Data Validation Package

February 2016
Groundwater and Surface Water Sampling at the Tuba City, Arizona, Disposal Site

April 2016

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Sampling Event Summary

Site: Tuba City, Arizona, Disposal Site

Sampling Period: February 15–16, 2016

The groundwater compliance strategy for the Tuba City, Arizona, 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 analyses were conducted as specified in *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PRO/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 2016.

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

Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Molybdenum	0.1	0262	0.28
Molybdenum	0.1	0263	0.11
Molybdenum	0.1	0287	0.17
Nitrate + Nitrite as Nitrogen	10	0262	190
Nitrate + Nitrite as Nitrogen	10	0263	200
Nitrate + Nitrite as Nitrogen	10	0264	11
Nitrate + Nitrite as Nitrogen	10	0265	150
Nitrate + Nitrite as Nitrogen	10	0267	300
Nitrate + Nitrite as Nitrogen	10	0268	23
Nitrate + Nitrite as Nitrogen	10	0273	14
Nitrate + Nitrite as Nitrogen	10	0275	190
Nitrate + Nitrite as Nitrogen	10	0281	20
Nitrate + Nitrite as Nitrogen	10	0282	52
Nitrate + Nitrite as Nitrogen	10	0286	200
Nitrate + Nitrite as Nitrogen	10	0287	220
Nitrate + Nitrite as Nitrogen	10	0288	36
Nitrate + Nitrite as Nitrogen	10	0289	14
Nitrate + Nitrite as Nitrogen	10	0290	74

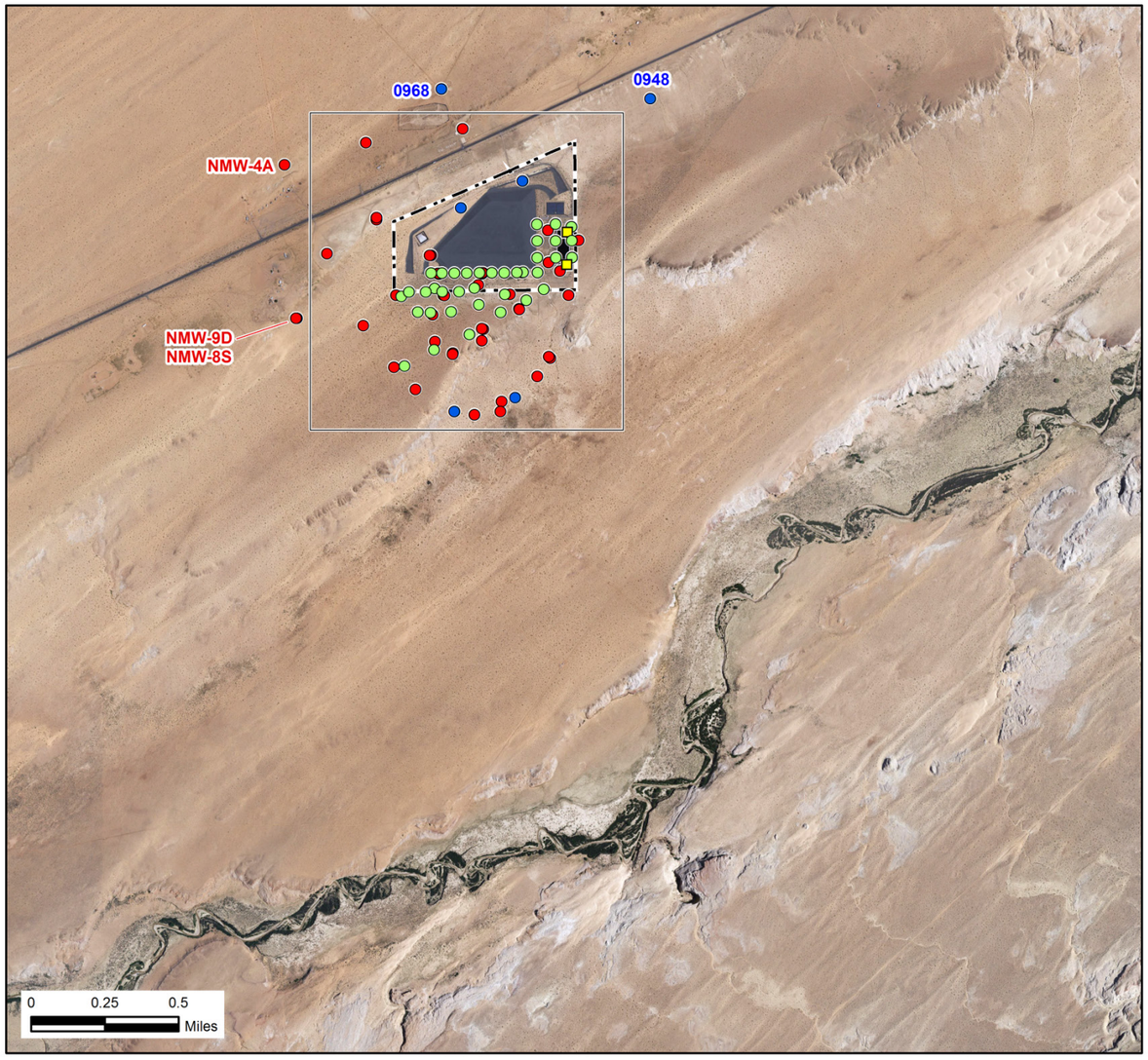
Table 1 (continued). Tuba City Monitoring Wells with Analyte Concentrations that Exceed the EPA Standard

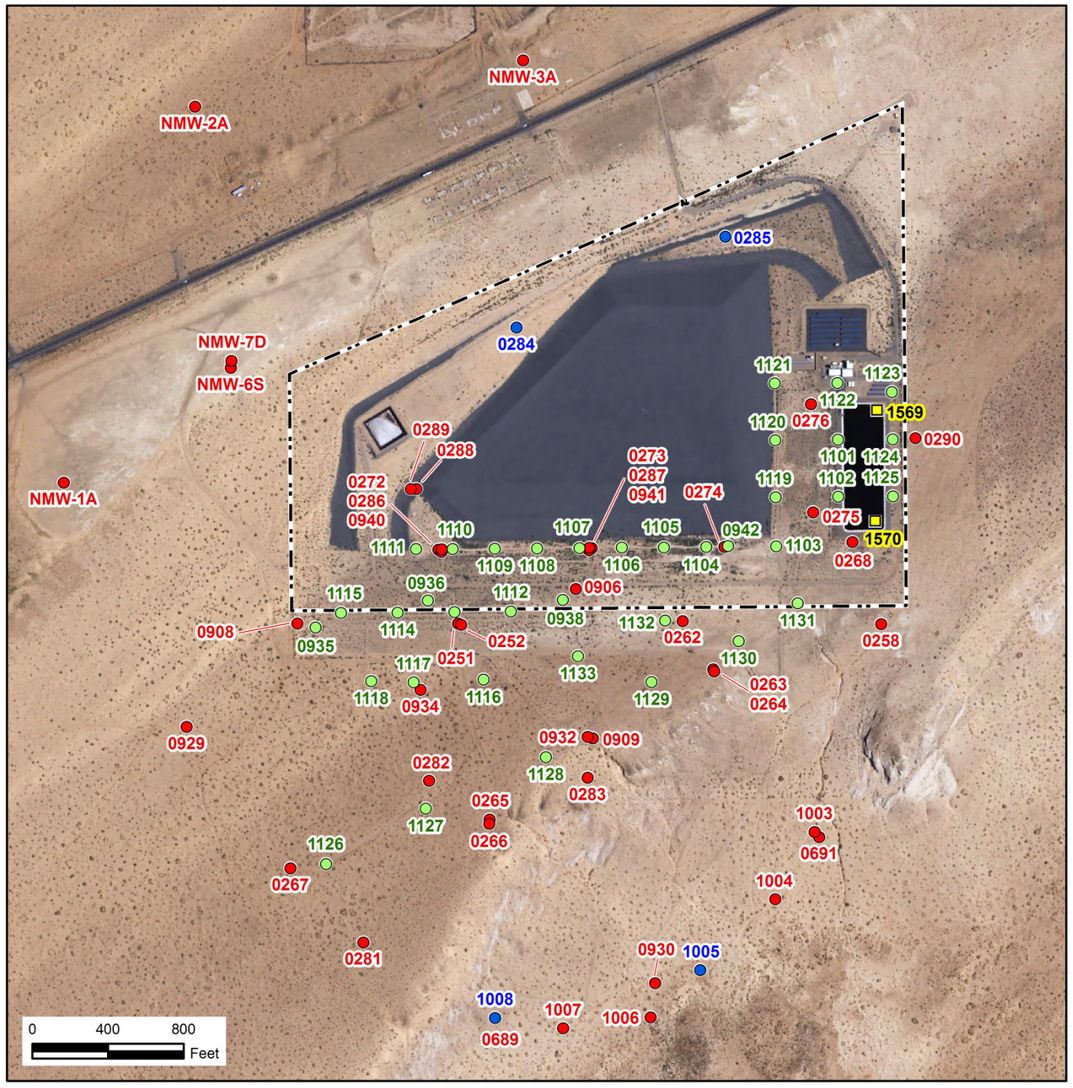
Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Nitrate + Nitrite as Nitrogen	10	0691	95
Nitrate + Nitrite as Nitrogen	10	0906	330
Nitrate + Nitrite as Nitrogen	10	0908	200
Nitrate + Nitrite as Nitrogen	10	0929	12
Nitrate + Nitrite as Nitrogen	10	0930	39
Nitrate + Nitrite as Nitrogen	10	0934	330
Nitrate + Nitrite as Nitrogen	10	0940	290
Nitrate + Nitrite as Nitrogen	10	0941	280
Nitrate + Nitrite as Nitrogen	10	1003	66
Selenium	0.01	0262	0.045
Selenium	0.01	0263	0.038
Selenium	0.01	0267	0.039
Selenium	0.01	0275	0.037
Selenium	0.01	0286	0.033
Selenium	0.01	0287	0.088
Selenium	0.01	0290	0.011
Selenium	0.01	0906	0.057
Selenium	0.01	0908	0.016
Selenium	0.01	0934	0.012
Selenium	0.01	0940	0.062
Selenium	0.01	0941	0.089
Uranium	0.044	0262	0.51
Uranium	0.044	0263	0.43
Uranium	0.044	0265	0.069
Uranium	0.044	0267	0.066
Uranium	0.044	0268	0.052
Uranium	0.044	0275	0.39
Uranium	0.044	0286	0.34
Uranium	0.044	0287	0.28
Uranium	0.044	0290	0.075
Uranium	0.044	0691	0.14
Uranium	0.044	0906	0.56
Uranium	0.044	0908	0.077
Uranium	0.044	0934	0.19
Uranium	0.044	0940	0.7
Uranium	0.044	0941	0.28
Uranium	0.044	1003	0.05

mg/L = milligrams per liter

Peter Lemke
Site Lead
Navarro Research and Engineering, Inc.

13 May 2016
Date





LEGEND

- Monitoring Well to be Sampled
- Extraction Well to be Sampled
- Monitoring Well - Water Level Only
- Surface Location to be Sampled
- Site Boundary

N

U.S. DEPARTMENT OF ENERGY OFFICE OF LEGACY MANAGEMENT	Work Performed by **Navarro Research & Engineering, Inc.** Under DOE Contract Number DE-LM0000421
Planned Sampling Map Tuba City, AZ, Disposal Site February 2016	
DATE PREPARED: January 12, 2016	FILE NAME: S1375200-11x17

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Planned Sampling Map Tuba City, AZ, Disposal Site, February 2016

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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 15–16, 2016
Date(s) of Verification	April 14, 2016	**Name of Verifier**	Stephen Donivan

	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 15, 2016.
2. Were the sampling locations specified in the planning documents sampled?	No	Monitoring wells 0283 and 0909 were dry; extraction well 1103 was inoperable. The Work Order letter identified 37 extraction wells to be sampled; however, after consultation with the site hydrologist, only three extraction wells needed to be sampled.
3. Were field equipment calibrations conducted as specified in the above-named documents?	Yes	Calibrations were performed February 10–12, 2016.
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?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements meet criteria prior to sampling?	No	pH stability was not achieved at well1006. All other criteria were met.
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	Duplicate samples were collected from locations 1101, 1105, and NMW-3A.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with non-dedicated equipment?	NA	An equipment blank was not required.
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	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
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?	Yes	

Laboratory Performance Assessment

General Information

Requisition No.:	16027639
Sample Event:	February 15–16, 2016
Site(s):	Tuba City, Arizona
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1602232
Analysis:	Metals and Inorganics
Validator:	Stephen Donivan
Review Date:	April 14, 2016

This validation was performed according to the *Environmental Procedures Catalog* (LMS/POL/S04325, continually updated), "Standard Practice for Validation of Environmental 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, Vanadium	LMM-02	SW-846 3005A	SW-846 6020A EPA 200.8
Calcium, Iron, Magnesium, Manganese, Potassium, Silica, Sodium, Strontium	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
1602232-1	0251	Iron	U	Less than 5 times the method blank
1602232-1	0251	Uranium	J	Serial dilution result
1602232-2	0252	Iron	U	Less than 5 times the method blank
1602232-3	0258	Iron	U	Less than 5 times the method blank
1602232-4	0262	Iron	U	Less than 5 times the method blank
1602232-6	0264	Iron	U	Less than 5 times the method blank

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1602232-7	0265	Iron	U	Less than 5 times the method blank
1602232-8	0266	Iron	U	Less than 5 times the method blank
1602232-10	0268	Total dissolved solids	J	Exceeded holding time
1602232-11	0272	Iron	U	Less than 5 times the method blank
1602232-12	0273	Iron	U	Less than 5 times the method blank
1602232-12	0273	Total dissolved solids	J	Exceeded holding time
1602232-13	0274	Iron	U	Less than 5 times the method blank
1602232-13	0274	Molybdenum	U	Less than 5 times the calibration blank
1602232-13	0274	Total dissolved solids	J	Exceeded holding time
1602232-14	0275	Iron	U	Less than 5 times the method blank
1602232-14	0275	Molybdenum	U	Less than 5 times the calibration blank
1602232-14	0275	Total dissolved solids	J	Exceeded holding time
1602232-15	0276	Molybdenum	U	Less than 5 times the calibration blank
1602232-15	0276	Total dissolved solids	J	Exceeded holding time
1602232-16	0281	Molybdenum	U	Less than 5 times the calibration blank
1602232-16	0281	Selenium	U	Less than 5 times the calibration blank
1602232-17	0282	Arsenic	U	Less than 5 times the calibration blank
1602232-17	0282	Iron	U	Less than 5 times the method blank
1602232-17	0282	Molybdenum	U	Less than 5 times the calibration blank
1602232-17	0282	Vanadium	U	Less than 5 times the method blank
1602232-18	0286	Arsenic	U	Less than 5 times the calibration blank
1602232-18	0286	Iron	U	Less than 5 times the method blank
1602232-18	0286	Molybdenum	U	Less than 5 times the calibration blank
1602232-19	0287	Iron	U	Less than 5 times the method blank
1602232-20	0288	Arsenic	U	Less than 5 times the calibration blank
1602232-20	0288	Iron	U	Less than 5 times the method blank
1602232-21	0289	Arsenic	U	Less than 5 times the calibration blank
1602232-21	0289	Selenium	U	Less than 5 times the method blank
1602232-21	0289	Vanadium	U	Less than 5 times the method blank
1602232-22	0290	Total dissolved solids	J	Exceeded holding time
1602232-23	0691	Iron	U	Less than 5 times the method blank
1602232-24	0906	Iron	U	Less than 5 times the method blank
1602232-25	0908	Iron	U	Less than 5 times the method blank
1602232-26	0929	Iron	U	Less than 5 times the method blank
1602232-27	0930	Iron	U	Less than 5 times the method blank
1602232-28	0932	Iron	U	Less than 5 times the method blank
1602232-28	0932	Selenium	U	Less than 5 times the calibration blank
1602232-29	0934	Iron	U	Less than 5 times the method blank
1602232-30	0940	Iron	U	Less than 5 times the method blank

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1602232-31	0941	Iron	U	Less than 5 times the method blank
1602232-31	0941	Total dissolved solids	J	Exceeded holding time
1602232-32	1003	Iron	U	Less than 5 times the method blank
1602232-33	1004	Iron	U	Less than 5 times the method blank
1602232-34	1006	Iron	U	Less than 5 times the method blank
1602232-35	1007	Iron	U	Less than 5 times the method blank
1602232-36	1101	Vanadium	J	Field duplicate RPD > 20%
1602232-37	1105	Iron	U	Less than 5 times the method blank
1602232-37	1105	Selenium	J	Field duplicate RPD > 20%
1602232-38	1569	Vanadium	U	Less than 5 times the method blank
1602232-39	1570	Vanadium	U	Less than 5 times the method blank
1602232-40	1101 Duplicate	Iron	U	Less than 5 times the method blank
1602232-40	1101 Duplicate	Vanadium	J	Field duplicate RPD > 20%
1602232-41	1105 Duplicate	Iron	U	Less than 5 times the method blank
1602232-41	1105 Duplicate	Selenium	J	Field duplicate RPD > 20%
1602232-42	NMW-3A Duplicate	Iron	U	Less than 5 times the method blank
1602232-42	NMW-3A Duplicate	Selenium	U	Less than 5 times the calibration blank
1602232-42	NMW-3A Duplicate	Uranium	J	Serial dilution result
1602232-42	NMW-3A Duplicate	Vanadium	J	Serial dilution result
1602232-43	NMW-1A	Iron	U	Less than 5 times the method blank
1602232-43	NMW-1A	Selenium	U	Less than 5 times the calibration blank
1602232-44	NMW-2A	Iron	U	Less than 5 times the method blank
1602232-44	NMW-2A	Selenium	U	Less than 5 times the calibration blank
1602232-44	NMW-2A	Vanadium	U	Less than 5 times the method blank
1602232-45	NMW-3A	Iron	U	Less than 5 times the method blank
1602232-45	NMW-3A	Uranium	J	Serial dilution result
1602232-45	NMW-3A	Vanadium	U	Less than 5 times the method blank
1602232-46	NMW-4A	Iron	U	Less than 5 times the method blank
1602232-47	NMW-6S	Iron	U	Less than 5 times the method blank
1602232-47	NMW-6S	Vanadium	U	Less than 5 times the method blank
1602232-48	NMW-7D	Iron	U	Less than 5 times the method blank
1602232-49	NMW-8S	Iron	U	Less than 5 times the method blank
1602232-50	NMW-9D	Iron	U	Less than 5 times the method blank
1602232-50	NMW-9D	Vanadium	U	Less than 5 times the method blank

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 50 samples on February 18, 2016, accompanied by Chain of Custody forms. Copies of the air bills were included in the receiving documentation. The Chain of Custody forms were checked to confirm that all of the samples were listed with sample collection dates and times, and that signatures and dates were present

indicating sample relinquishment and receipt. The COC forms were complete with no errors or omissions.

Preservation and Holding Times

The sample shipments were received intact with the temperatures inside the iced coolers at 3.0 and 3.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses with the following exception. The metals aliquot for sample 1570 at a pH value of 6. The aliquot was acidified to a pH less than 2 and allowed to equilibrate prior to proceeding with analysis. All samples were analyzed within the applicable holding times, with the exception of seven total dissolved solids (TDS) samples. The TDS results for these samples are qualified with a "J" flag as estimated values.

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 24, 2016, 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, 2016, 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, 2016, using three calibration standards. The correlation coefficient values were greater than 0.995. The absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency with all checks meeting 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 and 26, 2016, using four calibration standards. The correlation coefficient values were greater than 0.995. The absolute values of the intercepts were less than 3 times the MDL. Initial and continuing calibration verification checks were made at the required frequency and all calibration check results met the acceptance criteria. Reporting limit verification checks were made 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 4, 2016, 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 and Calibration Blanks

Method blanks are analyzed to assess any contamination that may have occurred during sample preparation. Calibration blanks (CCBs) 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 PQLs with the following exception. Two method blank result for ammonia-N were above the PQL. The samples associated with these blanks either had ammonia-N concentrations greater than 10 times the blank or were re-analyzed with acceptable blanks and no further qualification is necessary. 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.

Inductively Coupled Plasma Interference Check Sample Analysis

Interference check samples were analyzed at the required frequency to verify the instrumental inter-element 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. The evaluated serial dilution data were acceptable with the following exceptions. The uranium serial dilution result for samples 0251 and NMW-3A duplicate, and the vanadium serial result for sample NMW-3A duplicate did not meet the acceptance criteria. The associated sample uranium and vanadium 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 revised EDD file that arrived on April 13, 2016, included the results of the nitrate + nitrite as N reanalysis of sample 1003. 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.

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	2.21	2.14	1.73
0252	2.05	2.31	6.03
0258	3.01	2.44	10.45
0262	77.17	74.68	1.64
0263	80.92	81.60	0.42
0264	5.89	5.70	1.68
0265	47.11	48.22	1.17
0266	2.37	2.11	5.82
0267	109.77	114.76	2.22
0268	10.16	9.72	2.19
0272	2.70	2.77	1.24
0273	5.23	4.72	5.13
0274	2.85	2.48	6.91
0275	68.48	72.58	2.91
0276	2.92	2.84	1.44
0281	6.67	6.25	3.23
0282	12.94	12.35	2.31
0286	75.96	77.17	0.79
0287	72.91	71.44	1.02
0288	10.81	10.66	0.69
0289	5.90	5.91	0.11
0290	26.13	26.51	0.72
0691	31.69	32.34	1.02
0906	83.78	83.17	0.36
0908	84.07	79.92	2.53
0929	3.76	3.31	6.37
0930	12.75	12.13	2.50
0932	4.39	3.80	7.25
0934	103.66	105.43	0.85
0940	147.13	153.15	2.01
0941	79.03	80.02	0.62

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

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
1003	20.91	21.78 (37.78)	2.0 (28.74)
1004	4.17	3.62	7.06
1006	2.53	2.15	8.18
1007	2.51	2.25	5.57
1101	56.84	55.34	1.34
1105	33.46	33.30	0.25
1569	3663.02	3877.87	2.85
1570	3440.04	3821.61	5.25
NMW-1A	2.69	2.81	2.18
NMW-2A	2.66	2.24	8.50
NMW-3A	2.70	2.61	1.66
NMW-4A	2.62	2.41	4.12
NMW-6S	2.82	2.62	3.63
NMW-7D	2.18	1.84	8.53
NMW-8S	2.70	2.37	6.49
NMW-9D	2.93	2.81	2.07

meq/L = milliequivalents per liter

The charge balance calculated for location 1003 was originally 28.7 percent. Review of the analytical data indicated that an error had likely occurred during the nitrite + nitrate as N analysis and reanalysis of the suspect sample was requested. Data from the reanalysis resulted in an acceptable charge balance of 2.0 percent.

The charge balance calculated for location 0258 was slightly above 10 percent. There were no analytical errors identified during the review of the laboratory data from this location.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 16027639 **Lab Code:** PAR **Validator:** Stephen Donivan **Validation Date:** 3/25/2016

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

# of Samples: 50 **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 7 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

Non-Compliance Report: Holding Times

RIN: 16027639 **Lab Code:** PAR

Project: Tuba City

Validation Date: 3/25/2016

				Holding Times			Criteria			Reported Dates		
Ticket	Location	Lab Sample ID	Method Code	Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection Date	Preparation Date	Analysis Date
ODX 407	0268	1602232-10	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 409	0273	1602232-12	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 410	0274	1602232-13	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 411	0275	1602232-14	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 412	0276	1602232-15	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 419	0290	1602232-22	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016
ODX 428	0941	1602232-31	WCH-A-033			8			7	02/15/2016	02/23/2016	02/26/2016

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 16027639 **Lab Code:** PAR **Date Due:** 3/17/2016

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/1/2016

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	02/25/2016	0.0000	1.0000	OK	OK	OK	113.0	113.0	112.0	1.0			
Arsenic	ICP/MS	02/25/2016					OK	104.0	114.0	99.0	14.0			
Arsenic	ICP/MS	02/25/2016					OK	102.0	99.0	90.0	9.0			
Calcium	ICP/ES	02/25/2016	0.0400	0.9999	OK	OK	OK	100.0	103.0	99.0	2.0	97.0	2.0	98.0
Calcium	ICP/ES	02/25/2016					OK	101.0	96.0	98.0	1.0	97.0	1.0	100.0
Calcium	ICP/ES	02/25/2016					OK	100.0	99.0	95.0	2.0		1.0	
Iron	ICP/ES	02/25/2016	-0.0100	1.0000	OK	OK	OK	104.0	105.0	101.0	4.0	102.0		109.0
Iron	ICP/ES	02/25/2016					OK	104.0	100.0	104.0	3.0	101.0		108.0
Iron	ICP/ES	02/25/2016					OK	104.0	100.0	98.0	1.0			
Magnesium	ICP/ES	02/25/2016	-0.0700	1.0000	OK	OK	OK	107.0	106.0	104.0	2.0	98.0	0.0	101.0
Magnesium	ICP/ES	02/25/2016					OK	107.0	105.0	106.0	1.0	98.0	0.0	103.0
Magnesium	ICP/ES	02/25/2016					OK	106.0	104.0	103.0	0.0		2.0	
Manganese	ICP/ES	02/25/2016	0.0000	1.0000	OK	OK	OK	108.0	105.0	103.0	2.0			105.0
Manganese	ICP/ES	02/25/2016					OK	110.0	101.0	102.0	1.0			105.0
Manganese	ICP/ES	02/25/2016					OK	109.0	105.0	103.0	2.0			
Molybdenum	ICP/MS	02/25/2016	0.0000	1.0000	OK	OK	OK	106.0	103.0	106.0	2.0			
Molybdenum	ICP/MS	02/25/2016					OK	97.0	108.0	96.0	11.0			
Molybdenum	ICP/MS	02/25/2016					OK	98.0	95.0	96.0	1.0			

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 16027639 **Lab Code:** PAR **Date Due:** 3/17/2016

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/1/2016

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								
Potassium	ICP/ES	02/25/2016	-0.0700	0.9999	OK	OK	OK	105.0	103.0	105.0	2.0			90.0
Potassium	ICP/ES	02/25/2016					OK	105.0	105.0	106.0	1.0			95.0
Potassium	ICP/ES	02/25/2016					OK	104.0	102.0	104.0	2.0			
Selenium	ICP/MS	02/25/2016	0.0000	1.0000	OK	OK	OK	106.0	109.0	118.0	8.0			
Selenium	ICP/MS	02/25/2016					OK	100.0	116.0	99.0	16.0			
Selenium	ICP/MS	02/25/2016					OK	96.0	102.0	94.0	8.0			
Silicon	ICP/ES	02/25/2016	0.0000	0.9999	OK	OK	OK	105.0			2.0	107.0	1.0	87.0
Silicon	ICP/ES	02/25/2016					OK	107.0			2.0	104.0	3.0	92.0
Silicon	ICP/ES	02/25/2016					OK	105.0	107.0	103.0	1.0		1.0	
Sodium	ICP/ES	02/25/2016	-0.0500	1.0000	OK	OK	OK	108.0	106.0	107.0	1.0		2.0	97.0
Sodium	ICP/ES	02/25/2016					OK	107.0	108.0	109.0	1.0		1.0	105.0
Sodium	ICP/ES	02/25/2016					OK	106.0	104.0	108.0	3.0		3.0	
Strontium	ICP/ES	02/25/2016	0.0000	1.0000	OK	OK	OK	109.0	112.0	107.0	2.0	109.0	2.0	101.0
Strontium	ICP/ES	02/25/2016					OK	109.0	102.0	109.0	2.0	108.0	0.0	102.0
Strontium	ICP/ES	02/25/2016					OK	107.0	105.0	106.0	0.0		0.0	
Uranium	ICP/MS	02/25/2016	0.0000	1.0000	OK	OK	OK	112.0	110.0	109.0	1.0		13.0	
Uranium	ICP/MS	02/25/2016					OK	102.0	122.0	100.0	13.0		5.0	
Uranium	ICP/MS	02/25/2016					OK	106.0	104.0	101.0	3.0		11.0	

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 16027639 **Lab Code:** PAR **Date Due:** 3/17/2016

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/1/2016

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								
Vanadium	ICP/MS	02/25/2016	0.0000	1.0000	OK	OK	OK	109.0	116.0	114.0	2.0		13.0	
Vanadium	ICP/MS	02/25/2016					OK	95.0	109.0	97.0	11.0			
Vanadium	ICP/MS	02/25/2016					OK	109.0	102.0	101.0	1.0			

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 16027639 **Lab Code:** PAR **Date Due:** 3/17/2016

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/1/2016

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	02/24/2016	0.000	0.9996	OK	OK	OK	98	94	95	2	
AMMONIA AS N	02/24/2016					OK	98	106	120	3	
AMMONIA AS N	02/24/2016					OK	101	85	80	1	
CHLORIDE	02/18/2016	0.000	1.0000	OK	OK	OK	102				
CHLORIDE	02/22/2016			OK	OK	OK	102	90	92	1	
CHLORIDE	02/22/2016					OK	99	85	90	2	
Nitrate+Nitrite as N	02/27/2016	0.000	1.0000	OK	OK	OK	96	99	96	2	
Nitrate+Nitrite as N	02/27/2016					OK	97	96	96	1	
Nitrate+Nitrite as N	02/27/2016					OK	92	95	94	1	
SULFATE	02/18/2016	0.000	1.0000	OK	OK	OK	104				
SULFATE	02/22/2016			OK	OK	OK	104	98	100	1	
SULFATE	02/22/2016					OK	100	97	102	2	
TOTAL DISSOLVED SOLIDS	02/26/2016					OK	114			1	
TOTAL DISSOLVED SOLIDS	02/26/2016					OK	95			1	
TOTAL DISSOLVED SOLIDS	02/26/2016					OK	108			2	
TOTAL DISSOLVED SOLIDS	02/26/2016									15	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 16027639 **Lab Code:** PAR **Date Due:** 3/17/2016

Matrix: Water **Site Code:** TUB01 **Date Completed:** 3/1/2016

Analyte	Date Analyzed	CALIBRATION				Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	CCV	CCB						
TOTAL DISSOLVED SOLIDS	02/26/2016									3	

Sampling Quality Control Assessment

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

Sampling Protocol

Sample results for monitoring wells were qualified with an "F" flag in the database, indicating the wells were purged and sampled using the low-flow sampling method and Category I criteria, with the following exceptions:

- Extraction wells 1101 and 1105 were not sampled using low-flow criteria. These wells were sampled using high-volume and high-flow submersible pumps.
- The following wells were purged and sampled using the low-flow sampling method and Category II criteria: 0251, 0258, 0262, 0263, 0264, 0266, 0267, 0272, 0273, 0274, 0281, 0282, 0286, 0287, 0288, 0289, 0290, 0906, 0908, 0929, 0934, 0940, 0941, NMW-6S, 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.

