

Data Validation Package

**August 2015
Groundwater and Surface Water
Sampling at the
Tuba City, Arizona, Disposal Site**

November 2015

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Contents

Sampling Event Summary	1
Tuba City, Arizona, Disposal Site, Sample Location Map.....	5
Data Assessment Summary.....	7
Water Sampling Field Activities Verification Checklist	9
Laboratory Performance Assessment	11
Sampling Quality Control Assessment	33
Certification	37

Attachment 1—Assessment of Anomalous Data

Potential Outliers Report

Attachment 2—Data Presentation

Groundwater Quality Data

Surface Water Quality Data

Static Water Level Data

Time-Concentration Graphs Primary Contaminants in Monitoring Wells

Attachment 3—Sampling and Analysis Work Order

Attachment 4—Trip Report

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Sampling Event Summary

Site: Tuba City, Arizona, Disposal Site

Sampling Period: August 10–12, 2015

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 and extraction 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 and Extraction Wells with Analyte Concentrations that Exceed the EPA Standard

Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Arsenic	0.05	1105	0.33
Molybdenum	0.1	0262	0.32
Molybdenum	0.1	0287	0.15
Molybdenum	0.1	1105	0.47
Nitrate + Nitrite as Nitrogen	10	0262	240
Nitrate + Nitrite as Nitrogen	10	0263	220
Nitrate + Nitrite as Nitrogen	10	0264	12
Nitrate + Nitrite as Nitrogen	10	0265	170
Nitrate + Nitrite as Nitrogen	10	0267	350
Nitrate + Nitrite as Nitrogen	10	0268	33
Nitrate + Nitrite as Nitrogen	10	0273	19
Nitrate + Nitrite as Nitrogen	10	0275	250
Nitrate + Nitrite as Nitrogen	10	0281	21
Nitrate + Nitrite as Nitrogen	10	0282	54
Nitrate + Nitrite as Nitrogen	10	0286	150
Nitrate + Nitrite as Nitrogen	10	0287	270
Nitrate + Nitrite as Nitrogen	10	0288	40

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

Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Nitrate + Nitrite as Nitrogen	10	0289	19
Nitrate + Nitrite as Nitrogen	10	0290	76
Nitrate + Nitrite as Nitrogen	10	0691	95
Nitrate + Nitrite as Nitrogen	10	0903	15
Nitrate + Nitrite as Nitrogen	10	0906	520
Nitrate + Nitrite as Nitrogen	10	0908	240
Nitrate + Nitrite as Nitrogen	10	0912	70
Nitrate + Nitrite as Nitrogen	10	0929	13
Nitrate + Nitrite as Nitrogen	10	0930	41
Nitrate + Nitrite as Nitrogen	10	0934	400
Nitrate + Nitrite as Nitrogen	10	0935	180
Nitrate + Nitrite as Nitrogen	10	0938	380
Nitrate + Nitrite as Nitrogen	10	0940	320
Nitrate + Nitrite as Nitrogen	10	0941	300
Nitrate + Nitrite as Nitrogen	10	1003	62
Nitrate + Nitrite as Nitrogen	10	1101	100
Nitrate + Nitrite as Nitrogen	10	1103	180
Nitrate + Nitrite as Nitrogen	10	1105	110
Selenium	0.01	0262	0.039
Selenium	0.01	0263	0.033
Selenium	0.01	0267	0.041
Selenium	0.01	0275	0.032
Selenium	0.01	0286	0.02
Selenium	0.01	0287	0.1
Selenium	0.01	0904	0.01
Selenium	0.01	0906	0.045
Selenium	0.01	0908	0.015
Selenium	0.01	0934	0.01
Selenium	0.01	0935	0.011
Selenium	0.01	0938	0.077
Selenium	0.01	0940	0.055
Selenium	0.01	0941	0.09
Selenium	0.01	1101	0.026
Selenium	0.01	1103	0.029
Selenium	0.01	1105	0.038
Uranium	0.044	0262	0.5
Uranium	0.044	0263	0.42
Uranium	0.044	0265	0.07
Uranium	0.044	0267	0.066
Uranium	0.044	0268	0.065
Uranium	0.044	0275	0.38
Uranium	0.044	0286	0.39
Uranium	0.044	0287	0.24
Uranium	0.044	0290	0.057
Uranium	0.044	0691	0.13
Uranium	0.044	0906	0.41

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

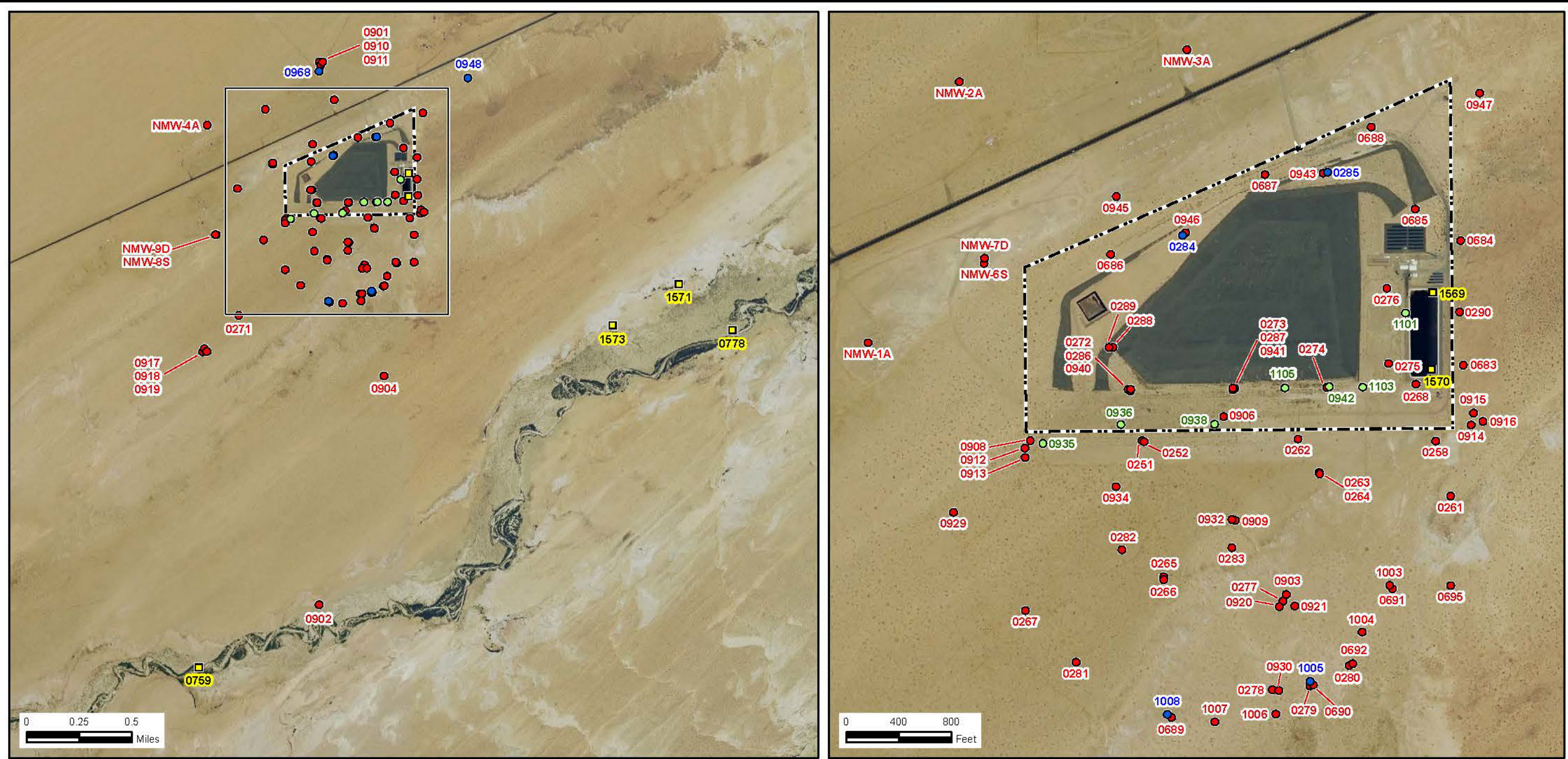
Analyte	Standard (mg/L)	Location	Concentration (mg/L)
Uranium	0.044	0908	0.076
Uranium	0.044	0934	0.17
Uranium	0.044	0935	0.096
Uranium	0.044	0938	0.31
Uranium	0.044	0940	0.66
Uranium	0.044	0941	0.27
Uranium	0.044	1101	0.3
Uranium	0.044	1103	0.35
Uranium	0.044	1105	0.99

mg/L = milligrams per liter


 Tim Bartlett
 Site Hydrologist
 Navarro Research and Engineering, Inc.

