Data Validation Package

February 2013
Groundwater and Surface Water Sampling at the Tuba City, Arizona, Disposal Site

May 2013

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Sampling Event Summary

Site: Tuba City, Arizona, Disposal Site

Sampling Period: February 12-13, 2013

The groundwater compliance strategy for the Tuba City Disposal Site is defined in the 1999 *Phase I Ground Water Compliance Action Plan for the Tuba City, Arizona, UMTRA Site*. Samples are collected and analyzed on a semiannual basis to evaluate the performance of the Phase I remediation system.

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).

U.S. Environmental Protection Agency (EPA) groundwater standards were exceeded in samples collected from monitoring wells as listed in Table 1.

The data from this sampling event are generally consistent with previously obtained values and are acceptable for general use as qualified. Data anomalies are not significant with respect to the known nature and extent of contamination and progress of remedial action at the site. The data from this sampling event will be incorporated into the annual performance evaluation report that will present a comprehensive hydrologic summary and evaluation of groundwater remedial action performance at the Tuba City site through March 2013.

Table 1. Tuba City Monitoring Wells with Analyte Concentrations that Exceed EPA Standard

Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Molybdenum	0.1	0262	0.94
Molybdenum	0.1	0287	0.14
Nitrate + Nitrite as Nitrogen	10	0262	180
Nitrate + Nitrite as Nitrogen	10	0263	230
Nitrate + Nitrite as Nitrogen	10	0264	11
Nitrate + Nitrite as Nitrogen	10	0265	190
Nitrate + Nitrite as Nitrogen	10	0267	300
Nitrate + Nitrite as Nitrogen	10	0268	39
Nitrate + Nitrite as Nitrogen	10	0273	43
Nitrate + Nitrite as Nitrogen	10	0275	240
Nitrate + Nitrite as Nitrogen	10	0281	24
Nitrate + Nitrite as Nitrogen	10	0282	47
Nitrate + Nitrite as Nitrogen	10	0286	220
Nitrate + Nitrite as Nitrogen	10	0287	260
Nitrate + Nitrite as Nitrogen	10	0288	54
Nitrate + Nitrite as Nitrogen	10	0289	27
Nitrate + Nitrite as Nitrogen	10	0290	70
Nitrate + Nitrite as Nitrogen	10	0691	73
Nitrate + Nitrite as Nitrogen	10	0906	460
Nitrate + Nitrite as Nitrogen	10	0908	190

Table 1 (continued). Tuba City Monitoring Wells with Analyte Concentrations that Exceed EPA Standard

Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Nitrate + Nitrite as Nitrogen	10	0929	14
Nitrate + Nitrite as Nitrogen	10	0930	25
Nitrate + Nitrite as Nitrogen	10	0934	350
Nitrate + Nitrite as Nitrogen	10	0935	190
Nitrate + Nitrite as Nitrogen	10	0938	320
Nitrate + Nitrite as Nitrogen	10	0940	340
Nitrate + Nitrite as Nitrogen	10	0941	270
Nitrate + Nitrite as Nitrogen	10	0942	190
Selenium	0.01	0262	0.11
Selenium	0.01	0263	0.048
Selenium	0.01	0267	0.054
Selenium	0.01	0273	0.017
Selenium	0.01	0275	0.036
Selenium	0.01	0286	0.039
Selenium	0.01	0287	0.098
Selenium	0.01	0290	0.010
Selenium	0.01	0906	0.034
Selenium	0.01	0908	0.022
Selenium	0.01	0935	0.012
Selenium	0.01	0938	0.083
Selenium	0.01	0940	0.076
Selenium	0.01	0941	0.11
Selenium	0.01	0942	0.055
Uranium	0.044	0262	0.88
Uranium	0.044	0263	0.26
Uranium	0.044	0265	0.062
Uranium	0.044	0267	0.071
Uranium	0.044	0268	0.082
Uranium	0.044	0273	0.044
Uranium	0.044	0275	0.42
Uranium	0.044	0286	0.40
Uranium	0.044	0287	0.27
Uranium	0.044	0290	0.055
Uranium	0.044	0691	0.077
Uranium	0.044	0906	0.46
Uranium	0.044	0908	0.087
Uranium	0.044	0934	0.15
Uranium	0.044	0935	0.14
Uranium	0.044	0938	0.31
Uranium	0.044	0940	0.56
Uranium	0.044	0941	0.25
Uranium	0.044	0942	0.54

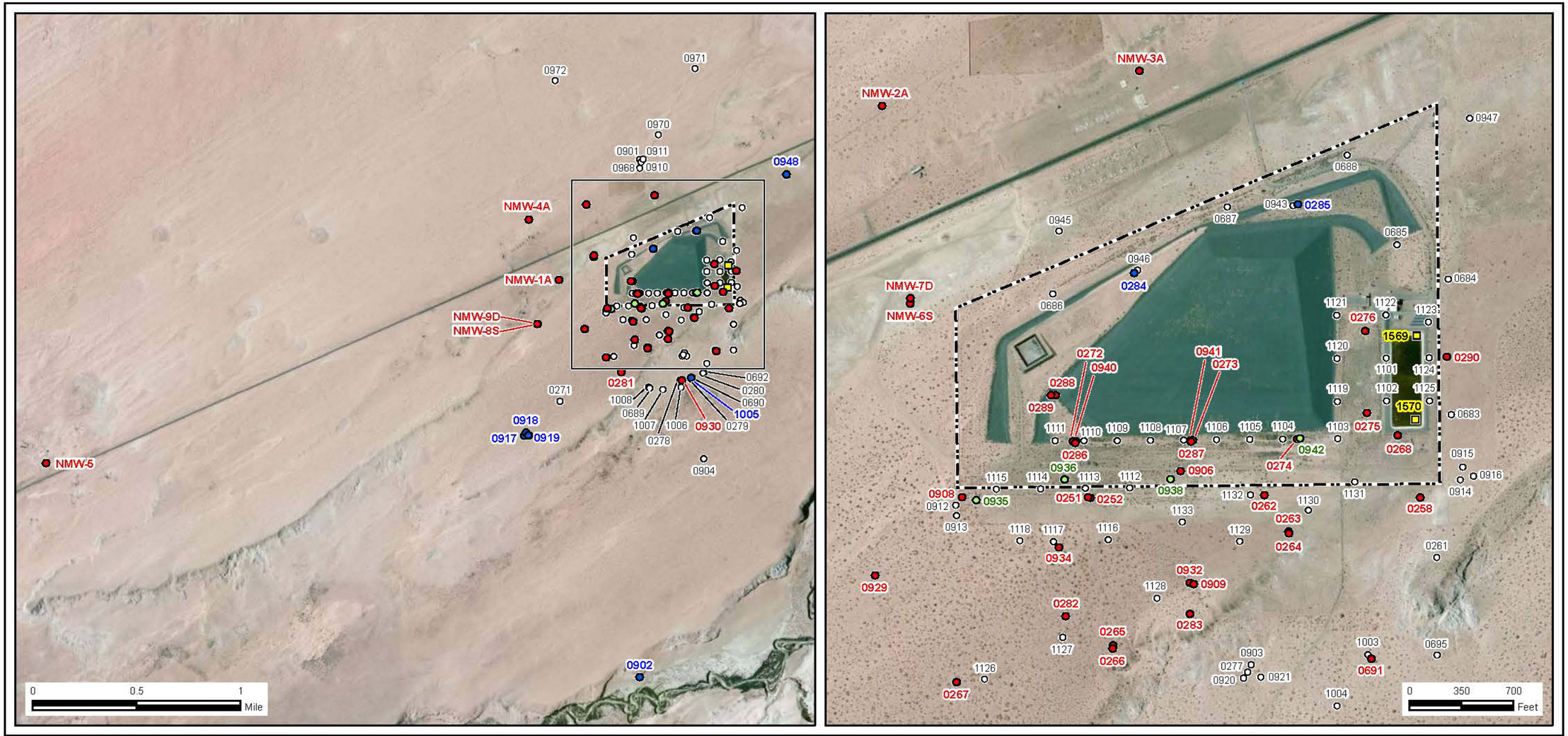
mg/L = milligrams per liter

T R Bartlett

Tim Bartlett
Site Hydrologist, S.M. Stoller Corporation

5/13/13

Date



LEGEND

- MONITORING WELL TO BE SAMPLED
- EXTRACTION WELL TO BE SAMPLED
- MONITORING WELL - WATER LEVEL ONLY
- SURFACE LOCATION TO BE SAMPLED
- EXISTING WELL
- SITE BOUNDARY

N

U.S. DEPARTMENT OF ENERGY, GRAND JUNCTION, COLORADO	Work Performed by: S.M. Stoller Corporation, Under DOE Contract No. DE-AM01-07LM00060
Planned Sampling Map Tuba City, AZ, Disposal Site February 2013	
DATE PREPARED: January 17, 2013	FILENAME: S0962700

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Tuba City, Arizona, Disposal Site, Sample Location Map

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	Tuba City, Arizona	**Date(s) of Water Sampling**	February 12-13, 2013
Date(s) of Verification	March 6, 2013	**Name of Verifier**	Gretchen Baer

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List any Program Directives or other documents, SOPs, instructions.		• Work Order letter dated January 18, 2013. • Program Directive No. TUB-2013-01.
2. Were the sampling locations specified in the planning documents sampled?	No	Monitoring wells 0283 and 0909 did not have enough water to sample. The pump at extraction well 0936 was not functioning.
3. Were calibrations conducted as specified in the above-named documents?	Yes	Pre-trip calibrations were performed on February 7, 2013. (Pre-trip pH calibration: a span outside acceptance range was caused by a typo. No data qualification is necessary.)
4. Was an operational check of the field equipment conducted daily?	Yes	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Were wells categorized correctly?	No	A Cat I location was mis-categorized as Cat II (well NMW-6S).
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	No	Only one measurement was collected while purging a Cat I well (well 0275). Associated data are qualified as "J" (estimated).
Was the flow rate less than 500 mL/min?	Yes	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	Duplicates were collected from locations 0268, 1569, and NMW-1A.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	NA	All samples were collected with dedicated equipment.
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were the true identities of the QC samples documented?	Yes	QC sample identification is in the trip report and the field data sheets.
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	No	Program Directive TUB-2013-01 requires that the surface water samples collected at pond locations 1569 and 1570 be filtered. These samples were inadvertently not filtered.
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Was all pertinent information documented on the field data sheets?	Yes	
18. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
19. Were water levels measured at the locations specified in the planning documents?	No	The water level at well 0948 was not taken. The water level at this well fluctuates widely because it is pumped.

Laboratory Performance Assessment

General Information

Requisition No.:	13025097
Sample Event:	February 12-13, 2013
Site:	Tuba City, Arizona
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order Nos.:	1302205
Analysis:	Metals and Inorganics
Validator:	Gretchen Baer
Review Date:	March 6, 2013

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 2.

Table 2. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	EPA 350.1	EPA 350.1
Arsenic, Molybdenum, Selenium, Uranium	LMM-02	SW-846 3005A	SW-846 6020A
Calcium, Iron, Magnesium, Manganese, Potassium, Silica, Sodium	LMM-01	SW-846 3005A	SW-846 6010B
Chloride, Sulfate	MIS-A-045	SW-846 9056	SW-846 9056
Nitrite + Nitrate as N	WCH-A-022	EPA 353.2	EPA 353.2
Total Dissolved Solids	WCH-A-033	EPA 160.1	EPA 160.1

Data Qualifier Summary

Analytical results were qualified as listed in Table 3. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied.

Table 3. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1302205-1	0251	Iron	U	Less than 5 times the calibration blank
1302205-2	0252	Iron	U	Less than 5 times the calibration blank
1302205-5	0263	Iron	U	Less than 5 times the calibration blank
1302205-10	0268	Arsenic	J	Serial dilution has negative bias
1302205-10	0268	Iron	U	Less than 5 times the calibration blank
1302205-12	0273	Iron	U	Less than 5 times the calibration blank
1302205-13	0274	Iron	U	Less than 5 times the calibration blank
1302205-14	0275	Iron	U	Less than 5 times the calibration blank
1302205-15	0276	Iron	U	Less than 5 times the calibration blank
1302205-16	0281	Iron	U	Less than 5 times the calibration blank
1302205-17	0282	Iron	U	Less than 5 times the calibration blank
1302205-18	0286	Iron	U	Less than 5 times the calibration blank
1302205-20	0288	Iron	U	Less than 5 times the calibration blank
1302205-21	0289	Arsenic	J	Serial dilution has positive bias
1302205-23	0691	Iron	U	Less than 5 times the calibration blank
1302205-27	0930	Iron	U	Less than 5 times the calibration blank
1302205-38	1569	Arsenic	J	Field duplicate RSD greater than 20%
1302205-40	NMW-1A Dup	Manganese	J	Field duplicate range greater than PQL
1302205-40	NMW-1A Dup	Sodium	J	Field duplicate RSD greater than 20%
1302205-41	0268 Dup	Arsenic	J	Serial dilution has negative bias
1302205-41	0268 Dup	Iron	U	Less than 5 times the calibration blank
1302205-42	1569 Dup	Arsenic	J	Field duplicate RSD greater than 20%
1302205-42	1569 Dup	Iron	U	Less than 5 times the calibration blank
1302205-43	NMW-1A	Manganese	J	Field duplicate range greater than PQL
1302205-43	NMW-1A	Sodium	J	Field duplicate RSD greater than 20%
1302205-46	NMW-4A	Iron	U	Less than 5 times the calibration blank
1302205-50	NMW-8S	Iron	U	Less than 5 times the calibration blank
All	All	Manganese	J	Serial dilution has negative bias
All	All	Sodium	J	Serial dilution has negative bias

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 51 samples on February 15, 2013, accompanied by a Chain of Custody form. 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 with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The Chain of Custody forms had no errors or omissions, with the following exceptions. The filtration status for location 0267 was listed incorrectly. The sample time for location NMW-8S differed from the time written on the bottle labels.

Preservation and Holding Times

The sample shipment was received intact with the temperatures inside the iced coolers at 2.0 and 2.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses. 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. 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 160.1
There is no initial or continuing calibration requirement associated with the determination of total dissolved solids.

Method EPA 350.1
The initial calibrations for ammonia as N were performed February 21, 2013, 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 and all calibration check results met the acceptance criteria.

Method EPA 353.2
The initial calibrations for nitrate + nitrite as N were performed February 27, 2013, 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 and all calibration check results met the acceptance criteria.

Method SW-846 6010B
Calibrations for calcium, iron, magnesium, manganese, potassium, silica, and sodium were performed February 25, 2013, using three calibration standards. The correlation coefficient

values were greater than 0.995. The absolute values of the intercepts were less than or only slightly above 3 times the MDL, with the exception of the intercepts for calcium, potassium, silicon, and sodium. These intercepts were less than 3 times the reporting limits and all results were above the reporting limits. Initial and continuing calibration verification checks were made at the required frequency and all calibration check 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 associated with the samples were within the acceptance range.

Method SW-846 6020A
Calibrations for arsenic, molybdenum, selenium, and uranium were performed February 25, 2013, using four calibration standards. The correlation coefficient values were greater than 0.995. The absolute values of the intercepts were less than or only slightly above 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency and all calibration check results met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the PQL and all results were within the acceptance range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.

Method SW-846 9056
Calibrations for chloride and sulfate were performed February 25, 2013, 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 and all calibration check results 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. All method blank and calibration blank results associated with the samples were below the PQL for all analytes. 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.

For manganese, some calibration blanks were negative and the absolute values were greater than the MDL but less than the PQL. All manganese results are qualified for serial dilutions with low biases, so no further qualification is necessary.

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. The spike recoveries met the acceptance criteria for all analytes evaluated.

Laboratory Replicate Analysis

Laboratory replicate analyses are used to determine laboratory precision for each sample matrix. The relative percent difference for replicate results that are greater than 5 times 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 Sample

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 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 percent difference for all evaluated manganese and sodium dilutions were outside the acceptance range of ±10 percent with biases of about -30 percent and -13 percent, respectively. The percent differences for two of the arsenic dilutions were above the range with biases of -23 percent and +11 percent. 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 ion chromatography data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable (EDD) File

The EDD file arrived on March 1, 2013. The Sample Management System EDD validation module was used to verify that the EDD file was complete and in compliance with requirements. The module compares the contents of the file 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. An incorrect filtration status for location 0267 was provided to the laboratory on the Chain of Custody. The filtration status was corrected in the SEEPro database.

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 4 shows the total anion and cation results from this event and the charge balance, which is a relative percent difference calculation. Typically, a charge balance difference of 10 percent is considered acceptable.

Table 4. Comparison of Major Anions and Cations

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
0251	2.1	2.3	3.9
0252	1.8	1.8	0.6
0258	2.7	2.6	2.6
0262	63.5	66.3	2.1
0263	89.6	91.1	0.9
0264	5.3	5.4	0.8
0265	47.2	48.3	1.2
0266	2.3	2.0	6.3
0267	111.9	110.2	0.8
0268	14.5	15.0	1.8
0272	2.5	2.7	2.9
0273	11.1	11.1	0.1
0274	2.7	2.6	1.2
0275	77.7	80.8	2.0
0276	2.8	2.8	1.4
0281	6.2	6.5	2.2
0282	10.0	10.3	1.7
0286	91.3	95.2	2.1
0287	73.6	75.5	1.3
0288	12.8	13.4	2.2
0289	10.3	8.7	8.1
0290	22.1	22.4	0.6
0691	24.4	24.0	0.9
0906	93.5	96.0	1.3
0908	86.4	89.9	2.0
0929	3.6	3.8	3.0
0930	7.4	7.1	2.0
0932	3.4	4.1	10.6
0934	104.5	104.0	0.2
0935	77.2	79.8	1.7
0938	102.7	106.4	1.8
0940	182.9	183.2	0.1
0941	73.2	71.7	1.1
0942	95.4	105.6	5.1
1569	865.9	977.7	6.1

Table 4 (continued). Comparison of Major Anions and Cations

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
1570	3107.4	4054.4	13.2
NMW-1A	2.7	2.5	3.7
NMW-2A	2.6	2.5	2.4
NMW-3A	2.5	2.4	2.1
NMW-4A	2.5	2.6	1.4
NMW-5	3.5	3.6	1.4
NMW-6S	2.6	2.5	2.3
NMW-7D	1.9	2.4	9.6
NMW-8S	2.5	2.5	1.2
NMW-9D	3.0	3.1	0.8

meq/L = milliequivalents per liter

Two locations (1570, which is at the evaporation pond, and well 0932) had charge balances slightly greater than 10 percent. There were no analytical errors identified during the review of the laboratory data.

SAMPLE MANAGEMENT SYSTEM
General Data Validation Report

RIN: 13025097 **Lab Code:** PAR **Validator:** Gretchen Baer **Validation Date:** 3/6/2013

Project: Tuba City **Analysis Type:** ☑ Metals ☑ General Chem ☐ Rad ☐ Organics

# of Samples: 51 **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	There are 0 holding time failures.
☑ Detection Limits	The reported detection limits are equal to or below contract requirements.
☐ Field/Trip Blanks	
☑ Field Duplicates	There were 3 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 13025097 **Lab Code:** PAR **Date Due:** 3/15/2013

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/4/2013

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	CCV	CCB								
Arsenic	ICP/MS	02/25/2013					OK	109.0	107.0	108.0	1.0		11.0	
Arsenic	ICP/MS	02/25/2013	-0.0350	1.0000	OK	OK	OK	108.0	111.0	110.0	1.0		23.0	
Arsenic	ICP/MS	02/25/2013					OK	105.0	107.0	110.0	2.0	110.0	1.0	91.0
Calcium	ICP/ES	02/25/2013					OK	98.0	99.0	100.0	0.0	102.0	3.0	101.0
Calcium	ICP/ES	02/25/2013	-0.1080	1.0000	OK	OK	OK	97.0	91.0	96.0	1.0		4.0	
Calcium	ICP/ES	02/25/2013					OK	97.0	104.0	82.0	4.0	102.0	1.0	99.0
Iron	ICP/ES	02/25/2013					OK	97.0	100.0	100.0	0.0	104.0		98.0
Iron	ICP/ES	02/25/2013	-0.0140	1.0000	OK	OK	OK	97.0	95.0	97.0	2.0	105.0		96.0
Iron	ICP/ES	02/25/2013					OK	97.0	96.0	92.0	3.0			
Magnesium	ICP/ES	02/25/2013					OK	97.0	99.0	99.0	0.0		1.0	
Magnesium	ICP/ES	02/25/2013					OK	96.0	94.0	96.0	1.0	104.0	0.0	101.0
Magnesium	ICP/ES	02/25/2013	-0.0760	1.0000	OK	OK	OK	97.0	96.0	91.0	3.0	103.0	3.0	98.0
Manganese	ICP/ES	02/25/2013					OK	98.0	100.0	100.0	0.0			
Manganese	ICP/ES	02/25/2013					OK	98.0	96.0	97.0	1.0	97.0	35.0	104.0
Manganese	ICP/ES	02/25/2013	-0.0010	1.0000	OK	OK	OK	98.0	96.0	93.0	3.0	96.0	23.0	102.0
Molybdenum	ICP/MS	02/25/2013	-0.0040	1.0000	OK	OK	OK	101.0	102.0	102.0	0.0			
Molybdenum	ICP/MS	02/25/2013					OK	100.0	105.0	102.0	2.0			

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 13025097 **Lab Code:** PAR **Date Due:** 3/15/2013

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/4/2013

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	CCV	CCB								
Molybdenum	ICP/MS	02/25/2013					OK	101.0	102.0	100.0	2.0	102.0		109.0
Potassium	ICP/ES	02/25/2013					OK	95.0	98.0	97.0	1.0			
Potassium	ICP/ES	02/25/2013					OK	94.0	101.0	103.0	1.0			76.0
Potassium	ICP/ES	02/25/2013	-2.9880	1.0000	OK	OK	OK	95.0	104.0	101.0	2.0			74.0
Selenium	ICP/MS	02/25/2013	-0.1350	1.0000	OK	OK	OK	101.0	100.0	102.0	2.0		3.0	
Selenium	ICP/MS	02/25/2013					OK	103.0	105.0	98.0	7.0		6.0	
Selenium	ICP/MS	02/25/2013					OK	100.0	105.0	99.0	6.0	98.0		125.0
Silicon	ICP/ES	02/25/2013					OK	102.0	109.0	109.0	0.0	96.0	0.0	101.0
Silicon	ICP/ES	02/25/2013	-0.1310	1.0000	OK	OK	OK	101.0	81.0	90.0	1.0	95.0	2.0	83.0
Silicon	ICP/ES	02/25/2013					OK	101.0			3.0		1.0	
Sodium	ICP/ES	02/25/2013					OK	94.0	97.0	96.0	1.0		14.0	81.0
Sodium	ICP/ES	02/25/2013					OK	93.0	98.0	99.0	1.0		14.0	
Sodium	ICP/ES	02/25/2013	-0.1150	1.0000	OK	OK	OK	94.0	97.0	93.0	2.0		11.0	76.0
Uranium	ICP/MS	02/25/2013	0.0000	1.0000	OK	OK	OK	104.0	106.0	105.0	0.0	106.0	2.0	100.0
Uranium	ICP/MS	02/25/2013					OK	104.0	102.0	101.0	0.0		5.0	
Uranium	ICP/MS	02/25/2013					OK	103.0			1.0		2.0	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 13025097 **Lab Code:** PAR **Date Due:** 3/15/2013

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/4/2013

Analyte	Date Analyzed	CALIBRATION				Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	CCV	CCB						
AMMONIA AS N	02/21/2013	-0.013	1.0000	OK	OK	OK	96.00	93.0	94.0	1.00	
AMMONIA AS N	02/21/2013					OK	96.00	83.0	79.0	5.00	
AMMONIA AS N	02/21/2013					OK	95.00	86.0	87.0	1.00	
CHLORIDE	02/25/2013	-0.103	0.9999	OK	OK	OK	96.00	102.0	101.0	0	
CHLORIDE	02/25/2013					OK	96.00	100.0	100.0	0	
CHLORIDE	02/25/2013							100.0			
CHLORIDE	02/26/2013					OK	97.00	99.0	100.0	2.00	
CHLORIDE	02/26/2013							98.0			
Nitrate+Nitrite as N	02/27/2013	0.000	0.9998	OK	OK	OK	98.00	91.0	104.0	5.00	
Nitrate+Nitrite as N	02/27/2013					OK	97.00	80.0	81.0	0	
Nitrate+Nitrite as N	02/27/2013					OK	97.00				
SULFATE	02/25/2013	0.311	1.0000	OK	OK	OK	103.00	106.0	105.0	0	
SULFATE	02/25/2013					OK	102.00	107.0	106.0	1.00	
SULFATE	02/25/2013							108.0			
SULFATE	02/26/2013					OK	104.00	106.0	104.0	0	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 13025097 **Lab Code:** PAR **Date Due:** 3/15/2013

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/4/2013

Analyte	Date Analyzed	CALIBRATION				Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	CCV	CCB						
SULFATE	02/26/2013							105.0			
TOTAL DISSOLVED SOLIDS	02/19/2013					OK	105.00			0	
TOTAL DISSOLVED SOLIDS	02/19/2013									1.00	
TOTAL DISSOLVED SOLIDS	02/21/2013					OK	103.00			1.00	
TOTAL DISSOLVED SOLIDS	02/21/2013					OK	104.00			2.00	
TOTAL DISSOLVED SOLIDS	02/21/2013									2.00	

Sampling Quality Control Assessment

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

Sampling Protocol

Sample results for all monitoring wells met the Category I or II low-flow sampling criteria and were qualified with an "F" flag in the database, indicating the wells were purged and sampled using the low-flow sampling method. All monitoring wells are equipped with either dedicated downhole and pump head tubing or a bladder pump.