Equipment Blank Assessment

All sampling was performed with dedicated equipment and an equipment blank was not required.

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. Duplicate samples were collected from locations 1101, 1105, and NMW-3A. The relative percent difference (RPD) for duplicate results that are greater than 5 times the PQL should be less than 20 percent. The RPD is not used to evaluate results that are less than 5 times the PQL. For these results (RPD is "NA" on the Field Duplicates report), the range should be no greater than the PQL. The duplicate results met the criteria with the exception of the vanadium RPD at location 1101 was 22 percent, and the selenium RPD at location 1105 was 20.3. There were no analytical errors identified during the review of the data and the field notes did not describe any unusual conditions during sampling at this location. The associated sample and duplicate results for these locations are qualified with a "J" flag as estimated values.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 16027639 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/25/2016

Duplicate: 2122 **Sample:** 1101

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	3.6			1	3.4			1	5.71		MG/L
Arsenic	1.2			10	1.6			10	NA		UG/L
Calcium	540000			5	510000			5	5.71		UG/L
CHLORIDE	200			50	200			50	0		MG/L
Iron	34	J		1	120	J		5			UG/L
Magnesium	160000			1	160000			5	0		UG/L
Manganese	820			1	870			5	5.92		UG/L
Molybdenum	1.6			10	2.6			10			UG/L
Nitrate+Nitrite as N	88			500	91			500	3.35		MG/L
Potassium	11000			1	9300			5	16.75		UG/L
Selenium	28			10	32			10	13.33		UG/L
Silica	18000			1	17000			5	5.71		UG/L
Silicon	8500			1	7900			5	7.32		UG/L
Sodium	370000			1	370000			5	0		UG/L
Strontium	4600			1	4500			5	2.20		UG/L
SULFATE	1800			50	1900			50	5.41		MG/L
TOTAL DISSOLVED SOLIDS	3600			1	3700			1	2.74		MG/L
Uranium	380			10	330			10	14.08		UG/L
Vanadium	11			10	8.8			10	22.22		UG/L

Duplicate: 2723 **Sample:** 1105

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	2.6			1	2.4			1	8.00		MG/L
Arsenic	300			10	260			10	14.29		UG/L
Calcium	340000			1	350000			1	2.90		UG/L
CHLORIDE	61			10	63			10	3.23		MG/L
Iron	21	J		1	9	J		1			UG/L
Magnesium	90000			1	92000			1	2.20		UG/L
Manganese	44			1	47			1	6.59		UG/L
Molybdenum	460			10	430			10	6.74		UG/L
Nitrate+Nitrite as N	75			100	68			100	9.79		MG/L
Potassium	5200			1	5300			1	1.90		UG/L
Selenium	38			10	31			10	20.29		UG/L
Silica	14000			1	14000			1	0		UG/L
Silicon	6500			1	6600			1	1.53		UG/L
Sodium	200000			1	200000			1	0		UG/L
Strontium	3400			1	3500			1	2.90		UG/L
SULFATE	1000			10	1100			25	9.52		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 16027639 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/25/2016

Duplicate: 2723 **Sample:** 1105

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
TOTAL DISSOLVED SOLIDS	2200			1	2300			1	4.44		MG/L
Uranium	850			50	970			10	13.19		UG/L
Vanadium	14			10	14			10	0		UG/L

Duplicate: 2724 **Sample:** NMW-3A

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Arsenic	2.6			10	2			10	NA		UG/L
Calcium	34000			1	33000			1	2.99		UG/L
CHLORIDE	9.1			1	9.1			1	0		MG/L
Iron	46	J		1	69	J		1	NA		UG/L
Magnesium	6300			1	6200			1	1.60		UG/L
Manganese	3.6	J		1	4.7	J		1	NA		UG/L
Molybdenum	0.39	J		10	1			10			UG/L
Nitrate+Nitrite as N	2.9			10	2.9			10	0		MG/L
Potassium	1400			1	1400			1	0		UG/L
Selenium	0.91	J		10	1.5			10			UG/L
Silica	11000			1	11000			1	0		UG/L
Silicon	5300			1	5300			1	0		UG/L
Sodium	10000			1	9900			1	1.01		UG/L
Strontium	380			1	380			1	0		UG/L
SULFATE	12			1	12			1	0		MG/L
TOTAL DISSOLVED SOLIDS	130			1	150			1	14.29		MG/L
Uranium	1.3			10	1.7	E*		10	NA		UG/L
Vanadium	11			10	12	E		10	8.70		UG/L

Certification

All laboratory analytical quality control criteria were met except as qualified in this report. The data qualifiers listed on the environmental 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: Stephen Donivan — Stephen Donivan — 5-10-2016 — Date

Data Validation Lead: Stephen Donivan — Stephen Donivan — 5-10-2016 — Date

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Attachment 1

Assessment of Anomalous Data

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Potential Outliers Report

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Potential Outliers Report

Potential outliers are measurements that are extremely large or small relative to the rest of the data and, therefore, are suspected of misrepresenting the population from which they were collected. Potential outliers can result from transcription errors, data-coding errors, or measurement system problems. However, outliers can also represent true extreme values of a distribution and can 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.** Do this 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 as to whether the data are normally distributed using the Shapiro-Wilk Test.
2. **Apply the appropriate statistical test.** Dixon's Test for extreme values is used to test for statistical outliers when the sample size is less than or equal to 25. This test considers both extreme values that are much smaller than the rest of the data (case 1) and extreme values that are much larger than the rest of the data (case 2). This test is valid only if the data without the suspected outlier are normally distributed. Rosner's Test is a parametric test that is used to detect outliers for sample sizes of 25 or more. This test also assumes that the data without the suspected outliers are normally distributed.
3. **Scientifically review statistical outliers and decide on their disposition.** The review should include an evaluation of any notable trends in the data that may indicate the outliers represent true extreme values.

Data were identified as potentially anomalous for six results. (See the Data Validation Outliers Report, below.) These data are generally from locations where there is a notable trend in the data and further review of these data did not indicate any laboratory errors. The data from this event 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. There were no anomalies identified in the previous report (February 2015) that required further review.

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

					Current	Qualifiers		Historical Maximum	Qualifiers		Historical Minimum	Qualifiers		Number of Data Points		Statistical Outlier
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	02/16/2016	Nitrate+Nitrite as N	2.80			5.10	N	FQ	2.90		FQ	22	0	No
TUB01	0251	N001	02/16/2016	TOTAL DISSOLVED SOLIDS	91.0			240		FQJ	93.0		F	22	0	NA
TUB01	0252	N001	02/16/2016	Magnesium	4.70			4.30		FQ	3.70		F	21	1	Yes
TUB01	0252	N001	02/16/2016	Selenium	0.00260			0.00150	U	F	0.00039		F	21	3	NA
TUB01	0252	N001	02/16/2016	SULFATE	8.60			7.80		FQ	5.90		F	21	0	Yes
TUB01	0252	N001	02/16/2016	Uranium	0.00230			0.00224		F	0.00160		F	21	0	No
TUB01	0258	N001	02/16/2016	Magnesium	7.70			7.52		FQ	6.70		FQ	20	0	No
TUB01	0258	N001	02/16/2016	Manganese	0.00320	J		0.00200	B	FQ	0.000054	U	F	20	17	No
TUB01	0258	N001	02/16/2016	Molybdenum	0.000350	J		0.00112	B	FQ	0.00037	B	FQ	20	5	NA
TUB01	0262	N001	02/16/2016	Arsenic	0.00450			0.00400		FQ	0.00130		QF	21	1	No
TUB01	0262	N001	02/16/2016	Magnesium	290			270		FQ	75.0		FQ	21	0	No
TUB01	0262	N001	02/16/2016	Manganese	0.0300			0.0260		FQ	0.000054	U	FQ	21	5	No
TUB01	0262	N001	02/16/2016	Molybdenum	0.280			1.70		FQ	0.320		FQ	21	0	No
TUB01	0262	N001	02/16/2016	Sodium	320			310		FQ	90.0		FQ	21	0	No
TUB01	0262	N001	02/16/2016	SULFATE	2400			2300		FQ	820		FQ	21	0	No
TUB01	0263	N001	02/16/2016	Iron	1.90			0.130		FQ	0.00490	U	FQJ	21	12	Yes
TUB01	0263	N001	02/16/2016	Manganese	0.0320			0.01000	U	FQ	0.00011	U	FQ	21	11	No
TUB01	0263	N001	02/16/2016	Molybdenum	0.110			0.0950		FQ	0.0120		QF	21	0	NA

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

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	0263	N001	02/16/2016	Silicon	9.90			9.80		FQ	6.40		FQ	19	0	No
TUB01	0263	N001	02/16/2016	Sodium	360			340		FQ	140			21	0	NA
TUB01	0263	N001	02/16/2016	Uranium	0.430			0.420		FQ	0.0960		QF	21	0	NA
TUB01	0264	N001	02/16/2016	Arsenic	0.00340			0.00288	B	QF	0.00170	U	FQ	21	1	NA
TUB01	0264	N001	02/16/2016	CHLORIDE	17.0			16.0		FQ	13.0		FQ	21	0	NA
TUB01	0264	N001	02/16/2016	SULFATE	110			99.0		FQ	57.0		QF	21	0	No
TUB01	0265	N001	02/16/2016	Selenium	0.00810			0.00750		F	0.00480		F	21	0	No
TUB01	0266	N001	02/16/2016	Arsenic	0.00330			0.00254	B	QF	0.00140		FQ	20	1	Yes
TUB01	0266	N001	02/16/2016	Selenium	0.00160			0.00150	U	FQ	0.00065			20	3	No
TUB01	0267	N001	02/16/2016	Selenium	0.0390			0.0626		F	0.0400		F	22	0	NA
TUB01	0268	N001	02/15/2016	Arsenic	0.00210			0.00170	U	F	0.0004		F	23	2	No
TUB01	0272	N001	02/16/2016	Selenium	0.00190			0.00160		FQ	0.00071		F	24	3	No
TUB01	0273	N001	02/15/2016	Calcium	68.0			230		FQ	77.0		FQ	20	0	No
TUB01	0273	N001	02/15/2016	CHLORIDE	20.0			55.0		FQ	23.0		FQ	20	0	No
TUB01	0273	N001	02/15/2016	Magnesium	13.0			39.0		FQ	14.0		FQ	20	0	No
TUB01	0273	N001	02/15/2016	Molybdenum	0.00860			0.0330		FQ	0.00880		FQ	20	0	No
TUB01	0273	N001	02/15/2016	Nitrate+Nitrite as N	14.0			66.0		FQ	16.0		FQ	20	0	No
TUB01	0273	N001	02/15/2016	Potassium	1.80			4.00		FQ	2.00		FQ	20	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

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	0273	N001	02/15/2016	SULFATE	67.0			310		FQ	79.0		FQ	20	0	No
TUB01	0273	N001	02/15/2016	TOTAL DISSOLVED SOLIDS	320			1200		FQ	380		JFQ	20	0	No
TUB01	0274	N001	02/15/2016	Arsenic	0.00270			0.00260		FQ	0.00170	U	FQ	20	1	No
TUB01	0274	N001	02/15/2016	Uranium	0.00230			0.00202		QF	0.00120		FQ	20	0	No
TUB01	0282	N001	02/16/2016	CHLORIDE	57.0			52.0		FQ	36.4		FQ	20	0	No
TUB01	0287	N001	02/16/2016	Molybdenum	0.170			0.150		FQ	0.0230		FQ	16	0	NA
TUB01	0287	N001	02/16/2016	Sodium	430			400		FQ	170		FQ	16	0	No
TUB01	0289	N001	02/16/2016	Calcium	76.0			260		FQ	91.0		FQ	16	0	No
TUB01	0289	N001	02/16/2016	CHLORIDE	14.0			33.0		FQ	14.3		QF	16	0	No
TUB01	0289	N001	02/16/2016	Iron	0.210			0.170		FQ	0.00140	U	FQJ	16	10	No
TUB01	0289	N001	02/16/2016	Magnesium	15.0			43.0		FQ	16.0		FQ	16	0	No
TUB01	0289	N001	02/16/2016	Nitrate+Nitrite as N	14.0			65.0		FQ	19.0		FQ	16	0	No
TUB01	0289	N001	02/16/2016	Potassium	2.20			4.10		FQ	2.50		FQ	16	0	No
TUB01	0289	N001	02/16/2016	Sodium	18.0			45.0		FQ	20.0		FQ	16	0	No
TUB01	0289	N001	02/16/2016	SULFATE	69.0			360		FQ	82.0		FQ	16	0	No
TUB01	0289	N001	02/16/2016	TOTAL DISSOLVED SOLIDS	350			1200		FQ	430		FQ	16	0	No
TUB01	0289	N001	02/16/2016	Uranium	0.00530			0.0240		FQ	0.00710		FQ	16	0	NA
TUB01	0290	N001	02/15/2016	Calcium	350			340		F	35.0		FQ	16	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

					Current	Qualifiers		Historical Maximum	Qualifiers		Historical Minimum	Qualifiers		Number of Data Points		Statistical Outlier
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	*Lab*	*Data*	Result	*Lab*	*Data*	Result	*Lab*	*Data*	N	N Below Detect	
TUB01	0290	N001	02/15/2016	CHLORIDE	70.0			59.0		F	13.0		FQ	16	0	No
TUB01	0290	N001	02/15/2016	Magnesium	59.0			50.0		F	5.80		FQ	16	0	No
TUB01	0290	N001	02/15/2016	Sodium	83.0			73.0		F	13.0		FQ	16	0	No
TUB01	0290	N001	02/15/2016	SULFATE	690			580		FQ	19.0		FQ	16	0	No
TUB01	0290	N001	02/15/2016	Uranium	0.0750			0.0570		F	0.00140		FQ	16	0	NA
TUB01	0691	N001	02/16/2016	Magnesium	76.0			72.0		F	13.0		F	22	0	No
TUB01	0691	N001	02/16/2016	Silicon	8.00			7.90		F	5.80		F	20	0	No
TUB01	0691	N001	02/16/2016	Uranium	0.140			0.130		F	0.00830		FQ	22	0	No
TUB01	0906	N001	02/16/2016	Arsenic	0.000560	J		0.00170	U	FQ	0.0007	B	FQ	16	2	No
TUB01	0906	N001	02/16/2016	Nitrate+Nitrite as N	330			560		FQ	343		FQ	16	0	No
TUB01	0906	N001	02/16/2016	Selenium	0.0570			0.0530		FQ	0.0140			16	0	No
TUB01	0929	N001	02/16/2016	Selenium	0.00480			0.00280			0.00180		FQ	20	0	Yes
TUB01	0930	N001	02/16/2016	Magnesium	37.0			35.0		F	10.00		F	21	1	NA
TUB01	0930	N001	02/16/2016	Selenium	0.00360			0.00340		F	0.00140		F	21	1	No
TUB01	0930	N001	02/16/2016	Sodium	24.0			23.0		F	8.90		F	21	0	No
TUB01	0930	N001	02/16/2016	SULFATE	270			240		F	41.0		F	21	0	NA
TUB01	0932	N001	02/16/2016	Calcium	57.0			54.0		F	40.0		F	24	0	No
TUB01	0932	N001	02/16/2016	Magnesium	11.0			10.5		F	8.00		F	24	0	NA

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

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	0932	N001	02/16/2016	SULFATE	47.0			40.0		F	23.2		F	24	0	No
TUB01	0932	N001	02/16/2016	Uranium	0.00340			0.00329		F	0.00130		F	24	0	No
TUB01	0940	N001	02/16/2016	Molybdenum	0.000360	J		0.00360		FQ	0.00052	J	FQ	12	1	No
TUB01	0940	N001	02/16/2016	Nitrate+Nitrite as N	290			496		FQ	320		FQ	12	0	No
TUB01	0940	N001	02/16/2016	Uranium	0.700			0.670		FQ	0.390		FQ	12	0	No
TUB01	0941	N001	02/15/2016	CHLORIDE	220			210		FQ	120			19	0	No
TUB01	0941	N001	02/15/2016	Sodium	320			310		FQ	80.0			19	0	No
TUB01	0941	N001	02/15/2016	SULFATE	1900			1800		FQ	750			19	0	No
TUB01	1003	N001	02/16/2016	CHLORIDE	63.0			59.0		F	14.0		F	11	0	NA
TUB01	1003	N001	02/16/2016	Selenium	0.00480			0.00410		F	0.00170		F	11	0	No
TUB01	1003	N001	02/16/2016	SULFATE	560			540		F	46.0		F	11	0	NA
TUB01	1003	N001	02/16/2016	Uranium	0.0470			0.0400		F	0.00210		F	11	0	NA
TUB01	1006	N001	02/16/2016	Arsenic	0.00340			0.00260			0.00170		F	11	0	NA
TUB01	1006	N001	02/16/2016	Selenium	0.00380			0.00150		F	0.00075			11	0	Yes
TUB01	1006	N001	02/16/2016	Sodium	9.80			9.50		F	6.90		F	11	0	No
TUB01	1006	N001	02/16/2016	Uranium	0.00160			0.00140		F	0.001			11	0	No
TUB01	1007	N001	02/16/2016	Selenium	0.000320	U		0.00150		F	0.0007	J	JF	11	0	No
TUB01	1007	N001	02/16/2016	Sodium	8.00			7.80		F	5.80		F	11	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

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	1101	N001	02/16/2016	Calcium	540			490			340			11	0	No
TUB01	1101	N001	02/16/2016	Iron	0.0340	J		0.0330	B		0.00160	U	J	11	8	No
TUB01	1101	N001	02/16/2016	Selenium	0.0280			0.0270			0.00810			11	0	No
TUB01	1101	N001	02/16/2016	Silicon	8.50			8.20			6.70			10	0	No
TUB01	1105	N001	02/16/2016	Manganese	0.0440			1.70		J	0.0580			13	0	No
TUB01	1105	N001	02/16/2016	Potassium	5.20			21.0			6.10			13	0	NA
TUB01	1570	0001	02/16/2016	Manganese	29.0			520			40.0			23	0	No
TUB01	NMW-1A	N001	02/16/2016	Arsenic	0.00160			0.00327	B	F	0.00200		F	11	0	No
TUB01	NMW-1A	N001	02/16/2016	Molybdenum	0.000840	J		0.000643	B	UF	0.00037		F	11	2	No
TUB01	NMW-2A	N001	02/16/2016	Magnesium	5.90			5.81		F	5.50		FQ	9	2	No
TUB01	NMW-3A	N001	02/16/2016	Arsenic	0.00260			0.00252	B	F	0.00150		F	8	0	No
TUB01	NMW-3A	N001	02/16/2016	Magnesium	6.30			6.18		F	5.80		F	8	1	No
TUB01	NMW-3A	N001	02/16/2016	Manganese	0.00360	J		0.00200	U	F	0.00011	U	F	8	6	No
TUB01	NMW-3A	N001	02/16/2016	Potassium	1.40			1.33	B	F	0.930	B	F	8	0	No
TUB01	NMW-3A	N001	02/16/2016	Sodium	10.00			9.66		F	8.10		JF	8	0	No
TUB01	NMW-3A	N001	02/16/2016	TOTAL DISSOLVED SOLIDS	130			170		F	140		JF	8	0	NA
TUB01	NMW-4A	N001	02/16/2016	Molybdenum	0.000490	J		0.00041	J	F	0.00024	B	F	8	2	No
TUB01	NMW-4A	N001	02/16/2016	Sodium	10.00			9.96		F	8.10		JF	8	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All historical Data Beginning 01/01/2006
Laboratory:
RIN: 16027639
Report Date: 03/01/2016

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	NMW-6S	N001	02/16/2016	Magnesium	6.50			6.44		F	6.10		F	9	0	No
TUB01	NMW-6S	N001	02/16/2016	Selenium	0.00130			0.00180		F	0.00140		FQ	9	3	No
TUB01	NMW-7D	N001	02/16/2016	Magnesium	5.70			5.58		F	5.00		FQ	9	0	No
TUB01	NMW-7D	N001	02/16/2016	Selenium	0.000690	J		0.00150	U	F	0.0009		FQ	9	3	No
TUB01	NMW-7D	N001	02/16/2016	Silicon	6.00			5.70		FQ	5.10		FQ	6	0	No
TUB01	NMW-8S	N001	02/16/2016	Selenium	0.000320	U		0.00220		JF	0.00058		F	10	1	No
TUB01	NMW-8S	N001	02/16/2016	TOTAL DISSOLVED SOLIDS	130			160		F	140		F	10	0	No
TUB01	NMW-9D	N001	02/16/2016	Manganese	0.0290			0.620		F	0.0300		FQ	9	0	No
TUB01	NMW-9D	N001	02/16/2016	Molybdenum	0.00190			0.0162		F	0.00210		FQ	9	0	NA
TUB01	NMW-9D	N001	02/16/2016	TOTAL DISSOLVED SOLIDS	140			230		F	160		FQ	9	0	No

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

NA: Data are not normally or lognormally distributed.