11/23/15
 Date

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LEGEND

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

U.S. DEPARTMENT OF ENERGY OFFICE OF LEGACY MANAGEMENT	Work Performed by Stoller Newport News Nuclear, Inc. Under DOE Contract Number DE-LM0000415
Planned Sampling Map Tuba City, AZ, Disposal Site August 2015	
DATE PREPARED: July 7, 2015	FILE NAME: S1314400-11x17

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Tuba City, Arizona, Disposal Site, Sample Location Map

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	Tuba City, Arizona, Disposal Site	Date(s) of Water Sampling	August 10–12, 2015
Date(s) of Verification	October 27, 2015	Name of Verifier	Gretchen Baer

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List any Program Directives or other documents, SOPs, instructions.		Work Order letter dated July 9, 2015. Program Directive No. TUB-2015-01.
2. Were the sampling locations specified in the planning documents sampled?	No	0283, 0686, 0909, and 0918 were dry. Samples could not be collected at 0936 and 0942 because there was no power supplied to the pumps at these extraction wells. Per site lead instruction, surface water location 1568 was added to the event and locations 1571 and 1573 were removed.
3. Were calibrations conducted as specified in the above-named documents?	Yes	
4. Was an operational check of the field equipment conducted daily?	Yes	
Did the operational checks meet criteria?	Yes	Two turbidity readings were entered into a field sheet incorrectly; all previous and subsequent checks were in range, which indicates that the instrument performance was acceptable.
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	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?	Yes	
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	Five duplicate samples were collected.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with non-dedicated equipment?	NA	All samples were collected with dedicated equipment. An equipment blank was not required.
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	No VOC samples were collected.
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?	No	"Measurement Equipment" was not filled out at many locations.
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	Water levels were measured in all sampled wells and in 6 additional wells, in accordance with the <i>Planned Sampling Map</i> .

Laboratory Performance Assessment

General Information

Requisition No.: 15087262
Sample Event: August 10–12, 2015
Site(s): Tuba City, Arizona
Laboratory: ALS Laboratory Group, Fort Collins, Colorado
Work Order No.: 1508209
Analysis: Metals and Inorganics
Validator: Gretchen Baer
Review Date: October 27, 2015

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	LMM-02	SW-846 3005A	SW-846 6020A EPA 200.8
Calcium, Iron, Magnesium, Manganese, Potassium, Silica, Sodium	LMM-01	SW-846 3005A	SW-846 6010B
Chloride, Sulfate	MIS-A-045	SW-846 9056	SW-846 9056
Nitrite + Nitrate as N	WCH-A-022	EPA 353.2	EPA 353.2
Total Dissolved Solids	WCH-A-033	EPA 160.1	EPA 160.1

Data Qualifier Summary

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

Table 3. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1508209-1	0258	Selenium	J	Reporting limit verification results
1508209-2	0272	Nitrite + Nitrate as N	J	Exceeded holding time
1508209-2	0272	Selenium	J	Reporting limit verification results
1508209-3	0278	Selenium	J	Reporting limit verification results
1508209-4	0279	Nitrite + Nitrate as N	J	Exceeded holding time
1508209-4	0279	Selenium	J	Reporting limit verification results
1508209-5	0280	Selenium	J	Reporting limit verification results

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1508209-7	0287	Total dissolved solids	J	Exceeded holding time
1508209-8	0288	Selenium	J	Reporting limit verification results
1508209-8	0288	Total dissolved solids	J	Exceeded holding time
1508209-9	0289	Selenium	J	Reporting limit verification results
1508209-11	0683	Selenium	J	Reporting limit verification results
1508209-12	0684	Selenium	J	Reporting limit verification results
1508209-12	0684	Total dissolved solids	J	Exceeded holding time
1508209-13	0687	Selenium	J	Reporting limit verification results
1508209-14	0689	Selenium	J	Reporting limit verification results
1508209-15	0690	Selenium	J	Reporting limit verification results
1508209-16	0691	Arsenic	U	Less than 5 times the calibration blank
1508209-16	0691	Selenium	J	Reporting limit verification results
1508209-17	0692	Selenium	U	Less than 5 times the calibration blank
1508209-17	0692	Selenium	J	Reporting limit verification results
1508209-17	0692	Total dissolved solids	J	Exceeded holding time
1508209-18	0695	Arsenic	U	Less than 5 times the calibration blank
1508209-18	0695	Selenium	U	Less than 5 times the calibration blank
1508209-18	0695	Selenium	J	Reporting limit verification results
1508209-19	0759	Arsenic	U	Less than 5 times the calibration blank
1508209-19	0759	Selenium	U	Less than 5 times the calibration blank
1508209-19	0759	Selenium	J	Reporting limit verification results
1508209-20	0778	Arsenic	U	Less than 5 times the calibration blank
1508209-20	0778	Iron	U	Less than 5 times the calibration blank
1508209-20	0778	Selenium	J	Reporting limit verification results
1508209-21	0901	Selenium	U	Less than 5 times the calibration blank
1508209-21	0901	Selenium	J	Reporting limit verification results
1508209-22	0902	Chloride	U	Less than 5 times the method blank
1508209-22	0902	Magnesium	U	Less than 5 times the calibration blank
1508209-22	0902	Selenium	J	Reporting limit verification results
1508209-23	0904	Arsenic	U	Less than 5 times the calibration blank
1508209-24	0910	Iron	U	Less than 5 times the calibration blank
1508209-24	0910	Molybdenum	U	Less than 5 times the calibration blank
1508209-24	0910	Selenium	J	Reporting limit verification results
1508209-25	0911	Selenium	J	Reporting limit verification results
1508209-26	0914	Molybdenum	U	Less than 5 times the calibration blank
1508209-26	0914	Selenium	J	Reporting limit verification results
1508209-27	0915	Arsenic	U	Less than 5 times the calibration blank
1508209-27	0915	Molybdenum	U	Less than 5 times the calibration blank
1508209-27	0915	Selenium	J	Reporting limit verification results
1508209-28	0916	Arsenic	U	Less than 5 times the calibration blank
1508209-28	0916	Molybdenum	U	Less than 5 times the calibration blank
1508209-28	0916	Selenium	J	Reporting limit verification results
1508209-29	0930	Manganese	U	Less than 5 times the calibration blank
1508209-29	0930	Selenium	J	Reporting limit verification results
1508209-30	0940	Total dissolved solids	J	Exceeded holding time
1508209-31	0941	Iron	U	Less than 5 times the calibration blank

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1508209-31	0941	Total dissolved solids	J	Exceeded holding time
1508209-32	0943	Arsenic	J	Field duplicate range > PQL
1508209-32	0943	Iron	U	Less than 5 times the calibration blank
1508209-32	0943	Selenium	J	Reporting limit verification results
1508209-33	0945	Selenium	J	Reporting limit verification results
1508209-34	0946	Iron	U	Less than 5 times the calibration blank
1508209-34	0946	Manganese	U	Less than 5 times the calibration blank
1508209-34	0946	Selenium	J	Reporting limit verification results
1508209-35	0947	Selenium	J	Reporting limit verification results
1508209-35	0947	Total dissolved solids	J	Exceeded holding time
1508209-36	1003	Arsenic	U	Less than 5 times the calibration blank
1508209-36	1003	Iron	U	Less than 5 times the calibration blank
1508209-36	1003	Manganese	U	Less than 5 times the calibration blank
1508209-36	1003	Selenium	J	Reporting limit verification results
1508209-36	1003	Total dissolved solids	J	Exceeded holding time
1508209-37	1004	Iron	U	Less than 5 times the calibration blank
1508209-37	1004	Manganese	U	Less than 5 times the calibration blank
1508209-37	1004	Selenium	J	Reporting limit verification results
1508209-38	1006	Manganese	U	Less than 5 times the calibration blank
1508209-38	1006	Selenium	J	Reporting limit verification results
1508209-39	1007	Arsenic	U	Less than 5 times the calibration blank
1508209-39	1007	Iron	U	Less than 5 times the calibration blank
1508209-39	1007	Manganese	U	Less than 5 times the calibration blank
1508209-39	1007	Selenium	J	Reporting limit verification results
1508209-40	1568	Selenium	J	Reporting limit verification results
1508209-41	1569	Arsenic	J	Serial dilution result
1508209-41	1569	Molybdenum	J	MS recovery > upper limit
1508209-41 through 1508209-52	Various	Total dissolved solids	J	Exceeded holding time
1508209-42	1570	Arsenic	J	Serial dilution result
1508209-42	1570	Molybdenum	J	MS recovery > upper limit
1508209-43	1569 Dup	Arsenic	J	Serial dilution result
1508209-43	1569 Dup	Molybdenum	J	MS recovery > upper limit
1508209-44	0943 Dup	Arsenic	J	Field duplicate range > PQL
1508209-44	0943 Dup	Iron	U	Less than 5 times the calibration blank
1508209-44	0943 Dup	Selenium	U	Less than 5 times the method blank
1508209-44	0943 Dup	Selenium	J	Reporting limit verification results
1508209-45	NMW-2A Dup	Manganese	U	Less than 5 times the calibration blank
1508209-45	NMW-2A Dup	Selenium	J	Reporting limit verification results
1508209-46	NMW-4A Dup	Iron	U	Less than 5 times the calibration blank
1508209-46	NMW-4A Dup	Manganese	U	Less than 5 times the calibration blank
1508209-46	NMW-4A Dup	Selenium	U	Less than 5 times the method blank
1508209-46	NMW-4A Dup	Selenium	J	Reporting limit verification results
1508209-47	NMW-1A	Manganese	U	Less than 5 times the calibration blank
1508209-47	NMW-1A	Selenium	U	Less than 5 times the method blank
1508209-47	NMW-1A	Selenium	J	Reporting limit verification results