Extraction wells (0935, 0938, and 0942) are spigot samples and are designated as Category IV.

These 22 wells were classified as Category II: 0251, 0258, 0262, 0263, 0264, 0266, 0273, 0274, 0281, 0282, 0286, 0287, 0288, 0289, 0290, 0906, 0908, 0929, 0934, 0941, NMW-7D, and NMW-9D. The sample results for these wells were qualified with a "Q" flag, indicating the data are qualitative because of the sampling technique. Only one set of readings was recorded at Category I well 0275, rather than three. All field measurements and laboratory results for this location are qualified with a "J" flag (estimated).

The three treatment plant locations 1202, 1205, and 1206, were sampled during off normal operating conditions and do not represent typical analysis results. Consequently, all field measurements and laboratory results are qualified with an "R" flag as rejected.

Equipment Blank Assessment

No equipment blanks were collected because all samples were collected using dedicated 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 relative percent difference for duplicate results that are greater than 5 times the PQL should be less than 20 percent. The relative percent difference (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 samples were collected from locations 0268, 1569, and NMW-1A. The duplicate results met the criteria, with the exception of manganese and sodium at location NMW-1A and arsenic at location 1569. There were no analytical errors identified during the review of the data. The associated sample and duplicate results are qualified with a "J" flag as estimated values.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 13025097 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/6/2013

Duplicate: 2122 **Sample:** NMW-1A

	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
Arsenic	2.5			1	2.6			1	3.92		UG/L
Calcium	33000			1	33000			1	0		UG/L
CHLORIDE	9.9			1	9.9			1	0		MG/L
Iron	4.9	U		1	4.9	U		1			UG/L
Magnesium	6200			1	6700			1	7.75		UG/L
Manganese	5.5			1	14			1	NA		UG/L
Molybdenum	0.39			1	0.43			1	9.76		UG/L
Nitrate+Nitrite as N	3.5			5	3.5			5	0		MG/L
Potassium	1100			1	1200			1	8.70		UG/L
Selenium	1.3			1	1.3			1	0		UG/L
Silica	11000			1	11000			1	0		UG/L
Silicon	5200			1	5200			1	0		UG/L
Sodium	11000			1	14000			1	24.00		UG/L
SULFATE	14			1	14			1	0		MG/L
TOTAL DISSOLVED SOLIDS	160			1	160			1	0		MG/L
Uranium	1.6			1	1.9			1	17.14		UG/L

Duplicate: 2723 **Sample:** 0268

	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
Arsenic	1.2			1	1.3	E		1	8.00		UG/L
Calcium	200000			1	190000			1	5.13		UG/L
CHLORIDE	23			20	24			10	4.26		MG/L
Iron	13	B		1	16	B		1			UG/L
Magnesium	36000			1	35000			1	2.82		UG/L
Manganese	0.59	B		1	3.1	B		1	NA		UG/L
Molybdenum	0.31			1	0.36			1	14.93		UG/L
Nitrate+Nitrite as N	40			50	39			20	2.53		MG/L
Potassium	3500			1	3400			1	2.90		UG/L
Selenium	2.8			1	3.1			1	10.17		UG/L
Silica	13000			1	13000			1	0		UG/L
Silicon	6300			1	6100			1	3.23		UG/L
Sodium	33000			1	33000	E		1	0		UG/L
SULFATE	360			20	370			10	2.74		MG/L
TOTAL DISSOLVED SOLIDS	960			1	970			1	1.04		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 13025097 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/6/2013

Duplicate: 2723 **Sample:** 0268

Analyte	Sample Result	Flag	Error	Dilution	Duplicate Result	Flag	Error	Dilution	RPD	RER	Units
Uranium	82			1	80			1	2.47		UG/L

Duplicate: 2724 **Sample:** 1569

Analyte	Sample Result	Flag	Error	Dilution	Duplicate Result	Flag	Error	Dilution	RPD	RER	Units
AMMONIA AS N					150			50			MG/L
Arsenic	17			100	23			50	30.00		UG/L
Calcium	740000			100	810000			100	9.03		UG/L
CHLORIDE	28000			2000	30000			2000	6.90		MG/L
Iron	490	U		100	2200	B		100			UG/L
Magnesium	2100000			100	2300000			100	9.09		UG/L
Manganese	42000			100	47000			100	11.24		UG/L
Molybdenum	130			100	120			50	8.00		UG/L
Nitrate+Nitrite as N	1200			1000	1300			1000	8.00		MG/L
Potassium	150000			100	160000			100	6.45		UG/L
Selenium	220			100	210			50	4.65		UG/L
Silica					40000			100			UG/L
Silicon					19000			100			UG/L
Sodium	1.5E+07			100	1.3E+07			500	14.29		UG/L
SULFATE	4800			1000	5200			1000	8.00		MG/L
TOTAL DISSOLVED SOLIDS	58000			1	59000			1	1.71		MG/L
Uranium	1600			100	1700			50	6.06		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: 5-13-2013

Data Validation Lead: Gretchen Baer — Date: 5-13-2013

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.

Fourteen laboratory results from five locations were identified as potential outliers. These results were identified as potentially anomalous because of upward trending in the data. Six of the results were reported at groundwater location 0268; multiple analytes at this location have increased significantly since 2011. There were no anomalies identified during data validation for the previous sampling event in August 2012. The laboratory results for this RIN are acceptable as qualified.

Potential anomalies in the field parameters were also examined for patterns of repeated high or low bias, which suggest a systematic error due to instrument malfunction. No such patterns were found and all field data from this event are acceptable as qualified.

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Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 13025097
Report Date: 4/5/2013

					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	
TUB01	0251	N001	02/12/2013	Magnesium	5.7		FQ	9.78		L	5.77		QF	25	0	No
TUB01	0258	N001	02/13/2013	Iron	0.14		FQ	0.03	U	FQ	0.003	B	UFQ	17	17	No
TUB01	0263	N001	02/12/2013	Arsenic	0.003		FQ	0.0023		FQ	0.00084		F	18	1	No
TUB01	0263	N001	02/12/2013	Magnesium	530		FQ	508		QF	220		F	19	0	No
TUB01	0263	N001	02/12/2013	Silica	21		FQ	19.6		QF	13		F	19	0	No
TUB01	0263	N001	02/12/2013	Silicon	9.6		FQ	8.5		FQ	6		F	15	0	Yes
TUB01	0263	N001	02/12/2013	Sodium	330		JFQ	319	E	QF	140			19	0	No
TUB01	0264	N001	02/12/2013	Calcium	69		FQ	68		FQ	40.2			19	0	No
TUB01	0264	N001	02/12/2013	Magnesium	14		FQ	13		FQ	8.48			19	0	No
TUB01	0264	N001	02/12/2013	Selenium	0.0022		FQ	0.00208	B	QF	0.001			19	0	No
TUB01	0264	N001	02/12/2013	Sulfate	96		FQ	81		FQJ	37.7			19	0	Yes
TUB01	0264	N001	02/12/2013	Total Dissolved Solids	340		FQ	330		FQJ	245			19	0	No
TUB01	0264	N001	02/12/2013	Uranium	0.0043		FQ	0.00423		QF	0.0027		FQ	19	0	No
TUB01	0265	N001	02/12/2013	Selenium	0.0075		F	0.0072		FQ	0.0036		F	20	0	No
TUB01	0266	N001	02/12/2013	Iron	0.1		FQ	0.071		F	0.0014	U	FQ	19	18	No
TUB01	0266	N001	02/12/2013	Total Dissolved Solids	120		FQ	160		FQ	129		QF	18	0	No
TUB01	0267	0001	02/12/2013	Molybdenum	0.000093	B	F	0.003	U		0.00011		F	26	18	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 13025097
Report Date: 4/5/2013

					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	
TUB01	0267	0001	02/12/2013	Silicon	12		F	11		F	9.1		F	17	0	No
TUB01	0268	N002	02/13/2013	Chloride	24		F	23.6		F	10		F	25	0	No
TUB01	0268	N002	02/13/2013	Selenium	0.0031		F	0.00246	B	F	0.0012		F	28	0	Yes
TUB01	0268	N001	02/13/2013	Selenium	0.0028		F	0.00246	B	F	0.0012		F	28	0	Yes
TUB01	0268	N002	02/13/2013	Silicon	6.1		F	5.7		F	4		F	18	0	Yes
TUB01	0268	N001	02/13/2013	Silicon	6.3		F	5.7		F	4		F	18	0	Yes
TUB01	0268	N002	02/13/2013	Sulfate	370		F	363		F	15			28	0	No
TUB01	0268	N002	02/13/2013	Total Dissolved Solids	970		F	914		F	140			25	0	Yes
TUB01	0268	N001	02/13/2013	Total Dissolved Solids	960		F	914		F	140			25	0	Yes
TUB01	0275	N001	02/12/2013	Silicon	8.4		FJ	8.1		F	3		F	14	0	No
TUB01	0281	0001	02/12/2013	Chloride	19		FQ	30		FQ	21		F	17	0	No
TUB01	0281	0001	02/12/2013	Manganese	0.008		JFQ	0.14		FQ	0.01		FQ	17	0	No
TUB01	0281	0001	02/12/2013	Sodium	12		JFQ	30		FQ	14		FQ	17	0	No
TUB01	0281	0001	02/12/2013	Uranium	0.0054		FQ	0.00875		QF	0.0055		FQ	17	0	No
TUB01	0286	N001	02/12/2013	Arsenic	0.0024		FQ	0.002		FQ	0.00041		F	10	2	No
TUB01	0286	N001	02/12/2013	Silicon	8.5		FQ	8.4		FQ	5.7		FQ	8	0	No
TUB01	0287	N001	02/12/2013	Molybdenum	0.14		FQ	0.134		QF	0.023		FQ	10	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 13025097
Report Date: 4/5/2013

					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	
TUB01	0287	N001	02/12/2013	Silicon	8.5		FQ	8.2		FQ	7.2		FQ	8	0	No
TUB01	0287	N001	02/12/2013	Sodium	360		JFQ	340		FQ	170		FQ	10	0	No
TUB01	0287	N001	02/12/2013	Sulfate	1900		FQ	1800		FQJ	1200		FQ	10	0	No
TUB01	0287	N001	02/12/2013	Uranium	0.27		FQ	0.24		FQ	0.17		FQ	10	0	No
TUB01	0288	N001	02/12/2013	Magnesium	32		FQ	63		FQ	33.3		QF	10	0	No
TUB01	0288	N001	02/12/2013	Sodium	37		JFQ	74		FQ	39		FQ	10	0	No
TUB01	0290	0001	02/13/2013	Potassium	4.2		FQ	4		FQ	1.1		FQJ	10	0	No
TUB01	0290	0001	02/13/2013	Silicon	7.4		FQ	7.2		FQ	5.4		FQ	8	0	No
TUB01	0290	0001	02/13/2013	Sodium	61		JFQ	57		FQ	13		FQ	10	0	No
TUB01	0290	0001	02/13/2013	Sulfate	580		FQ	550		FQ	19		FQ	10	0	No
TUB01	0290	0001	02/13/2013	Uranium	0.055		FQ	0.05		FQ	0.0014		FQ	10	0	No
TUB01	0691	N001	02/12/2013	Calcium	360		F	353		F	81		F	27	0	No
TUB01	0691	N001	02/12/2013	Sulfate	640		F	638		F	91		F	30	0	No
TUB01	0691	N001	02/12/2013	Uranium	0.077		F	0.071		F	0.0083		FQ	30	0	No
TUB01	0908	N001	02/12/2013	Molybdenum	0.00014		FQ	0.12			0.00028	B	QF	51	36	No
TUB01	0930	N001	02/12/2013	Calcium	100		F	85		F	49		F	27	0	Yes
TUB01	0930	N001	02/12/2013	Magnesium	21		F	18		F	10		F	27	0	Yes

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 13025097
Report Date: 4/5/2013

					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	
TUB01	0930	N001	02/12/2013	Nitrate + Nitrite as Nitrogen	25		F	23		F	1.5		F	18	0	No
TUB01	0930	N001	02/12/2013	Sulfate	140		F	110		F	40			31	0	Yes
TUB01	0930	N001	02/12/2013	Total Dissolved Solids	500		F	450		F	230		F	27	0	Yes
TUB01	0930	N001	02/12/2013	Uranium	0.0054		F	0.00475		F	0.0019			31	0	No
TUB01	0934	N001	02/12/2013	Nitrate + Nitrite as Nitrogen	350		FQ	520		FQJ	357		QF	20	0	No
TUB01	0935	N001	02/13/2013	Manganese	0.94		J	0.79			0.264		F	32	0	No
TUB01	0938	N001	02/13/2013	Ammonia Total as N	4.1			2.83		F	0.1	U	F	14	9	No
TUB01	0938	N001	02/13/2013	Selenium	0.083			0.0767			0.028			21	0	No
TUB01	0938	N001	02/13/2013	Sodium	380		J	352		F	120			21	0	No
TUB01	0938	N001	02/13/2013	Sulfate	3100			2800			950		F	21	0	No
TUB01	0940	N001	02/12/2013	Ammonia Total as N	74		F	42		FQJ	0.1	U	FQ	5	1	No
TUB01	0940	N001	02/12/2013	Molybdenum	0.00057		F	0.01	U	F	0.0011	B	L	23	9	No
TUB01	0940	N001	02/12/2013	Nitrate + Nitrite as Nitrogen	340		F	496		FQ	420		FQJ	5	0	No
TUB01	0941	N001	02/12/2013	Calcium	1000		FQ	960		FQ	122		F	32	0	No
TUB01	0941	N001	02/12/2013	Magnesium	170		FQ	150		FQ	28.3		F	32	0	No
TUB01	0941	N001	02/12/2013	Silica	19		FQ	18.4		FQ	14		FQ	26	0	Yes
TUB01	0941	N001	02/12/2013	Silicon	8.9		FQ	8		FQ	6.4		FQ	14	0	Yes

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: ALS Laboratory Group

RIN: 13025097

Report Date: 4/5/2013

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum	Qualifiers		Historical Minimum	Qualifiers		Number of Data Points		Statistical Outlier
					Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
TUB01	0941	N001	02/12/2013	Sulfate	1700		FQ	1600		FQJ	225			36	0	No
TUB01	0942	N001	02/13/2013	Arsenic	0.0044			0.00429	B		0.0013		F	21	0	No
TUB01	0942	N001	02/13/2013	Molybdenum	0.0046			0.0794		F	0.0051			37	0	No
TUB01	1569	N002	02/13/2013	Arsenic	0.023		J	3.4			0.041			21	0	No
TUB01	1569	N001	02/13/2013	Arsenic	0.017		J	3.4			0.041			21	0	No
TUB01	1569	N001	02/13/2013	Nitrate + Nitrite as Nitrogen	1200			17000			2900			18	0	No
TUB01	1569	N002	02/13/2013	Nitrate + Nitrite as Nitrogen	1300			17000			2900			18	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 - Field Parameters Only
Comparison: All Historical Data
Laboratory: Field Measurements
RIN: 13025097
Report Date: 4/5/2013

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum	Qualifiers		Historical Minimum	Qualifiers		Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0258	N001	02/13/2013	Alkalinity, Total (as $CaCO_3$)	80		FQ	107		FQ	83		FQ	18	0	No
TUB01	0258	N001	02/13/2013	Turbidity	9.3		FQ	8.83		FQ	0.69		FQ	17	0	No
TUB01	0262	N001	02/13/2013	Turbidity	28.3		FQ	9.34		FQ	0.47		FQ	18	0	No
TUB01	0264	N001	02/12/2013	Temperature	13.7		FQ	21.8			14.05		FQ	19	0	No
TUB01	0267	0001	02/12/2013	Alkalinity, Total (As $CaCO_3$)	640		F	1142			734		F	27	0	No
TUB01	0268	N001	02/13/2013	pH	6.92		F	8.05			6.94		F	26	0	No
TUB01	0272	N001	02/13/2013	pH	7.35		F	8.16		F	7.47		F	16	0	No
TUB01	0275	N001	02/12/2013	Alkalinity, Total (As $CaCO_3$)	475		F	670		F	482		F	16	0	No
TUB01	0275	N001	02/12/2013	pH	6.63		F	6.57		F	6.26		F	16	0	No
TUB01	0281	N001	02/12/2013	Turbidity	480		FQ	25.4		FQ	2.89		FQ	15	0	Yes
TUB01	0288	N001	02/12/2013	Alkalinity, Total (As $CaCO_3$)	186		FQ	336		FQ	240		FQ	10	0	No
TUB01	0288	N001	02/12/2013	pH	7.11		FQ	6.96		FQ	6.58		FQ	10	0	No
TUB01	0288	N001	02/12/2013	Specific Conductance	1312		FQ	2432		FQ	1339		FQ	10	0	No
TUB01	0288	N001	02/12/2013	Temperature	12.54		FQ	18.64		FQ	13.6		FQ	10	0	No
TUB01	0288	N001	02/12/2013	Turbidity	8.68		FQ	7.53		FQ	1.81		FQ	10	0	Yes
TUB01	0289	N001	02/12/2013	Alkalinity, Total (As $CaCO_3$)	168		FQ	268		FQ	185		FQ	10	0	No
TUB01	0289	N001	02/12/2013	pH	7.31		FQ	7.19		FQ	6.88		FQ	10	0	No

Data Validation Outliers Report - Field Parameters Only

Comparison: All Historical Data

Laboratory: Field Measurements

RIN: 13025097

Report Date: 4/5/2013

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum	Qualifiers		Historical Minimum	Qualifiers		Number of Data Points		Statistical Outlier
					Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
TUB01	0290	N001	02/13/2013	pH	6.87		FQ	8.35		FQ	6.93		FQ	10	0	No
TUB01	0290	N001	02/13/2013	Turbidity	38.2		FQ	24.2		FQ	3.43		FQ	9	0	No
TUB01	0930	N001	02/12/2013	Alkalinity, Total (As $CaCO_3$)	75		F	130		F	81			32	0	No
TUB01	0930	N001	02/12/2013	Specific Conductance	725		F	636		F	293		F	28	0	Yes
TUB01	0940	N001	02/12/2013	pH	6.72		F	6.59		FQ	5.48		L	21	0	No
TUB01	0941	N001	02/12/2013	Specific Conductance	5401		FQ	5100		QF	1130			32	0	No

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

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Attachment 2
Data Presentation

