	08/09/2012	0001	62.7	-	72.7	0.85		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	62.7	-	72.7	1200		FQ	#	10	
Oxidation Reduction Potential	mV	08/09/2012	N001	62.7	-	72.7	280		FQ	#		
pH	s.u.	08/09/2012	N001	62.7	-	72.7	6.72		FQ	#		
Potassium	mg/L	08/09/2012	0001	62.7	-	72.7	45	B	JFQ	#	5.4	
Selenium	mg/L	08/09/2012	0001	62.7	-	72.7	0.84		FQ	#	0.00032	
Sodium	mg/L	08/09/2012	0001	62.7	-	72.7	4500		FQ	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	62.7	-	72.7	27118		FQ	#		
Strontium	mg/L	08/09/2012	0001	62.7	-	72.7	18		FQ	#	0.0039	
Sulfate	mg/L	08/09/2012	0001	62.7	-	72.7	11000		FQ	#	500	
Temperature	C	08/09/2012	N001	62.7	-	72.7	17.5		FQ	#		
Turbidity	NTU	08/09/2012	N001	62.7	-	72.7	21.2		FQ	#		
Uranium	mg/L	08/09/2012	0001	62.7	-	72.7	0.1		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	7.5	-	17.5	377		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	7.5	-	17.5	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	7.5	-	17.5	290		F	#	0.06	
Chloride	mg/L	08/09/2012	N001	7.5	-	17.5	80		F	#	20	
Magnesium	mg/L	08/09/2012	N001	7.5	-	17.5	120		F	#	0.065	
Manganese	mg/L	08/09/2012	N001	7.5	-	17.5	0.19		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	7.5	-	17.5	9.4		F	#	0.1	
Oxidation Reduction Potential	mV	08/09/2012	N001	7.5	-	17.5	135.1		F	#		
pH	s.u.	08/09/2012	N001	7.5	-	17.5	6.78		F	#		
Potassium	mg/L	08/09/2012	N001	7.5	-	17.5	15		JF	#	0.54	
Selenium	mg/L	08/09/2012	N001	7.5	-	17.5	0.0082		F	#	0.000032	
Sodium	mg/L	08/09/2012	N001	7.5	-	17.5	900		F	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	7.5	-	17.5	5837		F	#		
Strontium	mg/L	08/09/2012	N001	7.5	-	17.5	10		F	#	0.00039	
Sulfate	mg/L	08/09/2012	N001	7.5	-	17.5	3000		F	#	50	
Temperature	C	08/09/2012	N001	7.5	-	17.5	21.73		F	#		
Turbidity	NTU	08/09/2012	N001	7.5	-	17.5	5.22		F	#		
Uranium	mg/L	08/09/2012	N001	7.5	-	17.5	0.11		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	6.7	-	16.7	1147		FQ	#		
Ammonia Total as N	mg/L	08/09/2012	N001	6.7	-	16.7	31		FQ	#	1	
Calcium	mg/L	08/09/2012	N001	6.7	-	16.7	440		FQ	#	0.6	
Chloride	mg/L	08/09/2012	N001	6.7	-	16.7	320		FQ	#	40	
Magnesium	mg/L	08/09/2012	N001	6.7	-	16.7	1600		FQ	#	0.65	
Manganese	mg/L	08/09/2012	N001	6.7	-	16.7	1.2		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	6.7	-	16.7	84		FQ	#	0.5	
Oxidation Reduction Potential	mV	08/09/2012	N001	6.7	-	16.7	137.9		FQ	#		
pH	s.u.	08/09/2012	N001	6.7	-	16.7	6.47		FQ	#		
Potassium	mg/L	08/09/2012	N001	6.7	-	16.7	59		JFQ	#	5.4	
Selenium	mg/L	08/09/2012	N001	6.7	-	16.7	0.0018		FQ	#	0.00016	
Sodium	mg/L	08/09/2012	N001	6.7	-	16.7	1800		FQ	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	6.7	-	16.7	13731		FQ	#		
Strontium	mg/L	08/09/2012	N001	6.7	-	16.7	11		FQ	#	0.0039	
Sulfate	mg/L	08/09/2012	N001	6.7	-	16.7	10000		FQ	#	100	
Temperature	C	08/09/2012	N001	6.7	-	16.7	24.42		FQ	#		
Turbidity	NTU	08/09/2012	N001	6.7	-	16.7	5.71		FQ	#		
Uranium	mg/L	08/09/2012	N001	6.7	-	16.7	0.29		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	17	-	27	408		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	17	-	27	86		F	#	2	
Ammonia Total as N	mg/L	08/08/2012	N002	17	-	27	83		F	#	10	
Calcium	mg/L	08/08/2012	N001	17	-	27	480		F	#	0.06	
Calcium	mg/L	08/08/2012	N002	17	-	27	490		F	#	0.06	
Chloride	mg/L	08/08/2012	N001	17	-	27	45		F	#	10	
Chloride	mg/L	08/08/2012	N002	17	-	27	49		F	#	2	
Magnesium	mg/L	08/08/2012	N001	17	-	27	620		F	#	0.065	
Magnesium	mg/L	08/08/2012	N002	17	-	27	640		F	#	0.065	
Manganese	mg/L	08/08/2012	N001	17	-	27	1.1		F	#	0.00057	
Manganese	mg/L	08/08/2012	N002	17	-	27	1.1		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	17	-	27	110		F	#	1	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N002	17	-	27	100		F	#	1	
Oxidation Reduction Potential	mV	08/08/2012	N001	17	-	27	152.1		F	#		
pH	s.u.	08/08/2012	N001	17	-	27	6.68		F	#		
Potassium	mg/L	08/08/2012	N001	17	-	27	71		JF	#	0.54	
Potassium	mg/L	08/08/2012	N002	17	-	27	75		JF	#	0.54	
Selenium	mg/L	08/08/2012	N001	17	-	27	0.0018		F	#	0.00016	
Selenium	mg/L	08/08/2012	N002	17	-	27	0.002		F	#	0.00016	
Sodium	mg/L	08/08/2012	N001	17	-	27	550		F	#	0.033	
Sodium	mg/L	08/08/2012	N002	17	-	27	580		F	#	0.033	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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
Specific Conductance	umhos /cm	08/08/2012	N001	17	-	27	7252		F	#		
Strontium	mg/L	08/08/2012	N001	17	-	27	5.7		F	#	0.00039	
Strontium	mg/L	08/08/2012	N002	17	-	27	5.9		F	#	0.00039	
Sulfate	mg/L	08/08/2012	N001	17	-	27	4500		F	#	25	
Sulfate	mg/L	08/08/2012	N002	17	-	27	4300		F	#	50	
Temperature	C	08/08/2012	N001	17	-	27	16.84		F	#		
Turbidity	NTU	08/08/2012	N001	17	-	27	1.89		F	#		
Uranium	mg/L	08/08/2012	N001	17	-	27	0.24		F	#	0.000015	
Uranium	mg/L	08/08/2012	N002	17	-	27	0.24		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	17	-	27	360		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	17	-	27	29		F	#	1	
Calcium	mg/L	08/08/2012	N001	17	-	27	430		F	#	0.06	
Chloride	mg/L	08/08/2012	N001	17	-	27	110		F	#	20	
Magnesium	mg/L	08/08/2012	N001	17	-	27	430		F	#	0.065	
Manganese	mg/L	08/08/2012	N001	17	-	27	0.13		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	17	-	27	85		F	#	0.5	
Oxidation Reduction Potential	mV	08/08/2012	N001	17	-	27	150		F	#		
pH	s.u.	08/08/2012	N001	17	-	27	6.72		F	#		
Potassium	mg/L	08/08/2012	N001	17	-	27	40		JF	#	0.54	
Selenium	mg/L	08/08/2012	N001	17	-	27	0.012		F	#	0.000032	
Sodium	mg/L	08/08/2012	N001	17	-	27	740		F	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	17	-	27	8290		F	#		
Strontium	mg/L	08/08/2012	N001	17	-	27	7.3		F	#	0.00039	
Sulfate	mg/L	08/08/2012	N001	17	-	27	4400		F	#	50	
Temperature	C	08/08/2012	N001	17	-	27	18.9		F	#		
Turbidity	NTU	08/08/2012	N001	17	-	27	2.09		F	#		
Uranium	mg/L	08/08/2012	N001	17	-	27	0.031		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	0001	51.3 - 61.3	766		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	0001	51.3 - 61.3	0.1	U	FQ	#	0.1	
Calcium	mg/L	08/08/2012	0001	51.3 - 61.3	530		FQ	#	0.6	
Chloride	mg/L	08/08/2012	0001	51.3 - 61.3	2200		FQ	#	200	
Magnesium	mg/L	08/08/2012	0001	51.3 - 61.3	2600		FQ	#	0.65	
Manganese	mg/L	08/08/2012	0001	51.3 - 61.3	0.0057	U	FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	51.3 - 61.3	1600		FQ	#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	51.3 - 61.3	222.9		FQ	#		
pH	s.u.	08/08/2012	N001	51.3 - 61.3	6.91		FQ	#		
Potassium	mg/L	08/08/2012	0001	51.3 - 61.3	70		JFQ	#	5.4	
Selenium	mg/L	08/08/2012	0001	51.3 - 61.3	6.4		FQ	#	0.0016	
Sodium	mg/L	08/08/2012	0001	51.3 - 61.3	6600		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	51.3 - 61.3	31971		FQ	#		
Strontium	mg/L	08/08/2012	0001	51.3 - 61.3	16		FQ	#	0.0039	
Sulfate	mg/L	08/08/2012	0001	51.3 - 61.3	15000		FQ	#	500	
Temperature	C	08/08/2012	N001	51.3 - 61.3	16.78		FQ	#		
Turbidity	NTU	08/08/2012	N001	51.3 - 61.3	23.3		FQ	#		
Uranium	mg/L	08/08/2012	0001	51.3 - 61.3	0.16		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	40.8 - 50.8	770		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	40.8 - 50.8	59		F	#	2	
Calcium	mg/L	08/07/2012	N001	40.8 - 50.8	750		F	#	0.6	
Chloride	mg/L	08/07/2012	N001	40.8 - 50.8	610		F	#	20	
Magnesium	mg/L	08/07/2012	N001	40.8 - 50.8	3300		F	#	0.65	
Manganese	mg/L	08/07/2012	N001	40.8 - 50.8	0.56		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	40.8 - 50.8	2800		F	#	20	
Oxidation Reduction Potential	mV	08/07/2012	N001	40.8 - 50.8	190		F	#		
pH	s.u.	08/07/2012	N001	40.8 - 50.8	6.44		F	#		
Potassium	mg/L	08/07/2012	N001	40.8 - 50.8	120		JF	#	5.4	
Selenium	mg/L	08/07/2012	N001	40.8 - 50.8	0.061		F	#	0.00016	
Sodium	mg/L	08/07/2012	N001	40.8 - 50.8	2600		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	40.8 - 50.8	26403		F	#		
Strontium	mg/L	08/07/2012	N001	40.8 - 50.8	21		F	#	0.0039	
Sulfate	mg/L	08/07/2012	N001	40.8 - 50.8	8000		F	#	50	
Temperature	C	08/07/2012	N001	40.8 - 50.8	17.2		F	#		
Turbidity	NTU	08/07/2012	N001	40.8 - 50.8	4.1		F	#		
Uranium	mg/L	08/07/2012	N001	40.8 - 50.8	0.12		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	23.8	-	33.8	656		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	23.8	-	33.8	55		FQ	#	2	
Calcium	mg/L	08/08/2012	N001	23.8	-	33.8	450		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	23.8	-	33.8	920		FQ	#	200	
Magnesium	mg/L	08/08/2012	N001	23.8	-	33.8	2100		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	23.8	-	33.8	1.3		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	23.8	-	33.8	1000		FQ	#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	23.8	-	33.8	174.5		FQ	#		
pH	s.u.	08/08/2012	N001	23.8	-	33.8	6.87		FQ	#		
Potassium	mg/L	08/08/2012	N001	23.8	-	33.8	130		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	23.8	-	33.8	2.2		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	N001	23.8	-	33.8	3200		FQ	#	0.66	
Specific Conductance	umhos /cm	08/08/2012	N001	23.8	-	33.8	23149		FQ	#		
Strontium	mg/L	08/08/2012	N001	23.8	-	33.8	12		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	23.8	-	33.8	12000		FQ	#	500	
Temperature	C	08/08/2012	N001	23.8	-	33.8	19.39		FQ	#		
Turbidity	NTU	08/08/2012	N001	23.8	-	33.8	8.23		FQ	#		
Uranium	mg/L	08/08/2012	N001	23.8	-	33.8	0.095		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	22.3	-	32.3	1480		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	22.3	-	32.3	0.5		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	22.3	-	32.3	470		F	#	0.6	
Chloride	mg/L	08/09/2012	N001	22.3	-	32.3	510		F	#	100	
Magnesium	mg/L	08/09/2012	N001	22.3	-	32.3	2600		F	#	0.65	
Manganese	mg/L	08/09/2012	N001	22.3	-	32.3	1.5		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	22.3	-	32.3	720		F	#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	22.3	-	32.3	135		F	#		
pH	s.u.	08/09/2012	N001	22.3	-	32.3	6.43		F	#		
Potassium	mg/L	08/09/2012	N001	22.3	-	32.3	73		JF	#	5.4	
Selenium	mg/L	08/09/2012	N001	22.3	-	32.3	0.02		F	#	0.00016	
Sodium	mg/L	08/09/2012	N001	22.3	-	32.3	3200		F	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	22.3	-	32.3	23050		F	#		
Strontium	mg/L	08/09/2012	N001	22.3	-	32.3	13		F	#	0.0039	
Sulfate	mg/L	08/09/2012	N001	22.3	-	32.3	14000		F	#	250	
Temperature	C	08/09/2012	N001	22.3	-	32.3	18.9		F	#		
Turbidity	NTU	08/09/2012	N001	22.3	-	32.3	2.31		F	#		
Uranium	mg/L	08/09/2012	N001	22.3	-	32.3	0.36		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	20.1 - 25.1	240		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	20.1 - 25.1	0.1	U	F	#	0.1	
Calcium	mg/L	08/09/2012	N001	20.1 - 25.1	140		F	#	0.012	
Chloride	mg/L	08/09/2012	N001	20.1 - 25.1	57		F	#	10	
Magnesium	mg/L	08/09/2012	N001	20.1 - 25.1	170		F	#	0.013	
Manganese	mg/L	08/09/2012	N001	20.1 - 25.1	0.00055	B	F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	20.1 - 25.1	17		F	#	0.1	
Oxidation Reduction Potential	mV	08/09/2012	N001	20.1 - 25.1	100		F	#		
pH	s.u.	08/09/2012	N001	20.1 - 25.1	7.4		F	#		
Potassium	mg/L	08/09/2012	N001	20.1 - 25.1	13		JF	#	0.11	
Selenium	mg/L	08/09/2012	N001	20.1 - 25.1	0.011		F	#	0.00016	
Sodium	mg/L	08/09/2012	N001	20.1 - 25.1	390		F	#	0.033	
Specific Conductance	umhos /cm	08/09/2012	N001	20.1 - 25.1	3420		F	#		
Strontium	mg/L	08/09/2012	N001	20.1 - 25.1	2.5		F	#	0.000078	
Sulfate	mg/L	08/09/2012	N001	20.1 - 25.1	1600		F	#	25	
Temperature	C	08/09/2012	N001	20.1 - 25.1	19.4		F	#		
Turbidity	NTU	08/09/2012	N001	20.1 - 25.1	3.01		F	#		
Uranium	mg/L	08/09/2012	N001	20.1 - 25.1	0.017		F	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	21.6 - 31.62	1670		FQ	#		
Ammonia Total as N	mg/L	08/09/2012	N001	21.6 - 31.62	950		FQ	#	20	
Calcium	mg/L	08/09/2012	N001	21.6 - 31.62	470		FQ	#	0.6	
Chloride	mg/L	08/09/2012	N001	21.6 - 31.62	520		FQ	#	40	
Magnesium	mg/L	08/09/2012	N001	21.6 - 31.62	1900		FQ	#	0.65	
Manganese	mg/L	08/09/2012	N001	21.6 - 31.62	2.3		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	21.6 - 31.62	610		FQ	#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	21.6 - 31.62	150		FQ	#		
pH	s.u.	08/09/2012	N001	21.6 - 31.62	6.33		FQ	#		
Potassium	mg/L	08/09/2012	N001	21.6 - 31.62	210		JFQ	#	5.4	
Selenium	mg/L	08/09/2012	N001	21.6 - 31.62	0.0034		FQ	#	0.00016	
Sodium	mg/L	08/09/2012	N001	21.6 - 31.62	1500		FQ	#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	21.6 - 31.62	21550		FQ	#		
Strontium	mg/L	08/09/2012	N001	21.6 - 31.62	12		FQ	#	0.0039	
Sulfate	mg/L	08/09/2012	N001	21.6 - 31.62	12000		FQ	#	100	
Temperature	C	08/09/2012	N001	21.6 - 31.62	20		FQ	#		
Turbidity	NTU	08/09/2012	N001	21.6 - 31.62	4.06		FQ	#		
Uranium	mg/L	08/09/2012	N001	21.6 - 31.62	7.4		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	52	-	61.5	650			#		
Ammonia Total as N	mg/L	08/09/2012	N001	52	-	61.5	64			#	2	
Calcium	mg/L	08/09/2012	N001	52	-	61.5	460			#	0.6	
Chloride	mg/L	08/09/2012	N001	52	-	61.5	1000			#	40	
Magnesium	mg/L	08/09/2012	N001	52	-	61.5	2000			#	0.65	
Manganese	mg/L	08/09/2012	N001	52	-	61.5	0.58			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	52	-	61.5	800			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	52	-	61.5	205			#		
pH	s.u.	08/09/2012	N001	52	-	61.5	6.84			#		
Potassium	mg/L	08/09/2012	N001	52	-	61.5	57		J	#	5.4	
Selenium	mg/L	08/09/2012	N001	52	-	61.5	2.9			#	0.00032	
Sodium	mg/L	08/09/2012	N001	52	-	61.5	3700			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	52	-	61.5	24400			#		
Strontium	mg/L	08/09/2012	N001	52	-	61.5	13			#	0.0039	
Sulfate	mg/L	08/09/2012	N001	52	-	61.5	14000			#	100	
Temperature	C	08/09/2012	N001	52	-	61.5	16.7			#		
Turbidity	NTU	08/09/2012	N001	52	-	61.5	2.27			#		
Uranium	mg/L	08/09/2012	N001	52	-	61.5	0.15			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	15.67 - 25.67	2010		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	15.67 - 25.67	480		F	#	20	
Calcium	mg/L	08/08/2012	N001	15.67 - 25.67	470		F	#	0.6	
Chloride	mg/L	08/08/2012	N001	15.67 - 25.67	790		F	#	40	
Magnesium	mg/L	08/08/2012	N001	15.67 - 25.67	1600		F	#	0.65	
Manganese	mg/L	08/08/2012	N001	15.67 - 25.67	1.7		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	15.67 - 25.67	16		F	#	0.2	
Oxidation Reduction Potential	mV	08/08/2012	N001	15.67 - 25.67	120		F	#		
pH	s.u.	08/08/2012	N001	15.67 - 25.67	6.31		F	#		
Potassium	mg/L	08/08/2012	N001	15.67 - 25.67	170		JF	#	5.4	
Selenium	mg/L	08/08/2012	N001	15.67 - 25.67	0.019		F	#	0.00032	
Sodium	mg/L	08/08/2012	N001	15.67 - 25.67	2700		F	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	15.67 - 25.67	20800		F	#		
Strontium	mg/L	08/08/2012	N001	15.67 - 25.67	10		F	#	0.0039	
Sulfate	mg/L	08/08/2012	N001	15.67 - 25.67	14000		F	#	100	
Temperature	C	08/08/2012	N001	15.67 - 25.67	20.1		F	#		
Turbidity	NTU	08/08/2012	N001	15.67 - 25.67	9.31		F	#		
Uranium	mg/L	08/08/2012	N001	15.67 - 25.67	1.4		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	0001	199 - 201.5	431		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	0001	199 - 201.5	0.32		FQ	#	0.1	
Calcium	mg/L	08/08/2012	0001	199 - 201.5	160		FQ	#	0.12	
Chloride	mg/L	08/08/2012	0001	199 - 201.5	6200		FQ	#	100	
Magnesium	mg/L	08/08/2012	0001	199 - 201.5	67		FQ	#	0.13	
Manganese	mg/L	08/08/2012	0001	199 - 201.5	0.32		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	199 - 201.5	7.4		FQ	#	0.1	
Oxidation Reduction Potential	mV	08/08/2012	N001	199 - 201.5	113.3		FQ	#		
pH	s.u.	08/08/2012	N001	199 - 201.5	7.25		FQ	#		
Potassium	mg/L	08/08/2012	0001	199 - 201.5	74		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	0001	199 - 201.5	0.0008		FQ	#	0.00016	
Sodium	mg/L	08/08/2012	0001	199 - 201.5	5300		FQ	#	0.66	
Specific Conductance	umhos /cm	08/08/2012	N001	199 - 201.5	25965		FQ	#		
Strontium	mg/L	08/08/2012	0001	199 - 201.5	17		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	0001	199 - 201.5	5700		FQ	#	100	
Temperature	C	08/08/2012	N001	199 - 201.5	18.26		FQ	#		
Turbidity	NTU	08/08/2012	N001	199 - 201.5	13		FQ	#		
Uranium	mg/L	08/08/2012	0001	199 - 201.5	0.075		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	198.5 - 201	102		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	198.5 - 201	0.7		FQ	#	0.1	
Calcium	mg/L	08/08/2012	N001	198.5 - 201	150		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	198.5 - 201	4300		FQ	#	100	
Magnesium	mg/L	08/08/2012	N001	198.5 - 201	88		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	198.5 - 201	0.11		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	198.5 - 201	270		FQ	#	2	
Oxidation Reduction Potential	mV	08/08/2012	N001	198.5 - 201	20		FQ	#		
pH	s.u.	08/08/2012	N001	198.5 - 201	6.77		FQ	#		
Potassium	mg/L	08/08/2012	N001	198.5 - 201	170		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	198.5 - 201	0.0029		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	N001	198.5 - 201	4400		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	198.5 - 201	24150		FQ	#		
Strontium	mg/L	08/08/2012	N001	198.5 - 201	13		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	198.5 - 201	5000		FQ	#	100	
Temperature	C	08/08/2012	N001	198.5 - 201	19.9		FQ	#		
Turbidity	NTU	08/08/2012	N001	198.5 - 201	2.6		FQ	#		
Uranium	mg/L	08/08/2012	N001	198.5 - 201	0.38		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	147.79 - 150.23	180		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	147.79 - 150.23	1.8		FQ	#	0.1	
Calcium	mg/L	08/08/2012	N001	147.79 - 150.23	220		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	147.79 - 150.23	7300		FQ	#	200	
Magnesium	mg/L	08/08/2012	N001	147.79 - 150.23	83		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	147.79 - 150.23	0.21		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	147.79 - 150.23	30		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/08/2012	N001	147.79 - 150.23	65		FQ	#		
pH	s.u.	08/08/2012	N001	147.79 - 150.23	6.81		FQ	#		
Potassium	mg/L	08/08/2012	N001	147.79 - 150.23	130		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	147.79 - 150.23	0.00064		FQ	#	0.00016	
Sodium	mg/L	08/08/2012	N001	147.79 - 150.23	5800		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	147.79 - 150.23	29290		FQ	#		
Strontium	mg/L	08/08/2012	N001	147.79 - 150.23	18		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	147.79 - 150.23	4700		FQ	#	500	
Temperature	C	08/08/2012	N001	147.79 - 150.23	20.1		FQ	#		
Turbidity	NTU	08/08/2012	N001	147.79 - 150.23	9.12		FQ	#		
Uranium	mg/L	08/08/2012	N001	147.79 - 150.23	0.031		FQ	#	0.000015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	10	-	20	1670		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	10	-	20	90		FQ	#	2	
Calcium	mg/L	08/08/2012	N001	10	-	20	440		FQ	#	0.6	
Chloride	mg/L	08/08/2012	N001	10	-	20	490		FQ	#	100	
Magnesium	mg/L	08/08/2012	N001	10	-	20	2400		FQ	#	0.65	
Manganese	mg/L	08/08/2012	N001	10	-	20	2.3		JFQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	10	-	20	54		FQ	#	0.5	
Oxidation Reduction Potential	mV	08/08/2012	N001	10	-	20	150		FQ	#		
pH	s.u.	08/08/2012	N001	10	-	20	6.38		FQ	#		
Potassium	mg/L	08/08/2012	N001	10	-	20	97	N	JFQ	#	5.4	
Selenium	mg/L	08/08/2012	N001	10	-	20	0.032		FQ	#	0.0016	
Sodium	mg/L	08/08/2012	N001	10	-	20	2000		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	10	-	20	19350		FQ	#		
Strontium	mg/L	08/08/2012	N001	10	-	20	12		FQ	#	0.0039	
Sulfate	mg/L	08/08/2012	N001	10	-	20	13000		FQ	#	250	
Temperature	C	08/08/2012	N001	10	-	20	22.5		FQ	#		
Turbidity	NTU	08/08/2012	N001	10	-	20	9.54		FQ	#		
Uranium	mg/L	08/08/2012	N001	10	-	20	3.4		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	0001	19.9	-	29.9	1308		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	0001	19.9	-	29.9	4.4		FQ	#	0.1	
Calcium	mg/L	08/08/2012	0001	19.9	-	29.9	510		FQ	#	0.6	
Chloride	mg/L	08/08/2012	0001	19.9	-	29.9	350		FQ	#	40	
Magnesium	mg/L	08/08/2012	0001	19.9	-	29.9	990		FQ	#	0.65	
Manganese	mg/L	08/08/2012	0001	19.9	-	29.9	0.28		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	19.9	-	29.9	21		FQ	#	0.5	
Oxidation Reduction Potential	mV	08/08/2012	N001	19.9	-	29.9	100		FQ	#		
pH	s.u.	08/08/2012	N001	19.9	-	29.9	6.4		FQ	#		
Potassium	mg/L	08/08/2012	0001	19.9	-	29.9	27	B	JFQ	#	5.4	
Selenium	mg/L	08/08/2012	0001	19.9	-	29.9	0.02		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	0001	19.9	-	29.9	1800		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	19.9	-	29.9	14400		FQ	#		
Strontium	mg/L	08/08/2012	0001	19.9	-	29.9	10		FQ	#	0.0039	
Sulfate	mg/L	08/08/2012	0001	19.9	-	29.9	6500		FQ	#	100	
Temperature	C	08/08/2012	N001	19.9	-	29.9	18.3		FQ	#		
Turbidity	NTU	08/08/2012	N001	19.9	-	29.9	70.4		FQ	#		
Uranium	mg/L	08/08/2012	0001	19.9	-	29.9	1		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	5.3	-	15.3	886		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	5.3	-	15.3	0.61		F	#	0.1	
Calcium	mg/L	08/09/2012	N001	5.3	-	15.3	370		F	#	0.06	
Chloride	mg/L	08/09/2012	N001	5.3	-	15.3	120		F	#	10	
Magnesium	mg/L	08/09/2012	N001	5.3	-	15.3	250		F	#	0.065	
Manganese	mg/L	08/09/2012	N001	5.3	-	15.3	0.94		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	5.3	-	15.3	7		F	#	0.05	
Oxidation Reduction Potential	mV	08/09/2012	N001	5.3	-	15.3	98.7		F	#		
pH	s.u.	08/09/2012	N001	5.3	-	15.3	6.86		F	#		
Potassium	mg/L	08/09/2012	N001	5.3	-	15.3	14		JF	#	0.54	
Selenium	mg/L	08/09/2012	N001	5.3	-	15.3	0.01		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	5.3	-	15.3	490		F	#	0.033	
Specific Conductance	umhos /cm	08/09/2012	N001	5.3	-	15.3	4679		F	#		
Strontium	mg/L	08/09/2012	N001	5.3	-	15.3	4.7		F	#	0.00039	
Sulfate	mg/L	08/09/2012	N001	5.3	-	15.3	2000		F	#	25	
Temperature	C	08/09/2012	N001	5.3	-	15.3	18.12		F	#		
Turbidity	NTU	08/09/2012	N001	5.3	-	15.3	1.9		F	#		
Uranium	mg/L	08/09/2012	N001	5.3	-	15.3	0.71		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	7.7 - 17.7	0		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	7.7 - 17.7	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	7.7 - 17.7	650		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	7.7 - 17.7	45		F	#	10	
Magnesium	mg/L	08/08/2012	N001	7.7 - 17.7	63		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	7.7 - 17.7	4.8		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	7.7 - 17.7	110		F	#	1	
Oxidation Reduction Potential	mV	08/08/2012	N001	7.7 - 17.7	350		F	#		
pH	s.u.	08/08/2012	N001	7.7 - 17.7	3.55		F	#		
Potassium	mg/L	08/08/2012	N001	7.7 - 17.7	3.3	B	JF	#	1.1	
Selenium	mg/L	08/08/2012	N001	7.7 - 17.7	0.028		F	#	0.00032	
Sodium	mg/L	08/08/2012	N001	7.7 - 17.7	140		F	#	0.066	
Specific Conductance	umhos /cm	08/08/2012	N001	7.7 - 17.7	3470		F	#		
Strontium	mg/L	08/08/2012	N001	7.7 - 17.7	0.36		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	7.7 - 17.7	1700		F	#	25	
Temperature	C	08/08/2012	N001	7.7 - 17.7	22.9		F	#		
Turbidity	NTU	08/08/2012	N001	7.7 - 17.7	3.34		F	#		
Uranium	mg/L	08/08/2012	N001	7.7 - 17.7	0.011		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	24.9 - 34.9	543		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	24.9 - 34.9	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	24.9 - 34.9	450		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	24.9 - 34.9	370		F	#	20	
Magnesium	mg/L	08/07/2012	N001	24.9 - 34.9	700		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	24.9 - 34.9	0.037		F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	24.9 - 34.9	140		F	#	1	
Oxidation Reduction Potential	mV	08/07/2012	N001	24.9 - 34.9	146.3		F	#		
pH	s.u.	08/07/2012	N001	24.9 - 34.9	6.96		F	#		
Potassium	mg/L	08/07/2012	N001	24.9 - 34.9	24		JF	#	0.54	
Selenium	mg/L	08/07/2012	N001	24.9 - 34.9	0.32		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	24.9 - 34.9	1000		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	24.9 - 34.9	9245		F	#		
Strontium	mg/L	08/07/2012	N001	24.9 - 34.9	6.4		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	24.9 - 34.9	5000		F	#	50	
Temperature	C	08/07/2012	N001	24.9 - 34.9	17.65		F	#		
Turbidity	NTU	08/07/2012	N001	24.9 - 34.9	9.88		F	#		
Uranium	mg/L	08/07/2012	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: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	21.9 - 31.9	370		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	21.9 - 31.9	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	21.9 - 31.9	430		F	#	0.024	
Chloride	mg/L	08/07/2012	N001	21.9 - 31.9	140		F	#	20	
Magnesium	mg/L	08/07/2012	N001	21.9 - 31.9	360		F	#	0.026	
Manganese	mg/L	08/07/2012	N001	21.9 - 31.9	0.049		F	#	0.00023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	21.9 - 31.9	65		F	#	0.5	
Oxidation Reduction Potential	mV	08/07/2012	N001	21.9 - 31.9	173.2		F	#		
pH	s.u.	08/07/2012	N001	21.9 - 31.9	7		F	#		
Potassium	mg/L	08/07/2012	N001	21.9 - 31.9	15		JF	#	0.22	
Selenium	mg/L	08/07/2012	N001	21.9 - 31.9	0.36		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	21.9 - 31.9	770		F	#	0.066	
Specific Conductance	umhos /cm	08/07/2012	N001	21.9 - 31.9	6323		F	#		
Strontium	mg/L	08/07/2012	N001	21.9 - 31.9	4.9		F	#	0.00016	
Sulfate	mg/L	08/07/2012	N001	21.9 - 31.9	3400		F	#	50	
Temperature	C	08/07/2012	N001	21.9 - 31.9	20.05		F	#		
Turbidity	NTU	08/07/2012	N001	21.9 - 31.9	9.06		F	#		
Uranium	mg/L	08/07/2012	N001	21.9 - 31.9	0.067		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/06/2012	N001	26.8	-	36.8	314		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	26.8	-	36.8	0.1	U	F	#	0.1	
Calcium	mg/L	08/06/2012	N001	26.8	-	36.8	500		F	#	0.12	
Chloride	mg/L	08/06/2012	N001	26.8	-	36.8	52		F	#	10	
Magnesium	mg/L	08/06/2012	N001	26.8	-	36.8	250		F	#	0.13	
Manganese	mg/L	08/06/2012	N001	26.8	-	36.8	0.22		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	26.8	-	36.8	41		F	#	0.5	
Oxidation Reduction Potential	mV	08/06/2012	N001	26.8	-	36.8	200.9		F	#		
pH	s.u.	08/06/2012	N001	26.8	-	36.8	6.8		F	#		
Potassium	mg/L	08/06/2012	N001	26.8	-	36.8	2.9	B	JF	#	1.1	
Selenium	mg/L	08/06/2012	N001	26.8	-	36.8	0.29		F	#	0.00032	
Sodium	mg/L	08/06/2012	N001	26.8	-	36.8	340		F	#	0.066	
Specific Conductance	umhos /cm	08/06/2012	N001	26.8	-	36.8	4445		F	#		
Strontium	mg/L	08/06/2012	N001	26.8	-	36.8	6.3		F	#	0.00078	
Sulfate	mg/L	08/06/2012	N001	26.8	-	36.8	2600		F	#	25	
Temperature	C	08/06/2012	N001	26.8	-	36.8	16.39		F	#		
Turbidity	NTU	08/06/2012	N001	26.8	-	36.8	3.55		F	#		
Uranium	mg/L	08/06/2012	N001	26.8	-	36.8	0.048		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/06/2012	N001	17 - 27.1	442		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	17 - 27.1	0.1	U	F	#	0.1	
Calcium	mg/L	08/06/2012	N001	17 - 27.1	560		F	#	0.12	
Chloride	mg/L	08/06/2012	N001	17 - 27.1	63		F	#	10	
Magnesium	mg/L	08/06/2012	N001	17 - 27.1	230		F	#	0.13	
Manganese	mg/L	08/06/2012	N001	17 - 27.1	4		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	17 - 27.1	8.7		F	#	0.05	
Oxidation Reduction Potential	mV	08/06/2012	N001	17 - 27.1	70.7		F	#		
pH	s.u.	08/06/2012	N001	17 - 27.1	6.76		F	#		
Potassium	mg/L	08/06/2012	N001	17 - 27.1	7	B	JF	#	1.1	
Selenium	mg/L	08/06/2012	N001	17 - 27.1	0.15		F	#	0.00032	
Sodium	mg/L	08/06/2012	N001	17 - 27.1	310		F	#	0.066	
Specific Conductance	umhos /cm	08/06/2012	N001	17 - 27.1	4192		F	#		
Strontium	mg/L	08/06/2012	N001	17 - 27.1	6		F	#	0.00078	
Sulfate	mg/L	08/06/2012	N001	17 - 27.1	2400		F	#	25	
Temperature	C	08/06/2012	N001	17 - 27.1	15.71		F	#		
Turbidity	NTU	08/06/2012	N001	17 - 27.1	4.72		F	#		
Uranium	mg/L	08/06/2012	N001	17 - 27.1	0.035		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	21.9	-	31.9	444		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	21.9	-	31.9	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	21.9	-	31.9	510		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	21.9	-	31.9	560		F	#	40	
Magnesium	mg/L	08/07/2012	N001	21.9	-	31.9	1400		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	21.9	-	31.9	0.0011	U	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	21.9	-	31.9	530		F	#	5	
Oxidation Reduction Potential	mV	08/07/2012	N001	21.9	-	31.9	134.6		F	#		
pH	s.u.	08/07/2012	N001	21.9	-	31.9	6.94		F	#		
Potassium	mg/L	08/07/2012	N001	21.9	-	31.9	28		JF	#	1.1	
Selenium	mg/L	08/07/2012	N001	21.9	-	31.9	0.87		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	21.9	-	31.9	1900		F	#	0.66	
Specific Conductance	umhos /cm	08/07/2012	N001	21.9	-	31.9	15430		F	#		
Strontium	mg/L	08/07/2012	N001	21.9	-	31.9	12		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	21.9	-	31.9	8200		F	#	100	
Temperature	C	08/07/2012	N001	21.9	-	31.9	16.65		F	#		
Turbidity	NTU	08/07/2012	N001	21.9	-	31.9	4.49		F	#		
Uranium	mg/L	08/07/2012	N001	21.9	-	31.9	0.17		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	42	-	52	1349		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	42	-	52	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	42	-	52	420		F	#	0.12	
Chloride	mg/L	08/07/2012	N001	42	-	52	780		F	#	100	
Magnesium	mg/L	08/07/2012	N001	42	-	52	920		F	#	0.13	
Manganese	mg/L	08/07/2012	N001	42	-	52	0.059		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	42	-	52	670		F	#	5	
Oxidation Reduction Potential	mV	08/07/2012	N001	42	-	52	180.6		F	#		
pH	s.u.	08/07/2012	N001	42	-	52	7.01		F	#		
Potassium	mg/L	08/07/2012	N001	42	-	52	76		JF	#	1.1	
Selenium	mg/L	08/07/2012	N001	42	-	52	3.8		F	#	0.0016	
Sodium	mg/L	08/07/2012	N001	42	-	52	5700		F	#	0.66	
Specific Conductance	umhos /cm	08/07/2012	N001	42	-	52	26039		F	#		
Strontium	mg/L	08/07/2012	N001	42	-	52	9.1		F	#	0.00078	
Sulfate	mg/L	08/07/2012	N001	42	-	52	14000		F	#	250	
Temperature	C	08/07/2012	N001	42	-	52	17.33		F	#		
Turbidity	NTU	08/07/2012	N001	42	-	52	9.99		F	#		
Uranium	mg/L	08/07/2012	N001	42	-	52	0.15		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/06/2012	N001	11.9 - 21.9	282		F	#		
Ammonia Total as N	mg/L	08/06/2012	N001	11.9 - 21.9	0.1	U	F	#	0.1	
Calcium	mg/L	08/06/2012	N001	11.9 - 21.9	390		F	#	0.012	
Chloride	mg/L	08/06/2012	N001	11.9 - 21.9	57		F	#	10	
Magnesium	mg/L	08/06/2012	N001	11.9 - 21.9	130		F	#	0.013	
Manganese	mg/L	08/06/2012	N001	11.9 - 21.9	2.1		F	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N001	11.9 - 21.9	11		F	#	0.1	
Oxidation Reduction Potential	mV	08/06/2012	N001	11.9 - 21.9	-110.3		F	#		
pH	s.u.	08/06/2012	N001	11.9 - 21.9	6.93		F	#		
Potassium	mg/L	08/06/2012	N001	11.9 - 21.9	11		JF	#	0.11	
Selenium	mg/L	08/06/2012	N001	11.9 - 21.9	0.6		F	#	0.00032	
Sodium	mg/L	08/06/2012	N001	11.9 - 21.9	220		F	#	0.33	
Specific Conductance	umhos /cm	08/06/2012	N001	11.9 - 21.9	3236		F	#		
Strontium	mg/L	08/06/2012	N001	11.9 - 21.9	4.1		F	#	0.000078	
Sulfate	mg/L	08/06/2012	N001	11.9 - 21.9	1700		F	#	25	
Temperature	C	08/06/2012	N001	11.9 - 21.9	17.5		F	#		
Turbidity	NTU	08/06/2012	N001	11.9 - 21.9	8.2		F	#		
Uranium	mg/L	08/06/2012	N001	11.9 - 21.9	0.032		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	28.91 - 38.91	725		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	28.91 - 38.91	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	28.91 - 38.91	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	28.91 - 38.91	530		F	#	0.12	
Calcium	mg/L	08/07/2012	N002	28.91 - 38.91	510		F	#	0.24	
Chloride	mg/L	08/07/2012	N001	28.91 - 38.91	790		F	#	40	
Chloride	mg/L	08/07/2012	N002	28.91 - 38.91	790		F	#	40	
Magnesium	mg/L	08/07/2012	N001	28.91 - 38.91	2000		F	#	0.13	
Magnesium	mg/L	08/07/2012	N002	28.91 - 38.91	1800		F	#	0.26	
Manganese	mg/L	08/07/2012	N001	28.91 - 38.91	0.0093	B	F	#	0.0011	
Manganese	mg/L	08/07/2012	N002	28.91 - 38.91	0.0023	U	F	#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	28.91 - 38.91	950		F	#	5	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	28.91 - 38.91	850		F	#	5	
Oxidation Reduction Potential	mV	08/07/2012	N001	28.91 - 38.91	195.4		F	#		
pH	s.u.	08/07/2012	N001	28.91 - 38.91	7.29		F	#		
Potassium	mg/L	08/07/2012	N001	28.91 - 38.91	58		JF	#	1.1	
Potassium	mg/L	08/07/2012	N002	28.91 - 38.91	47		JF	#	2.2	
Selenium	mg/L	08/07/2012	N001	28.91 - 38.91	2		F	#	0.0016	
Selenium	mg/L	08/07/2012	N002	28.91 - 38.91	1.9		F	#	0.00065	
Sodium	mg/L	08/07/2012	N001	28.91 - 38.91	2800		F	#	0.33	
Sodium	mg/L	08/07/2012	N002	28.91 - 38.91	2400		F	#	0.13	