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1508209-48	NMW-2A	Iron	U	Less than 5 times the calibration blank
1508209-48	NMW-2A	Manganese	U	Less than 5 times the calibration blank
1508209-48	NMW-2A	Selenium	U	Less than 5 times the method blank
1508209-48	NMW-2A	Selenium	J	Reporting limit verification results
1508209-49	NMW-3A	Iron	U	Less than 5 times the calibration blank
1508209-49	NMW-3A	Manganese	U	Less than 5 times the calibration blank
1508209-49	NMW-3A	Selenium	U	Less than 5 times the method blank
1508209-49	NMW-3A	Selenium	J	Reporting limit verification results
1508209-50	NMW-4A	Selenium	U	Less than 5 times the method blank
1508209-50	NMW-4A	Selenium	J	Reporting limit verification results
1508209-51	NMW-6S	Iron	U	Less than 5 times the calibration blank
1508209-51	NMW-6S	Selenium	U	Less than 5 times the method blank
1508209-51	NMW-6S	Selenium	J	Reporting limit verification results
1508209-52	NMW-7D	Selenium	U	Less than 5 times the method blank
1508209-52	NMW-7D	Selenium	J	Reporting limit verification results
1508209-53	0251	Iron	U	Less than 5 times the calibration blank
1508209-53	0251	Selenium	U	Less than 5 times the method blank
1508209-53	0251	Selenium	J	Reporting limit verification results
1508209-53	0251	Total dissolved solids	J	Field duplicate range > PQL
1508209-53	0251	Uranium	J	Field duplicate RPD > 20%
1508209-54	0252	Manganese	U	Less than 5 times the calibration blank
1508209-54	0252	Selenium	U	Less than 5 times the method blank
1508209-54	0252	Selenium	J	Reporting limit verification results
1508209-55	0261	Iron	U	Less than 5 times the calibration blank
1508209-55	0261	Manganese	U	Less than 5 times the calibration blank
1508209-55	0261	Selenium	U	Less than 5 times the method blank
1508209-55	0261	Selenium	J	Reporting limit verification results
1508209-56 through 1508209-92	Various	Total dissolved solids	J	Exceeded holding time
1508209-57	0263	Iron	U	Less than 5 times the calibration blank
1508209-58	0264	Selenium	J	Reporting limit verification results
1508209-59	0265	Iron	U	Less than 5 times the calibration blank
1508209-59	0265	Manganese	U	Less than 5 times the calibration blank
1508209-59	0265	Selenium	J	Reporting limit verification results
1508209-60	0266	Iron	U	Less than 5 times the calibration blank
1508209-60	0266	Manganese	U	Less than 5 times the calibration blank
1508209-60	0266	Selenium	U	Less than 5 times the method blank
1508209-60	0266	Selenium	J	Reporting limit verification results
1508209-62	0268	Selenium	J	Reporting limit verification results
1508209-63	0271	Selenium	J	Reporting limit verification results
1508209-64	0273	Selenium	J	Reporting limit verification results
1508209-65	0274	Iron	U	Less than 5 times the calibration blank
1508209-65	0274	Selenium	J	Reporting limit verification results
1508209-67	0276	Iron	U	Less than 5 times the calibration blank
1508209-67	0276	Selenium	J	Reporting limit verification results
1508209-68	0277	Selenium	J	Reporting limit verification results

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1508209-69	0281	Iron	U	Less than 5 times the calibration blank
1508209-69	0281	Selenium	J	Reporting limit verification results
1508209-70	0282	Iron	U	Less than 5 times the calibration blank
1508209-70	0282	Selenium	J	Reporting limit verification results
1508209-71	0685	Selenium	J	Reporting limit verification results
1508209-72	0688	Selenium	J	Reporting limit verification results
1508209-73	0903	Selenium	J	Reporting limit verification results
1508209-74	0906	Nitrite + Nitrate as N	J	Exceeded holding time
1508209-76	0912	Selenium	J	Reporting limit verification results
1508209-77	0913	Selenium	J	Reporting limit verification results
1508209-78	0917	Selenium	J	Reporting limit verification results
1508209-79	0919	Selenium	J	Reporting limit verification results
1508209-80	0920	Iron	U	Less than 5 times the calibration blank
1508209-80	0920	Selenium	J	Reporting limit verification results
1508209-81	0921	Selenium	J	Reporting limit verification results
1508209-83	0932	Selenium	J	Reporting limit verification results
1508209-90	0251 Dup	Selenium	J	Reporting limit verification results
1508209-90	0251 Dup	Total dissolved solids	J	Field duplicate range > PQL
1508209-90	0251 Dup	Uranium	J	Field duplicate RPD > 20%
1508209-91	NMW-8S	Chloride	J	MS recovery > upper limit
1508209-91	NMW-8S	Selenium	J	Reporting limit verification results
1508209-92	NMW-9D	Selenium	J	Reporting limit verification results
1508209-93	0929	Selenium	J	Reporting limit verification results

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 92 samples in two shipments on August 13 and 14, 2015, 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 Chain of Custody 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 between 0.2 °C and 5.2 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses. Samples were analyzed within the applicable holding times, with the exception of many total dissolved solids (TDS) samples. Due to laboratory error, the analyses of many TDS samples exceeded the 7-day holding time. Also, some nitrate + nitrite as N and TDS samples were reanalyzed out of holding time in response to Request for Information 15-4753. The affected nitrate + nitrite as N and TDS results 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 August 20, 2015, 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 August 25 and 26, 2015, and October 8, 2015, 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 August 20 and 21, 2015, using three calibration standards. The correlation-coefficient values were greater than 0.995. The absolute values of the intercepts were less than or only slightly above 3 times the MDL. 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 August 20 and 24, 2015, 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, with the following exception. Some selenium check results were outside the acceptance range. Affected results less than 5 times the PQL are qualified with a “J” flag (estimated). 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 August 18 and October 1, 2015, 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 are analyzed to assess instrument contamination prior to and during sample analysis. All method blank and calibration blank results associated with the samples were below the PQL. 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 interference 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 with the following exceptions. A spike recovery for chloride was above the acceptance range. Associated results above the MDL are qualified with a “J” flag (estimated). A spike recovery and the analytical spike recovery for molybdenum in pond sample 1569 were above the acceptance range. Location 1570 is another surface water sample collected from the same pond, so these samples are judged to be of similar matrix: the molybdenum results for both locations are qualified with a “J” flag (estimated).

Laboratory Replicate Analysis

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

Laboratory Control Sample

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

Metals Serial Dilution

Serial dilutions were prepared and analyzed for the metals analyses to monitor chemical or physical interferences in the sample matrix. Serial dilution data are evaluated when the concentration of the undiluted sample is greater than 50 times the MDL. All evaluated serial dilution data were acceptable with the following exception. The serial dilution did not meet the acceptance criteria for arsenic in pond sample 1569. Location 1570 is another surface water sample collected from the same pond, so these samples are judged to be of similar matrix; the arsenic results for both locations are qualified with a “J” flag (estimated).

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers. The anions section of the report did not include the calibrations for the reanalysis performed October 2015. Documentation was sufficient to validate the results and no further action is required.

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

A revised EDD file (15087262Rev1.xml) arrived on September 23, 2015, that included some results for ammonia as N and nitrate + nitrite as N, which were missing in the original EDD. Another revised EDD file (15087262Rev2.xml) arrived on October 23, 2015, that included corrected results for several anions, nitrate + nitrite as N, and total dissolved solids. 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. Errors were found in the EDD: Some cooler temperatures

were entered incorrectly. Review of the receiving documents confirms that all samples were received at correct temperatures.

Anion/Cation Balance

Environmental water should be electrically neutral. Expressed in milliequivalents per liter (meq/L), the sum of the anions should equal the sum of the cations. The anion/cation balance is calculated as the difference between the anions and cations, divided by the sum of the anions and cations. The anion/cation balance can be useful in finding potential errors in the analytical results. Typically, a charge balance less than or equal to 10 percent is considered acceptable. When a charge balance is greater than 10 percent, the associated data are closely examined for error. If no errors are found, the results are considered to be acceptable.

Table 4 shows the total anion and cation results and the charge balance from this event.

Table 4. Comparison of Major Anions and Cations

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
0251	2.1	2.1	0.2
0252	1.9	1.9	0.3
0258	2.8	2.5	5.9
0261	2.8	2.9	0.4
0262	74.0	78.8	3.1
0263	77.1	82.7	3.5
0264	5.7	5.6	1.0
0265	49.0	50.2	1.2
0266	2.3	2.3	0.5
0267	109.4	120.9	5.0
0268	12.6	12.2	1.5
0271	2.7	2.6	1.4
0272	2.7	2.6	2.3
0273	5.8	5.9	1.2
0274	2.7	2.9	3.3
0275	72.3	81.9	6.3
0276	2.8	2.8	0.9
0277	2.7	2.7	0.7
0278	2.4	2.4	0.5
0279	3.3	3.1	2.9
0280	3.1	3.0	1.6
0281	6.0	6.1	1.0
0282	12.0	11.6	2.0
0286	69.8	73.7	2.8
0287	71.7	76.1	3.0
0288	10.6	11.0	2.2
0289	6.8	6.8	0.1
0290	24.4	22.8	3.4
0683	2.9	2.7	2.8
0684	2.8	2.8	0.9