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: 4/18/2016
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	02/16/2016	N001	200 - 300	77		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	200 - 300	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	200 - 300	0.0024		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	200 - 300	27		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	200 - 300	6.7		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	200 - 300	6.91		FQ	#		
Iron	mg/L	02/16/2016	N001	200 - 300	0.019	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	200 - 300	5.8		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	200 - 300	0.0051		FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	200 - 300	0.00051	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	200 - 300	2.8		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	200 - 300	119.2		FQ	#		
pH	s.u.	02/16/2016	N001	200 - 300	8.1		FQ	#		
Potassium	mg/L	02/16/2016	N001	200 - 300	2.4		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	200 - 300	0.00048	J	FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	200 - 300	11		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	200 - 300	5		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	200 - 300	6.7		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0251 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	200	-	300	217		FQ	#		
Strontium	mg/L	02/16/2016	N001	200	-	300	1.2		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	200	-	300	9.9		FQ	#	0.5	
Temperature	C	02/16/2016	N001	200	-	300	16.79		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	200	-	300	91		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	200	-	300	2.41		FQ	#		
Uranium	mg/L	02/16/2016	N001	200	-	300	0.0018	E	FQJ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	200	-	300	0.0049		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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 $CaCO_3$)	mg/L	02/16/2016	N001	400	-	500	90		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	400	-	500	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	400	-	500	0.0027		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	400	-	500	22		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	400	-	500	5.2		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	400	-	500	7		F	#		
Iron	mg/L	02/16/2016	N001	400	-	500	0.035	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	400	-	500	4.7		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	400	-	500	0.0014	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	400	-	500	0.00039	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	400	-	500	2.6		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	400	-	500	127.2		F	#		
pH	s.u.	02/16/2016	N001	400	-	500	8.2		F	#		
Potassium	mg/L	02/16/2016	N001	400	-	500	2.4		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	400	-	500	0.0026		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	400	-	500	10		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	400	-	500	4.7		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	400	-	500	11		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0252 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	400	-	500	201		F	#		
Strontium	mg/L	02/16/2016	N001	400	-	500	0.8		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	400	-	500	8.6		F	#	0.5	
Temperature	C	02/16/2016	N001	400	-	500	16.44		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	400	-	500	120		F	#	20	
Turbidity	NTU	02/16/2016	N001	400	-	500	0.76		F	#		
Uranium	mg/L	02/16/2016	N001	400	-	500	0.0023		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	400	-	500	0.004		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	159	-	199	74		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	159	-	199	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	159	-	199	0.0034		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	159	-	199	35		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	159	-	199	13		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	159	-	199	7.94		FQ	#		
Iron	mg/L	02/16/2016	N001	159	-	199	0.027	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	159	-	199	7.7		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	159	-	199	0.0032	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	159	-	199	0.00035	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	159	-	199	3.1		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	159	-	199	155.9		FQ	#		
pH	s.u.	02/16/2016	N001	159	-	199	7.88		FQ	#		
Potassium	mg/L	02/16/2016	N001	159	-	199	1.8		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	159	-	199	0.0016		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	159	-	199	12		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	159	-	199	5.8		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	159	-	199	13		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0258 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	159	-	199	286		FQ	#		
Strontium	mg/L	02/16/2016	N001	159	-	199	0.67		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	159	-	199	18		FQ	#	0.5	
Temperature	C	02/16/2016	N001	159	-	199	14.98		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	159	-	199	190		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	159	-	199	4.61		FQ	#		
Uranium	mg/L	02/16/2016	N001	159	-	199	0.0014		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	159	-	199	0.01		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	60	-	100	374		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	60	-	100	1.7		FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	60	-	100	0.0045		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	60	-	100	780		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	60	-	100	130		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	60	-	100	4.85		FQ	#		
Iron	mg/L	02/16/2016	N001	60	-	100	0.088	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	60	-	100	290		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	60	-	100	0.03		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	60	-	100	0.28		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	60	-	100	190		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	60	-	100	170.3		FQ	#		
pH	s.u.	02/16/2016	N001	60	-	100	6.74		FQ	#		
Potassium	mg/L	02/16/2016	N001	60	-	100	7.9		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	60	-	100	0.045		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	60	-	100	21		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	60	-	100	9.6		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	60	-	100	320		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0262 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	60	-	100	5506		FQ	#		
Strontium	mg/L	02/16/2016	N001	60	-	100	6.8		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	60	-	100	2400		FQ	#	25	
Temperature	C	02/16/2016	N001	60	-	100	15.21		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	60	-	100	5200		FQ	#	80	
Turbidity	NTU	02/16/2016	N001	60	-	100	5.28		FQ	#		
Uranium	mg/L	02/16/2016	N001	60	-	100	0.51		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	60	-	100	0.014		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	60	-	100	462		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	60	-	100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	60	-	100	0.0024		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	60	-	100	610		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	60	-	100	140		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	60	-	100	2.36		FQ	#		
Iron	mg/L	02/16/2016	N001	60	-	100	1.9		FQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	60	-	100	420		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	60	-	100	0.032		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	60	-	100	0.11		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	60	-	100	200		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	60	-	100	167.9		FQ	#		
pH	s.u.	02/16/2016	N001	60	-	100	6.66		FQ	#		
Potassium	mg/L	02/16/2016	N001	60	-	100	7.6		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	60	-	100	0.038		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	60	-	100	21		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	60	-	100	9.9		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	60	-	100	360		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0263 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	60	-	100	5667		FQ	#		
Strontium	mg/L	02/16/2016	N001	60	-	100	3.7		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	60	-	100	2600		FQ	#	25	
Temperature	C	02/16/2016	N001	60	-	100	14.86		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	60	-	100	5400		FQ	#	80	
Turbidity	NTU	02/16/2016	N001	60	-	100	8.4		FQ	#		
Uranium	mg/L	02/16/2016	N001	60	-	100	0.43		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	60	-	100	0.015		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	160	-	200	107		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	160	-	200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	160	-	200	0.0034		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	160	-	200	76		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	160	-	200	17		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	160	-	200	7.55		FQ	#		
Iron	mg/L	02/16/2016	N001	160	-	200	0.025	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	160	-	200	15		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	160	-	200	0.00047	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	160	-	200	0.00039	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	160	-	200	11		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	160	-	200	120.5		FQ	#		
pH	s.u.	02/16/2016	N001	160	-	200	7.67		FQ	#		
Potassium	mg/L	02/16/2016	N001	160	-	200	2.2		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	160	-	200	0.0026		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	160	-	200	13		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	160	-	200	6.1		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	160	-	200	18		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0264 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	160	-	200	597		FQ	#		
Strontium	mg/L	02/16/2016	N001	160	-	200	0.79		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	160	-	200	110		FQ	#	2.5	
Temperature	C	02/16/2016	N001	160	-	200	14.71		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	160	-	200	340		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	160	-	200	3.92		FQ	#		
Uranium	mg/L	02/16/2016	N001	160	-	200	0.0047		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	160	-	200	0.014		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	60	-	100	325		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	60	-	100	0.00081	J	F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	60	-	100	570		F	#	0.12	
Chloride	mg/L	02/16/2016	N001	60	-	100	140		F	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	60	-	100	8.04		F	#		
Iron	mg/L	02/16/2016	N001	60	-	100	0.05	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	60	-	100	160		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	60	-	100	0.00078	J	F	#	0.00024	
	mg/L	02/16/2016	N001	60	-	100	0.00034	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	60	-	100	150		F	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	60	-	100	156.6		F	#		
pH	s.u.	02/16/2016	N001	60	-	100	6.86		F	#		
Potassium	mg/L	02/16/2016	N001	60	-	100	5.6		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	60	-	100	0.0081		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	60	-	100	17		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	60	-	100	7.8		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	60	-	100	120		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0265 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	60	-	100	3850		F	#		
Strontium	mg/L	02/16/2016	N001	60	-	100	6		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	60	-	100	1300		F	#	25	
Temperature	C	02/16/2016	N001	60	-	100	14.73		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	60	-	100	3200		F	#	80	
Turbidity	NTU	02/16/2016	N001	60	-	100	3.44		F	#		
Uranium	mg/L	02/16/2016	N001	60	-	100	0.069		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	60	-	100	0.0076		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	160	-	200	72		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	160	-	200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	160	-	200	0.0033		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	160	-	200	28		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	160	-	200	7.8		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	160	-	200	7.18		FQ	#		
Iron	mg/L	02/16/2016	N001	160	-	200	0.044	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	160	-	200	7.3		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	160	-	200	0.00086	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	160	-	200	0.00036	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	160	-	200	3.1		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	160	-	200	109.6		FQ	#		
pH	s.u.	02/16/2016	N001	160	-	200	8.02		FQ	#		
Potassium	mg/L	02/16/2016	N001	160	-	200	2.3		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	160	-	200	0.0016		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	160	-	200	11		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	160	-	200	5.3		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	160	-	200	6.5		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0266 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	160	-	200	253		FQ	#		
Strontium	mg/L	02/16/2016	N001	160	-	200	1.1		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	160	-	200	11		FQ	#	0.5	
Temperature	C	02/16/2016	N001	160	-	200	15.83		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	160	-	200	130		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	160	-	200	3.44		FQ	#		
Uranium	mg/L	02/16/2016	N001	160	-	200	0.0018		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	160	-	200	0.0098		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	60	-	100	750		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	60	-	100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	60	-	100	0.0032		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	60	-	100	600		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	60	-	100	120		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	60	-	100	5.63		FQ	#		
Iron	mg/L	02/16/2016	N001	60	-	100	0.033	U	FQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	60	-	100	740		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	60	-	100	0.018	J	FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	60	-	100	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	60	-	100	300		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	60	-	100	177		FQ	#		
pH	s.u.	02/16/2016	N001	60	-	100	6.51		FQ	#		
Potassium	mg/L	02/16/2016	N001	60	-	100	8.4		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	60	-	100	0.039		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	60	-	100	23		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	60	-	100	11		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	60	-	100	430		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	60	-	100	7413		FQ	#		
Strontium	mg/L	02/16/2016	N001	60	-	100	2.1		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	60	-	100	3600		FQ	#	25	
Temperature	C	02/16/2016	N001	60	-	100	16.24		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	60	-	100	7400		FQ	#	200	
Turbidity	NTU	02/16/2016	N001	60	-	100	4.72		FQ	#		
Uranium	mg/L	02/16/2016	N001	60	-	100	0.066		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	60	-	100	0.016		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	200	-	300	132		F	#		
Ammonia Total as N	mg/L	02/15/2016	N001	200	-	300	0.1	U	F	#	0.1	
Arsenic	mg/L	02/15/2016	N001	200	-	300	0.0021		F	#	0.00015	
Calcium	mg/L	02/15/2016	N001	200	-	300	130		F	#	0.024	
Chloride	mg/L	02/15/2016	N001	200	-	300	23		F	#	2	
Dissolved Oxygen	mg/L	02/15/2016	N001	200	-	300	6.48		F	#		
Iron	mg/L	02/15/2016	N001	200	-	300	0.0067	U	F	#	0.0067	
Magnesium	mg/L	02/15/2016	N001	200	-	300	27		F	#	0.03	
Manganese	mg/L	02/15/2016	N001	200	-	300	0.00024	U	F	#	0.00024	
Molybdenum	mg/L	02/15/2016	N001	200	-	300	0.00047	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	200	-	300	23		F	#	1	
Oxidation Reduction Potential	mV	02/15/2016	N001	200	-	300	198		F	#		
pH	s.u.	02/15/2016	N001	200	-	300	7.11		F	#		
Potassium	mg/L	02/15/2016	N001	200	-	300	3.3		F	#	0.052	
Selenium	mg/L	02/15/2016	N001	200	-	300	0.003		F	#	0.00032	
Silica	mg/L	02/15/2016	N001	200	-	300	12		F	#	0.021	
Silicon	mg/L	02/15/2016	N001	200	-	300	5.5		F	#	0.0097	
Sodium	mg/L	02/15/2016	N001	200	-	300	30		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	200	-	300	970		F	#		
Strontium	mg/L	02/15/2016	N001	200	-	300	2.3		F	#	0.00026	
Sulfate	mg/L	02/15/2016	N001	200	-	300	230		F	#	5	
Temperature	C	02/15/2016	N001	200	-	300	16.6		F	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	200	-	300	660		FJ	#	20	
Turbidity	NTU	02/15/2016	N001	200	-	300	0.92		F	#		
Uranium	mg/L	02/15/2016	N001	200	-	300	0.052		F	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	200	-	300	0.0062		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	159.1 - 179.1	97		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	159.1 - 179.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	159.1 - 179.1	0.0017		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	159.1 - 179.1	34		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	159.1 - 179.1	8.6		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	159.1 - 179.1	4.24		FQ	#		
Iron	mg/L	02/16/2016	N001	159.1 - 179.1	0.021	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	159.1 - 179.1	7.4		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	159.1 - 179.1	0.00038	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	159.1 - 179.1	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	159.1 - 179.1	4.1		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	159.1 - 179.1	189.1		FQ	#		
pH	s.u.	02/16/2016	N001	159.1 - 179.1	7.24		FQ	#		
Potassium	mg/L	02/16/2016	N001	159.1 - 179.1	1.7		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	159.1 - 179.1	0.0019		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	159.1 - 179.1	11		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	159.1 - 179.1	5.2		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	159.1 - 179.1	7.4		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0272 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	159.1	-	179.1	284		FQ	#		
Strontium	mg/L	02/16/2016	N001	159.1	-	179.1	0.9		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	159.1	-	179.1	14		FQ	#	0.5	
Temperature	C	02/16/2016	N001	159.1	-	179.1	15.8		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	159.1	-	179.1	150		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	159.1	-	179.1	0.86		FQ	#		
Uranium	mg/L	02/16/2016	N001	159.1	-	179.1	0.0017		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	159.1	-	179.1	0.011		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	153	-	173	88		FQ	#		
Ammonia Total as N	mg/L	02/15/2016	N001	153	-	173	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/15/2016	N001	153	-	173	0.0018		FQ	#	0.00015	
Calcium	mg/L	02/15/2016	N001	153	-	173	68		FQ	#	0.024	
Chloride	mg/L	02/15/2016	N001	153	-	173	20		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/15/2016	N001	153	-	173	6.37		FQ	#		
Iron	mg/L	02/15/2016	N001	153	-	173	0.1		UFQ	#	0.0067	
Magnesium	mg/L	02/15/2016	N001	153	-	173	13		FQ	#	0.03	
Manganese	mg/L	02/15/2016	N001	153	-	173	0.0028	J	FQ	#	0.00024	
Molybdenum	mg/L	02/15/2016	N001	153	-	173	0.0086		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	153	-	173	14		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/15/2016	N001	153	-	173	133.8		FQ	#		
pH	s.u.	02/15/2016	N001	153	-	173	7.58		FQ	#		
Potassium	mg/L	02/15/2016	N001	153	-	173	1.8		FQ	#	0.052	
Selenium	mg/L	02/15/2016	N001	153	-	173	0.0064		FQ	#	0.00032	
Silica	mg/L	02/15/2016	N001	153	-	173	11		FQ	#	0.021	
Silicon	mg/L	02/15/2016	N001	153	-	173	5.3		FQ	#	0.0097	
Sodium	mg/L	02/15/2016	N001	153	-	173	16		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0273 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	153	-	173	608		FQ	#		
Strontium	mg/L	02/15/2016	N001	153	-	173	0.78		FQ	#	0.00026	
Sulfate	mg/L	02/15/2016	N001	153	-	173	67		FQ	#	0.5	
Temperature	C	02/15/2016	N001	153	-	173	15.32		FQ	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	153	-	173	320		FQJ	#	20	
Turbidity	NTU	02/15/2016	N001	153	-	173	2.73		FQ	#		
Uranium	mg/L	02/15/2016	N001	153	-	173	0.012		FQ	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	153	-	173	0.011		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	149	-	169	80		FQ	#		
Ammonia Total as N	mg/L	02/15/2016	N001	149	-	169	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/15/2016	N001	149	-	169	0.0027		FQ	#	0.00015	
Calcium	mg/L	02/15/2016	N001	149	-	169	34		FQ	#	0.024	
Chloride	mg/L	02/15/2016	N001	149	-	169	11		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/15/2016	N001	149	-	169	6.8		FQ	#		
Iron	mg/L	02/15/2016	N001	149	-	169	0.12		UFQ	#	0.0067	
Magnesium	mg/L	02/15/2016	N001	149	-	169	7		FQ	#	0.03	
Manganese	mg/L	02/15/2016	N001	149	-	169	0.022		FQ	#	0.00024	
Molybdenum	mg/L	02/15/2016	N001	149	-	169	0.00077	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	149	-	169	3.3		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/15/2016	N001	149	-	169	132.4		FQ	#		
pH	s.u.	02/15/2016	N001	149	-	169	7.8		FQ	#		
Potassium	mg/L	02/15/2016	N001	149	-	169	1.4		FQ	#	0.052	
Selenium	mg/L	02/15/2016	N001	149	-	169	0.00096	J	FQ	#	0.00032	
Silica	mg/L	02/15/2016	N001	149	-	169	11		FQ	#	0.021	
Silicon	mg/L	02/15/2016	N001	149	-	169	5.3		FQ	#	0.0097	
Sodium	mg/L	02/15/2016	N001	149	-	169	12		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0274 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	149	-	169	288		FQ	#		
Strontium	mg/L	02/15/2016	N001	149	-	169	0.41		FQ	#	0.00026	
Sulfate	mg/L	02/15/2016	N001	149	-	169	16		FQ	#	0.5	
Temperature	C	02/15/2016	N001	149	-	169	15.22		FQ	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	149	-	169	160		FQJ	#	20	
Turbidity	NTU	02/15/2016	N001	149	-	169	9.5		FQ	#		
Uranium	mg/L	02/15/2016	N001	149	-	169	0.0023		FQ	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	149	-	169	0.013		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	158.2	-	178.2	435		F	#		
Ammonia Total as N	mg/L	02/15/2016	N001	158.2	-	178.2	28		F	#	10	
Arsenic	mg/L	02/15/2016	N001	158.2	-	178.2	0.00078	J	F	#	0.00015	
Calcium	mg/L	02/15/2016	N001	158.2	-	178.2	590		F	#	0.12	
Chloride	mg/L	02/15/2016	N001	158.2	-	178.2	160		F	#	10	
Dissolved Oxygen	mg/L	02/15/2016	N001	158.2	-	178.2	0.66		F	#		
Iron	mg/L	02/15/2016	N001	158.2	-	178.2	0.12	J	UF	#	0.033	
Magnesium	mg/L	02/15/2016	N001	158.2	-	178.2	280		F	#	0.15	
Manganese	mg/L	02/15/2016	N001	158.2	-	178.2	8.6		F	#	0.0012	
Molybdenum	mg/L	02/15/2016	N001	158.2	-	178.2	0.00036	J	UF	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	158.2	-	178.2	190		F	#	5	
Oxidation Reduction Potential	mV	02/15/2016	N001	158.2	-	178.2	177.1		F	#		
pH	s.u.	02/15/2016	N001	158.2	-	178.2	6.47		F	#		
Potassium	mg/L	02/15/2016	N001	158.2	-	178.2	15		F	#	0.26	
Selenium	mg/L	02/15/2016	N001	158.2	-	178.2	0.037		F	#	0.00032	
Silica	mg/L	02/15/2016	N001	158.2	-	178.2	18		F	#	0.1	
Silicon	mg/L	02/15/2016	N001	158.2	-	178.2	8.4		F	#	0.048	
Sodium	mg/L	02/15/2016	N001	158.2	-	178.2	310		F	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0275 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	158.2	-	178.2	5291		F	#		
Strontium	mg/L	02/15/2016	N001	158.2	-	178.2	6.1		F	#	0.0013	
Sulfate	mg/L	02/15/2016	N001	158.2	-	178.2	2200		F	#	25	
Temperature	C	02/15/2016	N001	158.2	-	178.2	15.88		F	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	158.2	-	178.2	4600		FJ	#	80	
Turbidity	NTU	02/15/2016	N001	158.2	-	178.2	3.6		F	#		
Uranium	mg/L	02/15/2016	N001	158.2	-	178.2	0.39		F	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	158.2	-	178.2	0.0062		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	154.5 - 174.5	95		F	#		
Ammonia Total as N	mg/L	02/15/2016	N001	154.5 - 174.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/15/2016	N001	154.5 - 174.5	0.0042		F	#	0.00015	
Calcium	mg/L	02/15/2016	N001	154.5 - 174.5	34		F	#	0.024	
Chloride	mg/L	02/15/2016	N001	154.5 - 174.5	12		F	#	0.2	
Dissolved Oxygen	mg/L	02/15/2016	N001	154.5 - 174.5	6.49		F	#		
Iron	mg/L	02/15/2016	N001	154.5 - 174.5	0.035	J	F	#	0.0067	
Magnesium	mg/L	02/15/2016	N001	154.5 - 174.5	6.8		F	#	0.03	
Manganese	mg/L	02/15/2016	N001	154.5 - 174.5	0.00036	J	F	#	0.00024	
Molybdenum	mg/L	02/15/2016	N001	154.5 - 174.5	0.00042	J	UF	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	154.5 - 174.5	3.1		F	#	0.1	
Oxidation Reduction Potential	mV	02/15/2016	N001	154.5 - 174.5	151.5		F	#		
pH	s.u.	02/15/2016	N001	154.5 - 174.5	7.71		F	#		
Potassium	mg/L	02/15/2016	N001	154.5 - 174.5	1.4		F	#	0.052	
Selenium	mg/L	02/15/2016	N001	154.5 - 174.5	0.00063	J	F	#	0.00032	
Silica	mg/L	02/15/2016	N001	154.5 - 174.5	11		F	#	0.021	
Silicon	mg/L	02/15/2016	N001	154.5 - 174.5	5.3		F	#	0.0097	
Sodium	mg/L	02/15/2016	N001	154.5 - 174.5	14		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0276 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	154.5	-	174.5	289		F	#		
Strontium	mg/L	02/15/2016	N001	154.5	-	174.5	0.42		F	#	0.00026	
Sulfate	mg/L	02/15/2016	N001	154.5	-	174.5	18		F	#	0.5	
Temperature	C	02/15/2016	N001	154.5	-	174.5	16.01		F	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	154.5	-	174.5	170		FJ	#	20	
Turbidity	NTU	02/15/2016	N001	154.5	-	174.5	3.84		F	#		
Uranium	mg/L	02/15/2016	N001	154.5	-	174.5	0.0018		F	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	154.5	-	174.5	0.017		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	70.5	-	80.5	111		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	70.5	-	80.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	70.5	-	80.5	0.00063	J	FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	70.5	-	80.5	92		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	70.5	-	80.5	20		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	70.5	-	80.5	6.69		FQ	#		
Iron	mg/L	02/16/2016	N001	70.5	-	80.5	0.26		FQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	70.5	-	80.5	17		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	70.5	-	80.5	0.012		FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	70.5	-	80.5	0.00057	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	70.5	-	80.5	20		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/16/2016	N001	70.5	-	80.5	139.7		FQ	#		
pH	s.u.	02/16/2016	N001	70.5	-	80.5	7.48		FQ	#		
Potassium	mg/L	02/16/2016	N001	70.5	-	80.5	1.8		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	70.5	-	80.5	0.0027		UFQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	70.5	-	80.5	14		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	70.5	-	80.5	6.5		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	70.5	-	80.5	14		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0281 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	70.5	-	80.5	647		FQ	#		
Strontium	mg/L	02/16/2016	N001	70.5	-	80.5	0.77		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	70.5	-	80.5	98		FQ	#	0.5	
Temperature	C	02/16/2016	N001	70.5	-	80.5	16.48		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	70.5	-	80.5	410		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	70.5	-	80.5	4.54		FQ	#		
Uranium	mg/L	02/16/2016	N001	70.5	-	80.5	0.0064		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	70.5	-	80.5	0.0076		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	74.1	-	84.1	133		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	74.1	-	84.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	74.1	-	84.1	0.0003	J	UFQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	74.1	-	84.1	180		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	74.1	-	84.1	57		FQ	#	2	
Dissolved Oxygen	mg/L	02/16/2016	N001	74.1	-	84.1	9.08		FQ	#		
Iron	mg/L	02/16/2016	N001	74.1	-	84.1	0.079	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	74.1	-	84.1	35		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	74.1	-	84.1	0.0034	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	74.1	-	84.1	0.00037	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	74.1	-	84.1	52		FQ	#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	74.1	-	84.1	140.1		FQ	#		
pH	s.u.	02/16/2016	N001	74.1	-	84.1	7.42		FQ	#		
Potassium	mg/L	02/16/2016	N001	74.1	-	84.1	2.8		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	74.1	-	84.1	0.0017		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	74.1	-	84.1	14		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	74.1	-	84.1	6.7		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	74.1	-	84.1	22		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0282 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	74.1	-	84.1	1237		FQ	#		
Strontium	mg/L	02/16/2016	N001	74.1	-	84.1	1.8		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	74.1	-	84.1	210		FQ	#	5	
Temperature	C	02/16/2016	N001	74.1	-	84.1	17.71		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	74.1	-	84.1	830		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	74.1	-	84.1	2.62		FQ	#		
Uranium	mg/L	02/16/2016	N001	74.1	-	84.1	0.011		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	74.1	-	84.1	0.0026	J	UFQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	93.2	-	103.2	581		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	93.2	-	103.2	11		FQ	#	2.5	
Arsenic	mg/L	02/16/2016	N001	93.2	-	103.2	0.0012		UFQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	93.2	-	103.2	770		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	93.2	-	103.2	120		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	93.2	-	103.2	2.31		FQ	#		
Iron	mg/L	02/16/2016	N001	93.2	-	103.2	0.11	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	93.2	-	103.2	330		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	93.2	-	103.2	2.1		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	93.2	-	103.2	0.00033	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	93.2	-	103.2	200		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	93.2	-	103.2	180.7		FQ	#		
pH	s.u.	02/16/2016	N001	93.2	-	103.2	6.6		FQ	#		
Potassium	mg/L	02/16/2016	N001	93.2	-	103.2	9.8		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	93.2	-	103.2	0.033		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	93.2	-	103.2	19		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	93.2	-	103.2	8.7		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	93.2	-	103.2	210		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0286 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	93.2	-	103.2	5237		FQ	#		
Strontium	mg/L	02/16/2016	N001	93.2	-	103.2	10		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	93.2	-	103.2	2300		FQ	#	25	
Temperature	C	02/16/2016	N001	93.2	-	103.2	13.6		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	93.2	-	103.2	4900		FQ	#	80	
Turbidity	NTU	02/16/2016	N001	93.2	-	103.2	7.46		FQ	#		
Uranium	mg/L	02/16/2016	N001	93.2	-	103.2	0.34		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	93.2	-	103.2	0.0069		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	100.7 - 110.7	560		FQ	#		
Ammonia Total as N	mg/L	02/15/2016	N001	100.7 - 110.7	1.5		FQ	#	0.1	
Arsenic	mg/L	02/15/2016	N001	100.7 - 110.7	0.0022		FQ	#	0.00015	
Calcium	mg/L	02/15/2016	N001	100.7 - 110.7	830		FQ	#	0.12	
Chloride	mg/L	02/15/2016	N001	100.7 - 110.7	250		FQ	#	10	
Dissolved Oxygen	mg/L	02/15/2016	N001	100.7 - 110.7	1.15		FQ	#		
Iron	mg/L	02/15/2016	N001	100.7 - 110.7	0.061	J	UFQ	#	0.033	
Magnesium	mg/L	02/15/2016	N001	100.7 - 110.7	150		FQ	#	0.15	
Manganese	mg/L	02/15/2016	N001	100.7 - 110.7	0.0077	J	FQ	#	0.0012	
Molybdenum	mg/L	02/15/2016	N001	100.7 - 110.7	0.17		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	100.7 - 110.7	220		FQ	#	5	
Oxidation Reduction Potential	mV	02/15/2016	N001	100.7 - 110.7	200.3		FQ	#		
pH	s.u.	02/15/2016	N001	100.7 - 110.7	6.57		FQ	#		
Potassium	mg/L	02/15/2016	N001	100.7 - 110.7	6.9		FQ	#	0.26	
Selenium	mg/L	02/15/2016	N001	100.7 - 110.7	0.088		FQ	#	0.00032	
Silica	mg/L	02/15/2016	N001	100.7 - 110.7	20		FQ	#	0.1	
Silicon	mg/L	02/15/2016	N001	100.7 - 110.7	9.3		FQ	#	0.048	
Sodium	mg/L	02/15/2016	N001	100.7 - 110.7	430		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0287 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	100.7	-	110.7	5561		FQ	#		
Strontium	mg/L	02/15/2016	N001	100.7	-	110.7	7.6		FQ	#	0.0013	
Sulfate	mg/L	02/15/2016	N001	100.7	-	110.7	1800		FQ	#	25	
Temperature	C	02/15/2016	N001	100.7	-	110.7	16.04		FQ	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	100.7	-	110.7	4700		FQ	#	80	
Turbidity	NTU	02/15/2016	N001	100.7	-	110.7	2.34		FQ	#		
Uranium	mg/L	02/15/2016	N001	100.7	-	110.7	0.28		FQ	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	100.7	-	110.7	0.012		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	104	-	114	189		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	104	-	114	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	104	-	114	0.00063	J	UFQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	104	-	114	140		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	104	-	114	20		FQ	#	0.4	
Dissolved Oxygen	mg/L	02/16/2016	N001	104	-	114	5.85		FQ	#		
Iron	mg/L	02/16/2016	N001	104	-	114	0.028	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	104	-	114	28		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	104	-	114	0.001	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	104	-	114	0.00064	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	104	-	114	36		FQ	#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	104	-	114	143.6		FQ	#		
pH	s.u.	02/16/2016	N001	104	-	114	7.09		FQ	#		
Potassium	mg/L	02/16/2016	N001	104	-	114	3		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	104	-	114	0.002		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	104	-	114	14		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	104	-	114	6.6		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	104	-	114	32		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0288 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	104	-	114	1056		FQ	#		
Strontium	mg/L	02/16/2016	N001	104	-	114	2		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	104	-	114	180		FQ	#	1	
Temperature	C	02/16/2016	N001	104	-	114	14.2		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	104	-	114	660		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	104	-	114	1.67		FQ	#		
Uranium	mg/L	02/16/2016	N001	104	-	114	0.0092		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	104	-	114	0.0059		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	148.3	-	158.3	154		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	148.3	-	158.3	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	148.3	-	158.3	0.001		UFQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	148.3	-	158.3	76		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	148.3	-	158.3	14		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	148.3	-	158.3	1.4		FQ	#		
Iron	mg/L	02/16/2016	N001	148.3	-	158.3	0.21		FQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	148.3	-	158.3	15		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	148.3	-	158.3	0.0063		FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	148.3	-	158.3	0.00051	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	148.3	-	158.3	14		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/16/2016	N001	148.3	-	158.3	145.8		FQ	#		
pH	s.u.	02/16/2016	N001	148.3	-	158.3	7.27		FQ	#		
Potassium	mg/L	02/16/2016	N001	148.3	-	158.3	2.2		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	148.3	-	158.3	0.001		UFQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	148.3	-	158.3	14		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	148.3	-	158.3	6.4		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	148.3	-	158.3	18		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0289 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	148.3	-	158.3	695		FQ	#		
Strontium	mg/L	02/16/2016	N001	148.3	-	158.3	1.2		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	148.3	-	158.3	69		FQ	#	0.5	
Temperature	C	02/16/2016	N001	148.3	-	158.3	14.76		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	148.3	-	158.3	350		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	148.3	-	158.3	2.59		FQ	#		
Uranium	mg/L	02/16/2016	N001	148.3	-	158.3	0.0053		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	148.3	-	158.3	0.0049		UFQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	102.7 - 112.7	244		FQ	#		
Ammonia Total as N	mg/L	02/15/2016	N001	102.7 - 112.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/15/2016	N001	102.7 - 112.7	0.001	J	FQ	#	0.00015	
Calcium	mg/L	02/15/2016	N001	102.7 - 112.7	350		FQ	#	0.024	
Chloride	mg/L	02/15/2016	N001	102.7 - 112.7	70		FQ	#	2	
Dissolved Oxygen	mg/L	02/15/2016	N001	102.7 - 112.7	9.19		FQ	#		
Iron	mg/L	02/15/2016	N001	102.7 - 112.7	0.097	J	FQ	#	0.0067	
Magnesium	mg/L	02/15/2016	N001	102.7 - 112.7	59		FQ	#	0.03	
Manganese	mg/L	02/15/2016	N001	102.7 - 112.7	0.0037	J	FQ	#	0.00024	
Molybdenum	mg/L	02/15/2016	N001	102.7 - 112.7	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	102.7 - 112.7	74		FQ	#	1	
Oxidation Reduction Potential	mV	02/15/2016	N001	102.7 - 112.7	192.8		FQ	#		
pH	s.u.	02/15/2016	N001	102.7 - 112.7	6.85		FQ	#		
Potassium	mg/L	02/15/2016	N001	102.7 - 112.7	4.7		FQ	#	0.052	
Selenium	mg/L	02/15/2016	N001	102.7 - 112.7	0.011		FQ	#	0.00032	
Silica	mg/L	02/15/2016	N001	102.7 - 112.7	18		FQ	#	0.021	
Silicon	mg/L	02/15/2016	N001	102.7 - 112.7	8.4		FQ	#	0.0097	
Sodium	mg/L	02/15/2016	N001	102.7 - 112.7	83		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0290 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	102.7	-	112.7	2254		FQ	#		
Strontium	mg/L	02/15/2016	N001	102.7	-	112.7	3.2		FQ	#	0.00026	
Sulfate	mg/L	02/15/2016	N001	102.7	-	112.7	690		FQ	#	5	
Temperature	C	02/15/2016	N001	102.7	-	112.7	15.89		FQ	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	102.7	-	112.7	1600		FQJ	#	40	
Turbidity	NTU	02/15/2016	N001	102.7	-	112.7	5.88		FQ	#		
Uranium	mg/L	02/15/2016	N001	102.7	-	112.7	0.075		FQ	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	102.7	-	112.7	0.0061		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	55	-	95	302		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	55	-	95	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	55	-	95	0.0014		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	55	-	95	450		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	55	-	95	72		F	#	2	
Dissolved Oxygen	mg/L	02/16/2016	N001	55	-	95	5.44		F	#		
Iron	mg/L	02/16/2016	N001	55	-	95	0.027	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	55	-	95	76		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	55	-	95	0.011		F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	55	-	95	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	55	-	95	95		F	#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	55	-	95	198.3		F	#		
pH	s.u.	02/16/2016	N001	55	-	95	6.95		F	#		
Potassium	mg/L	02/16/2016	N001	55	-	95	5.2		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	55	-	95	0.0063		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	55	-	95	17		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	55	-	95	8		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	55	-	95	63		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0691 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	55	-	95	2622		F	#		
Strontium	mg/L	02/16/2016	N001	55	-	95	4.7		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	55	-	95	840		F	#	5	
Temperature	C	02/16/2016	N001	55	-	95	16.37		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	55	-	95	2100		F	#	40	
Turbidity	NTU	02/16/2016	N001	55	-	95	3.53		F	#		
Uranium	mg/L	02/16/2016	N001	55	-	95	0.14		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	55	-	95	0.009		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	44	-	64	791		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	44	-	64	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	44	-	64	0.00056	J	FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	44	-	64	920		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	44	-	64	150		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	44	-	64	1.03		FQ	#		
Iron	mg/L	02/16/2016	N001	44	-	64	0.082	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	44	-	64	270		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	44	-	64	0.1		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	44	-	64	0.0011		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	44	-	64	330		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	44	-	64	174.8		FQ	#		
pH	s.u.	02/16/2016	N001	44	-	64	6.41		FQ	#		
Potassium	mg/L	02/16/2016	N001	44	-	64	8.2		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	44	-	64	0.057		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	44	-	64	17		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	44	-	64	7.7		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	44	-	64	350		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0906 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	44	-	64	6357		FQ	#		