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

REPORT DATE: 1/3/2013

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
Specific Conductance	umhos /cm	08/07/2012	N001	28.91 - 38.91	18229		F	#		
Strontium	mg/L	08/07/2012	N001	28.91 - 38.91	13		F	#	0.00078	
Strontium	mg/L	08/07/2012	N002	28.91 - 38.91	13		F	#	0.0016	
Sulfate	mg/L	08/07/2012	N001	28.91 - 38.91	9800		F	#	100	
Sulfate	mg/L	08/07/2012	N002	28.91 - 38.91	9700		F	#	100	
Temperature	C	08/07/2012	N001	28.91 - 38.91	20.93		F	#		
Turbidity	NTU	08/07/2012	N001	28.91 - 38.91	2.2		F	#		
Uranium	mg/L	08/07/2012	N001	28.91 - 38.91	0.21		F	#	0.00015	
Uranium	mg/L	08/07/2012	N002	28.91 - 38.91	0.2		F	#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	45 - 142.58	1724		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	45 - 142.58	10		F	#	0.5	
Calcium	mg/L	08/07/2012	N001	45 - 142.58	390		F	#	0.6	
Chloride	mg/L	08/07/2012	N001	45 - 142.58	1000		F	#	100	
Magnesium	mg/L	08/07/2012	N001	45 - 142.58	520		F	#	0.65	
Manganese	mg/L	08/07/2012	N001	45 - 142.58	3.1		F	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	45 - 142.58	0.017		F	#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	45 - 142.58	-51.9		F	#		
pH	s.u.	08/07/2012	N001	45 - 142.58	6.64		F	#		
Potassium	mg/L	08/07/2012	N001	45 - 142.58	20	B	JF	#	5.4	
Selenium	mg/L	08/07/2012	N001	45 - 142.58	0.052		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	45 - 142.58	6500		F	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	45 - 142.58	25176		F	#		
Strontium	mg/L	08/07/2012	N001	45 - 142.58	20		F	#	0.0039	
Sulfate	mg/L	08/07/2012	N001	45 - 142.58	15000		F	#	250	
Temperature	C	08/07/2012	N001	45 - 142.58	16.79		F	#		
Turbidity	NTU	08/07/2012	N001	45 - 142.58	6.27		F	#		
Uranium	mg/L	08/07/2012	N001	45 - 142.58	0.021		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	36.8 - 46.3	1325		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	36.8 - 46.3	17		FQ	#	0.5	
Calcium	mg/L	08/08/2012	N001	36.8 - 46.3	470		FQ	#	0.6	
Chloride	mg/L	08/08/2012	N001	36.8 - 46.3	470		FQ	#	100	
Magnesium	mg/L	08/08/2012	N001	36.8 - 46.3	2300		FQ	#	0.65	
Manganese	mg/L	08/08/2012	N001	36.8 - 46.3	1.3		FQ	#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	36.8 - 46.3	680		FQ	#	5	
Oxidation Reduction Potential	mV	08/08/2012	N001	36.8 - 46.3	110		FQ	#		
pH	s.u.	08/08/2012	N001	36.8 - 46.3	6.63		FQ	#		
Potassium	mg/L	08/08/2012	N001	36.8 - 46.3	89		JFQ	#	5.4	
Selenium	mg/L	08/08/2012	N001	36.8 - 46.3	0.14		FQ	#	0.0016	
Sodium	mg/L	08/08/2012	N001	36.8 - 46.3	2500		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	36.8 - 46.3	22090		FQ	#		
Strontium	mg/L	08/08/2012	N001	36.8 - 46.3	12		FQ	#	0.0039	
Sulfate	mg/L	08/08/2012	N001	36.8 - 46.3	11000		FQ	#	250	
Temperature	C	08/08/2012	N001	36.8 - 46.3	20.7		FQ	#		
Turbidity	NTU	08/08/2012	N001	36.8 - 46.3	9.89		FQ	#		
Uranium	mg/L	08/08/2012	N001	36.8 - 46.3	2.7		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	3.6	-	8.6	637		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	3.6	-	8.6	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	3.6	-	8.6	430		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	3.6	-	8.6	1300		F	#	100	
Magnesium	mg/L	08/08/2012	N001	3.6	-	8.6	1300		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	3.6	-	8.6	0.029	B	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	3.6	-	8.6	640		F	#	5	
Oxidation Reduction Potential	mV	08/08/2012	N001	3.6	-	8.6	191.6		F	#		
pH	s.u.	08/08/2012	N001	3.6	-	8.6	7.28		F	#		
Potassium	mg/L	08/08/2012	N001	3.6	-	8.6	48		JF	#	1.1	
Selenium	mg/L	08/08/2012	N001	3.6	-	8.6	1.3		F	#	0.0016	
Sodium	mg/L	08/08/2012	N001	3.6	-	8.6	5600		F	#	0.66	
Specific Conductance	umhos /cm	08/08/2012	N001	3.6	-	8.6	28183		F	#		
Strontium	mg/L	08/08/2012	N001	3.6	-	8.6	9.5		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	3.6	-	8.6	17000		F	#	250	
Temperature	C	08/08/2012	N001	3.6	-	8.6	19.32		F	#		
Turbidity	NTU	08/08/2012	N001	3.6	-	8.6	5.85		F	#		
Uranium	mg/L	08/08/2012	N001	3.6	-	8.6	0.2		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	4.3	-	9.3	664		F	#		
Ammonia Total as N	mg/L	08/08/2012	N001	4.3	-	9.3	0.1	U	F	#	0.1	
Calcium	mg/L	08/08/2012	N001	4.3	-	9.3	410		F	#	0.12	
Chloride	mg/L	08/08/2012	N001	4.3	-	9.3	1300		F	#	100	
Magnesium	mg/L	08/08/2012	N001	4.3	-	9.3	1300		F	#	0.13	
Manganese	mg/L	08/08/2012	N001	4.3	-	9.3	0.0011	U	F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	4.3	-	9.3	550		F	#	5	
Oxidation Reduction Potential	mV	08/08/2012	N001	4.3	-	9.3	178.7		F	#		
pH	s.u.	08/08/2012	N001	4.3	-	9.3	7.28		F	#		
Potassium	mg/L	08/08/2012	N001	4.3	-	9.3	44		JF	#	1.1	
Selenium	mg/L	08/08/2012	N001	4.3	-	9.3	1.3		F	#	0.0016	
Sodium	mg/L	08/08/2012	N001	4.3	-	9.3	6100		F	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	4.3	-	9.3	27873		F	#		
Strontium	mg/L	08/08/2012	N001	4.3	-	9.3	9.3		F	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	4.3	-	9.3	17000		F	#	250	
Temperature	C	08/08/2012	N001	4.3	-	9.3	18.42		F	#		
Turbidity	NTU	08/08/2012	N001	4.3	-	9.3	8.11		F	#		
Uranium	mg/L	08/08/2012	N001	4.3	-	9.3	0.17		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	36.66 - 41.66	250		F	#		
Ammonia Total as N	mg/L	08/09/2012	N001	36.66 - 41.66	360		F	#	10	
Calcium	mg/L	08/09/2012	N001	36.66 - 41.66	740		F	#	0.12	
Chloride	mg/L	08/09/2012	N001	36.66 - 41.66	330		F	#	20	
Magnesium	mg/L	08/09/2012	N001	36.66 - 41.66	1100		F	#	0.13	
Manganese	mg/L	08/09/2012	N001	36.66 - 41.66	22		F	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	36.66 - 41.66	1800		F	#	10	
Oxidation Reduction Potential	mV	08/09/2012	N001	36.66 - 41.66	130		F	#		
pH	s.u.	08/09/2012	N001	36.66 - 41.66	6.2		F	#		
Potassium	mg/L	08/09/2012	N001	36.66 - 41.66	180		JF	#	1.1	
Selenium	mg/L	08/09/2012	N001	36.66 - 41.66	0.15		F	#	0.00032	
Sodium	mg/L	08/09/2012	N001	36.66 - 41.66	1100		F	#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	36.66 - 41.66	16600		F	#		
Strontium	mg/L	08/09/2012	N001	36.66 - 41.66	7.7		F	#	0.00078	
Sulfate	mg/L	08/09/2012	N001	36.66 - 41.66	4300		F	#	50	
Temperature	C	08/09/2012	N001	36.66 - 41.66	17.7		F	#		
Turbidity	NTU	08/09/2012	N001	36.66 - 41.66	6.08		F	#		
Uranium	mg/L	08/09/2012	N001	36.66 - 41.66	0.031		F	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	41.7 - 51.2	615		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	41.7 - 51.2	4.1		FQ	#	0.1	
Calcium	mg/L	08/08/2012	N001	41.7 - 51.2	220		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	41.7 - 51.2	1200		FQ	#	100	
Magnesium	mg/L	08/08/2012	N001	41.7 - 51.2	120		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	41.7 - 51.2	0.17		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	41.7 - 51.2	0.01	U	FQ	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	41.7 - 51.2	-98.3		FQ	#		
pH	s.u.	08/08/2012	N001	41.7 - 51.2	7.07		FQ	#		
Potassium	mg/L	08/08/2012	N001	41.7 - 51.2	14		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	41.7 - 51.2	0.0002		FQ	#	0.000032	
Sodium	mg/L	08/08/2012	N001	41.7 - 51.2	2600		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	41.7 - 51.2	13311		FQ	#		
Strontium	mg/L	08/08/2012	N001	41.7 - 51.2	10		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	41.7 - 51.2	5300		FQ	#	250	
Temperature	C	08/08/2012	N001	41.7 - 51.2	18.32		FQ	#		
Turbidity	NTU	08/08/2012	N001	41.7 - 51.2	2.29		FQ	#		
Uranium	mg/L	08/08/2012	N001	41.7 - 51.2	0.0037		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	39.5 - 49	653		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	39.5 - 49	3.6		FQ	#	0.1	
Calcium	mg/L	08/08/2012	N001	39.5 - 49	330		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	39.5 - 49	620		FQ	#	100	
Magnesium	mg/L	08/08/2012	N001	39.5 - 49	390		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	39.5 - 49	0.061		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	39.5 - 49	390		FQ	#	2	
Oxidation Reduction Potential	mV	08/08/2012	N001	39.5 - 49	200.6		FQ	#		
pH	s.u.	08/08/2012	N001	39.5 - 49	6.92		FQ	#		
Potassium	mg/L	08/08/2012	N001	39.5 - 49	27		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	39.5 - 49	0.011		FQ	#	0.00032	
Sodium	mg/L	08/08/2012	N001	39.5 - 49	3600		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	39.5 - 49	17763		FQ	#		
Strontium	mg/L	08/08/2012	N001	39.5 - 49	16		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	39.5 - 49	8200		FQ	#	250	
Temperature	C	08/08/2012	N001	39.5 - 49	17.56		FQ	#		
Turbidity	NTU	08/08/2012	N001	39.5 - 49	3.58		FQ	#		
Uranium	mg/L	08/08/2012	N001	39.5 - 49	0.066		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
Location: 1068 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Ammonia Total as N	mg/L	08/09/2012	0001	6.95 - 8.95	36		FQ	#	1	
Calcium	mg/L	08/09/2012	0001	6.95 - 8.95	480		FQ	#	0.06	
Chloride	mg/L	08/09/2012	0001	6.95 - 8.95	270		FQ	#	20	
Magnesium	mg/L	08/09/2012	0001	6.95 - 8.95	950		FQ	#	0.065	
Manganese	mg/L	08/09/2012	0001	6.95 - 8.95	1.3		FQ	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	6.95 - 8.95	270		FQ	#	2	
Potassium	mg/L	08/09/2012	0001	6.95 - 8.95	71	EN	JFQ	#	0.54	
Selenium	mg/L	08/09/2012	0001	6.95 - 8.95	0.022		FQ	#	0.00065	
Sodium	mg/L	08/09/2012	0001	6.95 - 8.95	970	E	JFQ	#	0.33	
Strontium	mg/L	08/09/2012	0001	6.95 - 8.95	9		FQ	#	0.00039	
Sulfate	mg/L	08/09/2012	0001	6.95 - 8.95	6300		FQ	#	50	
Turbidity	NTU	08/09/2012	N001	6.95 - 8.95	22.8		FQ	#		
Uranium	mg/L	08/09/2012	0001	6.95 - 8.95	0.71		FQ	#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
Location: 1069 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Ammonia Total as N	mg/L	08/09/2012	0001	4.35	-	6.35	0.28		FQ	#	0.1	
Calcium	mg/L	08/09/2012	0001	4.35	-	6.35	450		FQ	#	0.12	
Chloride	mg/L	08/09/2012	0001	4.35	-	6.35	520		FQ	#	40	
Magnesium	mg/L	08/09/2012	0001	4.35	-	6.35	2000		FQ	#	0.13	
Manganese	mg/L	08/09/2012	0001	4.35	-	6.35	0.041	B	FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	4.35	-	6.35	630		FQ	#	5	
Potassium	mg/L	08/09/2012	0001	4.35	-	6.35	110		JFQ	#	1.1	
Selenium	mg/L	08/09/2012	0001	4.35	-	6.35	0.024		FQ	#	0.0016	
Sodium	mg/L	08/09/2012	0001	4.35	-	6.35	2100		FQ	#	0.33	
Strontium	mg/L	08/09/2012	0001	4.35	-	6.35	13		FQ	#	0.00078	
Sulfate	mg/L	08/09/2012	0001	4.35	-	6.35	11000		FQ	#	100	
Turbidity	NTU	08/09/2012	N001	4.35	-	6.35	224		FQ	#		
Uranium	mg/L	08/09/2012	0001	4.35	-	6.35	2.2		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	52.5	-	62	600			#		
Ammonia Total as N	mg/L	08/09/2012	N001	52.5	-	62	1.3			#	0.1	
Calcium	mg/L	08/09/2012	N001	52.5	-	62	390			#	0.12	
Chloride	mg/L	08/09/2012	N001	52.5	-	62	1000			#	40	
Magnesium	mg/L	08/09/2012	N001	52.5	-	62	1200			#	0.13	
Manganese	mg/L	08/09/2012	N001	52.5	-	62	0.1			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	52.5	-	62	660			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	52.5	-	62	115			#		
pH	s.u.	08/09/2012	N001	52.5	-	62	6.98			#		
Potassium	mg/L	08/09/2012	N001	52.5	-	62	68		J	#	1.1	
Selenium	mg/L	08/09/2012	N001	52.5	-	62	3			#	0.0016	
Sodium	mg/L	08/09/2012	N001	52.5	-	62	4800			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	52.5	-	62	26050			#		
Strontium	mg/L	08/09/2012	N001	52.5	-	62	9.2			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	52.5	-	62	14000			#	100	
Temperature	C	08/09/2012	N001	52.5	-	62	21.9			#		
Turbidity	NTU	08/09/2012	N001	52.5	-	62	3.06			#		
Uranium	mg/L	08/09/2012	N001	52.5	-	62	0.078			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	36.5	-	46	510			#		
Ammonia Total as N	mg/L	08/09/2012	N001	36.5	-	46	10			#	0.5	
Calcium	mg/L	08/09/2012	N001	36.5	-	46	440			#	0.6	
Chloride	mg/L	08/09/2012	N001	36.5	-	46	1000			#	40	
Magnesium	mg/L	08/09/2012	N001	36.5	-	46	1200			#	0.65	
Manganese	mg/L	08/09/2012	N001	36.5	-	46	4			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	36.5	-	46	700			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	36.5	-	46	150			#		
pH	s.u.	08/09/2012	N001	36.5	-	46	7.19			#		
Potassium	mg/L	08/09/2012	N001	36.5	-	46	47	B	J	#	5.4	
Selenium	mg/L	08/09/2012	N001	36.5	-	46	2.9			#	0.0016	
Sodium	mg/L	08/09/2012	N001	36.5	-	46	4500			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	36.5	-	46	24890			#		
Strontium	mg/L	08/09/2012	N001	36.5	-	46	10			#	0.0039	
Sulfate	mg/L	08/09/2012	N001	36.5	-	46	14000			#	100	
Temperature	C	08/09/2012	N001	36.5	-	46	20.2			#		
Turbidity	NTU	08/09/2012	N001	36.5	-	46	8.44			#		
Uranium	mg/L	08/09/2012	N001	36.5	-	46	0.16			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	40.5 - 50	374		FQ	#		
Ammonia Total as N	mg/L	08/07/2012	0001	40.5 - 50	20		FQ	#	1	
Calcium	mg/L	08/07/2012	0001	40.5 - 50	460		FQ	#	0.12	
Chloride	mg/L	08/07/2012	0001	40.5 - 50	980		FQ	#	40	
Magnesium	mg/L	08/07/2012	0001	40.5 - 50	1900		FQ	#	0.13	
Manganese	mg/L	08/07/2012	0001	40.5 - 50	0.13		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	40.5 - 50	980		FQ	#	5	
Oxidation Reduction Potential	mV	08/07/2012	N001	40.5 - 50	213.2		FQ	#		
pH	s.u.	08/07/2012	N001	40.5 - 50	7.01		FQ	#		
Potassium	mg/L	08/07/2012	0001	40.5 - 50	120		JFQ	#	1.1	
Selenium	mg/L	08/07/2012	0001	40.5 - 50	2.5		FQ	#	0.0016	
Sodium	mg/L	08/07/2012	0001	40.5 - 50	2800		FQ	#	0.33	
Specific Conductance	umhos /cm	08/07/2012	N001	40.5 - 50	20378		FQ	#		
Strontium	mg/L	08/07/2012	0001	40.5 - 50	9.5		FQ	#	0.00078	
Sulfate	mg/L	08/07/2012	0001	40.5 - 50	11000		FQ	#	100	
Temperature	C	08/07/2012	N001	40.5 - 50	18.7		FQ	#		
Turbidity	NTU	08/07/2012	N001	40.5 - 50	10.6		FQ	#		
Uranium	mg/L	08/07/2012	0001	40.5 - 50	0.11		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	27 - 36.5	1150		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	N001	27 - 36.5	4.8		FQ	#	0.1	
Calcium	mg/L	08/08/2012	N001	27 - 36.5	580		FQ	#	0.12	
Chloride	mg/L	08/08/2012	N001	27 - 36.5	1000		FQ	#	40	
Magnesium	mg/L	08/08/2012	N001	27 - 36.5	2300		FQ	#	0.13	
Manganese	mg/L	08/08/2012	N001	27 - 36.5	1.7		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	27 - 36.5	1400		FQ	#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	27 - 36.5	135		FQ	#		
pH	s.u.	08/08/2012	N001	27 - 36.5	6.56		FQ	#		
Potassium	mg/L	08/08/2012	N001	27 - 36.5	54		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	N001	27 - 36.5	0.38		FQ	#	0.0016	
Sodium	mg/L	08/08/2012	N001	27 - 36.5	2100		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	27 - 36.5	21600		FQ	#		
Strontium	mg/L	08/08/2012	N001	27 - 36.5	11		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	N001	27 - 36.5	8300		FQ	#	100	
Temperature	C	08/08/2012	N001	27 - 36.5	22.2		FQ	#		
Turbidity	NTU	08/08/2012	N001	27 - 36.5	4.96		FQ	#		
Uranium	mg/L	08/08/2012	N001	27 - 36.5	2.2		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	35.5	-	45	634			#		
Ammonia Total as N	mg/L	08/09/2012	N001	35.5	-	45	2.3			#	0.1	
Calcium	mg/L	08/09/2012	N001	35.5	-	45	410			#	0.12	
Chloride	mg/L	08/09/2012	N001	35.5	-	45	970			#	100	
Magnesium	mg/L	08/09/2012	N001	35.5	-	45	1100			#	0.13	
Manganese	mg/L	08/09/2012	N001	35.5	-	45	0.062			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	35.5	-	45	590			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	35.5	-	45	100			#		
pH	s.u.	08/09/2012	N001	35.5	-	45	6.95			#		
Potassium	mg/L	08/09/2012	N001	35.5	-	45	70		J	#	1.1	
Selenium	mg/L	08/09/2012	N001	35.5	-	45	2.8			#	0.0016	
Sodium	mg/L	08/09/2012	N001	35.5	-	45	5200			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	35.5	-	45	25130			#		
Strontium	mg/L	08/09/2012	N001	35.5	-	45	9.6			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	35.5	-	45	13000			#	250	
Temperature	C	08/09/2012	N001	35.5	-	45	20.7			#		
Turbidity	NTU	08/09/2012	N001	35.5	-	45	9.33			#		
Uranium	mg/L	08/09/2012	N001	35.5	-	45	0.14			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	10.5	-	20	301		F	#		
Ammonia Total as N	mg/L	08/07/2012	N001	10.5	-	20	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	10.5	-	20	0.1	U	F	#	0.1	
Calcium	mg/L	08/07/2012	N001	10.5	-	20	940		F	#	0.12	
Calcium	mg/L	08/07/2012	N002	10.5	-	20	980		F	#	0.06	
Chloride	mg/L	08/07/2012	N001	10.5	-	20	370		F	#	20	
Chloride	mg/L	08/07/2012	N002	10.5	-	20	380		F	#	20	
Magnesium	mg/L	08/07/2012	N001	10.5	-	20	190		F	#	0.013	
Magnesium	mg/L	08/07/2012	N002	10.5	-	20	200		F	#	0.065	
Manganese	mg/L	08/07/2012	N001	10.5	-	20	0.0052		F	#	0.00011	
Manganese	mg/L	08/07/2012	N002	10.5	-	20	0.0033	B	F	#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	10.5	-	20	340		F	#	2	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	10.5	-	20	350		F	#	2	
Oxidation Reduction Potential	mV	08/07/2012	N001	10.5	-	20	76.6		F	#		
pH	s.u.	08/07/2012	N001	10.5	-	20	6.64		F	#		
Potassium	mg/L	08/07/2012	N001	10.5	-	20	15		JF	#	0.11	
Potassium	mg/L	08/07/2012	N002	10.5	-	20	11		JF	#	0.54	
Selenium	mg/L	08/07/2012	N001	10.5	-	20	0.71		F	#	0.00032	
Selenium	mg/L	08/07/2012	N002	10.5	-	20	0.71		F	#	0.00032	
Sodium	mg/L	08/07/2012	N001	10.5	-	20	490		F	#	0.066	
Sodium	mg/L	08/07/2012	N002	10.5	-	20	520		F	#	0.033	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
Location: 1079 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	08/07/2012	N001	10.5	-	20	6873		F	#		
Strontium	mg/L	08/07/2012	N001	10.5	-	20	8.3		F	#	0.000078	
Strontium	mg/L	08/07/2012	N002	10.5	-	20	9.1		F	#	0.00039	
Sulfate	mg/L	08/07/2012	N001	10.5	-	20	2200		F	#	50	
Sulfate	mg/L	08/07/2012	N002	10.5	-	20	2300		F	#	50	
Temperature	C	08/07/2012	N001	10.5	-	20	16.44		F	#		
Turbidity	NTU	08/07/2012	N001	10.5	-	20	7.45		F	#		
Uranium	mg/L	08/07/2012	N001	10.5	-	20	0.048		F	#	0.000029	
Uranium	mg/L	08/07/2012	N002	10.5	-	20	0.046		F	#	0.000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/07/2012	N001	0	-	0	680			#		
Ammonia Total as N	mg/L	08/07/2012	N001	0	-	0	160			#	10	
Ammonia Total as N	mg/L	08/07/2012	N002	0	-	0	160			#	10	
Calcium	mg/L	08/07/2012	N001	0	-	0	500			#	0.3	
Calcium	mg/L	08/07/2012	N002	0	-	0	490			#	0.06	
Chloride	mg/L	08/07/2012	N001	0	-	0	290			#	40	
Chloride	mg/L	08/07/2012	N002	0	-	0	280			#	40	
Magnesium	mg/L	08/07/2012	N001	0	-	0	1300			#	0.32	
Magnesium	mg/L	08/07/2012	N002	0	-	0	1400			#	0.065	
Manganese	mg/L	08/07/2012	N001	0	-	0	1.2			#	0.0028	
Manganese	mg/L	08/07/2012	N002	0	-	0	1.2			#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N001	0	-	0	340			#	2	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	0	-	0	360			#	2	
Oxidation Reduction Potential	mV	08/07/2012	N001	0	-	0	260			#		
pH	s.u.	08/07/2012	N001	0	-	0	6.59			#		
Potassium	mg/L	08/07/2012	N001	0	-	0	110		J	#	2.7	
Potassium	mg/L	08/07/2012	N002	0	-	0	150		J	#	0.54	
Selenium	mg/L	08/07/2012	N001	0	-	0	0.026			#	0.00032	
Selenium	mg/L	08/07/2012	N002	0	-	0	0.024			#	0.00032	
Sodium	mg/L	08/07/2012	N001	0	-	0	1200			#	0.16	
Sodium	mg/L	08/07/2012	N002	0	-	0	1200			#	0.33	

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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
Specific Conductance	umhos /cm	08/07/2012	N001	0	-	0	13635			#		
Strontium	mg/L	08/07/2012	N001	0	-	0	9.6			#	0.0019	
Strontium	mg/L	08/07/2012	N002	0	-	0	9.4			#	0.00039	
Sulfate	mg/L	08/07/2012	N001	0	-	0	8100			#	100	
Sulfate	mg/L	08/07/2012	N002	0	-	0	7600			#	100	
Temperature	C	08/07/2012	N001	0	-	0	22.7			#		
Turbidity	NTU	08/07/2012	N001	0	-	0	2.32			#		
Uranium	mg/L	08/07/2012	N001	0	-	0	0.57			#	0.000029	
Uranium	mg/L	08/07/2012	N002	0	-	0	0.56			#	0.000029	

General Water Quality Data by Location (USEE105) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/10/2012	0001	0	-	0	685			#		
Ammonia Total as N	mg/L	08/10/2012	0001	0	-	0	0.1	U		#	0.1	
Calcium	mg/L	08/10/2012	0001	0	-	0	440			#	0.24	
Chloride	mg/L	08/10/2012	0001	0	-	0	1300			#	200	
Magnesium	mg/L	08/10/2012	0001	0	-	0	1200			#	0.26	
Manganese	mg/L	08/10/2012	0001	0	-	0	0.15			#	0.0023	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2012	0001	0	-	0	700			#	5	
Oxidation Reduction Potential	mV	08/10/2012	N001	0	-	0	100			#		
pH	s.u.	08/10/2012	N001	0	-	0	7.04			#		
Potassium	mg/L	08/10/2012	0001	0	-	0	66		J	#	2.2	
Selenium	mg/L	08/10/2012	0001	0	-	0	1.8			#	0.00065	
Sodium	mg/L	08/10/2012	0001	0	-	0	6500			#	0.66	
Specific Conductance	umhos /cm	08/10/2012	N001	0	-	0	32270			#		
Strontium	mg/L	08/10/2012	0001	0	-	0	10			#	0.0016	
Sulfate	mg/L	08/10/2012	0001	0	-	0	18000			#	500	
Temperature	C	08/10/2012	N001	0	-	0	20.7			#		
Turbidity	NTU	08/10/2012	N001	0	-	0	99.3			#		
Uranium	mg/L	08/10/2012	0001	0	-	0	0.18			#	0.000058	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	0001	33 - 43	976			#		
Ammonia Total as N	mg/L	08/09/2012	0001	33 - 43	5.8			#	0.5	
Calcium	mg/L	08/09/2012	0001	33 - 43	500			#	0.6	
Chloride	mg/L	08/09/2012	0001	33 - 43	970			#	100	
Magnesium	mg/L	08/09/2012	0001	33 - 43	2300			#	0.65	
Manganese	mg/L	08/09/2012	0001	33 - 43	3.9			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	33 - 43	860			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	33 - 43	40			#		
pH	s.u.	08/09/2012	N001	33 - 43	6.88			#		
Potassium	mg/L	08/09/2012	0001	33 - 43	56		J	#	5.4	
Selenium	mg/L	08/09/2012	0001	33 - 43	0.66			#	0.00032	
Sodium	mg/L	08/09/2012	0001	33 - 43	3900			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	33 - 43	25250			#		
Strontium	mg/L	08/09/2012	0001	33 - 43	13			#	0.0039	
Sulfate	mg/L	08/09/2012	0001	33 - 43	14000			#	250	
Temperature	C	08/09/2012	N001	33 - 43	20			#		
Turbidity	NTU	08/09/2012	N001	33 - 43	252			#		
Uranium	mg/L	08/09/2012	0001	33 - 43	0.1			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	33	-	43	904			#		
Ammonia Total as N	mg/L	08/09/2012	N001	33	-	43	26			#	1	
Calcium	mg/L	08/09/2012	N001	33	-	43	430			#	0.6	
Chloride	mg/L	08/09/2012	N001	33	-	43	1100			#	100	
Magnesium	mg/L	08/09/2012	N001	33	-	43	1900			#	0.65	
Manganese	mg/L	08/09/2012	N001	33	-	43	2.1			#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	33	-	43	610			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	33	-	43	120			#		
pH	s.u.	08/09/2012	N001	33	-	43	6.72			#		
Potassium	mg/L	08/09/2012	N001	33	-	43	56		J	#	5.4	
Selenium	mg/L	08/09/2012	N001	33	-	43	1.2			#	0.00032	
Sodium	mg/L	08/09/2012	N001	33	-	43	4000			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	33	-	43	24775			#		
Strontium	mg/L	08/09/2012	N001	33	-	43	11			#	0.0039	
Sulfate	mg/L	08/09/2012	N001	33	-	43	14000			#	250	
Temperature	C	08/09/2012	N001	33	-	43	26.4			#		
Turbidity	NTU	08/09/2012	N001	33	-	43	9.21			#		
Uranium	mg/L	08/09/2012	N001	33	-	43	0.11			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	34	-	38	506			#		
Ammonia Total as N	mg/L	08/09/2012	N001	34	-	38	310			#	10	
Calcium	mg/L	08/09/2012	N001	34	-	38	1200			#	0.12	
Chloride	mg/L	08/09/2012	N001	34	-	38	450			#	100	
Magnesium	mg/L	08/09/2012	N001	34	-	38	1500			#	0.13	
Manganese	mg/L	08/09/2012	N001	34	-	38	18			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	34	-	38	2400			#	20	
Oxidation Reduction Potential	mV	08/09/2012	N001	34	-	38	155			#		
pH	s.u.	08/09/2012	N001	34	-	38	6.34			#		
Potassium	mg/L	08/09/2012	N001	34	-	38	160		J	#	1.1	
Selenium	mg/L	08/09/2012	N001	34	-	38	0.4			#	0.00032	
Sodium	mg/L	08/09/2012	N001	34	-	38	1400			#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	34	-	38	21335			#		
Strontium	mg/L	08/09/2012	N001	34	-	38	9.6			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	34	-	38	4200			#	250	
Temperature	C	08/09/2012	N001	34	-	38	22.6			#		
Turbidity	NTU	08/09/2012	N001	34	-	38	5.45			#		
Uranium	mg/L	08/09/2012	N001	34	-	38	0.15			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	39 - 49	352			#		
Ammonia Total as N	mg/L	08/09/2012	N001	39 - 49	470			#	10	
Calcium	mg/L	08/09/2012	N001	39 - 49	850			#	0.12	
Chloride	mg/L	08/09/2012	N001	39 - 49	260			#	20	
Magnesium	mg/L	08/09/2012	N001	39 - 49	1300			#	0.13	
Manganese	mg/L	08/09/2012	N001	39 - 49	30			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	39 - 49	1900			#	10	
Oxidation Reduction Potential	mV	08/09/2012	N001	39 - 49	140			#		
pH	s.u.	08/09/2012	N001	39 - 49	6.41			#		
Potassium	mg/L	08/09/2012	N001	39 - 49	150		J	#	1.1	
Selenium	mg/L	08/09/2012	N001	39 - 49	0.13			#	0.00032	
Sodium	mg/L	08/09/2012	N001	39 - 49	1000			#	0.066	
Specific Conductance	umhos /cm	08/09/2012	N001	39 - 49	18250			#		
Strontium	mg/L	08/09/2012	N001	39 - 49	8			#	0.00078	
Sulfate	mg/L	08/09/2012	N001	39 - 49	4200			#	50	
Temperature	C	08/09/2012	N001	39 - 49	19.3			#		
Turbidity	NTU	08/09/2012	N001	39 - 49	2.72			#		
Uranium	mg/L	08/09/2012	N001	39 - 49	0.058			#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	57.5 - 66.5	740			#		
Ammonia Total as N	mg/L	08/09/2012	0001	57.5 - 66.5	0.36			#	0.1	
Calcium	mg/L	08/09/2012	0001	57.5 - 66.5	410			#	0.12	
Chloride	mg/L	08/09/2012	0001	57.5 - 66.5	930			#	40	
Magnesium	mg/L	08/09/2012	0001	57.5 - 66.5	1100			#	0.13	
Manganese	mg/L	08/09/2012	0001	57.5 - 66.5	0.15			#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	57.5 - 66.5	620			#	5	
Oxidation Reduction Potential	mV	08/09/2012	N001	57.5 - 66.5	65			#		
pH	s.u.	08/09/2012	N001	57.5 - 66.5	6.95			#		
Potassium	mg/L	08/09/2012	0001	57.5 - 66.5	72		J	#	1.1	
Selenium	mg/L	08/09/2012	0001	57.5 - 66.5	2.8			#	0.0016	
Sodium	mg/L	08/09/2012	0001	57.5 - 66.5	5000			#	0.33	
Specific Conductance	umhos /cm	08/09/2012	N001	57.5 - 66.5	25300			#		
Strontium	mg/L	08/09/2012	0001	57.5 - 66.5	9.1			#	0.00078	
Sulfate	mg/L	08/09/2012	0001	57.5 - 66.5	14000			#	100	
Temperature	C	08/09/2012	N001	57.5 - 66.5	18.7			#		
Turbidity	NTU	08/09/2012	N001	57.5 - 66.5	18.8			#		
Uranium	mg/L	08/09/2012	0001	57.5 - 66.5	0.087			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	0001	-	1630		FQ	#		
Ammonia Total as N	mg/L	08/08/2012	0001	-	1.5		FQ	#	0.1	
Calcium	mg/L	08/08/2012	0001	-	68		FQ	#	0.12	
Chloride	mg/L	08/08/2012	0001	-	4600		FQ	#	100	
Magnesium	mg/L	08/08/2012	0001	-	32		FQ	#	0.13	
Manganese	mg/L	08/08/2012	0001	-	0.083		FQ	#	0.0011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	-	0.38		FQ	#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	-	55		FQ	#		
pH	s.u.	08/08/2012	N001	-	6.86		FQ	#		
Potassium	mg/L	08/08/2012	0001	-	19		JFQ	#	1.1	
Selenium	mg/L	08/08/2012	0001	-	0.00028		FQ	#	0.000032	
Sodium	mg/L	08/08/2012	0001	-	3900		FQ	#	0.33	
Specific Conductance	umhos /cm	08/08/2012	N001	-	19400		FQ	#		
Strontium	mg/L	08/08/2012	0001	-	7.9		FQ	#	0.00078	
Sulfate	mg/L	08/08/2012	0001	-	2100		FQ	#	100	
Temperature	C	08/08/2012	N001	-	19.4		FQ	#		
Turbidity	NTU	08/08/2012	N001	-	36.1		FQ	#		
Uranium	mg/L	08/08/2012	0001	-	0.00074		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: 1/15/2013
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 CaCO3)	mg/L	08/06/2012	N001	95			#		
Ammonia Total as N	mg/L	08/06/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/06/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/06/2012	0001	55			#	0.012	
Calcium	mg/L	08/06/2012	N002	65			#	0.012	
Chloride	mg/L	08/06/2012	0001	11			#	0.4	
Chloride	mg/L	08/06/2012	N002	11			#	0.4	
Magnesium	mg/L	08/06/2012	0001	8.8			#	0.013	
Magnesium	mg/L	08/06/2012	N002	11			#	0.013	
Manganese	mg/L	08/06/2012	0001	0.007	E	J	#	0.00011	
Manganese	mg/L	08/06/2012	N002	0.36		J	#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	0001	0.36			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/06/2012	N002	0.34			#	0.01	
Oxidation Reduction Potential	mV	08/06/2012	N001	198.5			#		
pH	s.u.	08/06/2012	N001	8.2			#		
Potassium	mg/L	08/06/2012	0001	2.5			#	0.11	
Potassium	mg/L	08/06/2012	N002	3.9			#	0.11	
Selenium	mg/L	08/06/2012	0001	0.00049			#	0.000032	
Selenium	mg/L	08/06/2012	N002	0.00085			#	0.000032	
Sodium	mg/L	08/06/2012	0001	28	E	J	#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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
Sodium	mg/L	08/06/2012	N002	29		J	#	0.0066	
Specific Conductance	umhos/cm	08/06/2012	N001	498			#		
Strontium	mg/L	08/06/2012	0001	0.68			#	0.000078	
Strontium	mg/L	08/06/2012	N002	0.77			#	0.000078	
Sulfate	mg/L	08/06/2012	0001	110			#	1	
Sulfate	mg/L	08/06/2012	N002	110			#	1	
Temperature	C	08/06/2012	N001	25.04			#		
Turbidity	NTU	08/06/2012	N001	618			#		
Uranium	mg/L	08/06/2012	0001	0.0015			#	0.0000029	
Uranium	mg/L	08/06/2012	N002	0.002			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0897 SURFACE LOCATION S. bank San Juan River, just below Many Devils Wash confluence

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/08/2012	0001	110			#		
Ammonia Total as N	mg/L	08/08/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/08/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/08/2012	0001	56			#	0.012	
Calcium	mg/L	08/08/2012	N002	61			#	0.012	
Chloride	mg/L	08/08/2012	0001	11			#	0.4	
Chloride	mg/L	08/08/2012	N002	11			#	0.4	
Magnesium	mg/L	08/08/2012	0001	8.4			#	0.013	
Magnesium	mg/L	08/08/2012	N002	11			#	0.013	
Manganese	mg/L	08/08/2012	0001	0.0039	B		#	0.00011	
Manganese	mg/L	08/08/2012	N002	0.21			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	0.36			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N002	0.35			#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	125			#		
pH	s.u.	08/08/2012	N001	7.98			#		
Potassium	mg/L	08/08/2012	0001	2.4			#	0.11	
Potassium	mg/L	08/08/2012	N002	4.9			#	0.11	
Selenium	mg/L	08/08/2012	0001	0.00047			#	0.000032	
Selenium	mg/L	08/08/2012	N002	0.00079			#	0.000032	
Sodium	mg/L	08/08/2012	0001	27			#	0.0066	
Sodium	mg/L	08/08/2012	N002	28			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0897 SURFACE LOCATION S. bank San Juan River, just below Many Devils Wash confluence

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/08/2012	N001	615			#		
Strontium	mg/L	08/08/2012	0001	0.72			#	0.000078	
Strontium	mg/L	08/08/2012	N002	0.76			#	0.000078	
Sulfate	mg/L	08/08/2012	0001	110			#	1	
Sulfate	mg/L	08/08/2012	N002	110			#	1	
Temperature	C	08/08/2012	N001	28.6			#		
Turbidity	NTU	08/08/2012	N001	262			#		
Uranium	mg/L	08/08/2012	0001	0.0014			#	0.0000029	
Uranium	mg/L	08/08/2012	N002	0.0018			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	0001	121			#		
Ammonia Total as N	mg/L	08/09/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/09/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/09/2012	0001	52			#	0.012	
Calcium	mg/L	08/09/2012	N002	55			#	0.012	
Chloride	mg/L	08/09/2012	0001	10			#	0.4	
Chloride	mg/L	08/09/2012	N002	10			#	0.4	
Magnesium	mg/L	08/09/2012	0001	8.1			#	0.013	
Magnesium	mg/L	08/09/2012	N002	9.5			#	0.013	
Manganese	mg/L	08/09/2012	0001	0.013			#	0.00011	
Manganese	mg/L	08/09/2012	N002	0.14			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	0.33			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N002	0.33			#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	-58.3			#		
pH	s.u.	08/09/2012	N001	8.15			#		
Potassium	mg/L	08/09/2012	0001	2.2			#	0.11	
Potassium	mg/L	08/09/2012	N002	3.7			#	0.11	
Selenium	mg/L	08/09/2012	0001	0.00041			#	0.000032	
Selenium	mg/L	08/09/2012	N002	0.00064			#	0.000032	
Sodium	mg/L	08/09/2012	0001	25			#	0.0066	
Sodium	mg/L	08/09/2012	N002	25			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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
Specific Conductance	umhos/cm	08/09/2012	N001	573			#		
Strontium	mg/L	08/09/2012	0001	0.66			#	0.000078	
Strontium	mg/L	08/09/2012	N002	0.68			#	0.000078	
Sulfate	mg/L	08/09/2012	0001	110			#	1	
Sulfate	mg/L	08/09/2012	N002	98			#	1	
Temperature	C	08/09/2012	N001	25.01			#		
Turbidity	NTU	08/09/2012	N001	213			#		
Uranium	mg/L	08/09/2012	0001	0.0013			#	0.000015	
Uranium	mg/L	08/09/2012	N002	0.0015			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0899 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/07/2012	0001	96			#		
Ammonia Total as N	mg/L	08/07/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/07/2012	0001	57			#	0.012	
Calcium	mg/L	08/07/2012	N002	90			#	0.012	
Chloride	mg/L	08/07/2012	0001	10			#	0.4	
Chloride	mg/L	08/07/2012	N002	10			#	0.4	
Magnesium	mg/L	08/07/2012	0001	6.8			#	0.013	
Magnesium	mg/L	08/07/2012	N002	17			#	0.013	
Manganese	mg/L	08/07/2012	0001	0.0022	B		#	0.00011	
Manganese	mg/L	08/07/2012	N002	0.95			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	0.46			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	0.44			#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	92			#		
pH	s.u.	08/07/2012	N001	8.17			#		
Potassium	mg/L	08/07/2012	0001	3.1			#	0.11	
Potassium	mg/L	08/07/2012	N002	8.1			#	0.11	
Selenium	mg/L	08/07/2012	0001	0.00057			#	0.000032	
Selenium	mg/L	08/07/2012	N002	0.0017			#	0.000032	
Sodium	mg/L	08/07/2012	0001	32	E	J	#	0.0066	
Sodium	mg/L	08/07/2012	N002	35		J	#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0899 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/07/2012	N001	507			#		
Strontium	mg/L	08/07/2012	0001	0.72			#	0.000078	
Strontium	mg/L	08/07/2012	N002	1.1			#	0.000078	
Sulfate	mg/L	08/07/2012	0001	120			#	1	
Sulfate	mg/L	08/07/2012	N002	120			#	1	
Temperature	C	08/07/2012	N001	27.2			#		
Turbidity	NTU	08/07/2012	N001	1000			#		
Uranium	mg/L	08/07/2012	0001	0.0016			#	0.0000029	
Uranium	mg/L	08/07/2012	N002	0.0034			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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 CaCO3)	mg/L	08/09/2012	N001	94			#		
Ammonia Total as N	mg/L	08/09/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/09/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/09/2012	0001	52			#	0.012	
Calcium	mg/L	08/09/2012	N002	56			#	0.012	
Chloride	mg/L	08/09/2012	0001	10			#	0.4	
Chloride	mg/L	08/09/2012	N002	10			#	0.4	
Magnesium	mg/L	08/09/2012	0001	8			#	0.013	
Magnesium	mg/L	08/09/2012	N002	9.1			#	0.013	
Manganese	mg/L	08/09/2012	0001	0.0034	B		#	0.00011	
Manganese	mg/L	08/09/2012	N002	0.13			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	0001	0.32			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N002	0.31			#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	163.2			#		
pH	s.u.	08/09/2012	N001	8.44			#		
Potassium	mg/L	08/09/2012	0001	2.2			#	0.11	
Potassium	mg/L	08/09/2012	N002	6.4			#	0.11	
Selenium	mg/L	08/09/2012	0001	0.00043			#	0.000032	
Selenium	mg/L	08/09/2012	N002	0.00059			#	0.000032	
Sodium	mg/L	08/09/2012	0001	24			#	0.0066	
Sodium	mg/L	08/09/2012	N002	36			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
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
Specific Conductance	umhos/cm	08/09/2012	N001	470			#		
Strontium	mg/L	08/09/2012	0001	0.65			#	0.000078	
Strontium	mg/L	08/09/2012	N002	0.69			#	0.000078	
Sulfate	mg/L	08/09/2012	0001	99			#	1	
Sulfate	mg/L	08/09/2012	N002	98			#	1	
Temperature	C	08/09/2012	N001	22.39			#		
Turbidity	NTU	08/09/2012	N001	1000			#		
Uranium	mg/L	08/09/2012	0001	0.0014			#	0.0000029	
Uranium	mg/L	08/09/2012	N002	0.0015			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0956 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/08/2012	0001	120			#		
Ammonia Total as N	mg/L	08/08/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/08/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/08/2012	0001	56			#	0.012	
Calcium	mg/L	08/08/2012	N002	86			#	0.012	
Chloride	mg/L	08/08/2012	0001	10			#	0.4	
Chloride	mg/L	08/08/2012	N002	11			#	0.4	
Magnesium	mg/L	08/08/2012	0001	8.3			#	0.013	
Magnesium	mg/L	08/08/2012	N002	15			#	0.013	
Manganese	mg/L	08/08/2012	0001	0.0054			#	0.00011	
Manganese	mg/L	08/08/2012	N002	0.91			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	0001	0.36			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N002	0.34			#	0.01	
Oxidation Reduction Potential	mV	08/08/2012	N001	202.5			#		
pH	s.u.	08/08/2012	N001	8.05			#		
Potassium	mg/L	08/08/2012	0001	2.4			#	0.11	
Potassium	mg/L	08/08/2012	N002	5.2			#	0.11	
Selenium	mg/L	08/08/2012	0001	0.00046			#	0.000032	
Selenium	mg/L	08/08/2012	N002	0.0013			#	0.000032	
Sodium	mg/L	08/08/2012	0001	27			#	0.0066	
Sodium	mg/L	08/08/2012	N002	29			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0956 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/08/2012	N001	513			#		
Strontium	mg/L	08/08/2012	0001	0.71			#	0.000078	
Strontium	mg/L	08/08/2012	N002	0.92			#	0.000078	
Sulfate	mg/L	08/08/2012	0001	110			#	1	
Sulfate	mg/L	08/08/2012	N002	110			#	1	
Temperature	C	08/08/2012	N001	22.85			#		
Turbidity	NTU	08/08/2012	N001	465			#		
Uranium	mg/L	08/08/2012	0001	0.0014			#	0.0000029	
Uranium	mg/L	08/08/2012	N002	0.0028			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0965 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/07/2012	0001	109			#		
Ammonia Total as N	mg/L	08/07/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/07/2012	0001	55			#	0.012	
Calcium	mg/L	08/07/2012	N002	82			#	0.012	
Chloride	mg/L	08/07/2012	0001	10			#	0.4	
Chloride	mg/L	08/07/2012	N002	10			#	0.4	
Magnesium	mg/L	08/07/2012	0001	6.8			#	0.013	
Magnesium	mg/L	08/07/2012	N002	15			#	0.013	
Manganese	mg/L	08/07/2012	0001	0.0027	B		#	0.00011	
Manganese	mg/L	08/07/2012	N002	0.81			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	0.45			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	0.45			#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	175.1			#		
pH	s.u.	08/07/2012	N001	7.62			#		
Potassium	mg/L	08/07/2012	0001	3			#	0.11	
Potassium	mg/L	08/07/2012	N002	11			#	0.11	
Selenium	mg/L	08/07/2012	0001	0.00054			#	0.000032	
Selenium	mg/L	08/07/2012	N002	0.0016			#	0.000032	
Sodium	mg/L	08/07/2012	0001	31			#	0.0066	
Sodium	mg/L	08/07/2012	N002	44			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 0965 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/07/2012	N001	902			#		
Strontium	mg/L	08/07/2012	0001	0.72			#	0.000078	
Strontium	mg/L	08/07/2012	N002	1			#	0.000078	
Sulfate	mg/L	08/07/2012	0001	120			#	1	
Sulfate	mg/L	08/07/2012	N002	120			#	1	
Temperature	C	08/07/2012	N001	28.78			#		
Turbidity	NTU	08/07/2012	N001	9999	>		#		
Uranium	mg/L	08/07/2012	0001	0.0015			#	0.0000029	
Uranium	mg/L	08/07/2012	N002	0.0031			#	0.0000029	

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

REPORT DATE: 1/15/2013

Location: 1203 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/07/2012	0001	123			#		
Ammonia Total as N	mg/L	08/07/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/07/2012	0001	65			#	0.012	
Calcium	mg/L	08/07/2012	N002	140			#	0.012	
Chloride	mg/L	08/07/2012	0001	11			#	0.4	
Chloride	mg/L	08/07/2012	N002	12			#	0.4	
Magnesium	mg/L	08/07/2012	0001	7.2			#	0.013	
Magnesium	mg/L	08/07/2012	N002	36			#	0.013	
Manganese	mg/L	08/07/2012	0001	0.0034	B		#	0.00011	
Manganese	mg/L	08/07/2012	N002	2.4			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	0.65			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	0.64			#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	184.9			#		
pH	s.u.	08/07/2012	N001	8.12			#		
Potassium	mg/L	08/07/2012	0001	3.9			#	0.11	
Potassium	mg/L	08/07/2012	N002	20			#	0.11	
Selenium	mg/L	08/07/2012	0001	0.00058			#	0.000032	
Selenium	mg/L	08/07/2012	N002	0.0048			#	0.000032	
Sodium	mg/L	08/07/2012	0001	45			#	0.0066	
Sodium	mg/L	08/07/2012	N002	52			#	0.0066	

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

REPORT DATE: 1/15/2013

Location: 1203 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/07/2012	N001	671			#		
Strontium	mg/L	08/07/2012	0001	0.83			#	0.000078	
Strontium	mg/L	08/07/2012	N002	1.8			#	0.000078	
Sulfate	mg/L	08/07/2012	0001	180			#	1	
Sulfate	mg/L	08/07/2012	N002	180			#	1	
Temperature	C	08/07/2012	N001	20.64			#		
Turbidity	NTU	08/07/2012	N001	1000			#		
Uranium	mg/L	08/07/2012	0001	0.0018			#	0.0000029	
Uranium	mg/L	08/07/2012	N002	0.0058			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 1205 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/07/2012	N001	230			#		
Ammonia Total as N	mg/L	08/07/2012	0001	0.1	U		#	0.1	
Ammonia Total as N	mg/L	08/07/2012	N002	0.1	U		#	0.1	
Calcium	mg/L	08/07/2012	0001	55			#	0.012	
Calcium	mg/L	08/07/2012	N002	80			#	0.012	
Chloride	mg/L	08/07/2012	0001	11			#	0.4	
Chloride	mg/L	08/07/2012	N002	11			#	0.4	
Magnesium	mg/L	08/07/2012	0001	6.8			#	0.013	
Magnesium	mg/L	08/07/2012	N002	16			#	0.013	
Manganese	mg/L	08/07/2012	0001	0.006			#	0.00011	
Manganese	mg/L	08/07/2012	N002	0.75			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	0001	0.46			#	0.01	
Nitrate + Nitrite as Nitrogen	mg/L	08/07/2012	N002	0.42			#	0.01	
Oxidation Reduction Potential	mV	08/07/2012	N001	60			#		
pH	s.u.	08/07/2012	N001	8.05			#		
Potassium	mg/L	08/07/2012	0001	2.9			#	0.11	
Potassium	mg/L	08/07/2012	N002	8.2			#	0.11	
Selenium	mg/L	08/07/2012	0001	0.00048			#	0.000032	
Selenium	mg/L	08/07/2012	N002	0.0019			#	0.000032	
Sodium	mg/L	08/07/2012	0001	30			#	0.0066	
Sodium	mg/L	08/07/2012	N002	33			#	0.0066	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/15/2013
Location: 1205 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos/cm	08/07/2012	N001	510			#		
Strontium	mg/L	08/07/2012	0001	0.7			#	0.000078	
Strontium	mg/L	08/07/2012	N002	0.99			#	0.000078	
Sulfate	mg/L	08/07/2012	0001	120			#	1	
Sulfate	mg/L	08/07/2012	N002	120			#	1	
Temperature	C	08/07/2012	N001	28.4			#		
Turbidity	NTU	08/07/2012	N001	1000	>		#		
Uranium	mg/L	08/07/2012	0001	0.0015			#	0.0000029	
Uranium	mg/L	08/07/2012	N002	0.0033			#	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.
- L Less than 3 bore volumes purged prior to sampling.
- U Parameter analyzed for but was not detected.
- G Possible grout contamination, pH > 9.
- Q Qualitative result due to sampling technique.
- X Location is undefined.
- J Estimated value.
- R Unusable result.

QA QUALIFIER:
- # Validated according to quality assurance guidelines.

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: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	0001	386			#		
Ammonia Total as N	mg/L	08/09/2012	N001	1.1			#	0.1	
Calcium	mg/L	08/09/2012	N001	250			#	0.06	
Chloride	mg/L	08/09/2012	N001	78			#	10	
Magnesium	mg/L	08/09/2012	N001	51			#	0.065	
Manganese	mg/L	08/09/2012	N001	1.2			#	0.00057	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	0.046			#	0.01	
Potassium	mg/L	08/09/2012	N001	28		J	#	0.54	
Selenium	mg/L	08/09/2012	N001	0.0021			#	0.00016	
Sodium	mg/L	08/09/2012	N001	690			#	0.033	
Strontium	mg/L	08/09/2012	N001	8.9			#	0.00039	
Sulfate	mg/L	08/09/2012	N001	1800			#	25	
Turbidity	NTU	08/09/2012	N001	9999	>		#		
Uranium	mg/L	08/09/2012	N001	0.011			#	0.000015	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	533			#		
Ammonia Total as N	mg/L	08/08/2012	N001	0.33			#	0.1	
Calcium	mg/L	08/08/2012	N001	610			#	0.6	
Chloride	mg/L	08/08/2012	N001	2500			#	100	
Magnesium	mg/L	08/08/2012	N001	2100			#	0.65	
Manganese	mg/L	08/08/2012	N001	0.063	B		#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	1100			#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	177.2			#		
pH	s.u.	08/08/2012	N001	8.09			#		
Potassium	mg/L	08/08/2012	N001	120		J	#	5.4	
Selenium	mg/L	08/08/2012	N001	2.4			#	0.0016	
Sodium	mg/L	08/08/2012	N001	9000			#	1.6	
Specific Conductance	umhos/cm	08/08/2012	N001	44610			#		
Strontium	mg/L	08/08/2012	N001	14			#	0.0039	
Sulfate	mg/L	08/08/2012	N001	29000			#	250	
Temperature	C	08/08/2012	N001	34.55			#		
Turbidity	NTU	08/08/2012	N001	7.7			#		
Uranium	mg/L	08/08/2012	N001	0.25			#	0.00015	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	960			#		
Ammonia Total as N	mg/L	08/08/2012	N001	19			#	0.5	
Calcium	mg/L	08/08/2012	N001	540			#	1.2	
Chloride	mg/L	08/08/2012	N001	4300			#	400	
Magnesium	mg/L	08/08/2012	N001	11000			#	1.3	
Manganese	mg/L	08/08/2012	N001	0.32	B		#	0.011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	3300			#	20	
Oxidation Reduction Potential	mV	08/08/2012	N001	101.1			#		
pH	s.u.	08/08/2012	N001	8.08			#		
Potassium	mg/L	08/08/2012	N001	890		J	#	11	
Selenium	mg/L	08/08/2012	N001	4.9			#	0.0032	
Sodium	mg/L	08/08/2012	N001	19000			#	3.3	
Specific Conductance	umhos/cm	08/08/2012	N001	83046			#		
Strontium	mg/L	08/08/2012	N001	16			#	0.0078	
Sulfate	mg/L	08/08/2012	N001	85000			#	1000	
Temperature	C	08/08/2012	N001	27.47			#		
Turbidity	NTU	08/08/2012	N001	6.05			#		
Uranium	mg/L	08/08/2012	N001	6.9			#	0.00029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
Location: 1219 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	08/08/2012	N001	246			#		
Ammonia Total as N	mg/L	08/08/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	08/08/2012	N001	630			#	0.06	
Chloride	mg/L	08/08/2012	N001	19			#	2	
Magnesium	mg/L	08/08/2012	N001	120			#	0.013	
Manganese	mg/L	08/08/2012	N001	0.0058			#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	14			#	0.1	
Oxidation Reduction Potential	mV	08/08/2012	N001	188.1			#		
pH	s.u.	08/08/2012	N001	7.49			#		
Potassium	mg/L	08/08/2012	N001	10		J	#	0.11	
Selenium	mg/L	08/08/2012	N001	0.065			#	0.00032	
Sodium	mg/L	08/08/2012	N001	100			#	0.0066	
Specific Conductance	umhos/cm	08/08/2012	N001	3756			#		
Strontium	mg/L	08/08/2012	N001	5.2			#	0.000078	
Sulfate	mg/L	08/08/2012	N001	1800			#	25	
Temperature	C	08/08/2012	N001	24.51			#		
Turbidity	NTU	08/08/2012	N001	5.41			#		
Uranium	mg/L	08/08/2012	N001	0.026			#	0.000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/09/2012	N001	198			#		
Ammonia Total as N	mg/L	08/09/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	08/09/2012	N001	250			#	0.012	
Chloride	mg/L	08/09/2012	N001	16			#	4	
Magnesium	mg/L	08/09/2012	N001	73			#	0.013	
Manganese	mg/L	08/09/2012	N001	0.004	B		#	0.00011	
Nitrate + Nitrite as Nitrogen	mg/L	08/09/2012	N001	0.01	U		#	0.01	
Oxidation Reduction Potential	mV	08/09/2012	N001	214			#		
pH	s.u.	08/09/2012	N001	7.58			#		
Potassium	mg/L	08/09/2012	N001	3.4		J	#	0.11	
Selenium	mg/L	08/09/2012	N001	0.0065			#	0.000032	
Sodium	mg/L	08/09/2012	N001	83			#	0.0066	
Specific Conductance	umhos/cm	08/09/2012	N001	1822			#		
Strontium	mg/L	08/09/2012	N001	3			#	0.000078	
Sulfate	mg/L	08/09/2012	N001	850			#	10	
Temperature	C	08/09/2012	N001	18			#		
Turbidity	NTU	08/09/2012	N001	2.27			#		
Uranium	mg/L	08/09/2012	N001	0.022			#	0.0000029	

Surface Water Quality Data by Location (USEE102) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013
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 CaCO3)	mg/L	08/08/2012	N001	612			#		
Ammonia Total as N	mg/L	08/08/2012	N001	0.1	U		#	0.1	
Calcium	mg/L	08/08/2012	N001	450			#	0.6	
Chloride	mg/L	08/08/2012	N001	2400			#	100	
Magnesium	mg/L	08/08/2012	N001	2100			#	0.65	
Manganese	mg/L	08/08/2012	N001	0.013	B		#	0.0057	
Nitrate + Nitrite as Nitrogen	mg/L	08/08/2012	N001	1100			#	10	
Oxidation Reduction Potential	mV	08/08/2012	N001	205			#		
pH	s.u.	08/08/2012	N001	7.68			#		
Potassium	mg/L	08/08/2012	N001	76		J	#	5.4	
Selenium	mg/L	08/08/2012	N001	2.5			#	0.0016	
Sodium	mg/L	08/08/2012	N001	9700			#	1.6	
Specific Conductance	umhos/cm	08/08/2012	N001	46320			#		
Strontium	mg/L	08/08/2012	N001	11			#	0.0039	
Sulfate	mg/L	08/08/2012	N001	30000			#	250	
Temperature	C	08/08/2012	N001	32.6			#		
Turbidity	NTU	08/08/2012	N001	38.3			#		
Uranium	mg/L	08/08/2012	N001	0.24			#	0.00015	

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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Equipment Blank Data

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BLANKS REPORT

LAB: PARAGON/ALS LABORATORY GROUP (Fort Collins, CO)
RIN: 12074743
Report Date: 1/3/2013

Parameter	Site Code	Location ID	Sample Date	Sample ID	Units	Result	Qualifiers Lab	Qualifiers Data	Detection Limit	Uncertainty	Sample Type
Ammonia Total as N	SHP01	0999	08/08/2012	N001	mg/L	0.1	U		0.1		E
Calcium	SHP01	0999	08/08/2012	N001	mg/L	0.012	U		0.012		E
Chloride	SHP01	0999	08/08/2012	N001	mg/L	0.2	U		0.2		E
Magnesium	SHP01	0999	08/08/2012	N001	mg/L	0.013	U		0.013		E
Manganese	SHP01	0999	08/08/2012	N001	mg/L	0.00011	U		0.00011		E
Nitrate + Nitrite as Nitrogen	SHP01	0999	08/08/2012	N001	mg/L	0.01	U		0.01		E
Potassium	SHP01	0999	08/08/2012	N001	mg/L	0.11	U		0.11		E
Selenium	SHP01	0999	08/08/2012	N001	mg/L	0.000032	U		0.000032		E
Sodium	SHP01	0999	08/08/2012	N001	mg/L	0.022	B	U	0.0066		E
Strontium	SHP01	0999	08/08/2012	N001	mg/L	0.000078	U		0.000078		E
Sulfate	SHP01	0999	08/08/2012	N001	mg/L	0.5	U		0.5		E
Uranium	SHP01	0999	08/08/2012	N001	mg/L	0.000011			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.