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

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
0685	2.7	2.7	0.6
0687	1.9	1.8	1.8
0688	7.7	7.7	0.3
0689	2.6	2.5	3.4
0690	2.5	2.4	1.4
0691	33.9	32.5	2.1
0692	2.5	2.4	2.1
0695	3.4	3.3	2.2
0759	18.3	17.9	0.9
0778	18.1	18.1	0.0
0901	3.4	3.2	2.9
0902	3.0	2.9	1.2
0903	5.5	5.5	0.3
0904	8.6	8.0	3.3
0906	93.0	99.7	3.5
0908	83.4	85.2	1.1
0910	2.6	2.6	1.7
0911	2.1	2.1	2.0
0912	23.0	23.1	0.3
0913	1.9	2.0	2.3
0914	1.3	1.3	1.1
0915	1.5	1.7	6.0
0916	5.6	5.6	0.0
0917	2.5	2.4	1.9
0919	24.6	23.3	2.7
0920	2.6	2.6	0.7
0921	2.1	1.9	4.8
0929	3.6	4.1	5.8
0930	13.0	11.7	5.2
0932	4.1	3.8	4.0
0934	101.1	104.8	1.8
0935	74.3	74.0	0.2
0938	99.0	103.8	2.4
0940	158.3	146.4	3.9
0941	76.9	77.2	0.2
0943	2.0	2.0	1.2
0945	4.3	4.3	0.5
0946	2.2	2.5	7.4
0947	2.7	2.8	1.3
1003	22.4	20.6	4.2
1004	3.8	3.7	0.5
1006	2.4	2.3	1.2
1007	2.4	2.3	1.9
1101	51.8	50.3	1.5
1103	72.2	71.9	0.2
1105	38.2	37.4	1.0
1568	6.0	5.8	1.7

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

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
1569	3926.8	5585.7	17.4
1570	3883.8	5592.6	18.0
NMW-1A	2.6	2.5	1.9
NMW-2A	2.6	2.7	2.7
NMW-3A	2.6	2.6	1.3
NMW-4A	2.6	2.6	0.0
NMW-6S	2.7	2.7	1.7
NMW-7D	2.0	1.9	4.2
NMW-8S	2.6	2.5	1.2
NMW-9D	2.8	2.8	0.1

meq/L = milliequivalents per liter

All charge balances were below 10 percent, with the exception of the samples collected from the evaporation pond. Both of the evaporation pond locations, 1569 and 1570, had charge balances greater than 10 percent. There were no analytical errors identified during the review of the laboratory data; acceptable results for the field duplicate corroborate the laboratory results at 1569. The high charges balances at the evaporation pond locations are likely due to the sample matrix, which is brine water with measured solids of nearly 30 percent.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 15087262 Lab Code: PAR Validator: Gretchen Baer Validation Date: 10/27/2015
Project: Tuba City Analysis Type: ☒ Metals ☒ General Chem ☐ Rad ☐ Organics
of Samples: 92 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
- ☒ Detection Limits
- ☐ Field/Trip Blanks
- ☒ Field Duplicates

There are 60 holding time failures.

The reported detection limits are equal to or below contract requirements.

There were 5 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Page 1 of 2

RIN: 15087262 Lab Code: PAR

Non-Compliance Report: Holding Times

Project: Tuba City

Validation Date: 10/27/2015

Ticket	Location	Lab Sample ID	Method Code	Holding Times			Criteria			Reported Dates		
				Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection Date	Preparation Date	Analysis Date
NJQ 106	0272	1508209-2	WCH-A-022			58			28	08/11/2015	10/08/2015	10/08/2015
NJQ 113	0279	1508209-4	WCH-A-022			58			28	08/11/2015	10/08/2015	10/08/2015
NJQ 183	0906	1508209-74	WCH-A-022			57			28	08/12/2015	10/08/2015	10/08/2015
NJQ 098	0262	1508209-56	WCH-A-033			56			7	08/12/2015	10/07/2015	10/09/2015
NJQ 099	0263	1508209-57	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 100	0264	1508209-58	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 101	0265	1508209-59	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 102	0266	1508209-60	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 103	0267	1508209-61	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 104	0268	1508209-62	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 105	0271	1508209-63	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 107	0273	1508209-64	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 108	0274	1508209-65	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 109	0275	1508209-66	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 110	0276	1508209-67	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 111	0277	1508209-68	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 115	0281	1508209-69	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 116	0282	1508209-70	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 118	0684	1508209-12	WCH-A-033			8			7	08/10/2015	08/18/2015	08/19/2015
NJQ 119	0685	1508209-71	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 122	0688	1508209-72	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 126	0692	1508209-17	WCH-A-033			57			7	08/11/2015	10/07/2015	10/09/2015
NJQ 128	0903	1508209-73	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 130	0908	1508209-75	WCH-A-033			56			7	08/12/2015	10/07/2015	10/09/2015
NJQ 133	0912	1508209-76	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 134	0913	1508209-77	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 138	0920	1508209-80	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 139	0921	1508209-81	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 140	0929	1508209-82	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 142	0932	1508209-83	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 143	0934	1508209-84	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 144	0935	1508209-85	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 148	0947	1508209-35	WCH-A-033			8			7	08/10/2015	08/18/2015	08/19/2015
NJQ 149	1003	1508209-36	WCH-A-033			57			7	08/11/2015	10/07/2015	10/09/2015
NJQ 153	1103	1508209-88	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015

SAMPLE MANAGEMENT SYSTEM

Page 2 of 2

RIN: 15087262 Lab Code: PAR

Non-Compliance Report: Holding Times

Project: Tuba City

Validation Date: 10/27/2015

Ticket	Location	Lab Sample ID	Method Code	Holding Times			Criteria			Reported Dates		
				Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection to Preparation	Preparation to Analysis	Collection to Analysis	Collection Date	Preparation Date	Analysis Date
NJQ 167	1570	1508209-42	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015
NJQ 169	2987	1508209-45	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 170	2988	1508209-46	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015
NJQ 173	0941	1508209-31	WCH-A-033			20			7	08/11/2015	08/31/2015	09/01/2015
NJQ 176	2532	1508209-90	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 178	0287	1508209-7	WCH-A-033			57			7	08/11/2015	10/07/2015	10/09/2015
NJQ 179	0288	1508209-8	WCH-A-033			20			7	08/11/2015	08/31/2015	09/01/2015
NJQ 182	1105	1508209-89	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 183	0906	1508209-74	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 185	0940	1508209-30	WCH-A-033			20			7	08/11/2015	08/31/2015	09/01/2015
NJQ 188	2186	1508209-43	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015
NJQ 190	1101	1508209-87	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 193	NMW-1A	1508209-47	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 194	NMW-6S	1508209-51	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 195	NMW-7D	1508209-52	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 196	NMW-8S	1508209-91	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 197	NMW-9D	1508209-92	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 198	2386	1508209-44	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 199	NMW-2A	1508209-48	WCH-A-033			8			7	08/11/2015	08/19/2015	08/20/2015
NJQ 201	NMW-3A	1508209-49	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015
NJQ 202	0938	1508209-86	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 205	NMW-4A	1508209-50	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015
NJQ 216	0917	1508209-78	WCH-A-033			8			7	08/12/2015	08/20/2015	08/21/2015
NJQ 217	0919	1508209-79	WCH-A-033			19			7	08/12/2015	08/31/2015	09/01/2015
NJQ 222	1569	1508209-41	WCH-A-033			9			7	08/10/2015	08/19/2015	08/20/2015

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 15087262 **Lab Code:** PAR **Date Due:** 9/11/2015
Matrix: Water **Site Code:** TUB01 **Date Completed:** 9/23/2015

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								
Calcium	ICP/ES	08/20/2015	0.0800	1.0000	OK	OK	OK	102.0	102.0	102.0	0.0		0.0	
Calcium	ICP/ES	08/20/2015			OK	OK	OK	106.0	104.0	104.0	0.0	104.0	0.0	104.0
Calcium	ICP/ES	08/20/2015			OK	OK	OK	101.0			5.0	104.0	0.0	104.0
Calcium	ICP/ES	08/21/2015	0.1300	1.0000	OK	OK	OK	102.0	95.0	97.0	0.0	104.0	2.0	104.0
Calcium	ICP/ES	08/20/2015			OK	OK	OK	103.0	105.0	105.0	0.0	103.0	1.0	103.0
Iron	ICP/ES	08/20/2015	-0.0010	0.9998	OK	OK	OK	96.0	95.0	94.0	1.0			
Iron	ICP/ES	08/20/2015			OK	OK	OK	96.0				105.0		110.0
Iron	ICP/ES	08/21/2015	-0.0050	0.9998	OK	OK	OK	96.0	92.0	93.0	0.0	104.0		111.0
Iron	ICP/ES	08/20/2015			OK	OK	OK	101.0	94.0	98.0	3.0	105.0		111.0
Iron	ICP/ES	08/20/2015			OK	OK	OK	98.0	99.0	97.0	2.0	104.0		110.0
Magnesium	ICP/ES	08/20/2015			OK	OK	OK	101.0	100.0	100.0	0.0	103.0	0.0	100.0
Magnesium	ICP/ES	08/20/2015			OK	OK	OK	101.0	102.0	102.0	0.0	104.0	1.0	100.0
Magnesium	ICP/ES	08/20/2015	0.1300	1.0000	OK	OK	OK	102.0	101.0	102.0	1.0	105.0	4.0	101.0
Magnesium	ICP/ES	08/21/2015	0.1670	1.0000	OK	OK	OK	101.0	99.0	99.0	0.0	104.0	2.0	100.0
Magnesium	ICP/ES	08/20/2015			OK	OK	OK	101.0					1.0	
Manganese	ICP/ES	08/20/2015			OK	OK	OK	104.0	104.0	105.0	0.0	95.0		107.0
Manganese	ICP/ES	08/20/2015			OK	OK	OK	104.0	104.0	104.0	0.0	97.0		109.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 15087262