Strontium	mg/L	02/16/2016	N001	44	-	64	9.8		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	44	-	64	1900		FQ	#	25	
Temperature	C	02/16/2016	N001	44	-	64	16.24		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	44	-	64	5600		FQ	#	200	
Turbidity	NTU	02/16/2016	N001	44	-	64	5.78		FQ	#		
Uranium	mg/L	02/16/2016	N001	44	-	64	0.56		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	44	-	64	0.0096		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	52	-	67	360		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	52	-	67	74		FQ	#	2.5	
Arsenic	mg/L	02/16/2016	N001	52	-	67	0.0011		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	52	-	67	620		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	52	-	67	79		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	52	-	67	1.04		FQ	#		
Iron	mg/L	02/16/2016	N001	52	-	67	0.11	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	52	-	67	420		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	52	-	67	0.15		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	52	-	67	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	52	-	67	200		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	52	-	67	175.5		FQ	#		
pH	s.u.	02/16/2016	N001	52	-	67	6.69		FQ	#		
Potassium	mg/L	02/16/2016	N001	52	-	67	23		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	52	-	67	0.016		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	52	-	67	20		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	52	-	67	9.5		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	52	-	67	290		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0908 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	52	-	67	6053		FQ	#		
Strontium	mg/L	02/16/2016	N001	52	-	67	4.2		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	52	-	67	2700		FQ	#	25	
Temperature	C	02/16/2016	N001	52	-	67	16.25		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	52	-	67	5200		FQ	#	200	
Turbidity	NTU	02/16/2016	N001	52	-	67	7.92		FQ	#		
Uranium	mg/L	02/16/2016	N001	52	-	67	0.077		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	52	-	67	0.0073		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	48.2	-	88.2	75		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	48.2	-	88.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	48.2	-	88.2	0.0025		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	48.2	-	88.2	49		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	48.2	-	88.2	16		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	48.2	-	88.2	6.94		FQ	#		
Iron	mg/L	02/16/2016	N001	48.2	-	88.2	0.025	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	48.2	-	88.2	8.3		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	48.2	-	88.2	0.00093	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	48.2	-	88.2	0.00052	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	48.2	-	88.2	12		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/16/2016	N001	48.2	-	88.2	119.7		FQ	#		
pH	s.u.	02/16/2016	N001	48.2	-	88.2	7.76		FQ	#		
Potassium	mg/L	02/16/2016	N001	48.2	-	88.2	1.9		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	48.2	-	88.2	0.0048		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	48.2	-	88.2	12		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	48.2	-	88.2	5.4		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	48.2	-	88.2	13		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	48.2	-	88.2	382		FQ	#		
Strontium	mg/L	02/16/2016	N001	48.2	-	88.2	0.39		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	48.2	-	88.2	24		FQ	#	0.5	
Temperature	C	02/16/2016	N001	48.2	-	88.2	16.07		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	48.2	-	88.2	210		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	48.2	-	88.2	3.14		FQ	#		
Uranium	mg/L	02/16/2016	N001	48.2	-	88.2	0.0018		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	48.2	-	88.2	0.011		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	20 - 50	107		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	20 - 50	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	20 - 50	0.0017		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	20 - 50	170		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	20 - 50	56		F	#	2	
Dissolved Oxygen	mg/L	02/16/2016	N001	20 - 50	8.67		F	#		
Iron	mg/L	02/16/2016	N001	20 - 50	0.034	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	20 - 50	37		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	20 - 50	0.00094	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	20 - 50	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	20 - 50	39		F	#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	20 - 50	162.1		F	#		
pH	s.u.	02/16/2016	N001	20 - 50	7.63		F	#		
Potassium	mg/L	02/16/2016	N001	20 - 50	3.6		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	20 - 50	0.0036		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	20 - 50	14		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	20 - 50	6.4		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	20 - 50	24		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0930 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	20	-	50	1184		F	#		
Strontium	mg/L	02/16/2016	N001	20	-	50	3.4		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	20	-	50	270		F	#	5	
Temperature	C	02/16/2016	N001	20	-	50	16.13		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	20	-	50	790		F	#	20	
Turbidity	NTU	02/16/2016	N001	20	-	50	1.58		F	#		
Uranium	mg/L	02/16/2016	N001	20	-	50	0.01		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	20	-	50	0.0077		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	112.5 - 132.5	88		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	112.5 - 132.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	112.5 - 132.5	0.0022		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	112.5 - 132.5	57		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	112.5 - 132.5	14		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	112.5 - 132.5	8.64		F	#		
Iron	mg/L	02/16/2016	N001	112.5 - 132.5	0.024	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	112.5 - 132.5	11		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	112.5 - 132.5	0.00024	U	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	112.5 - 132.5	0.00039	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	112.5 - 132.5	9.3		F	#	0.5	
Oxidation Reduction Potential	mV	02/16/2016	N001	112.5 - 132.5	123.3		F	#		
pH	s.u.	02/16/2016	N001	112.5 - 132.5	7.76		F	#		
Potassium	mg/L	02/16/2016	N001	112.5 - 132.5	2		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	112.5 - 132.5	0.0026		UF	#	0.00032	
Silica	mg/L	02/16/2016	N001	112.5 - 132.5	12		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	112.5 - 132.5	5.6		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	112.5 - 132.5	13		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0932 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	112.5 - 132.5	369		F	#		
Strontium	mg/L	02/16/2016	N001	112.5 - 132.5	0.88		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	112.5 - 132.5	47		F	#	0.5	
Temperature	C	02/16/2016	N001	112.5 - 132.5	16.83		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	112.5 - 132.5	200		F	#	20	
Turbidity	NTU	02/16/2016	N001	112.5 - 132.5	0.62		F	#		
Uranium	mg/L	02/16/2016	N001	112.5 - 132.5	0.0034		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	112.5 - 132.5	0.0097		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	45	-	90	646		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	45	-	90	0.19		FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	45	-	90	0.001		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	45	-	90	710		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	45	-	90	230		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	45	-	90	4.45		FQ	#		
Iron	mg/L	02/16/2016	N001	45	-	90	0.07	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	45	-	90	740		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	45	-	90	0.0052	J	FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	45	-	90	0.00041	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	45	-	90	330		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	45	-	90	166.2		FQ	#		
pH	s.u.	02/16/2016	N001	45	-	90	6.73		FQ	#		
Potassium	mg/L	02/16/2016	N001	45	-	90	8.1		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	45	-	90	0.012		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	45	-	90	19		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	45	-	90	8.8		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	45	-	90	160		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0934 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	45	-	90	7060		FQ	#		
Strontium	mg/L	02/16/2016	N001	45	-	90	8.7		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	45	-	90	3000		FQ	#	25	
Temperature	C	02/16/2016	N001	45	-	90	16.5		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	45	-	90	6300		FQ	#	200	
Turbidity	NTU	02/16/2016	N001	45	-	90	3.42		FQ	#		
Uranium	mg/L	02/16/2016	N001	45	-	90	0.19		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	45	-	90	0.0077		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	45 - 60	699		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	45 - 60	48		FQ	#	2.5	
Arsenic	mg/L	02/16/2016	N001	45 - 60	0.0023		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	45 - 60	520		FQ	#	0.12	
Chloride	mg/L	02/16/2016	N001	45 - 60	140		FQ	#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	45 - 60	2.82		FQ	#		
Iron	mg/L	02/16/2016	N001	45 - 60	0.1	J	UFQ	#	0.033	
Magnesium	mg/L	02/16/2016	N001	45 - 60	1200		FQ	#	0.15	
Manganese	mg/L	02/16/2016	N001	45 - 60	20		FQ	#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	45 - 60	0.00036	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	45 - 60	290		FQ	#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	45 - 60	174.7		FQ	#		
pH	s.u.	02/16/2016	N001	45 - 60	6.54		FQ	#		
Potassium	mg/L	02/16/2016	N001	45 - 60	23		FQ	#	0.26	
Selenium	mg/L	02/16/2016	N001	45 - 60	0.062		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	45 - 60	18		FQ	#	0.1	
Silicon	mg/L	02/16/2016	N001	45 - 60	8.4		FQ	#	0.048	
Sodium	mg/L	02/16/2016	N001	45 - 60	420		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0940 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	45	-	60	8936		FQ	#		
Strontium	mg/L	02/16/2016	N001	45	-	60	8.9		FQ	#	0.0013	
Sulfate	mg/L	02/16/2016	N001	45	-	60	5500		FQ	#	100	
Temperature	C	02/16/2016	N001	45	-	60	15.79		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	45	-	60	10000		FQ	#	200	
Turbidity	NTU	02/16/2016	N001	45	-	60	2.36		FQ	#		
Uranium	mg/L	02/16/2016	N001	45	-	60	0.7		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	45	-	60	0.01		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/15/2016	N001	45	-	65	713		FQ	#		
Ammonia Total as N	mg/L	02/15/2016	N001	45	-	65	0.26		FQ	#	0.1	
Arsenic	mg/L	02/15/2016	N001	45	-	65	0.0017		FQ	#	0.00015	
Calcium	mg/L	02/15/2016	N001	45	-	65	1000		FQ	#	0.12	
Chloride	mg/L	02/15/2016	N001	45	-	65	220		FQ	#	10	
Dissolved Oxygen	mg/L	02/15/2016	N001	45	-	65	0.61		FQ	#		
Iron	mg/L	02/15/2016	N001	45	-	65	0.074	J	UFQ	#	0.033	
Magnesium	mg/L	02/15/2016	N001	45	-	65	180		FQ	#	0.15	
Manganese	mg/L	02/15/2016	N001	45	-	65	0.09		FQ	#	0.0012	
Molybdenum	mg/L	02/15/2016	N001	45	-	65	0.035		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/15/2016	N001	45	-	65	280		FQ	#	5	
Oxidation Reduction Potential	mV	02/15/2016	N001	45	-	65	160.7		FQ	#		
pH	s.u.	02/15/2016	N001	45	-	65	6.56		FQ	#		
Potassium	mg/L	02/15/2016	N001	45	-	65	7.1		FQ	#	0.26	
Selenium	mg/L	02/15/2016	N001	45	-	65	0.089		FQ	#	0.00032	
Silica	mg/L	02/15/2016	N001	45	-	65	19		FQ	#	0.1	
Silicon	mg/L	02/15/2016	N001	45	-	65	9.1		FQ	#	0.048	
Sodium	mg/L	02/15/2016	N001	45	-	65	320		FQ	#	0.23	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 0941 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/15/2016	N001	45	-	65	5860		FQ	#		
Strontium	mg/L	02/15/2016	N001	45	-	65	9.1		FQ	#	0.0013	
Sulfate	mg/L	02/15/2016	N001	45	-	65	1900		FQ	#	25	
Temperature	C	02/15/2016	N001	45	-	65	15.98		FQ	#		
Total Dissolved Solids	mg/L	02/15/2016	N001	45	-	65	5700	*	FQJ	#	200	
Turbidity	NTU	02/15/2016	N001	45	-	65	9.5		FQ	#		
Uranium	mg/L	02/15/2016	N001	45	-	65	0.28		FQ	#	0.000029	
Vanadium	mg/L	02/15/2016	N001	45	-	65	0.011		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1003 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	02/16/2016	N001	55.5	-	105.5	182		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	55.5	-	105.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	55.5	-	105.5	0.0012		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	55.5	-	105.5	300		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	55.5	-	105.5	63		F	#	1	
Dissolved Oxygen	mg/L	02/16/2016	N001	55.5	-	105.5	7.91		F	#		
Iron	mg/L	02/16/2016	N001	55.5	-	105.5	0.018	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	55.5	-	105.5	49		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	55.5	-	105.5	0.00072	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	55.5	-	105.5	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	55.5	-	105.5	66		F	#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	55.5	-	105.5	179.5		F	#		
pH	s.u.	02/16/2016	N001	55.5	-	105.5	7.29		F	#		
Potassium	mg/L	02/16/2016	N001	55.5	-	105.5	4		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	55.5	-	105.5	0.0048		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	55.5	-	105.5	15		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	55.5	-	105.5	7.1		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	55.5	-	105.5	40		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1003 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	55.5	-	105.5	1859		F	#		
Strontium	mg/L	02/16/2016	N001	55.5	-	105.5	2.8		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	55.5	-	105.5	560		F	#	12	
Temperature	C	02/16/2016	N001	55.5	-	105.5	16.2		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	55.5	-	105.5	1400		F	#	40	
Turbidity	NTU	02/16/2016	N001	55.5	-	105.5	1.23		F	#		
Uranium	mg/L	02/16/2016	N001	55.5	-	105.5	0.047		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	55.5	-	105.5	0.012		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1004 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	02/16/2016	N001	45.5	-	95.5	85		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	45.5	-	95.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	45.5	-	95.5	0.0029		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	45.5	-	95.5	53		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	45.5	-	95.5	16		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	45.5	-	95.5	6.84		F	#		
Iron	mg/L	02/16/2016	N001	45.5	-	95.5	0.018	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	45.5	-	95.5	9.9		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	45.5	-	95.5	0.00024	U	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	45.5	-	95.5	0.0004	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	45.5	-	95.5	6.6		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	45.5	-	95.5	169.7		F	#		
pH	s.u.	02/16/2016	N001	45.5	-	95.5	7.63		F	#		
Potassium	mg/L	02/16/2016	N001	45.5	-	95.5	1.5		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	45.5	-	95.5	0.0025		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	45.5	-	95.5	13		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	45.5	-	95.5	5.9		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	45.5	-	95.5	15		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1004 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	45.5	-	95.5	412		F	#		
Strontium	mg/L	02/16/2016	N001	45.5	-	95.5	0.67		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	45.5	-	95.5	48		F	#	0.5	
Temperature	C	02/16/2016	N001	45.5	-	95.5	16.69		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	45.5	-	95.5	230		F	#	20	
Turbidity	NTU	02/16/2016	N001	45.5	-	95.5	1.57		F	#		
Uranium	mg/L	02/16/2016	N001	45.5	-	95.5	0.0043		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	45.5	-	95.5	0.013		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1006 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	02/16/2016	N001	45.74 - 95.74	72		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	45.74 - 95.74	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	45.74 - 95.74	0.0034		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	45.74 - 95.74	28		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	45.74 - 95.74	8.8		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	45.74 - 95.74	6.62		F	#		
Iron	mg/L	02/16/2016	N001	45.74 - 95.74	0.014	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	45.74 - 95.74	7.4		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	45.74 - 95.74	0.00035	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	45.74 - 95.74	0.0006	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	45.74 - 95.74	2.9		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	45.74 - 95.74	128.6		F	#		
pH	s.u.	02/16/2016	N001	45.74 - 95.74	8.62		F	#		
Potassium	mg/L	02/16/2016	N001	45.74 - 95.74	2.4		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	45.74 - 95.74	0.0038		F	#	0.00032	
Silica	mg/L	02/16/2016	N001	45.74 - 95.74	12		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	45.74 - 95.74	5.8		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	45.74 - 95.74	9.8		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1006 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	45.74	-	95.74	242		F	#		
Strontium	mg/L	02/16/2016	N001	45.74	-	95.74	1.2		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	45.74	-	95.74	12		F	#	0.5	
Temperature	C	02/16/2016	N001	45.74	-	95.74	16.33		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	45.74	-	95.74	140		F	#	20	
Turbidity	NTU	02/16/2016	N001	45.74	-	95.74	1.4		F	#		
Uranium	mg/L	02/16/2016	N001	45.74	-	95.74	0.0016		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	45.74	-	95.74	0.0074		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1007 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	02/16/2016	N001	45.79 - 95.99	75		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	45.79 - 95.99	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	45.79 - 95.99	0.002		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	45.79 - 95.99	30		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	45.79 - 95.99	9		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	45.79 - 95.99	7.37		F	#		
Iron	mg/L	02/16/2016	N001	45.79 - 95.99	0.02	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	45.79 - 95.99	7.2		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	45.79 - 95.99	0.00032	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	45.79 - 95.99	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	45.79 - 95.99	3.1		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	45.79 - 95.99	110.9		F	#		
pH	s.u.	02/16/2016	N001	45.79 - 95.99	8.12		F	#		
Potassium	mg/L	02/16/2016	N001	45.79 - 95.99	2		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	45.79 - 95.99	0.00032	U	F	#	0.00032	
Silica	mg/L	02/16/2016	N001	45.79 - 95.99	12		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	45.79 - 95.99	5.7		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	45.79 - 95.99	8		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1007 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Specific Conductance	umhos /cm	02/16/2016	N001	45.79	-	95.99	250		F	#		
Strontium	mg/L	02/16/2016	N001	45.79	-	95.99	0.71		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	45.79	-	95.99	13		F	#	0.5	
Temperature	C	02/16/2016	N001	45.79	-	95.99	15.85		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	45.79	-	95.99	140		F	#	20	
Turbidity	NTU	02/16/2016	N001	45.79	-	95.99	0.99		F	#		
Uranium	mg/L	02/16/2016	N001	45.79	-	95.99	0.0013		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	45.79	-	95.99	0.01		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1101 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	02/16/2016	N001	96.15 - 251.5	297			#		
Ammonia Total as N	mg/L	02/16/2016	N001	96.15 - 251.5	3.6			#	0.1	
Ammonia Total as N	mg/L	02/16/2016	N002	96.15 - 251.5	3.4			#	0.1	
Arsenic	mg/L	02/16/2016	N001	96.15 - 251.5	0.0012			#	0.00015	
Arsenic	mg/L	02/16/2016	N002	96.15 - 251.5	0.0016			#	0.00015	
Calcium	mg/L	02/16/2016	N001	96.15 - 251.5	540			#	0.12	
Calcium	mg/L	02/16/2016	N002	96.15 - 251.5	510			#	0.12	
Chloride	mg/L	02/16/2016	N001	96.15 - 251.5	200			#	10	
Chloride	mg/L	02/16/2016	N002	96.15 - 251.5	200			#	10	
Dissolved Oxygen	mg/L	02/16/2016	N001	96.15 - 251.5	0.47			#		
Iron	mg/L	02/16/2016	N001	96.15 - 251.5	0.034	J		#	0.0067	
Iron	mg/L	02/16/2016	N002	96.15 - 251.5	0.12	J	U	#	0.033	
Magnesium	mg/L	02/16/2016	N001	96.15 - 251.5	160			#	0.03	
Magnesium	mg/L	02/16/2016	N002	96.15 - 251.5	160			#	0.15	
Manganese	mg/L	02/16/2016	N001	96.15 - 251.5	0.82			#	0.00024	
Manganese	mg/L	02/16/2016	N002	96.15 - 251.5	0.87			#	0.0012	
Molybdenum	mg/L	02/16/2016	N001	96.15 - 251.5	0.0016			#	0.00032	
Molybdenum	mg/L	02/16/2016	N002	96.15 - 251.5	0.0026			#	0.00032	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1101 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	02/16/2016	N001	96.15	-	251.5	88			#	5	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N002	96.15	-	251.5	91			#	5	
Oxidation Reduction Potential	mV	02/16/2016	N001	96.15	-	251.5	168			#		
pH	s.u.	02/16/2016	N001	96.15	-	251.5	6.6			#		
Potassium	mg/L	02/16/2016	N001	96.15	-	251.5	11			#	0.052	
Potassium	mg/L	02/16/2016	N002	96.15	-	251.5	9.3			#	0.26	
Selenium	mg/L	02/16/2016	N001	96.15	-	251.5	0.028			#	0.00032	
Selenium	mg/L	02/16/2016	N002	96.15	-	251.5	0.032			#	0.00032	
Silica	mg/L	02/16/2016	N001	96.15	-	251.5	18			#	0.021	
Silica	mg/L	02/16/2016	N002	96.15	-	251.5	17			#	0.1	
Silicon	mg/L	02/16/2016	N001	96.15	-	251.5	8.5			#	0.0097	
Silicon	mg/L	02/16/2016	N002	96.15	-	251.5	7.9			#	0.048	
Sodium	mg/L	02/16/2016	N001	96.15	-	251.5	370			#	0.047	
Sodium	mg/L	02/16/2016	N002	96.15	-	251.5	370			#	0.23	
Specific Conductance	umhos /cm	02/16/2016	N001	96.15	-	251.5	4105			#		
Strontium	mg/L	02/16/2016	N001	96.15	-	251.5	4.6			#	0.00026	
Strontium	mg/L	02/16/2016	N002	96.15	-	251.5	4.5			#	0.0013	
Sulfate	mg/L	02/16/2016	N001	96.15	-	251.5	1800			#	25	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1101 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/16/2016	N002	96.15	-	251.5	1900			#	25	
Temperature	C	02/16/2016	N001	96.15	-	251.5	17.3			#		
Total Dissolved Solids	mg/L	02/16/2016	N001	96.15	-	251.5	3600			#	80	
Total Dissolved Solids	mg/L	02/16/2016	N002	96.15	-	251.5	3700			#	80	
Turbidity	NTU	02/16/2016	N001	96.15	-	251.5	0.93			#		
Uranium	mg/L	02/16/2016	N001	96.15	-	251.5	0.38			#	0.000029	
Uranium	mg/L	02/16/2016	N002	96.15	-	251.5	0.33			#	0.000029	
Vanadium	mg/L	02/16/2016	N001	96.15	-	251.5	0.011		J	#	0.00015	
Vanadium	mg/L	02/16/2016	N002	96.15	-	251.5	0.0088		J	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1105 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (as $CaCO_3$)	mg/L	02/16/2016	N001	90 - 245	270			#		
Ammonia Total as N	mg/L	02/16/2016	N001	90 - 245	2.6			#	0.1	
Ammonia Total as N	mg/L	02/16/2016	N002	90 - 245	2.4			#	0.1	
Arsenic	mg/L	02/16/2016	N001	90 - 245	0.3			#	0.00015	
Arsenic	mg/L	02/16/2016	N002	90 - 245	0.26			#	0.00015	
Calcium	mg/L	02/16/2016	N001	90 - 245	340			#	0.024	
Calcium	mg/L	02/16/2016	N002	90 - 245	350			#	0.024	
Chloride	mg/L	02/16/2016	N001	90 - 245	61			#	2	
Chloride	mg/L	02/16/2016	N002	90 - 245	63			#	2	
Dissolved Oxygen	mg/L	02/16/2016	N001	90 - 245	1.15			#		
Iron	mg/L	02/16/2016	N001	90 - 245	0.021	J	U	#	0.0067	
Iron	mg/L	02/16/2016	N002	90 - 245	0.009	J	U	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	90 - 245	90			#	0.03	
Magnesium	mg/L	02/16/2016	N002	90 - 245	92			#	0.03	
Manganese	mg/L	02/16/2016	N001	90 - 245	0.044			#	0.00024	
Manganese	mg/L	02/16/2016	N002	90 - 245	0.047			#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	90 - 245	0.46			#	0.00032	
Molybdenum	mg/L	02/16/2016	N002	90 - 245	0.43			#	0.00032	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1105 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	02/16/2016	N001	90	-	245	75			#	1	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N002	90	-	245	68			#	1	
Oxidation Reduction Potential	mV	02/16/2016	N001	90	-	245	165			#		
pH	s.u.	02/16/2016	N001	90	-	245	6.63			#		
Potassium	mg/L	02/16/2016	N001	90	-	245	5.2			#	0.052	
Potassium	mg/L	02/16/2016	N002	90	-	245	5.3			#	0.052	
Selenium	mg/L	02/16/2016	N001	90	-	245	0.038		J	#	0.00032	
Selenium	mg/L	02/16/2016	N002	90	-	245	0.031		J	#	0.00032	
Silica	mg/L	02/16/2016	N001	90	-	245	14			#	0.021	
Silica	mg/L	02/16/2016	N002	90	-	245	14			#	0.021	
Silicon	mg/L	02/16/2016	N001	90	-	245	6.5			#	0.0097	
Silicon	mg/L	02/16/2016	N002	90	-	245	6.6			#	0.0097	
Sodium	mg/L	02/16/2016	N001	90	-	245	200			#	0.047	
Sodium	mg/L	02/16/2016	N002	90	-	245	200			#	0.047	
Specific Conductance	umhos /cm	02/16/2016	N001	90	-	245	2425			#		
Strontium	mg/L	02/16/2016	N001	90	-	245	3.4			#	0.00026	
Strontium	mg/L	02/16/2016	N002	90	-	245	3.5			#	0.00026	
Sulfate	mg/L	02/16/2016	N001	90	-	245	1000			#	5	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1105 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/16/2016	N002	90	-	245	1100			#	12	
Temperature	C	02/16/2016	N001	90	-	245	16.7			#		
Total Dissolved Solids	mg/L	02/16/2016	N001	90	-	245	2200			#	40	
Total Dissolved Solids	mg/L	02/16/2016	N002	90	-	245	2300			#	40	
Turbidity	NTU	02/16/2016	N001	90	-	245	0.73			#		
Uranium	mg/L	02/16/2016	N001	90	-	245	0.85			#	0.00015	
Uranium	mg/L	02/16/2016	N002	90	-	245	0.97			#	0.000029	
Vanadium	mg/L	02/16/2016	N001	90	-	245	0.014			#	0.00015	
Vanadium	mg/L	02/16/2016	N002	90	-	245	0.014			#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	167.5	-	187.5	102		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	167.5	-	187.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	167.5	-	187.5	0.0016		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	167.5	-	187.5	33		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	167.5	-	187.5	10		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	167.5	-	187.5	6.56		F	#		
Iron	mg/L	02/16/2016	N001	167.5	-	187.5	0.031	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	167.5	-	187.5	6.2		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	167.5	-	187.5	0.0011	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	167.5	-	187.5	0.00084	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	167.5	-	187.5	3		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	167.5	-	187.5	152.2		F	#		
pH	s.u.	02/16/2016	N001	167.5	-	187.5	8.01		F	#		
Potassium	mg/L	02/16/2016	N001	167.5	-	187.5	1.5		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	167.5	-	187.5	0.00071	J	UF	#	0.00032	
Silica	mg/L	02/16/2016	N001	167.5	-	187.5	11		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	167.5	-	187.5	5.1		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	167.5	-	187.5	11		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	167.5 - 187.5	266		F	#		
Strontium	mg/L	02/16/2016	N001	167.5 - 187.5	0.31		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	167.5 - 187.5	13		F	#	0.5	
Temperature	C	02/16/2016	N001	167.5 - 187.5	16.42		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	167.5 - 187.5	150		F	#	20	
Turbidity	NTU	02/16/2016	N001	167.5 - 187.5	0.57		F	#		
Uranium	mg/L	02/16/2016	N001	167.5 - 187.5	0.0014		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	167.5 - 187.5	0.013		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	140.46 - 160.46	74		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	140.46 - 160.46	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	140.46 - 160.46	0.0024		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	140.46 - 160.46	33		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	140.46 - 160.46	9.6		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	140.46 - 160.46	7.06		F	#		
Iron	mg/L	02/16/2016	N001	140.46 - 160.46	0.043	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	140.46 - 160.46	5.9		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	140.46 - 160.46	0.0011	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	140.46 - 160.46	0.00049	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	140.46 - 160.46	3.1		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	140.46 - 160.46	139.3		F	#		
pH	s.u.	02/16/2016	N001	140.46 - 160.46	7.94		F	#		
Potassium	mg/L	02/16/2016	N001	140.46 - 160.46	1.4		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	140.46 - 160.46	0.0026		UF	#	0.00032	
Silica	mg/L	02/16/2016	N001	140.46 - 160.46	11		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	140.46 - 160.46	5		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	140.46 - 160.46	11		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	140.46 - 160.46	264		F	#		
Strontium	mg/L	02/16/2016	N001	140.46 - 160.46	0.31		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	140.46 - 160.46	13		F	#	0.5	
Temperature	C	02/16/2016	N001	140.46 - 160.46	15.84		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	140.46 - 160.46	150		F	#	20	
Turbidity	NTU	02/16/2016	N001	140.46 - 160.46	0.97		F	#		
Uranium	mg/L	02/16/2016	N001	140.46 - 160.46	0.0013		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	140.46 - 160.46	0.011		UF	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	190.62 - 210.62	95		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	190.62 - 210.62	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	02/16/2016	N002	190.62 - 210.62	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	190.62 - 210.62	0.0026		F	#	0.00015	
Arsenic	mg/L	02/16/2016	N002	190.62 - 210.62	0.002		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	190.62 - 210.62	34		F	#	0.024	
Calcium	mg/L	02/16/2016	N002	190.62 - 210.62	33		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	190.62 - 210.62	9.1		F	#	0.2	
Chloride	mg/L	02/16/2016	N002	190.62 - 210.62	9.1		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	190.62 - 210.62	7.13		F	#		
Iron	mg/L	02/16/2016	N001	190.62 - 210.62	0.046	J	UF	#	0.0067	
Iron	mg/L	02/16/2016	N002	190.62 - 210.62	0.069	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	190.62 - 210.62	6.3		F	#	0.03	
Magnesium	mg/L	02/16/2016	N002	190.62 - 210.62	6.2		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	190.62 - 210.62	0.0036	J	F	#	0.00024	
Manganese	mg/L	02/16/2016	N002	190.62 - 210.62	0.0047	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	190.62 - 210.62	0.00039	J	F	#	0.00032	
Molybdenum	mg/L	02/16/2016	N002	190.62 - 210.62	0.001		F	#	0.00032	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	190.62 - 210.62	2.9		F	#	0.1	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N002	190.62 - 210.62	2.9		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	190.62 - 210.62	129.1		F	#		
pH	s.u.	02/16/2016	N001	190.62 - 210.62	8.02		F	#		
Potassium	mg/L	02/16/2016	N001	190.62 - 210.62	1.4		F	#	0.052	
Potassium	mg/L	02/16/2016	N002	190.62 - 210.62	1.4		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	190.62 - 210.62	0.00091	J	F	#	0.00032	
Selenium	mg/L	02/16/2016	N002	190.62 - 210.62	0.0015		UF	#	0.00032	
Silica	mg/L	02/16/2016	N001	190.62 - 210.62	11		F	#	0.021	
Silica	mg/L	02/16/2016	N002	190.62 - 210.62	11		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	190.62 - 210.62	5.3		F	#	0.0097	
Silicon	mg/L	02/16/2016	N002	190.62 - 210.62	5.3		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	190.62 - 210.62	10		F	#	0.047	
Sodium	mg/L	02/16/2016	N002	190.62 - 210.62	9.9		F	#	0.047	
Specific Conductance	umhos /cm	02/16/2016	N001	190.62 - 210.62	263		F	#		
Strontium	mg/L	02/16/2016	N001	190.62 - 210.62	0.38		F	#	0.00026	
Strontium	mg/L	02/16/2016	N002	190.62 - 210.62	0.38		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	190.62 - 210.62	12		F	#	0.5	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N002	190.62 - 210.62	12		F	#	0.5	
Temperature	C	02/16/2016	N001	190.62 - 210.62	15.2		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	190.62 - 210.62	130		F	#	20	
Total Dissolved Solids	mg/L	02/16/2016	N002	190.62 - 210.62	150		F	#	20	
Turbidity	NTU	02/16/2016	N001	190.62 - 210.62	2.83		F	#		
Uranium	mg/L	02/16/2016	N001	190.62 - 210.62	0.0013		FJ	#	0.000029	
Uranium	mg/L	02/16/2016	N002	190.62 - 210.62	0.0017	E*	FJ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	190.62 - 210.62	0.011		UF	#	0.00015	
Vanadium	mg/L	02/16/2016	N002	190.62 - 210.62	0.012	E	FJ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	170.46	-	190.46	81		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	170.46	-	190.46	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	170.46	-	190.46	0.0027		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	170.46	-	190.46	33		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	170.46	-	190.46	10		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	170.46	-	190.46	7.56		F	#		
Iron	mg/L	02/16/2016	N001	170.46	-	190.46	0.021	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	170.46	-	190.46	5.8		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	170.46	-	190.46	0.00024	U	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	170.46	-	190.46	0.00049	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	170.46	-	190.46	3.3		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	170.46	-	190.46	145.9		F	#		
pH	s.u.	02/16/2016	N001	170.46	-	190.46	8.02		F	#		
Potassium	mg/L	02/16/2016	N001	170.46	-	190.46	1.7		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	170.46	-	190.46	0.00032	U	F	#	0.00032	
Silica	mg/L	02/16/2016	N001	170.46	-	190.46	10		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	170.46	-	190.46	4.7		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	170.46	-	190.46	10		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	170.46 - 190.46	262		F	#		
Strontium	mg/L	02/16/2016	N001	170.46 - 190.46	0.29		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	170.46 - 190.46	13		F	#	0.5	
Temperature	C	02/16/2016	N001	170.46 - 190.46	14.55		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	170.46 - 190.46	150		F	#	20	
Turbidity	NTU	02/16/2016	N001	170.46 - 190.46	0.89		F	#		
Uranium	mg/L	02/16/2016	N001	170.46 - 190.46	0.0013		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	170.46 - 190.46	0.012		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	167.62 - 187.62	88		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	167.62 - 187.62	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	167.62 - 187.62	0.0018		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	167.62 - 187.62	36		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	167.62 - 187.62	11		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	167.62 - 187.62	6.2		FQ	#		
Iron	mg/L	02/16/2016	N001	167.62 - 187.62	0.036	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	167.62 - 187.62	6.5		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	167.62 - 187.62	0.0048	J	FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	167.62 - 187.62	0.00049	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	167.62 - 187.62	3.3		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	167.62 - 187.62	150.9		FQ	#		
pH	s.u.	02/16/2016	N001	167.62 - 187.62	7.87		FQ	#		
Potassium	mg/L	02/16/2016	N001	167.62 - 187.62	1.5		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	167.62 - 187.62	0.0013		FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	167.62 - 187.62	11		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	167.62 - 187.62	5.3		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	167.62 - 187.62	9.9		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	167.62 - 187.62	280		FQ	#		
Strontium	mg/L	02/16/2016	N001	167.62 - 187.62	0.34		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	167.62 - 187.62	15		FQ	#	0.5	
Temperature	C	02/16/2016	N001	167.62 - 187.62	15.82		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	167.62 - 187.62	150		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	167.62 - 187.62	1.65		FQ	#		
Uranium	mg/L	02/16/2016	N001	167.62 - 187.62	0.0012		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	167.62 - 187.62	0.011		UFQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	278.19 - 283.19	62		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	278.19 - 283.19	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	278.19 - 283.19	0.0021		FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	278.19 - 283.19	28		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	278.19 - 283.19	7		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	278.19 - 283.19	5.02		FQ	#		
Iron	mg/L	02/16/2016	N001	278.19 - 283.19	0.078	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	278.19 - 283.19	5.7		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	278.19 - 283.19	0.023		FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	278.19 - 283.19	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	278.19 - 283.19	3		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	278.19 - 283.19	131.3		FQ	#		
pH	s.u.	02/16/2016	N001	278.19 - 283.19	7.93		FQ	#		
Potassium	mg/L	02/16/2016	N001	278.19 - 283.19	1.6		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	278.19 - 283.19	0.00069	J	FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	278.19 - 283.19	13		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	278.19 - 283.19	6		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	278.19 - 283.19	5.9		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	278.19 - 283.19	212		FQ	#		
Strontium	mg/L	02/16/2016	N001	278.19 - 283.19	0.51		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	278.19 - 283.19	9.1		FQ	#	0.5	
Temperature	C	02/16/2016	N001	278.19 - 283.19	16.01		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	278.19 - 283.19	120		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	278.19 - 283.19	2.23		FQ	#		
Uranium	mg/L	02/16/2016	N001	278.19 - 283.19	0.00095		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	278.19 - 283.19	0.012		FQ	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	149.43 - 169.43	78		F	#		
Ammonia Total as N	mg/L	02/16/2016	N001	149.43 - 169.43	0.1	U	F	#	0.1	
Arsenic	mg/L	02/16/2016	N001	149.43 - 169.43	0.0028		F	#	0.00015	
Calcium	mg/L	02/16/2016	N001	149.43 - 169.43	34		F	#	0.024	
Chloride	mg/L	02/16/2016	N001	149.43 - 169.43	10		F	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	149.43 - 169.43	9.02		F	#		
Iron	mg/L	02/16/2016	N001	149.43 - 169.43	0.027	J	UF	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	149.43 - 169.43	5.7		F	#	0.03	
Manganese	mg/L	02/16/2016	N001	149.43 - 169.43	0.00053	J	F	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	149.43 - 169.43	0.00034	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	149.43 - 169.43	3.3		F	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	149.43 - 169.43	128.2		F	#		
pH	s.u.	02/16/2016	N001	149.43 - 169.43	7.99		F	#		
Potassium	mg/L	02/16/2016	N001	149.43 - 169.43	1.6		F	#	0.052	
Selenium	mg/L	02/16/2016	N001	149.43 - 169.43	0.00032	U	F	#	0.00032	
Silica	mg/L	02/16/2016	N001	149.43 - 169.43	10		F	#	0.021	
Silicon	mg/L	02/16/2016	N001	149.43 - 169.43	4.9		F	#	0.0097	
Sodium	mg/L	02/16/2016	N001	149.43 - 169.43	11		F	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	149.43 - 169.43	260		F	#		
Strontium	mg/L	02/16/2016	N001	149.43 - 169.43	0.27		F	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	149.43 - 169.43	14		F	#	0.5	
Temperature	C	02/16/2016	N001	149.43 - 169.43	16.05		F	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	149.43 - 169.43	130		F	#	20	
Turbidity	NTU	02/16/2016	N001	149.43 - 169.43	0.56		F	#		
Uranium	mg/L	02/16/2016	N001	149.43 - 169.43	0.0015		F	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	149.43 - 169.43	0.013		F	#	0.00015	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	N001	265.52 - 270.52	90		FQ	#		
Ammonia Total as N	mg/L	02/16/2016	N001	265.52 - 270.52	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/16/2016	N001	265.52 - 270.52	0.00085	J	FQ	#	0.00015	
Calcium	mg/L	02/16/2016	N001	265.52 - 270.52	33		FQ	#	0.024	
Chloride	mg/L	02/16/2016	N001	265.52 - 270.52	11		FQ	#	0.2	
Dissolved Oxygen	mg/L	02/16/2016	N001	265.52 - 270.52	1.84		FQ	#		
Iron	mg/L	02/16/2016	N001	265.52 - 270.52	0.014	J	UFQ	#	0.0067	
Magnesium	mg/L	02/16/2016	N001	265.52 - 270.52	6.9		FQ	#	0.03	
Manganese	mg/L	02/16/2016	N001	265.52 - 270.52	0.029		FQ	#	0.00024	
Molybdenum	mg/L	02/16/2016	N001	265.52 - 270.52	0.0019		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	N001	265.52 - 270.52	2.8		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/16/2016	N001	265.52 - 270.52	154.7		FQ	#		
pH	s.u.	02/16/2016	N001	265.52 - 270.52	7.3		FQ	#		
Potassium	mg/L	02/16/2016	N001	265.52 - 270.52	1.7		FQ	#	0.052	
Selenium	mg/L	02/16/2016	N001	265.52 - 270.52	0.00089	J	FQ	#	0.00032	
Silica	mg/L	02/16/2016	N001	265.52 - 270.52	12		FQ	#	0.021	
Silicon	mg/L	02/16/2016	N001	265.52 - 270.52	5.5		FQ	#	0.0097	
Sodium	mg/L	02/16/2016	N001	265.52 - 270.52	15		FQ	#	0.047	