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Static Water Level Data
Floodplain Locations

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STATIC WATER LEVELS (USEE700) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/3/2013

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
0608		4893.35	08/07/2012	09:40:59	6.89	4886.46	
0610		4895.70	08/07/2012	10:55:12	10.54	4885.16	
0611		4895.62	08/07/2012	11:55:10	10.40	4885.22	
0612		4893.35	08/07/2012	13:25:48	7.98	4885.37	
0614		4892.79	08/07/2012	13:45:00	8.43	4884.36	
0615		4892.23	08/07/2012	14:00:58	8.52	4883.71	
0617		4891.90	08/07/2012	13:38:00	8.55	4883.35	
0618		4891.51	08/07/2012	16:45:03	7.99	4883.52	
0619		4892.19	08/07/2012	17:20:05	8.73	4883.46	
0622		4890.06	08/09/2012	16:25:19	5.87	4884.19	
0623		4891.19	08/09/2012	13:45:49	7.63	4883.56	
0625		4891.23	08/09/2012	13:15:56	7.64	4883.59	
0626		4891.40	08/09/2012	17:00:14	7.42	4883.98	
0628		4889.87	08/09/2012	15:05:26	6.12	4883.75	
0630		4887.62	08/09/2012	14:45:37	3.46	4884.16	
0734		4886.55	08/08/2012	11:20:50	6.95	4879.60	
0735		4895.85	08/06/2012	16:05:59	6.97	4888.88	
0736		4887.99	08/08/2012	10:35:06	6.88	4881.11	
0766		4892.55	08/08/2012	15:40:38	10.46	4882.09	
0768		4892.33	08/09/2012	16:40:57	8.60	4883.73	
0773		4894.87	08/07/2012	13:55:12	9.52	4885.35	
0775		4892.20	08/09/2012	10:55:08	9.25	4882.95	
0779		4893.86	08/07/2012	15:10:39	10.78	4883.08	
0782R		4884.75	08/07/2012	12:06:31	7.85	4876.90	
0783R		4884.09	08/07/2012	11:34:02	8.25	4875.84	
0792		4891.52	08/09/2012	15:55:09	7.94	4883.58	
0793		4891.05	08/08/2012	09:10:57	7.62	4883.43	
0797		4908.04	08/09/2012	12:34:01	10.09	4897.95	
0798		4891.55	08/09/2012	10:35:25	8.37	4883.18	
0850	B	4907.51	08/09/2012	11:47:27	9.91	4897.60	
0853		4891.41	08/07/2012	15:35:52	7.99	4883.42	
0854		4890.09	08/08/2012	15:10:43	7.97	4882.12	
0855		4888.18	08/08/2012	12:55:19	6.67	4881.51	
0856		4887.57	08/08/2012	13:15:40	7.39	4880.18	
0857		4894.02	08/07/2012	14:45:01	10.57	4883.45	
0862		4893.83	08/07/2012	12:17:00	90.52	4803.31	
0863		4893.00	08/07/2012	12:23:00	80.55	4812.45	
1000		4892.17	08/07/2012	13:37:00	8.44	4883.73	
1001		4892.44	08/07/2012	12:27:00	17.20	4875.24	

STATIC WATER LEVELS (USEE700) FOR SITE SHP01, Shiprock Disposal Site (Floodplain)
REPORT DATE: 1/3/2013

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
1008		4890.80	08/08/2012	14:35:03	8.40	4882.40	
1009		4892.10	08/07/2012	14:40:44	8.55	4883.55	
1062		4892.51	08/07/2012	12:09:00	8.65	4883.86	
1105	O	4892.40	08/07/2012	13:35:10	8.43	4883.97	
1111		4889.85	08/07/2012	11:25:23	6.05	4883.80	
1112		4890.01	08/07/2012	10:35:04	6.24	4883.77	
1113		4892.00	08/07/2012	10:25:34	6.14	4885.86	
1114		4892.86	08/07/2012	09:15:07	5.80	4887.06	
1115		4895.59	08/07/2012	08:20:51	7.89	4887.70	
1117		4896.70	08/06/2012	17:35:04	8.82	4887.88	
1128		4897.63	08/06/2012	17:10:20	9.83	4887.80	
1132		4894.50	08/06/2012	17:50:17	6.71	4887.79	
1134		4895.88	08/06/2012	18:10:39	8.24	4887.64	
1135		4890.71	08/08/2012	09:57:34	9.07	4881.64	
1136		4892.47	08/09/2012	15:35:29	9.70	4882.77	
1137		4891.30	08/09/2012	09:50:06	9.45	4881.85	
1138		4891.48	08/09/2012	09:30:42	9.59	4881.89	
1139		4890.44	08/08/2012	16:10:41	8.34	4882.10	
1140		4891.53	08/07/2012	13:10:54	7.48	4884.05	
1141		4892.48	08/07/2012	11:00:00	8.45	4884.03	
1142		4894.34	08/07/2012	15:55:03	10.14	4884.20	
1143		4888.07	08/08/2012	13:45:38	7.25	4880.82	

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

Static Water Level Data
Terrace Locations

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STATIC WATER LEVELS (USEE700) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013

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	08/08/2012	11:00:07	33.78	4922.09	
0602		4956.89	08/09/2012	16:00:48	20.31	4936.58	
0603		4978.62	08/08/2012	14:45:36	31.79	4946.83	
0604		4995.87	08/09/2012	08:40:51	54.11	4941.76	
0648		4943.80	08/09/2012	07:28:00			F
0648		4943.80	08/10/2012	07:27:00			F
0725		4908.58	08/09/2012	15:44:48	14.14	4894.44	
0726		4939.95	08/09/2012	15:04:00			B
0727		4940.65	08/09/2012	14:58:16	7.18	4933.47	
0728		4964.46	08/08/2012	16:12:57	24.68	4939.78	
0731		4972.15	08/08/2012	15:15:19	24.98	4947.17	
0800		4995.76	08/09/2012	10:40:00			D
0801		4995.29	08/09/2012	10:34:00	66.79	4928.50	
0802		4996.01	08/09/2012	10:26:00			D
0803		4994.40	08/09/2012	10:44:00			D
0812		5004.98	08/08/2012	10:00:24	60.74	4944.24	
0813		4984.37	08/07/2012	16:56:40	43.71	4940.66	
0814		4968.12	08/08/2012	16:49:06	32.33	4935.79	
0815		4953.67	08/09/2012	17:00:46	26.44	4927.23	
0816		4937.92	08/09/2012	17:30:25			B
0817		4957.34	08/09/2012	15:45:32	19.21	4938.13	
0819		4955.76	08/08/2012	17:05:35	20.22	4935.54	
0820		4954.95	08/08/2012	09:31:00			D
0821		4955.46	08/08/2012	09:35:00			D
0822		4954.42	08/08/2012	09:15:36	148.16	4806.26	
0823		4957.65	08/08/2012	11:29:00			D
0824		4958.21	08/08/2012	12:00:11	177.33	4780.88	
0825		4958.68	08/08/2012	12:20:03	142.38	4816.30	
0826		4950.73	08/08/2012	17:20:23	17.41	4933.32	
0827		4946.92	08/08/2012	08:30:36	26.64	4920.28	
0828		4957.43	08/09/2012	16:30:37	20.93	4936.50	
0829		4941.94	08/09/2012	16:18:00			D
0830		4960.77	08/08/2012	14:20:23	16.79	4943.98	
0832		4964.65	08/07/2012	14:03:00			D
0833		4940.52	08/07/2012	10:49:20	29.49	4911.03	
0835		4930.48	08/07/2012	13:29:03	22.59	4907.89	
0836		4901.74	08/06/2012	16:14:46	31.41	4870.33	
0837		4889.54	08/06/2012	17:26:48	22.89	4866.65	
0838		4937.70	08/07/2012	09:52:44	30.64	4907.06	

STATIC WATER LEVELS (USEE700) FOR SITE SHP02, Shiprock Disposal Site (Terrace)
REPORT DATE: 1/3/2013

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
0841		4984.05	08/07/2012	15:08:15	45.29	4938.76	
0843		4883.56	08/06/2012	17:01:42	15.24	4868.32	
0844		4948.46	08/07/2012	13:59:53	33.19	4915.27	
0846		4934.57	08/06/2012	15:48:00			D
0848		4949.91	08/07/2012	08:49:58	44.72	4905.19	
1002		4957.63	08/08/2012	10:44:00			D
1003		4957.84	08/08/2012	10:45:00			B
1004		4957.61	08/08/2012	10:43:00			D
1007		4962.01	08/08/2012	12:45:55	44.58	4917.43	
1011		4945.96	08/08/2012	16:33:00			D
1048		4921.35	08/08/2012	13:53:04	5.51	4915.84	
1049		4923.89	08/08/2012	13:18:40	6.80	4917.09	
1057		4984.83	08/09/2012	10:40:12	39.02	4945.81	
1058		4973.58	08/08/2012	14:43:52	29.35	4944.23	
1059		4970.52	08/08/2012	14:23:15	23.61	4946.91	
1060		4970.62	08/07/2012	14:31:00			D
1067		4930.77	08/09/2012	17:10:00			D
1068		4927.97	08/09/2012	16:58:26	7.41	4920.56	
1069		4922.62	08/09/2012	16:13:05	3.60	4919.02	
1073		4991.43	08/07/2012	16:31:32	49.40	4942.03	
1074		4959.52	08/08/2012	13:00:19	34.35	4925.17	
1079		4925.22	08/07/2012	09:23:19	20.72	4904.50	
1087			08/07/2012	08:00:03			B
1120		4890.98	08/07/2012	07:58:00			D
1122		4893.62	08/07/2012	07:54:00			D
DM7		4974.44	08/08/2012	16:42:00			B
MW1		4955.64	08/08/2012	16:25:30	53.40	4902.24	

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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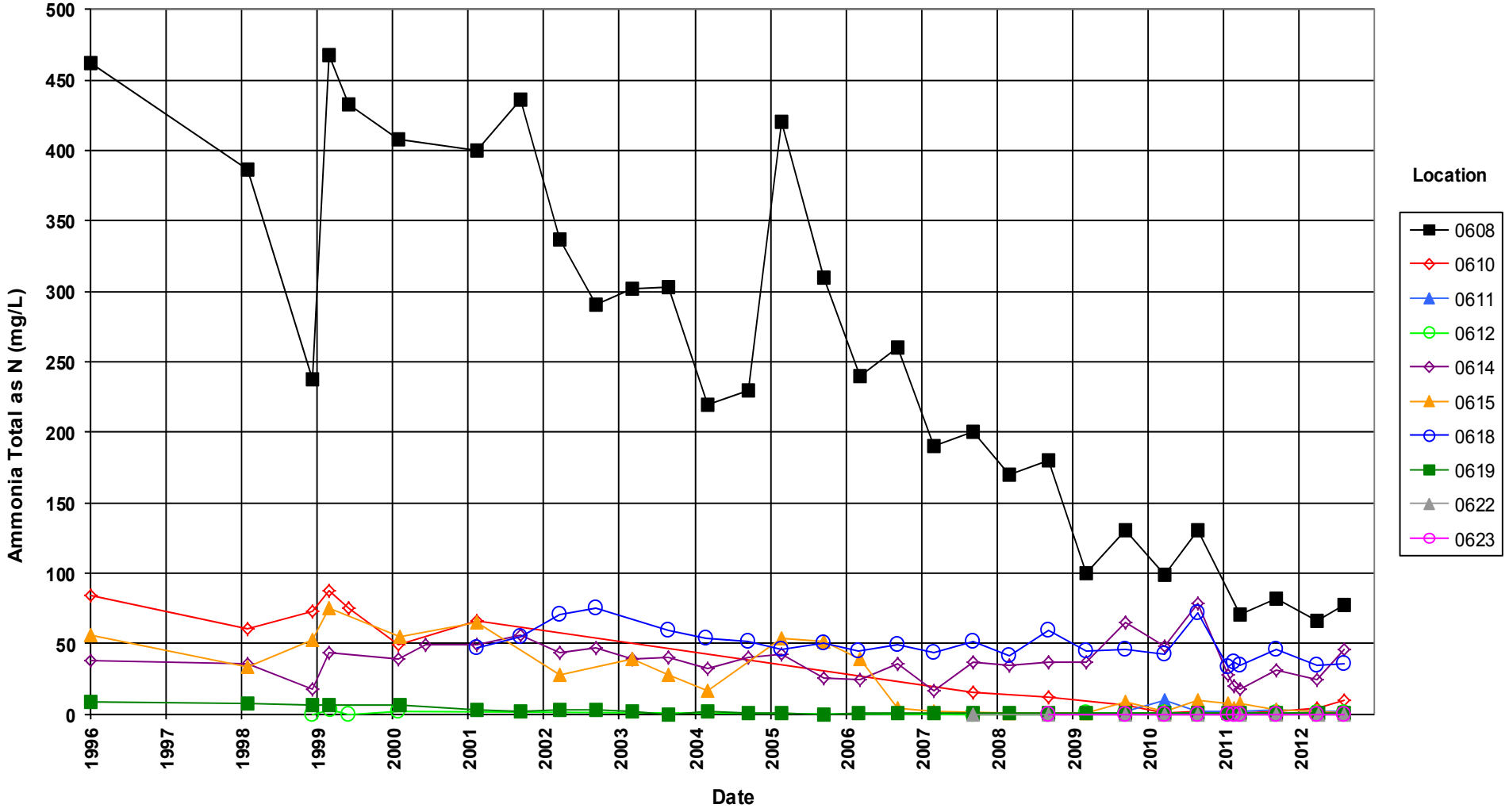
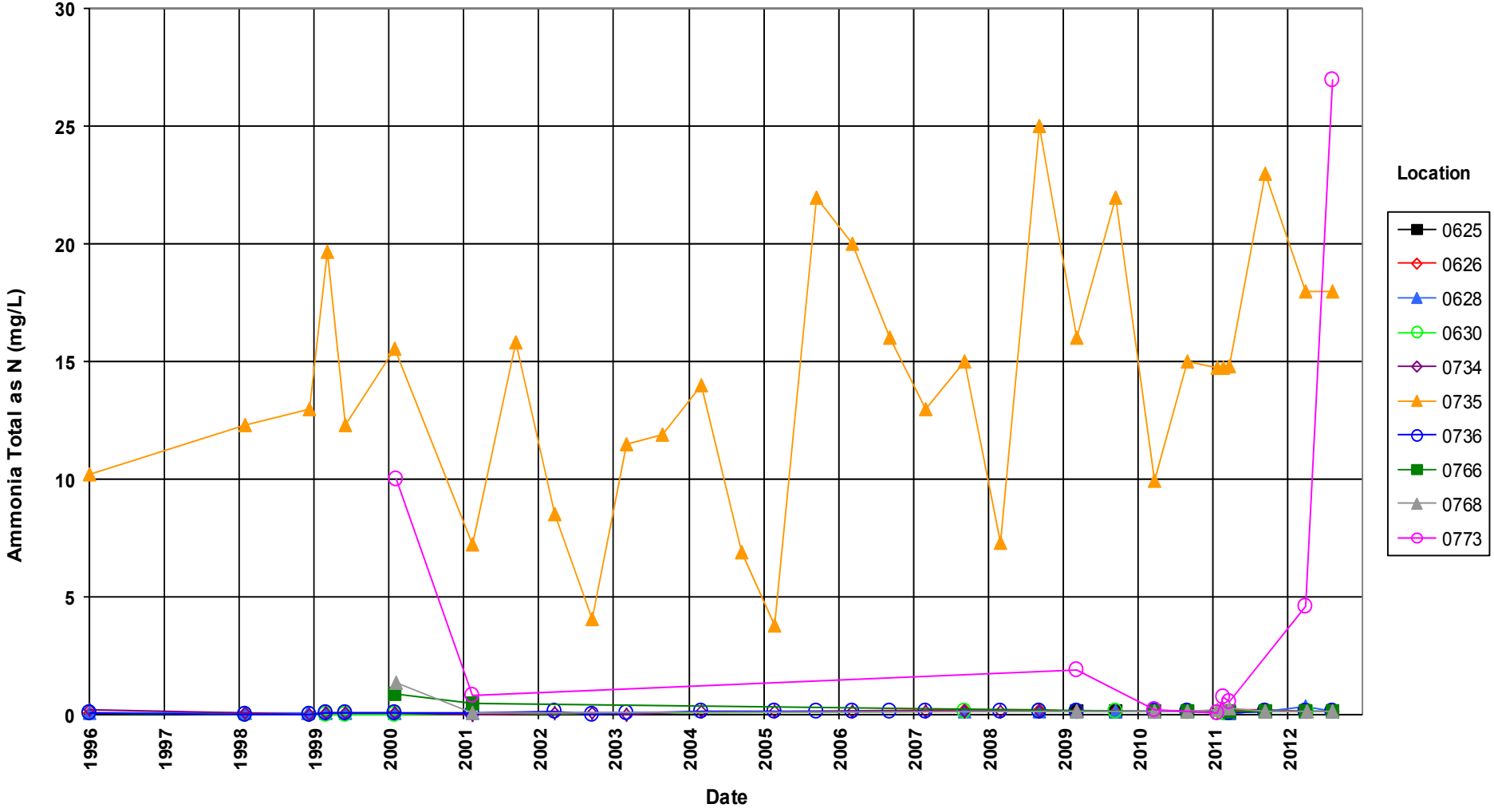
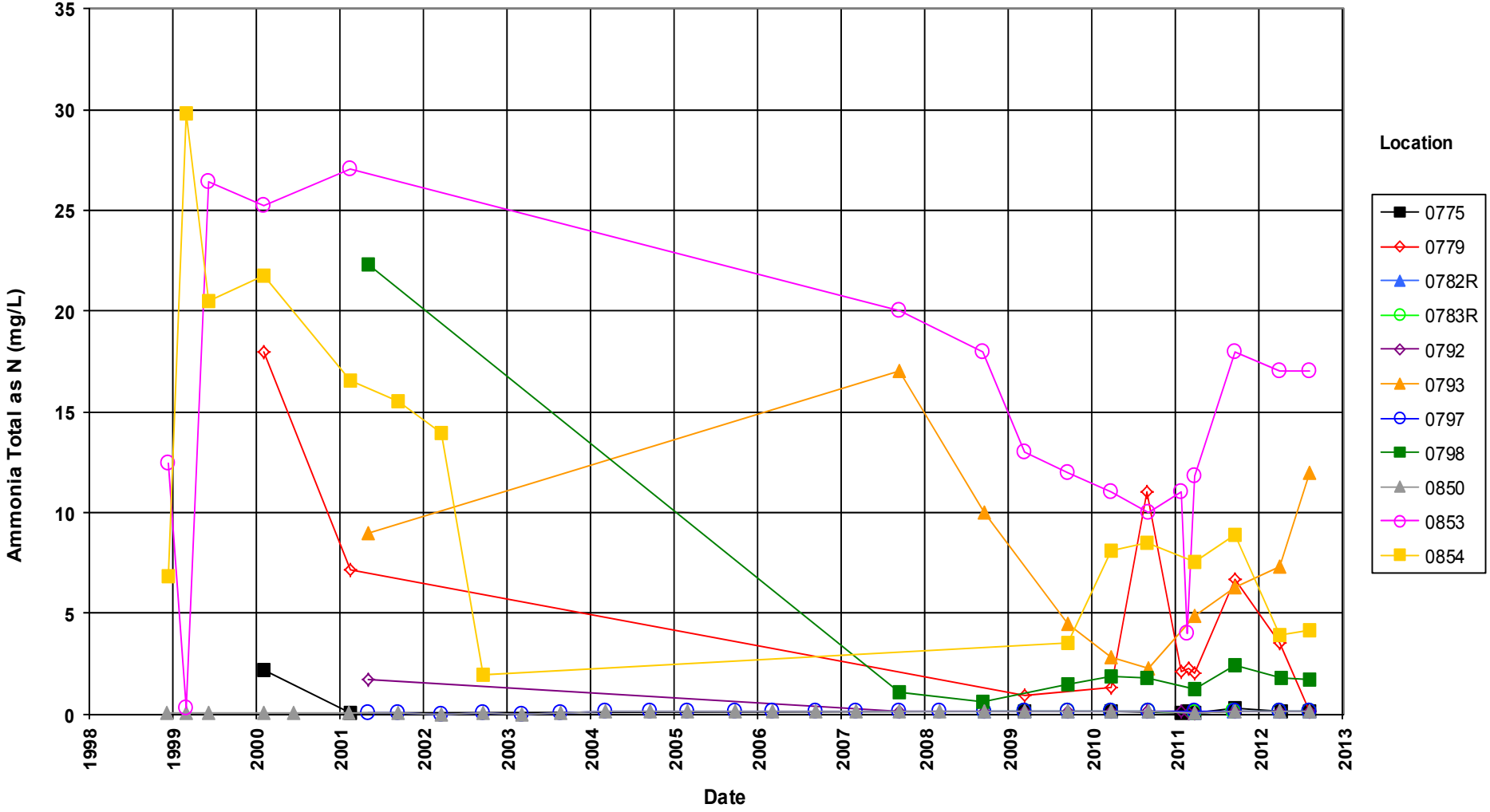
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



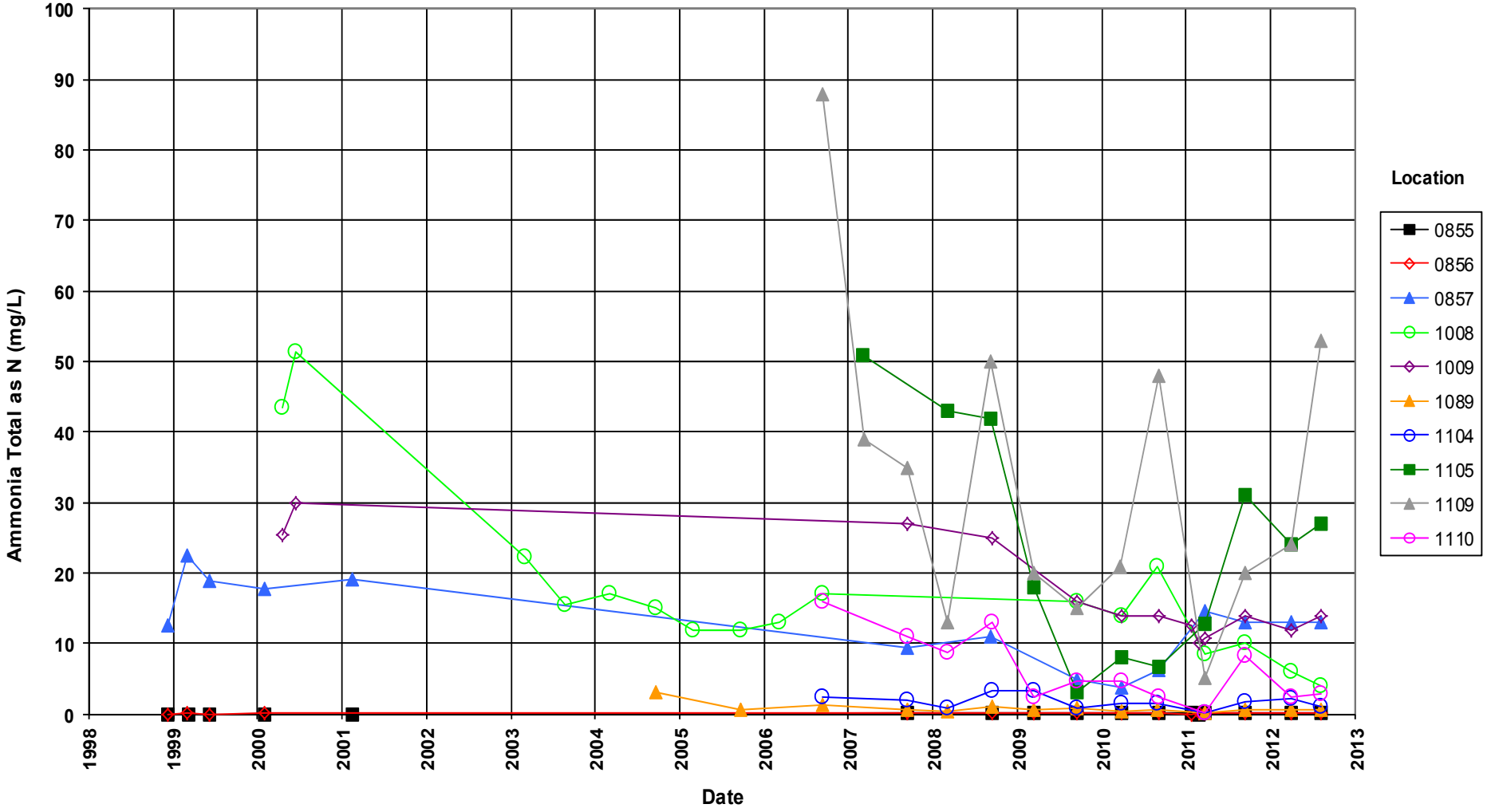
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



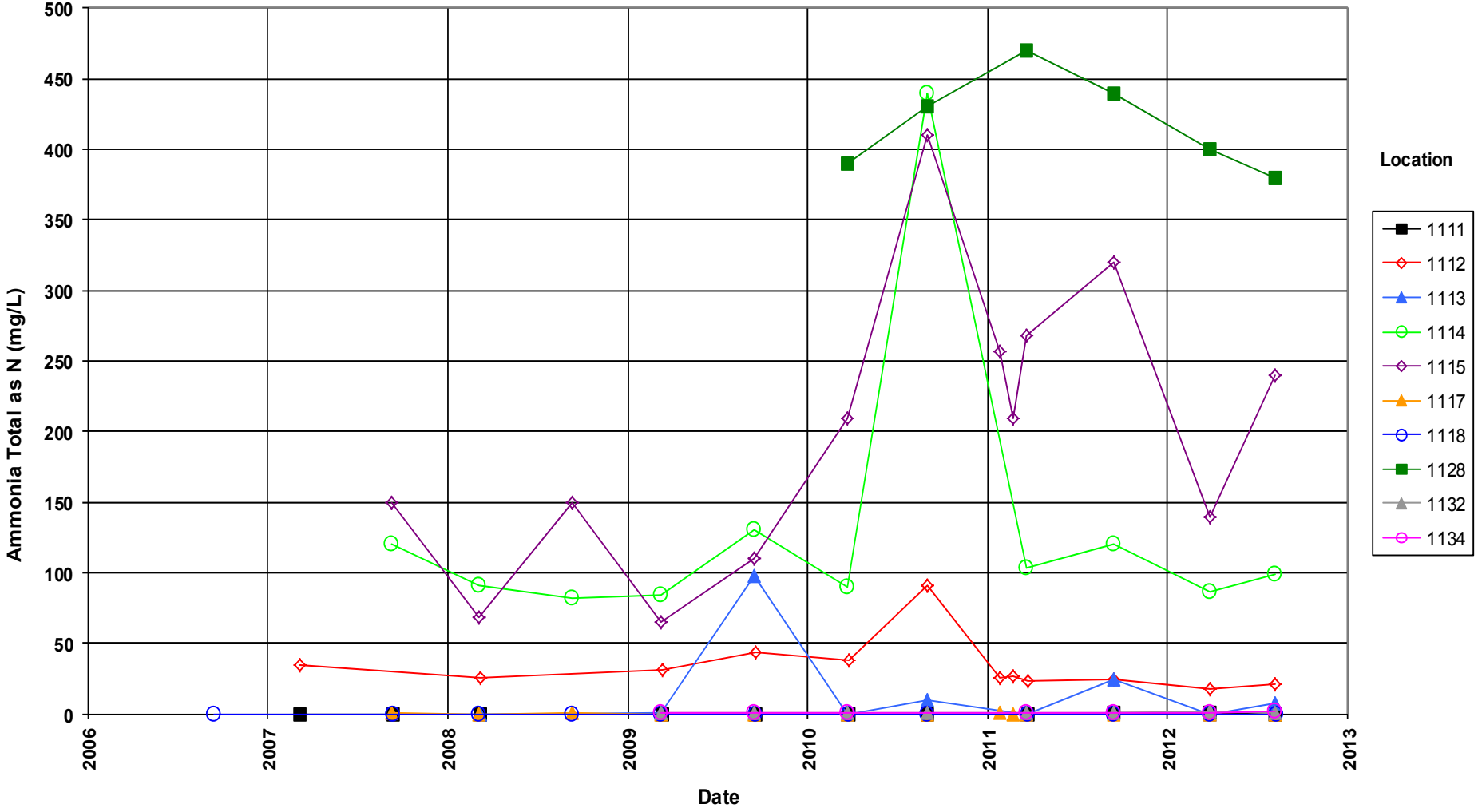
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration



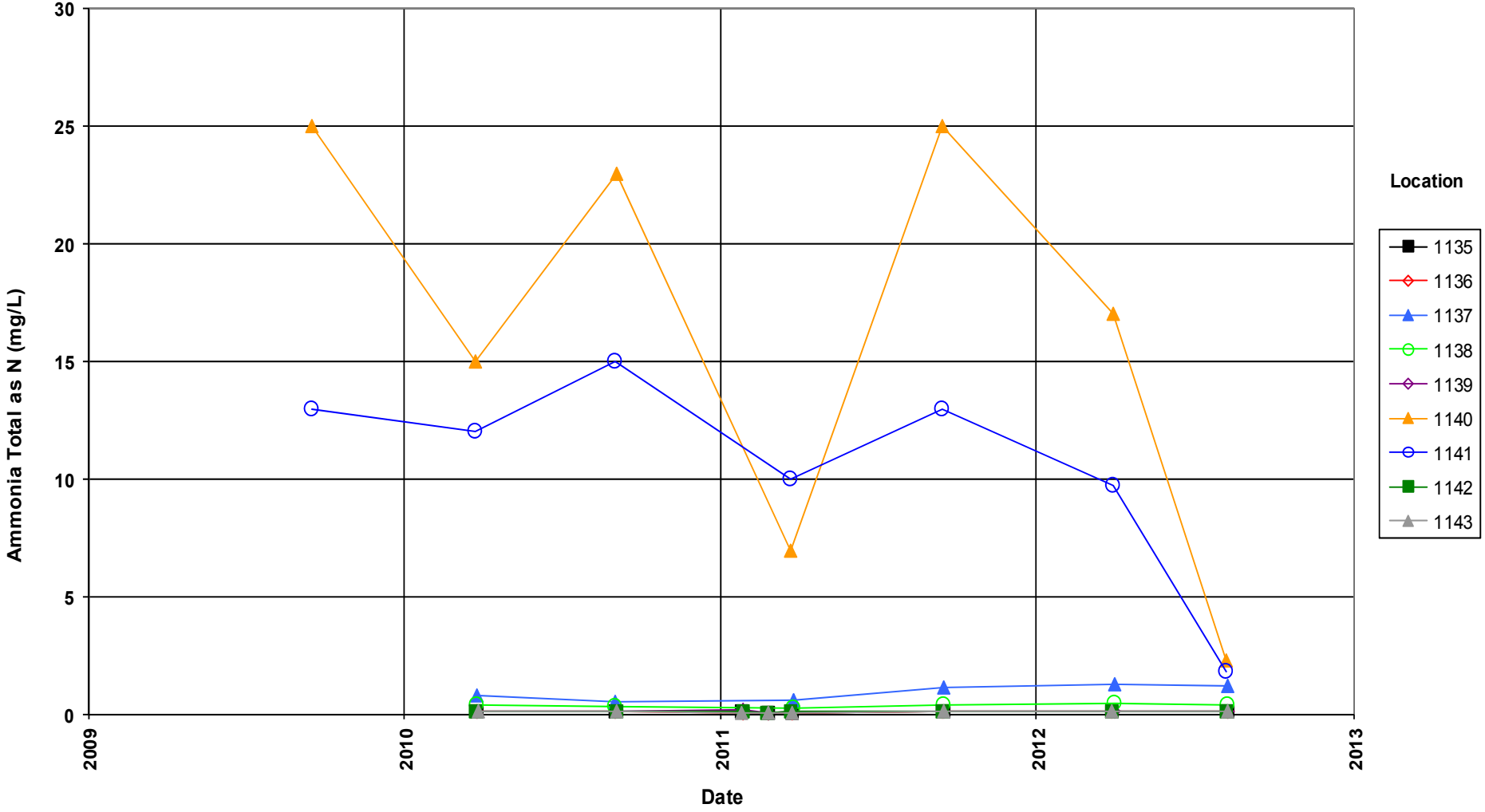
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration

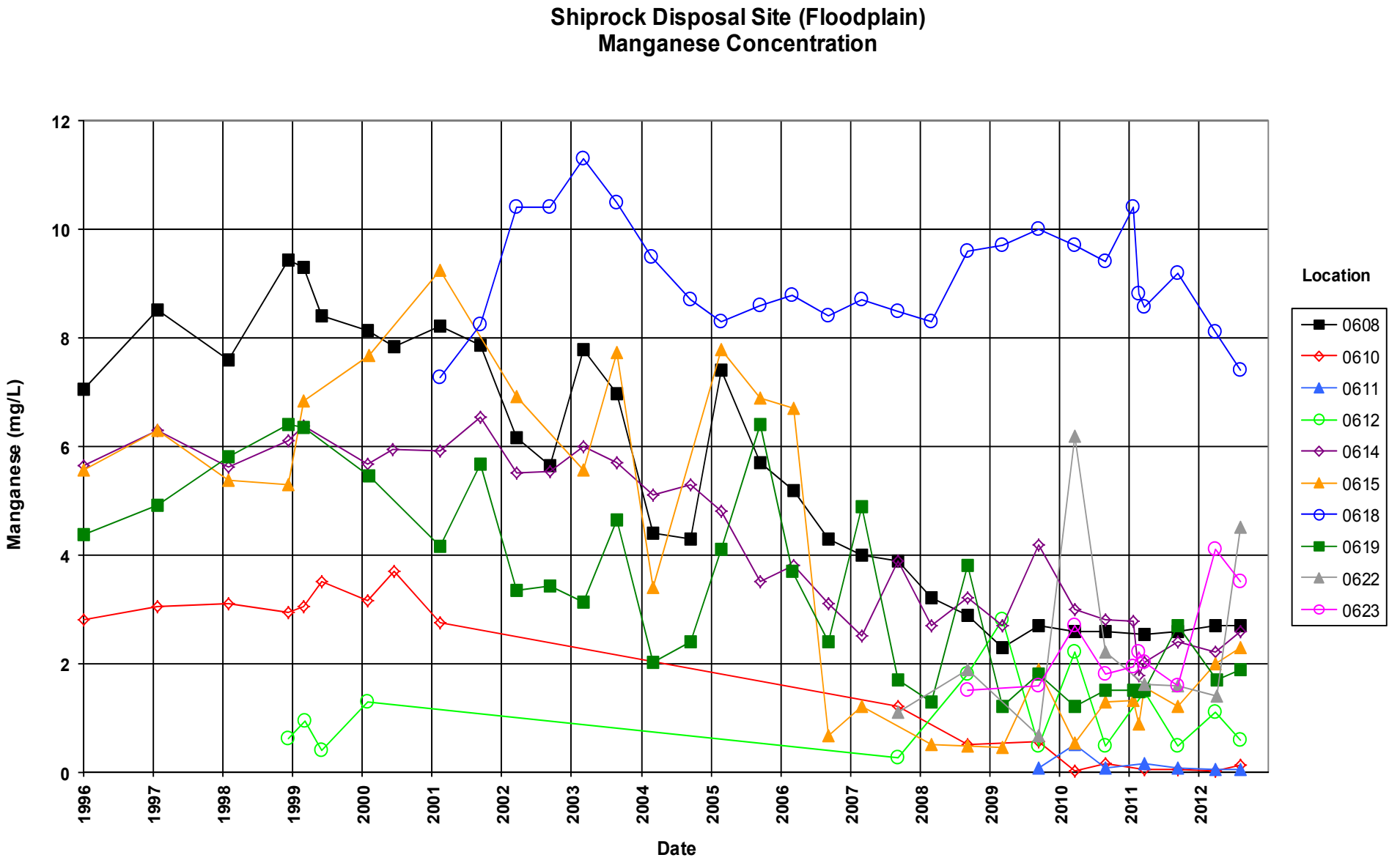


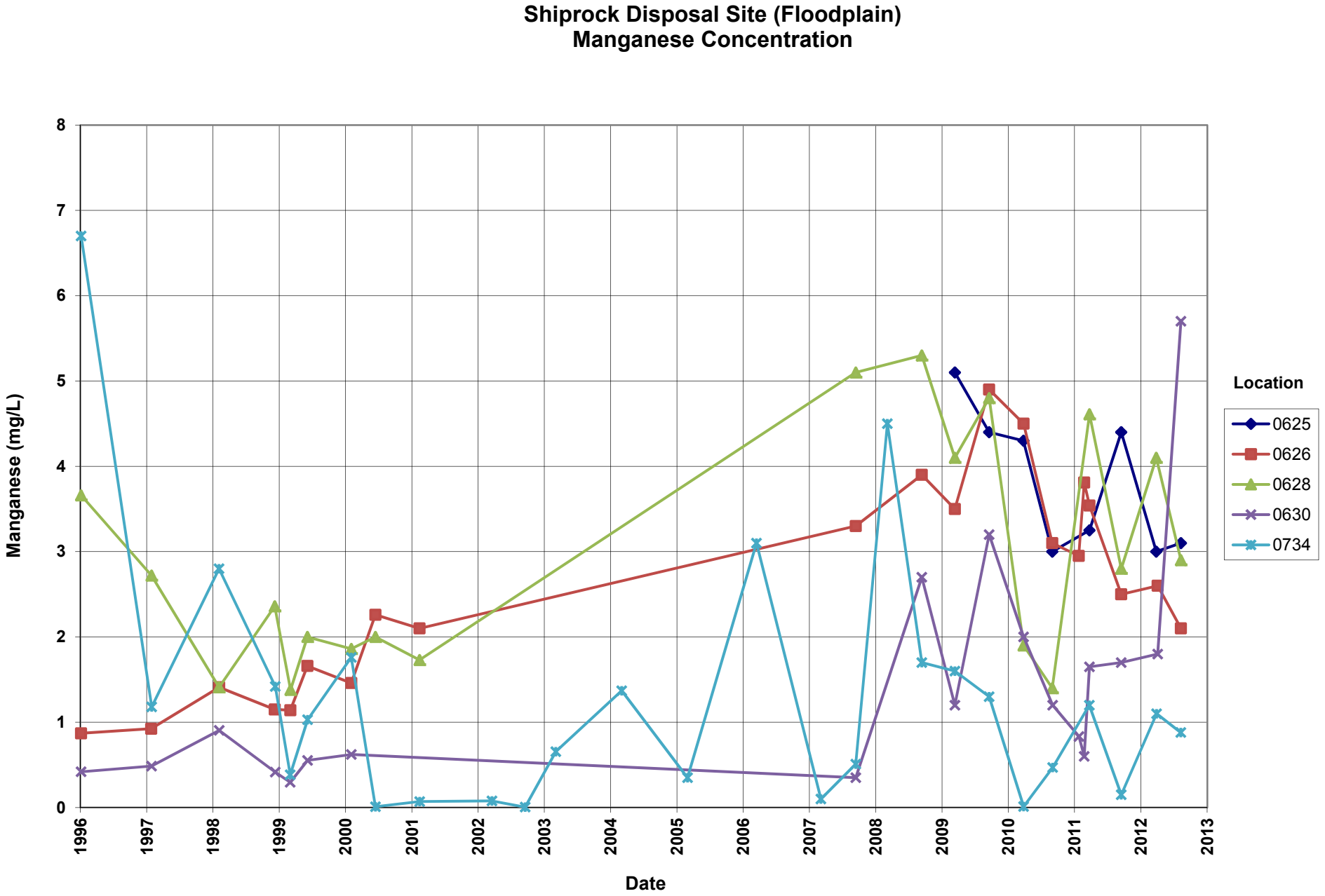
Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration

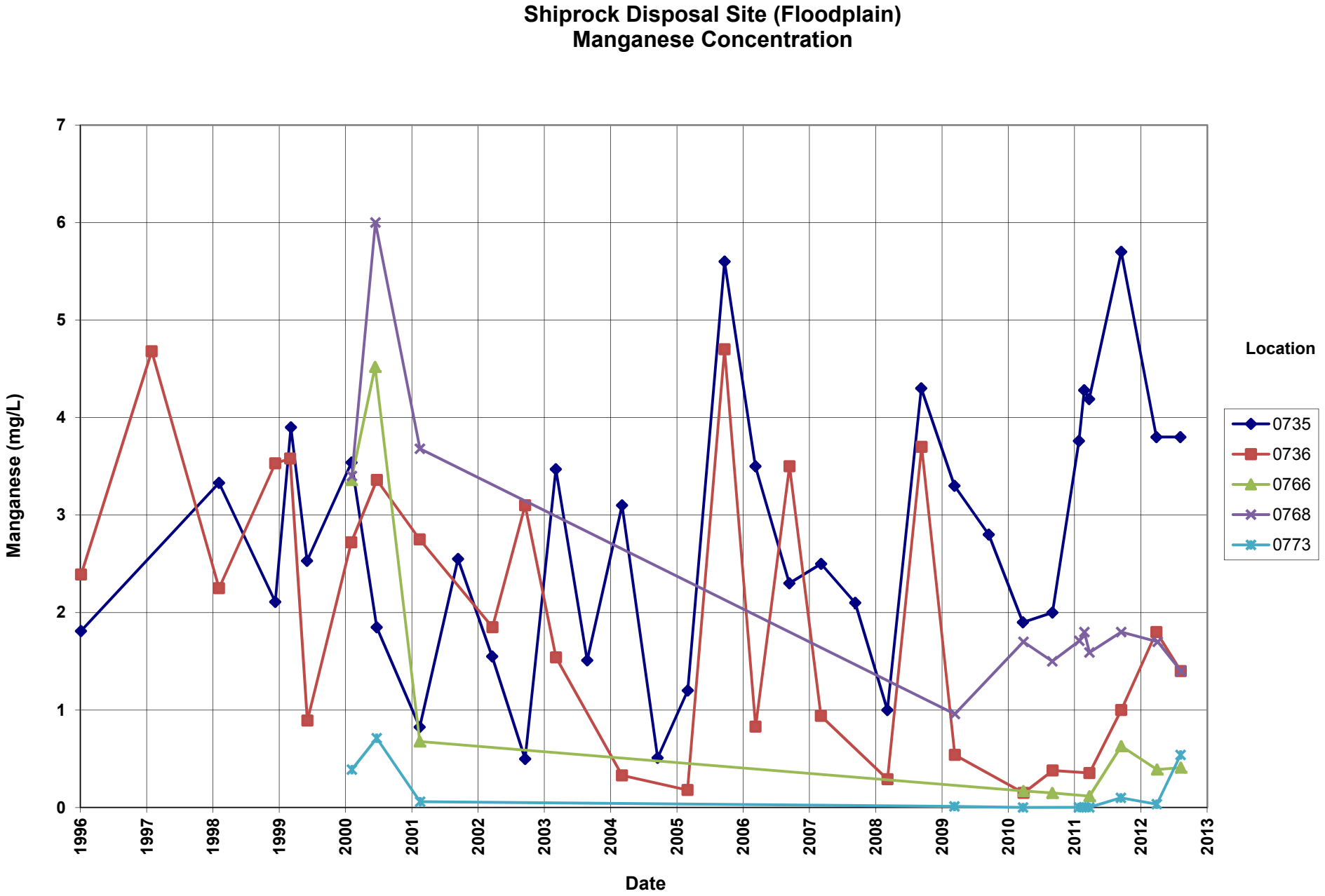


Shiprock Disposal Site (Floodplain)
Ammonia Total as N Concentration

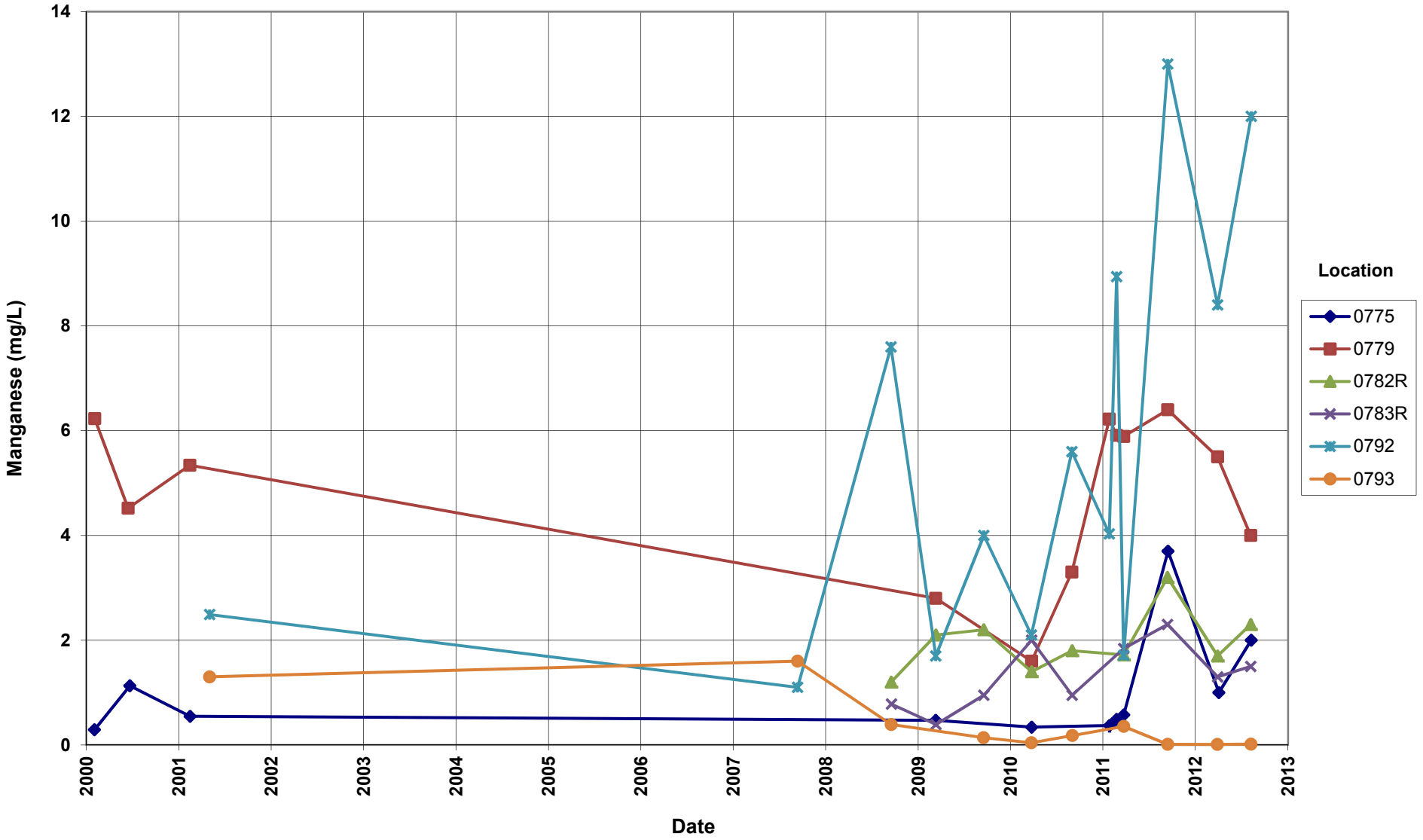



Shiprock Disposal Site (Floodplain)
Manganese Concentration
Manganese (mg/L)
Date
Location
0608
0610
0611
0612
0614
0615
0618
0619
0622
0623
0
2
4
6
8
10
12
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012

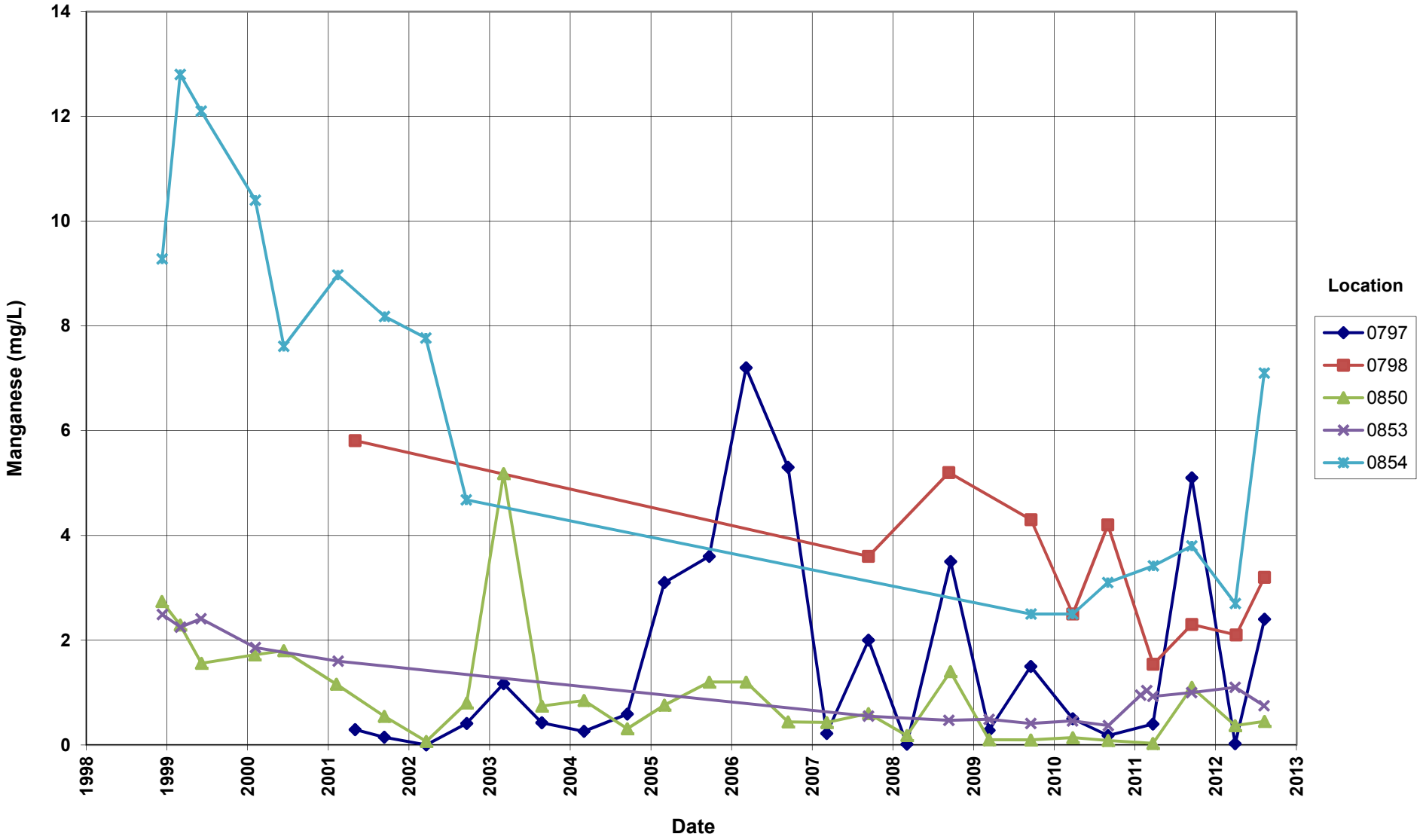

Shiprock Disposal Site (Floodplain)
Manganese Concentration
Manganese (mg/L)
Date
Location
0625
0626
0628
0630
0734
0
1
2
3
4
5
6
7
8
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013


Shiprock Disposal Site (Floodplain)
Manganese Concentration
Manganese (mg/L)
Date
Location
0735
0736
0766
0768
0773
0
1
2
3
4
5
6
7
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

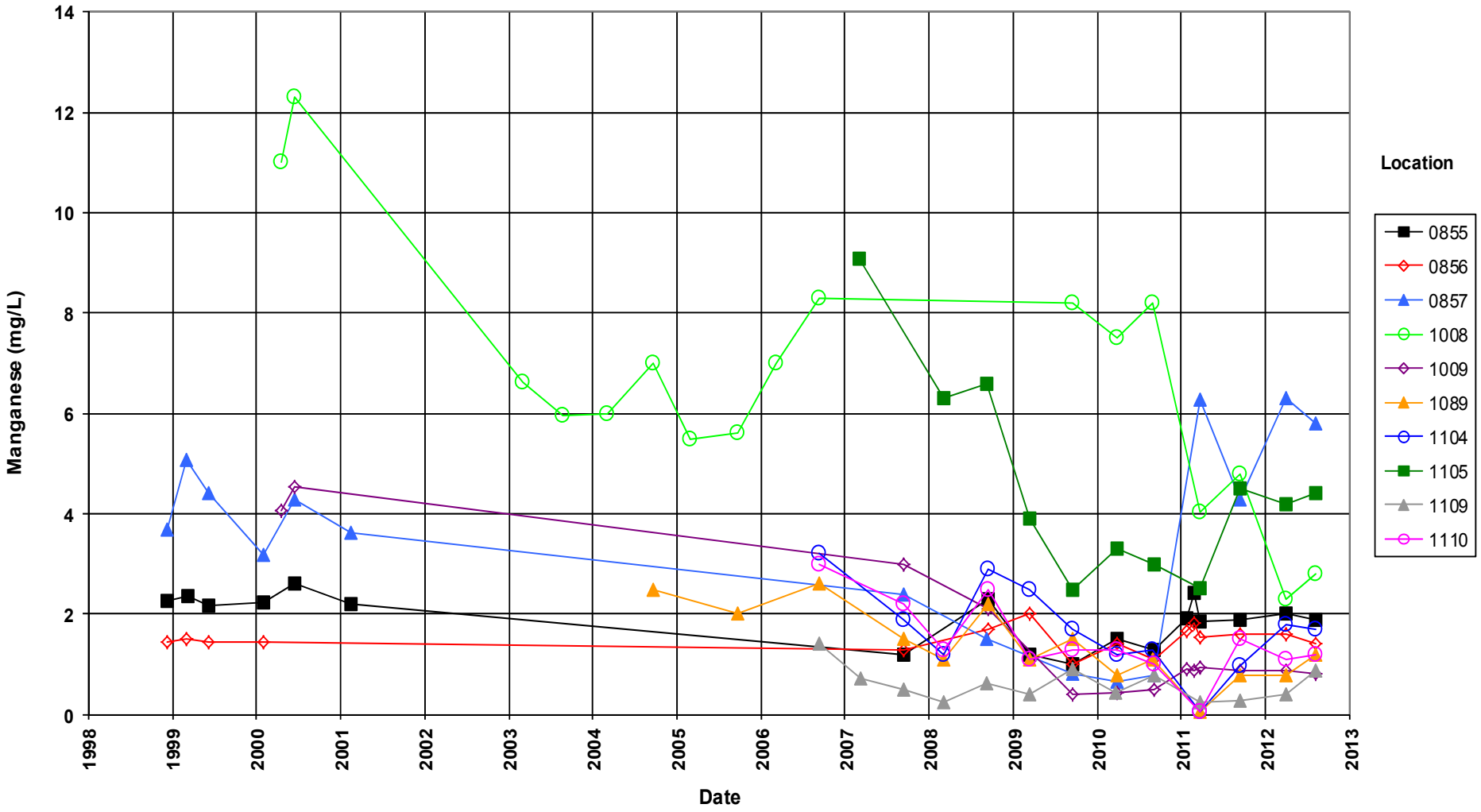
Shiprock Disposal Site (Floodplain)
Manganese Concentration