Lab Code: PAR

Date Due: 9/11/2015

Matrix: Water

Site Code: TUB01

Date Completed: 9/23/2015

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								
Manganese	ICP/ES	08/20/2015			OK	OK	OK	104.0	102.0	101.0	1.0	95.0	1.0	107.0
Manganese	ICP/ES	08/20/2015	-0.0010	1.0000	OK	OK	OK	103.0				95.0		107.0
Manganese	ICP/ES	08/21/2015	-0.0010	1.0000	OK	OK	OK	103.0	99.0	99.0	0.0			
Potassium	ICP/ES	08/20/2015	-0.9600	1.0000	OK	OK	OK	103.0					2.0	84.0
Potassium	ICP/ES	08/20/2015			OK	OK	OK	106.0	108.0	107.0	1.0			
Potassium	ICP/ES	08/21/2015	-0.9700	1.0000	OK	OK	OK	106.0	116.0	117.0	0.0			87.0
Potassium	ICP/ES	08/20/2015			OK	OK	OK	107.0	112.0	111.0	1.0			87.0
Potassium	ICP/ES	08/20/2015			OK	OK	OK	105.0	110.0	112.0	1.0			87.0
Silicon	ICP/ES	08/21/2015	-0.0950	1.0000	OK	OK	OK	105.0	82.0	85.0	0.0	97.0	1.0	116.0
Silicon	ICP/ES	08/20/2015			OK	OK	OK	105.0	104.0	102.0	0.0	100.0	0.0	121.0
Silicon	ICP/ES	08/20/2015			OK	OK	OK	105.0			3.0	98.0	9.0	115.0
Silicon	ICP/ES	08/20/2015			OK	OK	OK	105.0	99.0	93.0	1.0	97.0	2.0	120.0
Silicon	ICP/ES	08/20/2015	-0.0990	1.0000	OK	OK	OK	105.0	102.0	104.0	0.0		1.0	
Sodium	ICP/ES	08/21/2015	0.4310	0.9999	OK	OK	OK	106.0	112.0	112.0	0.0		4.0	92.0
Sodium	ICP/ES	08/20/2015			OK	OK	OK	105.0			7.0		5.0	93.0
Sodium	ICP/ES	08/20/2015			OK	OK	OK	107.0	111.0	112.0	1.0		8.0	89.0
Sodium	ICP/ES	08/20/2015			OK	OK	OK	106.0	112.0	110.0	1.0		2.0	100.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 15087262

Lab Code: PAR

Date Due: 9/11/2015

Matrix: Water

Site Code: TUB01

Date Completed: 9/23/2015

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								
Sodium	ICP/ES	08/20/2015	0.4420	0.9999	OK	OK	OK	107.0	113.0	112.0	0.0		3.0	
Arsenic	ICP/MS	08/20/2015	-0.0190	1.0000	OK	OK	OK	107.0	110.0	107.0	3.0			
Arsenic	ICP/MS	08/25/2015			OK	OK	OK	105.0	106.0	116.0	9.0			101.0
Arsenic	ICP/MS	08/25/2015			OK	OK	OK	106.0	118.0	124.0	3.0			120.0
Arsenic	ICP/MS	08/25/2015			OK	OK	OK	112.0	102.0	106.0	4.0	99.0		97.0
Arsenic	ICP/MS	08/25/2015	-0.0070	1.0000	OK	OK	OK	106.0	100.0	103.0	3.0	104.0	27.0	117.0
Molybdenum	ICP/MS	08/25/2015							126.0					
Molybdenum	ICP/MS	08/25/2015			OK	OK	OK	108.0	129.0	124.0	1.0			
Molybdenum	ICP/MS	08/25/2015			OK	OK	OK	106.0	102.0	106.0	4.0			97.0
Molybdenum	ICP/MS	08/25/2015			OK	OK	OK	106.0	105.0	110.0	4.0			113.0
Molybdenum	ICP/MS	08/25/2015	-0.0200	1.0000	OK	OK	OK	110.0	103.0	104.0	1.0	102.0		109.0
Molybdenum	ICP/MS	08/20/2015	-0.0040	1.0000	OK	OK	OK	108.0	108.0	107.0	2.0	102.0	0.0	108.0
Selenium	ICP/MS	08/25/2015			OK	OK	OK	108.0			2.0			
Selenium	ICP/MS	08/25/2015			OK	OK	OK	113.0	104.0	103.0	0.0			58.0
Selenium	ICP/MS	08/25/2015			OK	OK	OK	111.0	108.0	122.0	12.0			126.0
Selenium	ICP/MS	08/25/2015	-0.1000	1.0000	OK	OK	OK	115.0	108.0	110.0	2.0	107.0		187.0
Selenium	ICP/MS	08/20/2015	-0.0260	1.0000	OK	OK	OK	105.0	106.0	99.0	7.0	103.0	3.0	90.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 15087262 **Lab Code:** PAR **Date Due:** 9/11/2015
Matrix: Water **Site Code:** TUB01 **Date Completed:** 9/23/2015

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								
Uranium	ICP/MS	08/25/2015			OK	OK	OK	103.0			4.0			
Uranium	ICP/MS	08/25/2015			OK	OK	OK	104.0	102.0	104.0	1.0			105.0
Uranium	ICP/MS	08/25/2015			OK	OK	OK	102.0	106.0	116.0	5.0		1.0	90.0
Uranium	ICP/MS	08/25/2015	-0.0010	1.0000	OK	OK	OK	107.0	99.0	100.0	1.0	103.0	1.0	100.0
Uranium	ICP/MS	08/20/2015	-0.0010	1.0000	OK	OK	OK	106.0	107.0	103.0	3.0	106.0	0.0	100.0

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 15087262

Lab Code: PARDate Due: 9/11/2015Matrix: WaterSite Code: TUB01Date Completed: 9/23/2015

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	08/20/2015	0.052	0.9996								
AMMONIA AS N	08/21/2015			OK	OK	OK	106.00	104.0	104.0	1.00	
AMMONIA AS N	08/21/2015			OK	OK	OK	105.00	92.0	93.0	1.00	
AMMONIA AS N	08/23/2015			OK	OK	OK	103.00	91.0	92.0	1.00	
AMMONIA AS N	08/23/2015			OK	OK	OK	103.00	97.0	100.0	2.00	
AMMONIA AS N	08/23/2015			OK	OK	OK	105.00	97.0	98.0	1.00	
CHLORIDE	08/18/2015	0.051	0.9999								
CHLORIDE	08/20/2015					OK	97.00				
CHLORIDE	08/20/2015			OK	OK	OK	99.00	91.0	91.0	0	
CHLORIDE	08/21/2015			OK	OK	OK	99.00	100.0	100.0	0	
CHLORIDE	08/21/2015					OK	103.00	98.0	101.0	1.00	
CHLORIDE	08/22/2015							95.0	94.0	0	
CHLORIDE	08/24/2015			OK	OK	OK	101.00	147.0	147.0	0	
CHLORIDE	08/25/2015			OK	OK						
CHLORIDE	08/26/2015			OK	OK						

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 15087262

Lab Code: PARDate Due: 9/11/2015Matrix: WaterSite Code: TUB01Date Completed: 9/23/2015

Analyte	Date Analyzed	CALIBRATION				Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R ²	CCV	CCB						
CHLORIDE	10/01/2015										
CHLORIDE	10/09/2015			OK	OK						
Nitrate+Nitrite as N	08/25/2015	0.000	1.0000	OK	OK	OK	99.00	97.0	96.0	0	
Nitrate+Nitrite as N	08/25/2015					OK	100.00	101.0	101.0	0	
Nitrate+Nitrite as N	08/26/2015	-0.002	0.9999	OK	OK	OK	103.00	108.0	108.0	0	
Nitrate+Nitrite as N	08/26/2015					OK	103.00	107.0	109.0	1.00	
Nitrate+Nitrite as N	08/26/2015					OK	104.00	108.0	107.0	0	
Nitrate+Nitrite as N	10/08/2015	0.000	0.9999	OK	OK	OK	102.00				
Sulfate	08/18/2015	0.495	0.9998								
Sulfate	08/25/2015			OK	OK						
Sulfate	08/26/2015			OK	OK						
Sulfate	10/01/2015										
Sulfate	10/09/2015			OK	OK						
SULFATE	08/20/2015			OK	OK	OK	97.00	99.0	100.0	1.00	
SULFATE	08/20/2015					OK	95.00				

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 15087262

Lab Code: PARDate Due: 9/11/2015Matrix: WaterSite Code: TUB01Date Completed: 9/23/2015