Groundwater Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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
Specific Conductance	umhos /cm	02/16/2016	N001	265.52 - 270.52	286		FQ	#		
Strontium	mg/L	02/16/2016	N001	265.52 - 270.52	0.57		FQ	#	0.00026	
Sulfate	mg/L	02/16/2016	N001	265.52 - 270.52	24		FQ	#	0.5	
Temperature	C	02/16/2016	N001	265.52 - 270.52	16.65		FQ	#		
Total Dissolved Solids	mg/L	02/16/2016	N001	265.52 - 270.52	140		FQ	#	20	
Turbidity	NTU	02/16/2016	N001	265.52 - 270.52	0.64		FQ	#		
Uranium	mg/L	02/16/2016	N001	265.52 - 270.52	0.0014		FQ	#	0.000029	
Vanadium	mg/L	02/16/2016	N001	265.52 - 270.52	0.0062		UFQ	#	0.00015	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

Surface Water Quality Data

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Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	0001	75			#		
Arsenic	mg/L	02/16/2016	0001	0.097			#	0.00015	
Calcium	mg/L	02/16/2016	0001	680			#	1.2	
Chloride	mg/L	02/16/2016	0001	110000			#	2000	
Dissolved Oxygen	mg/L	02/16/2016	N001	3.52			#		
Iron	mg/L	02/16/2016	0001	0.36	J		#	0.33	
Magnesium	mg/L	02/16/2016	0001	8000			#	1.5	
Manganese	mg/L	02/16/2016	0001	33			#	0.012	
Molybdenum	mg/L	02/16/2016	0001	0.26			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	0001	5000			#	100	
Oxidation Reduction Potential	mV	02/16/2016	N001	195.4			#		
pH	s.u.	02/16/2016	N001	6.94			#		
Potassium	mg/L	02/16/2016	0001	500			#	2.6	
Selenium	mg/L	02/16/2016	0001	1.2			#	0.00032	
Silica	mg/L	02/16/2016	0001	45			#	1	
Silicon	mg/L	02/16/2016	0001	21			#	0.48	
Sodium	mg/L	02/16/2016	0001	68000			#	23	
Specific Conductance	umhos/cm	02/16/2016	N001	194096			#		

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Strontium	mg/L	02/16/2016	0001	26			#	0.013	
Sulfate	mg/L	02/16/2016	0001	20000			#	5000	
Temperature	C	02/16/2016	N001	18.25			#		
Total Dissolved Solids	mg/L	02/16/2016	0001	310000			#	2000	
Uranium	mg/L	02/16/2016	0001	0.89			#	0.00015	
Vanadium	mg/L	02/16/2016	0001	0.0026	J	U	#	0.00015	

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
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	02/16/2016	0001	88			#		
Arsenic	mg/L	02/16/2016	0001	0.099			#	0.00015	
Calcium	mg/L	02/16/2016	0001	740			#	1.2	
Chloride	mg/L	02/16/2016	0001	110000			#	2000	
Dissolved Oxygen	mg/L	02/16/2016	N001	3.14			#		
Iron	mg/L	02/16/2016	0001	0.5	J		#	0.33	
Magnesium	mg/L	02/16/2016	0001	7900			#	1.5	
Manganese	mg/L	02/16/2016	0001	29			#	0.012	
Molybdenum	mg/L	02/16/2016	0001	0.26			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	02/16/2016	0001	4500			#	100	
Oxidation Reduction Potential	mV	02/16/2016	N001	209.9			#		
pH	s.u.	02/16/2016	N001	6.84			#		
Potassium	mg/L	02/16/2016	0001	490			#	2.6	
Selenium	mg/L	02/16/2016	0001	1.1			#	0.00032	
Silica	mg/L	02/16/2016	0001	48			#	1	
Silicon	mg/L	02/16/2016	0001	22			#	0.48	
Sodium	mg/L	02/16/2016	0001	63000			#	23	
Specific Conductance	umhos/cm	02/16/2016	N001	190613			#		

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/18/2016
Location: 1570 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Strontium	mg/L	02/16/2016	0001	26			#	0.013	
Sulfate	mg/L	02/16/2016	0001	19000			#	5000	
Temperature	C	02/16/2016	N001	18.1			#		
Total Dissolved Solids	mg/L	02/16/2016	0001	270000			#	2000	
Uranium	mg/L	02/16/2016	0001	0.92			#	0.00015	
Vanadium	mg/L	02/16/2016	0001	0.0029	J	U	#	0.00015	

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

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

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

QA QUALIFIER:
Validated according to quality assurance guidelines.

Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/14/2016

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	02/16/2016	10:35:55	65.05	4996.2	
0252		5061.3	02/16/2016	11:25:49	70.09	4991.21	
0258		5055.56	02/16/2016	09:15:07	93.47	4962.09	
0261		5069.69	02/16/2016	17:27:00	127.22	4942.47	
0262		5061.99	02/16/2016	10:00:07	44.35	5017.64	
0263		5063.1	02/16/2016	09:05:16	48.79	5014.31	
0264		5062.19	02/16/2016	09:30:19	81.06	4981.13	
0265		5053.88	02/16/2016	10:15:15	81.65	4972.23	
0266		5053.32	02/16/2016	10:40:04	91.81	4961.51	
0267		5053.4	02/16/2016	14:35:15	61.7	4991.7	
0268		5067.24	02/15/2016	15:15:45	89.24	4978	
0271		5046.72	02/16/2016	16:40:00	55.06	4991.66	
0272		5064.24	02/16/2016	09:45:34	54.44	5009.8	
0273		5064.74	02/15/2016	17:45:24	61.59	5003.15	
0274		5064.42	02/15/2016	17:25:17	61.11	5003.31	
0275		5062.64	02/15/2016	17:15:10	66.94	4995.7	
0276		5067.55	02/15/2016	16:45:11	61.13	5006.42	
0277		4982.35	02/16/2016	16:17:00	35.62	4946.73	
0278		4956.09	02/16/2016	12:43:00	22.42	4933.67	
0279		4951.04	02/16/2016	16:09:00	25.39	4925.65	
0280		4951.52	02/16/2016	16:01:00	27.37	4924.15	
0281		5051	02/16/2016	14:00:26	70.65	4980.35	
0282		5060.04	02/16/2016	13:30:58	82.38	4977.66	
0283		5057.97	02/16/2016	12:40:00			D
0284		5098.72	02/16/2016	12:17:00	30.15	5068.57	
0285		5096.47	02/16/2016	12:36:00			D
0286		5063.99	02/16/2016	08:40:57	52.02	5011.97	
0287		5065.65	02/15/2016	16:05:11	50.46	5015.19	
0288		5072.54	02/16/2016	08:50:42	55	5017.54	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/14/2016

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
0289		5070.82	02/16/2016	09:05:54	54.16	5016.66	
0290		5068.91	02/15/2016	17:10:37	80.35	4988.56	
0683		5070.64	02/15/2016	15:56:00	92.2	4978.44	
0684		5070.05	02/15/2016	15:48:00	67.82	5002.23	
0685		5072.44	02/16/2016	12:39:00	49.52	5022.92	
0686		5107.97	02/16/2016	12:20:00			D
0687		5109.82	02/16/2016	15:05:00	62.1	5047.72	
0688		5106.98	02/16/2016	15:10:00	66.86	5040.12	
0689		4981.63	02/16/2016	16:11:00	38.35	4943.28	
0690		4950.87	02/16/2016	16:06:00	24.4	4926.47	
0691		4979.41	02/16/2016	15:30:09	40.18	4939.23	
0692		4953.31	02/16/2016	16:04:00	25.33	4927.98	
0695		4976.83	02/16/2016	14:40:00	49.95	4926.88	
0901	U	5105.46	02/16/2016	12:05:00	47.49	5057.97	
0902	N	4737.42	02/16/2016	16:36:00	29.84	4707.58	
0903	D	4983.33	02/16/2016	16:22:00	30.82	4952.51	
0904	N	4904.11	02/16/2016	16:28:00	23.29	4880.82	
0906	O	5062.1	02/16/2016	10:25:04	47.04	5015.06	
0908	D	5058.14	02/16/2016	12:00:42	56.32	5001.82	
0909	D	5057.17	02/16/2016	11:48:00			B
0910	U	5106.7	02/16/2016	12:07:00	50.82	5055.88	
0911	U	5106.96	02/16/2016	12:00:00	47.07	5059.89	
0912	D	5059.97	02/16/2016	17:39:00	57.31	5002.66	
0913	D	5060.16	02/16/2016	17:40:00	66.53	4993.63	
0914	D	5070.1	02/15/2016	17:40:00	109.88	4960.22	
0915	D	5070.84	02/15/2016	17:29:00	105.25	4965.59	
0916	D	5070	02/15/2016	17:36:00	118.05	4951.95	
0917	D	5048.02	02/16/2016	16:48:00	69.53	4978.49	
0918	D	5049.63	02/16/2016	16:50:00			D

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/14/2016

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
0919	D	5048.56	02/16/2016	16:45:00	146.27	4902.29	
0920	D	4982.97	02/16/2016	16:26:00	35.08	4947.89	
0921	D	4979.08	02/16/2016	16:24:00	38.81	4940.27	
0929	D	5060.82	02/16/2016	11:05:45	60.09	5000.73	
0930	D	4954.96	02/16/2016	14:45:38	20.65	4934.31	
0932	D	5057.32	02/16/2016	12:20:43	98.4	4958.92	
0934	D	5059.73	02/16/2016	11:30:53	74.12	4985.61	
0940	D	5064.77	02/16/2016	09:25:15	51.16	5013.61	
0941	D	5065.97	02/15/2016	16:35:04	49.95	5016.02	
0943	U	5098.05	02/16/2016	12:28:00	57.33	5040.72	
0945	U	5140.49	02/16/2016	15:00:00	94.32	5046.17	
0946	C	5100.5	02/16/2016	12:15:00	58.38	5042.12	
0947	U	5097.01	02/15/2016	15:38:00	67.49	5029.52	
0948	U	5117.8	02/15/2016	15:35:00	101.44	5016.36	
0968	U	5107	02/16/2016	12:10:00	51.8	5055.2	
0970	U	5109.53	02/16/2016	17:30:00	50.49	5059.04	
0971	U	5104	02/16/2016	17:35:00	27.26	5076.74	
1003		4976.58	02/16/2016	15:50:35	37.87	4938.71	
1004		4961.55	02/16/2016	15:05:27	23.9	4937.65	
1005		4947.83	02/16/2016	16:10:00	22.01	4925.82	
1006		4947.08	02/16/2016	14:25:19	16.26	4930.82	
1007		4958.56	02/16/2016	14:05:26	21.22	4937.34	
1008		4980.52	02/16/2016	16:15:00	36.58	4943.94	
NMW-1A		5150.95	02/16/2016	14:43:34	114.38	5036.57	
NMW-2A		5121.69	02/16/2016	11:25:58	70.06	5051.63	
NMW-3A		5168.51	02/16/2016	11:00:50	112.76	5055.75	
NMW-4A		5137.44	02/16/2016	11:55:07	80.2	5057.24	
NMW-6S		5145.93	02/16/2016	14:25:08	107.32	5038.61	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 4/14/2016

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-7D		5147.13	02/16/2016	13:30:46	116.84	5030.29	
NMW-8S		5114.87	02/16/2016	15:30:44	88.58	5026.29	
NMW-9D		5115.92	02/16/2016	16:00:11	90	5025.92	

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWNGRADIENT F OFFSITE
N UNKNOWN O ONSITE U UPGRADIENT

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

Time-Concentration Graphs

Primary Contaminants in Monitoring Wells

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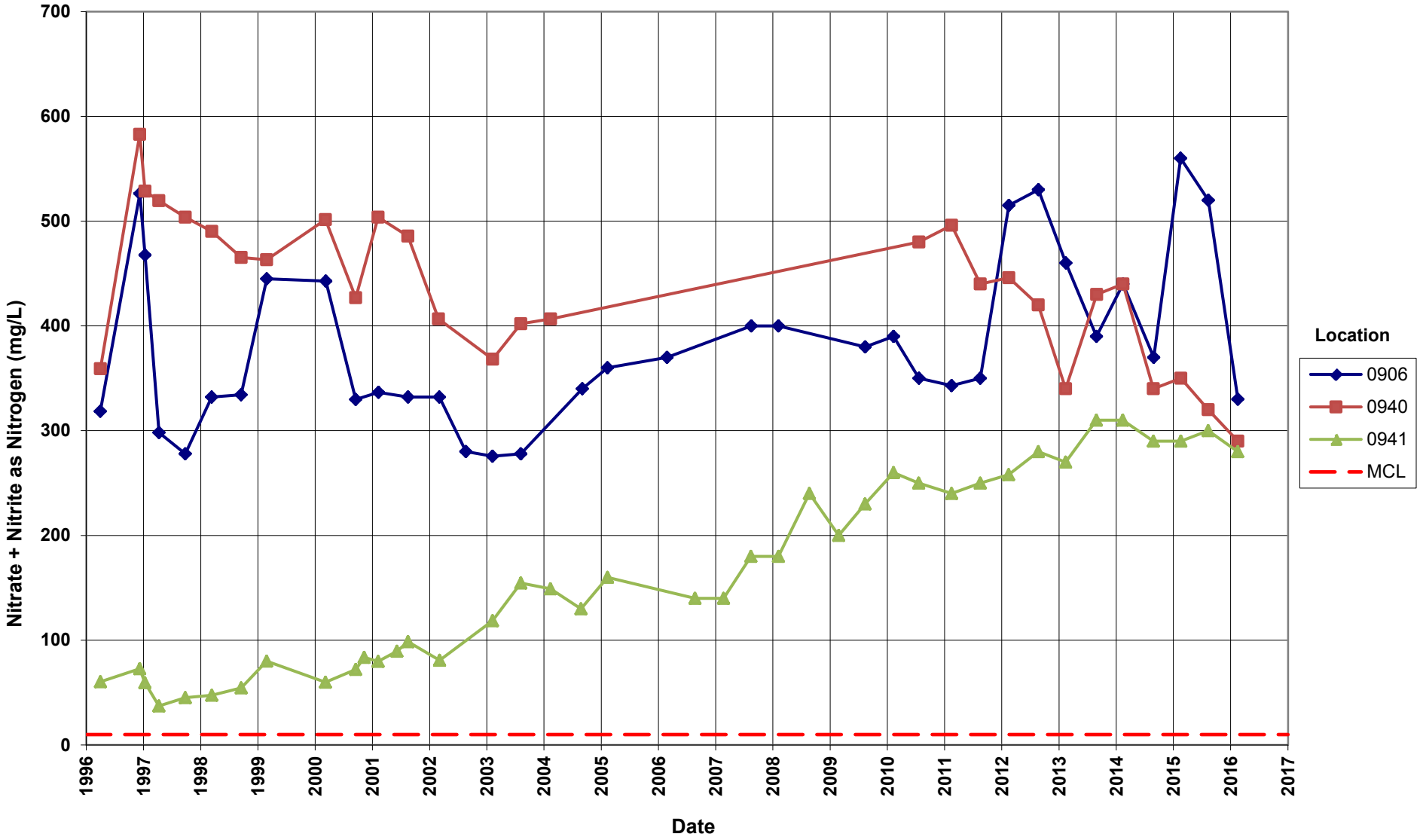
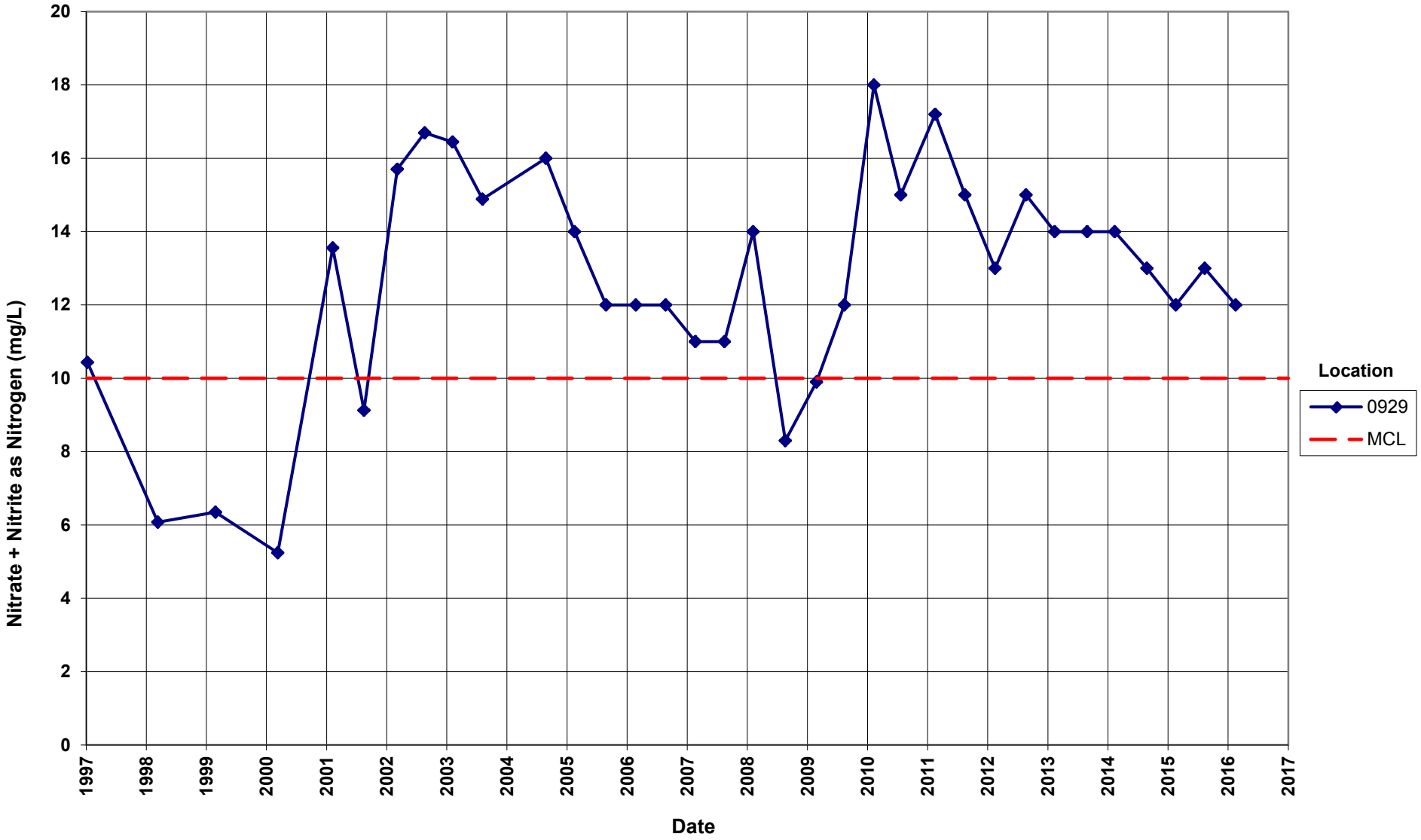
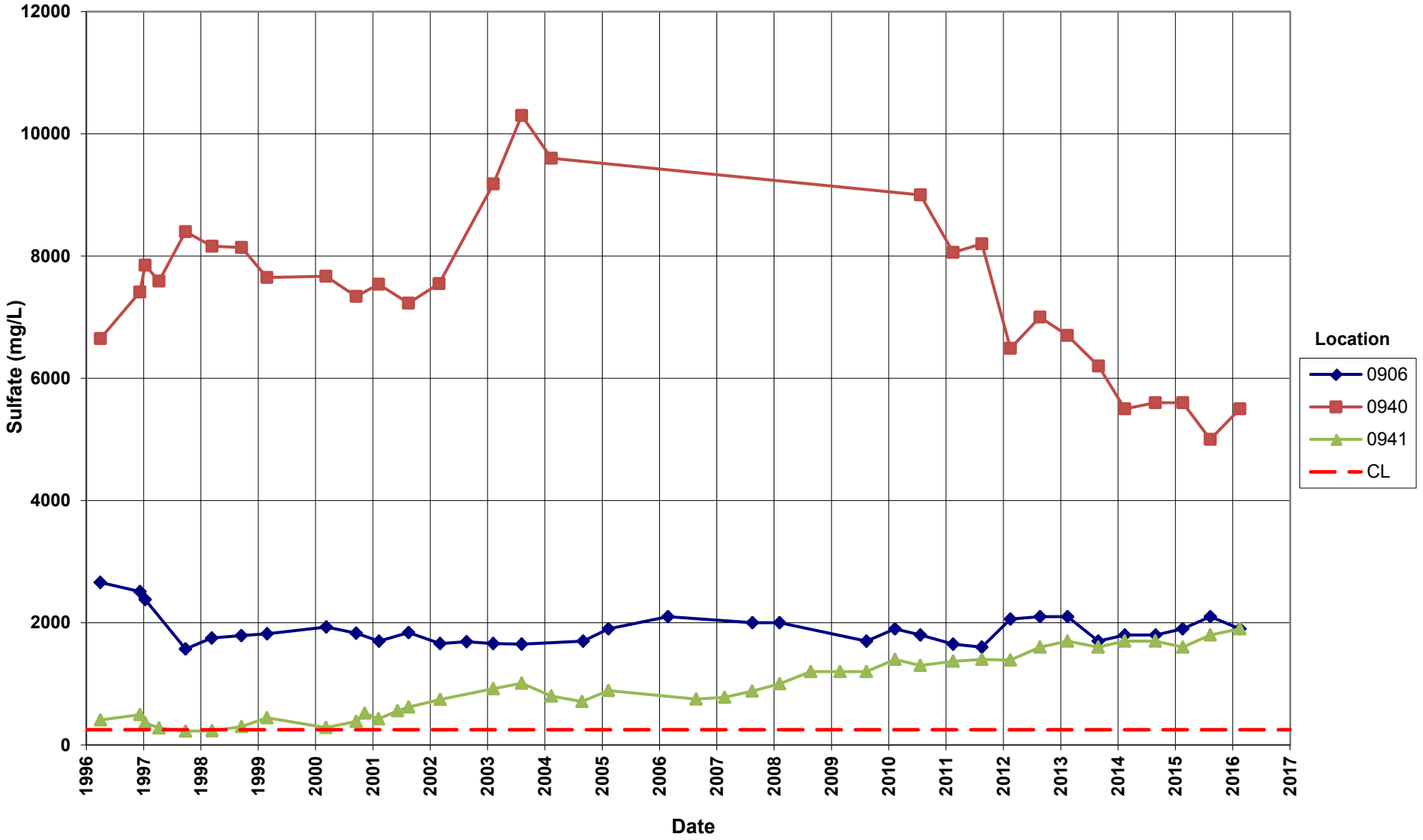
Tuba City Disposal Site
Horizon A Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