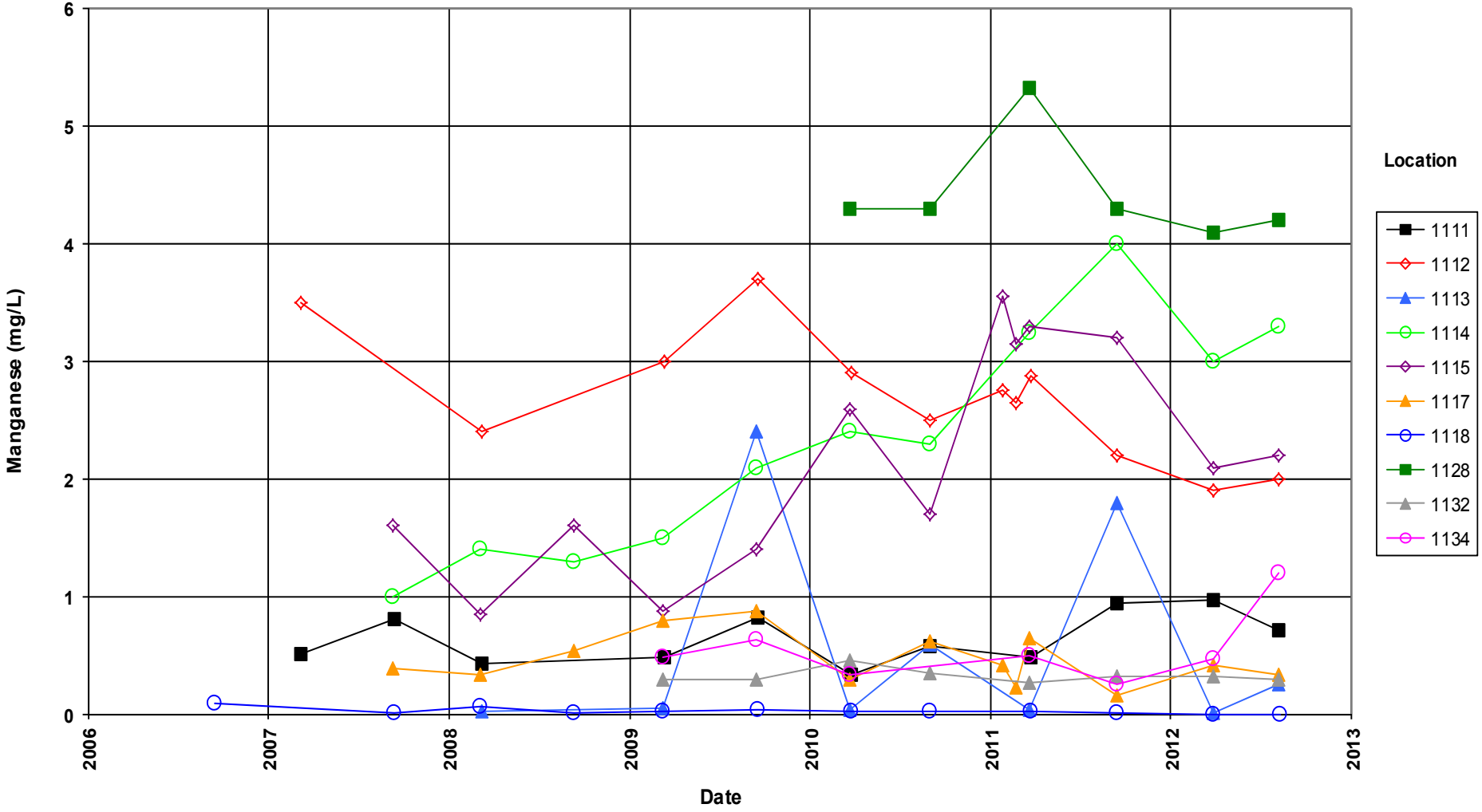


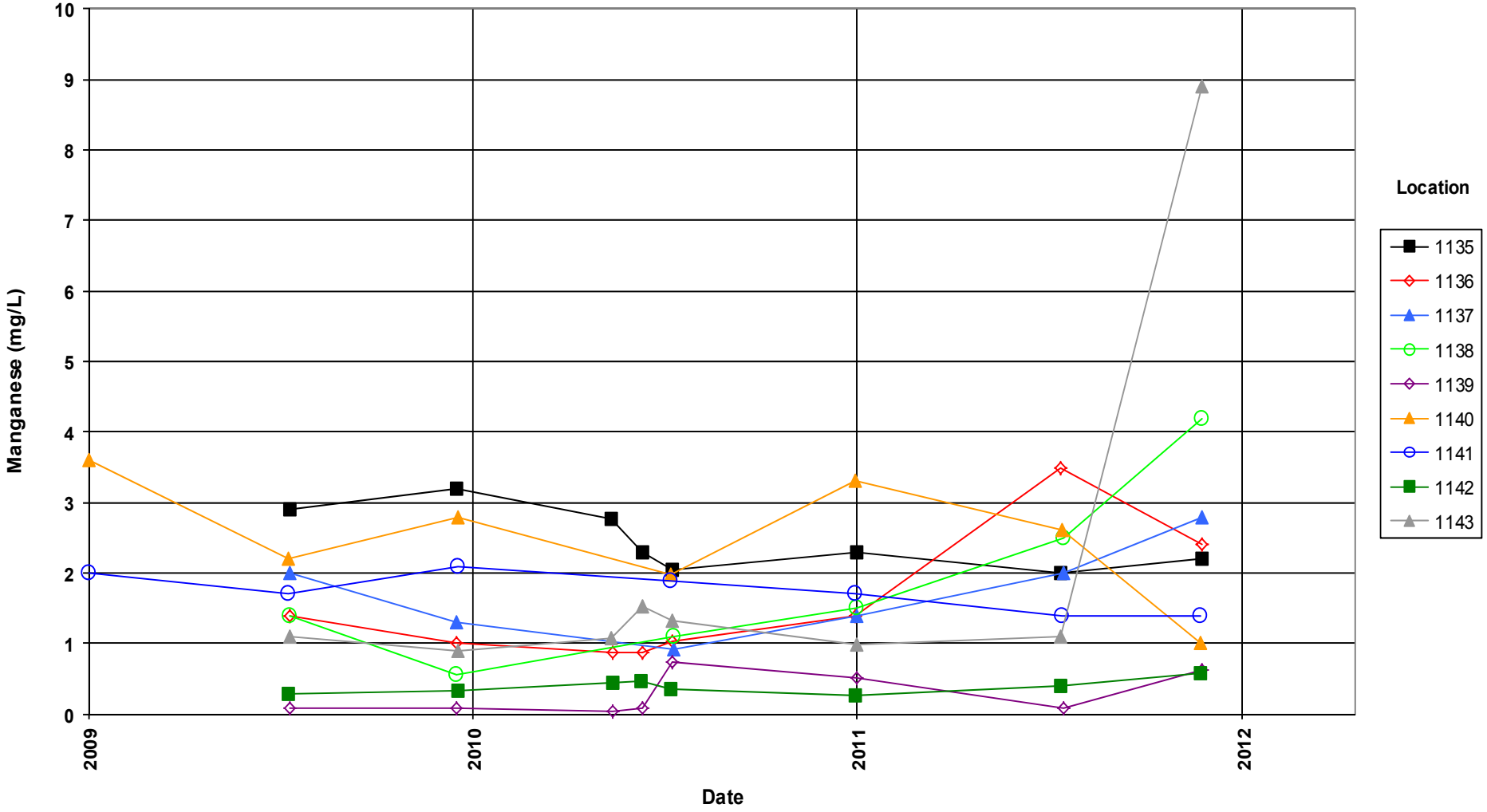
Shiprock Disposal Site (Floodplain)
Manganese Concentration



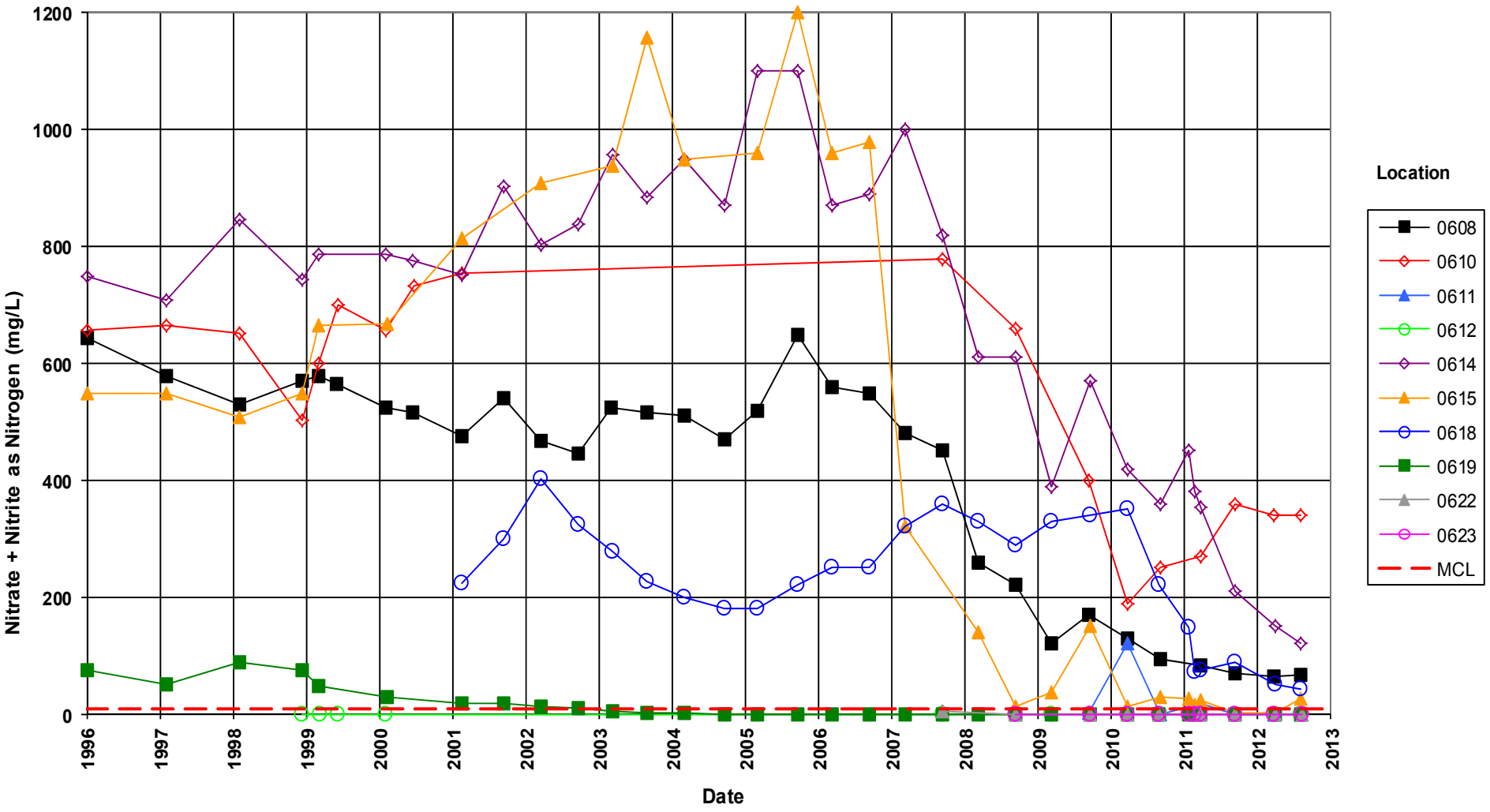
Shiprock Disposal Site (Floodplain)
Manganese Concentration

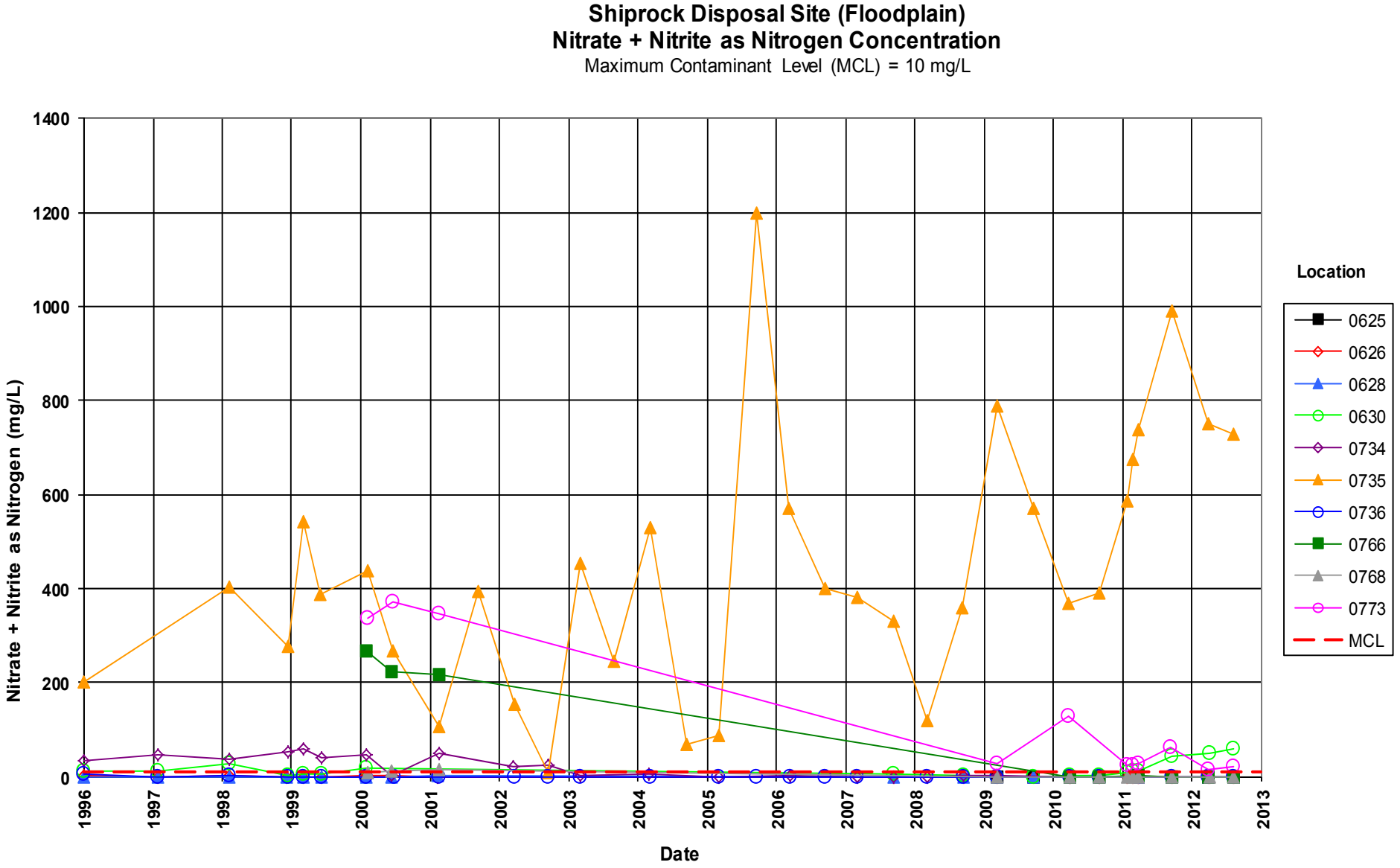


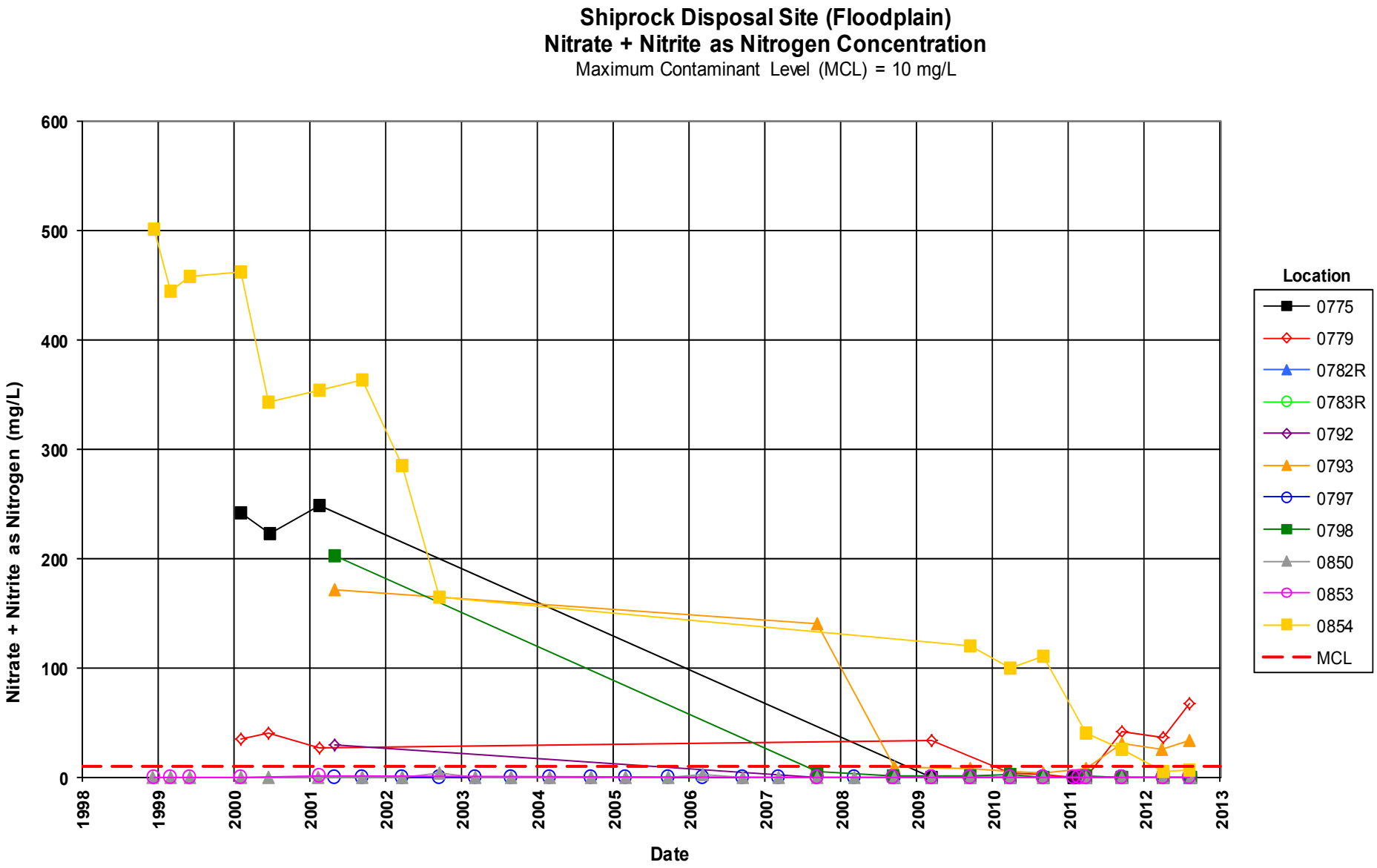

Shiprock Disposal Site (Floodplain)
Manganese Concentration
Manganese (mg/L)
0
1
2
3
4
5
6
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1111
1112
1113
1114
1115
1117
1118
1128
1132
1134

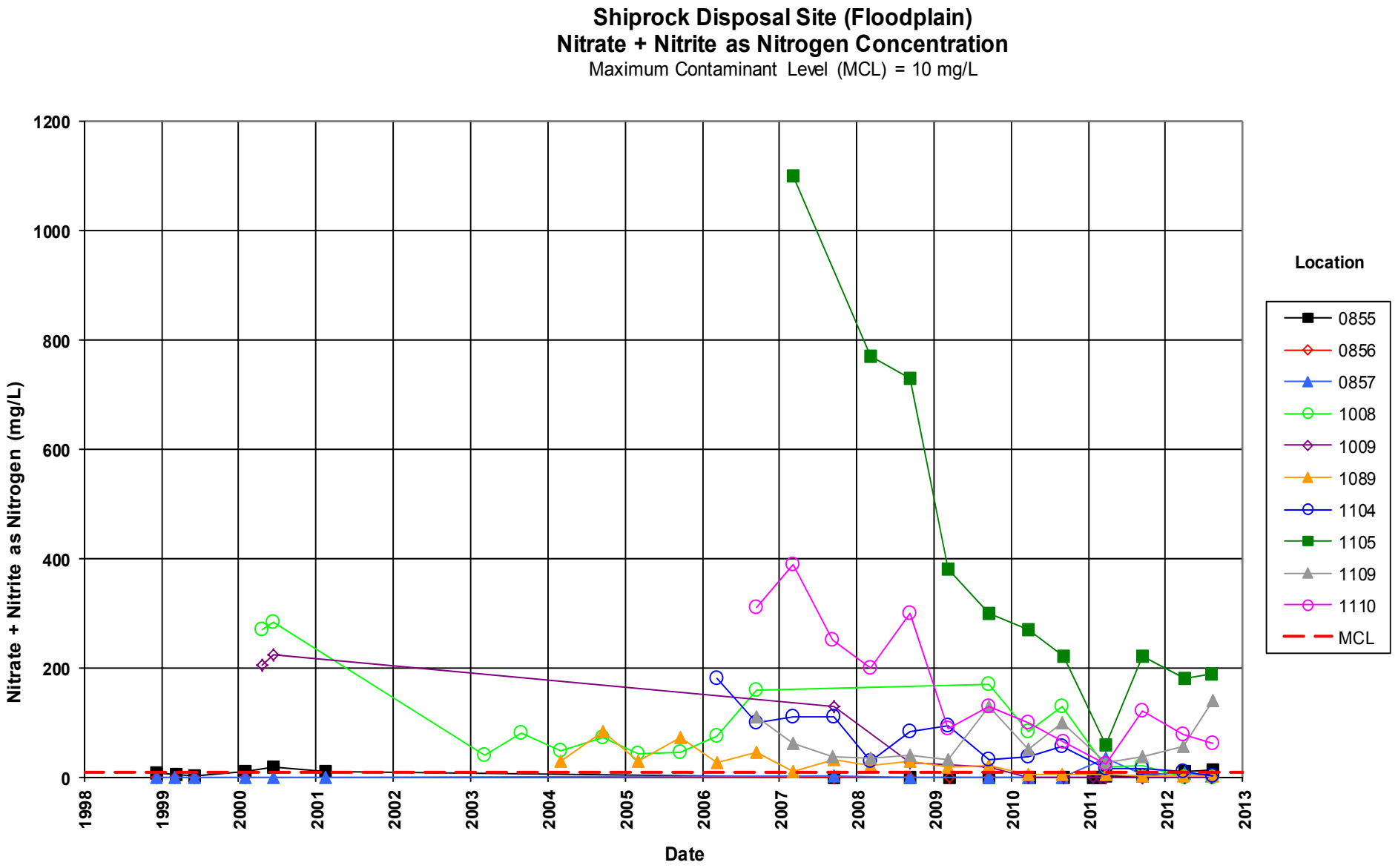

Shiprock Disposal Site (Floodplain)
Manganese Concentration
Manganese (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2009
2010
2011
2012
Date
Location
1135
1136
1137
1138
1139
1140
1141
1142
1143

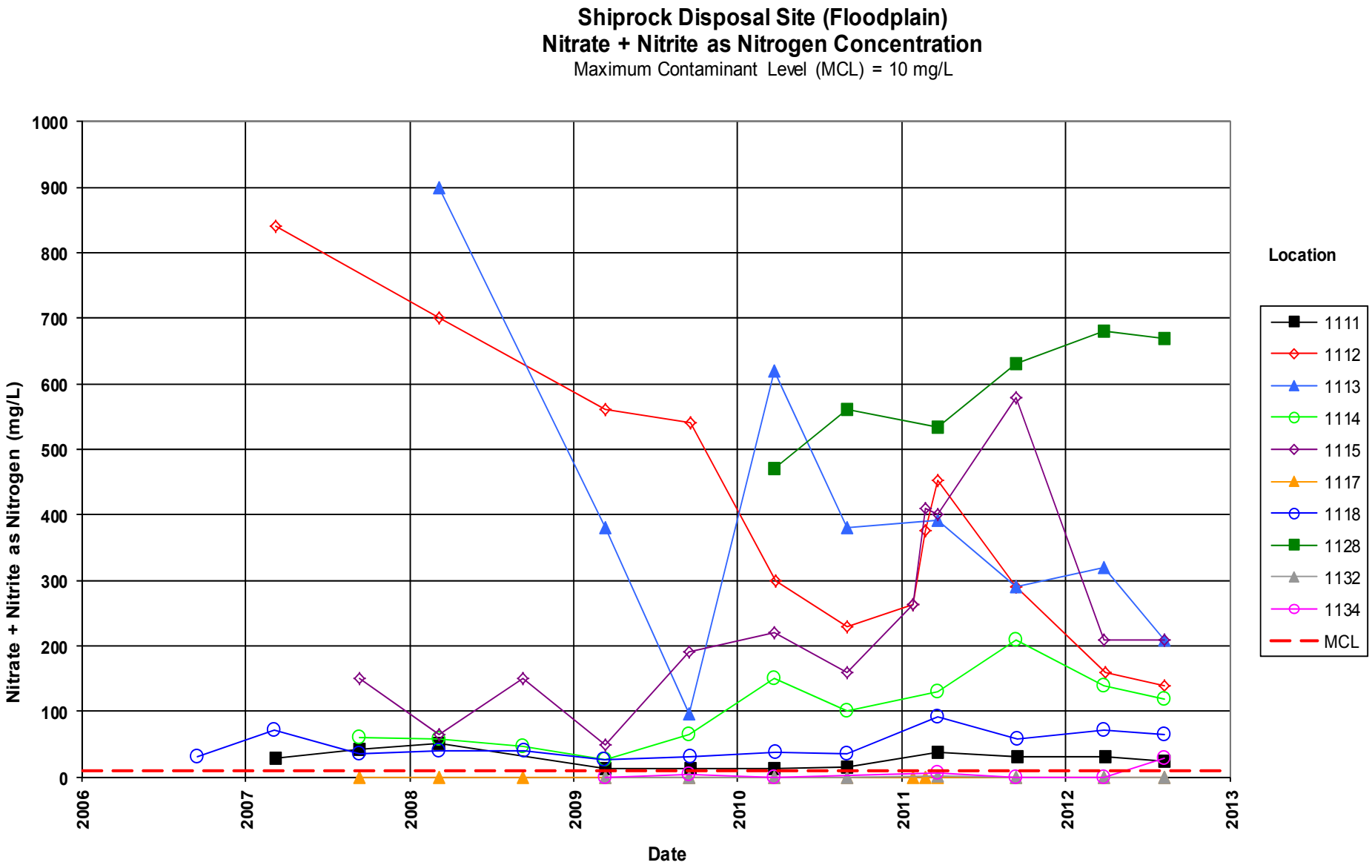
Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L

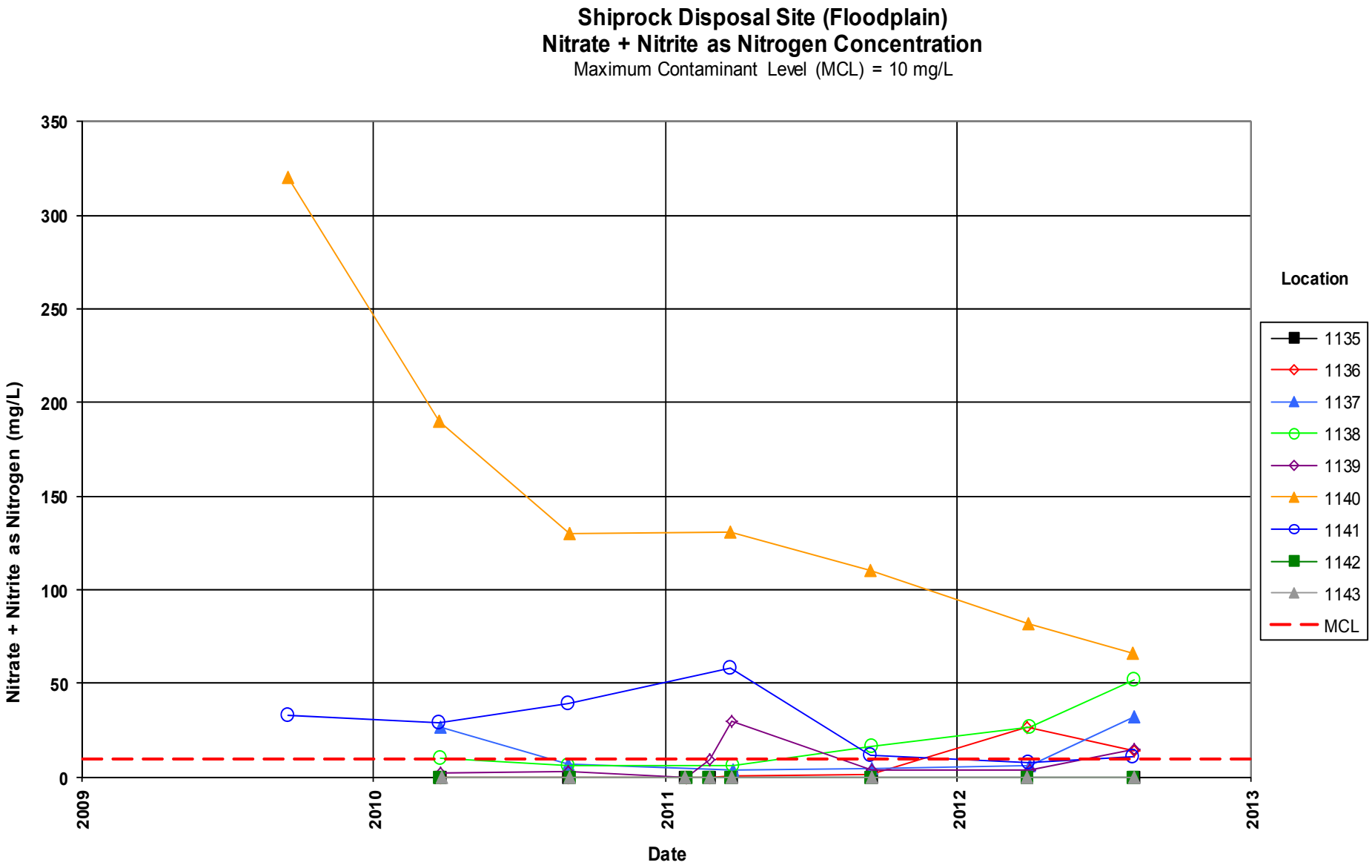



Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
1400
1200
1000
800
600
400
200
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0625
0626
0628
0630
0734
0735
0736
0766
0768
0773
MCL


Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
600
500
400
300
200
100
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0775
0779
0782R
0783R
0792
0793
0797
0798
0850
0853
0854
MCL

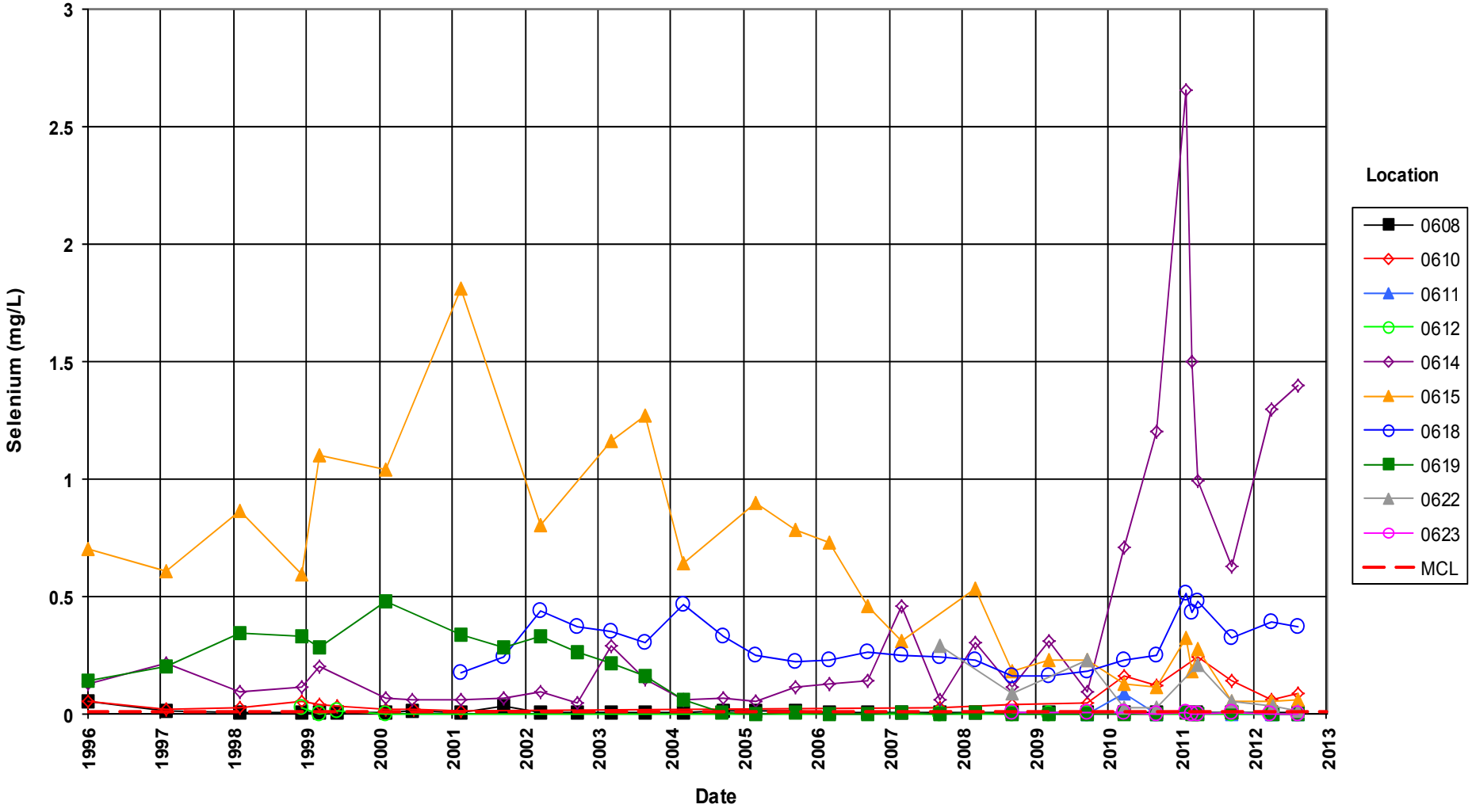

Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
1200
1000
800
600
400
200
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0855
0856
0857
1008
1009
1089
1104
1105
1109
1110
MCL


Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1111
1112
1113
1114
1115
1117
1118
1128
1132
1134
MCL

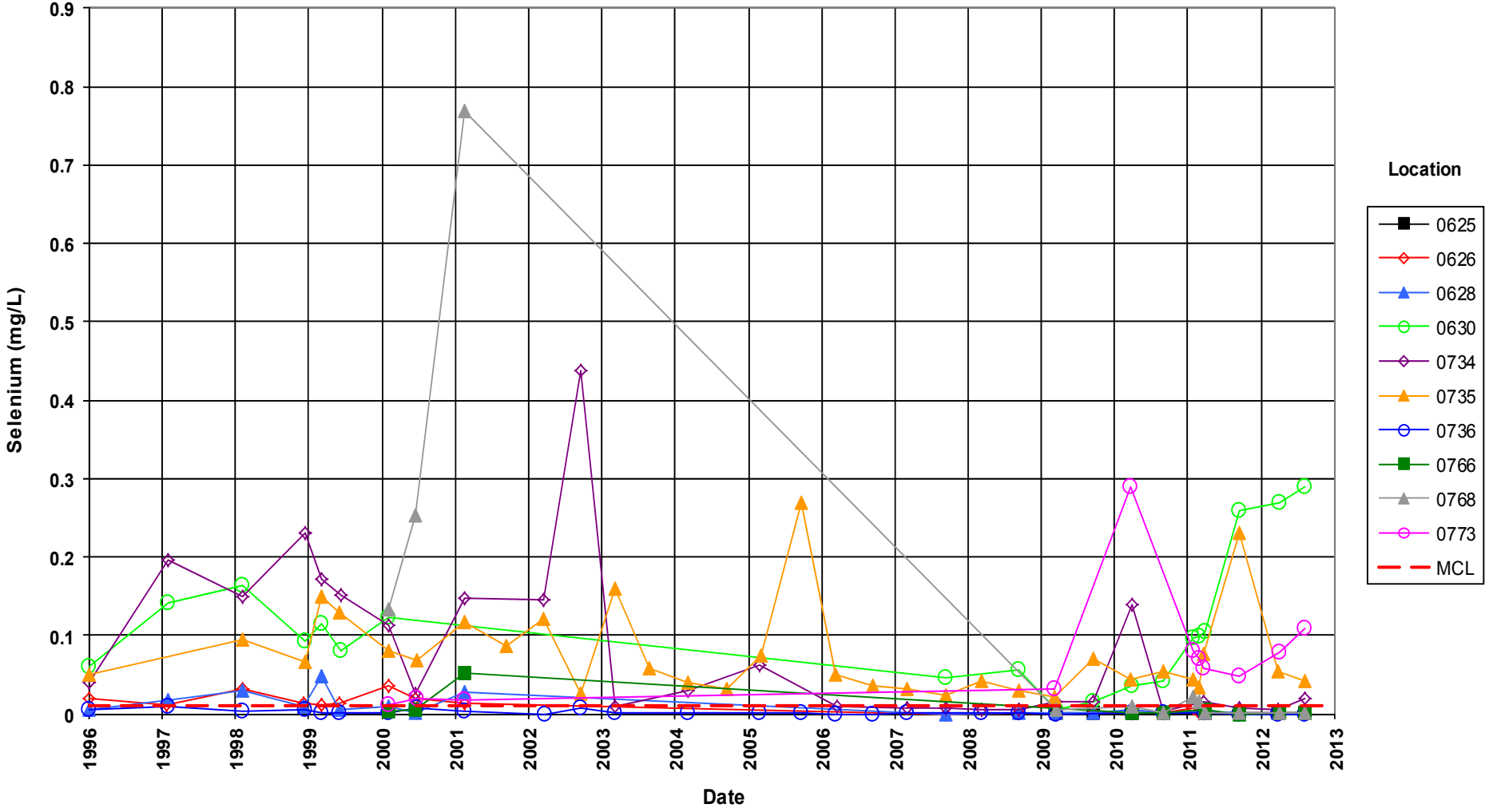

Shiprock Disposal Site (Floodplain)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
350
300
250
200
150
100
50
0
2009
2010
2011
2012
2013
Date
Location
1135
1136
1137
1138
1139
1140
1141
1142
1143
MCL

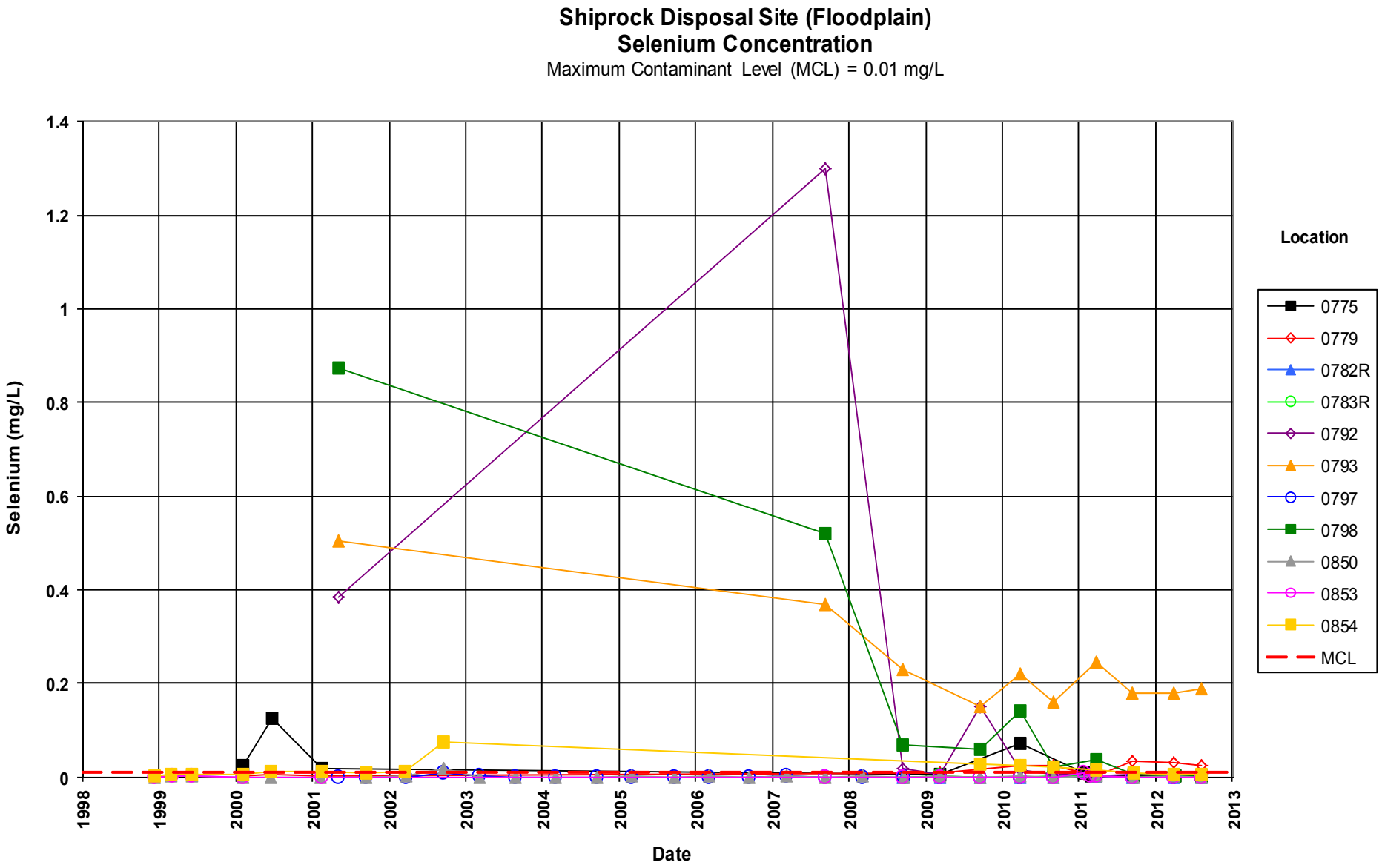
Shiprock Disposal Site (Floodplain)
Selenium Concentration

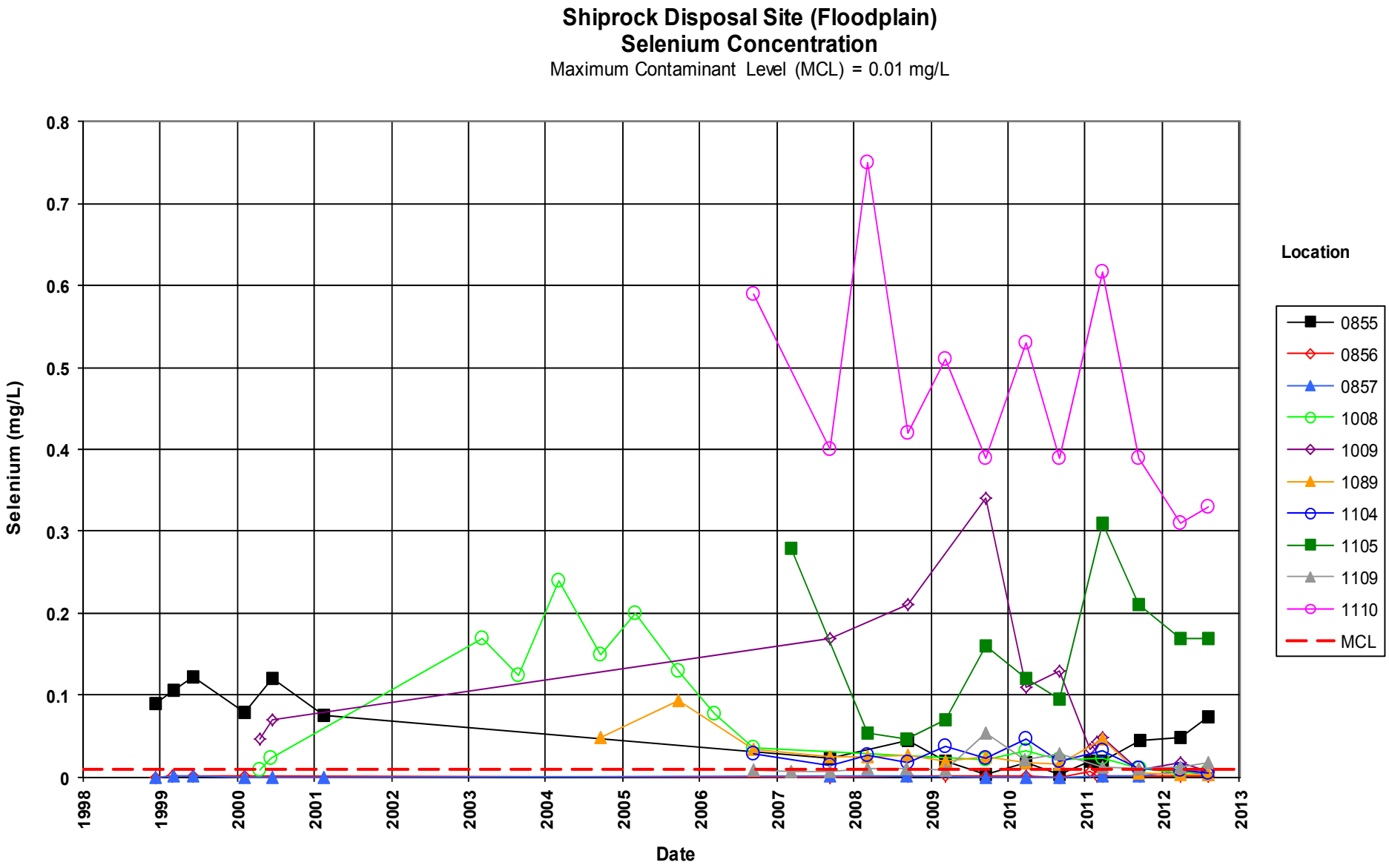
Maximum Contaminant Level (MCL) = 0.01 mg/L

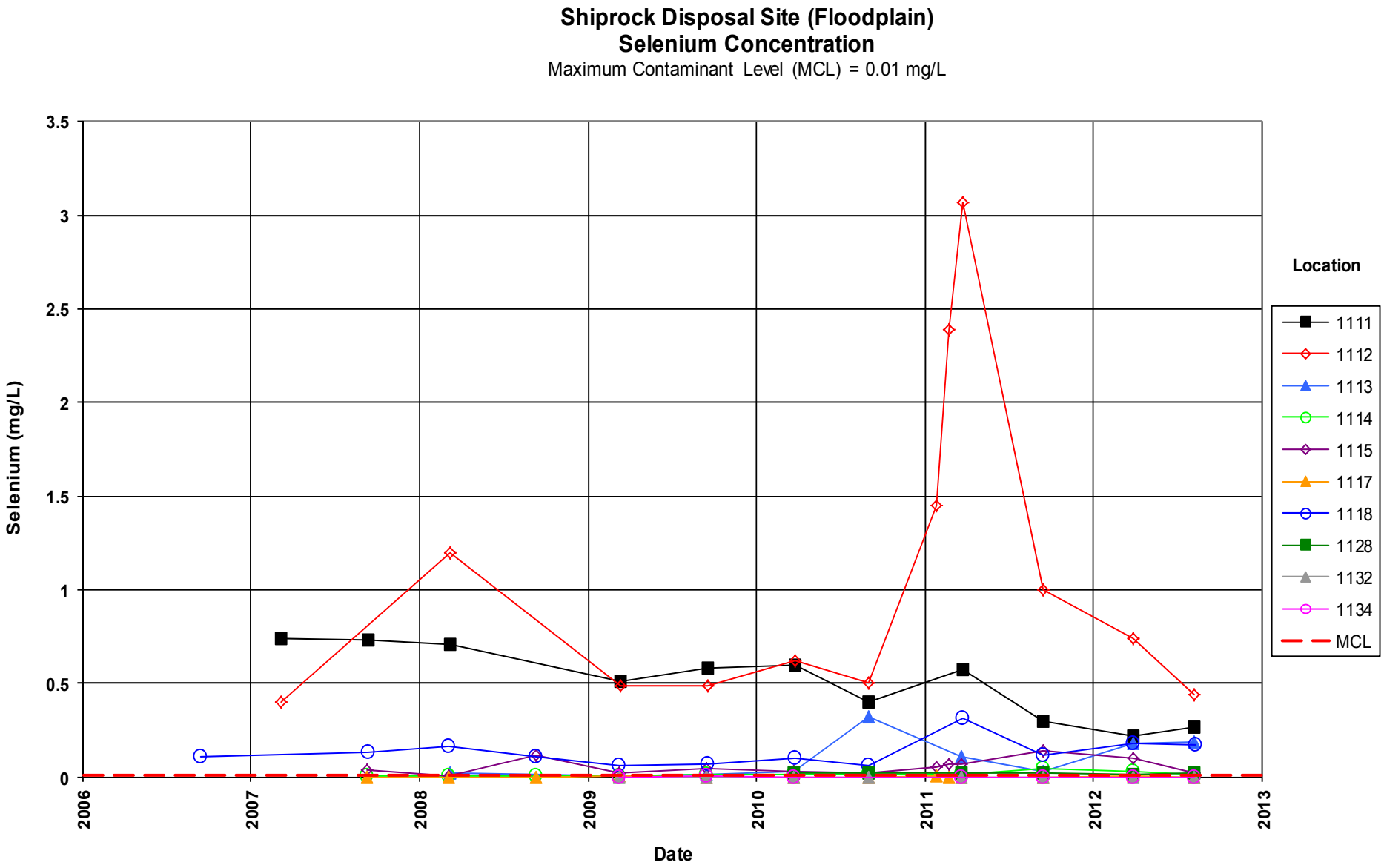


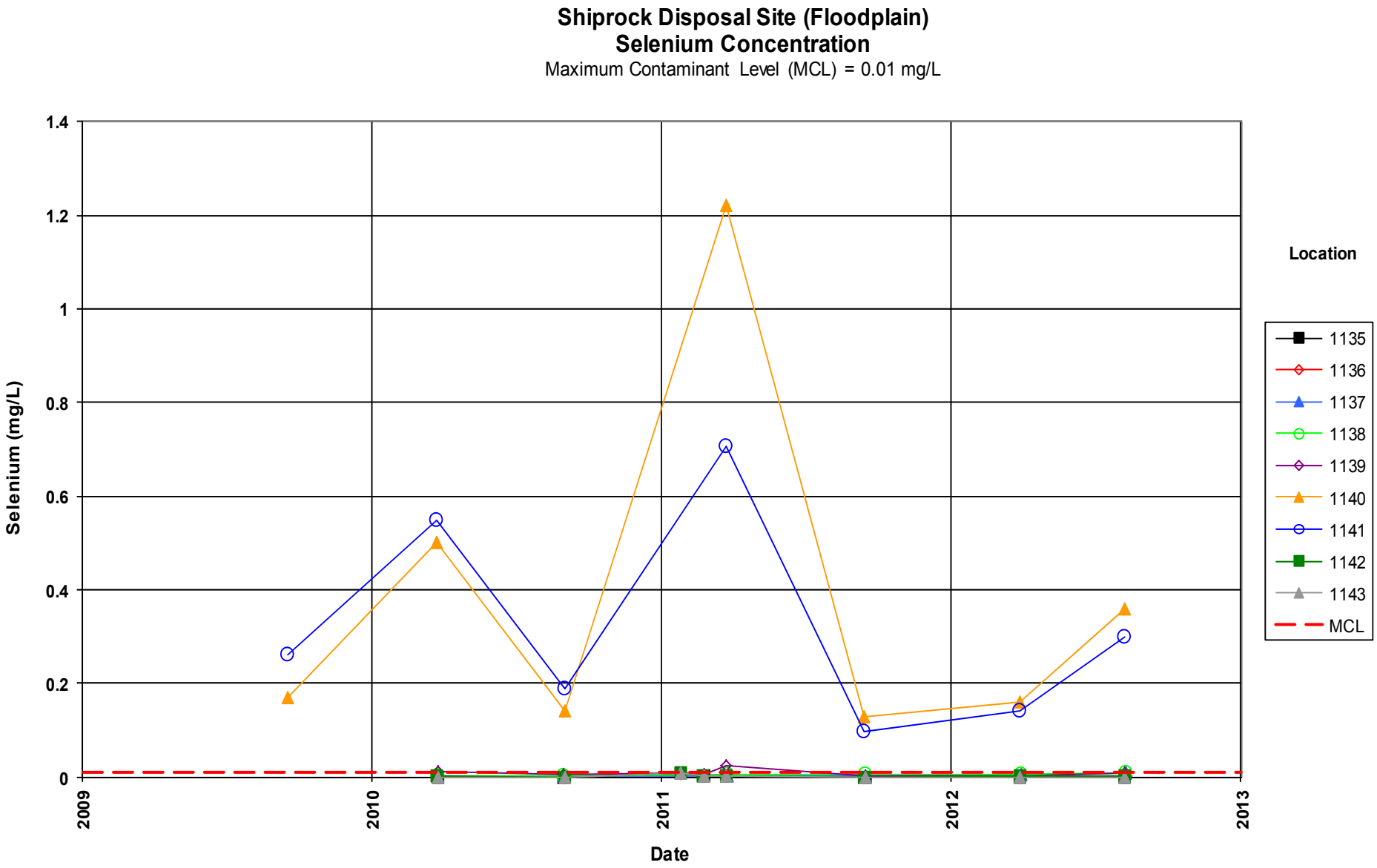
Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