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Groundwater Quality Data

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Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0251 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	200 - 300	78		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	200 - 300	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	200 - 300	0.0026		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	200 - 300	27		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	200 - 300	6.5		FQ	#	0.2	
Iron	mg/L	02/12/2013	N001	200 - 300	0.024	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	200 - 300	5.7		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	200 - 300	0.014	E	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	200 - 300	0.00023		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	200 - 300	3.5		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	200 - 300	90		FQ	#		
pH	s.u.	02/12/2013	N001	200 - 300	7.94		FQ	#		
Potassium	mg/L	02/12/2013	N001	200 - 300	1.8		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	200 - 300	0.00092		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	200 - 300	10		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	200 - 300	4.9		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	200 - 300	5.2	E	JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	200 - 300	230		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0251 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	200 - 300	13		FQ	#	0.5	
Temperature	C	02/12/2013	N001	200 - 300	16		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	200 - 300	140		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	200 - 300	2.2		FQ	#		
Uranium	mg/L	02/12/2013	N001	200 - 300	0.0016		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0252 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	02/12/2013	N001	400 - 500	67		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	400 - 500	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	400 - 500	0.0027		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	400 - 500	21		F	#	0.012	
Chloride	mg/L	02/12/2013	N001	400 - 500	4.7		F	#	0.2	
Iron	mg/L	02/12/2013	N001	400 - 500	0.011	B	UF	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	400 - 500	4.1		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	400 - 500	0.0071		JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	400 - 500	0.00016		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	400 - 500	2.4		F	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	400 - 500	90		F	#		
pH	s.u.	02/12/2013	N001	400 - 500	8.05		F	#		
Potassium	mg/L	02/12/2013	N001	400 - 500	1.8		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	400 - 500	0.00072		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	400 - 500	10		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	400 - 500	4.8		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	400 - 500	8.6		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	400 - 500	210		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0252 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	400	-	500	7.1		F	#	0.5	
Temperature	C	02/12/2013	N001	400	-	500	15.6		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	400	-	500	120		F	#	20	
Turbidity	NTU	02/12/2013	N001	400	-	500	1.33		F	#		
Uranium	mg/L	02/12/2013	N001	400	-	500	0.002		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0258 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	159 - 199	80		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	N001	159 - 199	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	N001	159 - 199	0.0028		FQ	#	0.000015	
Calcium	mg/L	02/13/2013	N001	159 - 199	33		FQ	#	0.012	
Chloride	mg/L	02/13/2013	N001	159 - 199	12		FQ	#	0.2	
Iron	mg/L	02/13/2013	N001	159 - 199	0.14		FQ	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	159 - 199	7.2		FQ	#	0.013	
Manganese	mg/L	02/13/2013	N001	159 - 199	0.002	B	JFQ	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	159 - 199	0.00054		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	159 - 199	3.4		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	159 - 199	180		FQ	#		
pH	s.u.	02/13/2013	N001	159 - 199	7.81		FQ	#		
Potassium	mg/L	02/13/2013	N001	159 - 199	1.4		FQ	#	0.11	
Selenium	mg/L	02/13/2013	N001	159 - 199	0.0016		FQ	#	0.000032	
Silica	mg/L	02/13/2013	N001	159 - 199	13		FQ	#	0.0095	
Silicon	mg/L	02/13/2013	N001	159 - 199	6		FQ	#	0.0044	
Sodium	mg/L	02/13/2013	N001	159 - 199	10		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	159 - 199	330		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0258 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	159 - 199	19		FQ	#	0.5	
Temperature	C	02/13/2013	N001	159 - 199	14.4		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	159 - 199	180		FQ	#	20	
Turbidity	NTU	02/13/2013	N001	159 - 199	9.3		FQ	#		
Uranium	mg/L	02/13/2013	N001	159 - 199	0.0014		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0262 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	0001	60 - 100	240		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	0001	60 - 100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	0001	60 - 100	0.0018		FQ	#	0.00015	
Calcium	mg/L	02/13/2013	0001	60 - 100	790		FQ	#	0.06	
Chloride	mg/L	02/13/2013	0001	60 - 100	100		FQ	#	10	
Iron	mg/L	02/13/2013	0001	60 - 100	0.025	U	FQ	#	0.025	
Magnesium	mg/L	02/13/2013	0001	60 - 100	180		FQ	#	0.065	
Manganese	mg/L	02/13/2013	0001	60 - 100	0.00057	U	JFQ	#	0.00057	
Molybdenum	mg/L	02/13/2013	0001	60 - 100	0.94		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	0001	60 - 100	180		FQ	#	1	
Oxidation Reduction Potential	mV	02/13/2013	N001	60 - 100	240		FQ	#		
pH	s.u.	02/13/2013	N001	60 - 100	6.73		FQ	#		
Potassium	mg/L	02/13/2013	0001	60 - 100	5.8		FQ	#	0.54	
Selenium	mg/L	02/13/2013	0001	60 - 100	0.11		FQ	#	0.00032	
Silica	mg/L	02/13/2013	0001	60 - 100	16		FQ	#	0.047	
Silicon	mg/L	02/13/2013	0001	60 - 100	7.3		FQ	#	0.022	
Sodium	mg/L	02/13/2013	0001	60 - 100	210		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/13/2013	N001	60 - 100	4380		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0262 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	0001	60	-	100	2200		FQ	#	25	
Temperature	C	02/13/2013	N001	60	-	100	14.3		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	0001	60	-	100	4600		FQ	#	80	
Turbidity	NTU	02/13/2013	N001	60	-	100	28.3		FQ	#		
Uranium	mg/L	02/13/2013	0001	60	-	100	0.88		FQ	#	0.000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0263 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	60 - 100	559		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	60 - 100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	60 - 100	0.003		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	60 - 100	630		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	60 - 100	110		FQ	#	10	
Iron	mg/L	02/12/2013	N001	60 - 100	0.036	B	UFQ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	60 - 100	530		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	60 - 100	0.00057	U	JFQ	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	60 - 100	0.048		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	60 - 100	230		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	60 - 100	98.7		FQ	#		
pH	s.u.	02/12/2013	N001	60 - 100	6.81		FQ	#		
Potassium	mg/L	02/12/2013	N001	60 - 100	6.4		FQ	#	0.54	
Selenium	mg/L	02/12/2013	N001	60 - 100	0.048		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	60 - 100	21		FQ	#	0.047	
Silicon	mg/L	02/12/2013	N001	60 - 100	9.6		FQ	#	0.022	
Sodium	mg/L	02/12/2013	N001	60 - 100	330		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	60 - 100	6126		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0263 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	60 - 100	2900		FQ	#	25	
Temperature	C	02/12/2013	N001	60 - 100	15.08		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	60 - 100	6000		FQ	#	80	
Turbidity	NTU	02/12/2013	N001	60 - 100	6.84		FQ	#		
Uranium	mg/L	02/12/2013	N001	60 - 100	0.26		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0264 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	160 - 200	109		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	160 - 200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	160 - 200	0.0023		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	160 - 200	69		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	160 - 200	15		FQ	#	0.4	
Iron	mg/L	02/12/2013	N001	160 - 200	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	160 - 200	14		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	160 - 200	0.00011	U	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	160 - 200	0.00042		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	160 - 200	11		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/12/2013	N001	160 - 200	75.1		FQ	#		
pH	s.u.	02/12/2013	N001	160 - 200	7.9		FQ	#		
Potassium	mg/L	02/12/2013	N001	160 - 200	1.8		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	160 - 200	0.0022		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	160 - 200	13		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	160 - 200	6.2		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	160 - 200	15		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	160 - 200	547		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0264 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	160 - 200	96		FQ	#	1	
Temperature	C	02/12/2013	N001	160 - 200	13.7		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	160 - 200	340		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	160 - 200	2.99		FQ	#		
Uranium	mg/L	02/12/2013	N001	160 - 200	0.0043		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0265 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	60 - 100	320		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	60 - 100	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	60 - 100	0.0013		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	60 - 100	550		F	#	0.06	
Chloride	mg/L	02/12/2013	N001	60 - 100	120		F	#	10	
Iron	mg/L	02/12/2013	N001	60 - 100	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	60 - 100	180		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	60 - 100	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	60 - 100	0.000086	B	F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	60 - 100	190		F	#	1	
Oxidation Reduction Potential	mV	02/12/2013	N001	60 - 100	110		F	#		
pH	s.u.	02/12/2013	N001	60 - 100	6.75		F	#		
Potassium	mg/L	02/12/2013	N001	60 - 100	5.8		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	60 - 100	0.0075		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	60 - 100	16		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	60 - 100	7.3		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	60 - 100	110		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	60 - 100	3380		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0265 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	60	-	100	1200		F	#	25	
Temperature	C	02/12/2013	N001	60	-	100	15.5		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	60	-	100	3200		F	#	80	
Turbidity	NTU	02/12/2013	N001	60	-	100	1.22		F	#		
Uranium	mg/L	02/12/2013	N001	60	-	100	0.062		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0266 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	160 - 200	64		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	160 - 200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	160 - 200	0.002		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	160 - 200	28		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	160 - 200	7.7		FQ	#	0.2	
Iron	mg/L	02/12/2013	N001	160 - 200	0.1		FQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	160 - 200	7.1		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	160 - 200	0.0021	B	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	160 - 200	0.00026		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	160 - 200	3.4		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	160 - 200	93		FQ	#		
pH	s.u.	02/12/2013	N001	160 - 200	8		FQ	#		
Potassium	mg/L	02/12/2013	N001	160 - 200	1.8		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	160 - 200	0.001		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	160 - 200	12		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	160 - 200	5.8		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	160 - 200	5.1		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	160 - 200	250		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0266 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	160	-	200	12		FQ	#	0.5	
Temperature	C	02/12/2013	N001	160	-	200	15.1		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	160	-	200	120		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	160	-	200	5.34		FQ	#		
Uranium	mg/L	02/12/2013	N001	160	-	200	0.0017		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	0001	60 - 100	640		F	#		
Ammonia Total as N	mg/L	02/12/2013	0001	60 - 100	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	0001	60 - 100	0.004		F	#	0.000015	
Calcium	mg/L	02/12/2013	0001	60 - 100	620		F	#	0.06	
Chloride	mg/L	02/12/2013	0001	60 - 100	110		F	#	20	
Iron	mg/L	02/12/2013	0001	60 - 100	0.025	U	F	#	0.025	
Magnesium	mg/L	02/12/2013	0001	60 - 100	770		F	#	0.065	
Manganese	mg/L	02/12/2013	0001	60 - 100	0.026		JF	#	0.00057	
Molybdenum	mg/L	02/12/2013	0001	60 - 100	0.000093	B	F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	0001	60 - 100	300		F	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	60 - 100	130		F	#		
pH	s.u.	02/12/2013	N001	60 - 100	6.4		F	#		
Potassium	mg/L	02/12/2013	0001	60 - 100	8.9		F	#	0.54	
Selenium	mg/L	02/12/2013	0001	60 - 100	0.054		F	#	0.000032	
Silica	mg/L	02/12/2013	0001	60 - 100	25		F	#	0.047	
Silicon	mg/L	02/12/2013	0001	60 - 100	12		F	#	0.022	
Sodium	mg/L	02/12/2013	0001	60 - 100	400		JF	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	60 - 100	6780		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	0001	60	-	100	3500		F	#	50	
Temperature	C	02/12/2013	N001	60	-	100	15.5		F	#		
Total Dissolved Solids	mg/L	02/12/2013	0001	60	-	100	7400		F	#	200	
Turbidity	NTU	02/12/2013	N001	60	-	100	23.5		F	#		
Uranium	mg/L	02/12/2013	0001	60	-	100	0.071		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	200 - 300	200		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	200 - 300	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	02/13/2013	N002	200 - 300	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	200 - 300	0.0012		JF	#	0.000015	
Arsenic	mg/L	02/13/2013	N002	200 - 300	0.0013	E	JF	#	0.000015	
Calcium	mg/L	02/13/2013	N001	200 - 300	200		F	#	0.012	
Calcium	mg/L	02/13/2013	N002	200 - 300	190		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	200 - 300	23		F	#	4	
Chloride	mg/L	02/13/2013	N002	200 - 300	24		F	#	2	
Iron	mg/L	02/13/2013	N001	200 - 300	0.013	B	UF	#	0.0049	
Iron	mg/L	02/13/2013	N002	200 - 300	0.016	B	UF	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	200 - 300	36		F	#	0.013	
Magnesium	mg/L	02/13/2013	N002	200 - 300	35		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	200 - 300	0.00059	B	JF	#	0.00011	
Manganese	mg/L	02/13/2013	N002	200 - 300	0.0031	B	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	200 - 300	0.00031		F	#	0.000032	
Molybdenum	mg/L	02/13/2013	N002	200 - 300	0.00036		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	200 - 300	40		F	#	0.5	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N002	200 - 300	39		F	#	0.2	
Oxidation Reduction Potential	mV	02/13/2013	N001	200 - 300	145		F	#		
pH	s.u.	02/13/2013	N001	200 - 300	6.92		F	#		
Potassium	mg/L	02/13/2013	N001	200 - 300	3.5		F	#	0.11	
Potassium	mg/L	02/13/2013	N002	200 - 300	3.4		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	200 - 300	0.0028		F	#	0.000032	
Selenium	mg/L	02/13/2013	N002	200 - 300	0.0031		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	200 - 300	13		F	#	0.0095	
Silica	mg/L	02/13/2013	N002	200 - 300	13		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	200 - 300	6.3		F	#	0.0044	
Silicon	mg/L	02/13/2013	N002	200 - 300	6.1		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	200 - 300	33		JF	#	0.0066	
Sodium	mg/L	02/13/2013	N002	200 - 300	33	E	JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	200 - 300	1260		F	#		
Sulfate	mg/L	02/13/2013	N001	200 - 300	360		F	#	10	
Sulfate	mg/L	02/13/2013	N002	200 - 300	370		F	#	5	
Temperature	C	02/13/2013	N001	200 - 300	16.1		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	200 - 300	960		F	#	40	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Total Dissolved Solids	mg/L	02/13/2013	N002	200 - 300	970		F	#	40	
Turbidity	NTU	02/13/2013	N001	200 - 300	1.9		F	#		
Uranium	mg/L	02/13/2013	N001	200 - 300	0.082		F	#	0.0000029	
Uranium	mg/L	02/13/2013	N002	200 - 300	0.08		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0272 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	159.1 - 179.1	94		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	159.1 - 179.1	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	159.1 - 179.1	0.002		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	159.1 - 179.1	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	159.1 - 179.1	8.2		F	#	0.2	
Iron	mg/L	02/13/2013	N001	159.1 - 179.1	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	159.1 - 179.1	7		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	159.1 - 179.1	0.00018	B	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	159.1 - 179.1	0.00024		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	159.1 - 179.1	3.9		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	159.1 - 179.1	190		F	#		
pH	s.u.	02/13/2013	N001	159.1 - 179.1	7.35		F	#		
Potassium	mg/L	02/13/2013	N001	159.1 - 179.1	1.2		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	159.1 - 179.1	0.0011		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	159.1 - 179.1	12		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	159.1 - 179.1	5.5		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	159.1 - 179.1	5.7		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	159.1 - 179.1	275		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0272 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	159.1 - 179.1	13		F	#	0.5	
Temperature	C	02/13/2013	N001	159.1 - 179.1	15.4		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	159.1 - 179.1	150		F	#	20	
Turbidity	NTU	02/13/2013	N001	159.1 - 179.1	1.25		F	#		
Uranium	mg/L	02/13/2013	N001	159.1 - 179.1	0.0015		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0273 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	153 - 173	149		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	153 - 173	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	153 - 173	0.0014		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	153 - 173	150		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	153 - 173	39		FQ	#	2	
Iron	mg/L	02/12/2013	N001	153 - 173	0.0073	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	153 - 173	28		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	153 - 173	0.00011	U	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	153 - 173	0.023		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	153 - 173	43		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/12/2013	N001	153 - 173	104.7		FQ	#		
pH	s.u.	02/12/2013	N001	153 - 173	7.5		FQ	#		
Potassium	mg/L	02/12/2013	N001	153 - 173	2.5		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	153 - 173	0.017		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	153 - 173	14		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	153 - 173	6.4		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	153 - 173	28		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	153 - 173	1085		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0273 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	153	-	173	190		FQ	#	5	
Temperature	C	02/12/2013	N001	153	-	173	14.38		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	153	-	173	740		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	153	-	173	2.77		FQ	#		
Uranium	mg/L	02/12/2013	N001	153	-	173	0.044		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0274 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	149 - 169	86		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	149 - 169	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	149 - 169	0.0025		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	149 - 169	34		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	149 - 169	11		FQ	#	0.2	
Iron	mg/L	02/12/2013	N001	149 - 169	0.017	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	149 - 169	6.6		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	149 - 169	0.00059	B	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	149 - 169	0.0004		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	149 - 169	3.5		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	149 - 169	80.5		FQ	#		
pH	s.u.	02/12/2013	N001	149 - 169	7.99		FQ	#		
Potassium	mg/L	02/12/2013	N001	149 - 169	1.1		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	149 - 169	0.0014		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	149 - 169	12		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	149 - 169	5.4		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	149 - 169	9.7		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	149 - 169	286		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0274 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	149 - 169	17		FQ	#	0.5	
Temperature	C	02/12/2013	N001	149 - 169	14.73		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	149 - 169	160		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	149 - 169	2.58		FQ	#		
Uranium	mg/L	02/12/2013	N001	149 - 169	0.0017		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0275 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	158.2 - 178.2	475		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	158.2 - 178.2	28		FJ	#	1	
Arsenic	mg/L	02/12/2013	N001	158.2 - 178.2	0.001		FJ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	158.2 - 178.2	720		FJ	#	0.06	
Chloride	mg/L	02/12/2013	N001	158.2 - 178.2	150		FJ	#	10	
Iron	mg/L	02/12/2013	N001	158.2 - 178.2	0.068	B	UFJ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	158.2 - 178.2	320		FJ	#	0.065	
Manganese	mg/L	02/12/2013	N001	158.2 - 178.2	9.6		JF	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	158.2 - 178.2	0.00028		FJ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	158.2 - 178.2	240		FJ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	158.2 - 178.2	105.2		F	#		
pH	s.u.	02/12/2013	N001	158.2 - 178.2	6.63		F	#		
Potassium	mg/L	02/12/2013	N001	158.2 - 178.2	16		FJ	#	0.54	
Selenium	mg/L	02/12/2013	N001	158.2 - 178.2	0.036		FJ	#	0.000032	
Silica	mg/L	02/12/2013	N001	158.2 - 178.2	18		FJ	#	0.047	
Silicon	mg/L	02/12/2013	N001	158.2 - 178.2	8.4		FJ	#	0.022	
Sodium	mg/L	02/12/2013	N001	158.2 - 178.2	300		JF	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	158.2 - 178.2	5774		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0275 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	158.2 - 178.2	2400		FJ	#	25	
Temperature	C	02/12/2013	N001	158.2 - 178.2	14.55		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	158.2 - 178.2	5400		FJ	#	80	
Turbidity	NTU	02/12/2013	N001	158.2 - 178.2	0.99		F	#		
Uranium	mg/L	02/12/2013	N001	158.2 - 178.2	0.42		FJ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0276 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	154.5 - 174.5	93		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	154.5 - 174.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	154.5 - 174.5	0.003		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	154.5 - 174.5	34		F	#	0.012	
Chloride	mg/L	02/12/2013	N001	154.5 - 174.5	12		F	#	0.2	
Iron	mg/L	02/12/2013	N001	154.5 - 174.5	0.013	B	UF	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	154.5 - 174.5	6.6		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	154.5 - 174.5	0.00075	B	JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	154.5 - 174.5	0.00047		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	154.5 - 174.5	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	154.5 - 174.5	64.3		F	#		
pH	s.u.	02/12/2013	N001	154.5 - 174.5	7.97		F	#		
Potassium	mg/L	02/12/2013	N001	154.5 - 174.5	1.1		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	154.5 - 174.5	0.0017		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	154.5 - 174.5	12		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	154.5 - 174.5	5.5		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	154.5 - 174.5	11		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	154.5 - 174.5	294		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0276 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	154.5 - 174.5	19		F	#	0.5	
Temperature	C	02/12/2013	N001	154.5 - 174.5	15.12		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	154.5 - 174.5	160		F	#	20	
Turbidity	NTU	02/12/2013	N001	154.5 - 174.5	2.63		F	#		
Uranium	mg/L	02/12/2013	N001	154.5 - 174.5	0.0017		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0281 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	0001	70.5 - 80.5	110		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	0001	70.5 - 80.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	0001	70.5 - 80.5	0.00061		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	0001	70.5 - 80.5	87		FQ	#	0.012	
Chloride	mg/L	02/12/2013	0001	70.5 - 80.5	19		FQ	#	1	
Iron	mg/L	02/12/2013	0001	70.5 - 80.5	0.022	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	0001	70.5 - 80.5	16		FQ	#	0.013	
Manganese	mg/L	02/12/2013	0001	70.5 - 80.5	0.008		JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	0001	70.5 - 80.5	0.00076		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	0001	70.5 - 80.5	24		FQ	#	0.2	
Oxidation Reduction Potential	mV	02/12/2013	N001	70.5 - 80.5	110		FQ	#		
pH	s.u.	02/12/2013	N001	70.5 - 80.5	7.4		FQ	#		
Potassium	mg/L	02/12/2013	0001	70.5 - 80.5	1.6		FQ	#	0.11	
Selenium	mg/L	02/12/2013	0001	70.5 - 80.5	0.0018		FQ	#	0.000032	
Silica	mg/L	02/12/2013	0001	70.5 - 80.5	14		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	0001	70.5 - 80.5	6.6		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	0001	70.5 - 80.5	12		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	70.5 - 80.5	680		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0281 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	0001	70.5 - 80.5	99		FQ	#	2.5	
Temperature	C	02/12/2013	N001	70.5 - 80.5	15.2		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	0001	70.5 - 80.5	430		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	70.5 - 80.5	480		FQ	#		
Uranium	mg/L	02/12/2013	0001	70.5 - 80.5	0.0054		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0282 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	74.1 - 84.1	124		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	74.1 - 84.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	74.1 - 84.1	0.00019		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	74.1 - 84.1	140		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	74.1 - 84.1	48		FQ	#	1	
Iron	mg/L	02/12/2013	N001	74.1 - 84.1	0.034	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	74.1 - 84.1	27		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	74.1 - 84.1	0.0015	B	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	74.1 - 84.1	0.00031		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	74.1 - 84.1	47		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/12/2013	N001	74.1 - 84.1	110		FQ	#		
pH	s.u.	02/12/2013	N001	74.1 - 84.1	7.52		FQ	#		
Potassium	mg/L	02/12/2013	N001	74.1 - 84.1	2.3		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	74.1 - 84.1	0.0017		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	74.1 - 84.1	14		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	74.1 - 84.1	6.7		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	74.1 - 84.1	16		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	74.1 - 84.1	965		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0282 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	74.1 - 84.1	150		FQ	#	2.5	
Temperature	C	02/12/2013	N001	74.1 - 84.1	15.6		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	74.1 - 84.1	700		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	74.1 - 84.1	4.51		FQ	#		
Uranium	mg/L	02/12/2013	N001	74.1 - 84.1	0.008		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0286 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	93.2 - 103.2	593		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	93.2 - 103.2	7.8		FQ	#	0.2	
Arsenic	mg/L	02/12/2013	N001	93.2 - 103.2	0.0024		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	93.2 - 103.2	670		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	93.2 - 103.2	110		FQ	#	10	