Analyte	Date Analyzed	CALIBRATION				Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	CCV	CCB						
SULFATE	08/21/2015			OK	OK	OK	97.00	103.0	104.0	0	
SULFATE	08/21/2015					OK	104.00	97.0	100.0	2.00	
SULFATE	08/22/2015							102.0	100.0	1.00	
SULFATE	08/24/2015			OK	OK	OK	99.00	115.0	113.0	1.00	
TOTAL DISSOLVED SOLIDS	08/19/2015					OK	96.00				
TOTAL DISSOLVED SOLIDS	08/19/2015					OK	101.00				
TOTAL DISSOLVED SOLIDS	08/20/2015					OK	99.00			7.00	
TOTAL DISSOLVED SOLIDS	08/21/2015					OK	97.00				
TOTAL DISSOLVED SOLIDS	08/21/2015					OK	96.00				
TOTAL DISSOLVED SOLIDS	09/01/2015					OK	102.00			0	
TOTAL DISSOLVED SOLIDS	09/01/2015									1.00	
TOTAL DISSOLVED SOLIDS	09/01/2015									6.00	
TOTAL DISSOLVED SOLIDS	09/01/2015									7.00	
TOTAL DISSOLVED SOLIDS	09/01/2015									4.00	
TOTAL DISSOLVED SOLIDS	09/01/2015									11.00	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 15087262

Lab Code: PARDate Due: 9/11/2015Matrix: WaterSite Code: TUB01Date Completed: 9/23/2015

Analyte	Date Analyzed	CALIBRATION				Method	LCS	MS	MSD	DUP	Serial Dil.
		Int.	R^2	CCV	CCB	Blank	%R	%R	%R	RPD	%R
TOTAL DISSOLVED SOLIDS	09/01/2015									3.00	
TOTAL DISSOLVED SOLIDS	10/09/2015					OK	101.00			1.00	

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 0935, 0938, 1101, 1103, and 1105 were not sampled using low-flow criteria. These wells were sampled using high-volume and high-flow submersible pumps.
- These 43 wells were purged and sampled using the low-flow sampling method and Category II criteria: 0251, 0258, 0262, 0263, 0264, 0265, 0266, 0272, 0273, 0274, 0277, 0278, 0280, 0281, 0282, 0286, 0287, 0288, 0289, 0683, 0684, 0690, 0692, 0902, 0906, 0908, 0911, 0913, 0914, 0915, 0916, 0917, 0919, 0929, 0934, 0940, 0941, 0945, 0947, NMW-2A, NMW-6S, NMW-7D, and NMW-9D. For these wells, the water level drawdown during the purge did not meet the Category I criterion because these wells produced water at a rate less than the minimum low-flow purging rate. Therefore, these wells were classified as Category II. The sample results for these wells were qualified with a “Q” flag (qualitative), indicating the samples were not collected under the optimal conditions of the Category I stability criteria.

Equipment Blank

Equipment blanks are used to check for adequate decontamination of non-dedicated equipment used to collect samples. An equipment blank was not required for this sampling event because all samples were collected with dedicated equipment.

Field Duplicate Assessment

Field duplicate samples are collected and analyzed as an indication of overall precision of the measurement process. The precision observed includes both field and laboratory precision and has more variability than laboratory duplicates, which measure only laboratory performance. Duplicate samples were collected from locations 0251, 0943, 1569, NMW-2A, and NMW-4A. 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 following exceptions. The range between results for arsenic at 0943 and for TDS at 0251 exceeded the criteria. The RPD for uranium at 0251 was greater than 20 percent. 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 these locations. The associated results for these locations are qualified with a “J” flag as estimated values.

SAMPLE MANAGEMENT SYSTEM

Page 1 of 3

Validation Report: Field Duplicates

RIN: 15087262 Lab Code: PAR Project: Tuba City Validation Date: 10/28/2015

Duplicate: 2186

Sample: 1569

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
AMMONIA AS N					430			300			MG/L
Arsenic	75			50	67	E		50	11.27		UG/L
Calcium	580000			50	560000			50	3.51		UG/L
CHLORIDE	160000			10000	160000			10000	0		MG/L
Iron	250	U		50	250	U		50			UG/L
Magnesium	1E+07			50	1E+07			50	0		UG/L
Manganese	54000			50	55000			50	1.83		UG/L
Molybdenum	240			50	220	N		50	8.70		UG/L
Nitrate+Nitrite as N	8000			5000	8100			10000	1.24		MG/L
Potassium	1200000			50	1200000			50	0		UG/L
Selenium	1300			50	1300			50	0		UG/L
Silica					57000			50			UG/L
Silicon					27000			50			UG/L
Sodium	7E+07			500	7.5E+07			500	6.90		UG/L
SULFATE	24000			10000	24000			10000			MG/L
TOTAL DISSOLVED SOLIDS	290000	*		1	270000			1	7.14		MG/L
Uranium	910			50	790			50	14.12		UG/L

Duplicate: 2386

Sample: 0943

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Arsenic	3.3			10	4.1			10	>PQL		UG/L
Calcium	16000			1	15000			1	6.45		UG/L
CHLORIDE	6.6			1	6.4			1	3.08		MG/L
Iron	23	J		1	29	J		1			UG/L
Magnesium	3300			1	3400			1	2.99		UG/L
Manganese	69			1	81			1	16.00		UG/L
Molybdenum	0.32	U		10	0.81	J		10			UG/L
Nitrate+Nitrite as N	3.1			5	3.2			5	3.17		MG/L
Potassium	1400			1	1500			1	6.90		UG/L
Selenium	0.8	J		10	0.58	J		10			UG/L
Silica	15000			1	15000			1	0		UG/L
Silicon	7000			1	7100			1	1.42		UG/L
Sodium	21000			1	21000			1	0		UG/L
SULFATE	36			1	34			1	5.71		MG/L
TOTAL DISSOLVED SOLIDS	120			1	150			1	NA		MG/L

SAMPLE MANAGEMENT SYSTEM

Page 2 of 3

Validation Report: Field Duplicates

RIN: 15087262 Lab Code: PAR Project: Tuba City Validation Date: 10/28/2015

Duplicate: 2386

Sample: 0943

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
Uranium	14			10	14			10	0		UG/L

Duplicate: 2532

Sample: 0251

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Arsenic	2.6			10	2.8			10	7.41		UG/L
Calcium	26000			1	27000			1	3.77		UG/L
CHLORIDE	6.6			1	6.8			1	2.99		MG/L
Iron	27	J		1	10	J		1			UG/L
Magnesium	5500			1	5500			1	0		UG/L
Manganese	4.1	J		1	3.9	J		1	5.00		UG/L
Molybdenum	0.32	U		10	1.1			10			UG/L
Nitrate+Nitrite as N	2.9			5	3			5	3.39		MG/L
Potassium	2100			1	2200			1	4.65		UG/L
Selenium	0.49	J		10	0.39	J		10			UG/L
Silica	11000			1	11000			1	0		UG/L
Silicon	5000			1	5000			1	0		UG/L
Sodium	5800			1	5800			1	3.51		UG/L
SULFATE	9			1	9.3			1	3.28		MG/L
TOTAL DISSOLVED SOLIDS	240			1	110			1	>PQL		MG/L
Uranium	1.4			10	2.5			10	56.41		UG/L

Duplicate: 2987

Sample: NMW-2A

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
AMMONIA AS N	0.5			1	0.1	U		1			MG/L
Arsenic	3.6			10	3.5			10	2.82		UG/L
Calcium	32000			1	33000			1	3.08		UG/L
CHLORIDE	9.4			1	9.3			1	1.07		MG/L
Iron	5.6	J		1	4.9	U		1			UG/L
Magnesium	5700			1	5800			1	1.74		UG/L
Manganese	0.54	J		1	0.69	J		1			UG/L
Molybdenum	0.43	J		10	0.47	J		10			UG/L
Nitrate+Nitrite as N	3.3			5	3.4			5	2.99		MG/L
Potassium	1300			1	1300			1	0		UG/L
Selenium	0.68	J		10	2.1			10			UG/L

SAMPLE MANAGEMENT SYSTEM

Page 3 of 3

Validation Report: Field Duplicates

RIN: 15087262 Lab Code: PAR Project: Tuba City Validation Date: 10/28/2015

Duplicate: 2987

Sample: NMW-2A

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
Silica	11000			1	11000			1	0		UG/L
Silicon	5300			1	5300			1	0		UG/L
Sodium	10000			1	11000			1	9.52		UG/L
SULFATE	12			1	12			1	0		MG/L
TOTAL DISSOLVED SOLIDS	140			1	140			1	0		MG/L
Uranium	1.3			10	1.2			10	8.00		UG/L

Duplicate: 2988

Sample: NMW-4A

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
Arsenic	3			10	2.8			10	6.90		UG/L
Calcium	34000			1	34000			1	0		UG/L
CHLORIDE	9.7			1	9.6			1	1.04		MG/L
Iron	4.9	U		1	26	J		1			UG/L
Magnesium	5600			1	5600			1	0		UG/L
Manganese	0.11	U		1	0.28	J		1			UG/L
Molybdenum	0.32	U		10	0.41	J		10			UG/L
Nitrate+Nitrite as N	3.6			5	3.6			5	0		MG/L
Potassium	1500			1	1600			1	6.45		UG/L
Selenium	0.67	J		10	1.2			10			UG/L
Silica	11000			1	11000			1	0		UG/L
Silicon	5000			1	5000			1	0		UG/L
Sodium	9200			1	9200			1	0		UG/L
SULFATE	13			1	12			1	8.00		MG/L
TOTAL DISSOLVED SOLIDS	140			1	130			1	7.41		MG/L
Uranium	1.2			10	1.2			10	0		UG/L

Certification

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

Laboratory Coordinator: Stephen Donovan 11-17-2015
Stephen Donovan Date

Data Validation Lead: Gretchen Baer 11/17/15
Gretchen Baer 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 33 results. (See the Data Validation Outliers Report, below, which is an evaluation of data from January 2005 to the present.) Further review of these data did not indicate any laboratory errors. Potential anomalies in the field parameters were also examined for patterns of repeated high or low bias, which suggests a systematic error due to instrument malfunction. No such patterns were found and the data from this event are acceptable as qualified. There were no anomalies identified in the two previous reports (August and September 2014 and February 2015) that required further review.