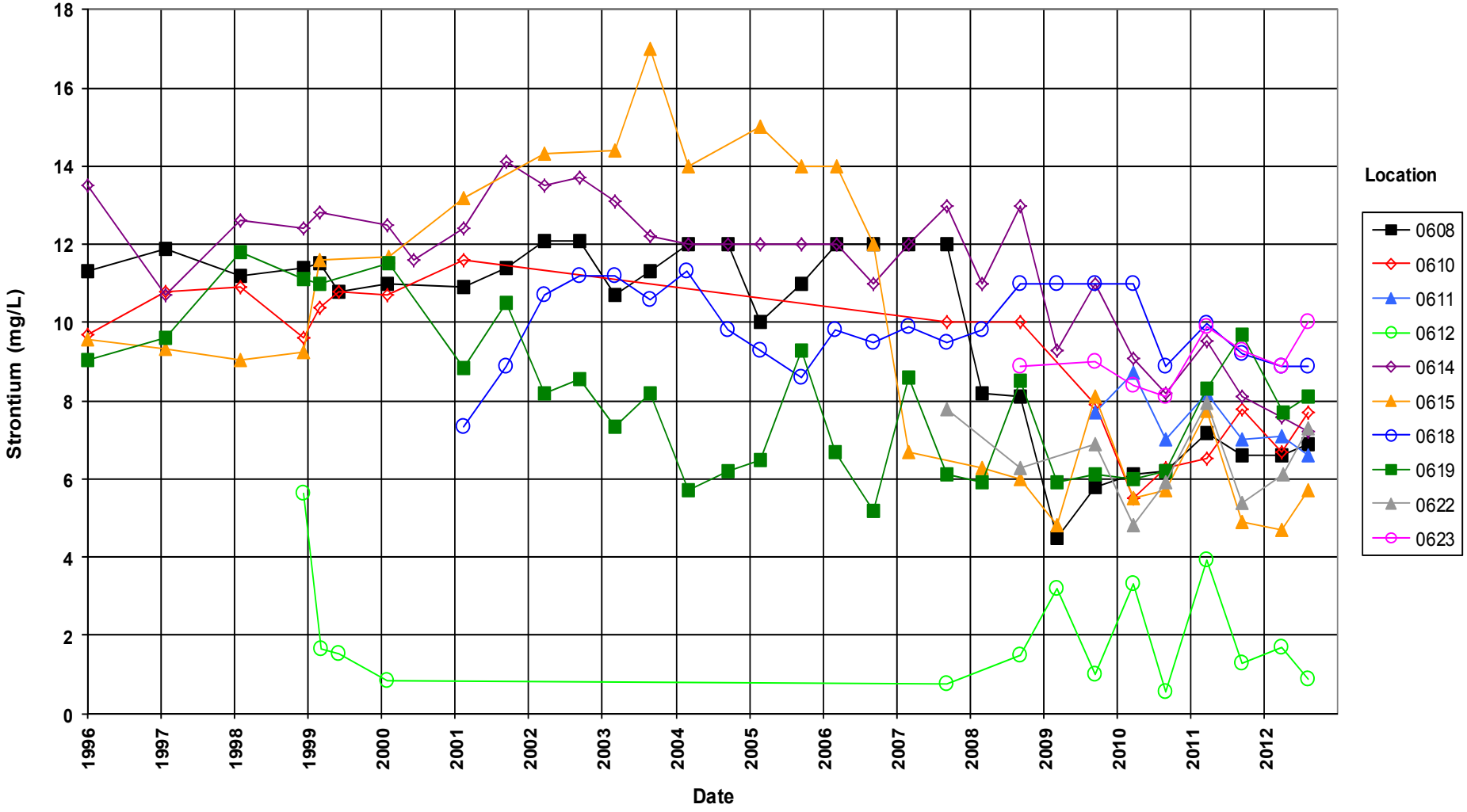

Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L
Selenium (mg/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0775
0779
0782R
0783R
0792
0793
0797
0798
0850
0853
0854
MCL


Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L
Selenium (mg/L)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0855
0856
0857
1008
1009
1089
1104
1105
1109
1110
MCL

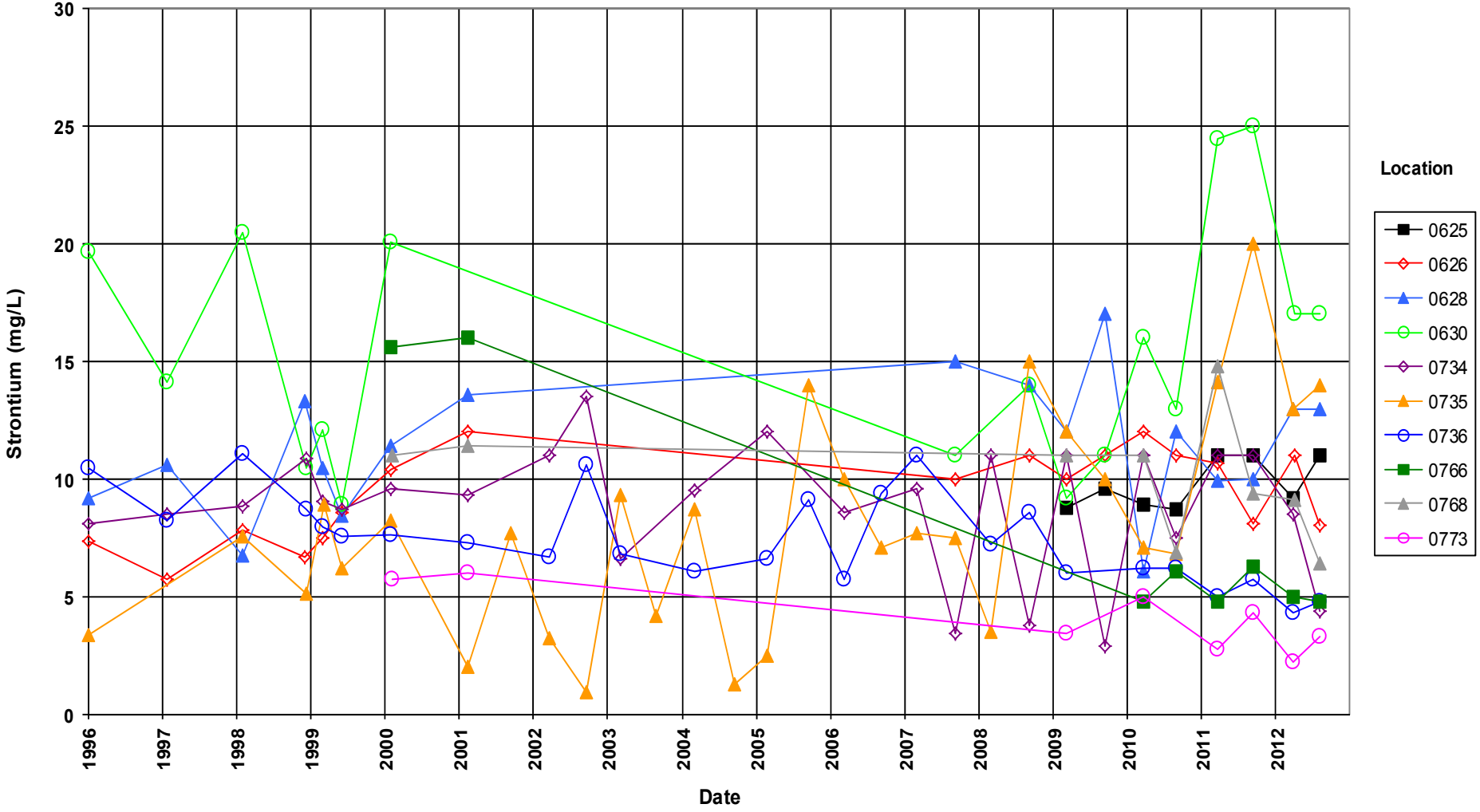

Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L
Selenium (mg/L)
3.5
3
2.5
2
1.5
1
0.5
0
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1111
1112
1113
1114
1115
1117
1118
1128
1132
1134
MCL


Shiprock Disposal Site (Floodplain)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L
Selenium (mg/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2009
2010
2011
2012
2013
Date
Location
1135
1136
1137
1138
1139
1140
1141
1142
1143
MCL

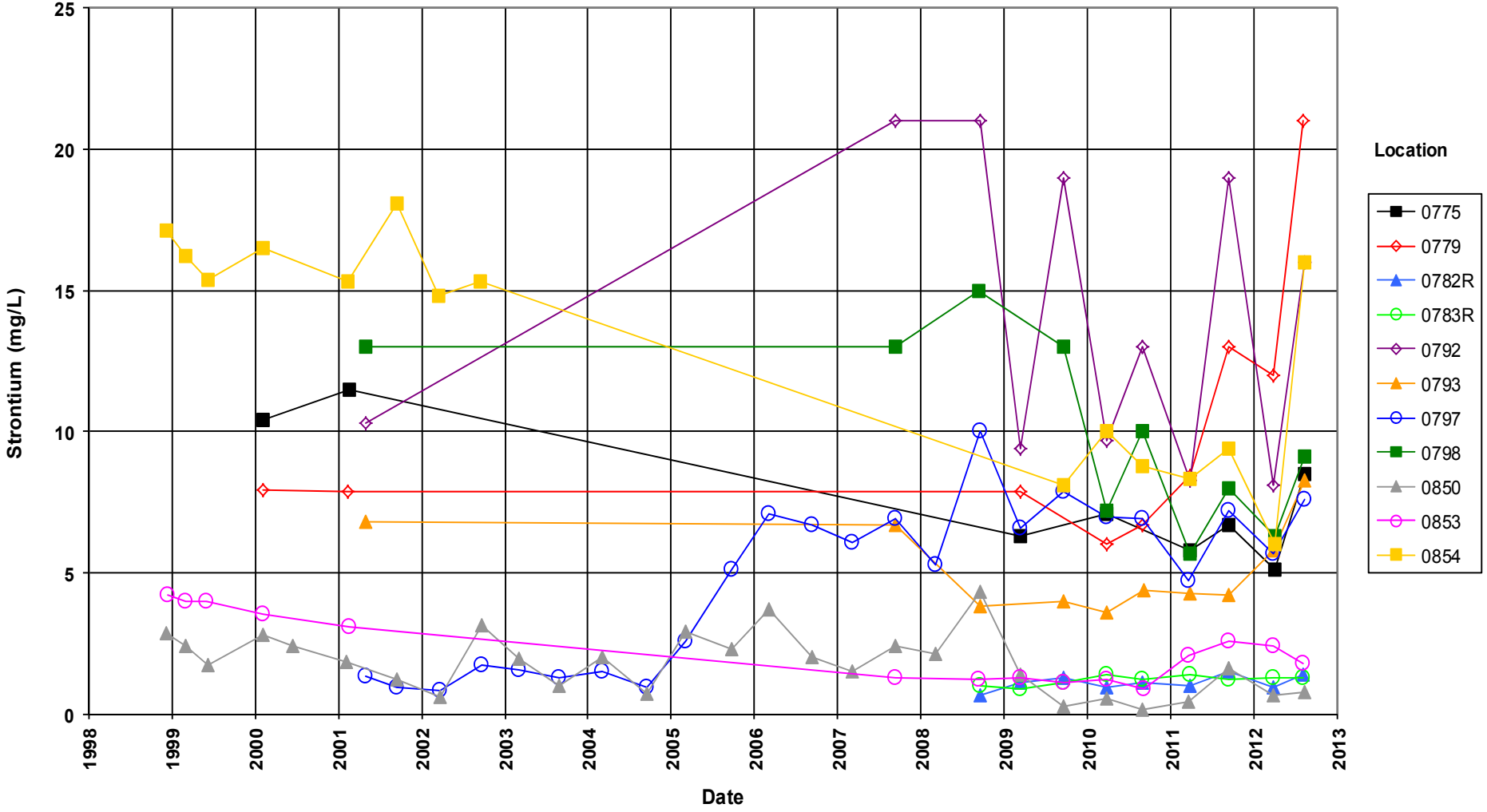
Shiprock Disposal Site (Floodplain)
Strontium Concentration



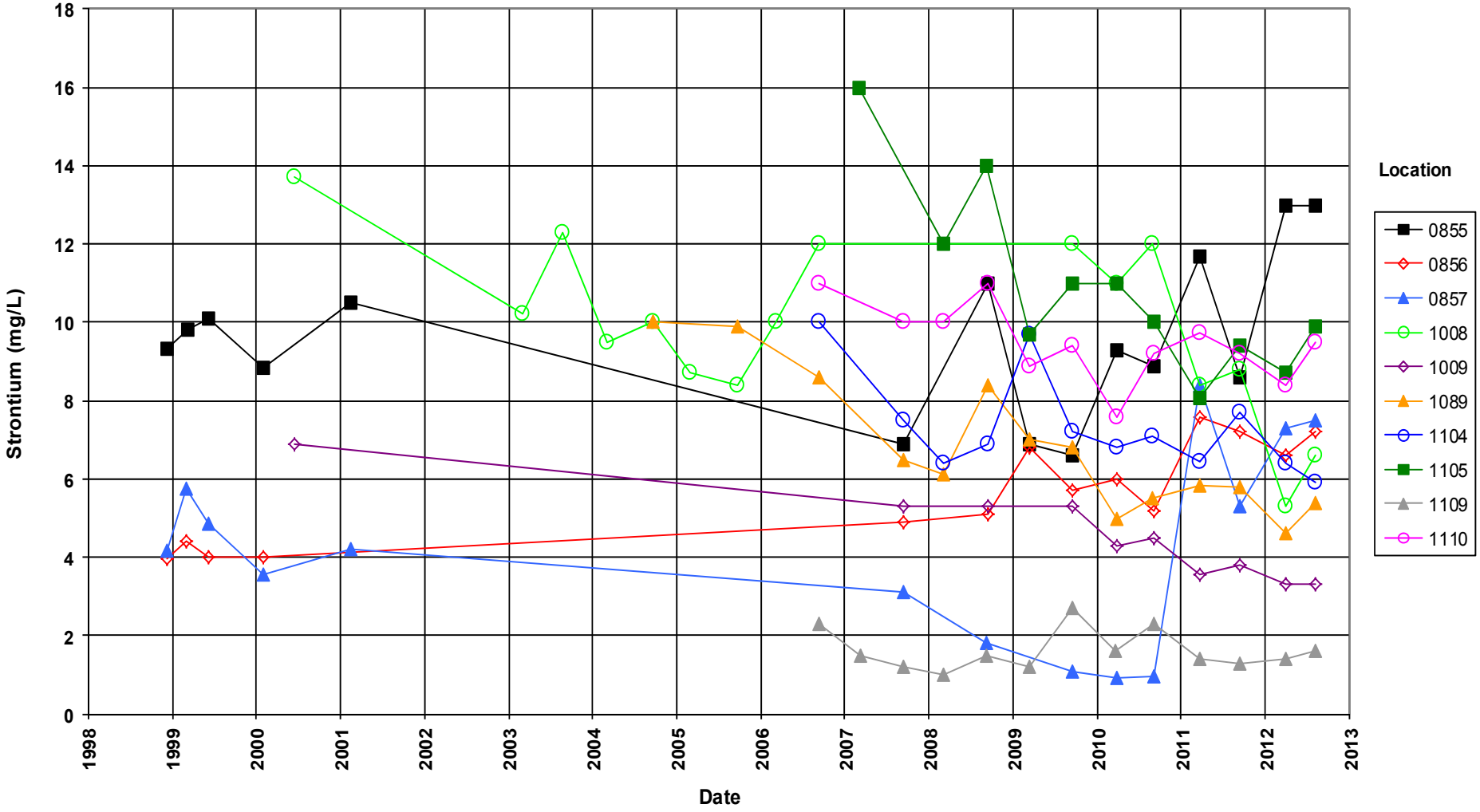
Shiprock Disposal Site (Floodplain)
Strontium Concentration

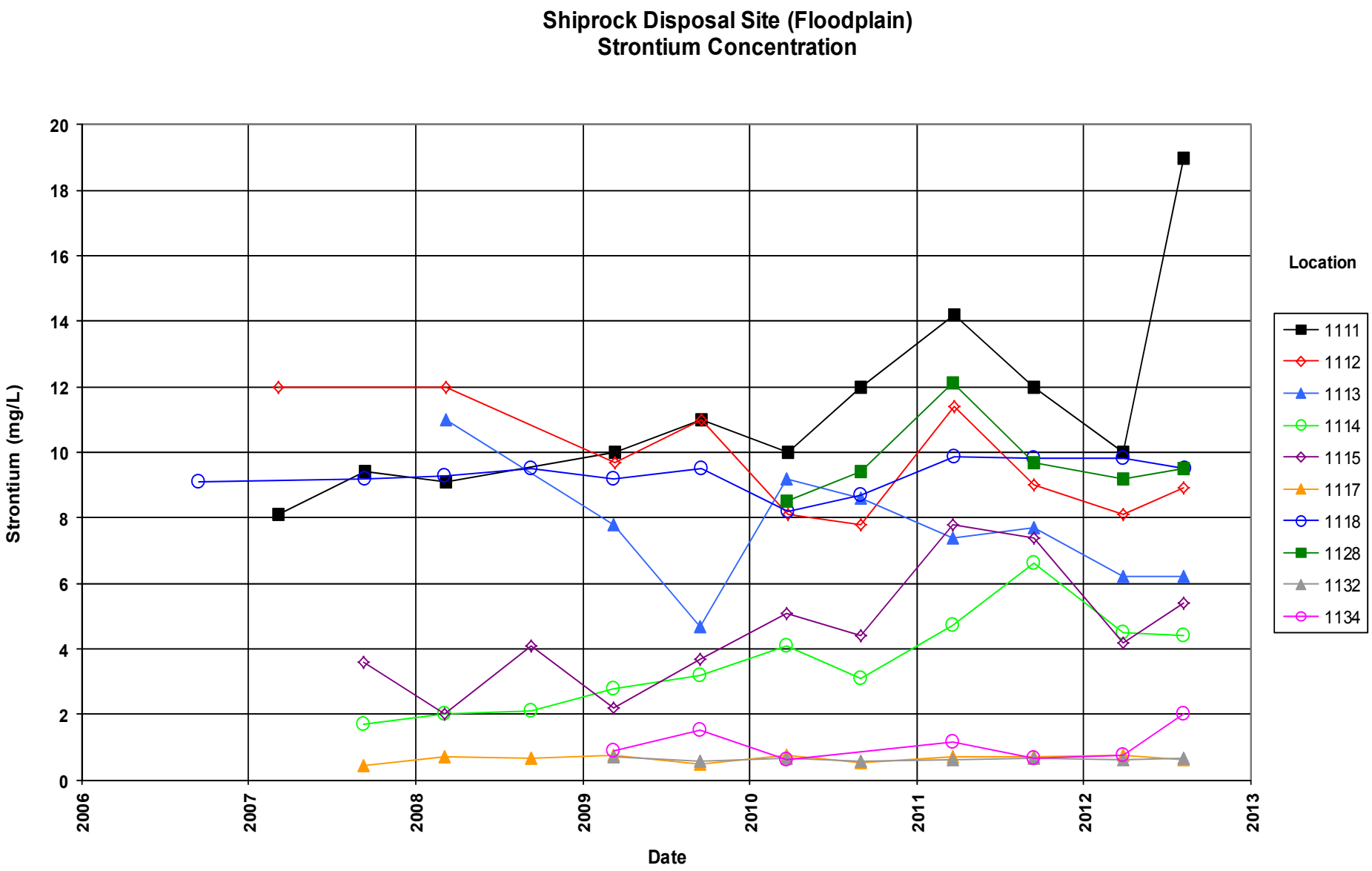


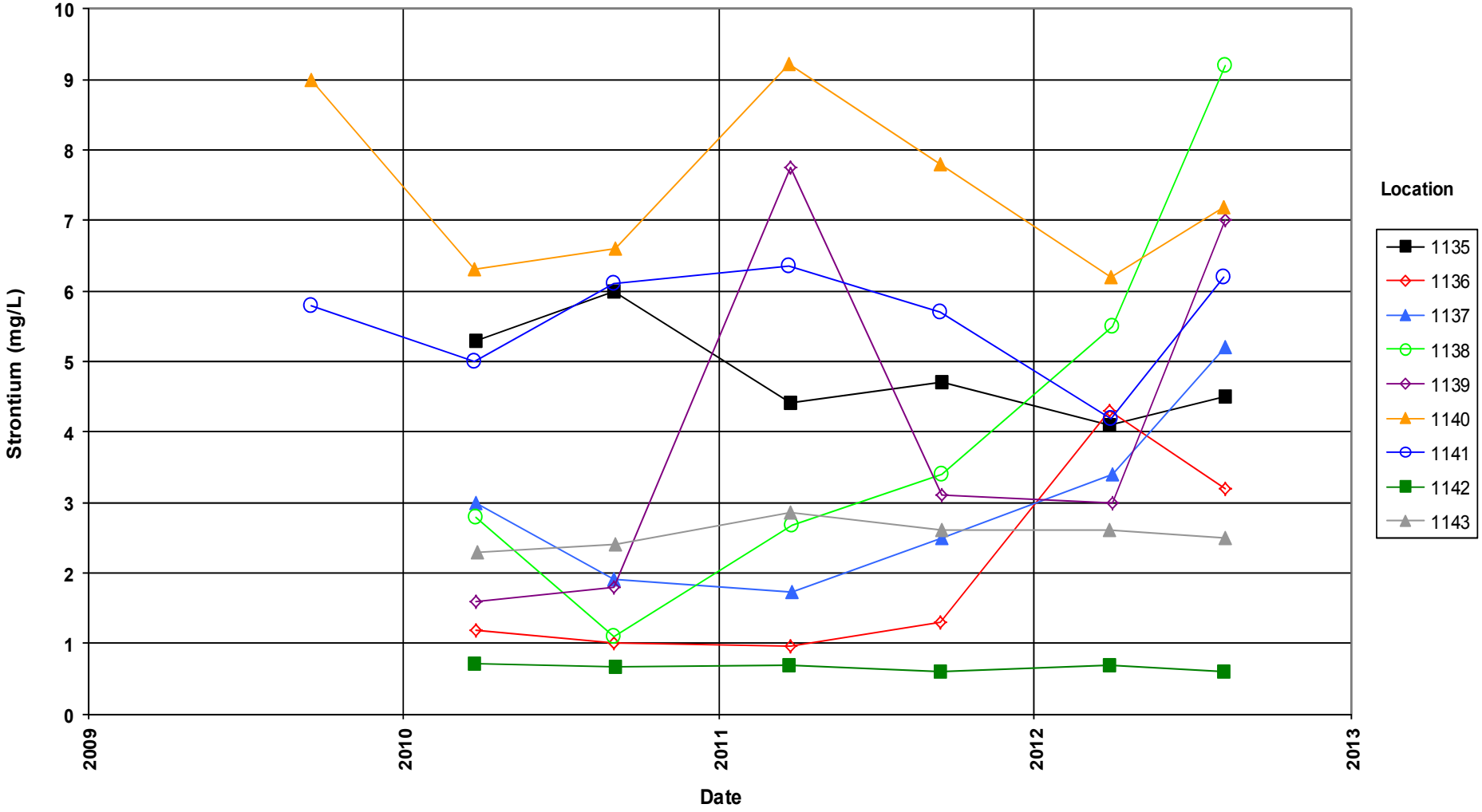
Shiprock Disposal Site (Floodplain)
Strontium Concentration



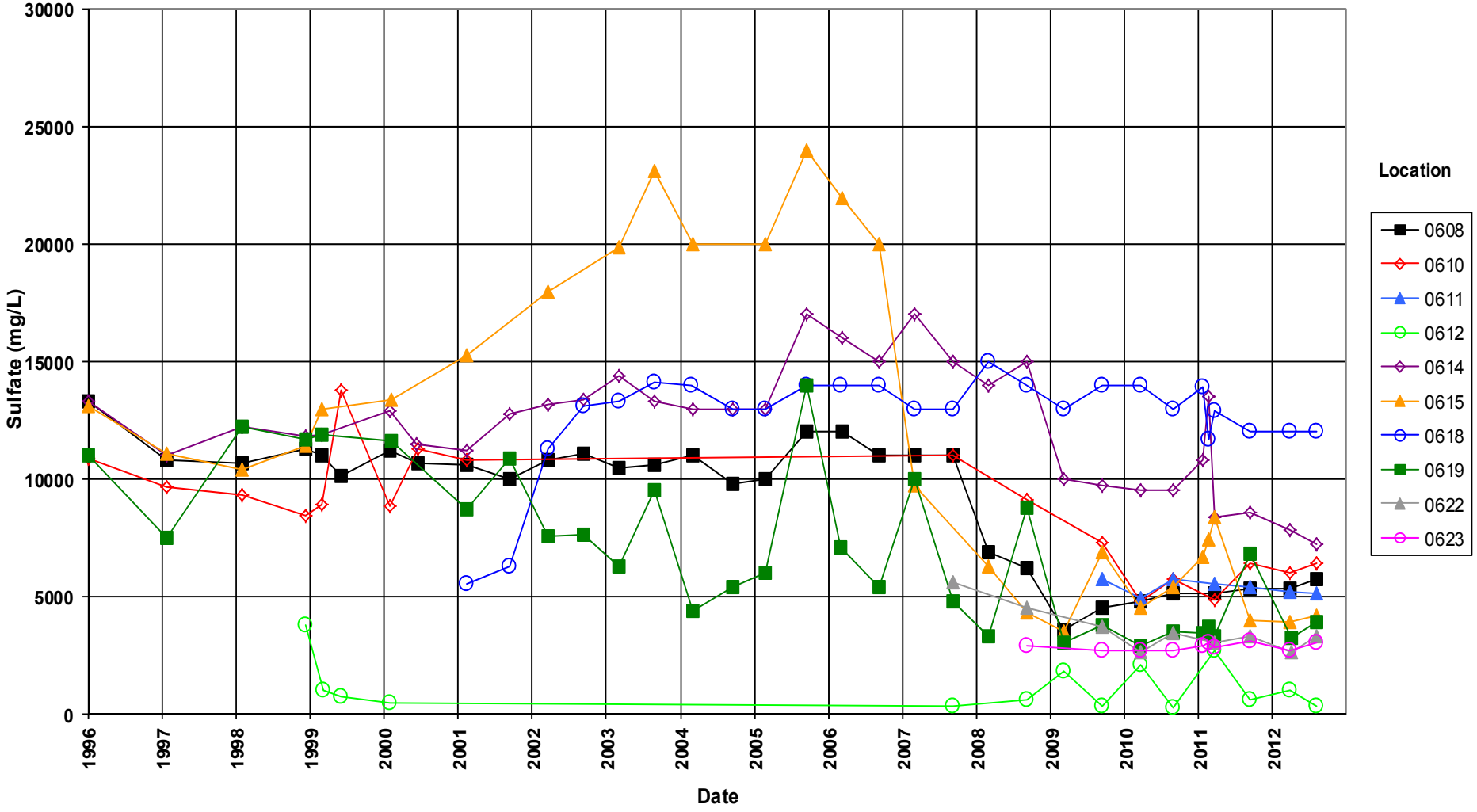
Shiprock Disposal Site (Floodplain)
Strontium Concentration



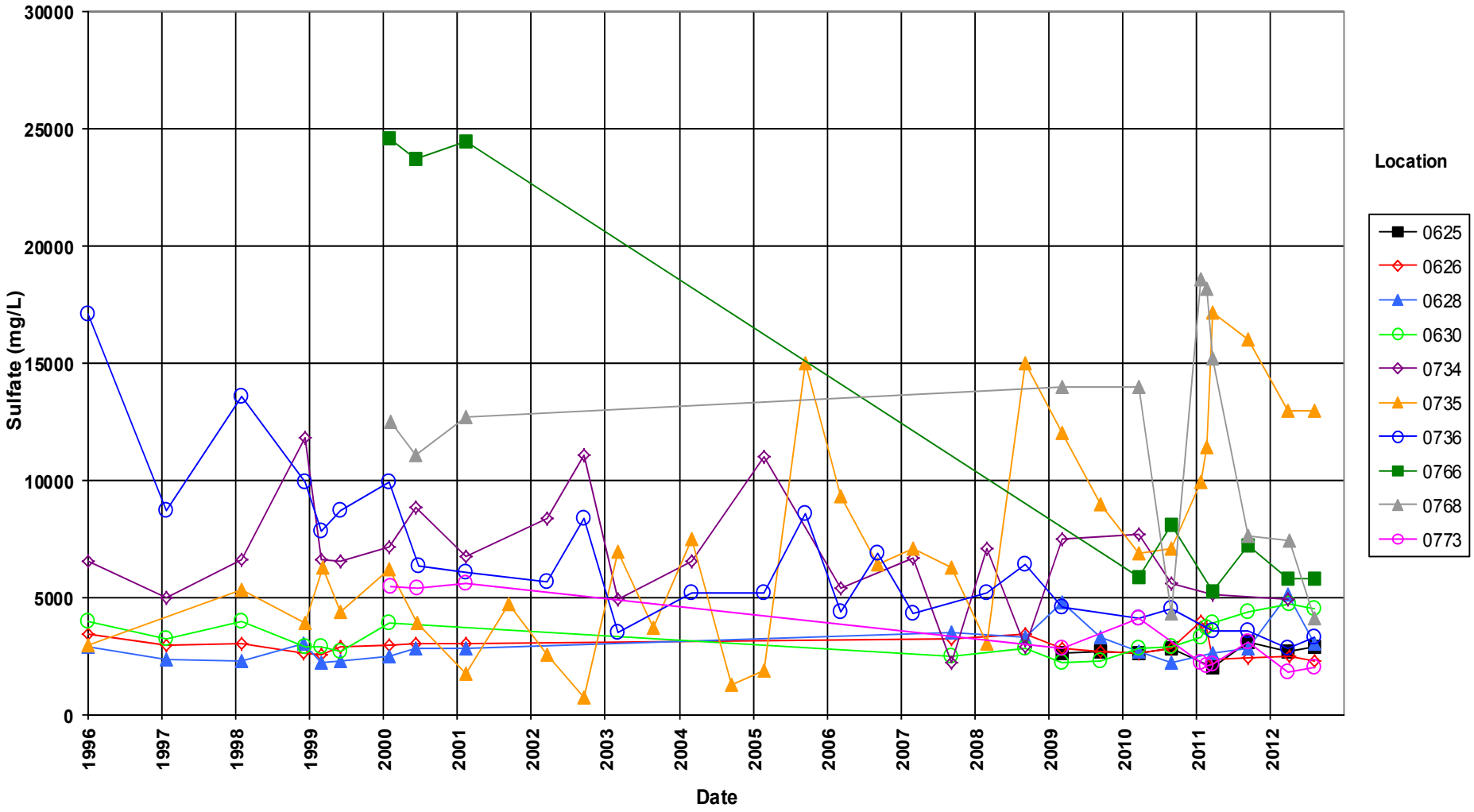

Shiprock Disposal Site (Floodplain)
Strontium Concentration
Strontium (mg/L)
Date
Location
1111
1112
1113
1114
1115
1117
1118
1128
1132
1134
0
2
4
6
8
10
12
14
16
18
20
2006
2007
2008
2009
2010
2011
2012
2013


Shiprock Disposal Site (Floodplain)
Strontium Concentration
Strontium (mg/L)
10
9
8
7
6
5
4
3
2
1
0
2009
2010
2011
2012
2013
Date
Location
1135
1136
1137
1138
1139
1140
1141
1142
1143

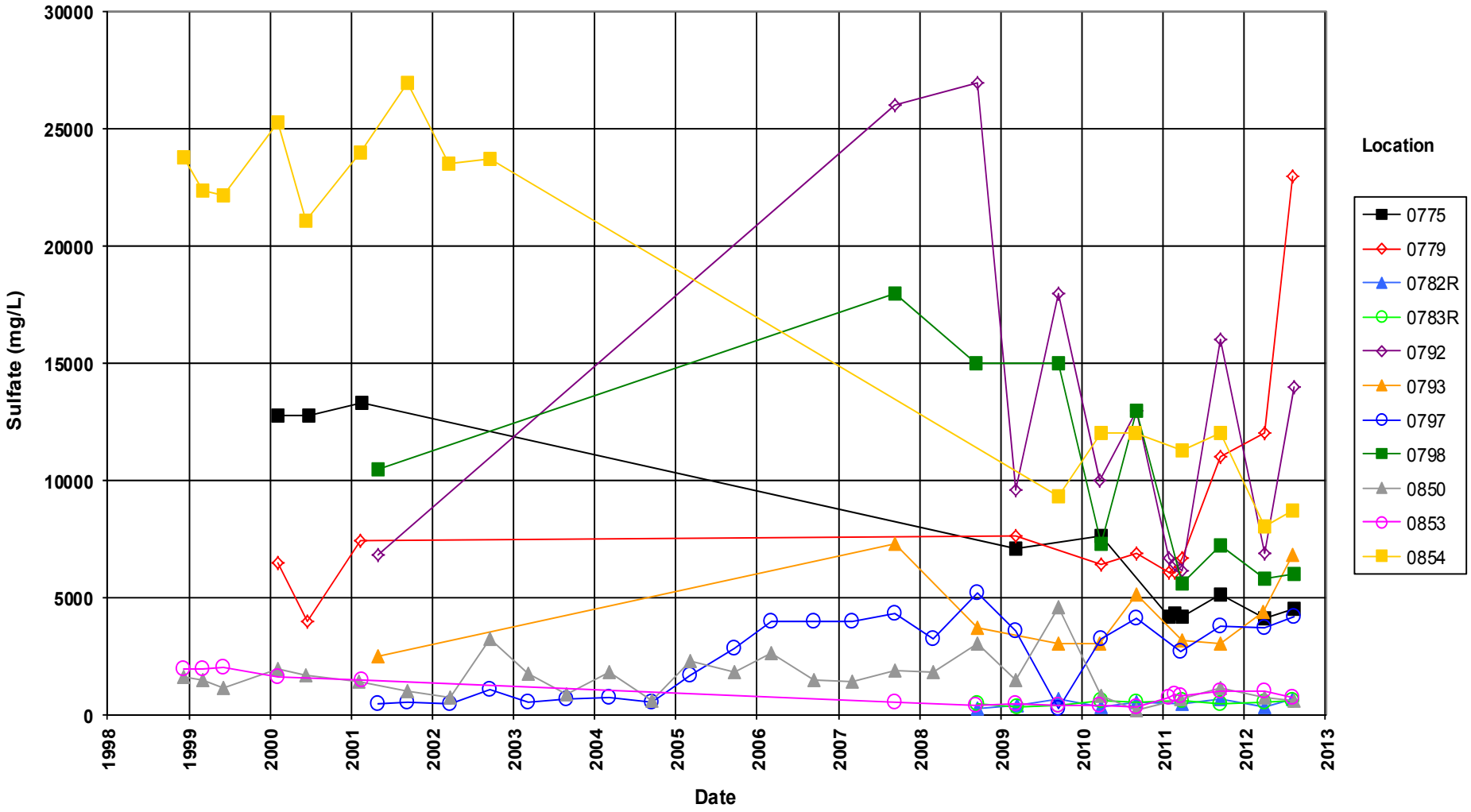
Shiprock Disposal Site (Floodplain)
Sulfate Concentration

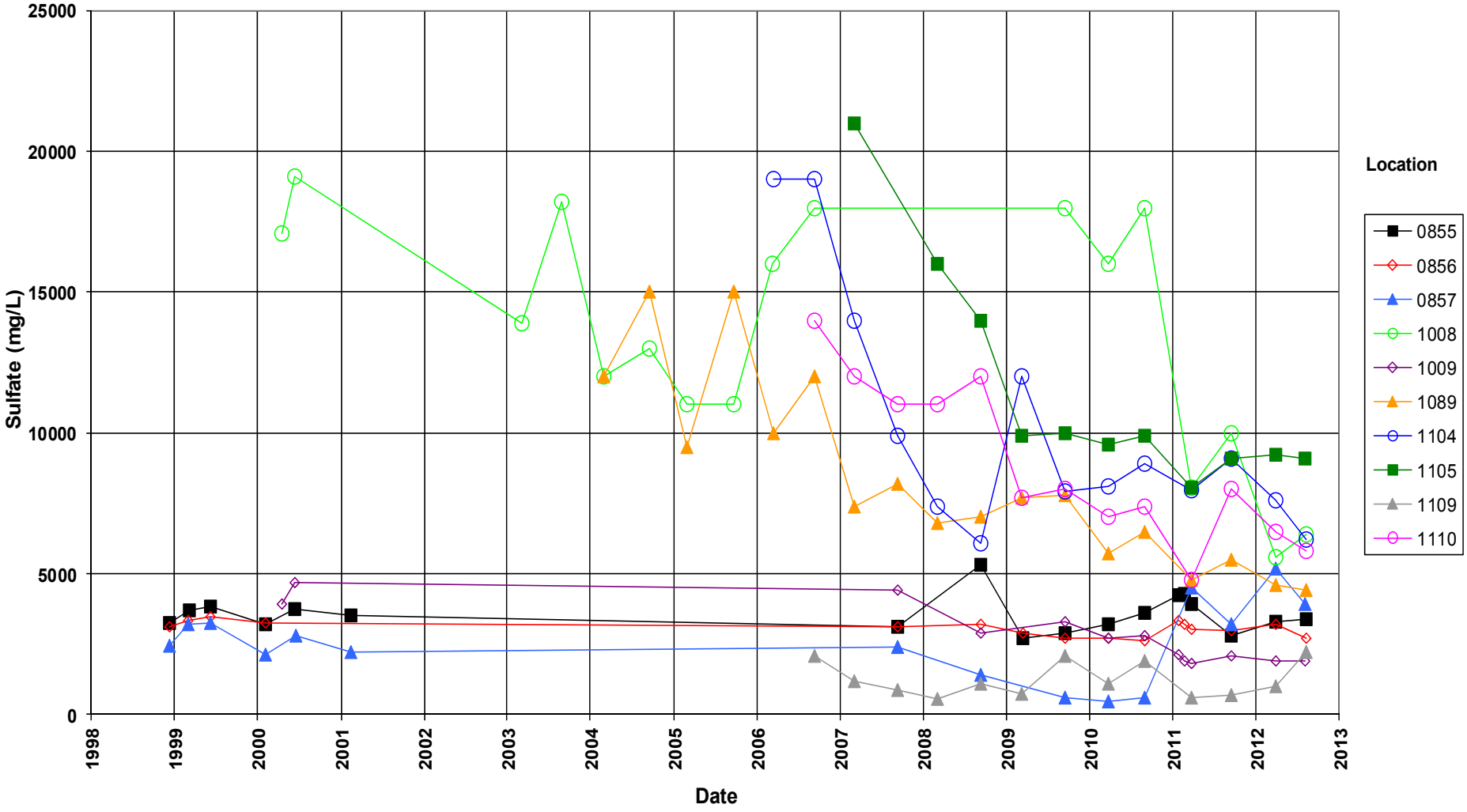


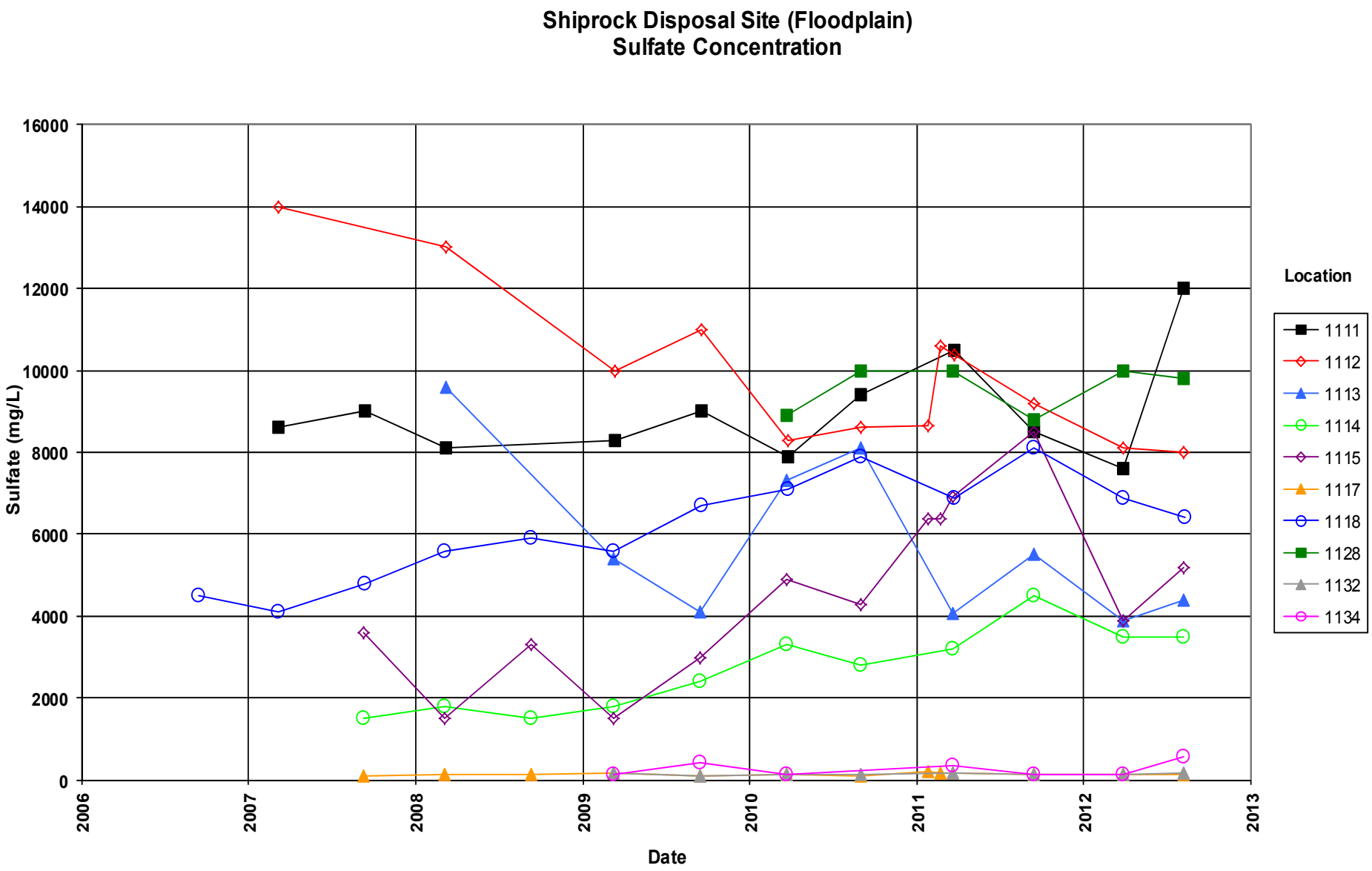
Shiprock Disposal Site (Floodplain)
Sulfate Concentration

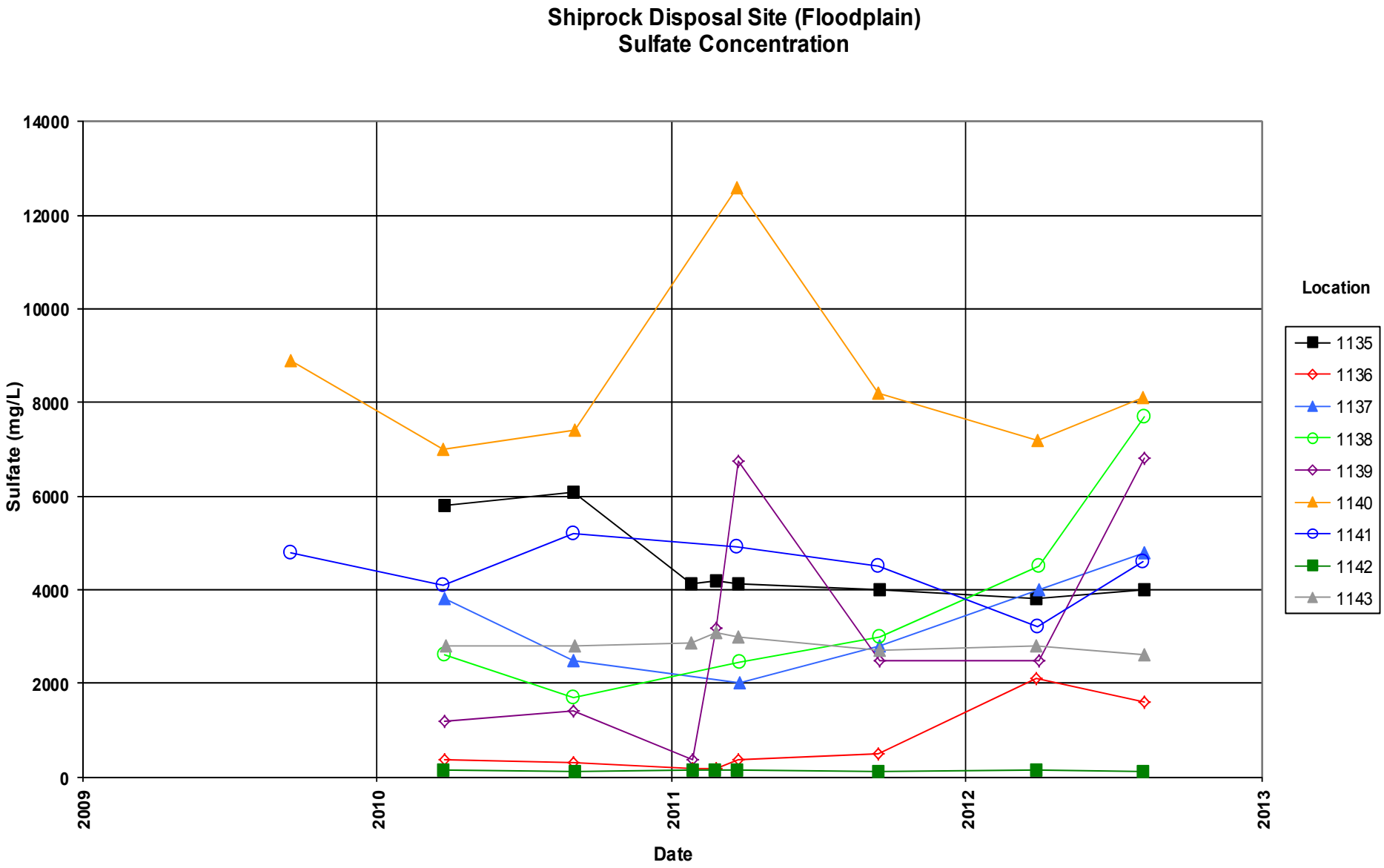


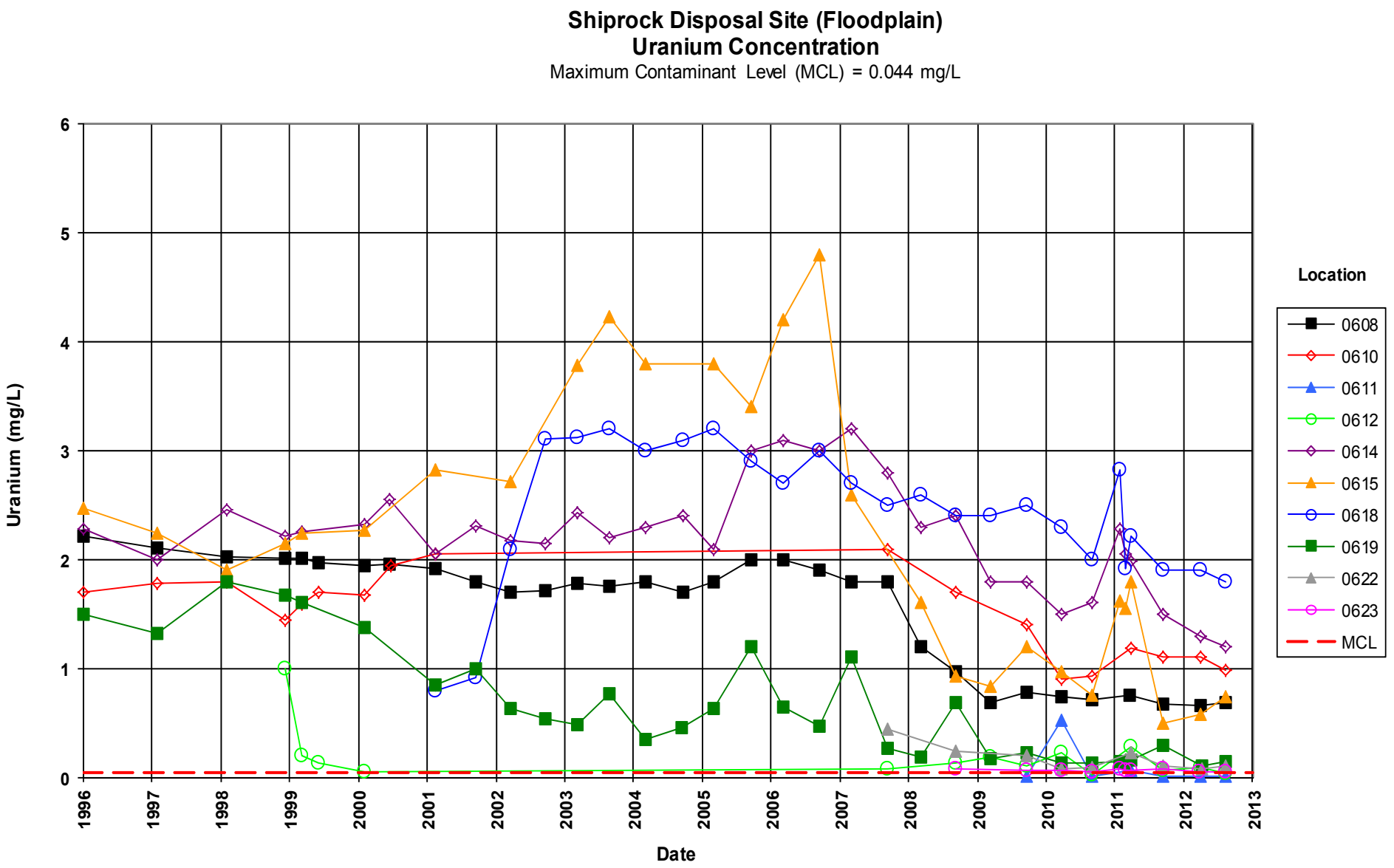
Shiprock Disposal Site (Floodplain)
Sulfate Concentration

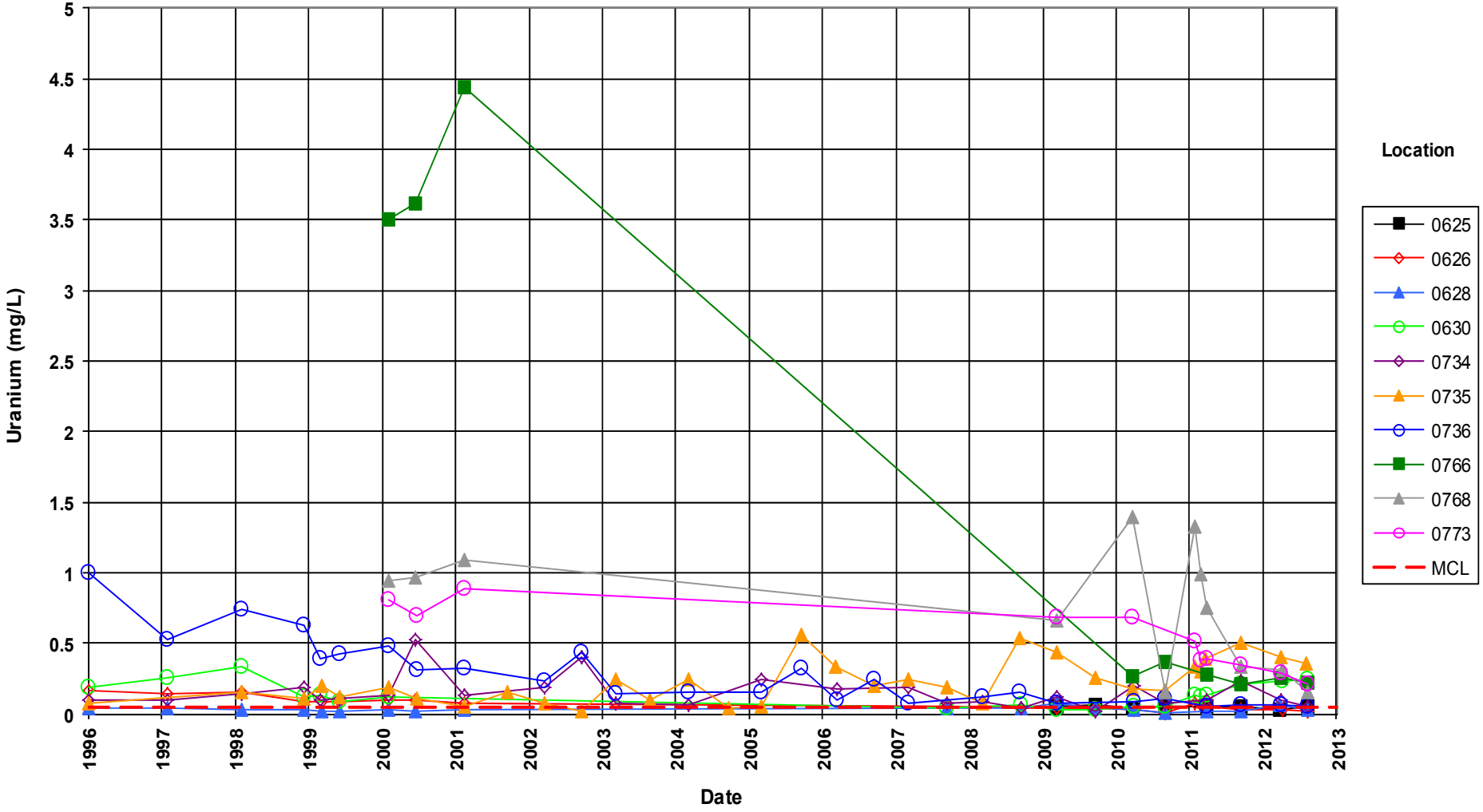



Shiprock Disposal Site (Floodplain)
Sulfate Concentration
Sulfate (mg/L)
25000
20000
15000
10000
5000
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0855
0856
0857
1008
1009
1089
1104
1105
1109
1110