Iron	mg/L	02/12/2013	N001	93.2 - 103.2	0.13	B	UFQ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	93.2 - 103.2	550		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	93.2 - 103.2	4.4		JFQ	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	93.2 - 103.2	0.0006		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	93.2 - 103.2	220		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	93.2 - 103.2	131.8		FQ	#		
pH	s.u.	02/12/2013	N001	93.2 - 103.2	6.68		FQ	#		
Potassium	mg/L	02/12/2013	N001	93.2 - 103.2	12		FQ	#	0.54	
Selenium	mg/L	02/12/2013	N001	93.2 - 103.2	0.039		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	93.2 - 103.2	18		FQ	#	0.047	
Silicon	mg/L	02/12/2013	N001	93.2 - 103.2	8.5		FQ	#	0.022	
Sodium	mg/L	02/12/2013	N001	93.2 - 103.2	270		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	93.2 - 103.2	6843		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0286 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	93.2 - 103.2	3100		FQ	#	25	
Temperature	C	02/12/2013	N001	93.2 - 103.2	15.5		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	93.2 - 103.2	6200		FQ	#	200	
Turbidity	NTU	02/12/2013	N001	93.2 - 103.2	5.04		FQ	#		
Uranium	mg/L	02/12/2013	N001	93.2 - 103.2	0.4		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0287 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	100.7 - 110.7	544		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	100.7 - 110.7	0.38		FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	100.7 - 110.7	0.002		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	100.7 - 110.7	910		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	100.7 - 110.7	230		FQ	#	10	
Iron	mg/L	02/12/2013	N001	100.7 - 110.7	0.025	U	FQ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	100.7 - 110.7	150		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	100.7 - 110.7	0.0074	B	JFQ	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	100.7 - 110.7	0.14		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	100.7 - 110.7	260		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	100.7 - 110.7	146.7		FQ	#		
pH	s.u.	02/12/2013	N001	100.7 - 110.7	6.73		FQ	#		
Potassium	mg/L	02/12/2013	N001	100.7 - 110.7	6.6		FQ	#	0.54	
Selenium	mg/L	02/12/2013	N001	100.7 - 110.7	0.098		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	100.7 - 110.7	18		FQ	#	0.047	
Silicon	mg/L	02/12/2013	N001	100.7 - 110.7	8.5		FQ	#	0.022	
Sodium	mg/L	02/12/2013	N001	100.7 - 110.7	360		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	100.7 - 110.7	5698		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0287 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	100.7 - 110.7	1900		FQ	#	25	
Temperature	C	02/12/2013	N001	100.7 - 110.7	14.87		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	100.7 - 110.7	5200		FQ	#	200	
Turbidity	NTU	02/12/2013	N001	100.7 - 110.7	5.38		FQ	#		
Uranium	mg/L	02/12/2013	N001	100.7 - 110.7	0.27		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0288 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	104 - 114	186		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	104 - 114	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	104 - 114	0.00069		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	104 - 114	170		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	104 - 114	21		FQ	#	2	
Iron	mg/L	02/12/2013	N001	104 - 114	0.041	B	UFQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	104 - 114	32		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	104 - 114	0.00079	B	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	104 - 114	0.00015		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	104 - 114	54		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/12/2013	N001	104 - 114	212.4		FQ	#		
pH	s.u.	02/12/2013	N001	104 - 114	7.11		FQ	#		
Potassium	mg/L	02/12/2013	N001	104 - 114	3.1		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	104 - 114	0.0024		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	104 - 114	15		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	104 - 114	7		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	104 - 114	37		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	104 - 114	1312		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0288 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	104	-	114	250		FQ	#	5	
Temperature	C	02/12/2013	N001	104	-	114	12.54		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	104	-	114	870		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	104	-	114	8.68		FQ	#		
Uranium	mg/L	02/12/2013	N001	104	-	114	0.011		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0289 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	148.3 - 158.3	168		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	148.3 - 158.3	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	148.3 - 158.3	0.001	E	JFQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	148.3 - 158.3	140		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	148.3 - 158.3	18		FQ	#	1	
Iron	mg/L	02/12/2013	N001	148.3 - 158.3	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	148.3 - 158.3	25		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	148.3 - 158.3	0.0086	E	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	148.3 - 158.3	0.00049		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	148.3 - 158.3	27		FQ	#	0.2	
Oxidation Reduction Potential	mV	02/12/2013	N001	148.3 - 158.3	162.7		FQ	#		
pH	s.u.	02/12/2013	N001	148.3 - 158.3	7.31		FQ	#		
Potassium	mg/L	02/12/2013	N001	148.3 - 158.3	2.7		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	148.3 - 158.3	0.0019		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	148.3 - 158.3	15		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	148.3 - 158.3	6.9		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	148.3 - 158.3	26	E	JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	148.3 - 158.3	1037		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0289 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	148.3 - 158.3	140		FQ	#	2.5	
Temperature	C	02/12/2013	N001	148.3 - 158.3	14.17		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	148.3 - 158.3	600		FQ	#	40	
Turbidity	NTU	02/12/2013	N001	148.3 - 158.3	1.26		FQ	#		
Uranium	mg/L	02/12/2013	N001	148.3 - 158.3	0.013		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0290 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	0001	102.7 - 112.7	185		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	0001	102.7 - 112.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	0001	102.7 - 112.7	0.0014		FQ	#	0.000015	
Calcium	mg/L	02/13/2013	0001	102.7 - 112.7	310		FQ	#	0.012	
Chloride	mg/L	02/13/2013	0001	102.7 - 112.7	56		FQ	#	4	
Iron	mg/L	02/13/2013	0001	102.7 - 112.7	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/13/2013	0001	102.7 - 112.7	47		FQ	#	0.013	
Manganese	mg/L	02/13/2013	0001	102.7 - 112.7	0.00011	U	JFQ	#	0.00011	
Molybdenum	mg/L	02/13/2013	0001	102.7 - 112.7	0.00019		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	0001	102.7 - 112.7	70		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/13/2013	N001	102.7 - 112.7	170		FQ	#		
pH	s.u.	02/13/2013	N001	102.7 - 112.7	6.87		FQ	#		
Potassium	mg/L	02/13/2013	0001	102.7 - 112.7	4.2		FQ	#	0.11	
Selenium	mg/L	02/13/2013	0001	102.7 - 112.7	0.01		FQ	#	0.000032	
Silica	mg/L	02/13/2013	0001	102.7 - 112.7	16		FQ	#	0.0095	
Silicon	mg/L	02/13/2013	0001	102.7 - 112.7	7.4		FQ	#	0.0044	
Sodium	mg/L	02/13/2013	0001	102.7 - 112.7	61		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	102.7 - 112.7	1800		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0290 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	0001	102.7 - 112.7	580		FQ	#	10	
Temperature	C	02/13/2013	N001	102.7 - 112.7	15.3		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	0001	102.7 - 112.7	1600		FQ	#	40	
Turbidity	NTU	02/13/2013	N001	102.7 - 112.7	38.2		FQ	#		
Uranium	mg/L	02/13/2013	0001	102.7 - 112.7	0.055		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0691 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	55 - 95	196		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	55 - 95	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	55 - 95	0.0014		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	55 - 95	360		F	#	0.012	
Chloride	mg/L	02/12/2013	N001	55 - 95	54		F	#	4	
Iron	mg/L	02/12/2013	N001	55 - 95	0.051	B	UF	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	55 - 95	54		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	55 - 95	0.25		JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	55 - 95	0.0004		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	55 - 95	73		F	#	0.5	
Oxidation Reduction Potential	mV	02/12/2013	N001	55 - 95	130		F	#		
pH	s.u.	02/12/2013	N001	55 - 95	7		F	#		
Potassium	mg/L	02/12/2013	N001	55 - 95	4.3		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	55 - 95	0.0044		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	55 - 95	16		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	55 - 95	7.3		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	55 - 95	44		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	55 - 95	1865		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0691 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	55	-	95	640		F	#	10	
Temperature	C	02/12/2013	N001	55	-	95	15.2		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	55	-	95	1700		F	#	40	
Turbidity	NTU	02/12/2013	N001	55	-	95	5.67		F	#		
Uranium	mg/L	02/12/2013	N001	55	-	95	0.077		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0906 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	44 - 64	744		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	N001	44 - 64	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	N001	44 - 64	0.0014		FQ	#	0.000015	
Calcium	mg/L	02/13/2013	N001	44 - 64	970		FQ	#	0.06	
Chloride	mg/L	02/13/2013	N001	44 - 64	160		FQ	#	10	
Iron	mg/L	02/13/2013	N001	44 - 64	0.025	U	FQ	#	0.025	
Magnesium	mg/L	02/13/2013	N001	44 - 64	350		FQ	#	0.065	
Manganese	mg/L	02/13/2013	N001	44 - 64	0.033		JFQ	#	0.00057	
Molybdenum	mg/L	02/13/2013	N001	44 - 64	0.0017		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	44 - 64	460		FQ	#	5	
Oxidation Reduction Potential	mV	02/13/2013	N001	44 - 64	250		FQ	#		
pH	s.u.	02/13/2013	N001	44 - 64	6.42		FQ	#		
Potassium	mg/L	02/13/2013	N001	44 - 64	8.3		FQ	#	0.54	
Selenium	mg/L	02/13/2013	N001	44 - 64	0.034		FQ	#	0.000032	
Silica	mg/L	02/13/2013	N001	44 - 64	15		FQ	#	0.047	
Silicon	mg/L	02/13/2013	N001	44 - 64	7.1		FQ	#	0.022	
Sodium	mg/L	02/13/2013	N001	44 - 64	370		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/13/2013	N001	44 - 64	7040		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0906 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	44	-	64	2100		FQ	#	25	
Temperature	C	02/13/2013	N001	44	-	64	16.5		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	44	-	64	6800		FQ	#	200	
Turbidity	NTU	02/13/2013	N001	44	-	64	6.64		FQ	#		
Uranium	mg/L	02/13/2013	N001	44	-	64	0.46		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0908 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	52 - 67	599		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	52 - 67	75		FQ	#	2	
Arsenic	mg/L	02/12/2013	N001	52 - 67	0.0011		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	52 - 67	610		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	52 - 67	66		FQ	#	10	
Iron	mg/L	02/12/2013	N001	52 - 67	0.025	U	FQ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	52 - 67	460		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	52 - 67	0.15		JFQ	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	52 - 67	0.00014		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	52 - 67	190		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	52 - 67	113.7		FQ	#		
pH	s.u.	02/12/2013	N001	52 - 67	6.76		FQ	#		
Potassium	mg/L	02/12/2013	N001	52 - 67	24		FQ	#	0.54	
Selenium	mg/L	02/12/2013	N001	52 - 67	0.022		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	52 - 67	20		FQ	#	0.047	
Silicon	mg/L	02/12/2013	N001	52 - 67	9.5		FQ	#	0.022	
Sodium	mg/L	02/12/2013	N001	52 - 67	280		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	52 - 67	6135		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0908 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	52	-	67	3000		FQ	#	25	
Temperature	C	02/12/2013	N001	52	-	67	14.72		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	52	-	67	5600		FQ	#	200	
Turbidity	NTU	02/12/2013	N001	52	-	67	2.99		FQ	#		
Uranium	mg/L	02/12/2013	N001	52	-	67	0.087		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0929 WELL No Log Information.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	48.2 - 88.2	90		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	48.2 - 88.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	48.2 - 88.2	0.0017		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	48.2 - 88.2	49		FQ	#	0.012	
Chloride	mg/L	02/12/2013	N001	48.2 - 88.2	16		FQ	#	0.2	
Iron	mg/L	02/12/2013	N001	48.2 - 88.2	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	48.2 - 88.2	8.1		FQ	#	0.013	
Manganese	mg/L	02/12/2013	N001	48.2 - 88.2	0.00011	U	JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	48.2 - 88.2	0.00029		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	48.2 - 88.2	14		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/12/2013	N001	48.2 - 88.2	95		FQ	#		
pH	s.u.	02/12/2013	N001	48.2 - 88.2	7.69		FQ	#		
Potassium	mg/L	02/12/2013	N001	48.2 - 88.2	1.5		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	48.2 - 88.2	0.0023		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	48.2 - 88.2	12		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	48.2 - 88.2	5.8		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	48.2 - 88.2	10		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	48.2 - 88.2	400		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0929 WELL No Log Information.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	48.2 - 88.2	27		FQ	#	0.5	
Temperature	C	02/12/2013	N001	48.2 - 88.2	15.5		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	48.2 - 88.2	240		FQ	#	20	
Turbidity	NTU	02/12/2013	N001	48.2 - 88.2	2.13		FQ	#		
Uranium	mg/L	02/12/2013	N001	48.2 - 88.2	0.0017		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0930 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	20 - 50	75		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	20 - 50	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	20 - 50	0.0015		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	20 - 50	100		F	#	0.012	
Chloride	mg/L	02/12/2013	N001	20 - 50	32		F	#	1	
Iron	mg/L	02/12/2013	N001	20 - 50	0.01	B	UF	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	20 - 50	21		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	20 - 50	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	20 - 50	0.00016		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	20 - 50	25		F	#	0.2	
Oxidation Reduction Potential	mV	02/12/2013	N001	20 - 50	155		F	#		
pH	s.u.	02/12/2013	N001	20 - 50	7.51		F	#		
Potassium	mg/L	02/12/2013	N001	20 - 50	2.4		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	20 - 50	0.0023		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	20 - 50	14		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	20 - 50	6.4		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	20 - 50	14		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	20 - 50	725		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0930 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	20	-	50	140		F	#	2.5	
Temperature	C	02/12/2013	N001	20	-	50	15.1		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	20	-	50	500		F	#	20	
Turbidity	NTU	02/12/2013	N001	20	-	50	1.83		F	#		
Uranium	mg/L	02/12/2013	N001	20	-	50	0.0054		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0932 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	112.5 - 132.5	130		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	112.5 - 132.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/12/2013	N001	112.5 - 132.5	0.0015		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	112.5 - 132.5	42		F	#	0.012	
Chloride	mg/L	02/12/2013	N001	112.5 - 132.5	13		F	#	0.2	
Iron	mg/L	02/12/2013	N001	112.5 - 132.5	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	112.5 - 132.5	8.3		F	#	0.013	
Manganese	mg/L	02/12/2013	N001	112.5 - 132.5	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	112.5 - 132.5	0.00051		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	112.5 - 132.5	6.5		F	#	0.05	
Oxidation Reduction Potential	mV	02/12/2013	N001	112.5 - 132.5	90		F	#		
pH	s.u.	02/12/2013	N001	112.5 - 132.5	7.83		F	#		
Potassium	mg/L	02/12/2013	N001	112.5 - 132.5	1.5		F	#	0.11	
Selenium	mg/L	02/12/2013	N001	112.5 - 132.5	0.0015		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	112.5 - 132.5	12		F	#	0.0095	
Silicon	mg/L	02/12/2013	N001	112.5 - 132.5	5.4		F	#	0.0044	
Sodium	mg/L	02/12/2013	N001	112.5 - 132.5	12		JF	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	112.5 - 132.5	370		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0932 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	112.5 - 132.5	34		F	#	0.5	
Temperature	C	02/12/2013	N001	112.5 - 132.5	16		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	112.5 - 132.5	210		F	#	20	
Turbidity	NTU	02/12/2013	N001	112.5 - 132.5	1.33		F	#		
Uranium	mg/L	02/12/2013	N001	112.5 - 132.5	0.0018		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0934 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	45 - 90	505		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	45 - 90	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	45 - 90	0.00066		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	45 - 90	740		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	45 - 90	230		FQ	#	10	
Iron	mg/L	02/12/2013	N001	45 - 90	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/12/2013	N001	45 - 90	750		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	45 - 90	0.0055		JFQ	#	0.00011	
Molybdenum	mg/L	02/12/2013	N001	45 - 90	0.00054		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	45 - 90	350		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	45 - 90	125		FQ	#		
pH	s.u.	02/12/2013	N001	45 - 90	6.54		FQ	#		
Potassium	mg/L	02/12/2013	N001	45 - 90	9.8		FQ	#	0.11	
Selenium	mg/L	02/12/2013	N001	45 - 90	0.0097		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	45 - 90	17		FQ	#	0.0095	
Silicon	mg/L	02/12/2013	N001	45 - 90	7.9		FQ	#	0.0044	
Sodium	mg/L	02/12/2013	N001	45 - 90	130		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/12/2013	N001	45 - 90	6350		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0934 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	45	-	90	3000		FQ	#	25	
Temperature	C	02/12/2013	N001	45	-	90	15.9		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	45	-	90	6800		FQ	#	200	
Turbidity	NTU	02/12/2013	N001	45	-	90	2.51		FQ	#		
Uranium	mg/L	02/12/2013	N001	45	-	90	0.15		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0935 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	50 - 90	490			#		
Ammonia Total as N	mg/L	02/13/2013	N001	50 - 90	42			#	1	
Arsenic	mg/L	02/13/2013	N001	50 - 90	0.0027			#	0.000015	
Calcium	mg/L	02/13/2013	N001	50 - 90	680			#	0.06	
Chloride	mg/L	02/13/2013	N001	50 - 90	81			#	10	
Iron	mg/L	02/13/2013	N001	50 - 90	0.025	U		#	0.025	
Magnesium	mg/L	02/13/2013	N001	50 - 90	320			#	0.065	
Manganese	mg/L	02/13/2013	N001	50 - 90	0.94		J	#	0.00057	
Molybdenum	mg/L	02/13/2013	N001	50 - 90	0.00062			#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	50 - 90	190			#	2	
Oxidation Reduction Potential	mV	02/13/2013	N001	50 - 90	205			#		
pH	s.u.	02/13/2013	N001	50 - 90	6.78			#		
Potassium	mg/L	02/13/2013	N001	50 - 90	18			#	0.54	
Selenium	mg/L	02/13/2013	N001	50 - 90	0.012			#	0.000032	
Silica	mg/L	02/13/2013	N001	50 - 90	22			#	0.047	
Silicon	mg/L	02/13/2013	N001	50 - 90	10			#	0.022	
Sodium	mg/L	02/13/2013	N001	50 - 90	310		J	#	0.033	
Specific Conductance	umhos /cm	02/13/2013	N001	50 - 90	5070			#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0935 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	50	-	90	2600			#	25	
Temperature	C	02/13/2013	N001	50	-	90	14.5			#		
Total Dissolved Solids	mg/L	02/13/2013	N001	50	-	90	5100			#	200	
Turbidity	NTU	02/13/2013	N001	50	-	90	5.63			#		
Uranium	mg/L	02/13/2013	N001	50	-	90	0.14			#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0938 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	40 - 95	698			#		
Ammonia Total as N	mg/L	02/13/2013	N001	40 - 95	4.1			#	0.1	
Arsenic	mg/L	02/13/2013	N001	40 - 95	0.0019			#	0.000015	
Calcium	mg/L	02/13/2013	N001	40 - 95	890			#	0.06	
Chloride	mg/L	02/13/2013	N001	40 - 95	180			#	10	
Iron	mg/L	02/13/2013	N001	40 - 95	0.025	U		#	0.025	
Magnesium	mg/L	02/13/2013	N001	40 - 95	500			#	0.065	
Manganese	mg/L	02/13/2013	N001	40 - 95	0.64		J	#	0.00057	
Molybdenum	mg/L	02/13/2013	N001	40 - 95	0.0031			#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	40 - 95	320			#	2	
Oxidation Reduction Potential	mV	02/13/2013	N001	40 - 95	180			#		
pH	s.u.	02/13/2013	N001	40 - 95	6.67			#		
Potassium	mg/L	02/13/2013	N001	40 - 95	12			#	0.54	
Selenium	mg/L	02/13/2013	N001	40 - 95	0.083			#	0.000032	
Silica	mg/L	02/13/2013	N001	40 - 95	16			#	0.047	
Silicon	mg/L	02/13/2013	N001	40 - 95	7.7			#	0.022	
Sodium	mg/L	02/13/2013	N001	40 - 95	380		J	#	0.033	
Specific Conductance	umhos /cm	02/13/2013	N001	40 - 95	6545			#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0938 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	40	-	95	3100			#	25	
Temperature	C	02/13/2013	N001	40	-	95	16.5			#		
Total Dissolved Solids	mg/L	02/13/2013	N001	40	-	95	6800			#	200	
Turbidity	NTU	02/13/2013	N001	40	-	95	2.67			#		
Uranium	mg/L	02/13/2013	N001	40	-	95	0.31			#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0940 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	45 - 60	760		F	#		
Ammonia Total as N	mg/L	02/12/2013	N001	45 - 60	74		F	#	2	
Arsenic	mg/L	02/12/2013	N001	45 - 60	0.0025		F	#	0.000015	
Calcium	mg/L	02/12/2013	N001	45 - 60	530		F	#	0.06	
Chloride	mg/L	02/12/2013	N001	45 - 60	150		F	#	20	
Iron	mg/L	02/12/2013	N001	45 - 60	0.025	U	F	#	0.025	
Magnesium	mg/L	02/12/2013	N001	45 - 60	1600		F	#	0.065	
Manganese	mg/L	02/12/2013	N001	45 - 60	23		JF	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	45 - 60	0.00057		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	45 - 60	340		F	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	45 - 60	123.9		F	#		
pH	s.u.	02/12/2013	N001	45 - 60	6.72		F	#		
Potassium	mg/L	02/12/2013	N001	45 - 60	33		F	#	0.54	
Selenium	mg/L	02/12/2013	N001	45 - 60	0.076		F	#	0.000032	
Silica	mg/L	02/12/2013	N001	45 - 60	17		F	#	0.047	
Silicon	mg/L	02/12/2013	N001	45 - 60	8.1		F	#	0.022	
Sodium	mg/L	02/12/2013	N001	45 - 60	430		JF	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	45 - 60	10482		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0940 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	45	-	60	6700		F	#	50	
Temperature	C	02/12/2013	N001	45	-	60	15.63		F	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	45	-	60	11000		F	#	200	
Turbidity	NTU	02/12/2013	N001	45	-	60	1.22		F	#		
Uranium	mg/L	02/12/2013	N001	45	-	60	0.56		F	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0941 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/12/2013	N001	45 - 65	595		FQ	#		
Ammonia Total as N	mg/L	02/12/2013	N001	45 - 65	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/12/2013	N001	45 - 65	0.002		FQ	#	0.000015	
Calcium	mg/L	02/12/2013	N001	45 - 65	1000		FQ	#	0.06	
Chloride	mg/L	02/12/2013	N001	45 - 65	180		FQ	#	10	
Iron	mg/L	02/12/2013	N001	45 - 65	0.025	U	FQ	#	0.025	
Magnesium	mg/L	02/12/2013	N001	45 - 65	170		FQ	#	0.065	
Manganese	mg/L	02/12/2013	N001	45 - 65	0.057		JFQ	#	0.00057	
Molybdenum	mg/L	02/12/2013	N001	45 - 65	0.027		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/12/2013	N001	45 - 65	270		FQ	#	2	
Oxidation Reduction Potential	mV	02/12/2013	N001	45 - 65	155.6		FQ	#		
pH	s.u.	02/12/2013	N001	45 - 65	6.77		FQ	#		
Potassium	mg/L	02/12/2013	N001	45 - 65	5.8		FQ	#	0.54	
Selenium	mg/L	02/12/2013	N001	45 - 65	0.11		FQ	#	0.000032	
Silica	mg/L	02/12/2013	N001	45 - 65	19		FQ	#	0.047	
Silicon	mg/L	02/12/2013	N001	45 - 65	8.9		FQ	#	0.022	
Sodium	mg/L	02/12/2013	N001	45 - 65	210		JFQ	#	0.033	
Specific Conductance	umhos /cm	02/12/2013	N001	45 - 65	5401		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0941 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/12/2013	N001	45	-	65	1700		FQ	#	25	
Temperature	C	02/12/2013	N001	45	-	65	14.91		FQ	#		
Total Dissolved Solids	mg/L	02/12/2013	N001	45	-	65	5000		FQ	#	200	
Turbidity	NTU	02/12/2013	N001	45	-	65	8.6		FQ	#		
Uranium	mg/L	02/12/2013	N001	45	-	65	0.25		FQ	#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0942 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	54 - 74	612			#		
Ammonia Total as N	mg/L	02/13/2013	N001	54 - 74	89			#	2	
Arsenic	mg/L	02/13/2013	N001	54 - 74	0.0044			#	0.000015	
Calcium	mg/L	02/13/2013	N001	54 - 74	620			#	0.06	
Chloride	mg/L	02/13/2013	N001	54 - 74	170			#	10	
Iron	mg/L	02/13/2013	N001	54 - 74	0.025	U		#	0.025	
Magnesium	mg/L	02/13/2013	N001	54 - 74	440			#	0.065	
Manganese	mg/L	02/13/2013	N001	54 - 74	4.4		J	#	0.00057	
Molybdenum	mg/L	02/13/2013	N001	54 - 74	0.0046			#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	54 - 74	190			#	2	
Oxidation Reduction Potential	mV	02/13/2013	N001	54 - 74	195			#		
pH	s.u.	02/13/2013	N001	54 - 74	6.54			#		
Potassium	mg/L	02/13/2013	N001	54 - 74	23			#	0.54	
Selenium	mg/L	02/13/2013	N001	54 - 74	0.055			#	0.000032	
Silica	mg/L	02/13/2013	N001	54 - 74	18			#	0.047	
Silicon	mg/L	02/13/2013	N001	54 - 74	8.4			#	0.022	
Sodium	mg/L	02/13/2013	N001	54 - 74	490		J	#	0.033	
Specific Conductance	umhos /cm	02/13/2013	N001	54 - 74	6390			#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 0942 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	54	-	74	3600			#	25	
Temperature	C	02/13/2013	N001	54	-	74	16			#		
Total Dissolved Solids	mg/L	02/13/2013	N001	54	-	74	6300			#	200	
Turbidity	NTU	02/13/2013	N001	54	-	74	1.65			#		
Uranium	mg/L	02/13/2013	N001	54	-	74	0.54			#	0.00029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-1A WELL NAVAJO MONITORING WELL NMW-1A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	167.5 - 187.5	83		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	167.5 - 187.5	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	02/13/2013	N002	167.5 - 187.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	167.5 - 187.5	0.0025		F	#	0.000015	
Arsenic	mg/L	02/13/2013	N002	167.5 - 187.5	0.0026		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	167.5 - 187.5	33		F	#	0.012	
Calcium	mg/L	02/13/2013	N002	167.5 - 187.5	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	167.5 - 187.5	9.9		F	#	0.2	
Chloride	mg/L	02/13/2013	N002	167.5 - 187.5	9.9		F	#	0.2	
Iron	mg/L	02/13/2013	N001	167.5 - 187.5	0.0049	U	F	#	0.0049	
Iron	mg/L	02/13/2013	N002	167.5 - 187.5	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	167.5 - 187.5	6.2		F	#	0.013	
Magnesium	mg/L	02/13/2013	N002	167.5 - 187.5	6.7		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	167.5 - 187.5	0.0055		JF	#	0.00011	
Manganese	mg/L	02/13/2013	N002	167.5 - 187.5	0.014		JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	167.5 - 187.5	0.00039		F	#	0.000032	
Molybdenum	mg/L	02/13/2013	N002	167.5 - 187.5	0.00043		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	167.5 - 187.5	3.5		F	#	0.05	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-1A WELL NAVAJO MONITORING WELL NMW-1A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N002	167.5 - 187.5	3.5		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	167.5 - 187.5	52.7		F	#		
pH	s.u.	02/13/2013	N001	167.5 - 187.5	7.97		F	#		
Potassium	mg/L	02/13/2013	N001	167.5 - 187.5	1.1		F	#	0.11	
Potassium	mg/L	02/13/2013	N002	167.5 - 187.5	1.2		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	167.5 - 187.5	0.0013		F	#	0.000032	
Selenium	mg/L	02/13/2013	N002	167.5 - 187.5	0.0013		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	167.5 - 187.5	11		F	#	0.0095	
Silica	mg/L	02/13/2013	N002	167.5 - 187.5	11		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	167.5 - 187.5	5.2		F	#	0.0044	
Silicon	mg/L	02/13/2013	N002	167.5 - 187.5	5.2		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	167.5 - 187.5	11		JF	#	0.0066	
Sodium	mg/L	02/13/2013	N002	167.5 - 187.5	14		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	167.5 - 187.5	270		F	#		
Sulfate	mg/L	02/13/2013	N001	167.5 - 187.5	14		F	#	0.5	
Sulfate	mg/L	02/13/2013	N002	167.5 - 187.5	14		F	#	0.5	
Temperature	C	02/13/2013	N001	167.5 - 187.5	14.98		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	167.5 - 187.5	160		F	#	20	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site