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Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0251	N002	08/12/2015	Magnesium	5.50		FQ	7.00		FQ	5.60		FQ	22	0	No
TUB01	0251	N001	08/12/2015	Magnesium	5.50		FQ	7.00		FQ	5.60		FQ	22	0	No
TUB01	0251	N001	08/12/2015	Selenium	0.00049	J	UJF Q	0.00150	U	FQ	0.00055			22	2	No
TUB01	0251	N002	08/12/2015	Selenium	0.00039	J	JFQ	0.00150	U	FQ	0.00055			22	2	No
TUB01	0251	N001	08/12/2015	Sulfate	9.00		FQ	17.0		FQ	9.20		FQ	22	0	No
TUB01	0251	N001	08/12/2015	Total Dissolved Solids	240		FQJ	180		QF	93.0		F	22	0	Yes
TUB01	0251	N002	08/12/2015	Uranium	0.00250		FQJ	0.00210		FQ	0.00120		F	22	0	Yes
TUB01	0252	N001	08/12/2015	Ammonia Total as N	0.280		F	0.1000	U	F	0.0160	U	F	22	22	NA
TUB01	0258	N001	08/11/2015	Arsenic	0.00400		FQ	0.00346	B	QF	0.00170	U	F	21	1	NA
TUB01	0261	N001	08/12/2015	Arsenic	0.00320		F	0.00270		JF	0.00190		F	12	0	Yes
TUB01	0261	N001	08/12/2015	Molybdenum	0.00043	J	F	0.00079	B	UF	0.00046		F	12	2	NA
TUB01	0261	N001	08/12/2015	Selenium	0.00087	J	UJF	0.00200		F	0.00120		F	12	0	Yes
TUB01	0262	N001	08/12/2015	Arsenic	0.00400		FQ	0.00340		FQ	0.001		F	22	1	Yes
TUB01	0262	N001	08/12/2015	Chloride	150		FQ	130		FQ	54.0		FQ	22	0	NA
TUB01	0262	N001	08/12/2015	Magnesium	270		FQ	250		FQ	71.0		FQ	22	0	No
TUB01	0262	N001	08/12/2015	Molybdenum	0.320		FQ	1.70		FQ	0.340		FQ	22	0	No
TUB01	0262	N001	08/12/2015	Nitrate + Nitrite as Nitrogen	240		FQ	230		FQ	1.70		FQ	22	0	NA
TUB01	0262	N001	08/12/2015	Selenium	0.0390		FQ	0.110		FQ	0.0410		FQ	22	0	No
TUB01	0262	N001	08/12/2015	Sulfate	2300		FQ	2200		FQ	820		FQ	22	0	NA
TUB01	0262	N001	08/12/2015	Uranium	0.500		FQ	1.40		FQ	0.520		FQ	22	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0263	N001	08/12/2015	Ammonia Total as N	0.290		FQ	0.1000	U	F	0.0160	U	QF	22	21	NA
TUB01	0263	N001	08/12/2015	Arsenic	0.00310		FQ	0.00300		FQ	0.00084		F	22	1	No
TUB01	0263	N001	08/12/2015	Uranium	0.420		FQ	0.400		FQ	0.0960		QF	22	0	NA
TUB01	0264	N001	08/12/2015	Molybdenum	0.00120		FQ	0.000931	B	FQ	0.00029	B	UFQ	22	9	No
TUB01	0264	N001	08/12/2015	Selenium	0.00290		JFQ	0.00250		FQ	0.001			22	0	No
TUB01	0264	N001	08/12/2015	Sulfate	99.0		FQ	96.0		FQ	56.0		FQ	22	0	NA
TUB01	0264	N001	08/12/2015	Uranium	0.00580		FQ	0.00510		FQ	0.00270		FQ	22	0	Yes
TUB01	0265	N001	08/12/2015	Arsenic	0.00180		FQ	0.00170	U	F	0.00044		F	22	2	No
TUB01	0271	N001	08/12/2015	Arsenic	0.00280		F	0.00240		F	0.00200		F	11	0	Yes
TUB01	0271	N001	08/12/2015	Selenium	0.00073	J	JF	0.00160		F	0.0009		F	11	0	Yes
TUB01	0273	N001	08/12/2015	Calcium	77.0		FQ	230		FQ	85.0		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Chloride	23.0		FQ	55.0		FQ	26.0		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Magnesium	14.0		FQ	39.0		FQ	16.0		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Molybdenum	0.00880		FQ	0.0330		FQ	0.0120		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Potassium	2.00		FQ	4.00		FQ	2.20		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Selenium	0.00570		JFQ	0.0240		FQ	0.00890		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Sodium	16.0		FQ	43.0		FQ	19.0		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Sulfate	79.0		FQ	310		FQ	97.0		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Total Dissolved Solids	380		JFQ	1200		FQ	420		FQ	21	0	No
TUB01	0273	N001	08/12/2015	Uranium	0.0120		FQ	0.0860		FQ	0.0150		FQ	21	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

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					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0274	N001	08/12/2015	Selenium	0.00062	J	JFQ	0.00231	B	QF	0.0009		FQ	21	1	NA
TUB01	0276	N001	08/12/2015	Ammonia Total as N	0.120		F	0.1000	U	F	0.0160	U	F	23	21	NA
TUB01	0276	N001	08/12/2015	Selenium	0.00063	J	JF	0.00236	B	F	0.00099		F	23	1	Yes
TUB01	0276	N001	08/12/2015	Total Dissolved Solids	150		JF	200		JF	160		F	23	0	No
TUB01	0277	N001	08/12/2015	Arsenic	0.00059	J	FQ	0.00051		FQ	0.0001		F	12	2	No
TUB01	0277	N001	08/12/2015	Selenium	0.00240		JFQ	0.00150		FQ	0.00087			12	0	Yes
TUB01	0278	N001	08/11/2015	Arsenic	0.00220		FQ	0.00180		FQ	0.0008		F	12	0	NA
TUB01	0278	N001	08/11/2015	Selenium	0.00032	U	JFQ	0.00150		FQ	0.00069		FQ	12	0	No
TUB01	0279	N001	08/11/2015	Arsenic	0.00120		F	0.00098		F	0.00016		F	12	1	No
TUB01	0279	N001	08/11/2015	Calcium	41.0		F	63.0		F	45.0		F	12	0	No
TUB01	0279	N001	08/11/2015	Chloride	17.0		F	33.0		F	19.0		F	12	0	No
TUB01	0279	N001	08/11/2015	Magnesium	8.80		F	13.0		F	9.70		F	12	0	No
TUB01	0279	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	5.30		JF	16.0		FJ	6.30		F	12	0	No
TUB01	0279	N001	08/11/2015	Selenium	0.00260		JF	0.00250		F	0.00066		F	12	0	NA
TUB01	0279	N001	08/11/2015	Sulfate	30.0		F	67.0		FJ	36.0		F	12	0	No
TUB01	0279	N001	08/11/2015	Total Dissolved Solids	200		F	420		F	240		F	11	0	No
TUB01	0280	N001	08/11/2015	Iron	0.0430	J	FQ	0.0340	B	UFQ	0.00160	U	JFQ	13	10	No
TUB01	0280	N001	08/11/2015	Selenium	0.00065	J	JFQ	0.00280		JFQ	0.00160		FQ	13	0	NA
TUB01	0281	0001	08/12/2015	Manganese	0.00210	J	FQ	0.140		FQ	0.00310	B	FQ	22	0	No
TUB01	0281	0001	08/12/2015	Molybdenum	0.00032	U	FQ	0.00460		FQJ	0.00041	B	FQ	22	5	NA