Shiprock Disposal Site (Floodplain)
Sulfate Concentration
Sulfate (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1111
1112
1113
1114
1115
1117
1118
1128
1132
1134

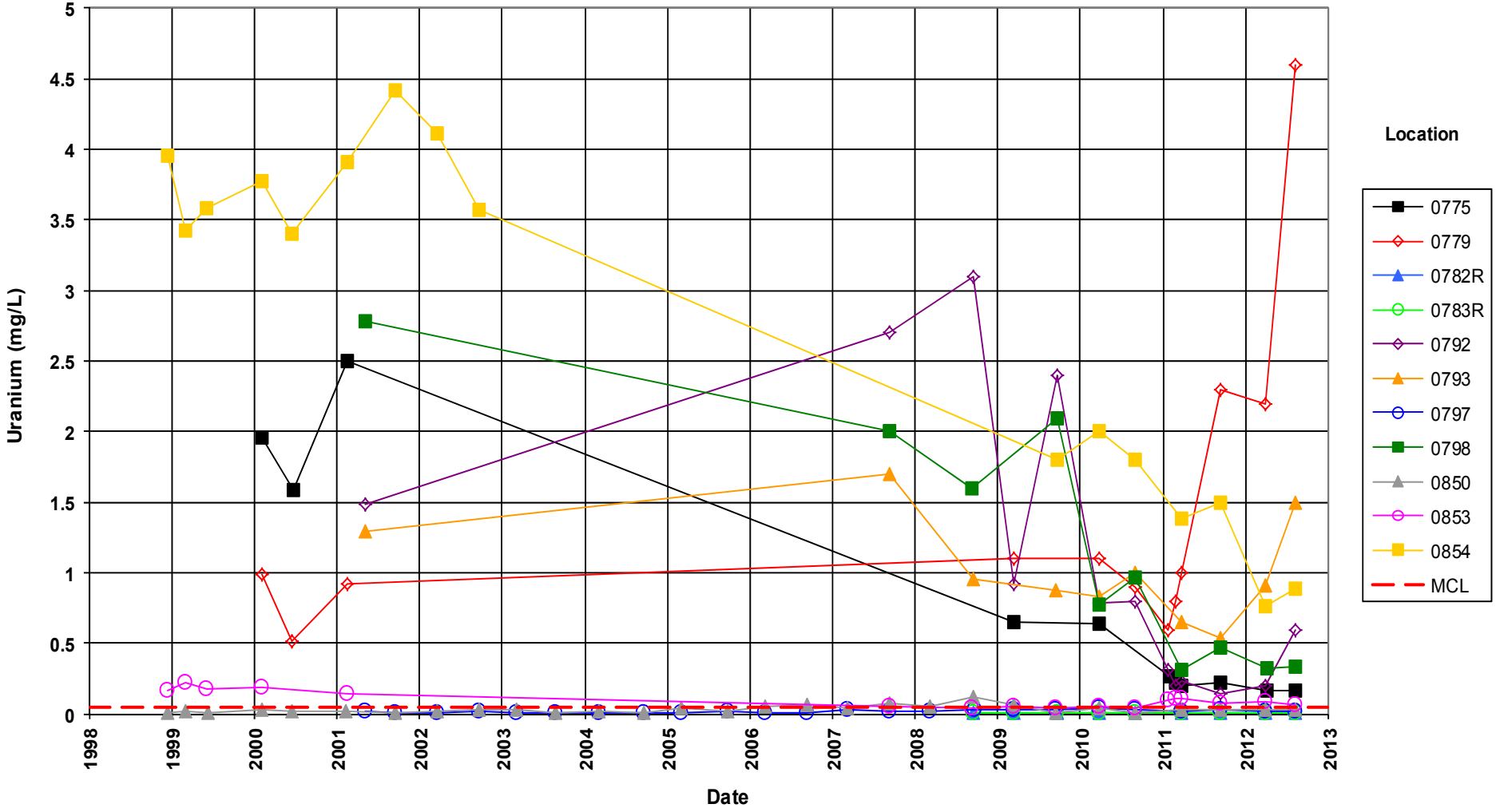

Shiprock Disposal Site (Floodplain)
Sulfate Concentration
Sulfate (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
2009
2010
2011
2012
2013
Date
Location
1135
1136
1137
1138
1139
1140
1141
1142
1143

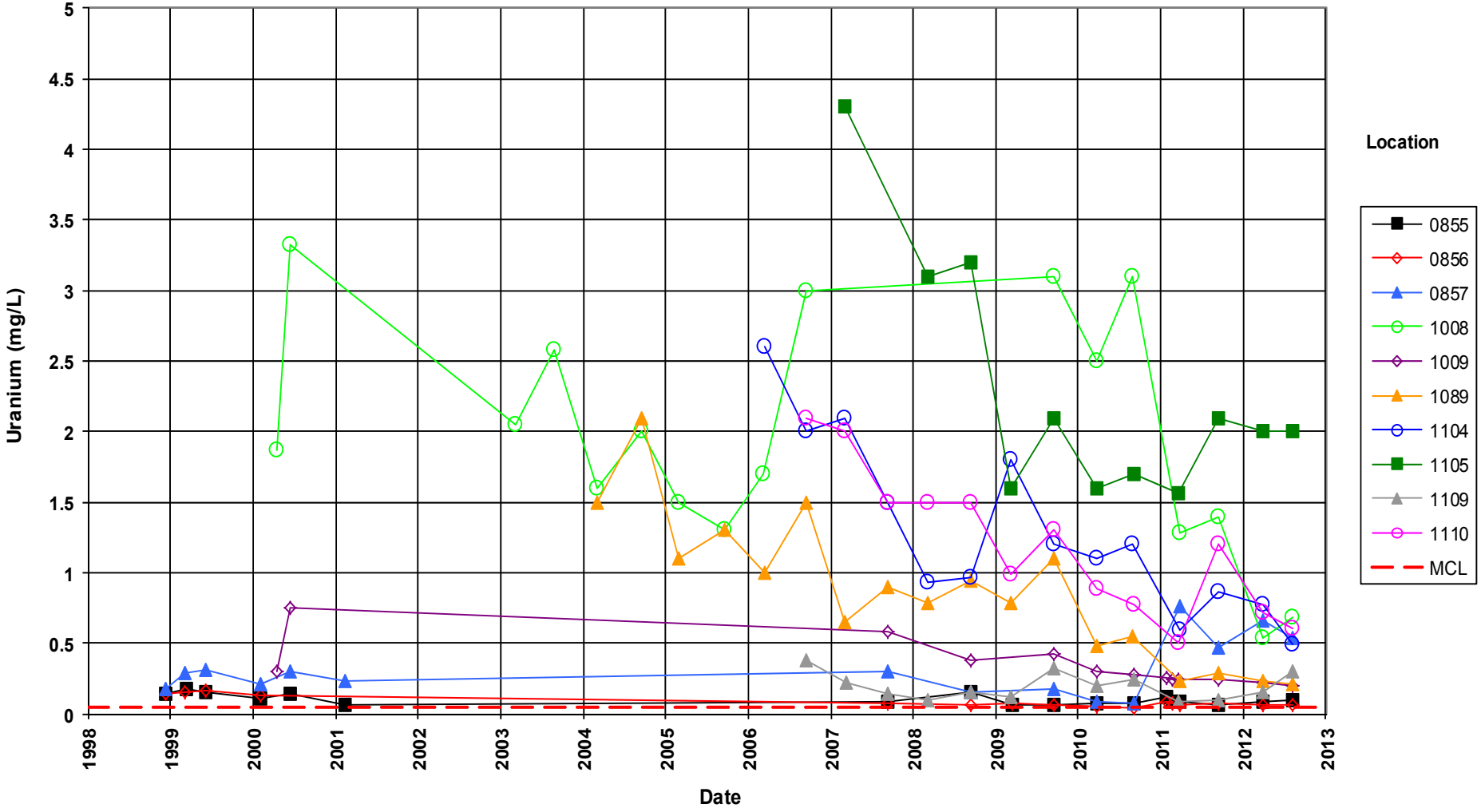

Shiprock Disposal Site (Floodplain)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L
Uranium (mg/L)
0
1
2
3
4
5
6
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0608
0610
0611
0612
0614
0615
0618
0619
0622
0623
MCL


Shiprock Disposal Site (Floodplain)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L
Uranium (mg/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
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
MCL

Shiprock Disposal Site (Floodplain)
Uranium Concentration

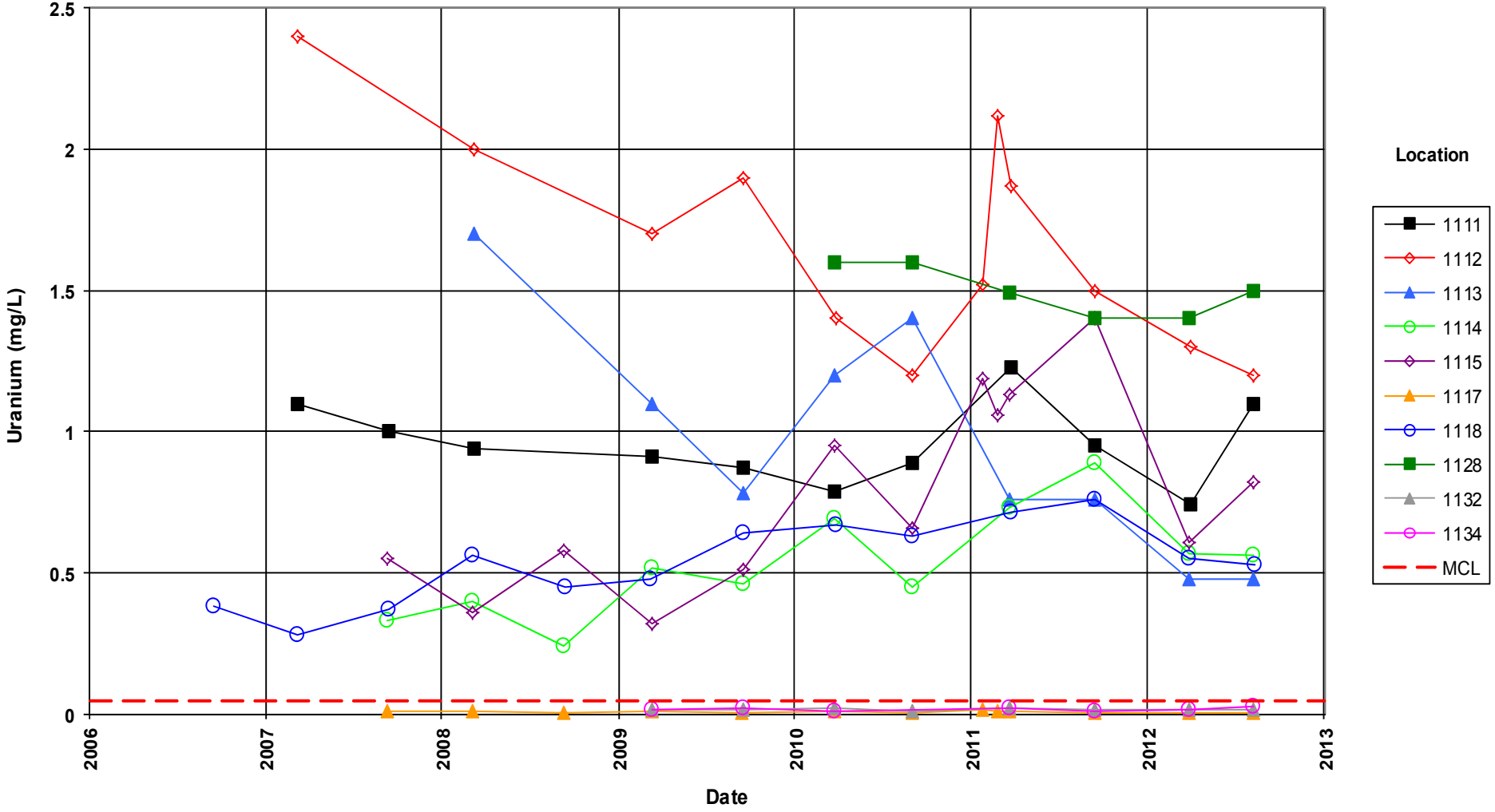
Maximum Contaminant Level (MCL) = 0.044 mg/L




Shiprock Disposal Site (Floodplain)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L
Uranium (mg/L)
Date
Location
0855
0856
0857
1008
1009
1089
1104
1105
1109
1110
MCL

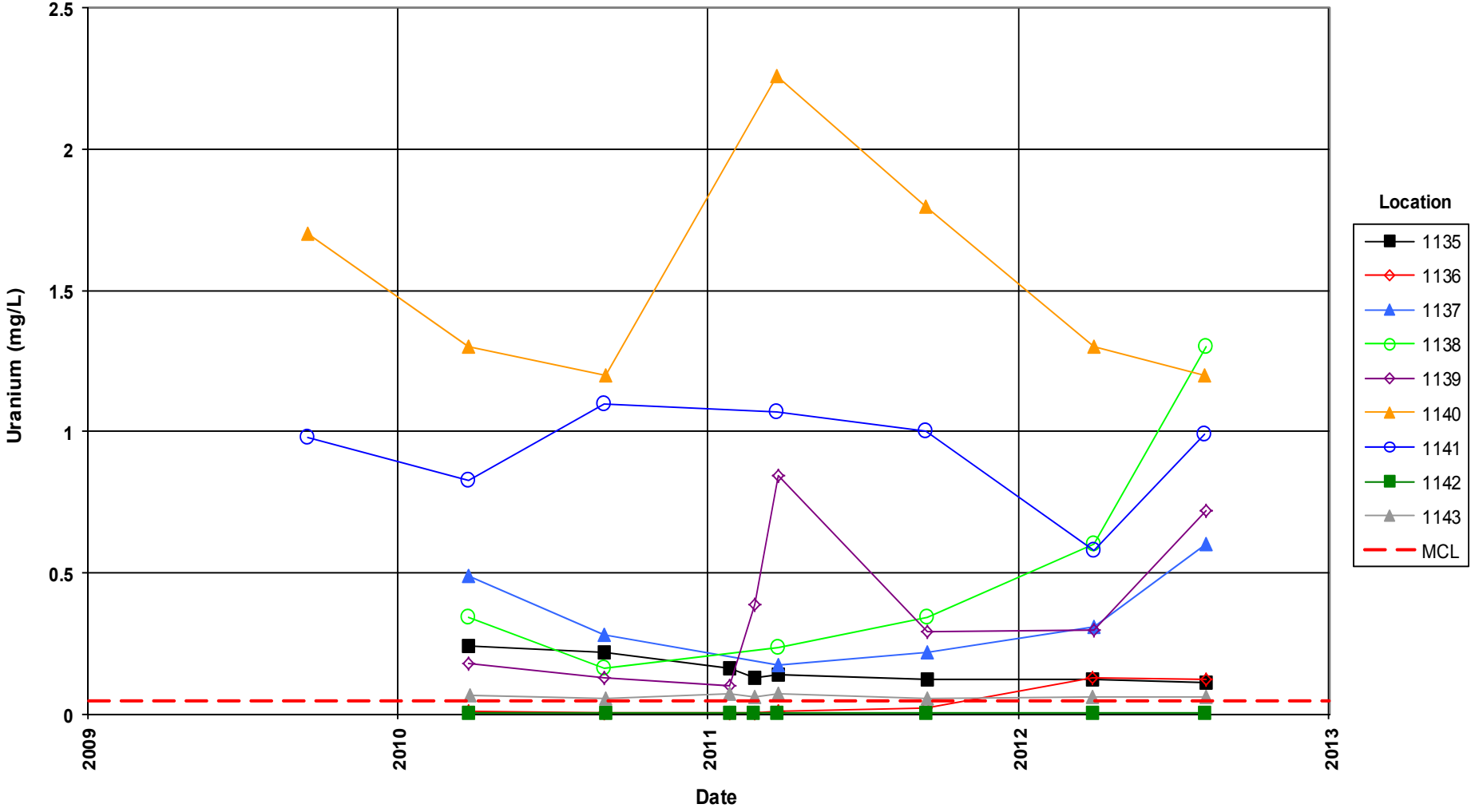
Shiprock Disposal Site (Floodplain)
Uranium Concentration

Maximum Contaminant Level (MCL) = 0.044 mg/L



Shiprock Disposal Site (Floodplain)
Uranium Concentration

Maximum Contaminant Level (MCL) = 0.044 mg/L



Time-Concentration Graphs
Terrace Groundwater Locations

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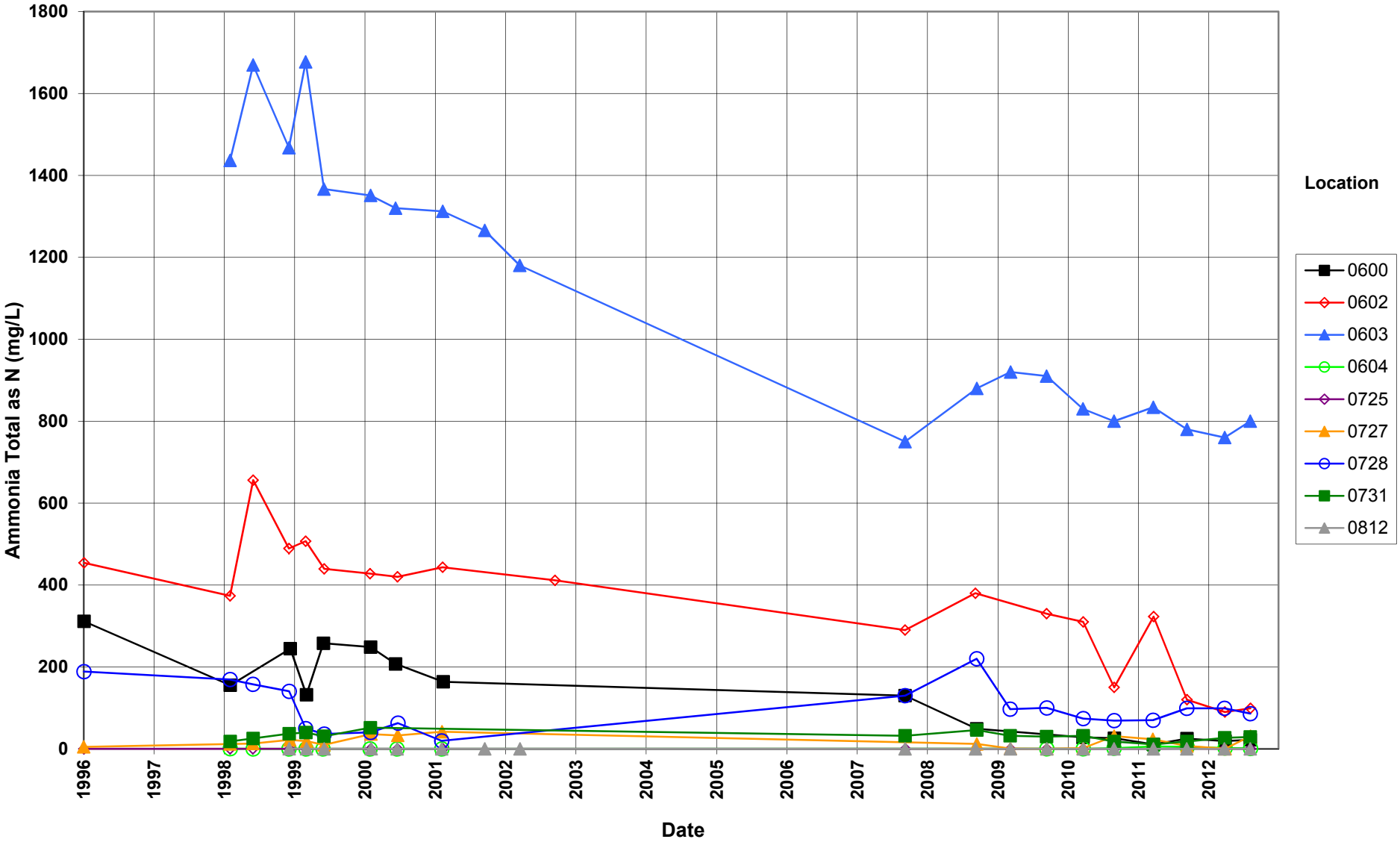
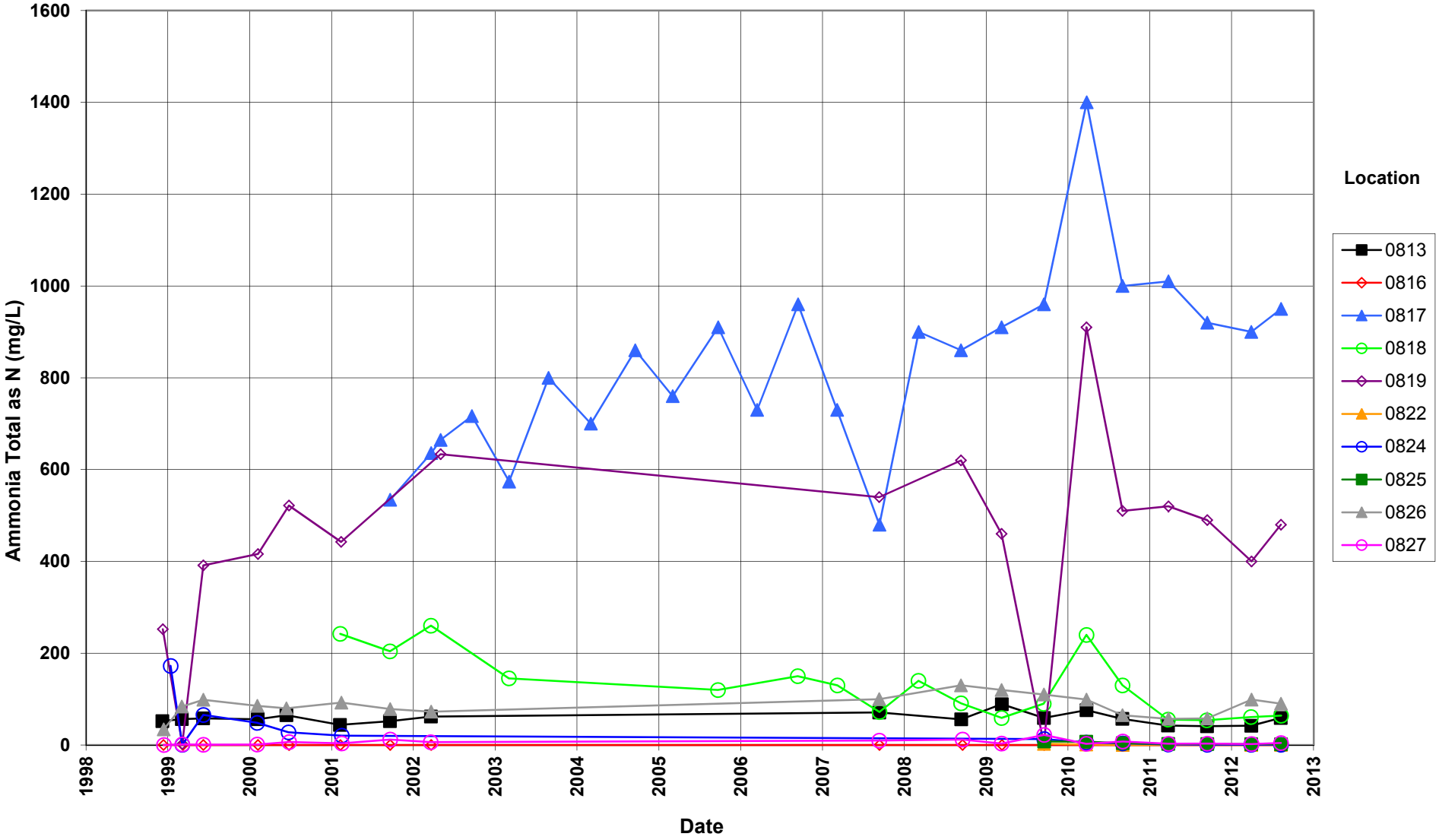
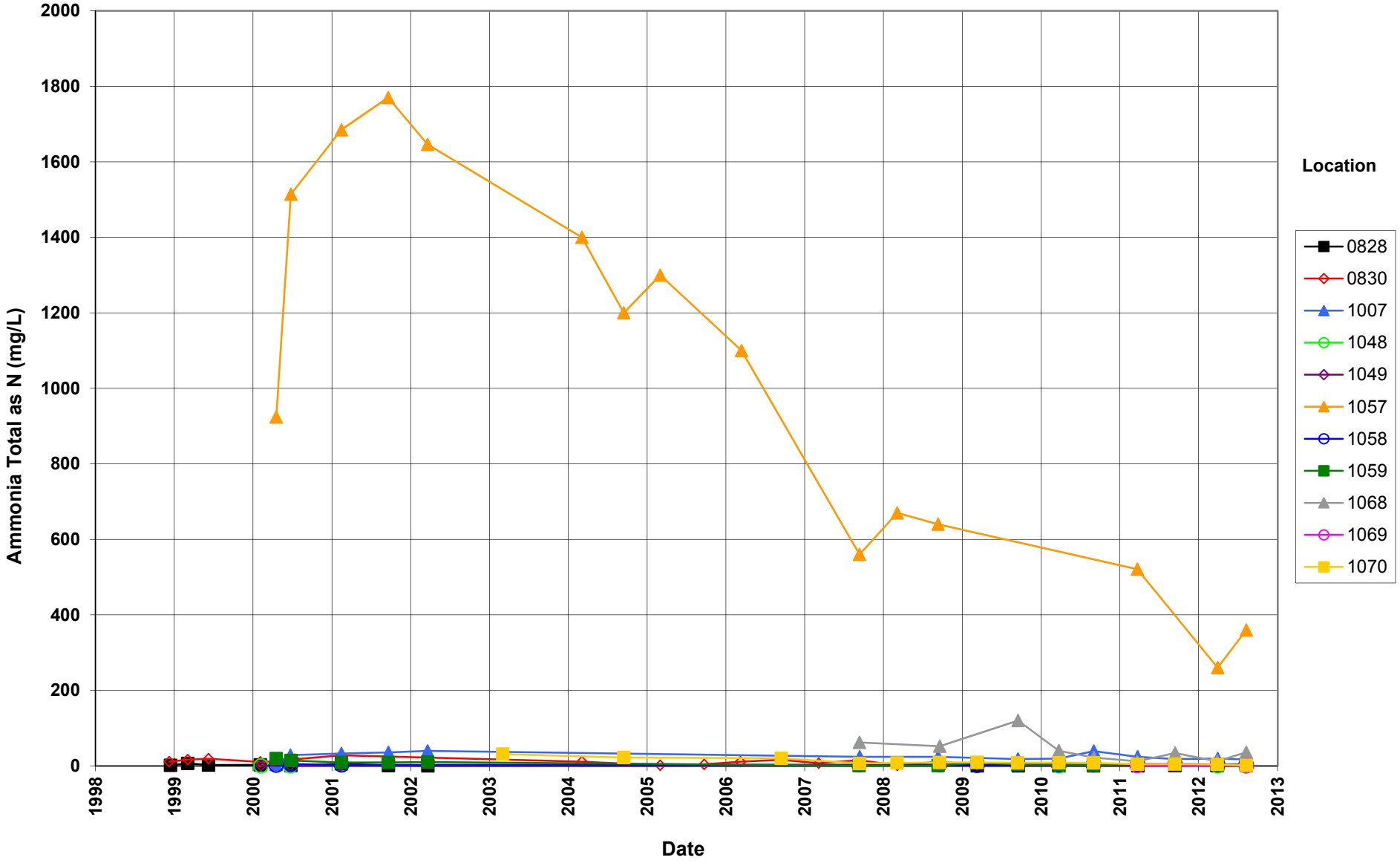
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration



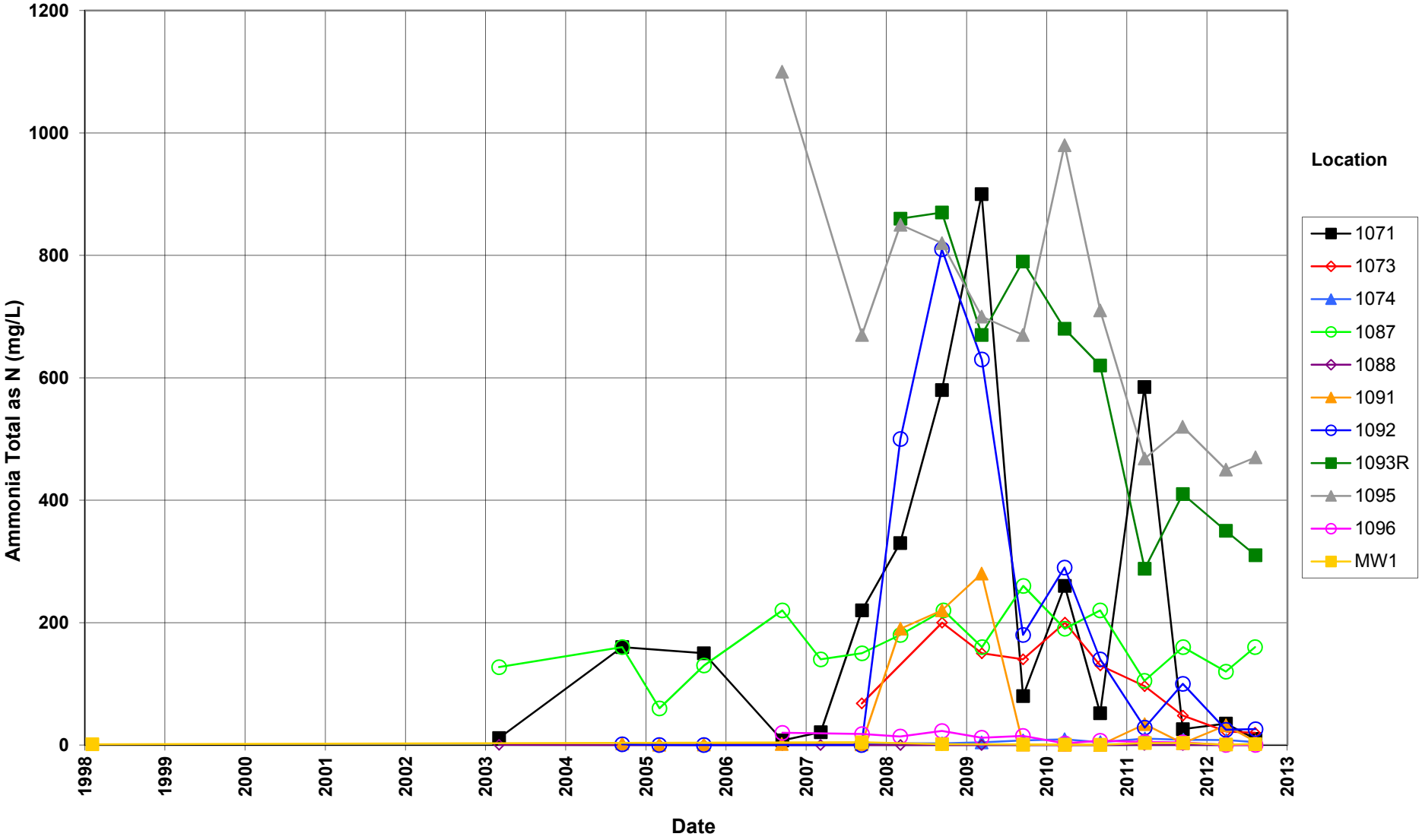
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration



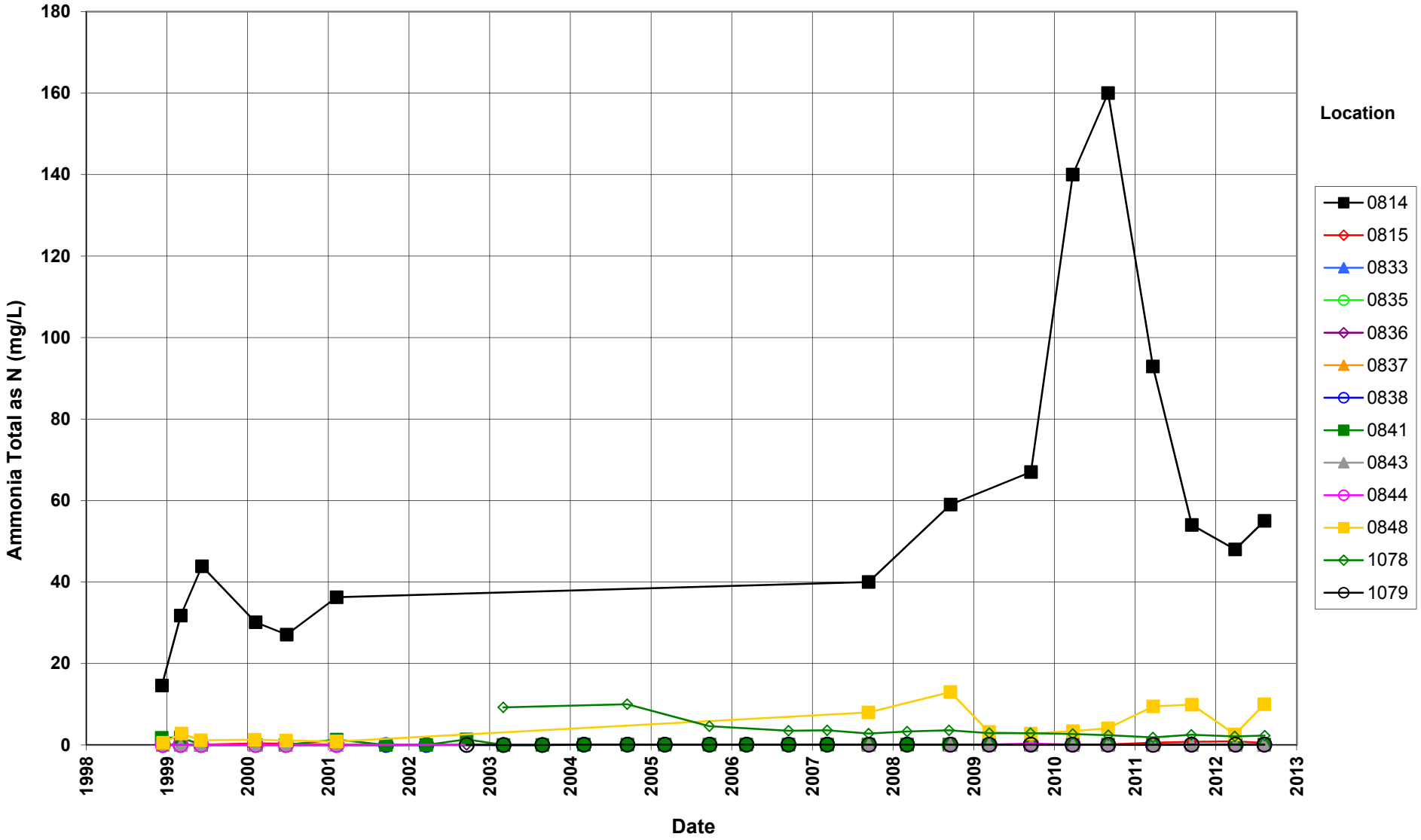
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration



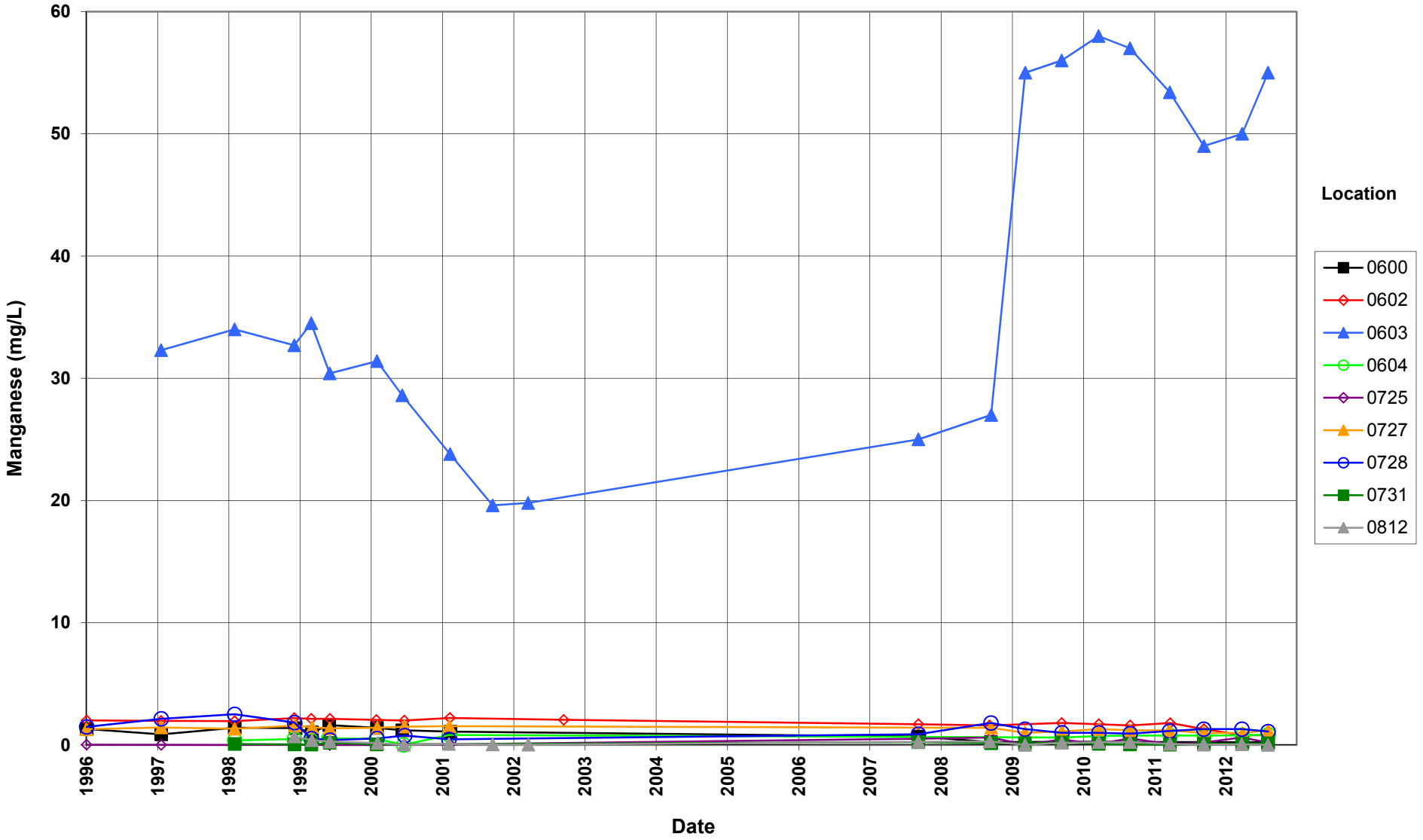
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration



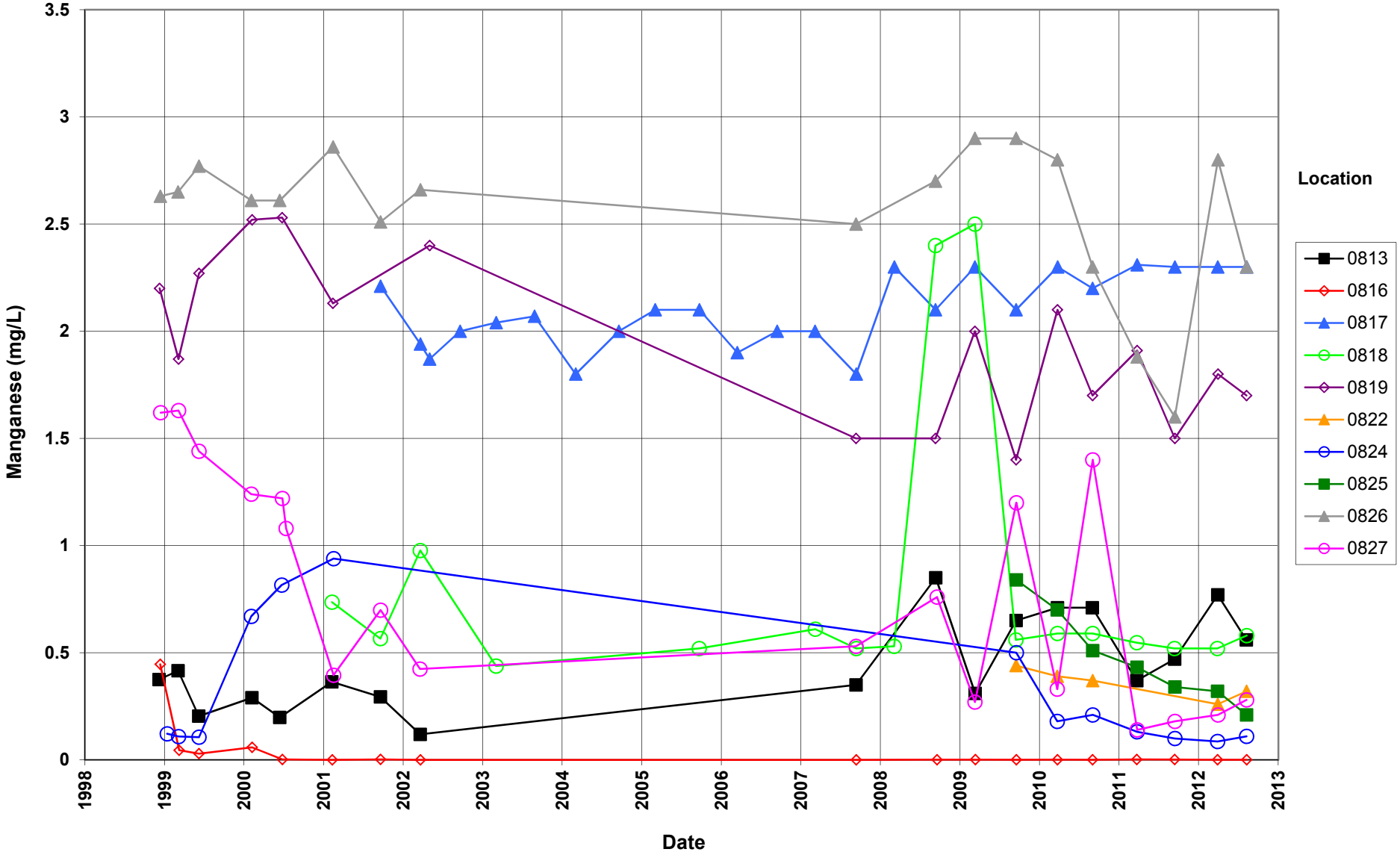
Shiprock Disposal Site (Terrace)
Ammonia Total as N Concentration

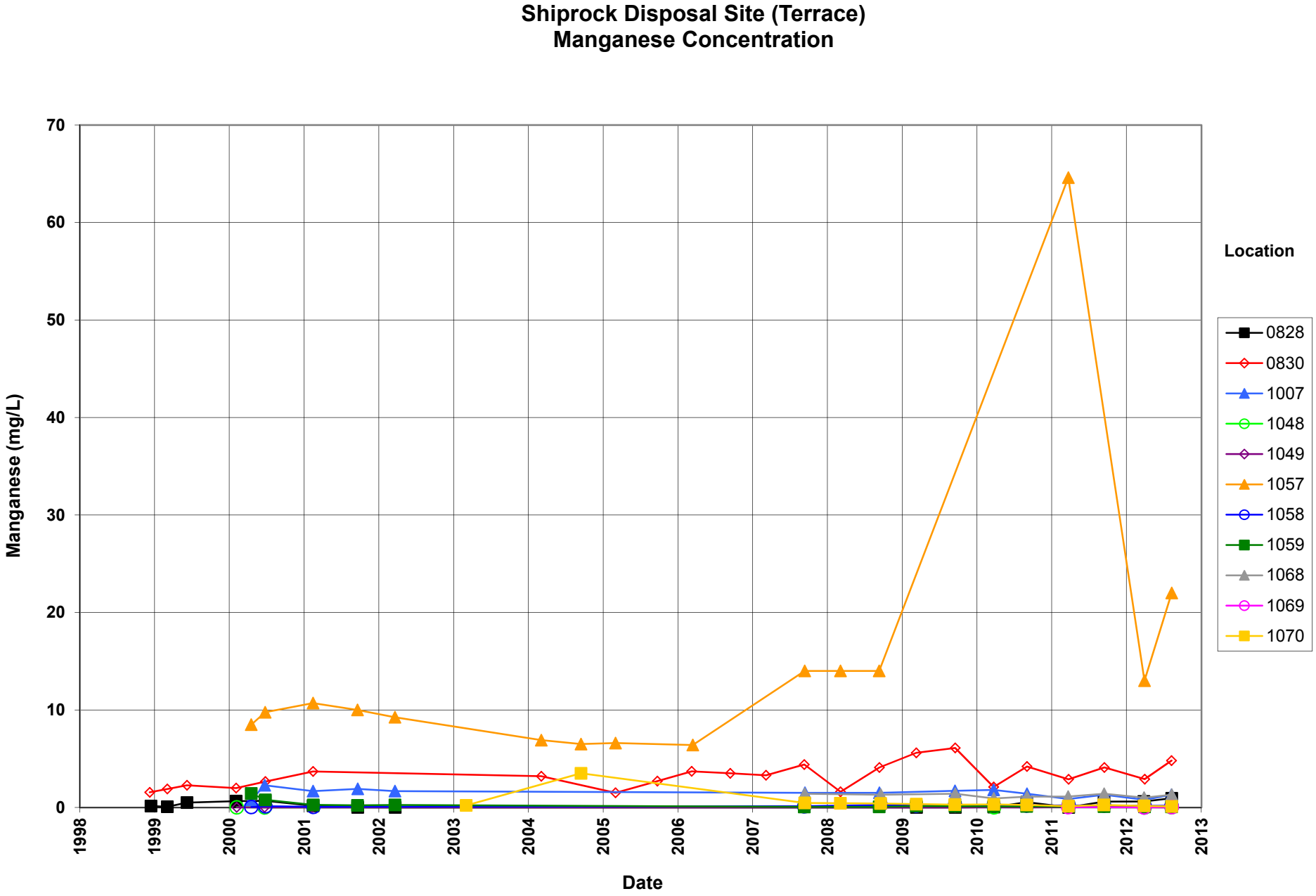


Shiprock Disposal Site (Terrace)
Manganese Concentration

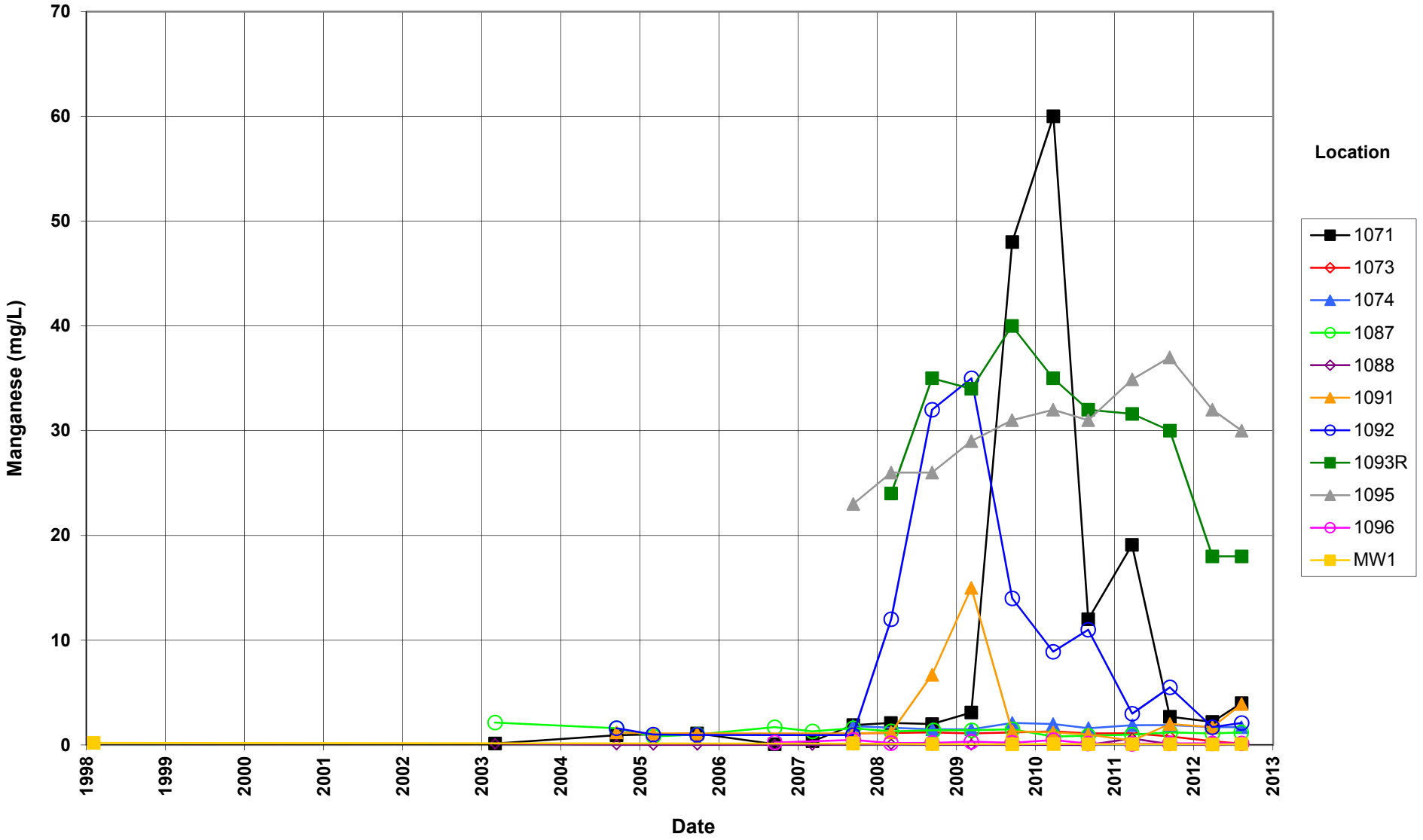


Shiprock Disposal Site (Terrace)
Manganese Concentration

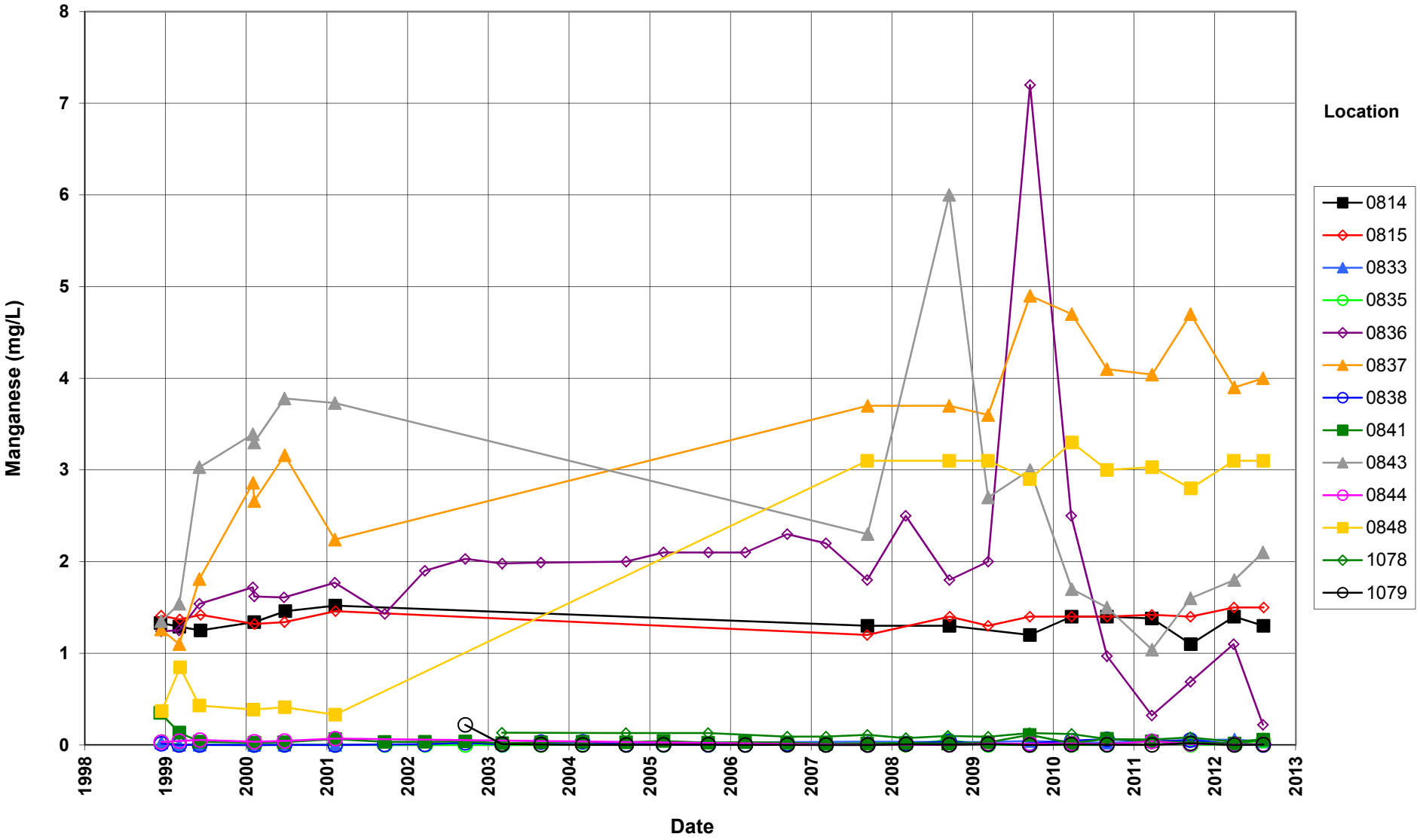



Shiprock Disposal Site (Terrace)
Manganese Concentration
Manganese (mg/L)
70
60
50
40
30
20
10
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0828
0830
1007
1048
1049
1057
1058
1059
1068
1069
1070