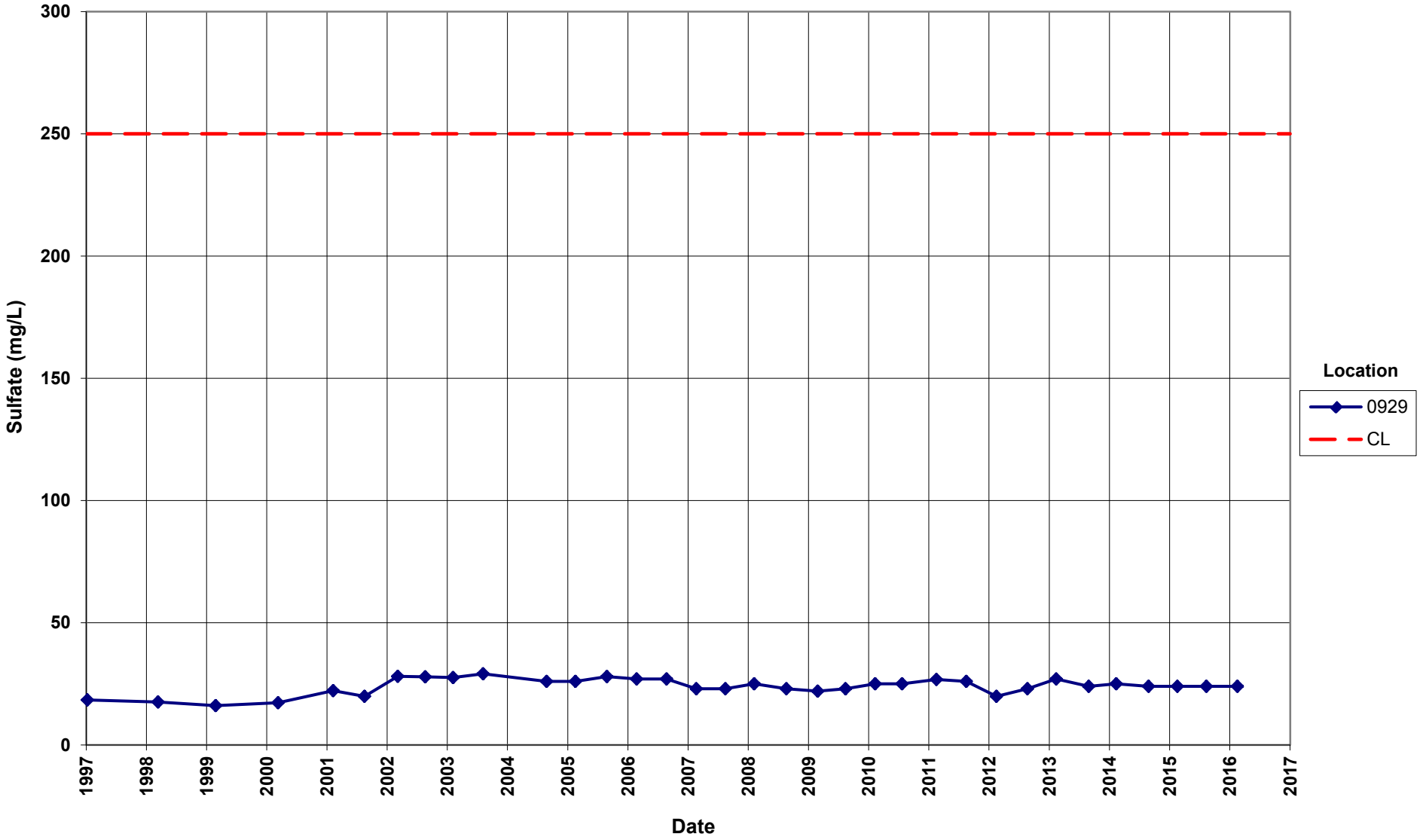
Tuba City Disposal Site
Horizon A Monitoring Wells - Sentinel Well
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



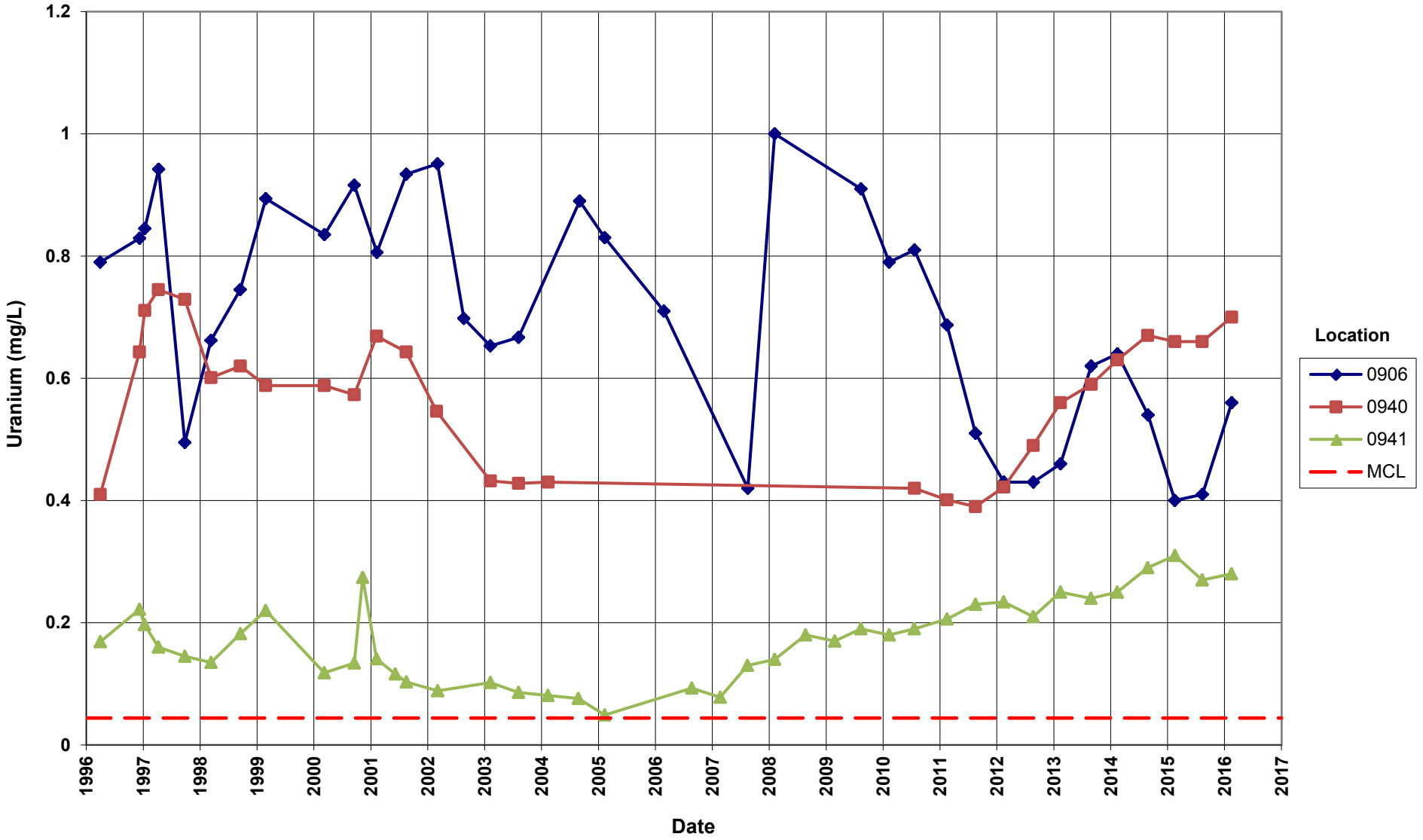
Tuba City Disposal Site
Horizon A Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



Tuba City Disposal Site
Horizon A Monitoring Wells - Sentinel Well
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L

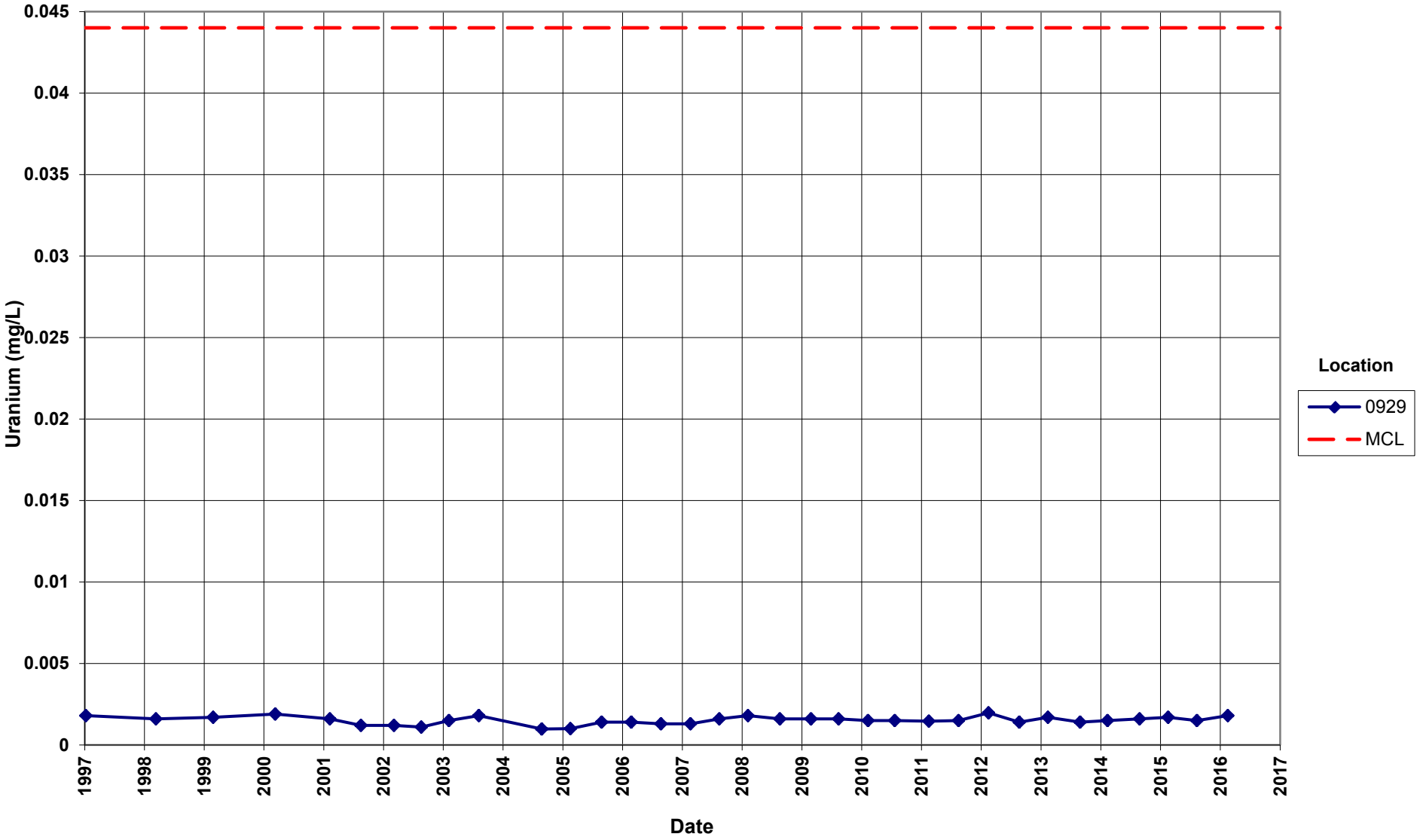


Tuba City Disposal Site
Horizon A Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L

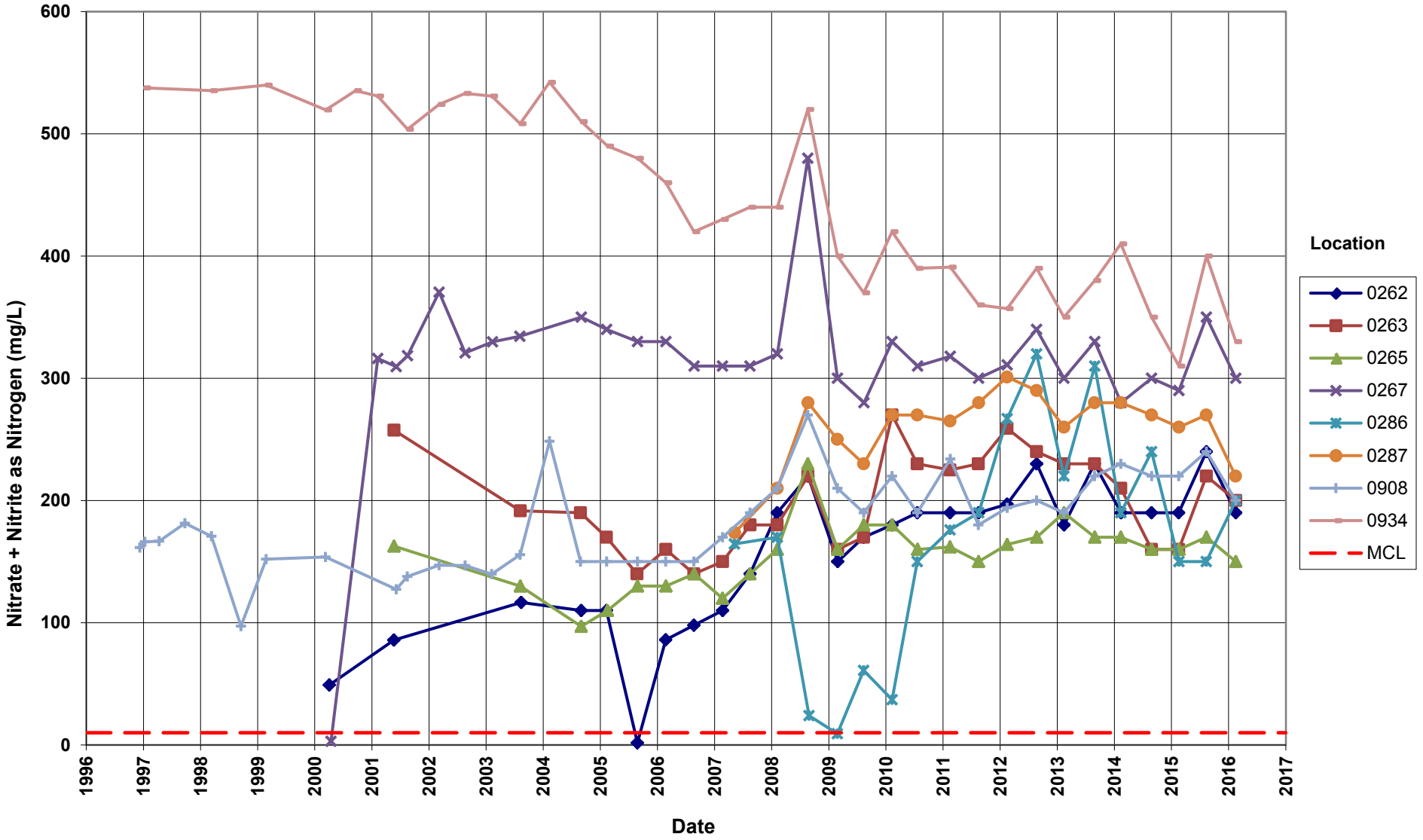


Tuba City Disposal Site
Horizon A Monitoring Wells
Uranium Concentration

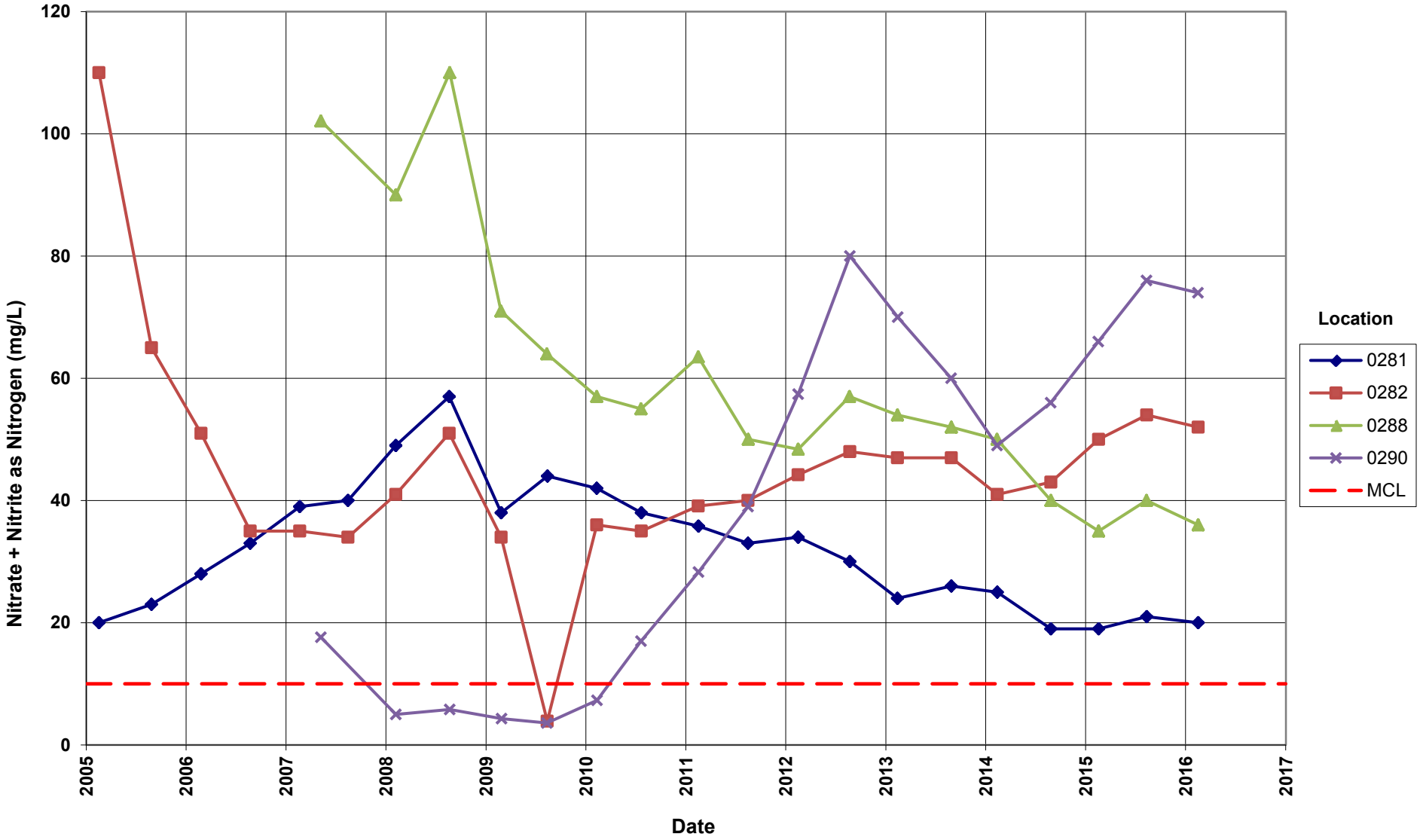
Maximum Concentration Limit (MCL) = 0.044 mg/L



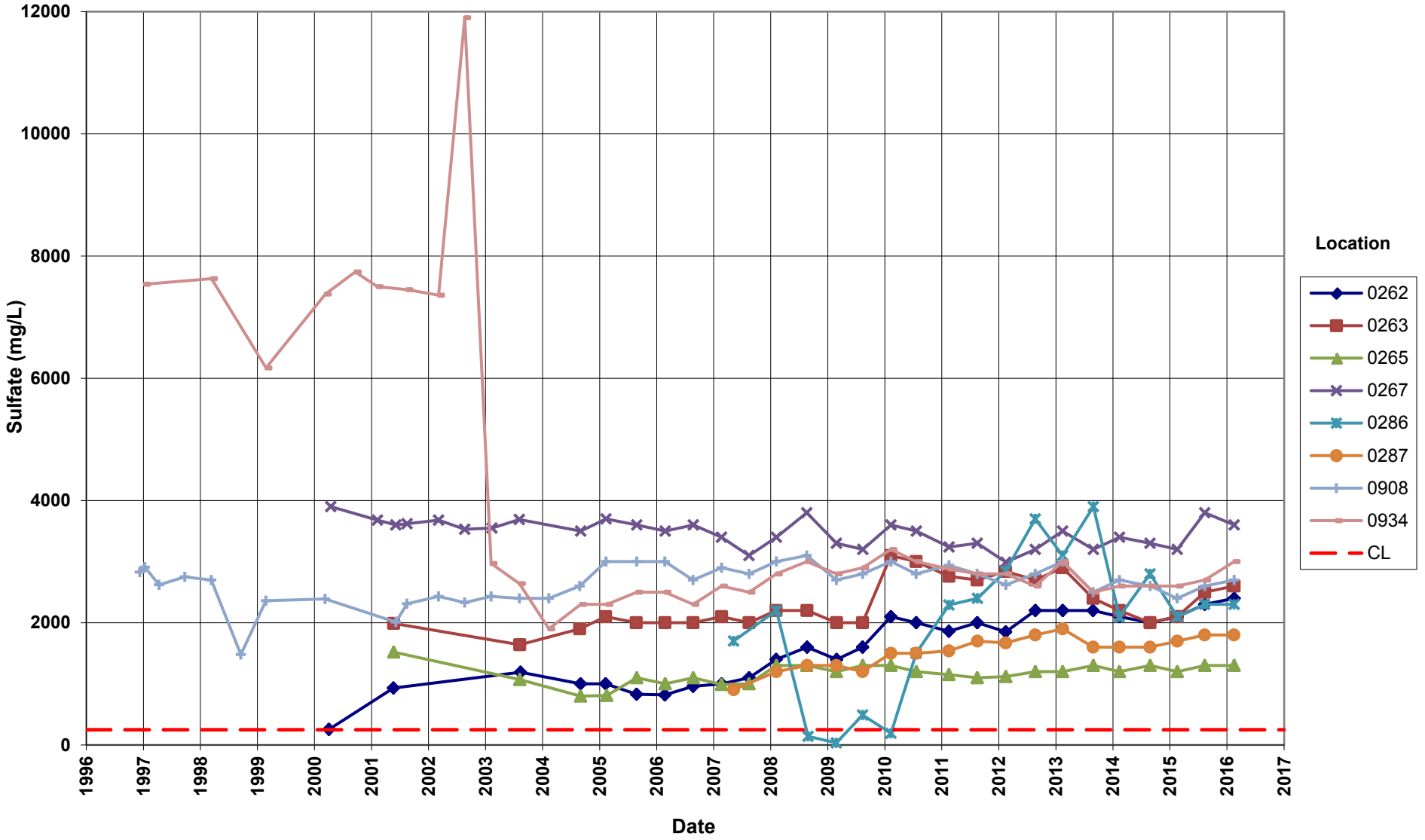
Tuba City Disposal Site
Horizon B Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



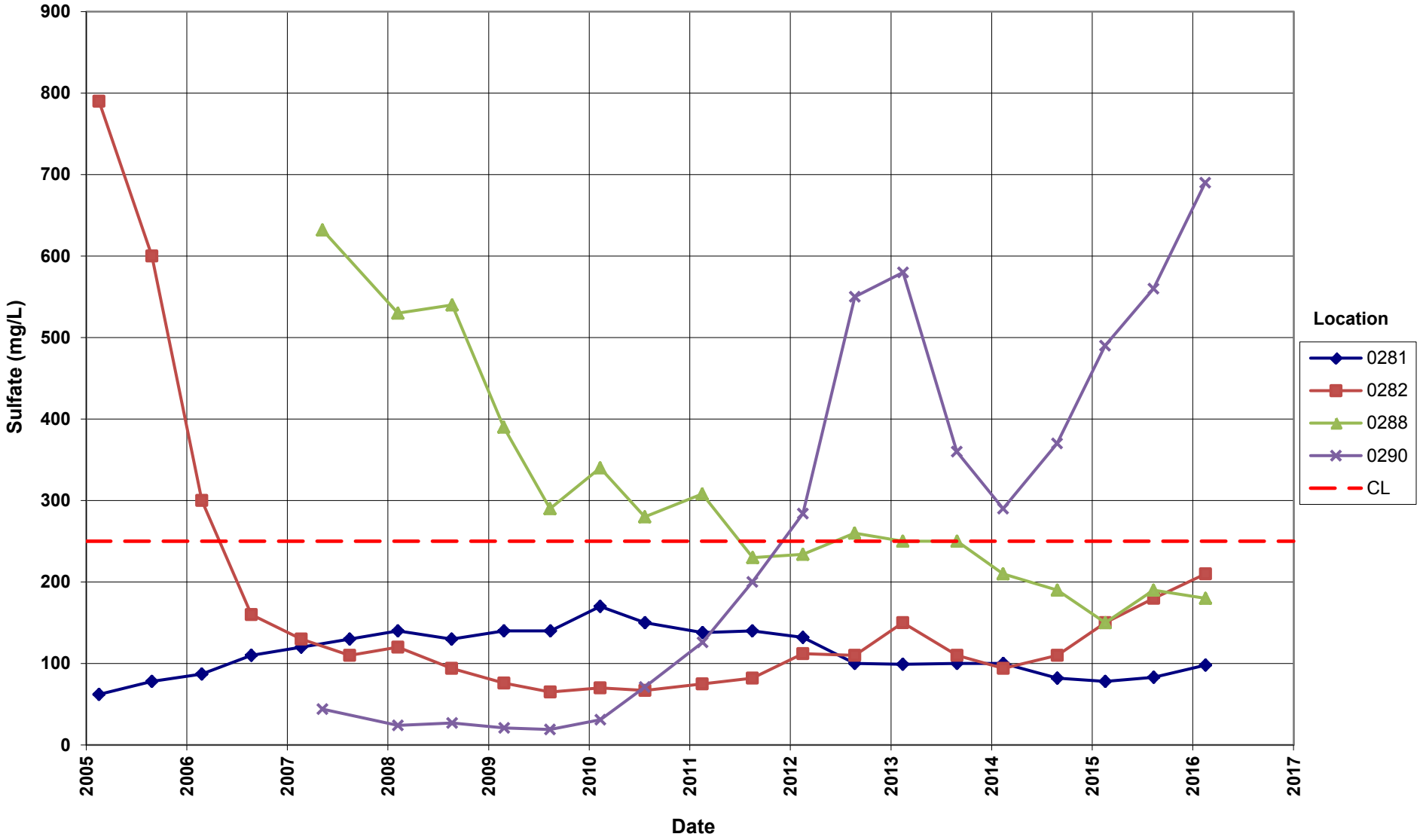
Tuba City Disposal Site
Horizon B Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



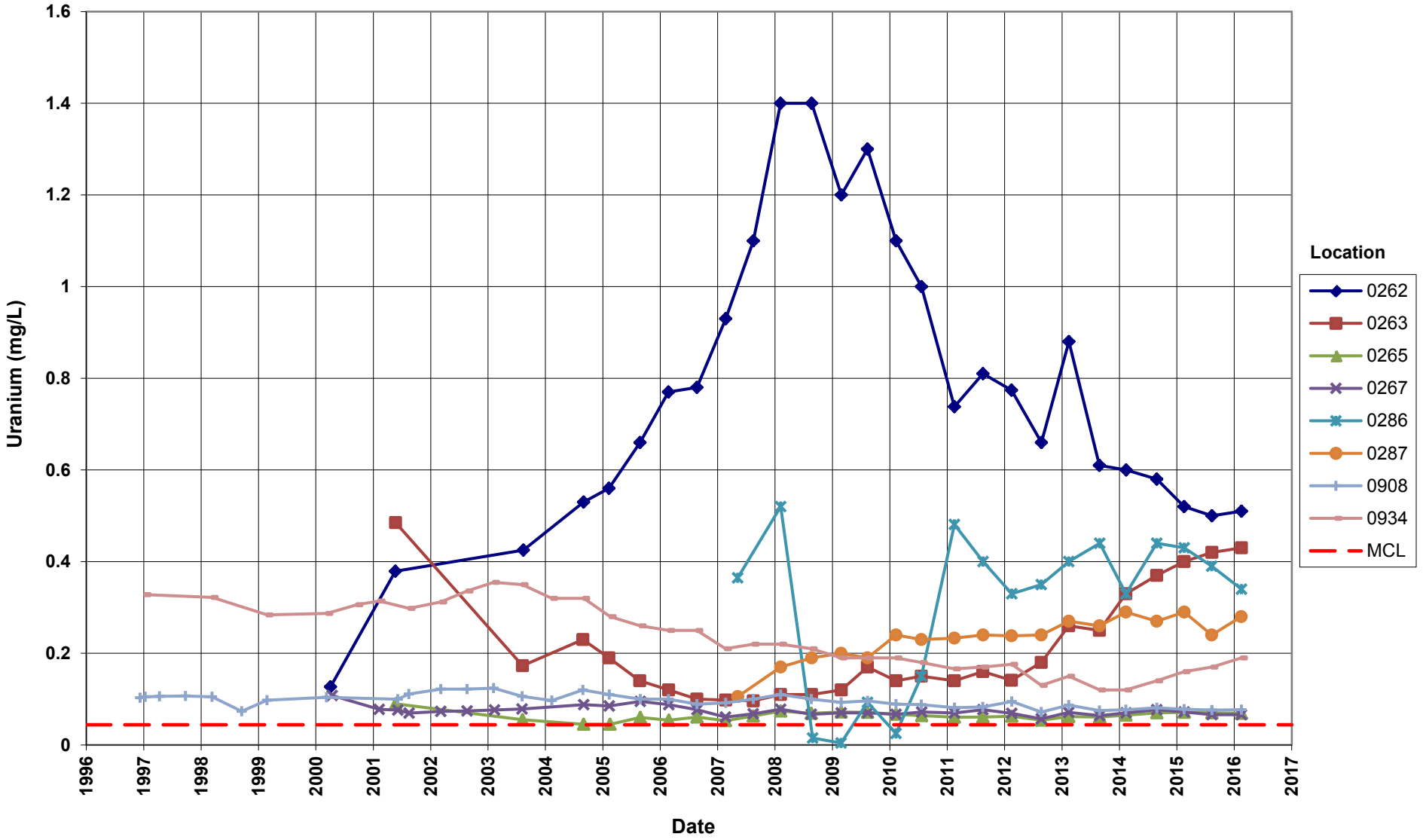
Tuba City Disposal Site
Horizon B Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