REPORT DATE: 4/11/2013

Location: NMW-1A WELL NAVAJO MONITORING WELL NMW-1A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Total Dissolved Solids	mg/L	02/13/2013	N002	167.5 - 187.5	160		F	#	20	
Turbidity	NTU	02/13/2013	N001	167.5 - 187.5	0.97		F	#		
Uranium	mg/L	02/13/2013	N001	167.5 - 187.5	0.0016		F	#	0.0000029	
Uranium	mg/L	02/13/2013	N002	167.5 - 187.5	0.0019		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-2A WELL NAVAJO MONITORING WELL NMW-2A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	140.46 - 160.46	83		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	140.46 - 160.46	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	140.46 - 160.46	0.0022		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	140.46 - 160.46	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	140.46 - 160.46	9.5		F	#	0.2	
Iron	mg/L	02/13/2013	N001	140.46 - 160.46	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	140.46 - 160.46	5.7		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	140.46 - 160.46	0.0013	B	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	140.46 - 160.46	0.00048		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	140.46 - 160.46	3.4		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	140.46 - 160.46	75.4		F	#		
pH	s.u.	02/13/2013	N001	140.46 - 160.46	7.9		F	#		
Potassium	mg/L	02/13/2013	N001	140.46 - 160.46	1		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	140.46 - 160.46	0.0012		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	140.46 - 160.46	11		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	140.46 - 160.46	5.3		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	140.46 - 160.46	10		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	140.46 - 160.46	269		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-2A WELL NAVAJO MONITORING WELL NMW-2A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	140.46 - 160.46	14		F	#	0.5	
Temperature	C	02/13/2013	N001	140.46 - 160.46	11.79		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	140.46 - 160.46	150		F	#	20	
Turbidity	NTU	02/13/2013	N001	140.46 - 160.46	1.91		F	#		
Uranium	mg/L	02/13/2013	N001	140.46 - 160.46	0.0014		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-3A WELL NAVAJO MONITORING WELL NMW-3A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	190.62 - 210.62	83		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	190.62 - 210.62	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	190.62 - 210.62	0.0024		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	190.62 - 210.62	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	190.62 - 210.62	8.9		F	#	0.2	
Iron	mg/L	02/13/2013	N001	190.62 - 210.62	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	190.62 - 210.62	6		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	190.62 - 210.62	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	190.62 - 210.62	0.00038		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	190.62 - 210.62	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	190.62 - 210.62	83.4		F	#		
pH	s.u.	02/13/2013	N001	190.62 - 210.62	8.08		F	#		
Potassium	mg/L	02/13/2013	N001	190.62 - 210.62	0.93	B	F	#	0.11	
Selenium	mg/L	02/13/2013	N001	190.62 - 210.62	0.0011		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	190.62 - 210.62	12		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	190.62 - 210.62	5.4		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	190.62 - 210.62	8.1		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	190.62 - 210.62	266		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-3A WELL NAVAJO MONITORING WELL NMW-3A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	190.62 - 210.62	13		F	#	0.5	
Temperature	C	02/13/2013	N001	190.62 - 210.62	13.75		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	190.62 - 210.62	150		F	#	20	
Turbidity	NTU	02/13/2013	N001	190.62 - 210.62	1.36		F	#		
Uranium	mg/L	02/13/2013	N001	190.62 - 210.62	0.0012		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-4A WELL NAVAJO MONITORING WELL NMW-4A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	170.46 - 190.46	87		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	170.46 - 190.46	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	170.46 - 190.46	0.0022		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	170.46 - 190.46	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	170.46 - 190.46	9.7		F	#	0.2	
Iron	mg/L	02/13/2013	N001	170.46 - 190.46	0.02	B	UF	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	170.46 - 190.46	5.6		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	170.46 - 190.46	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	170.46 - 190.46	0.00029		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	170.46 - 190.46	3.7		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	170.46 - 190.46	67.1		F	#		
pH	s.u.	02/13/2013	N001	170.46 - 190.46	8.06		F	#		
Potassium	mg/L	02/13/2013	N001	170.46 - 190.46	1.2		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	170.46 - 190.46	0.0012		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	170.46 - 190.46	11		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	170.46 - 190.46	5		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	170.46 - 190.46	8.1		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	170.46 - 190.46	266		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-4A WELL NAVAJO MONITORING WELL NMW-4A; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	170.46 - 190.46	14		F	#	0.5	
Temperature	C	02/13/2013	N001	170.46 - 190.46	11.39		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	170.46 - 190.46	160		F	#	20	
Turbidity	NTU	02/13/2013	N001	170.46 - 190.46	2.65		F	#		
Uranium	mg/L	02/13/2013	N001	170.46 - 190.46	0.0013		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-5 WELL NAVAJO MONITORING WELL NMW-5; NMW-5 Herbert Chief; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	34.95 - 54.95	78		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	34.95 - 54.95	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	34.95 - 54.95	0.0037		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	34.95 - 54.95	39		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	34.95 - 54.95	19		F	#	0.4	
Iron	mg/L	02/13/2013	N001	34.95 - 54.95	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	34.95 - 54.95	8.9		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	34.95 - 54.95	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	34.95 - 54.95	0.0011		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	34.95 - 54.95	2.7		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	34.95 - 54.95	115.3		F	#		
pH	s.u.	02/13/2013	N001	34.95 - 54.95	7.81		F	#		
Potassium	mg/L	02/13/2013	N001	34.95 - 54.95	1.4		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	34.95 - 54.95	0.0027		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	34.95 - 54.95	10		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	34.95 - 54.95	4.9		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	34.95 - 54.95	18		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	34.95 - 54.95	380		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-5 WELL NAVAJO MONITORING WELL NMW-5; NMW-5 Herbert Chief; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	34.95 - 54.95	63		F	#	0.5	
Temperature	C	02/13/2013	N001	34.95 - 54.95	14.03		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	34.95 - 54.95	230		F	#	20	
Turbidity	NTU	02/13/2013	N001	34.95 - 54.95	1.69		F	#		
Uranium	mg/L	02/13/2013	N001	34.95 - 54.95	0.0049		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-6S WELL NAVAJO MONITORING WELL NMW-6S; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	167.62 - 187.62	79		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	167.62 - 187.62	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	167.62 - 187.62	0.0017		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	167.62 - 187.62	35		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	167.62 - 187.62	11		F	#	0.2	
Iron	mg/L	02/13/2013	N001	167.62 - 187.62	0.0049	U	F	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	167.62 - 187.62	6.1		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	167.62 - 187.62	0.00012	B	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	167.62 - 187.62	0.00043		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	167.62 - 187.62	3.7		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	167.62 - 187.62	53.1		F	#		
pH	s.u.	02/13/2013	N001	167.62 - 187.62	7.88		F	#		
Potassium	mg/L	02/13/2013	N001	167.62 - 187.62	1.2		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	167.62 - 187.62	0.0015		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	167.62 - 187.62	12		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	167.62 - 187.62	5.4		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	167.62 - 187.62	7.8		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	167.62 - 187.62	282		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-6S WELL NAVAJO MONITORING WELL NMW-6S; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	167.62 - 187.62	17		F	#	0.5	
Temperature	C	02/13/2013	N001	167.62 - 187.62	14.97		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	167.62 - 187.62	170		F	#	20	
Turbidity	NTU	02/13/2013	N001	167.62 - 187.62	1.21		F	#		
Uranium	mg/L	02/13/2013	N001	167.62 - 187.62	0.0013		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-7D WELL NAVAJO MONITORING WELL NMW-7D; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	278.19 - 283.19	86		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	N001	278.19 - 283.19	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	N001	278.19 - 283.19	0.0023		FQ	#	0.000015	
Calcium	mg/L	02/13/2013	N001	278.19 - 283.19	26		FQ	#	0.012	
Chloride	mg/L	02/13/2013	N001	278.19 - 283.19	6.7		FQ	#	0.2	
Iron	mg/L	02/13/2013	N001	278.19 - 283.19	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	278.19 - 283.19	5		FQ	#	0.013	
Manganese	mg/L	02/13/2013	N001	278.19 - 283.19	0.00011	U	JFQ	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	278.19 - 283.19	0.00024		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	278.19 - 283.19	3.3		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	278.19 - 283.19	56.7		FQ	#		
pH	s.u.	02/13/2013	N001	278.19 - 283.19	7.83		FQ	#		
Potassium	mg/L	02/13/2013	N001	278.19 - 283.19	1.2		FQ	#	0.11	
Selenium	mg/L	02/13/2013	N001	278.19 - 283.19	0.0012		FQ	#	0.000032	
Silica	mg/L	02/13/2013	N001	278.19 - 283.19	12		FQ	#	0.0095	
Silicon	mg/L	02/13/2013	N001	278.19 - 283.19	5.7		FQ	#	0.0044	
Sodium	mg/L	02/13/2013	N001	278.19 - 283.19	4.5		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	278.19 - 283.19	215		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-7D WELL NAVAJO MONITORING WELL NMW-7D; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	278.19 - 283.19	10		FQ	#	0.5	
Temperature	C	02/13/2013	N001	278.19 - 283.19	14.15		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	278.19 - 283.19	120		FQ	#	20	
Turbidity	NTU	02/13/2013	N001	278.19 - 283.19	1.25		FQ	#		
Uranium	mg/L	02/13/2013	N001	278.19 - 283.19	0.00093		FQ	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-8S WELL NAVAJO MONITORING WELL NMW_8S; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	149.43 - 169.43	80		F	#		
Ammonia Total as N	mg/L	02/13/2013	N001	149.43 - 169.43	0.1	U	F	#	0.1	
Arsenic	mg/L	02/13/2013	N001	149.43 - 169.43	0.0027		F	#	0.000015	
Calcium	mg/L	02/13/2013	N001	149.43 - 169.43	33		F	#	0.012	
Chloride	mg/L	02/13/2013	N001	149.43 - 169.43	10		F	#	0.2	
Iron	mg/L	02/13/2013	N001	149.43 - 169.43	0.007	B	UF	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	149.43 - 169.43	5.5		F	#	0.013	
Manganese	mg/L	02/13/2013	N001	149.43 - 169.43	0.00011	U	JF	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	149.43 - 169.43	0.00035		F	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	149.43 - 169.43	3.7		F	#	0.05	
Oxidation Reduction Potential	mV	02/13/2013	N001	149.43 - 169.43	43.5		F	#		
pH	s.u.	02/13/2013	N001	149.43 - 169.43	8.04		F	#		
Potassium	mg/L	02/13/2013	N001	149.43 - 169.43	1.3		F	#	0.11	
Selenium	mg/L	02/13/2013	N001	149.43 - 169.43	0.0013		F	#	0.000032	
Silica	mg/L	02/13/2013	N001	149.43 - 169.43	11		F	#	0.0095	
Silicon	mg/L	02/13/2013	N001	149.43 - 169.43	5		F	#	0.0044	
Sodium	mg/L	02/13/2013	N001	149.43 - 169.43	8.7		JF	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	149.43 - 169.43	267		F	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-8S WELL NAVAJO MONITORING WELL NMW_8S; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	149.43 - 169.43	15		F	#	0.5	
Temperature	C	02/13/2013	N001	149.43 - 169.43	15.26		F	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	149.43 - 169.43	160		F	#	20	
Turbidity	NTU	02/13/2013	N001	149.43 - 169.43	1.33		F	#		
Uranium	mg/L	02/13/2013	N001	149.43 - 169.43	0.0014		F	#	0.0000029	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-9D WELL NAVAJO MONITORING WELL NMW-9D; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	265.52 - 270.52	98		FQ	#		
Ammonia Total as N	mg/L	02/13/2013	N001	265.52 - 270.52	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/13/2013	N001	265.52 - 270.52	0.00076		FQ	#	0.000015	
Calcium	mg/L	02/13/2013	N001	265.52 - 270.52	35		FQ	#	0.012	
Chloride	mg/L	02/13/2013	N001	265.52 - 270.52	11		FQ	#	0.2	
Iron	mg/L	02/13/2013	N001	265.52 - 270.52	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	02/13/2013	N001	265.52 - 270.52	7		FQ	#	0.013	
Manganese	mg/L	02/13/2013	N001	265.52 - 270.52	0.14		JFQ	#	0.00011	
Molybdenum	mg/L	02/13/2013	N001	265.52 - 270.52	0.0021		FQ	#	0.000032	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	265.52 - 270.52	1.8		FQ	#	0.01	
Oxidation Reduction Potential	mV	02/13/2013	N001	265.52 - 270.52	54.8		FQ	#		
pH	s.u.	02/13/2013	N001	265.52 - 270.52	7.51		FQ	#		
Potassium	mg/L	02/13/2013	N001	265.52 - 270.52	1.4		FQ	#	0.11	
Selenium	mg/L	02/13/2013	N001	265.52 - 270.52	0.00088		FQ	#	0.000032	
Silica	mg/L	02/13/2013	N001	265.52 - 270.52	13		FQ	#	0.0095	
Silicon	mg/L	02/13/2013	N001	265.52 - 270.52	6.2		FQ	#	0.0044	
Sodium	mg/L	02/13/2013	N001	265.52 - 270.52	15		JFQ	#	0.0066	
Specific Conductance	umhos /cm	02/13/2013	N001	265.52 - 270.52	325		FQ	#		

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: NMW-9D WELL NAVAJO MONITORING WELL NMW-9D; Owned by NNEPA

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/13/2013	N001	265.52 - 270.52	32		FQ	#	0.5	
Temperature	C	02/13/2013	N001	265.52 - 270.52	15.09		FQ	#		
Total Dissolved Solids	mg/L	02/13/2013	N001	265.52 - 270.52	190		FQ	#	20	
Turbidity	NTU	02/13/2013	N001	265.52 - 270.52	0.93		FQ	#		
Uranium	mg/L	02/13/2013	N001	265.52 - 270.52	0.0014		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.
- 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

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Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	112			#		
Ammonia Total as N	mg/L	02/13/2013	N002	150			#	5	
Arsenic	mg/L	02/13/2013	N001	0.017		J	#	0.0015	
Arsenic	mg/L	02/13/2013	N002	0.023		J	#	0.00074	
Calcium	mg/L	02/13/2013	N001	740			#	1.2	
Calcium	mg/L	02/13/2013	N002	810			#	1.2	
Chloride	mg/L	02/13/2013	N001	28000			#	400	
Chloride	mg/L	02/13/2013	N002	30000			#	400	
Iron	mg/L	02/13/2013	N001	0.49	U		#	0.49	
Iron	mg/L	02/13/2013	N002	2.2	B	U	#	0.49	
Magnesium	mg/L	02/13/2013	N001	2100			#	1.3	
Magnesium	mg/L	02/13/2013	N002	2300			#	1.3	
Manganese	mg/L	02/13/2013	N001	42		J	#	0.011	
Manganese	mg/L	02/13/2013	N002	47		J	#	0.011	
Molybdenum	mg/L	02/13/2013	N001	0.13			#	0.0032	
Molybdenum	mg/L	02/13/2013	N002	0.12			#	0.0016	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	1200			#	10	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N002	1300			#	10	
Oxidation Reduction Potential	mV	02/13/2013	N001	450			#		
pH	s.u.	02/13/2013	N001	6.7			#		

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013
Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Potassium	mg/L	02/13/2013	N001	150			#	11	
Potassium	mg/L	02/13/2013	N002	160			#	11	
Selenium	mg/L	02/13/2013	N001	0.22			#	0.0032	
Selenium	mg/L	02/13/2013	N002	0.21			#	0.0016	
Silica	mg/L	02/13/2013	N002	40			#	0.95	
Silicon	mg/L	02/13/2013	N002	19			#	0.44	
Sodium	mg/L	02/13/2013	N001	15000		J	#	0.66	
Sodium	mg/L	02/13/2013	N002	13000		J	#	3.3	
Specific Conductance	umhos/cm	02/13/2013	N001	74600			#		
Sulfate	mg/L	02/13/2013	N001	4800			#	500	
Sulfate	mg/L	02/13/2013	N002	5200			#	500	
Temperature	C	02/13/2013	N001	9.5			#		
Total Dissolved Solids	mg/L	02/13/2013	N001	58000			#	2000	
Total Dissolved Solids	mg/L	02/13/2013	N002	59000			#	2000	
Turbidity	NTU	02/13/2013	N001	8.75			#		
Uranium	mg/L	02/13/2013	N001	1.6			#	0.00029	
Uranium	mg/L	02/13/2013	N002	1.7			#	0.00015	

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site

REPORT DATE: 4/11/2013

Location: 1570 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As $CaCO_3$)	mg/L	02/13/2013	N001	0			#		
Arsenic	mg/L	02/13/2013	N001	1.3			#	0.0017	
Calcium	mg/L	02/13/2013	N001	960			#	1.4	
Chloride	mg/L	02/13/2013	N001	120000			#	2000	
Iron	mg/L	02/13/2013	N001	20			#	0.57	
Magnesium	mg/L	02/13/2013	N001	11000			#	1.5	
Manganese	mg/L	02/13/2013	N001	210		J	#	0.013	
Molybdenum	mg/L	02/13/2013	N001	0.76			#	0.0037	
Nitrate + Nitrite as Nitrogen	mg/L	02/13/2013	N001	5000			#	50	
Oxidation Reduction Potential	mV	02/13/2013	N001	560			#		
pH	s.u.	02/13/2013	N001	1.81			#		
Potassium	mg/L	02/13/2013	N001	920			#	13	
Selenium	mg/L	02/13/2013	N001	1			#	0.0038	
Sodium	mg/L	02/13/2013	N001	49000		J	#	38	
Specific Conductance	umhos/cm	02/13/2013	N001	169000			#		
Sulfate	mg/L	02/13/2013	N001	15000			#	1000	
Temperature	C	02/13/2013	N001	11.8			#		
Total Dissolved Solids	mg/L	02/13/2013	N001	230000			#	4000	
Turbidity	NTU	02/13/2013	N001	3.79			#		
Uranium	mg/L	02/13/2013	N001	6.9			#	0.00034	

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.

Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013

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
0251		5061.25	02/12/2013	16:40:50	89.33	4971.92	
0252		5061.3	02/12/2013	16:30:55	69.89	4991.41	
0258		5055.56	02/13/2013	09:10:09	96.53	4959.03	
0261		5069.69	02/11/2013	17:01:00	128.31	4941.38	
0262		5061.99	02/13/2013	08:40:39	50.13	5011.86	
0263		5063.1	02/12/2013	16:25:53	54.65	5008.45	
0264		5062.19	02/12/2013	16:55:42	84.70	4977.49	
0265		5053.88	02/12/2013	13:45:51	81.08	4972.8	
0266		5053.32	02/12/2013	14:10:53	97.79	4955.53	
0267		5053.4	02/12/2013	11:50:41	62.17	4991.23	
0268		5067.24	02/13/2013	13:00:52	96.44	4970.8	
0271		5046.72	02/11/2013	17:26:00	55.12	4991.6	
0272		5064.24	02/13/2013	10:40:36	94.61	4969.63	
0273		5064.74	02/12/2013	09:50:43	96.79	4967.95	
0274		5064.42	02/12/2013	11:50:14	89.29	4975.13	
0275		5062.64	02/12/2013	14:00:02	71.28	4991.36	
0276		5067.55	02/12/2013	14:40:55	86.31	4981.24	
0277		4982.35	02/12/2013	10:41:00	36.07	4946.28	
0278		4956.09	02/12/2013	08:47:00	22.82	4933.27	
0279		4951.04	02/12/2013	08:53:00	25.44	4925.6	
0280		4951.52	02/12/2013	09:48:00	27.59	4923.93	
0281		5051	02/12/2013	11:20:40	70.65	4980.35	
0282		5060.04	02/12/2013	14:40:56	83.4	4976.64	
0283		5057.97	02/12/2013	13:19:00			D
0284		5098.72	02/11/2013	16:35:00	29.38	5069.34	
0285		5096.47	02/11/2013	17:56:00			D
0286		5063.99	02/12/2013	12:15:57	73.70	4990.29	
0287		5065.65	02/12/2013	09:30:40	58.73	5006.92	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013

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
0288		5072.54	02/11/2013	16:46:00	56.31	5016.23	
0288		5072.54	02/12/2013	08:30:26	56.49	5016.05	
0289		5070.82	02/11/2013	16:58:00	57.08	5013.74	
0289		5070.82	02/12/2013	08:50:46	57.25	5013.57	
0290		5068.91	02/13/2013	09:35:25	87.18	4981.73	
0683		5070.64	02/11/2013	16:46:00	97.56	4973.08	
0684		5070.05	02/11/2013	16:42:00	71.29	4998.76	
0685		5072.44	02/11/2013	17:00:00	49.91	5022.53	
0686		5107.97	02/11/2013	16:36:00	68.77	5039.2	
0687		5109.82	02/11/2013	17:59:00	56.84	5052.98	
0688		5106.98	02/11/2013	18:01:00	64.41	5042.57	
0689		4981.63	02/12/2013	08:31:00	39.49	4942.14	
0690		4950.87	02/12/2013	09:45:00	24.74	4926.13	
0691		4979.41	02/12/2013	10:30:50	41.30	4938.11	
0692		4953.31	02/12/2013	09:52:00	25.80	4927.51	
0695		4976.83	02/12/2013	09:57:00	50.62	4926.21	
0901	U	5105.46	02/13/2013	10:39:00	47.92	5057.54	
0902	N	4737.42	02/12/2013	08:28:00	29.83	4707.59	
0903	D	4983.33	02/12/2013	10:44:00	32.59	4950.74	
0904	N	4904.11	02/12/2013	08:29:00	23.03	4881.08	
0906	O	5062.1	02/13/2013	16:00:56	49.29	5012.81	
0908	D	5058.14	02/12/2013	15:50:20	58.18	4999.96	
0910	U	5106.7	02/13/2013	10:42:00	51.09	5055.61	
0911	U	5106.96	02/11/2013	17:59:00	47.28	5059.68	
0912	D	5059.97	02/11/2013	17:24:00	61.90	4998.07	
0913	D	5060.16	02/11/2013	17:06:00	66.47	4993.69	
0914	D	5070.1	02/11/2013	16:51:00	111.70	4958.4	
0915	D	5070.84	02/11/2013	16:55:00	107.91	4962.93	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013

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
0916	D	5070	02/11/2013	16:58:00	118.00	4952	
0917	D	5048.02	02/11/2013	17:36:00	69.53	4978.49	
0918	D	5049.63	02/11/2013	17:38:00			D
0919	D	5048.56	02/11/2013	17:32:00	146.40	4902.16	
0920	D	4982.97	02/12/2013	10:09:00	34.59	4948.38	
0921	D	4979.08	02/12/2013	10:45:00	39.77	4939.31	
0929	D	5060.82	02/12/2013	12:10:58	61.16	4999.66	
0930	D	4954.96	02/12/2013	09:45:50	21.08	4933.88	
0932	D	5057.32	02/12/2013	15:55:33	102.40	4954.92	
0934	D	5059.73	02/12/2013	15:00:18	76.35	4983.38	
0940	D	5064.77	02/12/2013	12:30:34	59.71	5005.06	
0941	D	5065.97	02/12/2013	09:15:41	56.71	5009.26	
0943	U	5098.05	02/11/2013	17:53:00	54.70	5043.35	
0945	U	5140.49	02/11/2013	16:33:00	91.60	5048.89	
0946	C	5100.5	02/11/2013	16:34:00	52.99	5047.51	
0947	U	5097.01	02/11/2013	16:35:00	68.05	5028.96	
0968	U	5107	02/13/2013	10:44:00	52.08	5054.92	
1003		4976.58	02/12/2013	10:05:00	38.73	4937.85	
1004		4961.55	02/12/2013	09:53:00	24.81	4936.74	
1005		4947.83	02/12/2013	09:46:00	21.05	4926.78	
1006		4947.08	02/12/2013	08:44:00	16.65	4930.43	
1008		4980.52	02/12/2013	08:38:00	37.69	4942.83	
1107		5059.51	02/12/2013	08:41:00	22.86	5036.65	
NMW-1A		5150.95	02/13/2013	13:40:30	114.80	5036.15	
NMW-2A		5121.69	02/13/2013	09:35:28	70.44	5051.25	
NMW-3A		5168.51	02/13/2013	08:55:41	112.75	5055.76	
NMW-4A		5137.44	02/13/2013	10:15:02	80.52	5056.92	
NMW-5		4985.85	02/13/2013	08:10:32	16.48	4969.37	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/11/2013