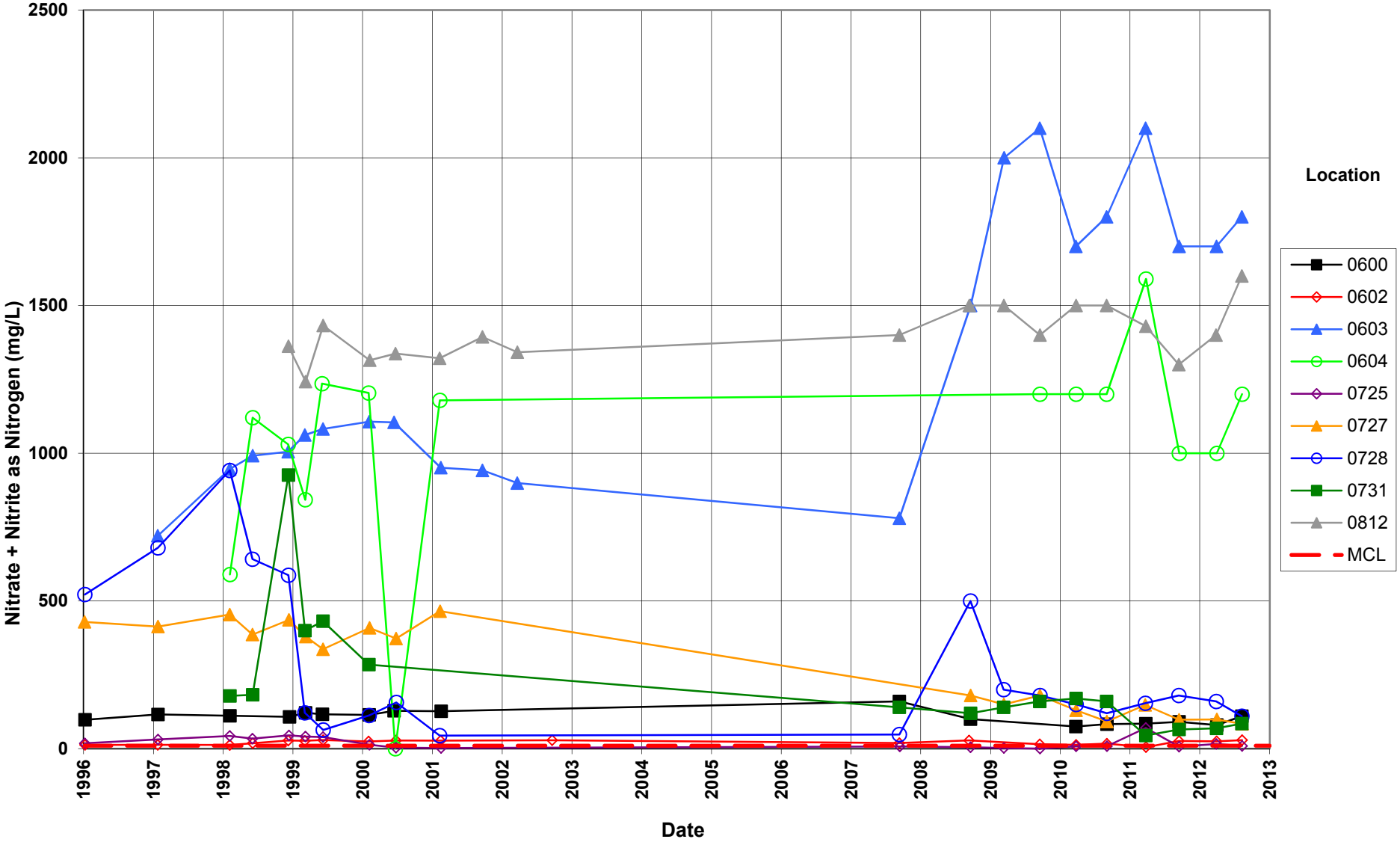
Shiprock Disposal Site (Terrace)
Manganese Concentration



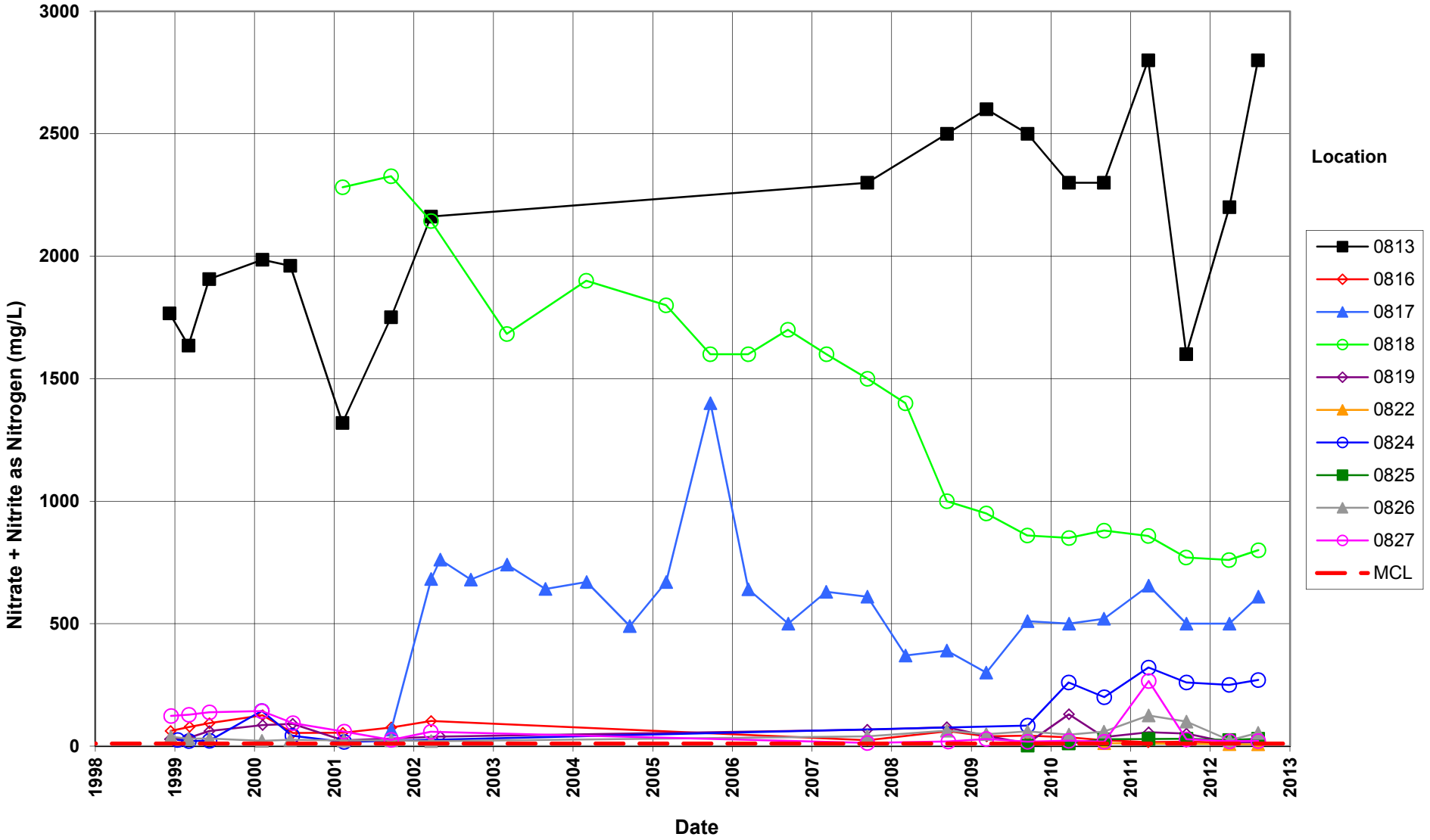
Shiprock Disposal Site (Terrace)
Manganese Concentration

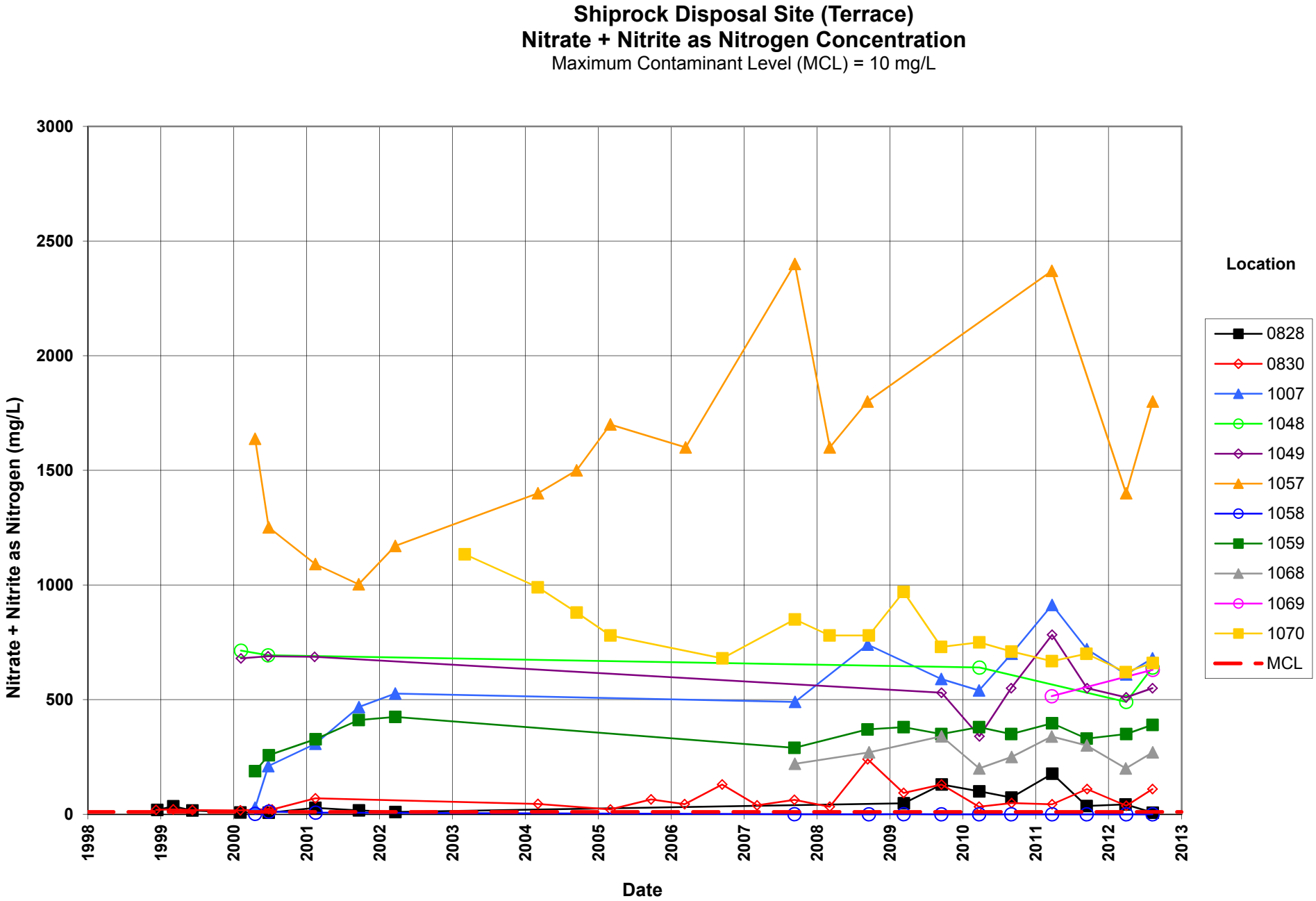


Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L

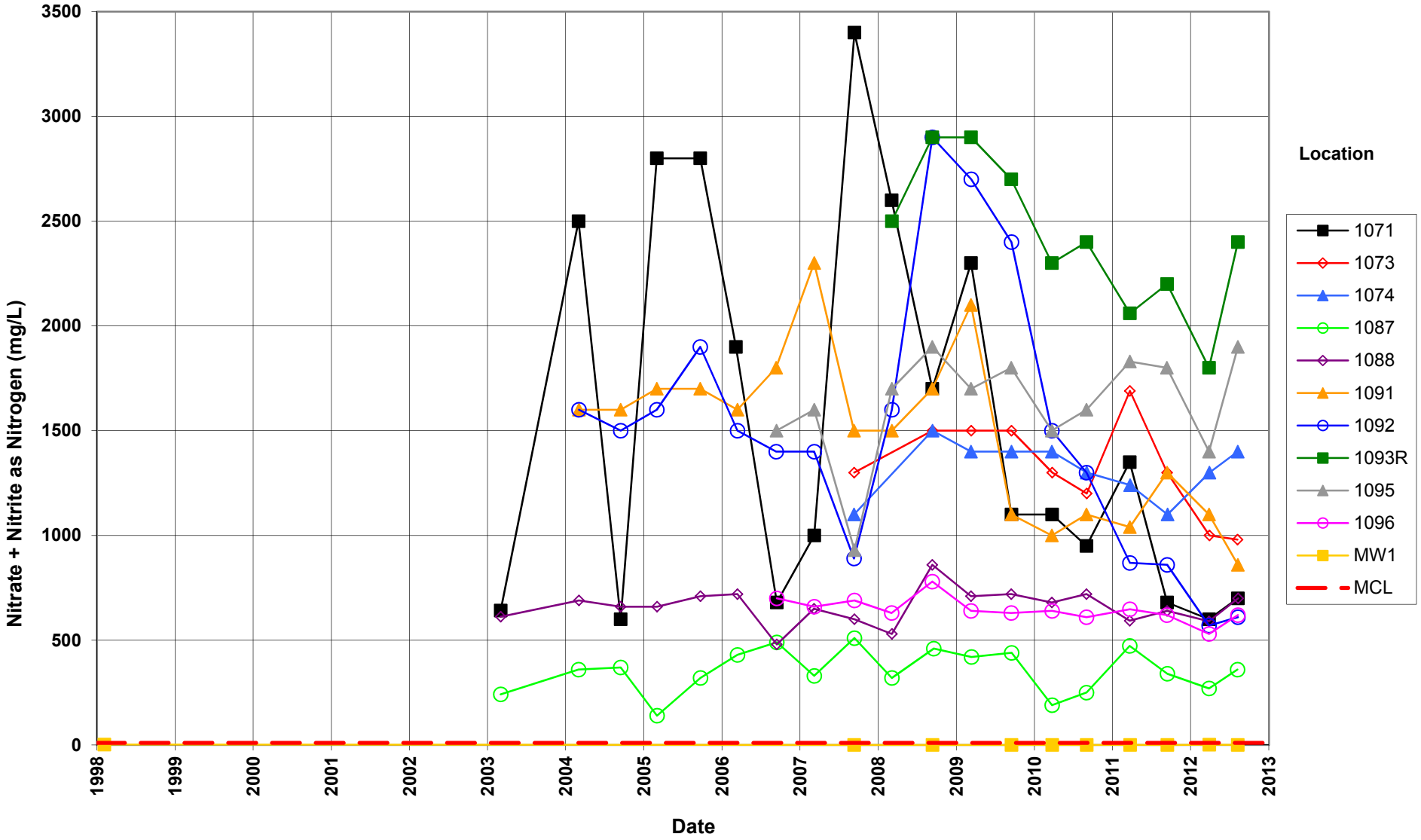


Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L

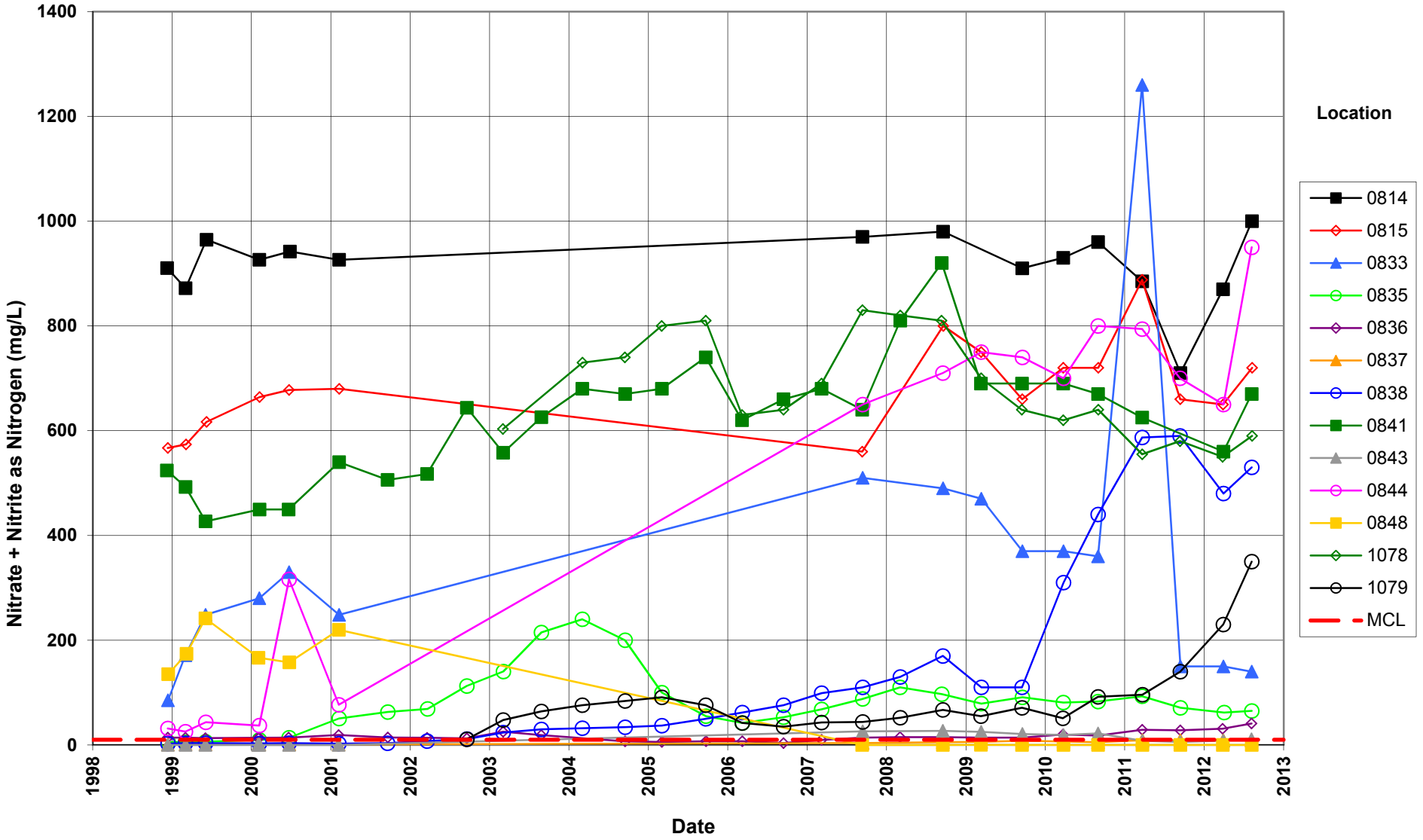



Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
3000
2500
2000
1500
1000
500
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0828
0830
1007
1048
1049
1057
1058
1059
1068
1069
1070
MCL

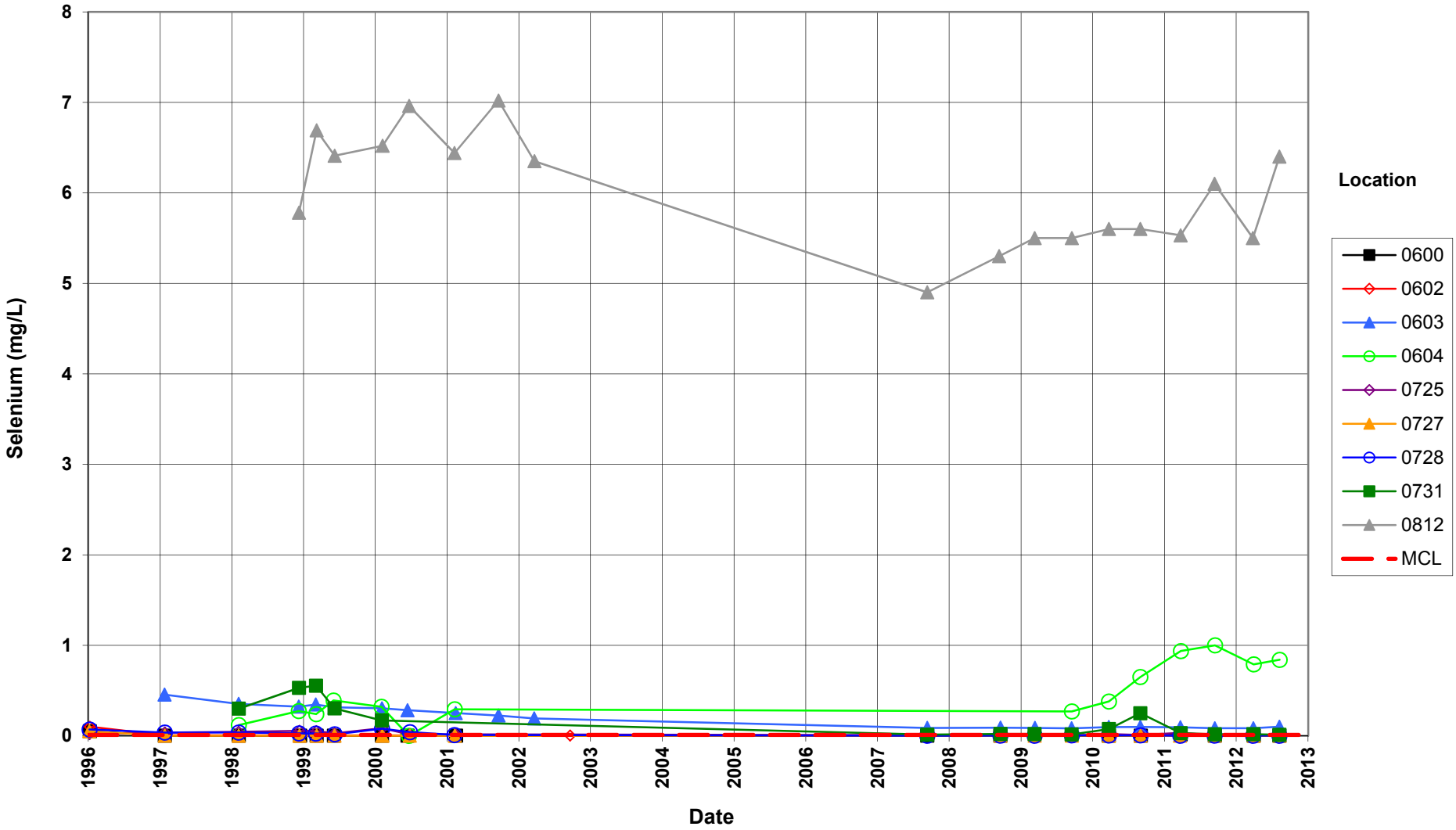
Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L



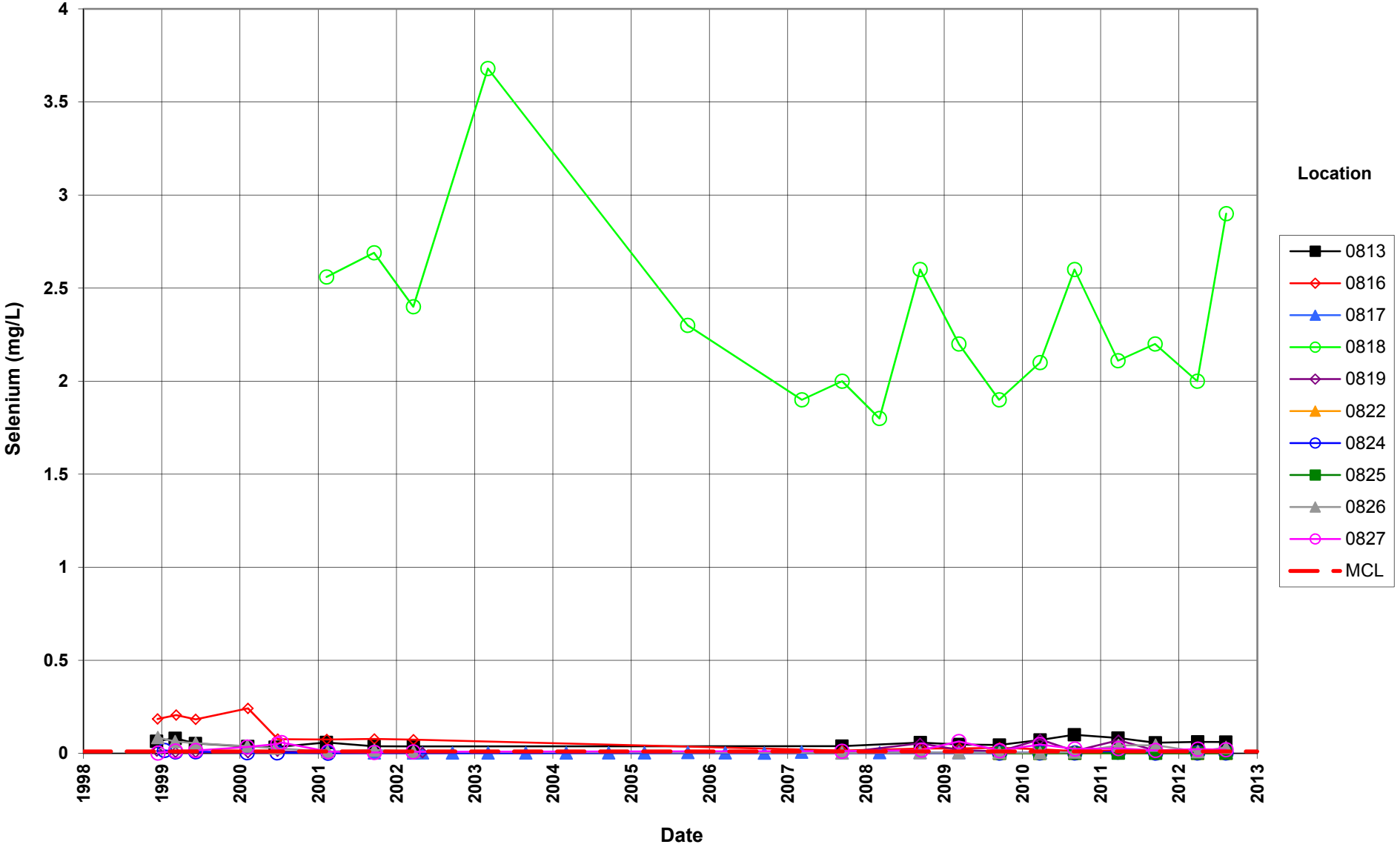
Shiprock Disposal Site (Terrace)
Nitrate + Nitrite as Nitrogen Concentration
Maximum Contaminant Level (MCL) = 10 mg/L



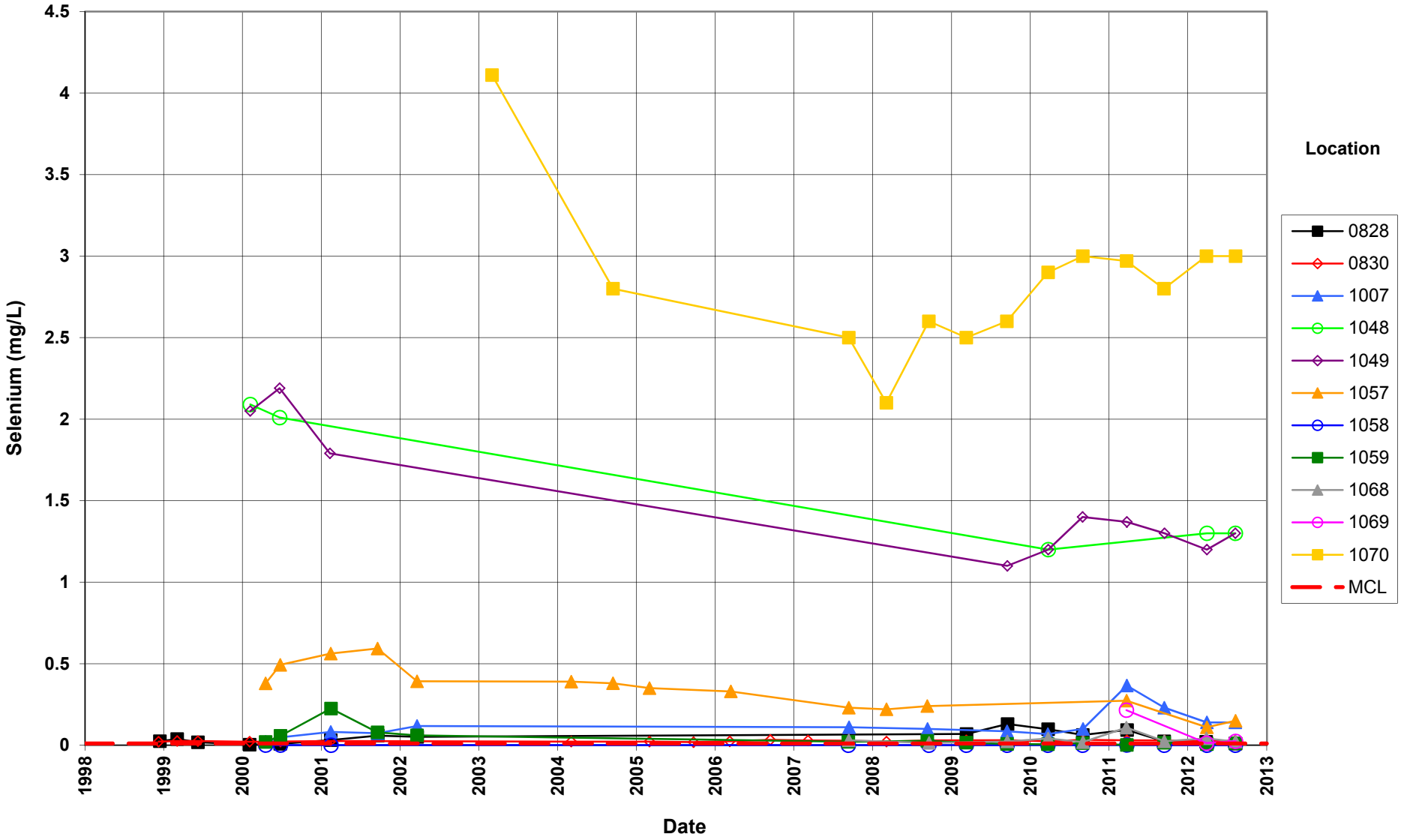
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



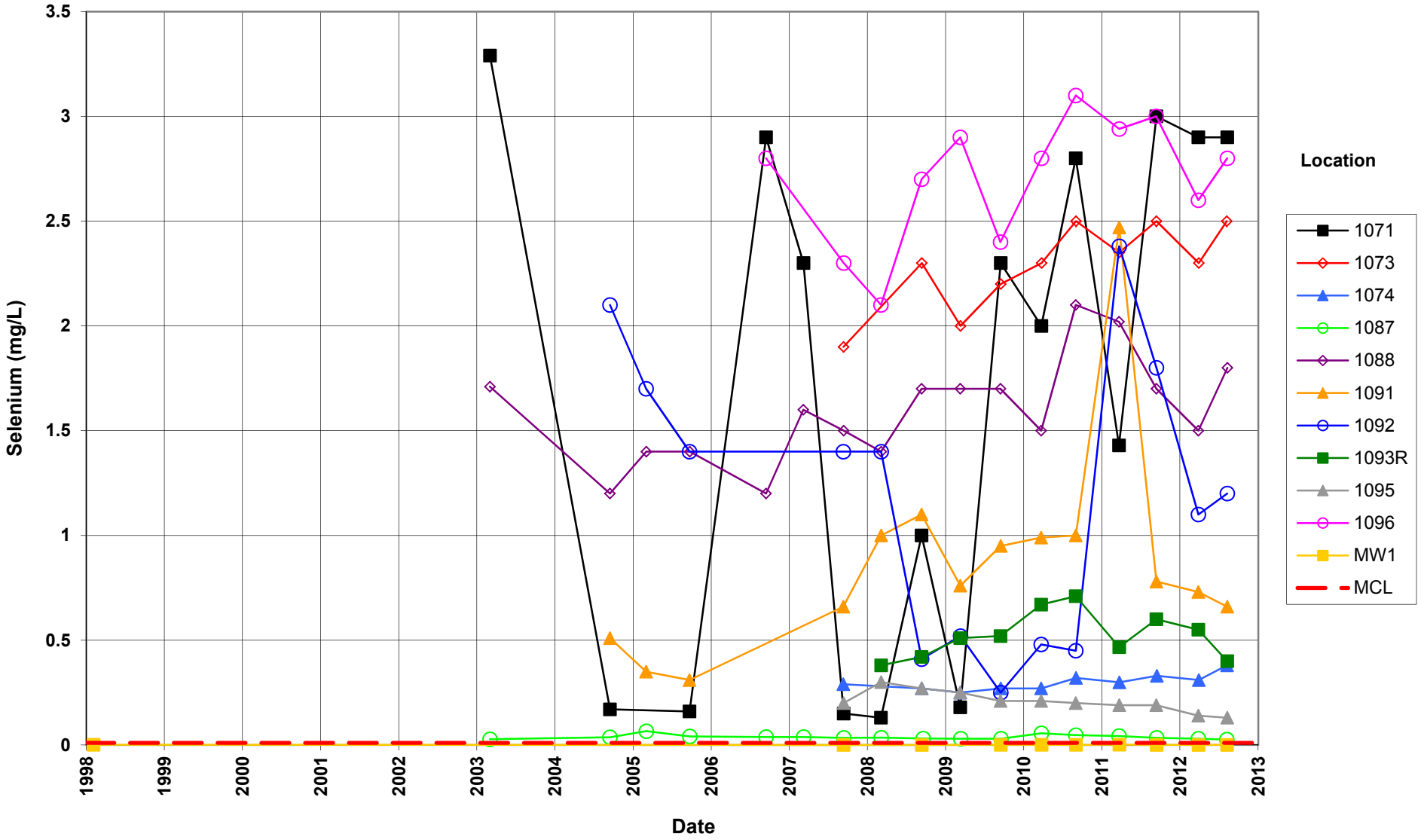
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



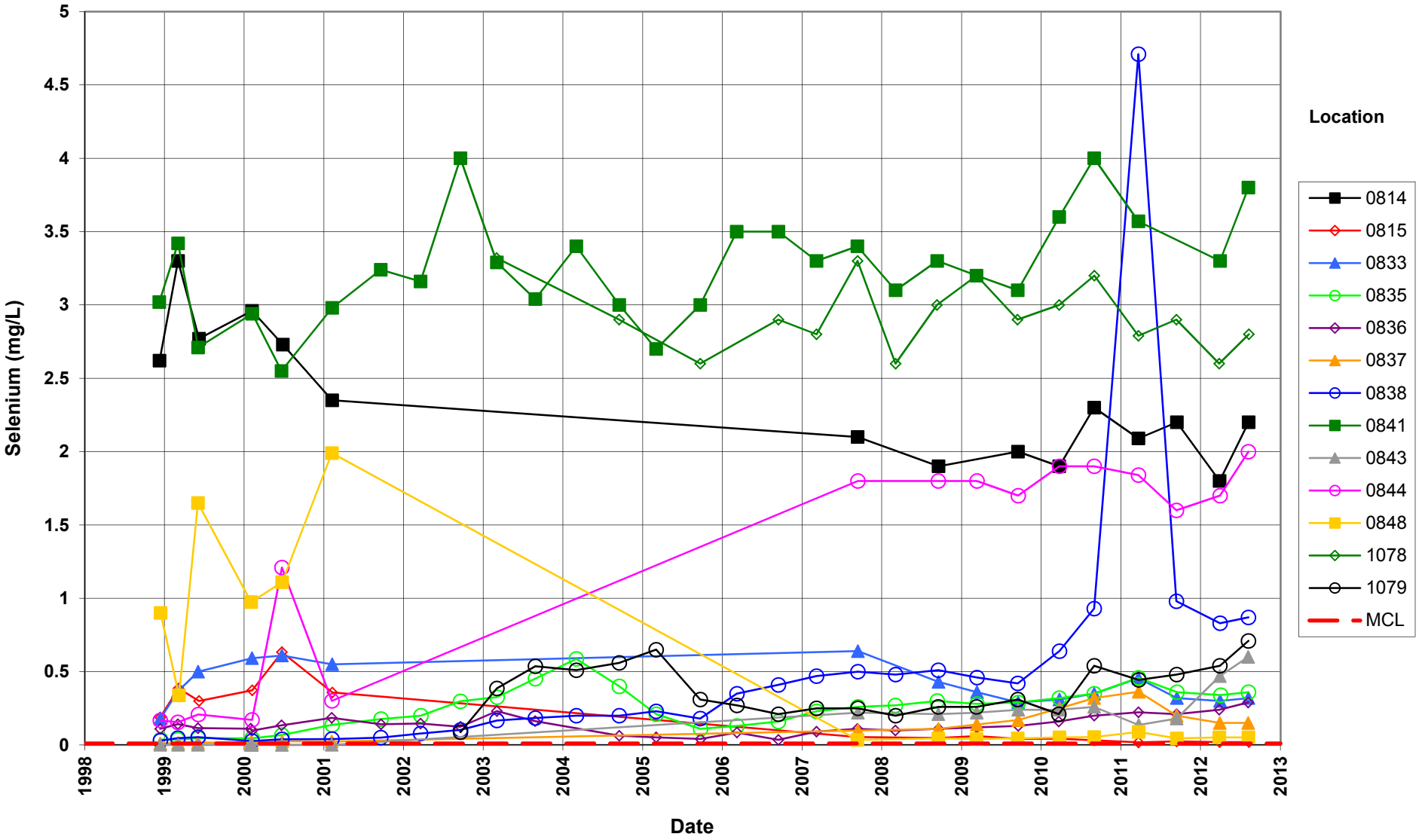
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



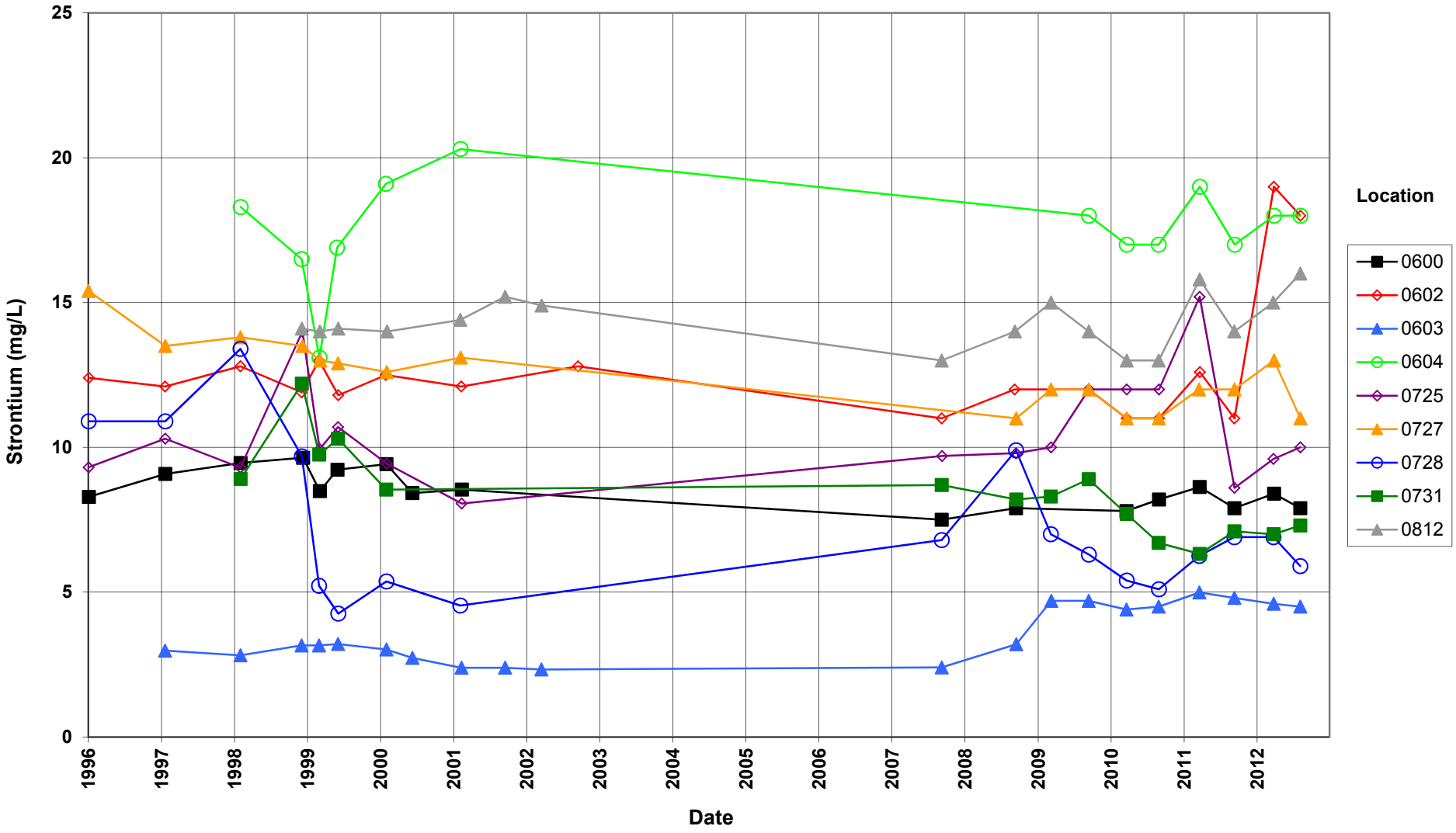
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L



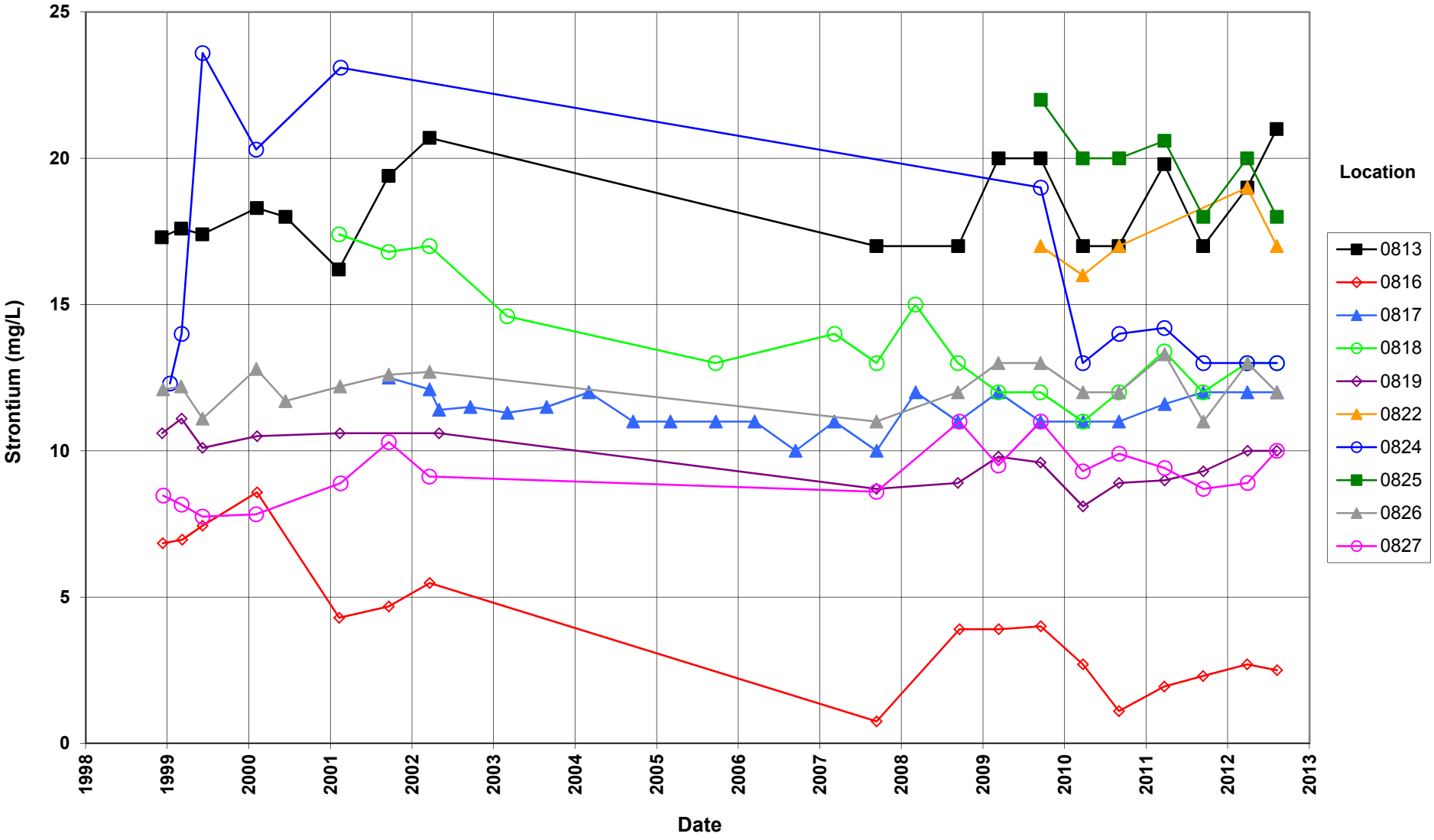
Shiprock Disposal Site (Terrace)
Selenium Concentration
Maximum Contaminant Level (MCL) = 0.01 mg/L