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

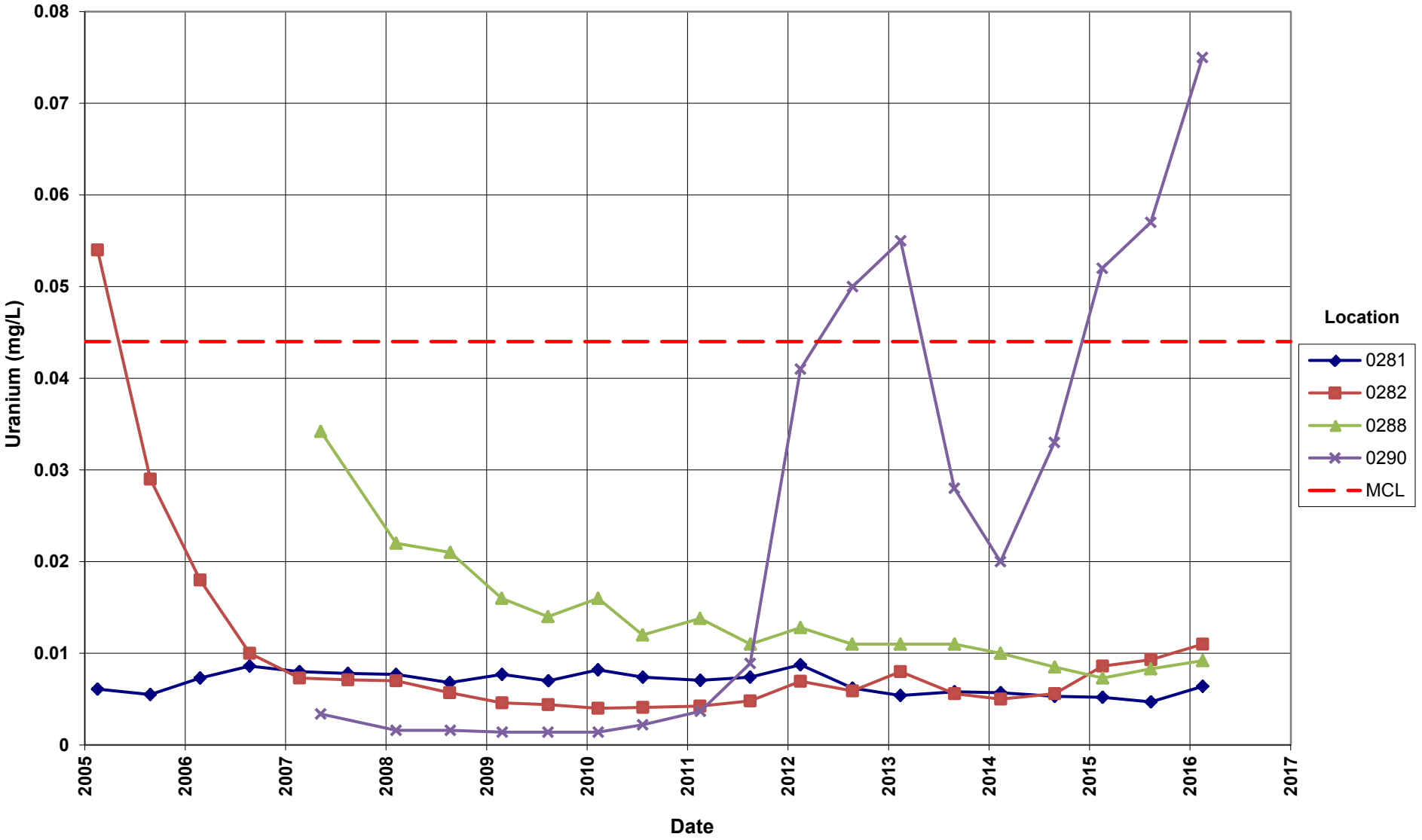


Tuba City Disposal Site
Horizon B Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L

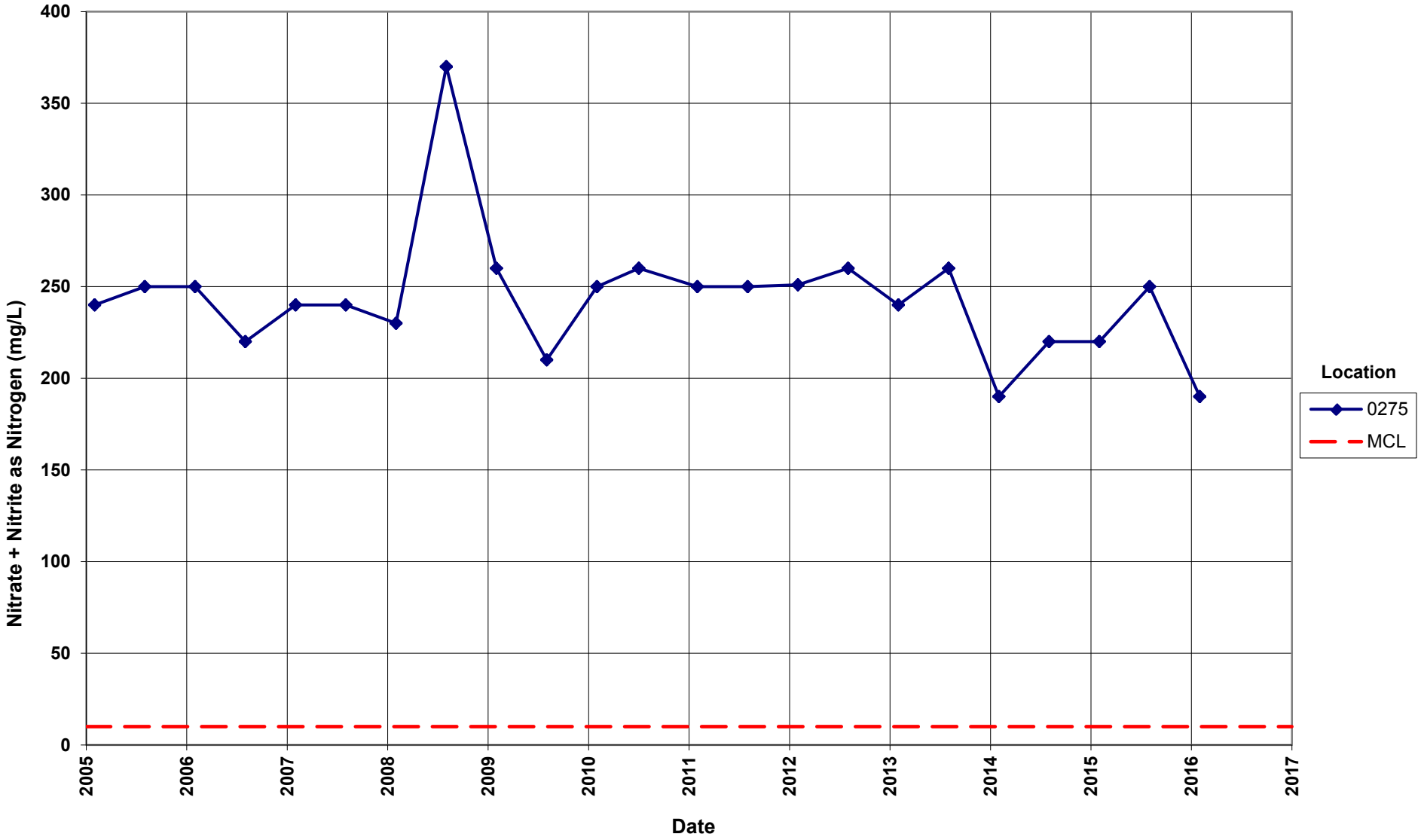


Tuba City Disposal Site
Horizon B Monitoring Wells
Uranium Concentration

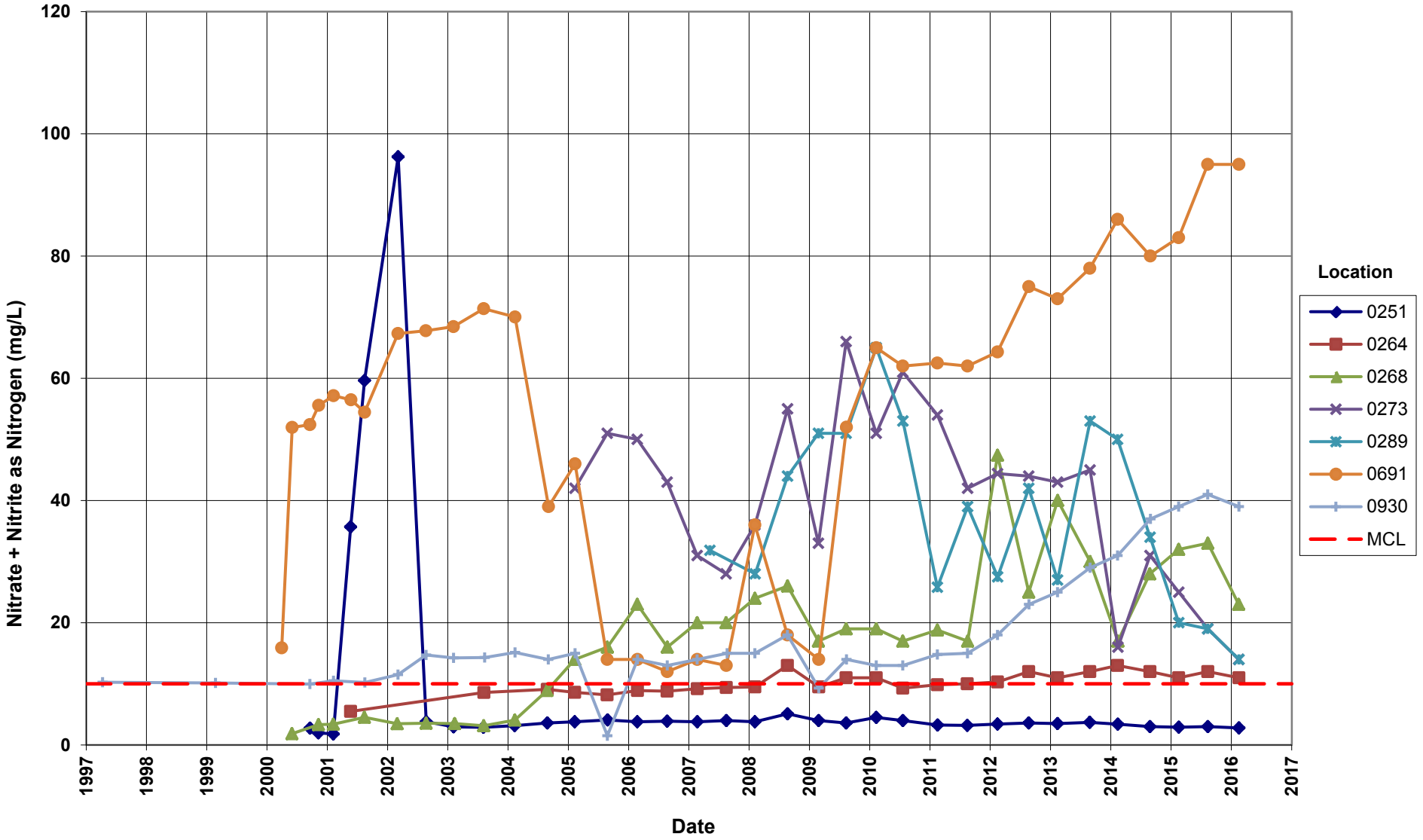
Maximum Concentration Limit (MCL) = 0.044 mg/L



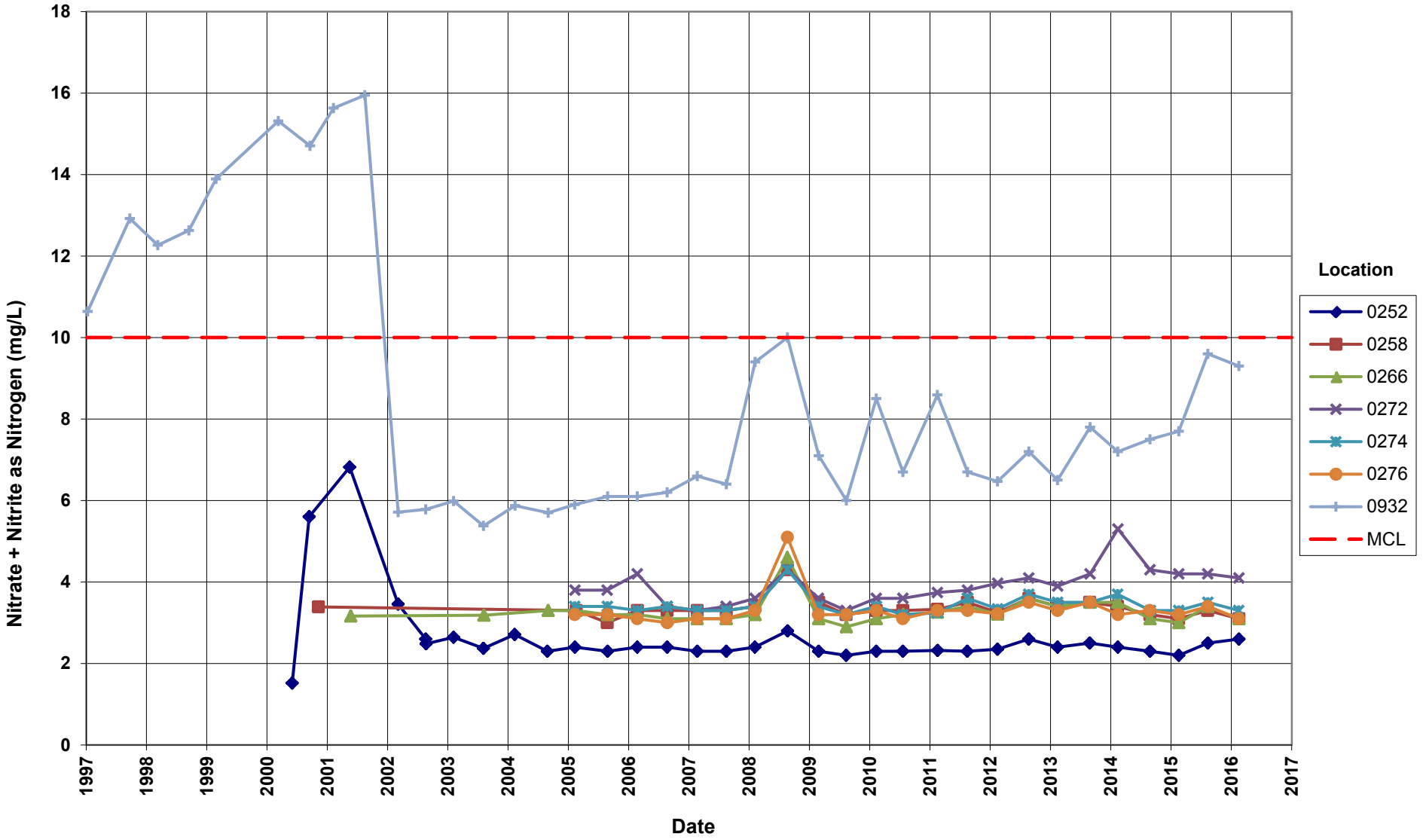
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



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

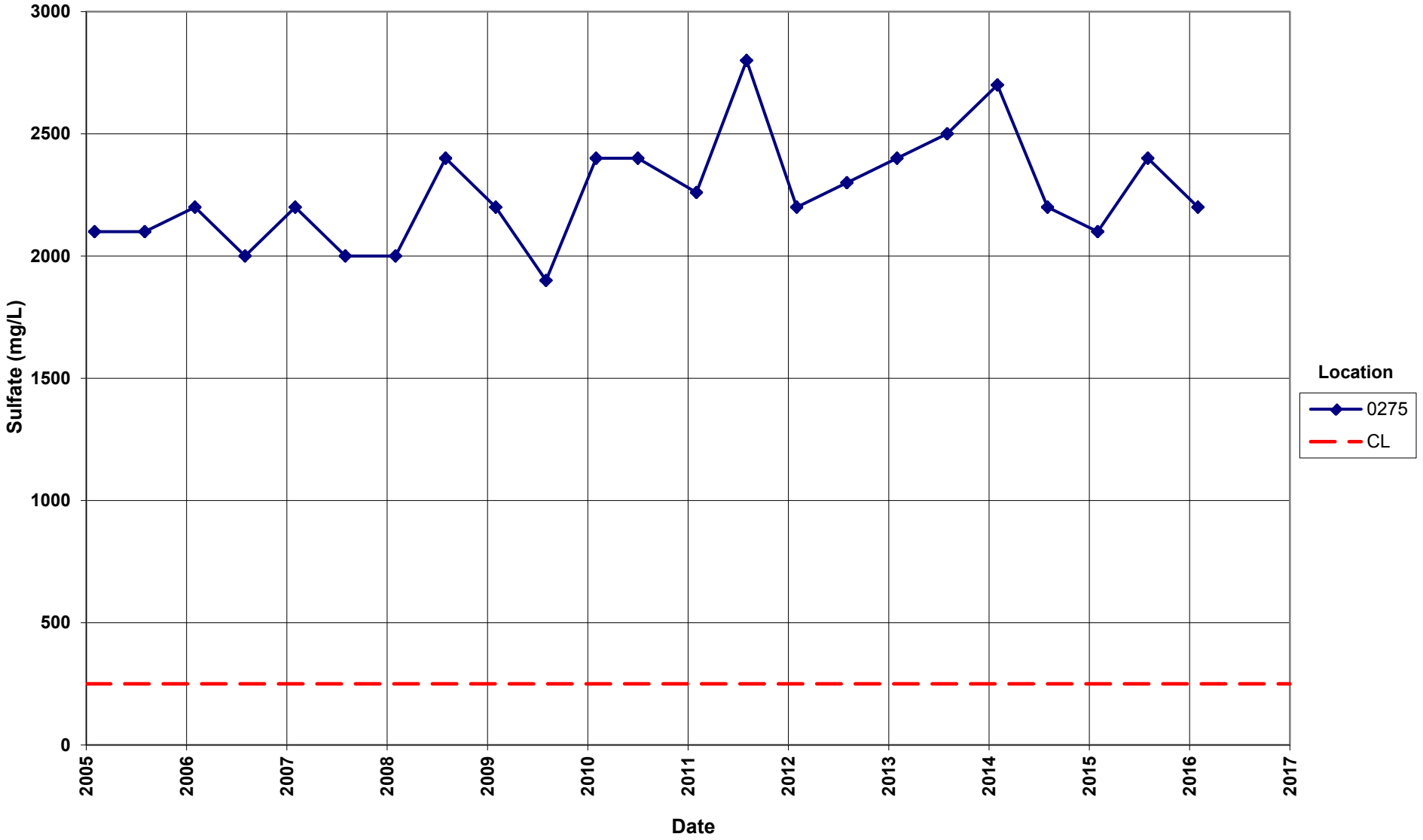


Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



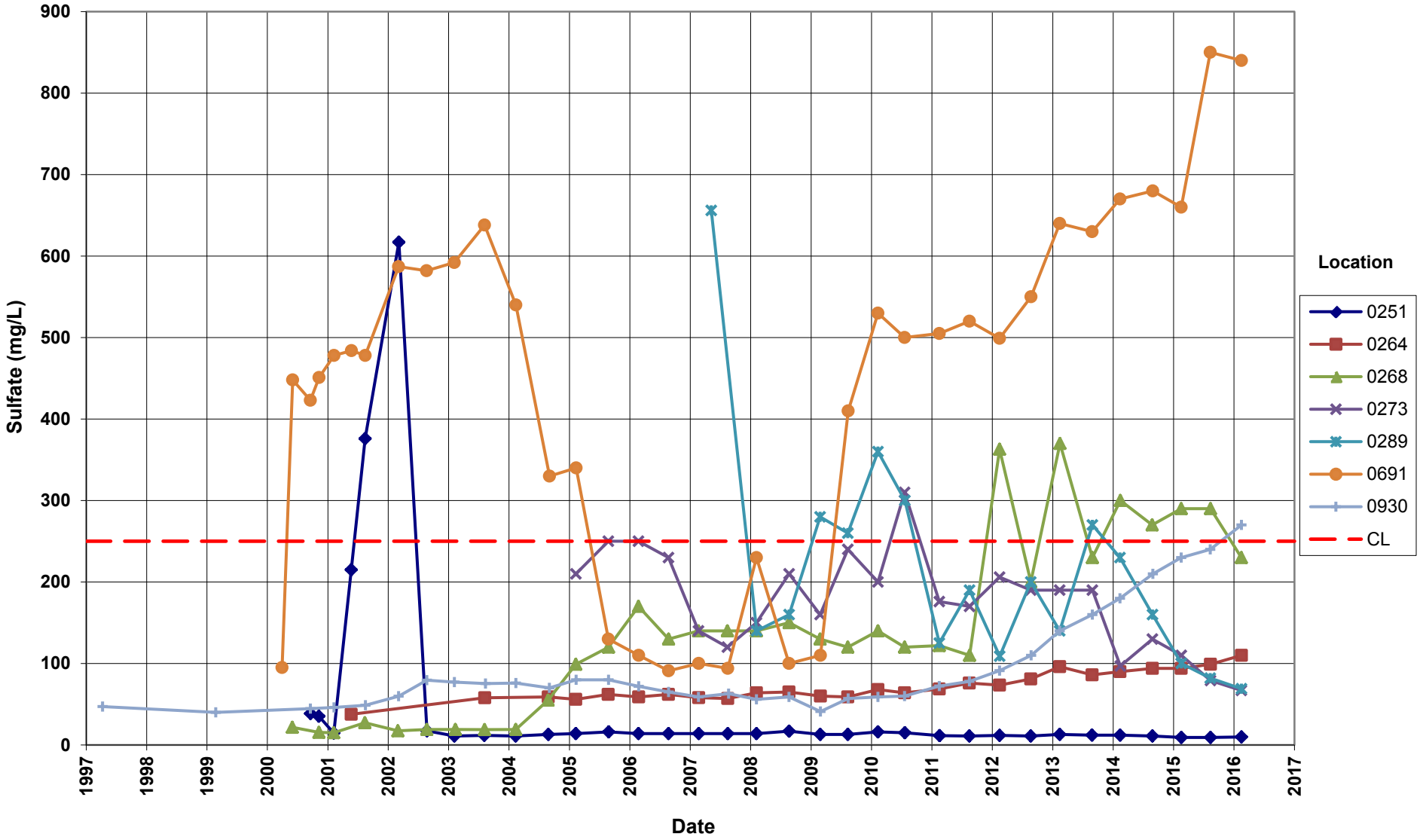
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Sulfate Concentration

Cleanup Level (CL) = 250 mg/L

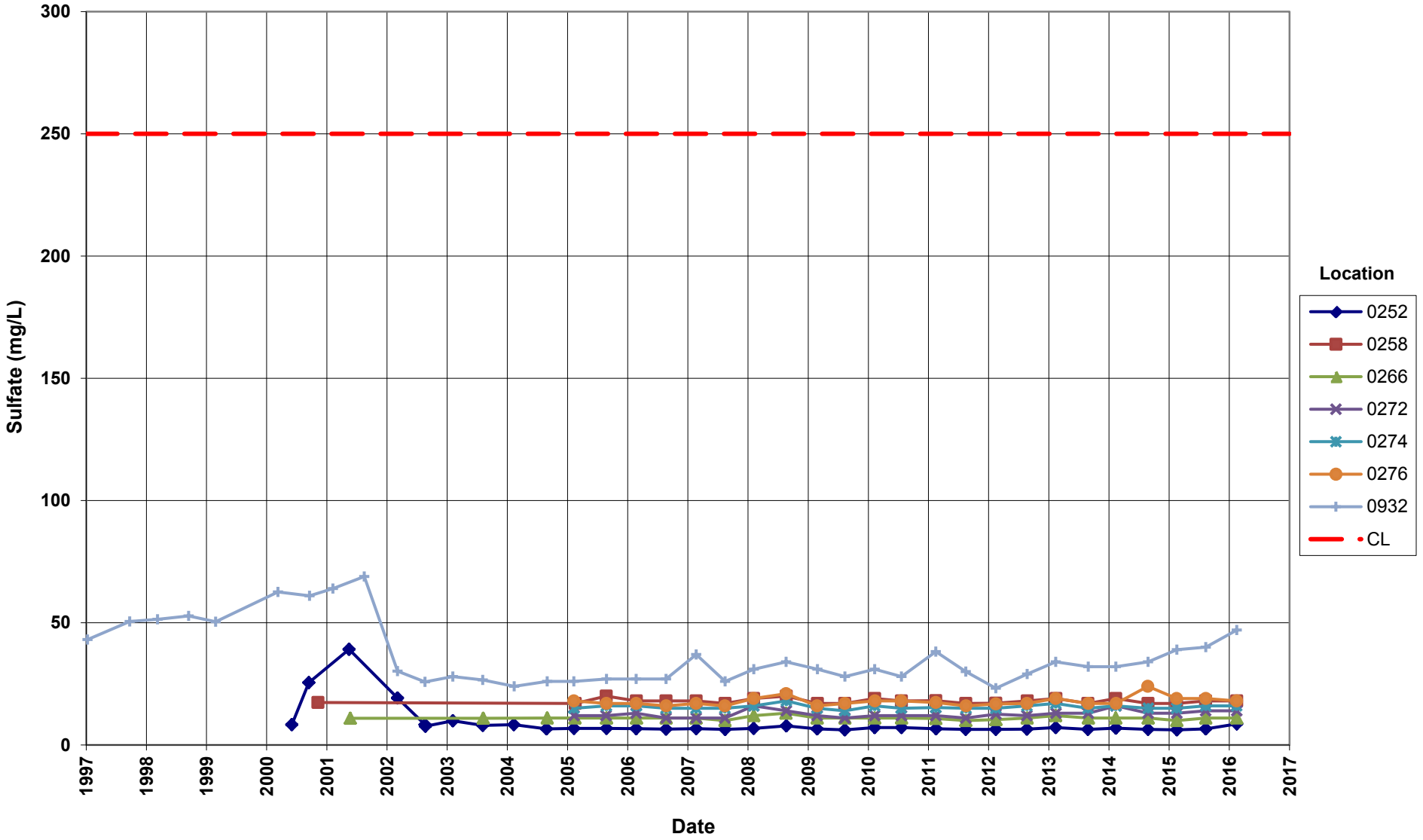


Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Sulfate Concentration

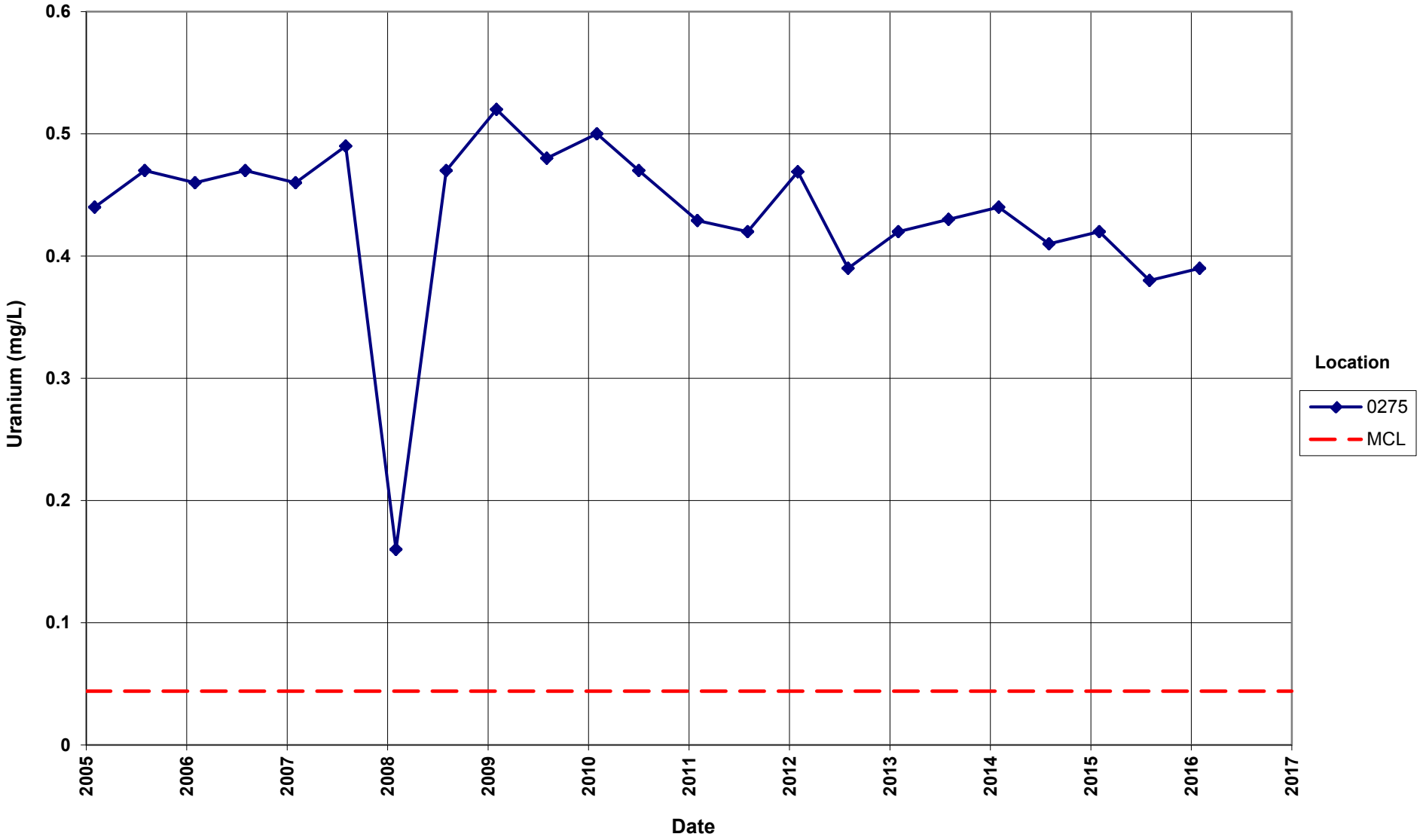
Cleanup Level (CL) = 250 mg/L



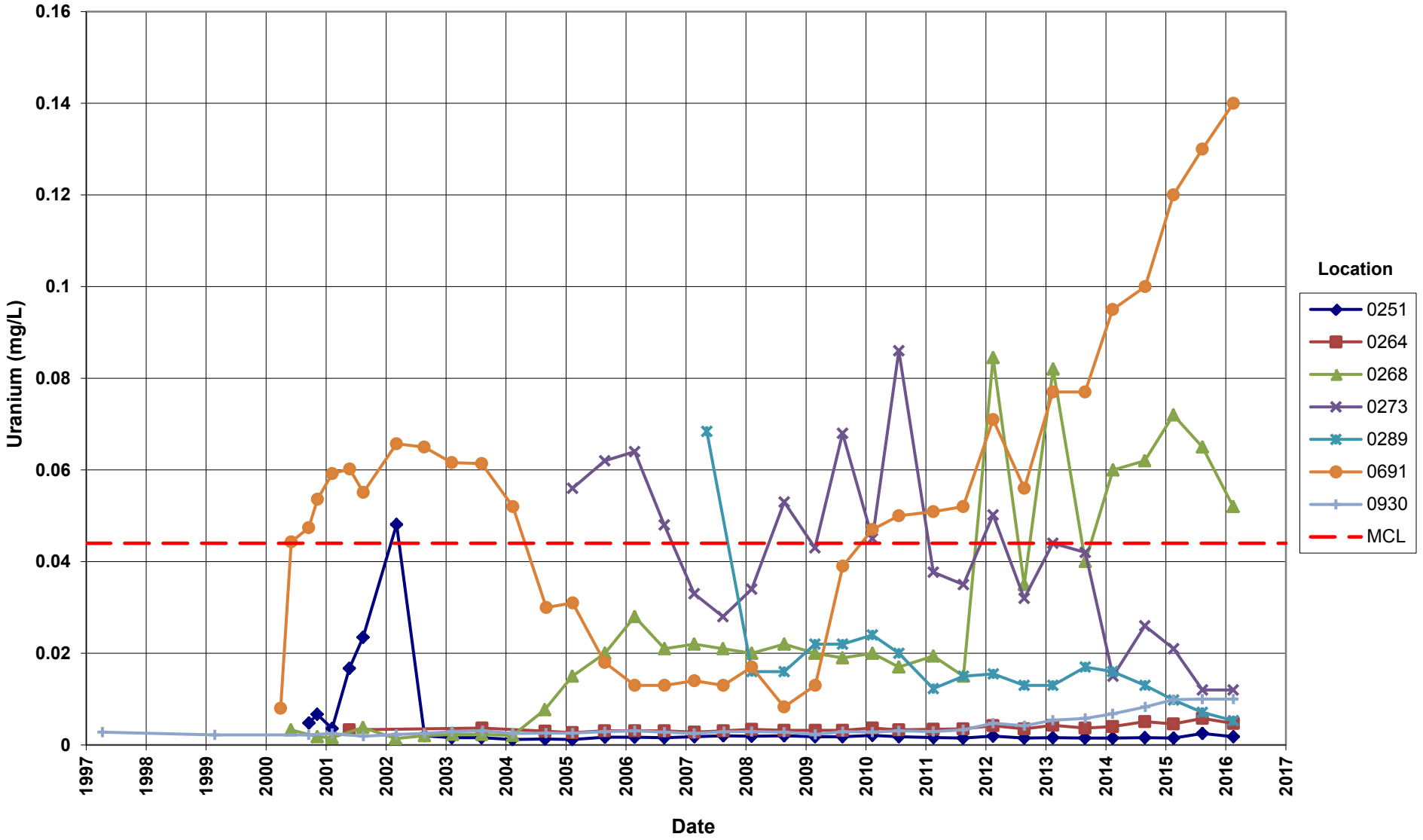
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