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
NMW-6S		5145.93	02/13/2013	13:10:42	107.95	5037.98	
NMW-7D		5147.13	02/13/2013	11:40:10	117.55	5029.58	
NMW-8S		5114.87	02/13/2013	14:45:10	89.02	5025.85	
NMW-9D		5115.92	02/13/2013	14:15:32	90.21	5025.71	

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

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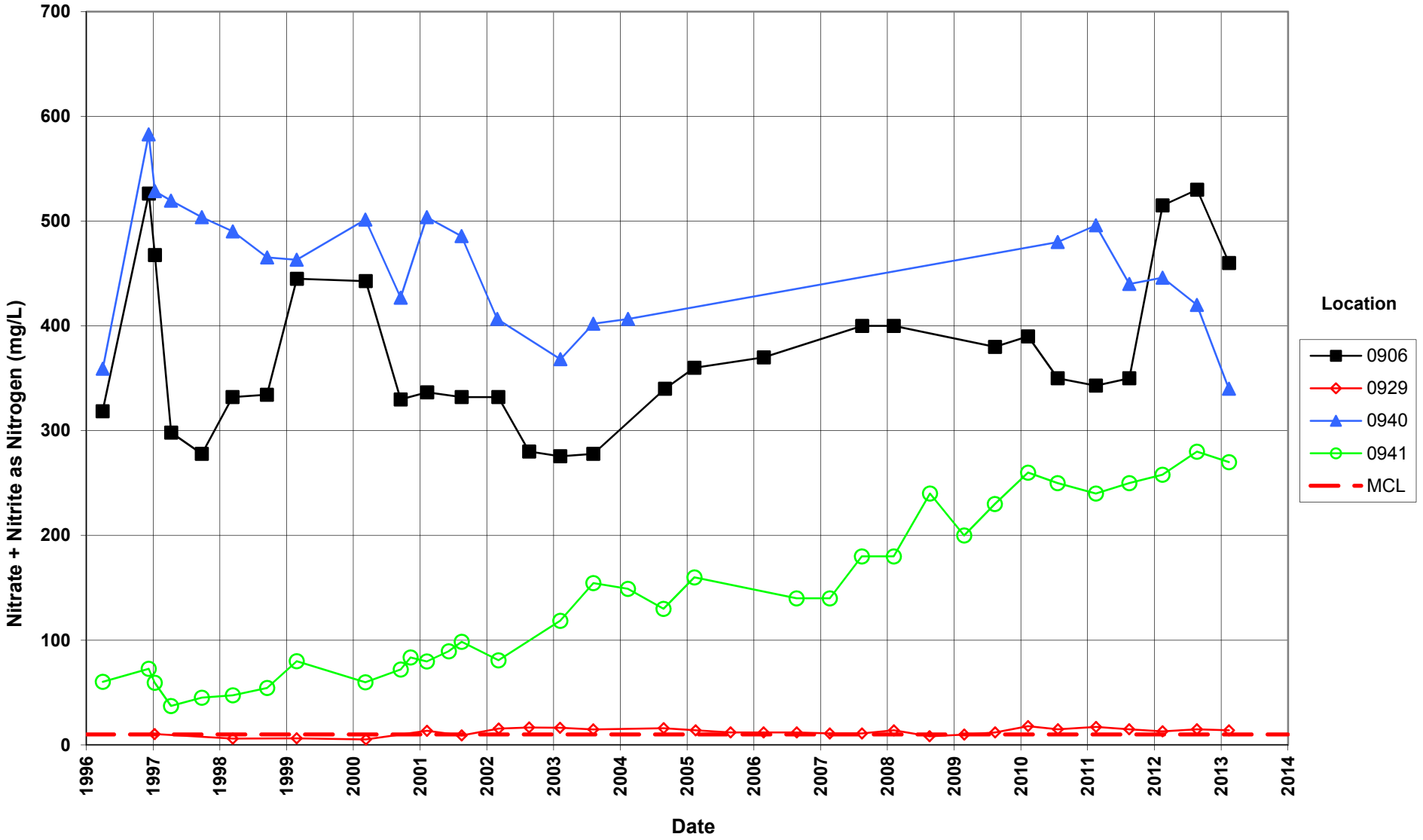
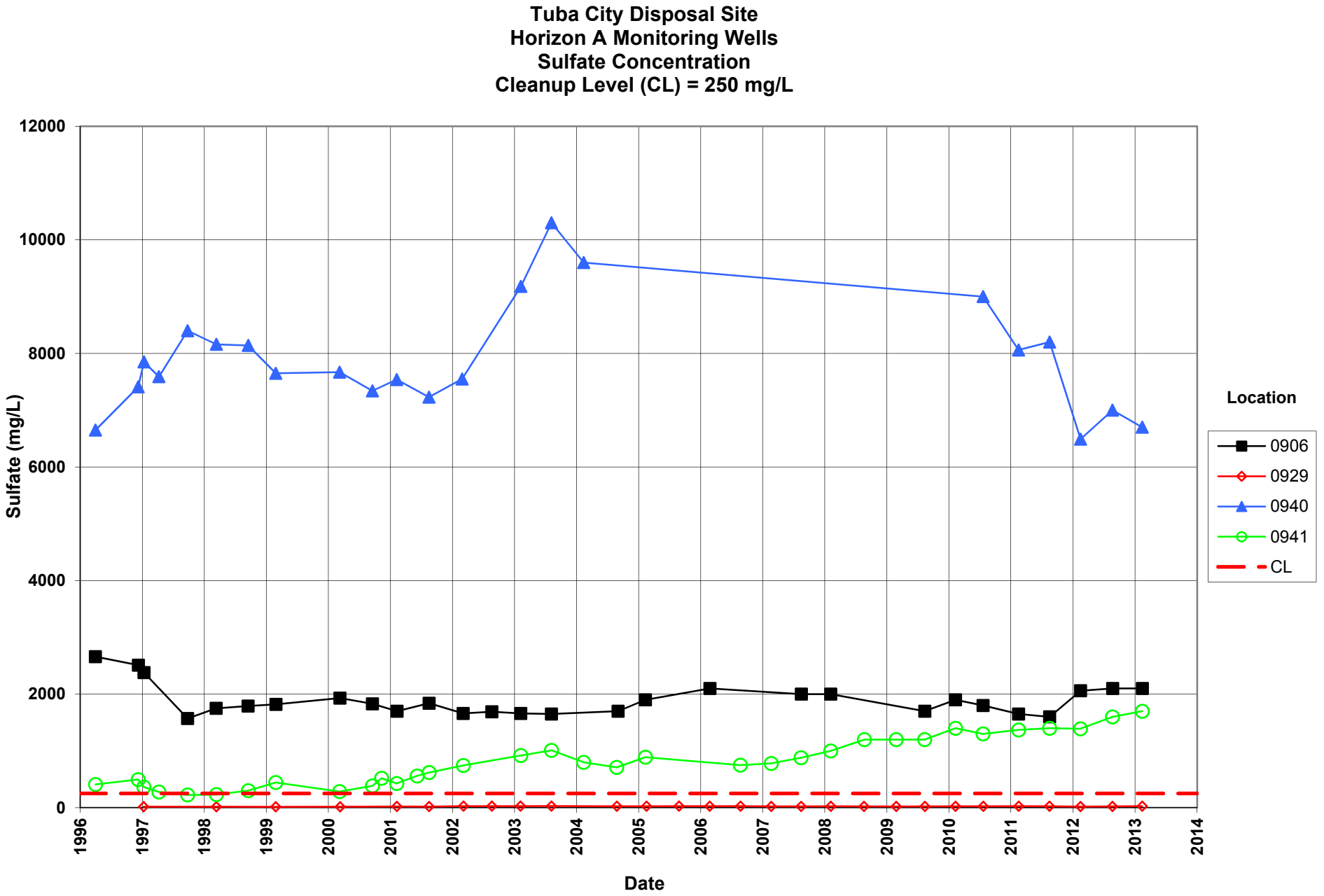
Tuba City Disposal Site
Horizon A Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L




Tuba City Disposal Site
Horizon A Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L
Sulfate (mg/L)
12000
10000
8000
6000
4000
2000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
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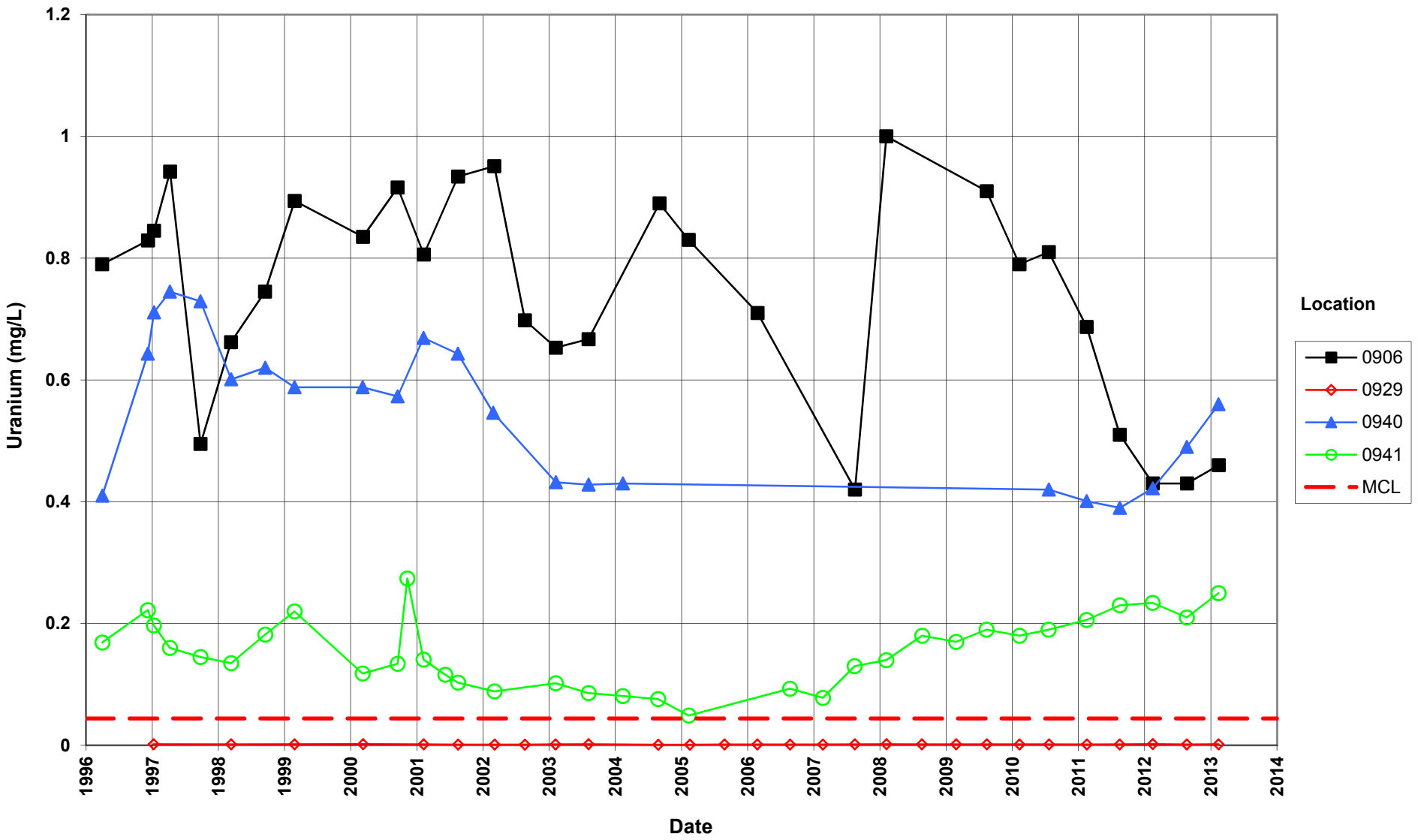
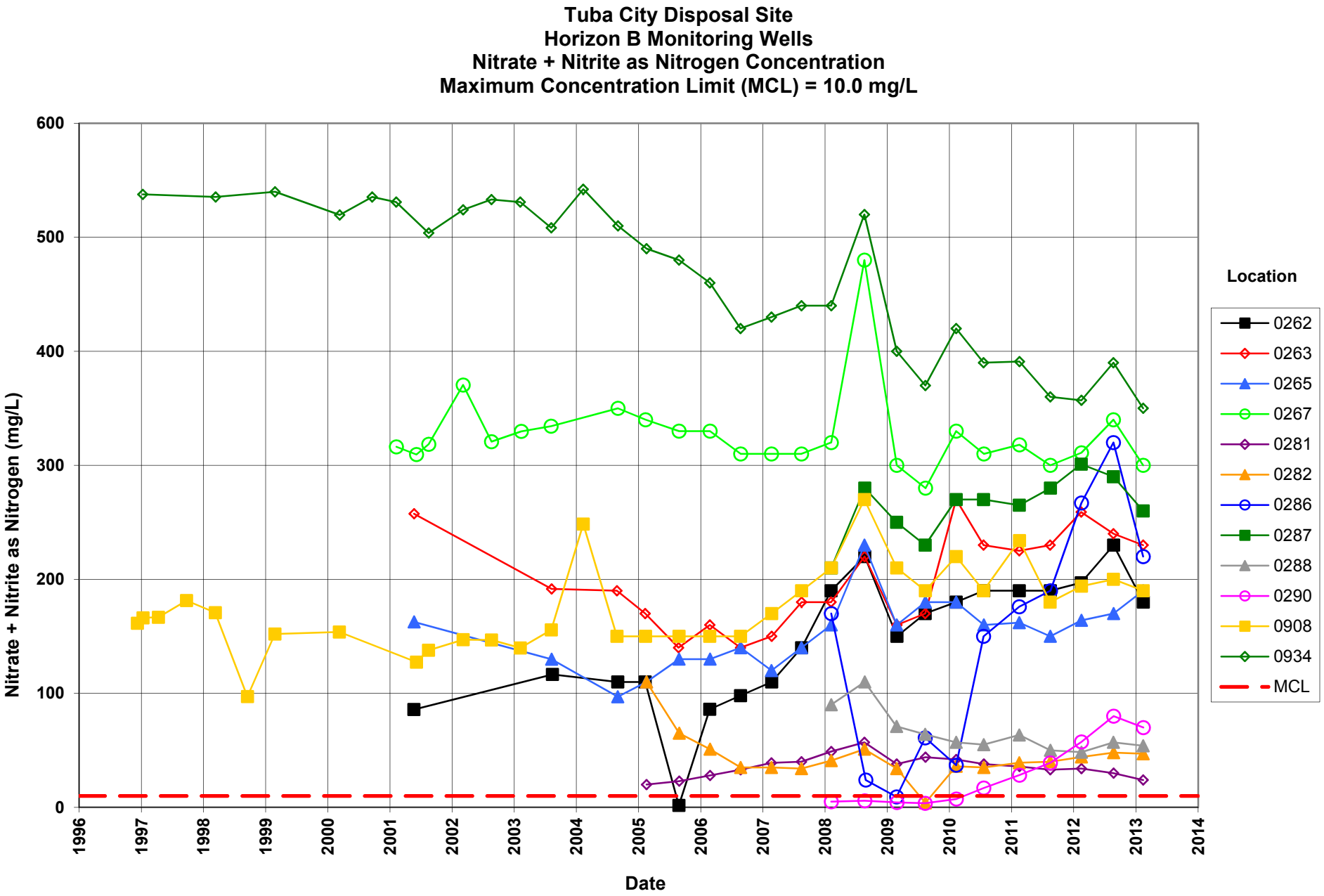
2013
2014
Date
Location
0906
0929
0940
0941
CL


Tuba City Disposal Site
Horizon A Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L
Uranium (mg/L)
1.2
1
0.8
0.6
0.4
0.2
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Date
Location
0906
0929
0940
0941
MCL


Tuba City Disposal Site
Horizon B Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
600
500
400
300
200
100
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Date
Location
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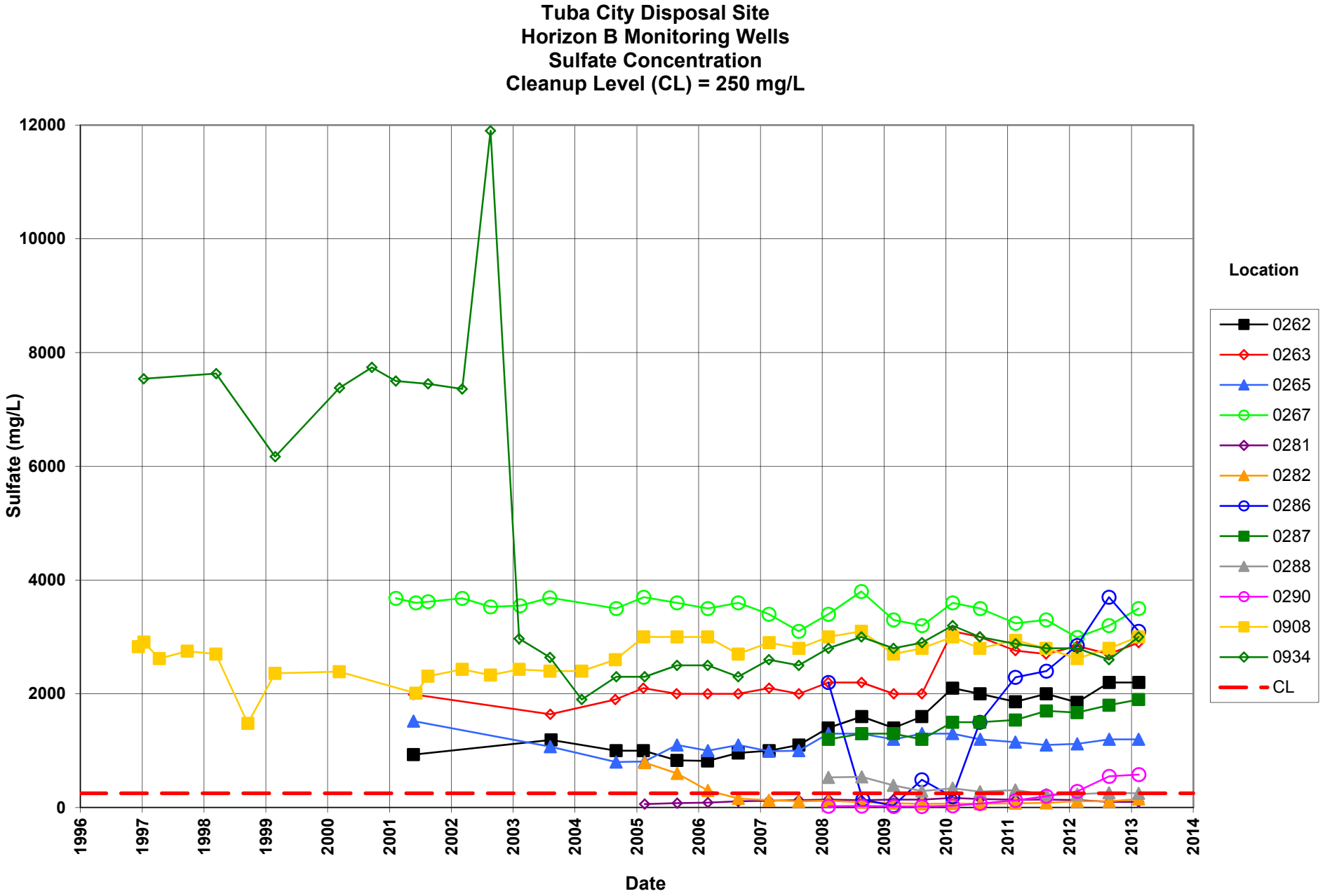
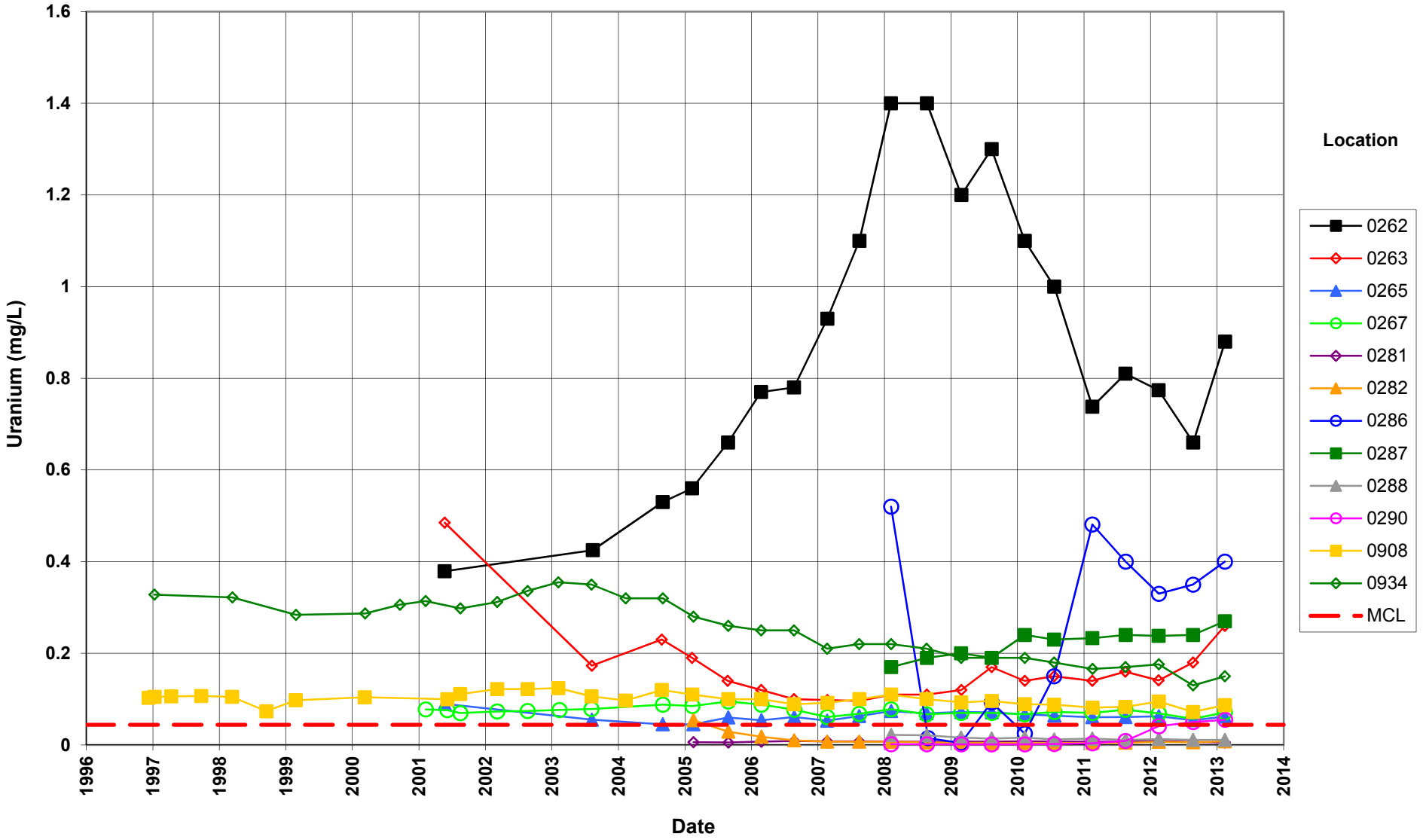
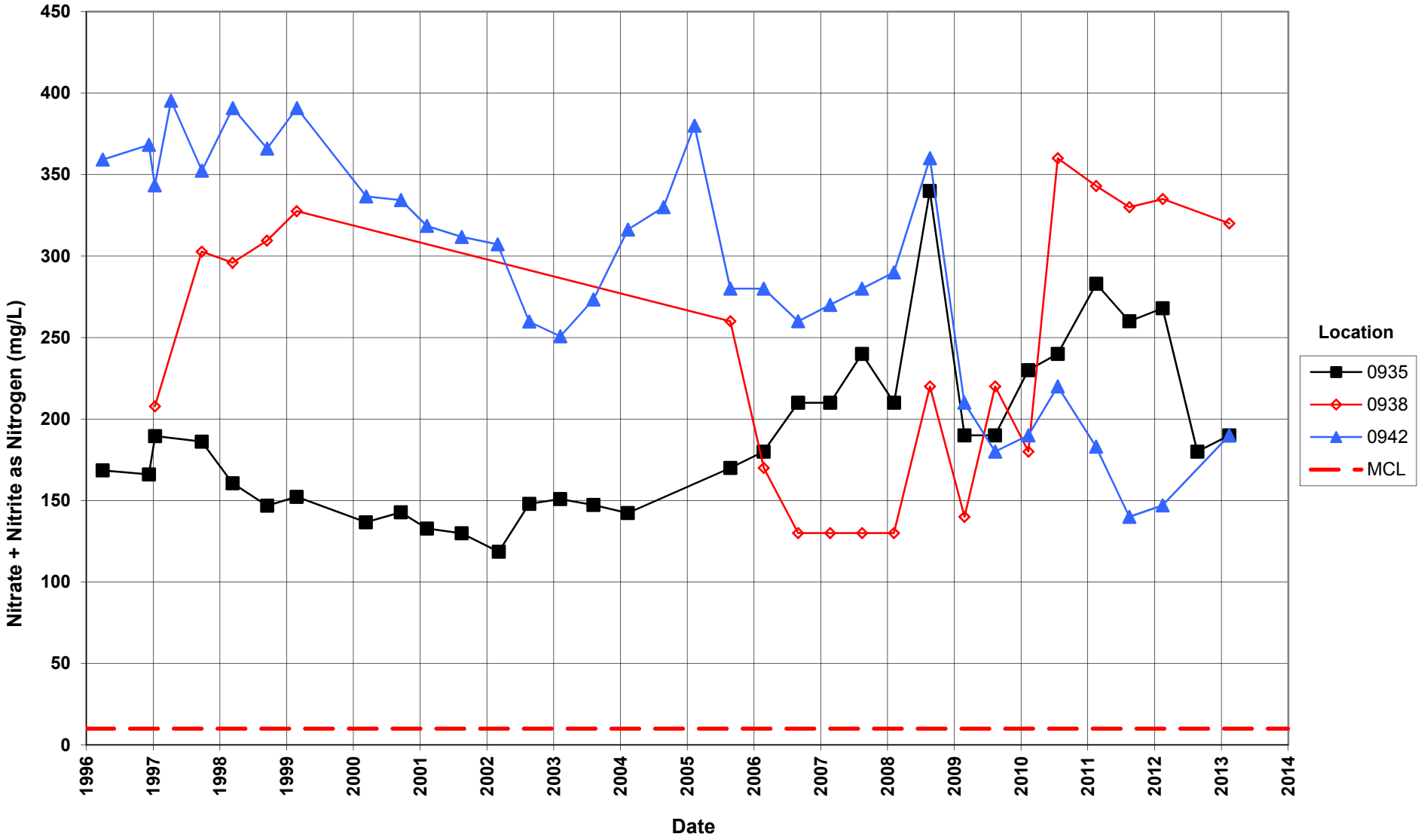
0282
0286
0287
0288
0290
0908
0934
MCL