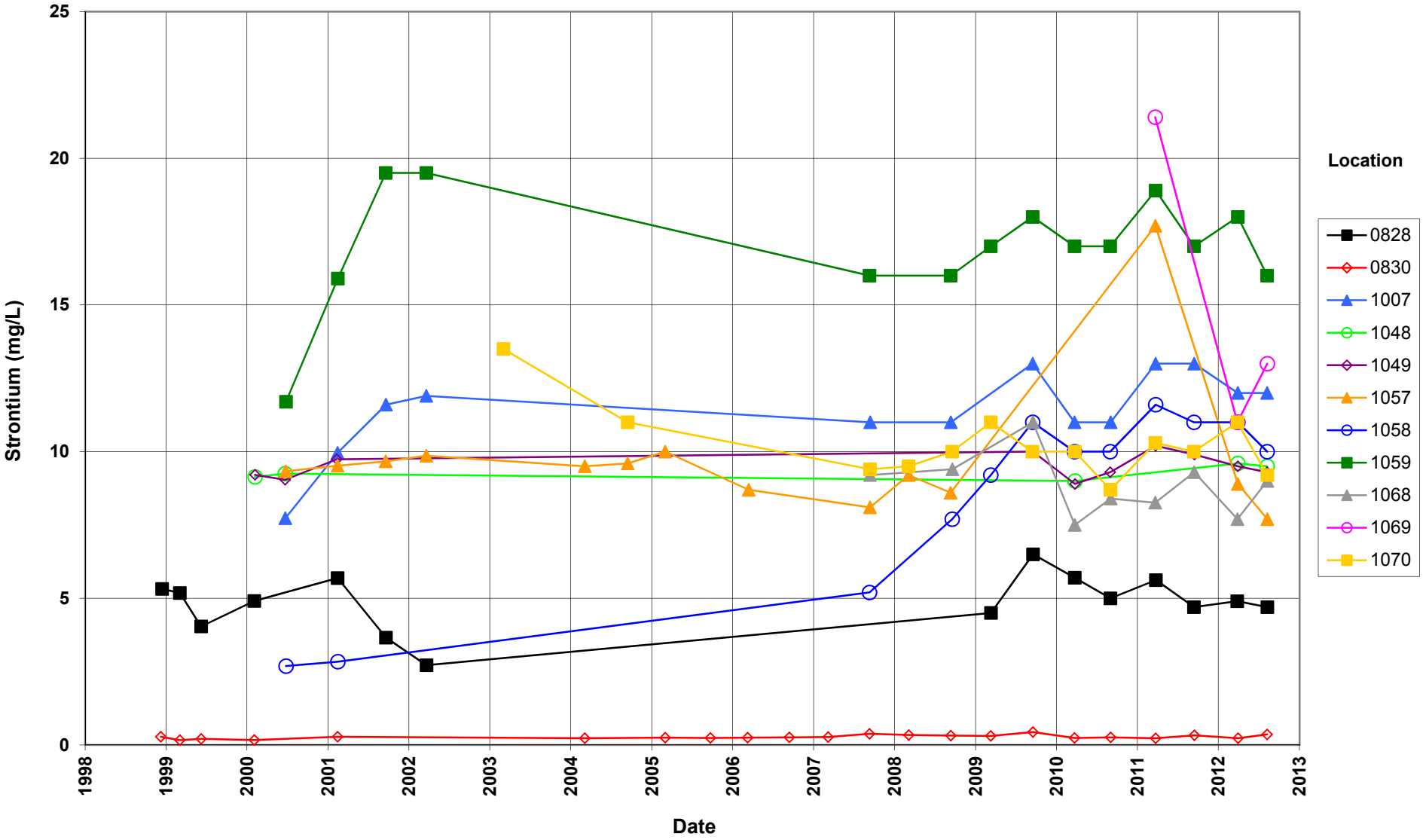


Shiprock Disposal Site (Terrace)
Strontium Concentration

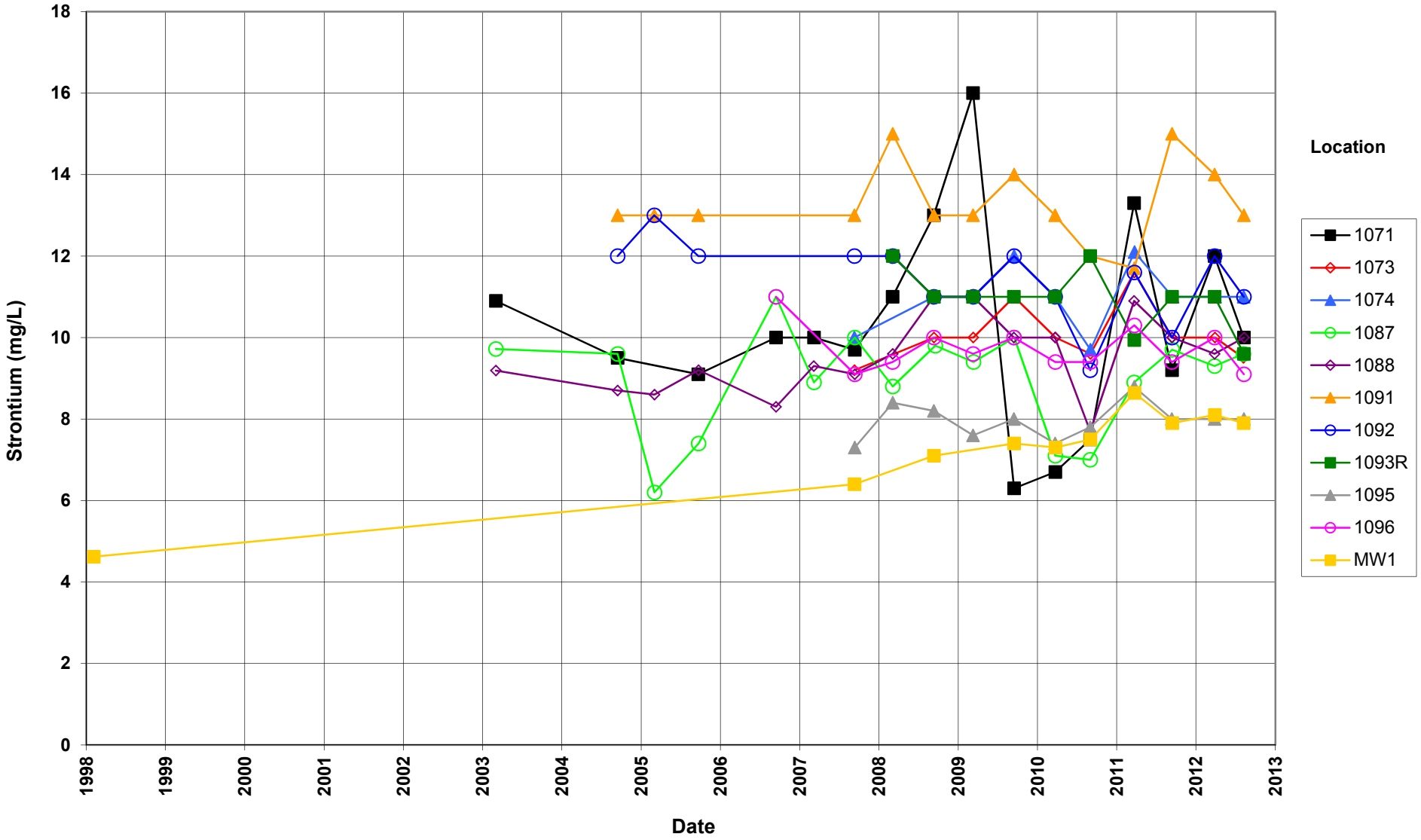


Shiprock Disposal Site (Terrace)
Strontium Concentration

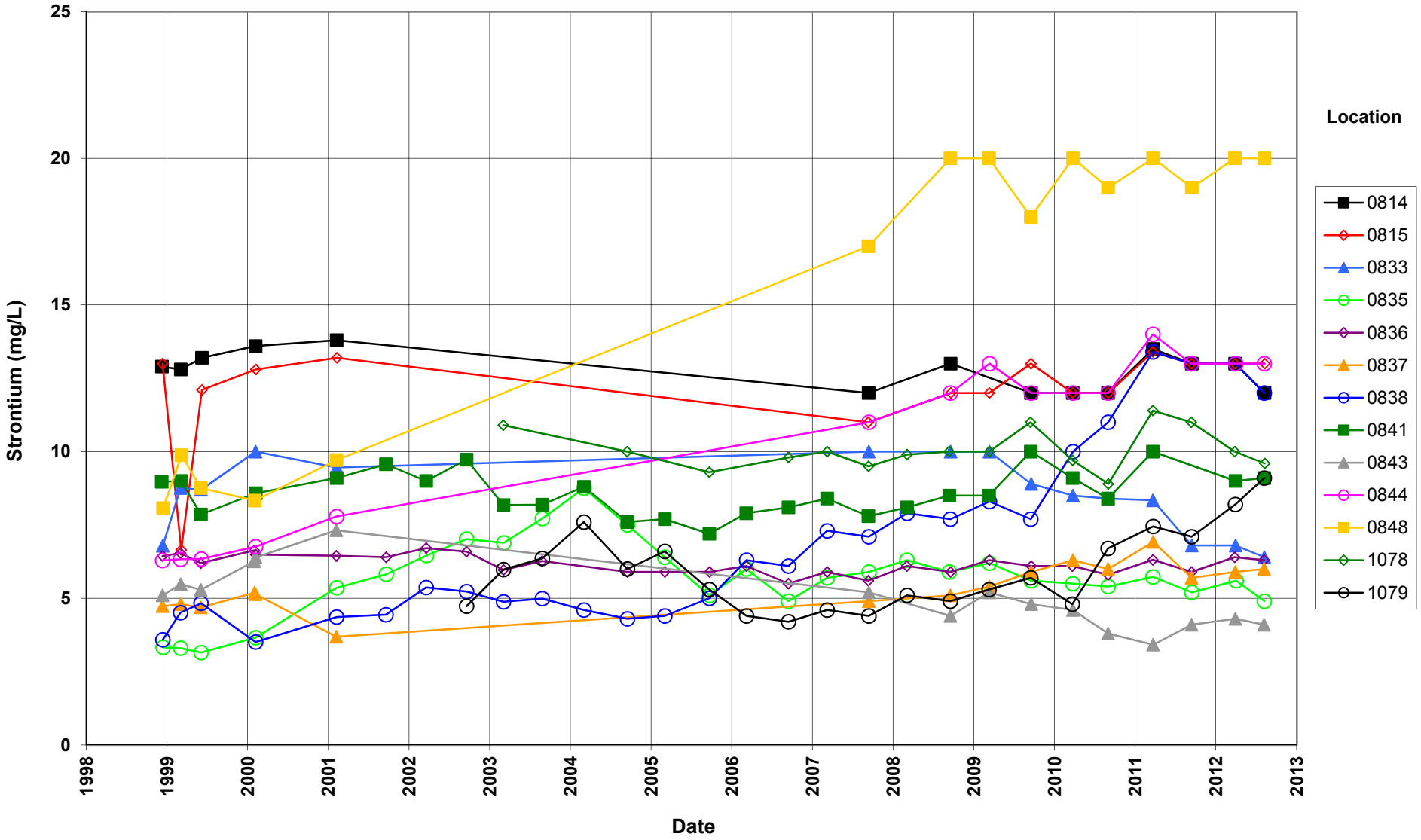



Shiprock Disposal Site (Terrace)
Strontium Concentration
Strontium (mg/L)
25
20
15
10
5
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
0828
0830
1007
1048
1049
1057
1058
1059
1068
1069
1070

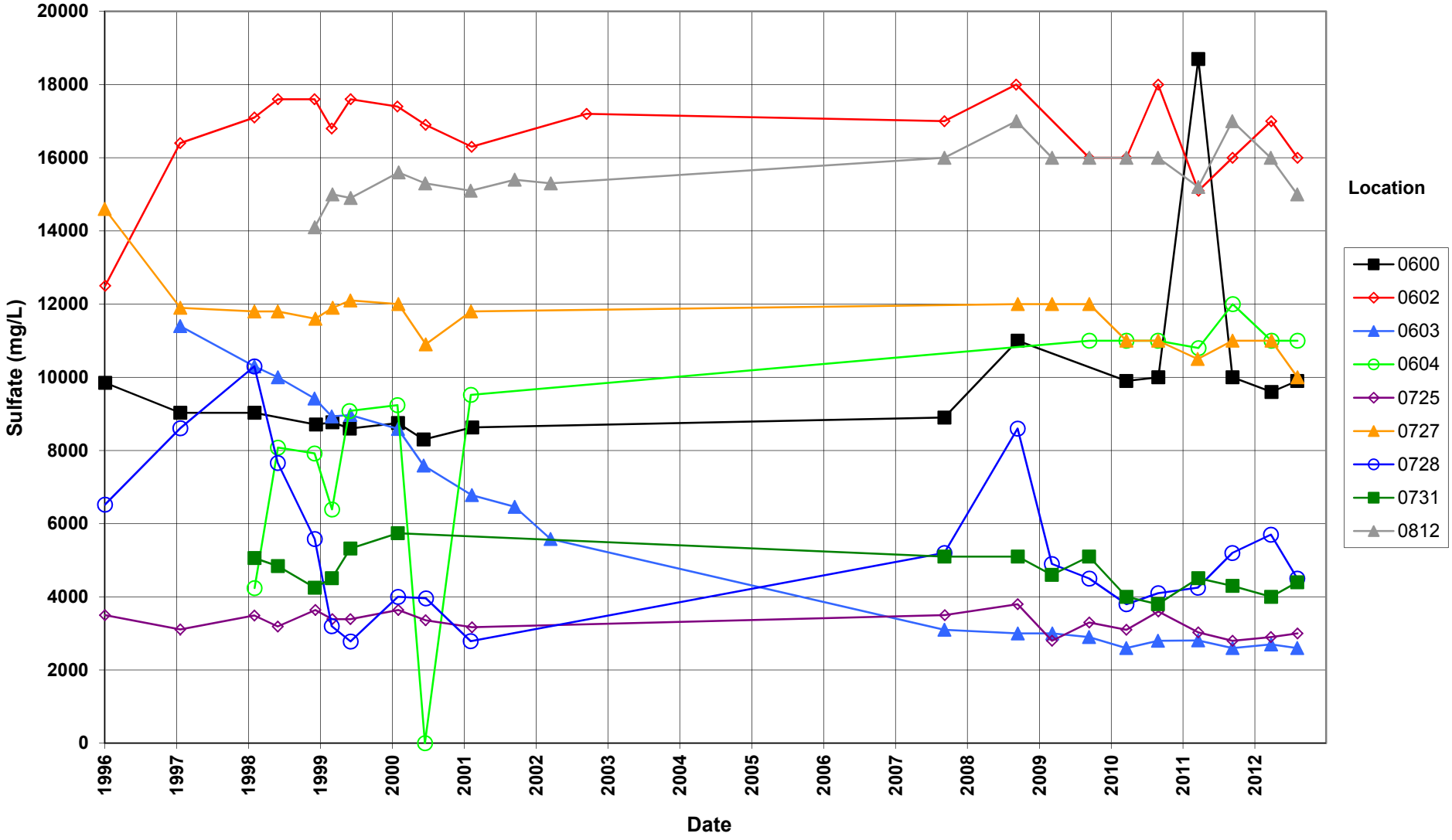
Shiprock Disposal Site (Terrace)
Strontium Concentration



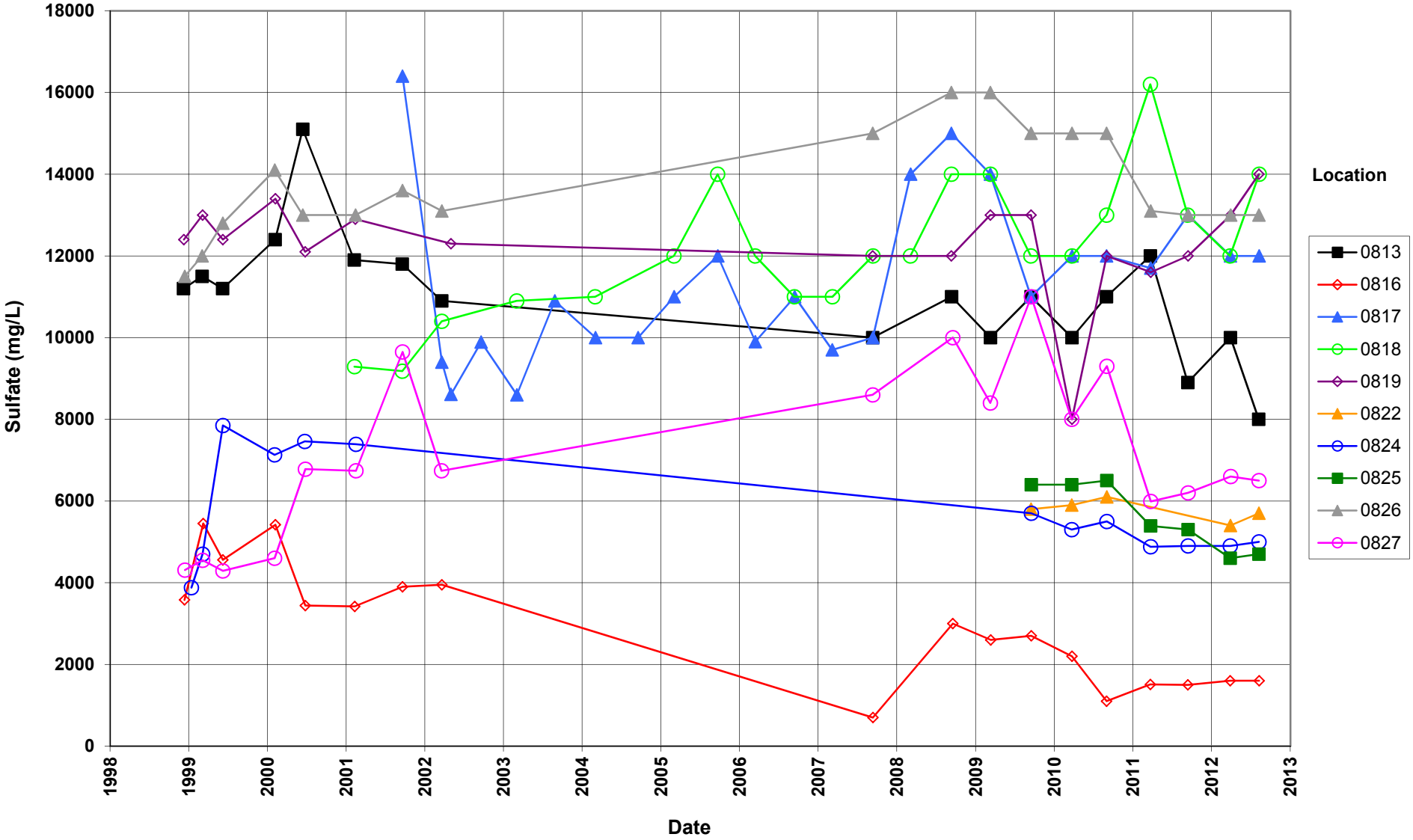
Shiprock Disposal Site (Terrace)
Strontium Concentration



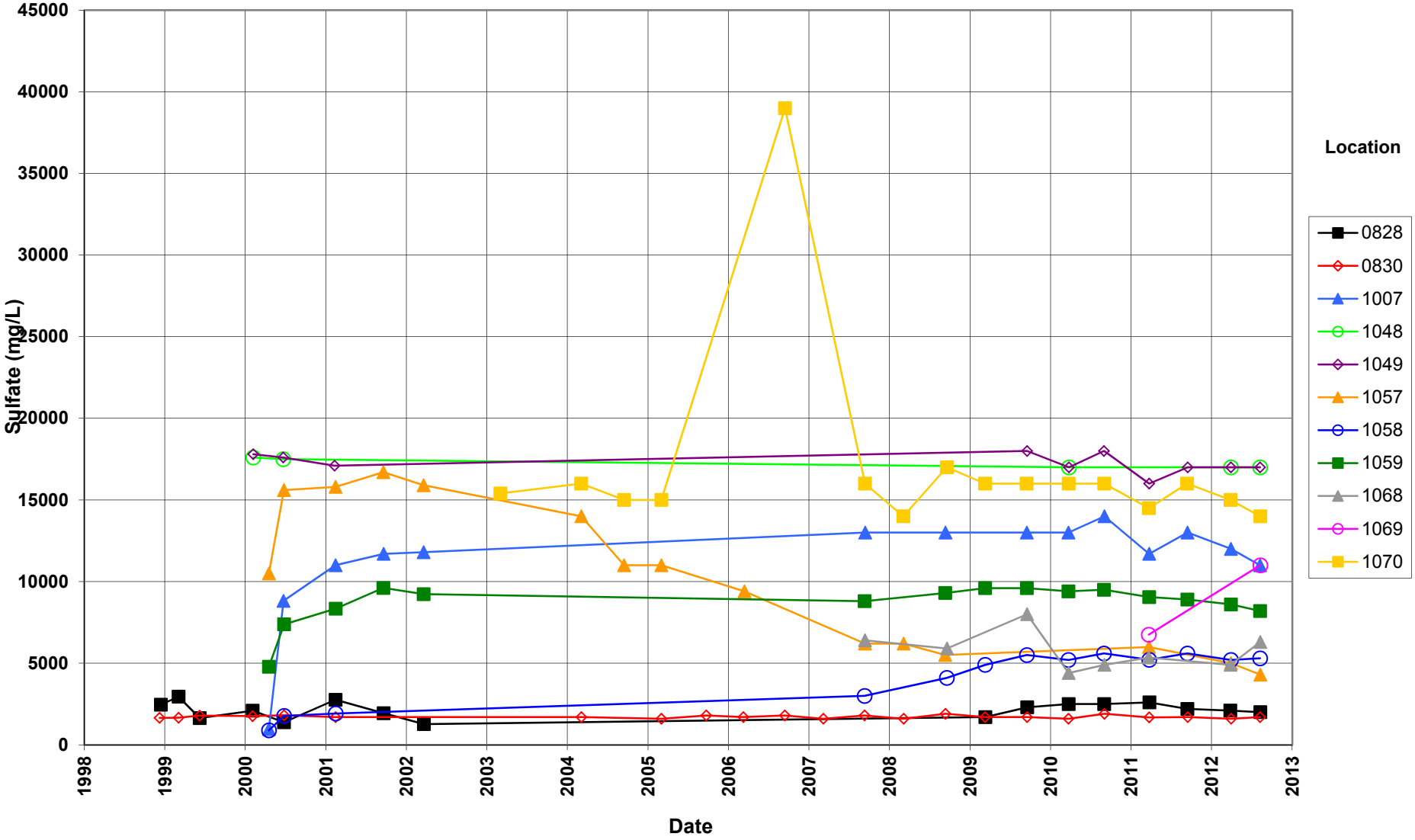
Shiprock Disposal Site (Terrace)
Sulfate Concentration

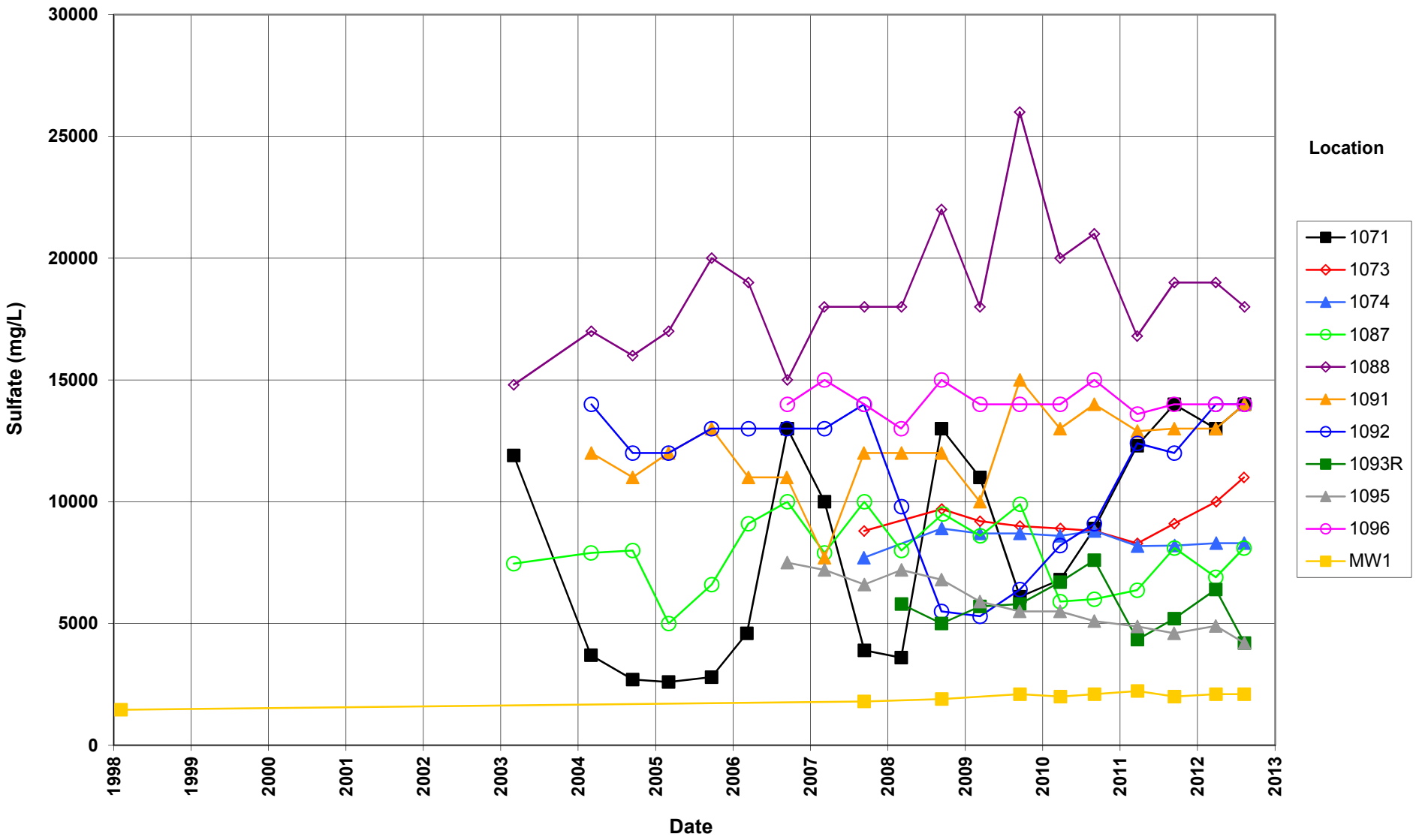


Shiprock Disposal Site (Terrace)
Sulfate Concentration

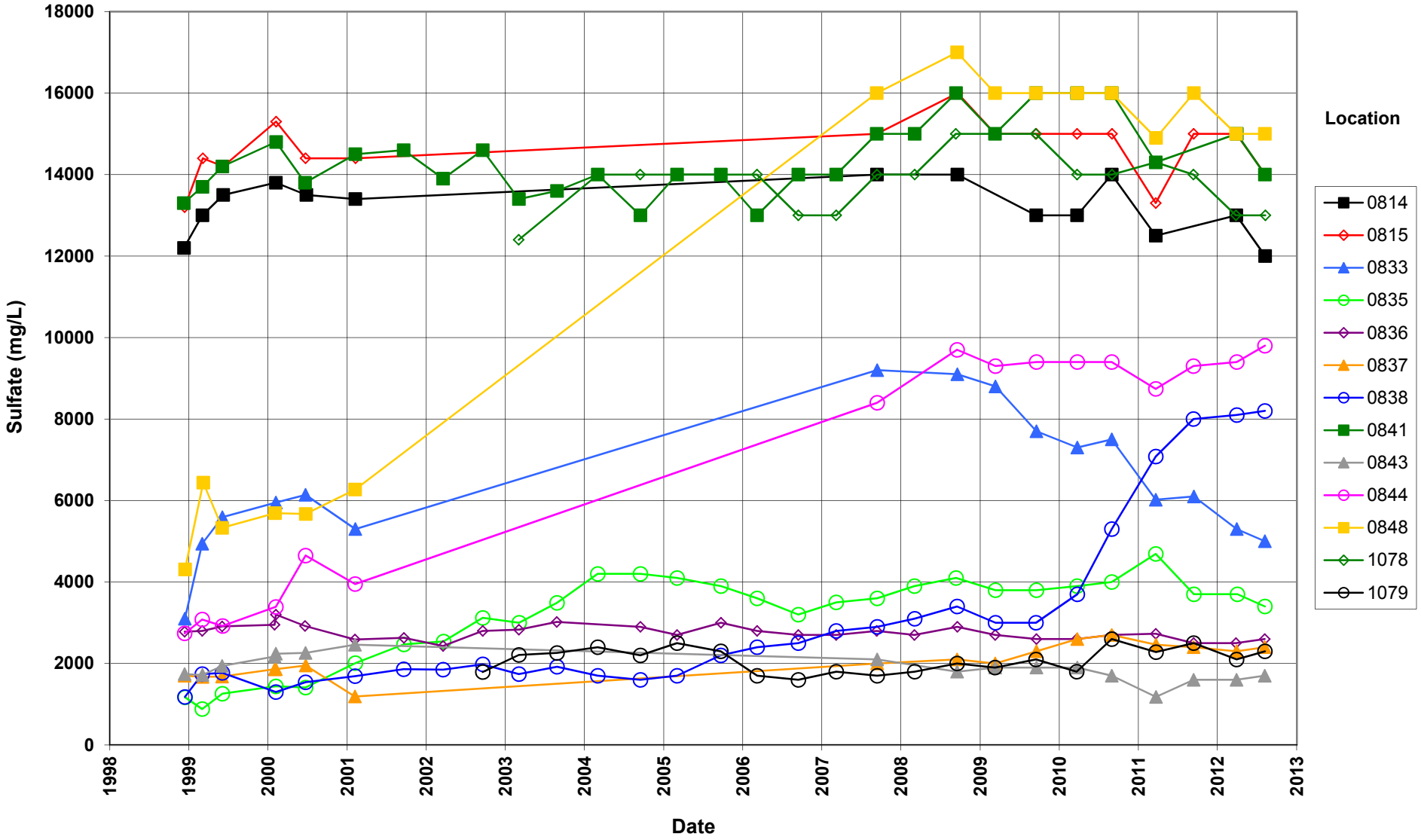


Shiprock Disposal Site (Terrace)
Sulfate Concentration

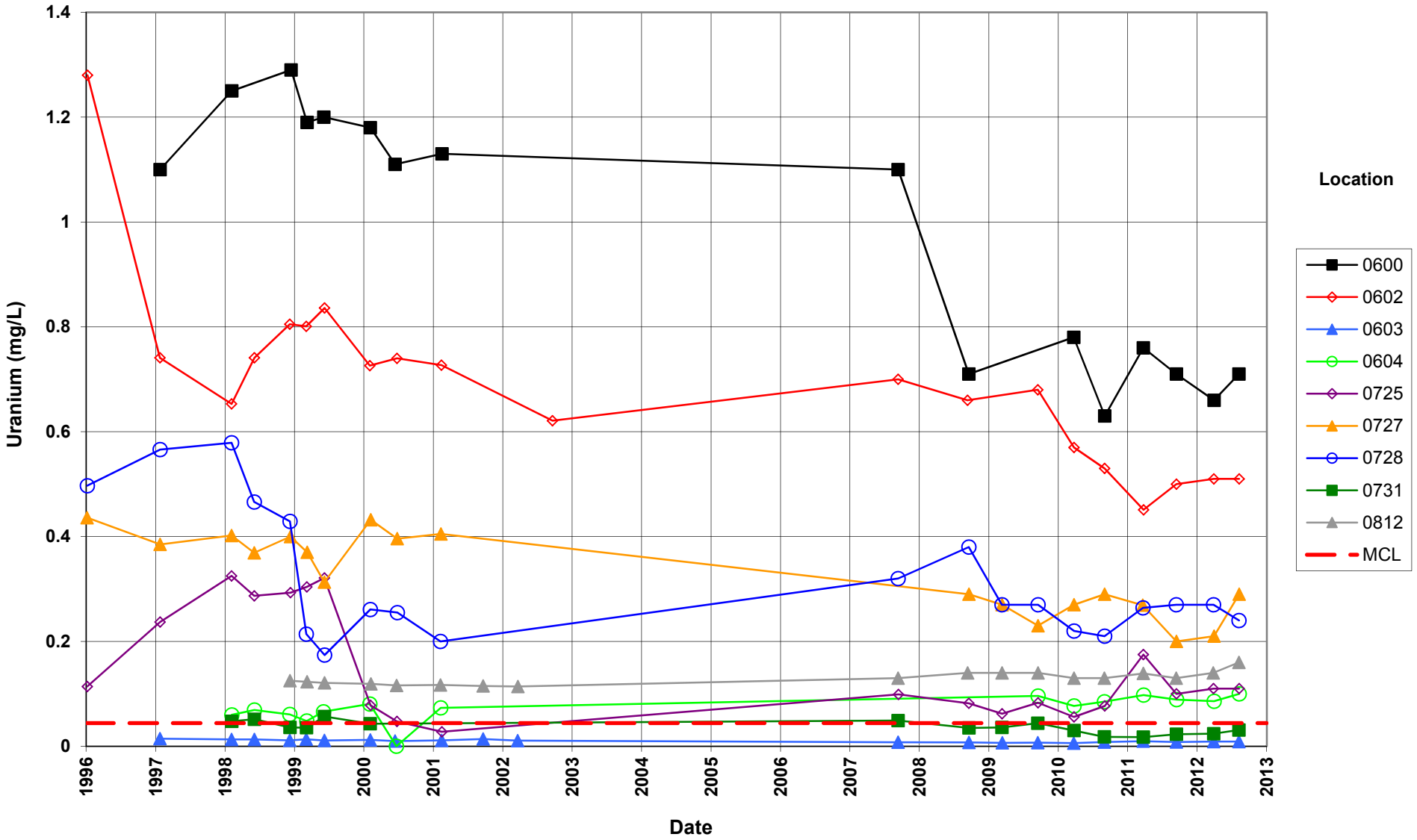



Shiprock Disposal Site (Terrace)
Sulfate Concentration
Sulfate (mg/L)
30000
25000
20000
15000
10000
5000
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1071
1073
1074
1087
1088
1091
1092
1093R
1095
1096
MW1

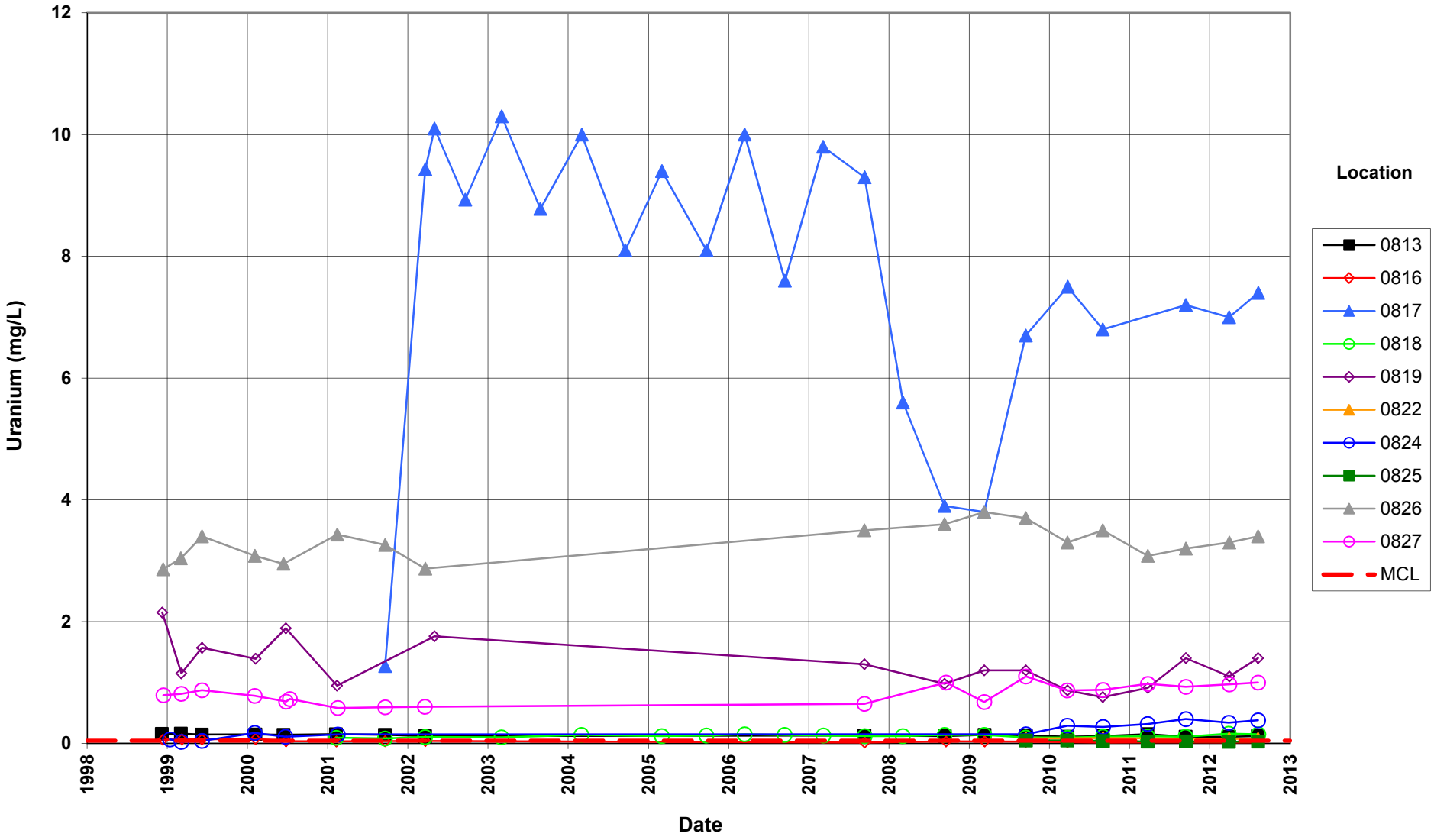
Shiprock Disposal Site (Terrace)
Sulfate Concentration



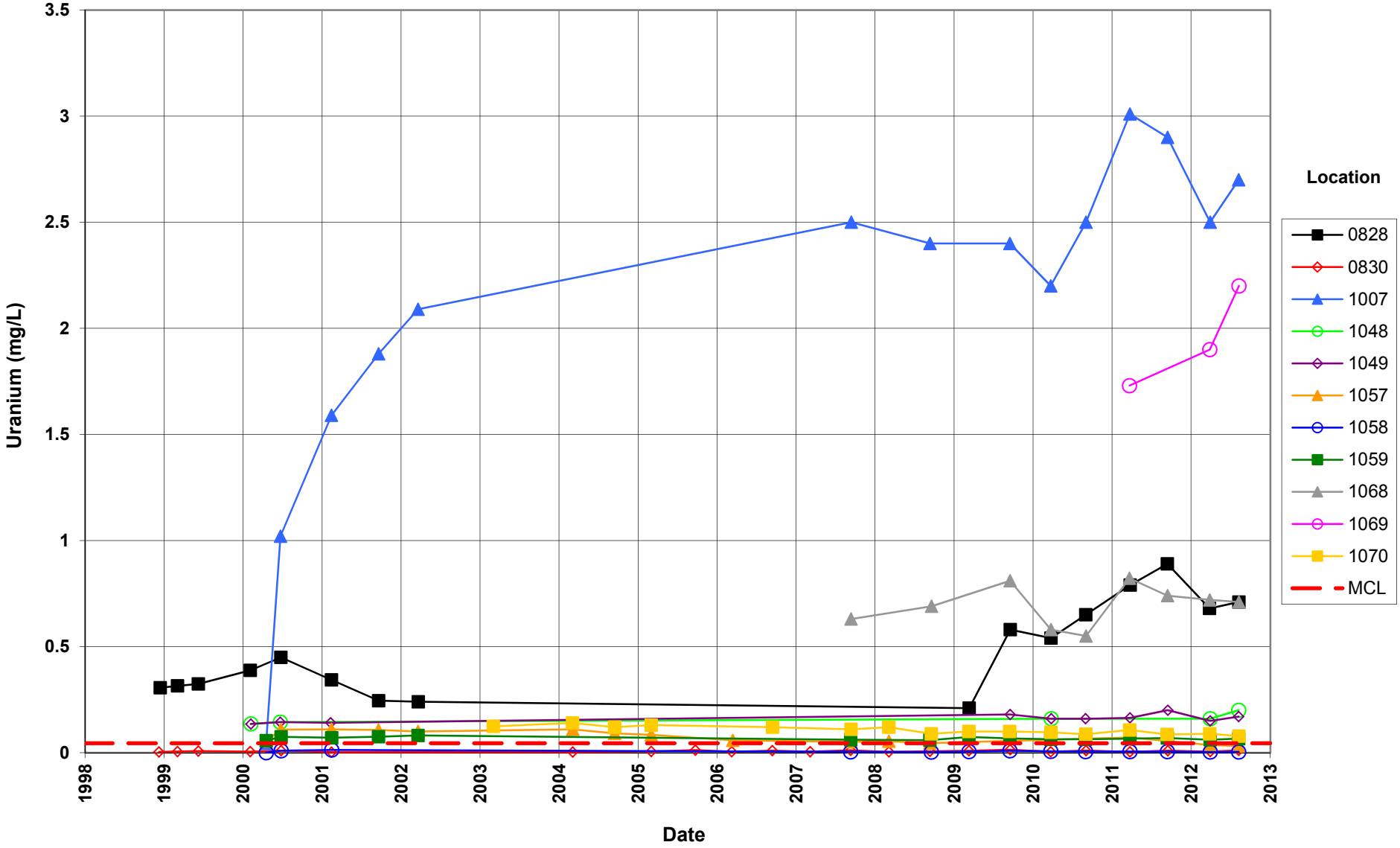
Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L

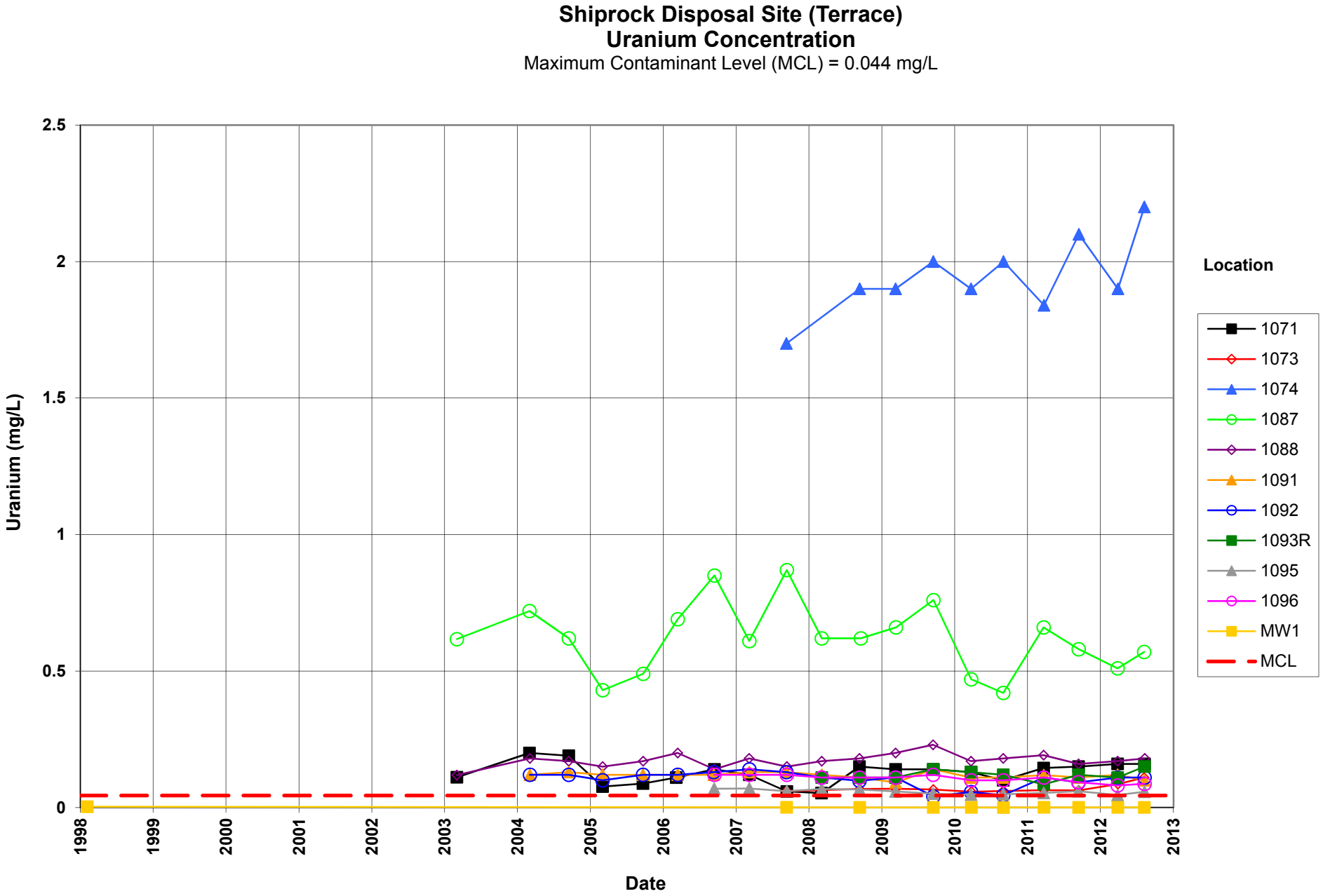


Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L

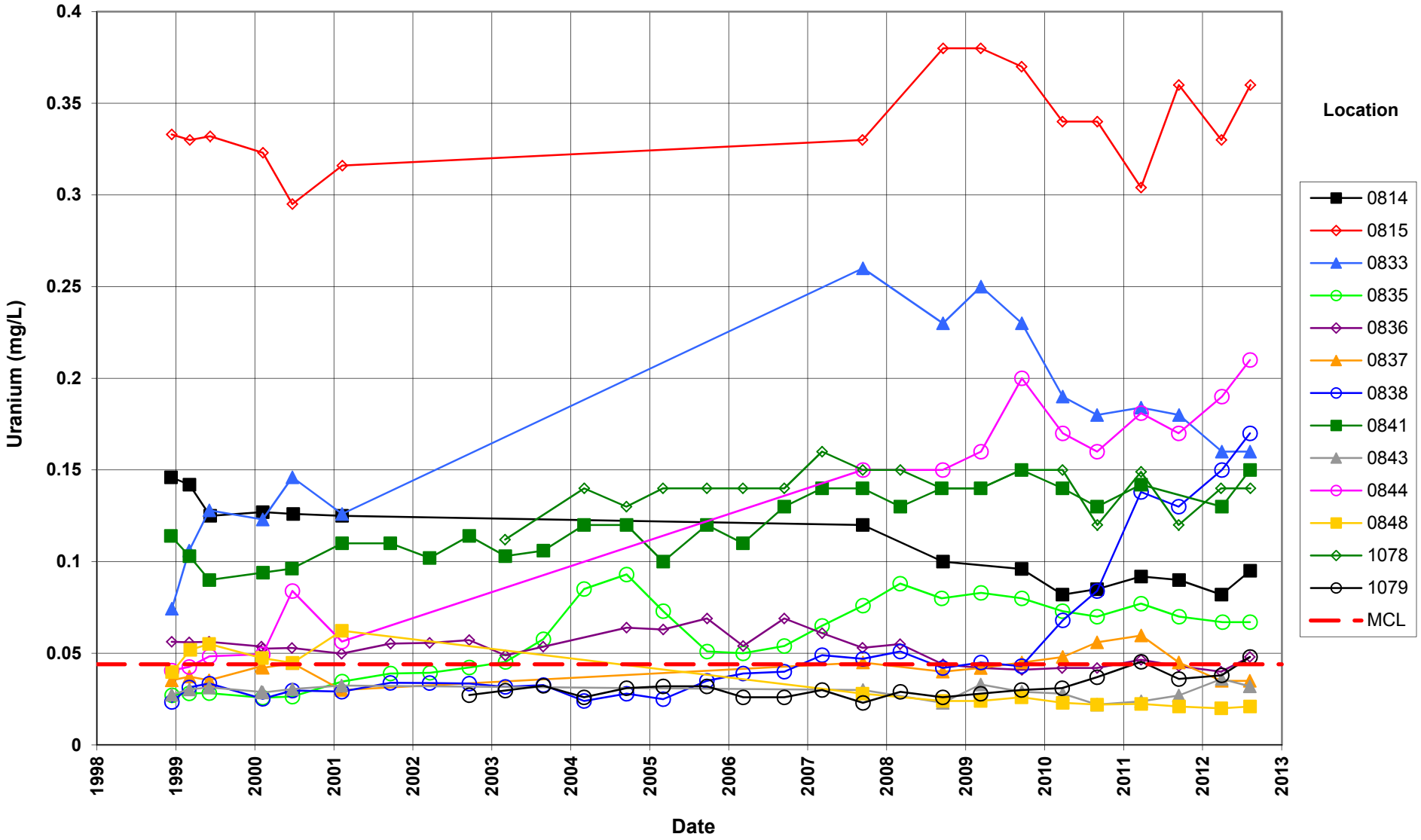


Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L




Shiprock Disposal Site (Terrace)
Uranium Concentration
Maximum Contaminant Level (MCL) = 0.044 mg/L
Uranium (mg/L)
2.5
2
1.5
1
0.5
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Date
Location
1071
1073
1074
1087
1088
1091
1092
1093R
1095
1096
MW1
MCL

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



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Attachment 3
Sampling and Analysis Work Order

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Stoller

established 1959

Task Order LM00–501
Control Number 12-0751

July 10, 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)
August 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 site. Water quality data will be collected at this site as part of the routine environmental sampling currently scheduled to begin the week of August 6, 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

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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 attachment. 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)

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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 (NO3+NO2)-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.

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				
1062					X	WLs only
1089		X				U, SO4, N as NO3 only at vault
1104		X				U, SO4, N as NO3 only at vault
1105		X				
1109		X				Trench 2; U, SO4, N as NO3 only at vault
1110		X				Trench 1; U, SO4, N as NO3 only at vault

Sampling Frequencies for Locations at Shiprock, New Mexico

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
SHP01						
1111		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1112		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1113		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1114		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1115		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1117		X				Well point; U, SO4, N as NO3 only. Purge 1 casing vol then sample
1128		X				
1132		X				
1134		X				
1135		X				
1136		X				
1137		X				
1138		X				
1139		X				
1140		X				
1141		X				
1142		X				
1143		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
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, SO4, N as NO3 only at vault
819		X				Data logger
820		X				
821		X				

Sampling Frequencies for Locations at Shiprock, New Mexico

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
SHP02						
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				
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, SO4, N as NO3 only at vault
1071		X				Ext. well; U, SO4, N as NO3 only at vault
1073		X				Data logger
1074		X				
1078		X				Ext. well; U, SO4, N as NO3 only at vault
1079		X				Low flow
1087		X				SUMP-Bob Lee Wash
1088		X				SUMP-Many Devils Wash
1091		X				Ext. well; U, SO4, N as NO3 only at vault
1092		X				Ext. well; U, SO4, N as NO3 only at vault
1093R		X				Ext. well; U, SO4, N as NO3 only at vault
1095		X				Ext. well; U, SO4, N as NO3 only at vault
1096		X				Ext. well; U, SO4, N as NO3 only at vault
1120		X				
1122		X				
MW1		X				
DM7		X				

Sampling Frequencies for Locations at Shiprock, New Mexico

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
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
1118		X				Seep sump (423/426) U, SO4, N as NO3 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

NOTE: All San Juan River locations will have both filtered

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Attachment 4
Trip Report

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Stoller
Grand Junction Office
established 1959

Memorandum

DATE: August 30, 2012

TO: David Miller

FROM: Gretchen Baer

SUBJECT: Sampling Trip Report

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

Dates of Sampling Event: August 6-10, 2012

Team Members: David Atkinson, Gretchen Baer, Jeff Price, Dan Sellers, Joe Treviño, and Jeff Walters

Number of Locations Sampled: Samples were collected from 129 of the 161 locations identified on the sampling notification letter as follows:

	Locations That Were Sampled	Planned Locations
SHP01 monitoring wells	59	59
SHP02 monitoring wells	54	70
SHP01 surface locations	10	16
SHP02 surface locations	6	16

Data loggers were downloaded from the following well locations:
SHP01-0617, 0736, 0899; and from SHP02-0602, 0604, 0725, 0726, 0813, 0819, 0827, 0826, 0830, 0836, 0841, 0848, 1073.

Locations Not Sampled/Reason: A total of 33 locations were not sampled for the following reasons:

- 16 surface water locations (SHP01: 0655, 0887, 0937, 0938, 0939, and 0959 and SHP02: 0786, 0884, 0885, 0933, 0934, 0936, 0942, 0949, 0958, and 1218) were dry.
- 16 wells (SHP02: 0726, 0730, 0820, 0821, 0823, 0829, 0832, 0846, 1002, 1003, 1004, 1011, 1060, 1120, 1122, and DM7) were dry or had insufficient water to sample.
- At SHP02 sediment location 1222, the sediment was below the water level.

Location Specific Information:

Location IDs	Site	Comments
0501, 0897, 0898, 0899, 0940, 0956, 0965, 1203, 1205	SHP01	Filtered and unfiltered samples were collected at all 9 locations on the San Juan River per the sampling notification letter. All other surface location samples collected were unfiltered regardless of turbidity per the program directive.
0612, 0619, 0766	SHP01	Sulfur odor; negative ORP.
0625, 0626, 0630, 0736, 0773, 1143	SHP01	Fine particles in sample water.
0734	SHP01	Well went dry. Very slow recovery. Collected 125mL for metals only. Should be Cat III.
0736, 0854, 1135, 1138, 1139	SHP01	Cat I. May need to be re-developed: >3 readings were needed to achieve turbidity <10NTUs.
1113	SHP01	Cat I. Needs to be re-developed: turbidity >10NTUs.
0833, 0835, 0841, 1048	SHP02	Cat I. May need to be re-developed: >3 readings were needed to achieve turbidity <10NTUs.
1069	SHP02	This Cat III well had insufficient water for field measurements. Collected all samples.
0727	SHP02	Changed to a Cat II.
1220	SHP02	Samples collected from seep on bank (per site lead direction).

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

False ID	Site	Ticket	True ID	Sample Type	Associated Matrix
2210	SHP01	KIT 437	1128	Duplicate	Water
2211	SHP01	KIT 438	0608	Duplicate	Water
2212	SHP01	KIT 374	0618	Duplicate	Water
2215	SHP01	KIT 436	Associated with samples collected with non-dedicated equipment: SHP01: 0899, 0956, 1205 & SHP02:1215	Equipment Blank	Water
2319	SHP02	KIT 513	1087	Duplicate	Water
2320	SHP02	KIT 514	1079	Duplicate	Water
2365	SHP02	KIT 540	1223	Duplicate	Sediment
2810	SHP02	KIT 498	0844	Duplicate	Water
2811	SHP02	KIT 499	0728	Duplicate	Water

Duplicates were collected by filling all bottles labeled with the location number first, then filling all bottles labeled with the false ID second.

Requisition Identification Number (RIN) Assigned: Samples were assigned to RIN 12074743 (SHP01-Floodplain), 12074744 (SHP02-Terrace), and 12074745 (sediments at SHP02-Terrace). Field data sheets can be found in Crow\sms\12074743, Crow\sms\12074744, and Crow\sms\12074745 in the FieldData folders.

Sample Shipment: Samples were shipped overnight via FedEx from Grand Junction to ALS Laboratory Group in Ft Collins, CO, on August 14, 2012.

Water Level Measurements: Water levels were measured in all sampled wells and in 13 additional wells. A water level data report for these 13 wells (SHP01_8142012.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.

Sampling Method: Samples were collected according to the *Sampling and Analysis Plan for the U. S. Department of Energy Office of Legacy Management Sites* (LMS/PLN/S04351). The sediment samples were placed in sampling containers by a radiological control technician.

Field Variance: Turbidity requirements could not be met for Category I well SHP01-1113. These samples were filtered.

Equipment: All equipment functioned properly. Multi-gas meters were used to verify the air quality in the vaults. Monitoring wells were sampled with a peristaltic pump and dedicated tubing, a bailer (dedicated or non-dedicated), or a dedicated pump. Extraction wells were sampled by spigot. Surface waters were sampled using a peristaltic pump and tubing reel with stainless steel weight or by container immersion. An equipment blank was collected after decontamination of non-dedicated equipment.

Institutional Controls:

Fences, Gates, and Locks: All gates were locked and in good condition.
Signs: Some signs have bullet holes but were legible.
Trespassing/Site Disturbances: None observed.

Site Issues:

Disposal Cell/Drainage Structure Integrity: No issues observed.
Vegetation/Noxious Weed Concerns: Access to some well and surface water locations on the floodplain was hindered by vegetation. D. Scheuerman (Stoller) was on-site, directing a brush-removal crew. These locations should be easier to access for the next event.
Maintenance Requirements: SHP02-0822 needs a bladder pump to be installed.
Access Issues: Some wells on the floodplain are only accessible by ATV due to sandy or muddy conditions.
Safety Issues: None.

Corrective Action Required/Taken: None.

(GB/lcg)

cc: (electronic)
Deborah Steckley, DOE
David Miller, Stoller
Steve Donivan, Stoller
EDD Delivery

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