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

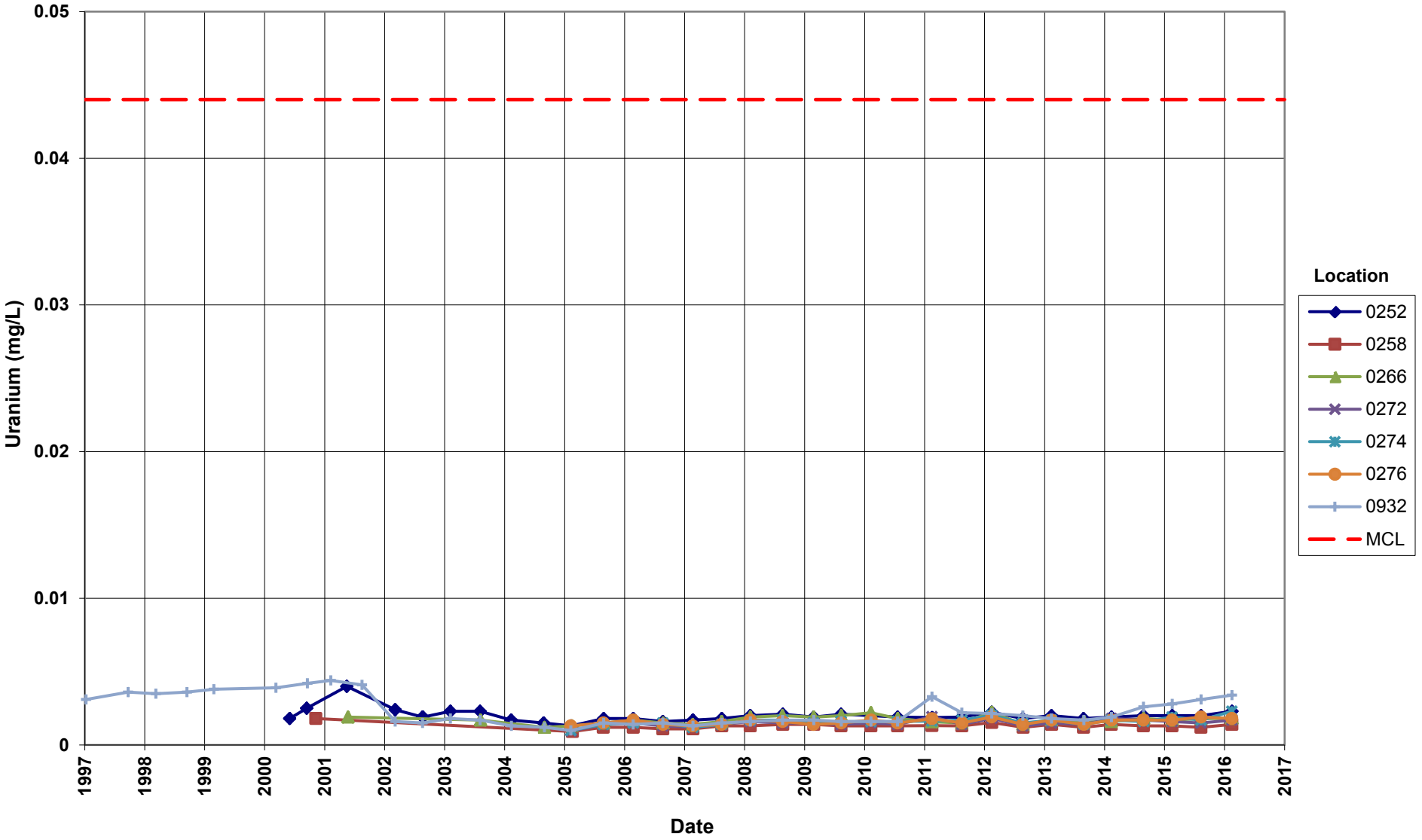


Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L

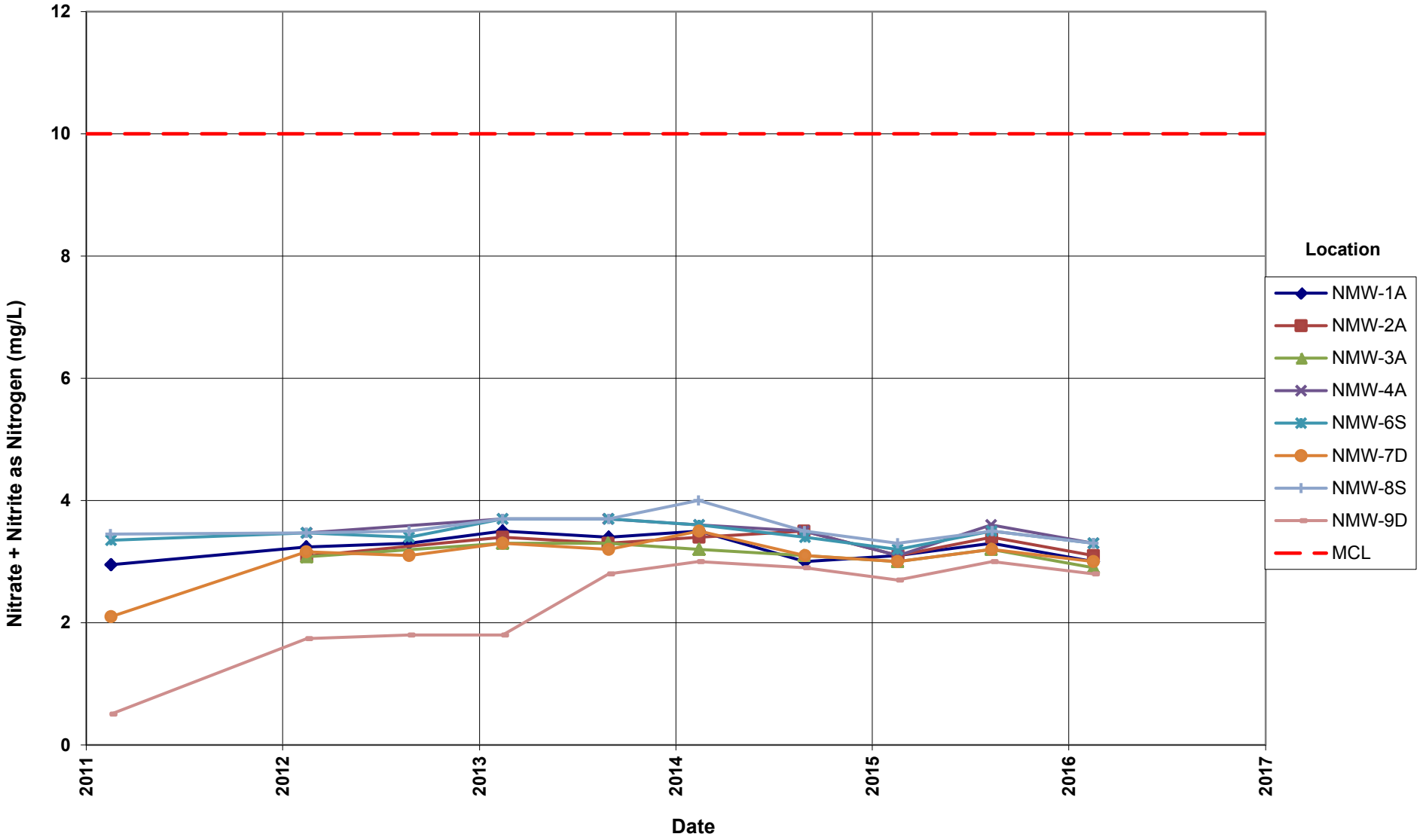


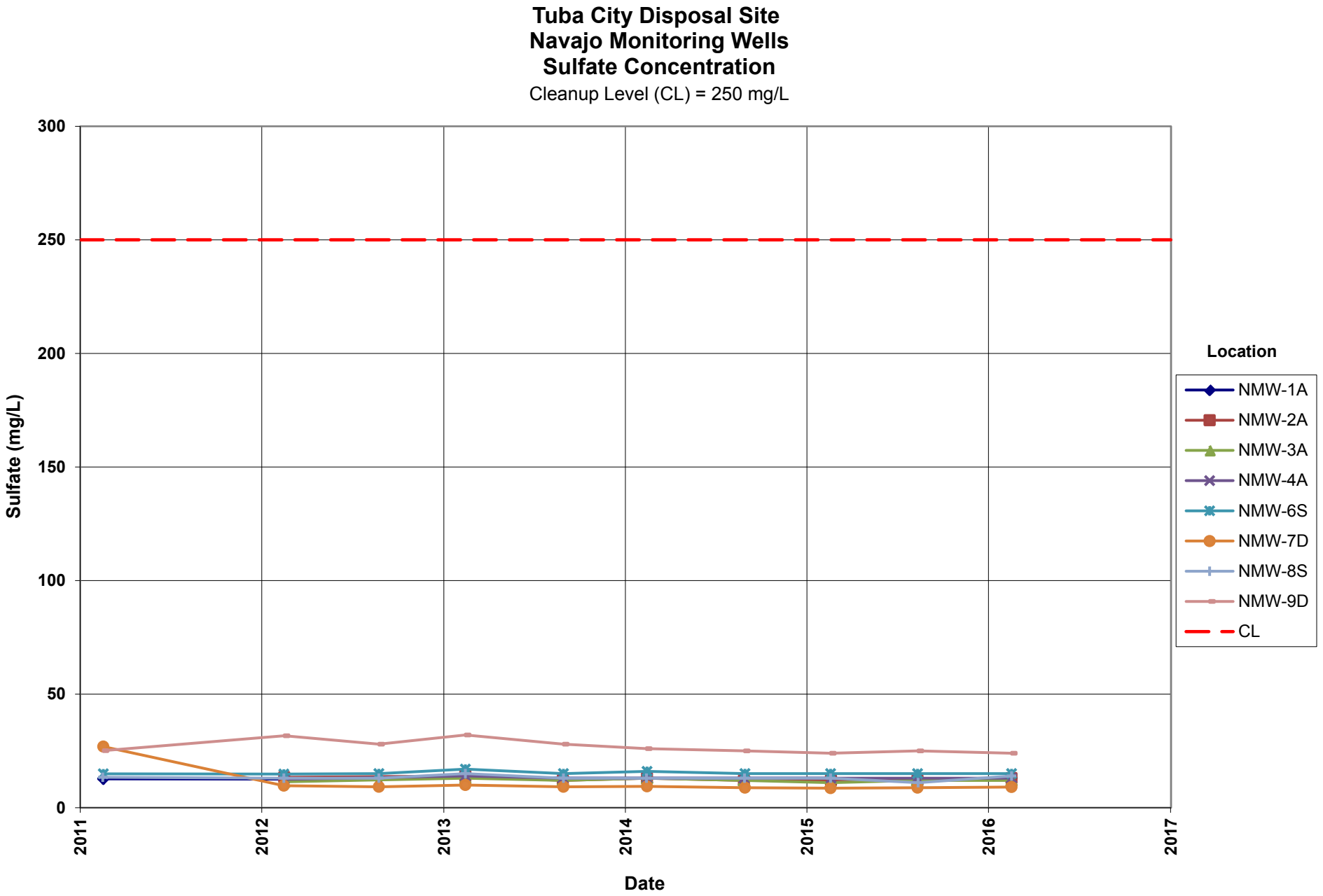
Tuba City Disposal Site
Horizons C, D, E, & I Monitoring Wells
Uranium Concentration

Maximum Concentration Limit (MCL) = 0.044 mg/L

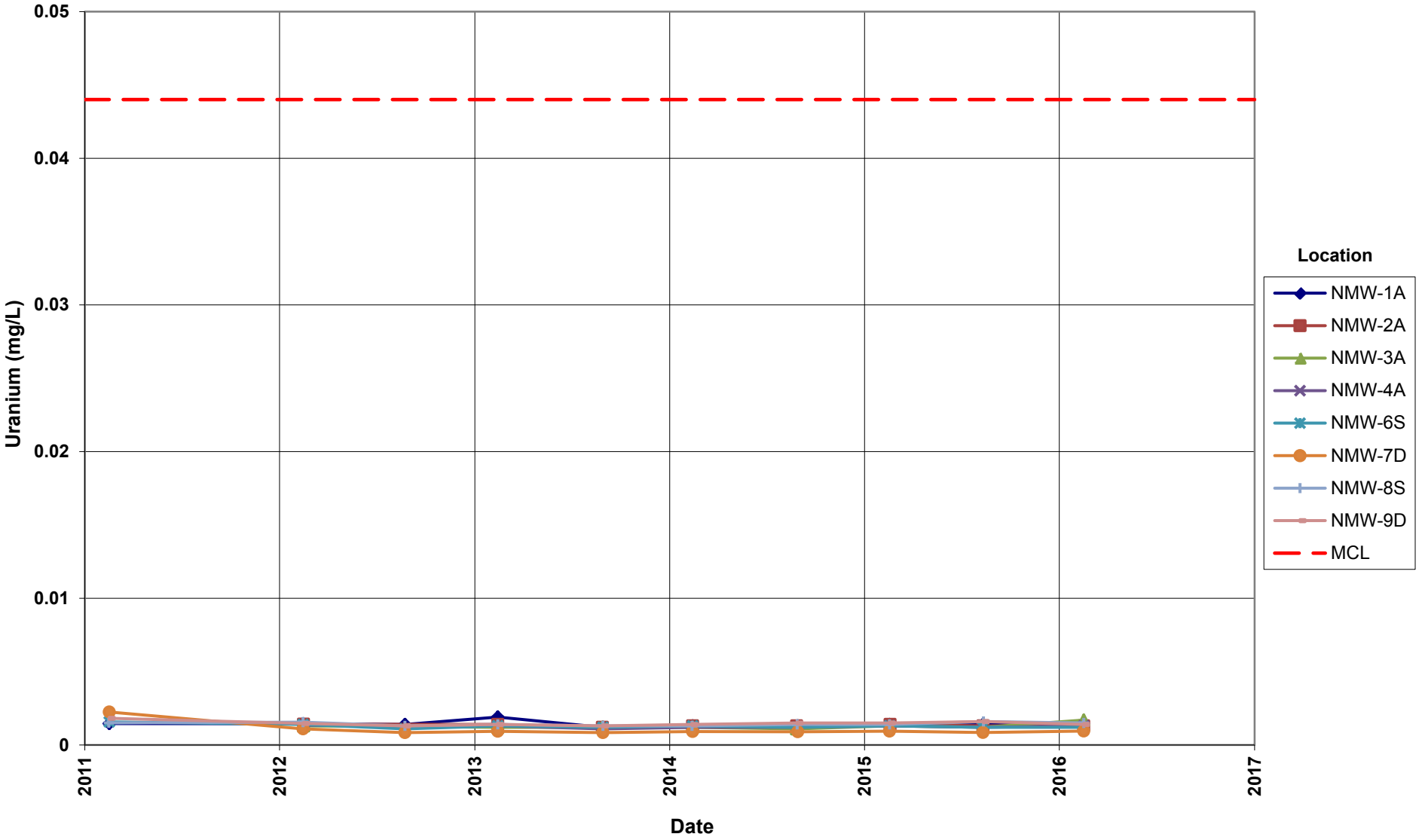


Tuba City Disposal Site
Navajo Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



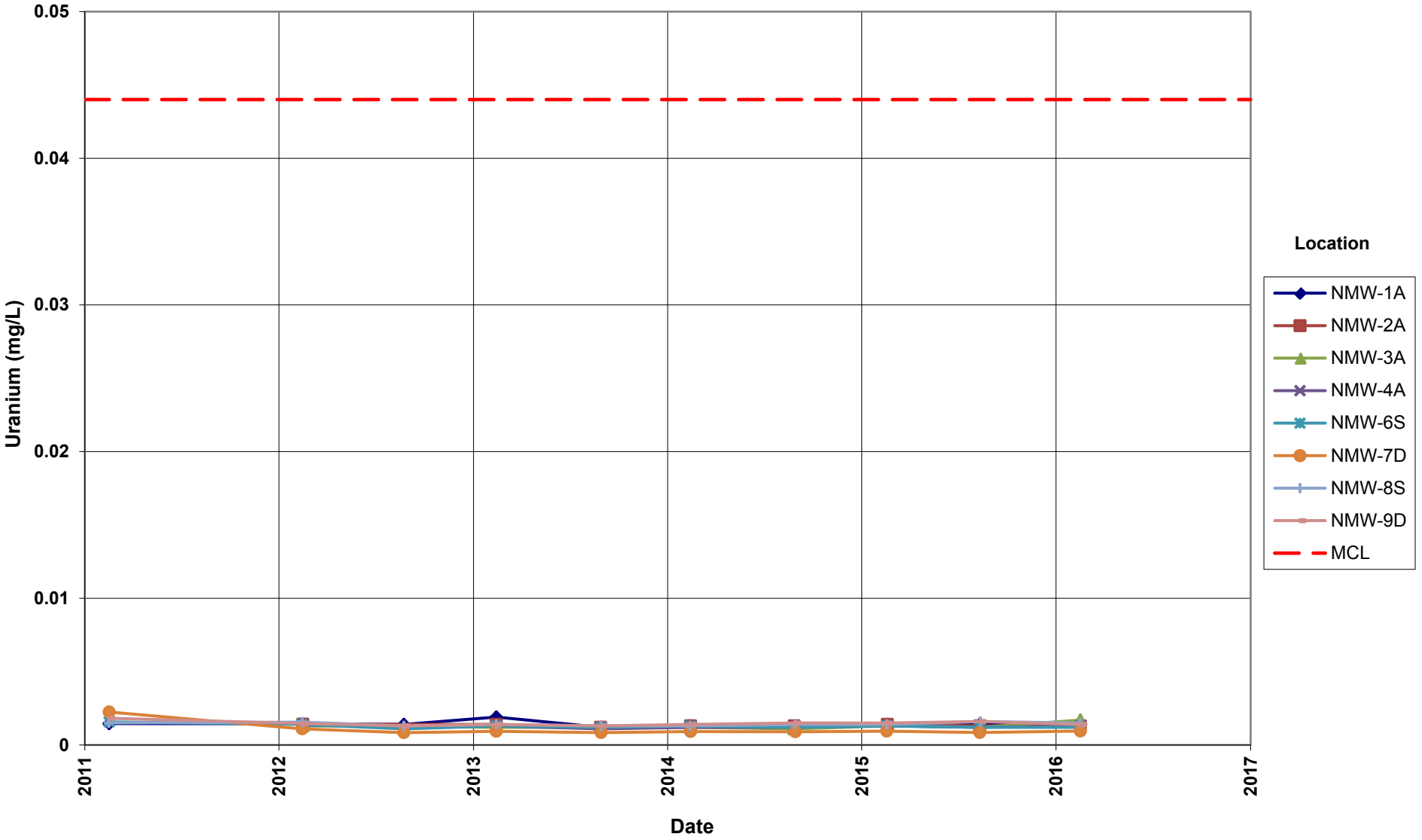

Tuba City Disposal Site
Navajo Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L
Sulfate (mg/L)
300
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
Date
Location
NMW-1A
NMW-2A
NMW-3A
NMW-4A
NMW-6S
NMW-7D
NMW-8S
NMW-9D
CL

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



Tuba City Disposal Site
Navajo Monitoring Wells
Uranium Concentration

Maximum Concentration Limit (MCL) = 0.044 mg/L



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Attachment 3

Sampling and Analysis Work Order

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January 15, 2016

Task Assignment 103
Control Number 16-0259

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-LM0000421, Navarro Research & Engineering, Inc. (Navarro)
Task Assignment 103 LTS&M-UMTRCA TI & TII Sites, D&D Sites, Other Sites, and Other
February 2016 Environmental Sampling at the Tuba City, Arizona, Disposal Site

REFERENCE: Task Assignment 103, 1-103-1-02-122, Tuba City, Arizona, Disposal Site

Dear Mr. Bush:

The purpose of this letter is to inform you of the upcoming sampling event at the Tuba City, Arizona, disposal site. Enclosed are the map and tables specifying sample locations and analytes for monitoring at the Tuba City disposal site. Water quality data will be collected at this site as part of the routine environmental sampling currently scheduled to begin the week of February 15, 2016.

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

MONITORING WELLS*

251 Na	273 Na	290 Na	936 Na	1102 Na	1112 Na	1122 Na	1132 Na
252 Na	274 Na	691 Na	938 Na	1103 Na	1113 Na	1123 Na	1133 Na
258 Na	275 Na	906 Na	940 Na	1104 Na	1114 Na	1124 Na	NMW-1A Ss
262 Na	276 Na	908 Na	941 Na	1105 Na	1115 Na	1125 Na	NMW-2A Ss
263 Na	281 Na	909 Na	942 Na	1106 Na	1116 Na	1126 Na	NMW-3A Ss
264 Na	282 Na	929 Na	1003 Al	1107 Na	1117 Na	1127 Na	NMW-4A Ss
265 Na	283 Na	930 Na	1004 Al	1108 Na	1118 Na	1128 Na	NMW-6S Ss
266 Na	286 Na	932 Na	1006 Al	1109 Na	1119 Na	1129 Na	NMW-7D Ss
267 Na	287 Na	934 Na	1007 Al	1110 Na	1120 Na	1130 Na	NMW-8S Ss
268 Na	288 Na	935 Na	1101 Na	1111 Na	1121 Na	1131 Na	NMW-9D Ss
272 Na	289 Na						

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

SURFACE LOCATIONS

1569 1570

All samples will be collected as directed in the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*. Water levels will be collected from additional wells onsite as noted in the attachment.

Please contact me at (970) 248-6044 or Tim Bartlett at (970) 248-7741 if you have any questions.

Sincerely,

Jeff Carman
Site Lead

JC/lcg/bkb

Enclosures (3)

cc: (electronic)
Christina Pennal, DOE
Jeff Carman, Navarro
Beverly Cook, Navarro
Steve Donivan, Navarro
Lauren Goodknight, Navarro
EDD Delivery
rc-grand.junction
File: TUB 400.02

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				
906		X				DATA LOGGER
908		X				DATA LOGGER
909		X				DATA LOGGER
929		X				
930		X				
932		X				
934		X				DATA LOGGER
935		X				Converted to extraction well 7/05

Monitoring Wells						
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
968					X	Water level only
1003		X				
1004		X				
1005					X	Water level only
1006		X				
1007		X				
1008					X	Water level only
1101		X				
1102		X				
1103		X				
1104		X				
1105		X				
1106		X				
1107		X				
1108		X				
1109		X				
1110		X				
1111		X				
1112		X				
1113		X				
1114		X				
1115		X				
1116		X				
1117		X				
1118		X				
1119		X				
1120		X				
1121		X				
1122		X				
1123		X				
1124		X				
1125		X				
1126		X				
1127		X				

Monitoring Wells						
1128		X				
1129		X				
1130		X				
1131		X				
1132		X				
1133		X				
NMW-1A		X				
NMW-2A		X				
NMW-3A		X				
NMW-4A		X				
NMW-6S		X				
NMW-7D		X				
NMW-8S		X				
NMW-9D		X				
Surface Locations						
1569		X				Evap pond - North
1570		X				Evap pond - South

Semi-annual sampling conducted in February and August.

Sample only active extraction wells. Coordinate with operators to confirm operating wells.

Treatment system monitoring done independently by operators on as-needed basis.

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	X				
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	X		0.2	SW-846 6010	LMM-01
Sulfate	X	X	0.5	SW-846 9056	MIS-A-044
Sulfide					
Total Dissolved Solids	X	X	10	SM2540 C	WCH-A-033

Laboratory Measurements					
Total Organic Carbon					
Uranium	X	X	0.0001	SW-846 6020	LMM-02
Vanadium	X		0.0003	SW-846 6020	IMM-02
Zinc					
Total No. of Analytes	18	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 23, 2016

TO: Peter Lemke

FROM: Jeff Price

SUBJECT: Sampling Trip Report

Site: Tuba City, Arizona, Disposal Site

Dates of Sampling Event: February 15-17, 2016

Team Members: Sam Campbell, Jennifer Graham, Jeff Price, Rob Rice, Dan Sellers, and Eric Szabelski

Number of Locations Sampled: Samples were collected from 47 of the 50 locations identified on the sampling list. The sampling letter dated January 15, 2016, identified 37 extraction wells to be sampled; however, after consultation with the site hydrologist, only three extraction wells needed to be sampled.

	Locations that were sampled	Planned locations	Comments
Monitoring and extraction wells	45	48	Monitoring wells 0283 and 0909 were dry; extraction well 1103 was inoperable.
Surface water locations	6	2	Two samples from the evaporation pond.

Location Specific Information:

Location IDs	Comments
1105	Water level at intake of submersible pump.
NMW-7D	Pump bladder was collapsed; installed new pump.
1569, 1570	Surface samples collected according to program directive TUB-2015-01.

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

False ID	Ticket Number	True ID	Sample Type	Associated Matrix	Associated Samples
2122	ODX 397	1101	Duplicate	Groundwater	N/A
2723	ODX 432	1105	Duplicate	Groundwater	N/A
2724	ODX 433	NMW-3A	Duplicate	Groundwater	N/A

Requisition Index Number (RIN) Assigned: Samples were assigned to RIN 16027639. Field data sheets can be found in \\crow\SMS\16027639\FieldData.

Sample Shipments: Samples were shipped overnight via FedEx from Moab, Utah, to ALS Laboratory on February 17, 2016.

Water Level Measurements: Water levels were measured in all monitoring wells.

Well Inspection Summary: The well pad is pedestalled at location NMW-2A; slightly pedestalled at NMW-4A and NMW-6S.

Sampling Method: Samples were collected according to the *Sampling and Analysis Plan* (SAP) *for the U. S. Department of Energy Office of Legacy Management Sites* (LMS/PRO/S04351, continually updated) and Program Directive TUB-2015-01, which directs the samplers to control solids from the evaporation pond by installing a filter before the flow cell.

Field Variance: None. Samples were collected according to the SAP and Program Directive.

Equipment: All equipment functioned properly.

Dataloggers: Dataloggers were downloaded and checked for accuracy at the following locations: TUB01-0263, 0264, 0265, 0274, 0286, 0287, 0908, 0929, 0934, 0941, 0943, and 0946. Data can be found in the SEEPro database.

Stakeholder/Regulatory/DOE: Robert Evans (NRC) was on-site on February 17th. Mr. Evans interviewed sampling team members about the sampling event.

Institutional Controls:

Fences, Gates, and Locks: All gates were locked and in good condition.
Signs: No issues were observed.
Trespassing/Site Disturbances: None observed.
Disposal Cell/Drainage Structure Integrity: No issues were observed.

Safety Issues: Multi-gas meters were used to verify the air quality in the vault 1103; all readings were within permissible limits.

Access Issues: None.

General Information: Cell phone service is weak at the site. Consider using walkie-talkies for communication between teams.

Immediate Actions Taken: None.

Future Actions Required or Suggested: None.

(JP/lcg)

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