Tuba City Disposal Site
Horizon B Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L
Sulfate (mg/L)
12000
10000
8000
6000
4000
2000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Date
Location
0262
0263
0265
0267
0281
0282
0286
0287
0288
0290
0908
0934
CL

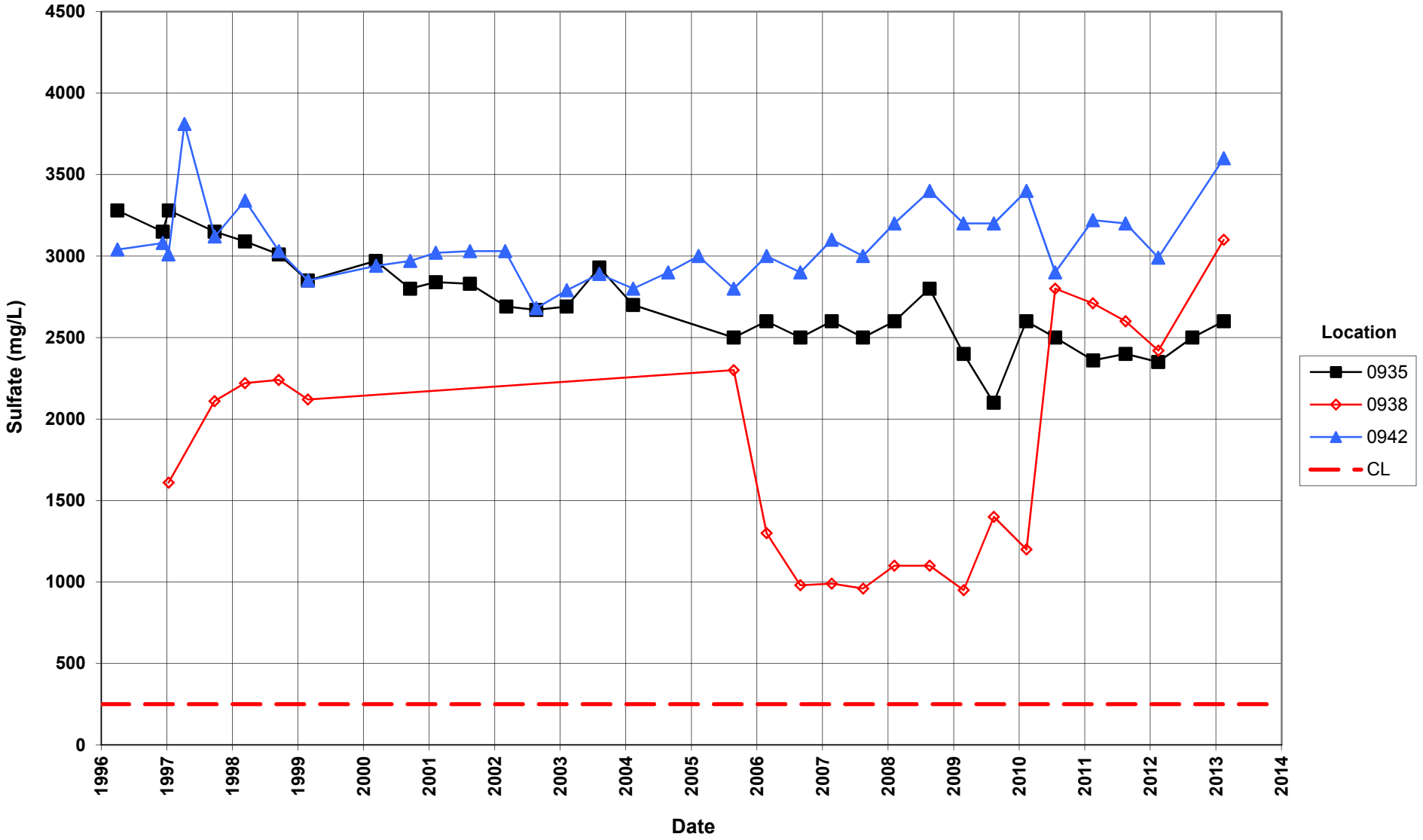
Tuba City Disposal Site
Horizon B Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



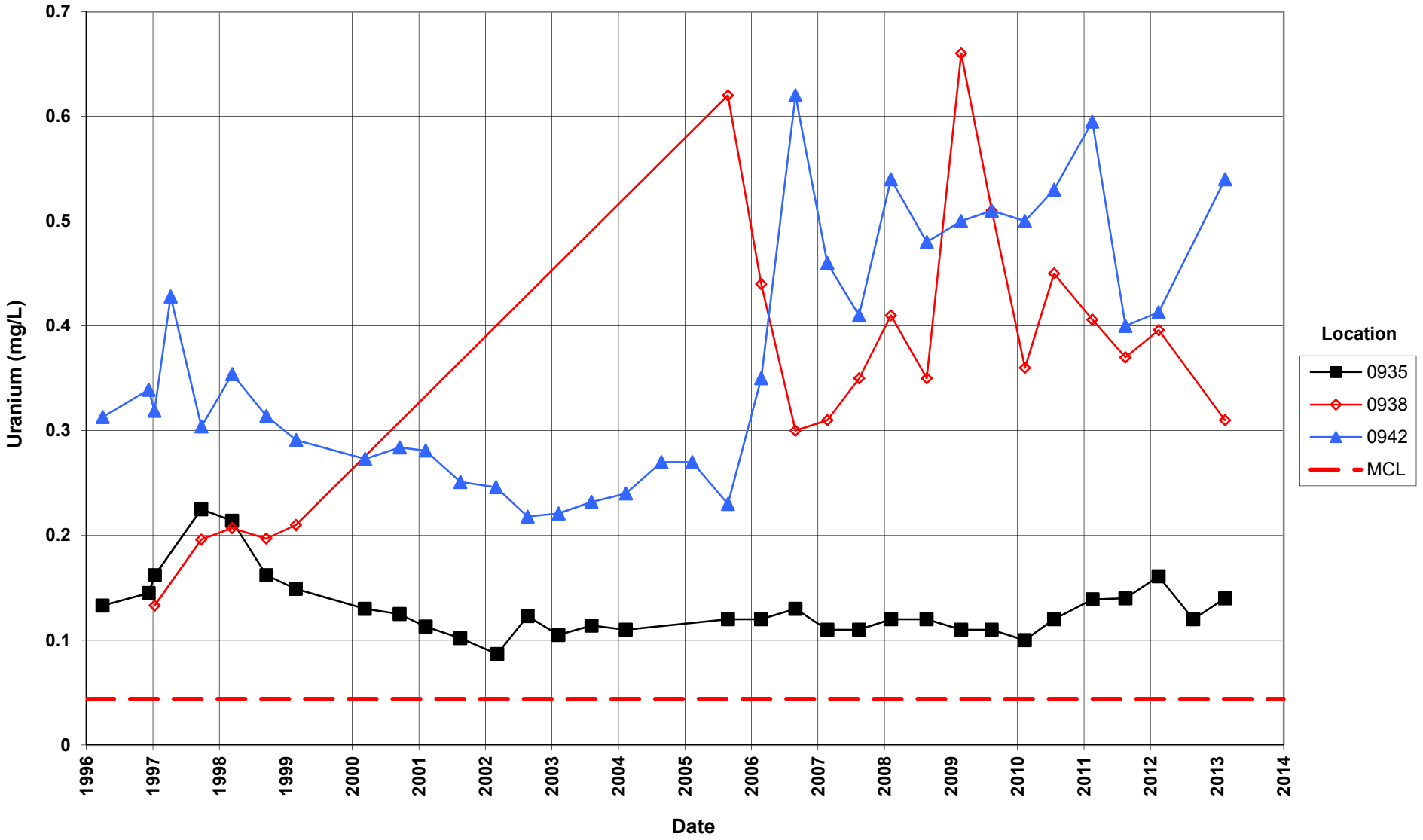
Tuba City Disposal Site
Horizon B Extraction Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



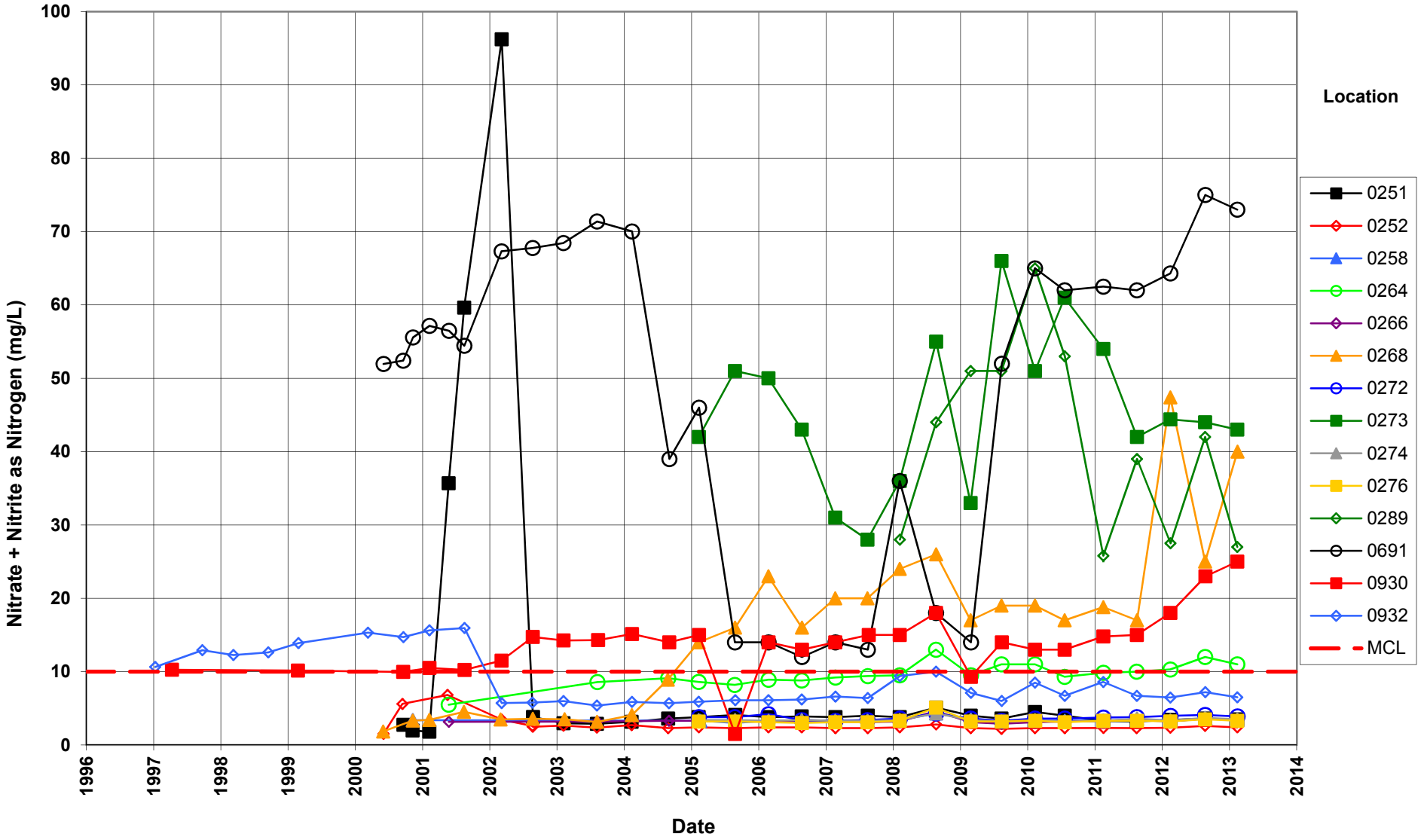
Tuba City Disposal Site
Horizon B Extraction Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



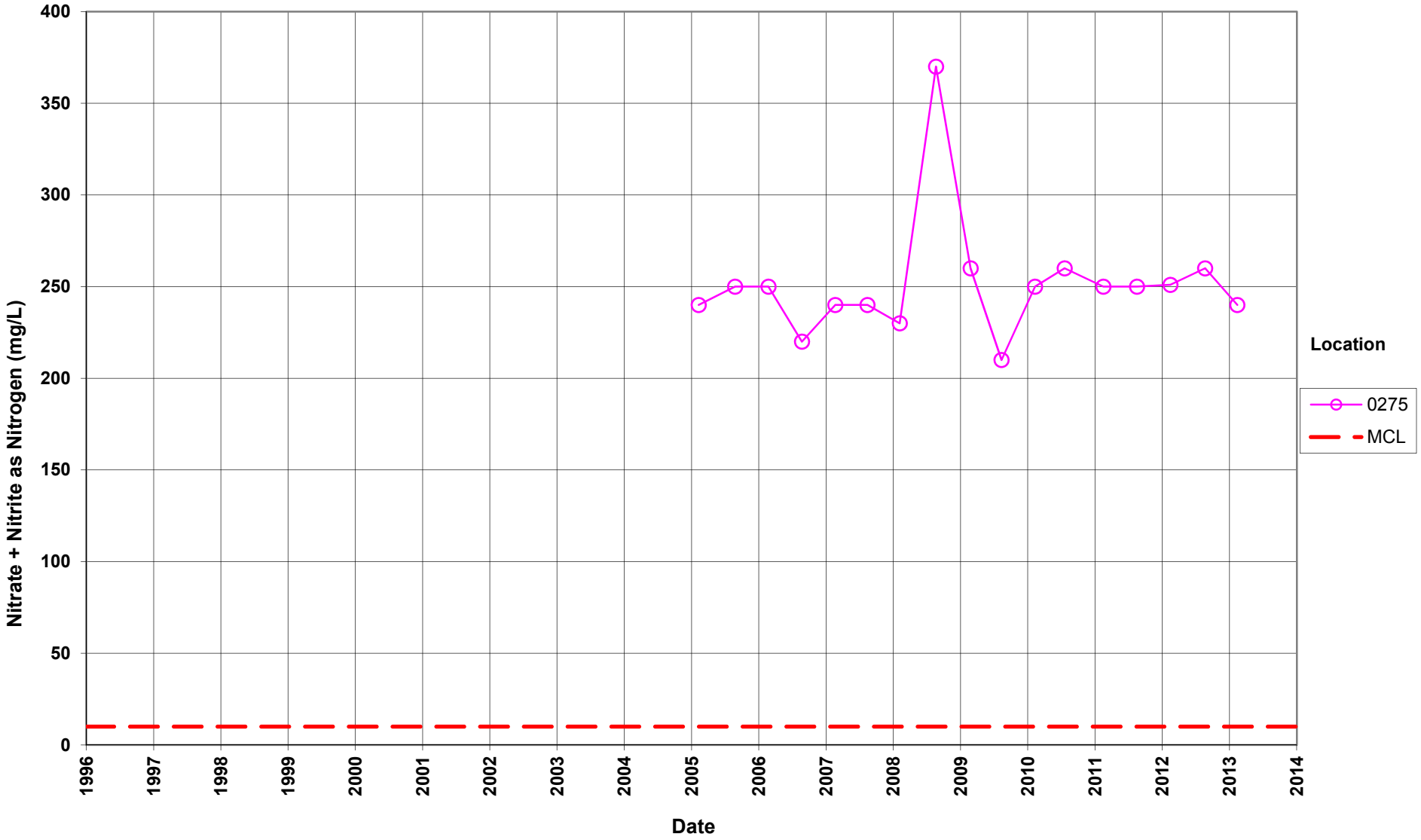
Tuba City Disposal Site
Horizon B Extraction Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



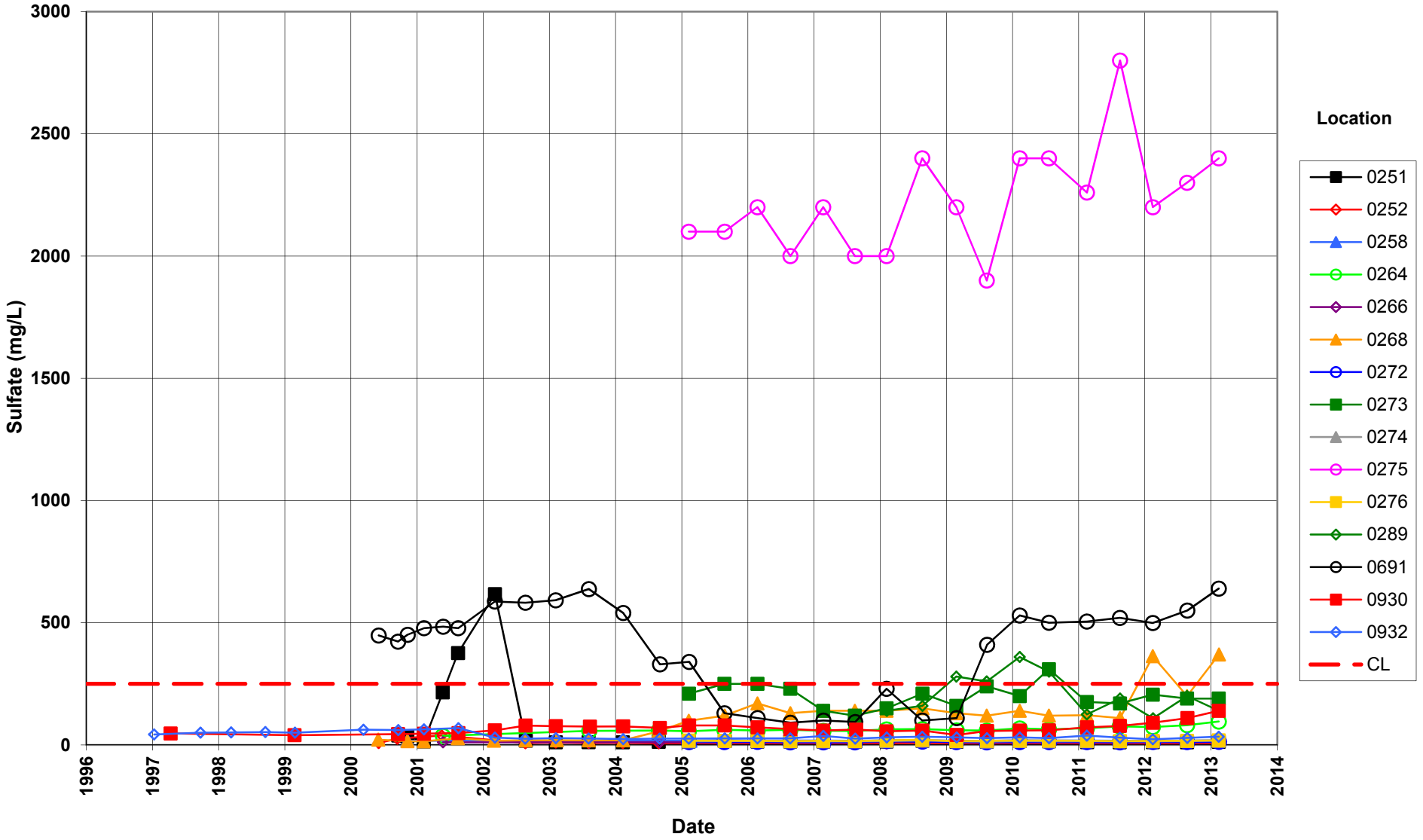
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



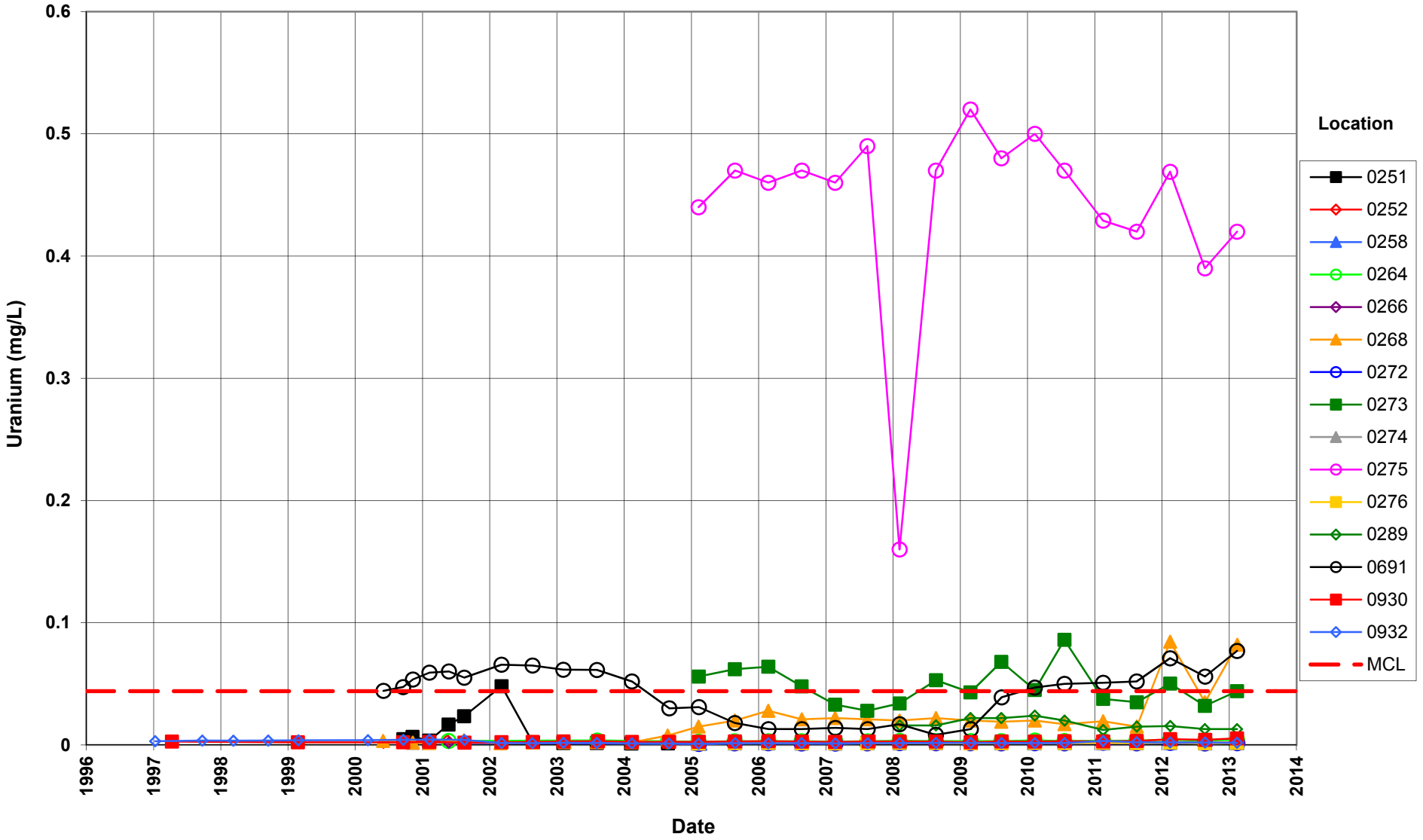
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L

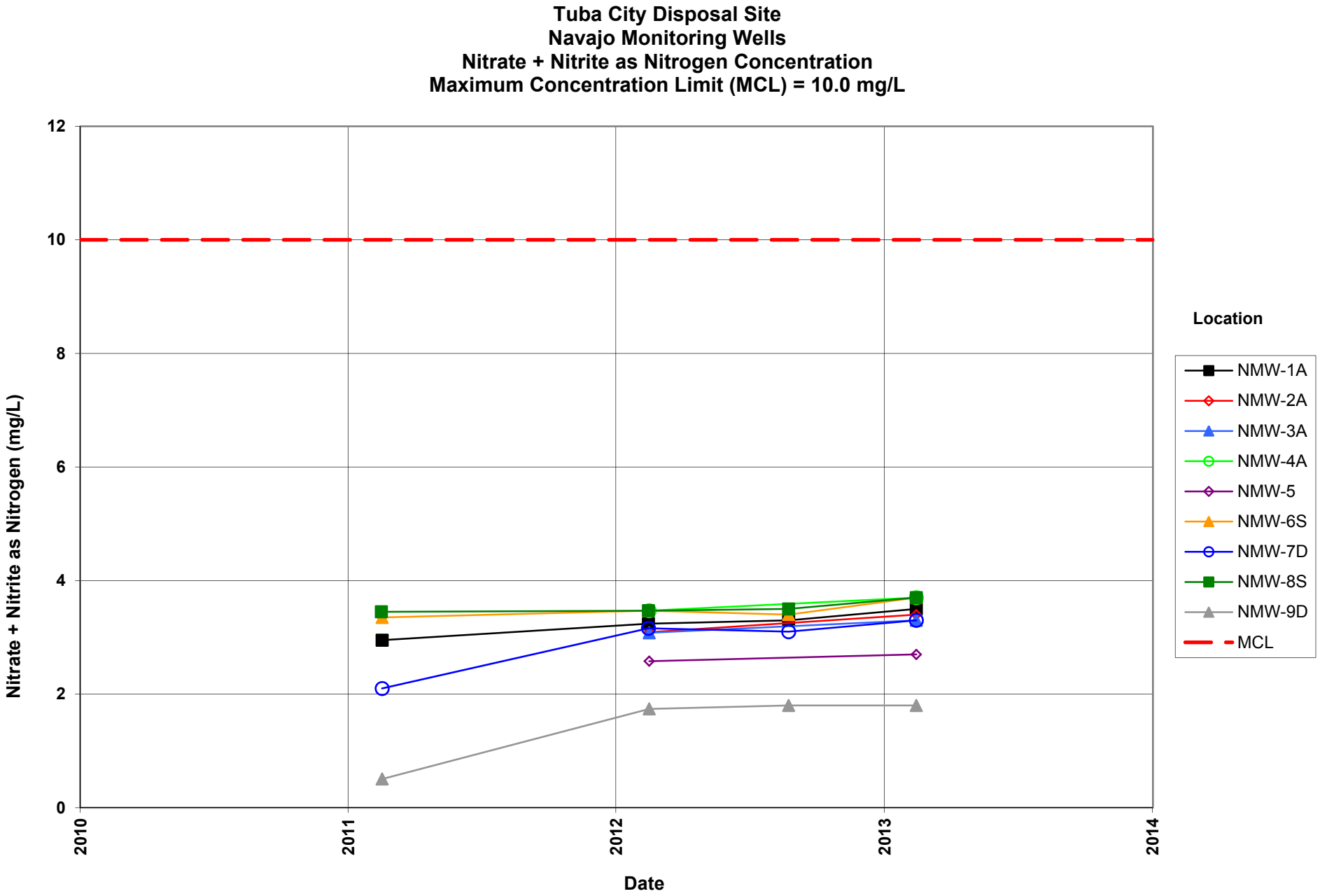


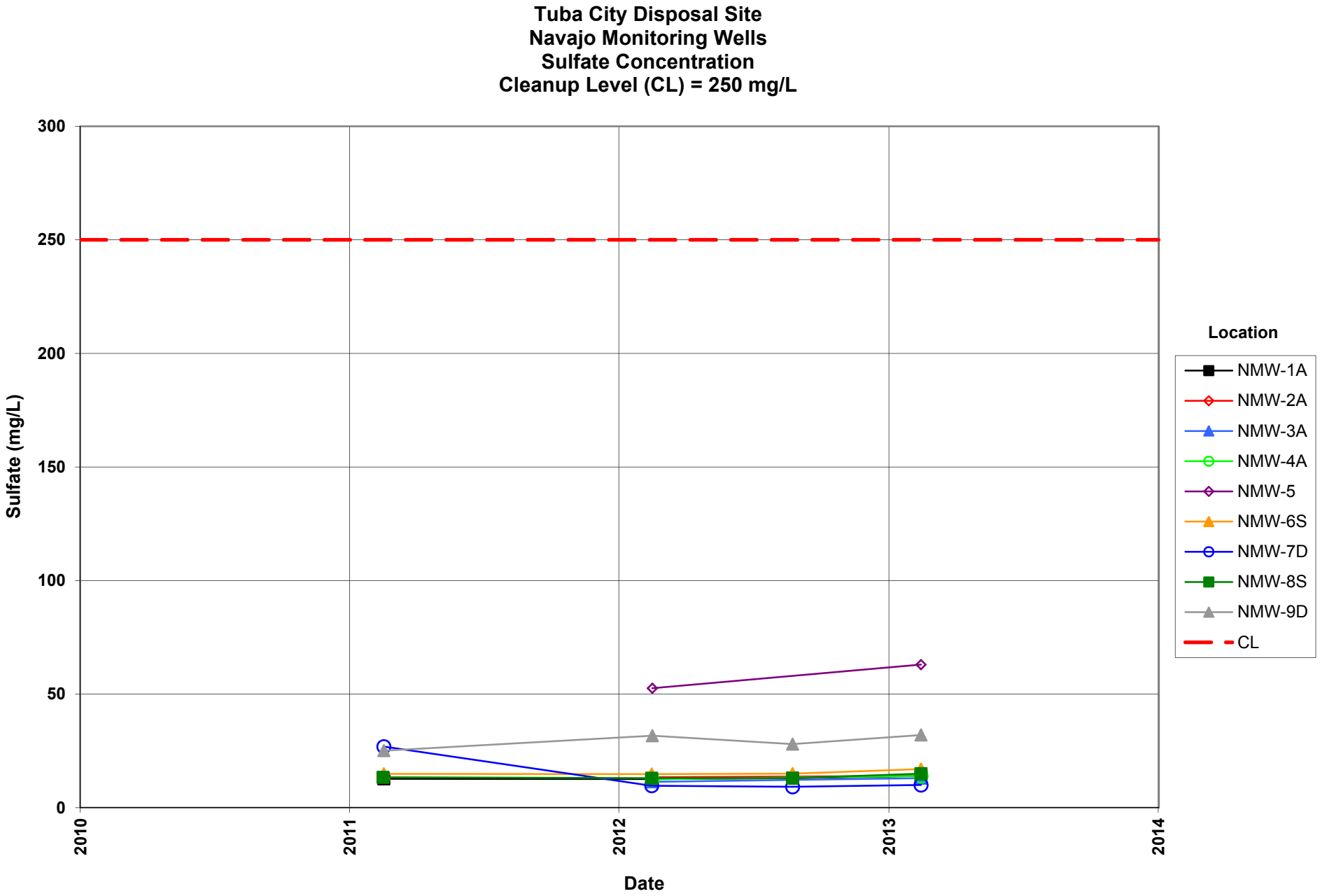
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L

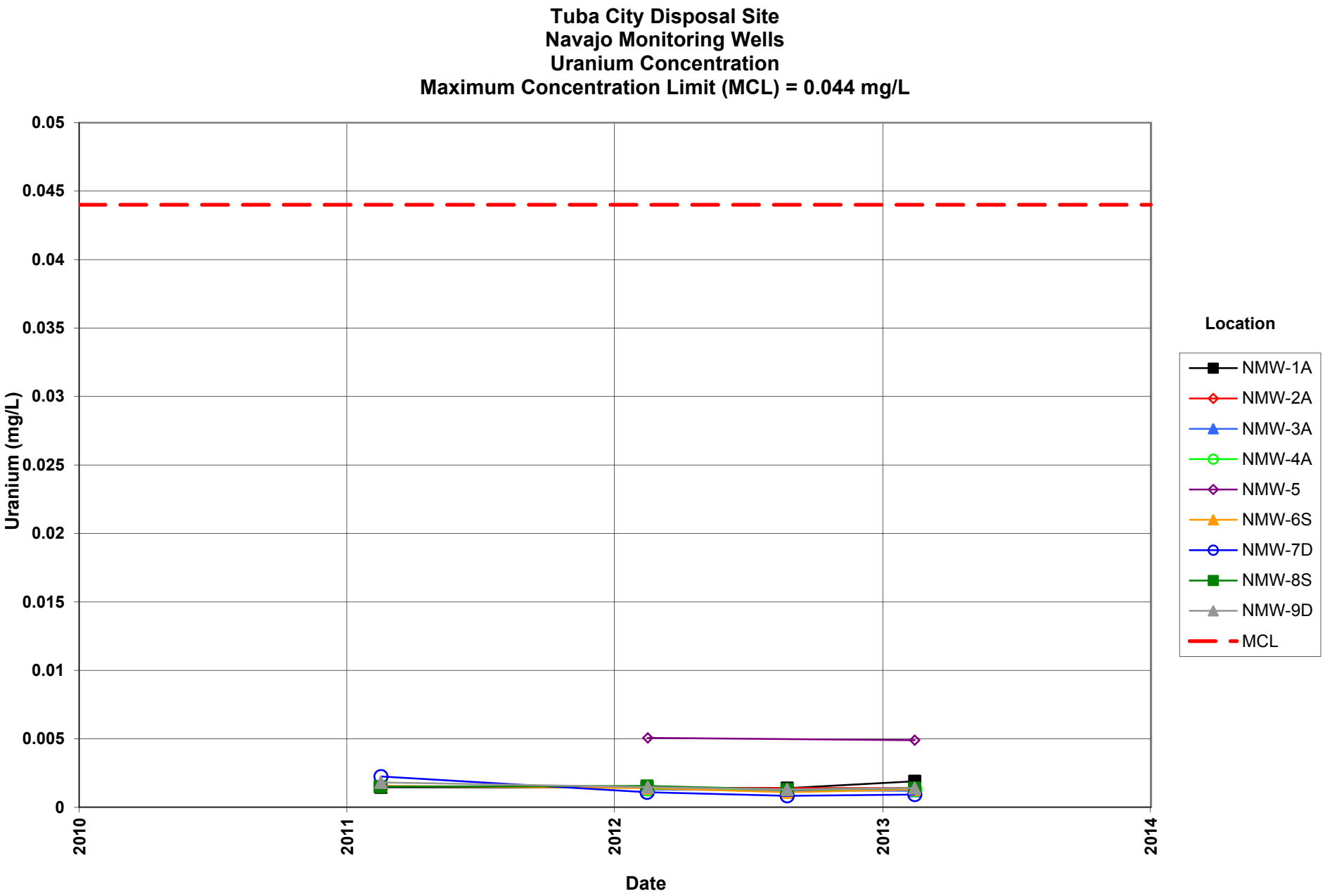


Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L




Tuba City Disposal Site
Navajo Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
12
10
8
6
4
2
0
2010
2011
2012
2013
2014
Date
Location
NMW-1A
NMW-2A
NMW-3A
NMW-4A
NMW-5
NMW-6S
NMW-7D
NMW-8S
NMW-9D
MCL


Tuba City Disposal Site
Navajo Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L
Sulfate (mg/L)
300
250
200
150
100
50
0
2010
2011
2012
2013
2014
Date
Location
NMW-1A
NMW-2A
NMW-3A
NMW-4A
NMW-5
NMW-6S
NMW-7D
NMW-8S
NMW-9D
CL


Tuba City Disposal Site
Navajo Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L
Uranium (mg/L)
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
2010
2011
2012
2013
2014
Date
Location
NMW-1A
NMW-2A
NMW-3A
NMW-4A
NMW-5
NMW-6S
NMW-7D
NMW-8S
NMW-9D
MCL

Attachment 3
Sampling and Analysis Work Order

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Task Order LM00-501
Control Number 13-0282

January 18, 2013

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

SUBJECT: Contract No. DE-AM01-07LM00060, S.M. Stoller Corporation (Stoller)
February 2013 Environmental Sampling at the Tuba City, Arizona,
Disposal Site - Revised

REFERENCE: Task Order LM00-501-02-122-402, Tuba City, Arizona, Disposal Site

Dear Mr. Bush:

The purpose of this letter is to inform you of the upcoming sampling event at Tuba City, Arizona. Enclosed are the map and tables specifying sample locations and analytes for monitoring at the Tuba City site. Water quality data will be collected from monitoring wells and surface locations at this site as part of the routine environmental sampling currently scheduled to begin the week of February 11, 2013.

The following lists show the monitoring wells (with zone of completion) and surface locations scheduled to be sampled during this event.

Monitoring Wells*

251 Na	266 Na	276 Na	289 Na	930 Na	940 Na	NMW-4A Ss
252 Na	267 Na	281 Na	290 Na	932 Na	941 Na	NMW-5 Al
258 Na	268 Na	282 Na	691 Na	934 Na	942 Na	NMW-6S Ss
262 Na	272 Na	283 Na	906 Na	935 Na	NMW-1A Ss	NMW-7D Ss
263 Na	273 Na	286 Na	908 Na	936 Na	NMW-2A Ss	NMW-8S Ss
264 Na	274 Na	287 Na	909 Na	938 Na	NMW-3A Ss	NMW-9D Ss
265 Na	275 Na	288 Na	929 Na			

*NOTE: Al = alluvium; Na = Navajo sandstone; Ss = sandstone

Surface locations

1569	1570

Treatment System Locations

1202	1205	1206

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All samples will be collected as directed in the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*. In addition, water levels will be collected from all wells on site.

Please contact me at (970) 248-6378 if you have any questions or concerns.

Sincerely,

Mark Plessinger
Site Lead

CJ/lcg/lb

Enclosures (3)

cc: (electronic)
Karl Stoeckle, DOE
Steve Donivan, Stoller
Lauren Goodknight, Stoller
Mark Plessinger, Stoller
EDD Delivery
rc-grand.junction
File: TUB410.02 (A)

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Sampling Frequencies for Locations at Tuba City, Arizona

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
251		X				
252		X				
258		X				
262		X				
263		X				
264		X				
265		X				
266		X				
267		X				
268		X				
272		X				
273		X				
274		X				
275		X				
276		X				
281		X				
282		X				
283		X				
284					X	Water level only
285					X	Water level only
286		X				
287		X				
288		X				
289		X				
290		X				
691		X				
902					X	Water level only
906		X				DATA LOGGER
908		X				DATA LOGGER
909		X				DATA LOGGER
917					X	Water level only
918					X	Water level only
919					X	Water level only
929		X				
930		X				
932		X				
934		X				DATA LOGGER
935		X				Converted to extraction well 7/05
936		X				DATA LOGGER
938		X				Converted to extraction well 7/05
940		X				DATA LOGGER
941		X				DATA LOGGER
942		X				DATA LOGGER
948					X	Water level only
1005					X	Water level only

Sampling Frequencies for Locations at Tuba City, Arizona

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
NMW-1A		X				Added by T. Bartlett 1/24/12
NMW-2A		X				
NMW-3A		X				
NMW-4A		X				
NMW-5		X				
NMW-6S		X				Added by T. Bartlett 1/24/12
NMW-7D		X				Added by T. Bartlett 1/24/12
NMW-8S		X				Added by T. Bartlett 1/24/12
NMW-9D		X				Added by T. Bartlett 1/24/12
Surface Locations						
1569		X				Evap pond - North
1570		X				Evap pond - South
Treatment System Locations						
1202		X				
1205		X				Treatment system distillate; verify location with system operators
1206		X				

Semi-annual sampling conducted in February and August; Annual sampling conducted in August.

Constituent Sampling Breakdown

Site	Tuba City				
Analyte	Groundwater	Surface Water	Required Detection Limit (mg/L)	Analytical Method	Line Item Code
Approx. No. Samples/yr	143	9			
Field Measurements					
Alkalinity	X	X			
Dissolved Oxygen					
Redox Potential	X	X			
pH	X	X			
Specific Conductance	X	X			
Turbidity	X				
Temperature	X	X			
Laboratory Measurements					
Aluminum					
Ammonia as N (NH3-N)	X		0.1	EPA 350.1	WCH-A-005
Arsenic	X	X	0.0001	SW-846 6020	LMM-02
Calcium	X	X	5	SW-846 6010	LMM-01
Chloride	X	X	0.5	SW-846 9056	WCH-A-039
Chromium					
Gross Alpha					
Gross Beta					
Iron	X	X	0.05	SW-846 6020	LMM-02
Lead					
Magnesium	X	X	5	SW-846 6010	LMM-01
Manganese	X	X	0.005	SW-846 6010	LMM-01
Molybdenum	X	X	0.003	SW-846 6020	LMM-02
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	X		0.2	SW-846 6010	LMM-01
Sodium	X	X	1	SW-846 6010	LMM-01
Strontium					
Sulfate	X	X	0.5	SW-846 9056	MIS-A-044
Sulfide					
Total Dissolved Solids	X	X	10	SM2540 C	WCH-A-033
Total Organic Carbon					
Uranium	X	X	0.0001	SW-846 6020	LMM-02
Vanadium					
Zinc					
Total No. of Analytes	16	14			

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

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Attachment 4
Trip Report

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Memorandum

DATE: February 25, 2013

TO: Mark Plessinger

FROM: Jeff Price

SUBJECT: Trip Report

Site: Tuba City, Arizona

Dates of Sampling Event: February 11-14, 2013

Team Members: Kent Moe, Joe Trevino, Jeff Price, Dan Sellers. Levon Benally, Jr., (Navajo Nation, UMTRA Program) was on site to observe the sampling event.

Number of Locations Sampled: 51 locations were identified on the sampling notification letter. A total of 48 locations were sampled as follows.

	Sampled Locations	Planned Locations
Monitoring wells	40	42
Extraction wells	3	4
Evaporation Pond	2	2
Treatment System locations	3	3

Locations Not Sampled/Reason: A total of 3 locations were not sampled.

- Monitoring well 0283 was dry, and well 0909 did not have enough water to sample.
- The pump at extraction well 0936 was not functioning.

Location Specific Information: Extraction wells 0935, 0938, and 0942 were sampled; however, there are electrical control problems that need to be diagnosed. These control problems were communicated to the plant operators.

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

False ID	True ID	Ticket Number	Sample Type	Analyte List	Associated Matrix
2122	NMW-1A	LDT 833	Duplicate	Monitoring Well list	Groundwater
2723	0268	LDT 868	Duplicate	Monitoring Well list	Groundwater
2724	1569	LDT 869	Duplicate	Evaporation Pond	Evaporation Pond

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Report Identification Number (RIN) Assigned: Samples were assigned to RIN 13025097 (ALS Fort Collins). Field data sheets can be found in Crow\sms\13025097 in the FieldData folder.

Sample Shipment: Samples were shipped overnight via FedEx to ALS Laboratory Group, Fort Collins, CO, from Tuba City, Arizona, February 14, 2013.

Water Level Measurements: Water levels were measured in all monitoring wells. The water level data can be found in Crow\sms\13025097.

Well Inspection Summary: All wells were in good condition.

Field Variance: Program Directive TUB-2012-01 requires that the surface water samples collected at pond locations 1569 and 1570 be filtered. These samples were inadvertently not filtered. All other samples were collected according to the *Sampling and Analysis Plan for the U. S. Department of Energy Office of Legacy Management Sites.*

Equipment: All equipment functioned properly. Monitoring wells were sampled with a dedicated bladder pump. Extraction wells have dedicated submersible pumps and were sampled at taps. The evaporation pond was sampled using a peristaltic pump and dedicated tubing. Treatment system samples were collected by opening a valve. Field data were collected using the Field Data Collection System.

Water Level Transducers (Dataloggers): Water level transducer data was successfully downloaded from the following well locations: 0263, 0264, 0265, 0274, 0287, 0908, 0929, 0934, 0941, 0943, and 0946. At location 0286, communication with the Troll 4000 datalogger could not be established, therefore data could not be recovered. The inoperable datalogger was removed and replaced with an operable Troll 4000.

Because of communication problems and general age of the transducers, it is necessary to replace all seven troll 4000s with Level Troll 300s. There is an inventory of Level Troll 300s ready to be installed, however, non-vented quick disconnect communication cables need to be purchased (two 100 ft and five 75 ft cables).

Institutional Controls:

Fences, Gates, and Locks: Acceptable
Signs: Acceptable
Trespassing/Site Disturbances: None observed

Site Issues: Cell phone service (Verizon) was weak and was not available at all areas of the site.

Disposal Cell/Drainage Structure Integrity: No issues observed
Vegetation/Noxious Weed Concerns: None observed
Maintenance Requirements: None observed
Safety Issues: None
Access Issues: Erosion around the monitoring well area south of the fenced site, resulting from last summer's heavy rainstorm, still needs to be repaired.

Corrective Action Required/Taken: None

(GB/lcg)

cc: (electronic)
Richard Bush, DOE
Timothy Bartlett, Stoller
Steve Donivan, Stoller
Susan Kamp, Stoller
EDD Delivery

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