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0281	0001	08/12/2015	Uranium	0.00470		FQ	0.00875		QF	0.00520		FQ	22	0	No
TUB01	0282	N001	08/12/2015	Selenium	0.00061	J	JFQ	0.00350		F	0.00130		F	21	1	NA
TUB01	0286	N001	08/11/2015	Ammonia Total as N	31.0		FQ	25.0		FQ	0.1000	U	F	15	3	No
TUB01	0286	N001	08/11/2015	Potassium	21.0		FQ	20.0		FQ	1.80		FQ	15	0	No
TUB01	0287	N001	08/11/2015	Ammonia Total as N	1.30		FQ	1.20		FQ	0.1000	U	FQ	15	2	No
TUB01	0287	N001	08/11/2015	Chloride	260		FQ	240		FQ	150		FQ	15	0	No
TUB01	0287	N001	08/11/2015	Sodium	400		FQ	390		FQ	170		FQ	15	0	No
TUB01	0288	N001	08/11/2015	Molybdenum	0.001		FQ	0.00033	B	FQ	0.000082	B	FQ	15	4	Yes
TUB01	0288	N001	08/11/2015	Selenium	0.00120		JFQ	0.00330		FQ	0.00183	B	QF	15	0	Yes
TUB01	0289	N001	08/11/2015	Calcium	91.0		FQ	260		FQ	110		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Magnesium	16.0		FQ	43.0		FQ	20.0		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	19.0		FQ	65.0		FQ	20.0		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Potassium	2.50		FQ	4.10		FQ	2.60	BE	FQ	15	0	No
TUB01	0289	N001	08/11/2015	Selenium	0.00086	J	JFQ	0.00360		FQ	0.00160		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Sodium	20.0		FQ	45.0		FQ	24.0		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Sulfate	82.0		FQ	360		FQ	100.0		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Total Dissolved Solids	430		FQ	1200		FQ	500		FQ	15	0	No
TUB01	0289	N001	08/11/2015	Uranium	0.00710		FQ	0.0240		FQ	0.00980		FQ	15	0	NA
TUB01	0290	N001	08/11/2015	Arsenic	0.00095	J	F	0.00214	B	QF	0.00110		FQ	15	1	No
TUB01	0290	N001	08/11/2015	Calcium	340		F	310		FQ	35.0		FQ	15	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0290	N001	08/11/2015	Magnesium	50.0		F	49.0		FQ	5.80		FQ	15	0	No
TUB01	0290	N001	08/11/2015	Potassium	5.40		F	4.20		FQ	1.10		FQJ	15	0	No
TUB01	0290	N001	08/11/2015	Sodium	73.0		F	61.0		JFQ	13.0		FQ	15	0	No
TUB01	0290	N001	08/11/2015	Uranium	0.0570		F	0.0550		FQ	0.00140		FQ	15	0	NA
TUB01	0683	N001	08/11/2015	Arsenic	0.00260		FQ	0.00220		FQ	0.00190		FQ	11	0	No
TUB01	0683	N001	08/11/2015	Uranium	0.00140		FQ	0.00130		FQ	0.00110		FQ	11	0	No
TUB01	0684	N001	08/10/2015	Arsenic	0.00370		FQ	0.00300		FQ	0.00250		FQ	11	0	Yes
TUB01	0684	N001	08/10/2015	Molybdenum	0.00033	J	FQ	0.00055	B	UFQ	0.0004	B	FQ	11	2	No
TUB01	0684	N001	08/10/2015	Selenium	0.00089	J	JFQ	0.00180		FQ	0.00110		FQ	11	0	No
TUB01	0685	N001	08/12/2015	Arsenic	0.00330		F	0.00300		F	0.00250		F	11	0	No
TUB01	0685	N001	08/12/2015	Magnesium	6.20		F	8.00		F	6.30		F	11	0	No
TUB01	0685	N001	08/12/2015	Molybdenum	0.00068	J	F	0.00054	B	UF	0.00035		F	11	3	Yes
TUB01	0685	N001	08/12/2015	Selenium	0.00086	J	JF	0.00220		F	0.00110		F	11	0	No
TUB01	0685	N001	08/12/2015	Total Dissolved Solids	150		JF	210		F	160		F	11	0	No
TUB01	0689	N001	08/11/2015	Arsenic	0.00230		F	0.00220		F	0.00190		F	12	0	No
TUB01	0689	N001	08/11/2015	Iron	0.0390	J	F	0.0330	B	F	0.00340	U	QF	12	9	No
TUB01	0691	N001	08/11/2015	Calcium	500		F	430		F	81.0		F	23	0	No
TUB01	0691	N001	08/11/2015	Chloride	82.0		F	61.0		F	16.0		F	23	0	NA
TUB01	0691	N001	08/11/2015	Magnesium	72.0		F	71.0		F	13.0		F	23	0	No
TUB01	0691	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	95.0		F	86.0		F	12.0		F	23	0	NA

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0691	N001	08/11/2015	Potassium	6.50		F	5.20		F	1.90		F	23	0	No
TUB01	0691	N001	08/11/2015	Selenium	0.00700		JF	0.00530		F	0.00150		F	23	0	No
TUB01	0691	N001	08/11/2015	Silica	17.0		F	16.0		F	12.0		F	23	0	No
TUB01	0691	N001	08/11/2015	Silicon	7.90		F	7.60		F	5.60		F	21	0	No
TUB01	0691	N001	08/11/2015	Sodium	66.0		F	54.0		F	17.0		F	23	0	No
TUB01	0691	N001	08/11/2015	Sulfate	850		F	680		F	91.0		F	23	0	NA
TUB01	0691	N001	08/11/2015	Uranium	0.130		F	0.120		F	0.00830		FQ	23	0	No
TUB01	0692	N001	08/11/2015	Selenium	0.00045	J	UJF Q	0.00180		FQ	0.00140		F	12	0	Yes
TUB01	0692	N001	08/11/2015	Total Dissolved Solids	140		JFQ	190		FQ	150		FQ	12	0	No
TUB01	0692	N001	08/11/2015	Uranium	0.00200		FQ	0.00190		FQ	0.00110		F	12	0	No
TUB01	0695	N001	08/11/2015	Arsenic	0.00210		UF	0.00170		F	0.00150		F	10	0	Yes
TUB01	0695	N001	08/11/2015	Magnesium	6.90		F	9.20		F	7.00		F	10	0	No
TUB01	0695	N001	08/11/2015	Molybdenum	0.00032	U	F	0.00078	B	F	0.00048	B	F	10	1	No
TUB01	0695	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	4.50		F	7.30		F	4.60		F	10	0	No
TUB01	0759	0001	08/11/2015	Arsenic	0.00097	J	U	0.00072			0.00025			10	0	No
TUB01	0759	0001	08/11/2015	Chloride	25.0			14.0			7.30			10	0	Yes
TUB01	0778	0001	08/11/2015	Chloride	17.0			13.0			7.40			10	0	No
TUB01	0901	N001	08/11/2015	Arsenic	0.00390		F	0.00374	B	F	0.00170		F	14	0	NA
TUB01	0901	N001	08/11/2015	Silicon	6.60		F	6.50			4.50		F	13	0	No
TUB01	0901	N001	08/11/2015	Total Dissolved Solids	190		F	260		F	200			13	0	No

Data Validation Outliers Report - No Field Parameters

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RIN: 15087262

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					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0901	N001	08/11/2015	Uranium	0.00180		F	0.00353		F	0.00190		F	14	0	No
TUB01	0903	N001	08/12/2015	Arsenic	0.00200		F	0.00190		F	0.00140		F	12	0	NA
TUB01	0903	N001	08/12/2015	Silicon	5.80		F	5.70		F	4.90		F	12	0	No
TUB01	0904	N001	08/11/2015	Arsenic	0.00140		UF	0.00072		F	0.00032		F	12	0	Yes
TUB01	0904	N001	08/11/2015	Chloride	110		F	250		F	120		F	12	0	No
TUB01	0904	N001	08/11/2015	Iron	1.50		F	0.120		F	0.00340	U	QF	12	5	No
TUB01	0904	N001	08/11/2015	Magnesium	11.0		F	26.0		F	12.0		F	12	0	No
TUB01	0904	N001	08/11/2015	Manganese	0.150		F	0.0150		F	0.00011	U	F	12	7	No
TUB01	0904	N001	08/11/2015	Selenium	0.01000		F	0.0180		F	0.0120		F	12	0	No
TUB01	0904	N001	08/11/2015	Silica	28.0		F	20.0		F	18.0		F	12	0	Yes
TUB01	0904	N001	08/11/2015	Silicon	13.0		F	9.30		F	8.30		F	12	0	Yes
TUB01	0906	N001	08/12/2015	Chloride	180		FQ	170		FQ	110		FQ	16	0	No
TUB01	0906	N001	08/12/2015	Potassium	14.0		FQ	13.0			5.90		FQJ	16	0	No
TUB01	0910	N001	08/11/2015	Total Dissolved Solids	140		F	180		F	146		F	12	0	No
TUB01	0911	N001	08/11/2015	Arsenic	0.00270		FQ	0.00200		FQ	0.00120		F	12	0	Yes
TUB01	0911	N001	08/11/2015	Selenium	0.00032	U	JFQ	0.00130		FQ	0.00053		FQ	12	0	No
TUB01	0912	N001	08/12/2015	Ammonia Total as N	0.470		F	0.380		F	0.1000	U	F	12	11	NA
TUB01	0912	N001	08/12/2015	Arsenic	0.00140		F	0.00120	E	FQ	0.00089		F	12	0	No
TUB01	0912	N001	08/12/2015	Potassium	6.90		F	5.70		FQ	4.20		FQJ	12	0	No
TUB01	0912	N001	08/12/2015	Sodium	73.0		F	69.0		FQ	46.0		FQ	12	0	No

Data Validation Outliers Report - No Field Parameters

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Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

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					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0914	N001	08/11/2015	Arsenic	0.00130		FQ	0.00120		FQG	0.00059		FQ	11	0	No
TUB01	0914	N001	08/11/2015	Selenium	0.00032	U	JFQ	0.00120		FQ	0.00067			11	0	Yes
TUB01	0915	N001	08/11/2015	Arsenic	0.00062	J	UFQ	0.00013		FQ	0.000025	B	FQ	12	4	Yes
TUB01	0915	N001	08/11/2015	Molybdenum	0.00043	J	UFQ	0.00069	B	FQ	0.00056	B	FQ	12	3	NA
TUB01	0915	N001	08/11/2015	Selenium	0.00095	J	JFQ	0.00180		FQ	0.00120			12	0	Yes
TUB01	0920	N001	08/12/2015	Arsenic	0.00330		F	0.00250		F	0.00160		F	13	0	Yes
TUB01	0920	N001	08/12/2015	Selenium	0.00068	J	JF	0.00140		F	0.00077			13	0	No
TUB01	0920	N001	08/12/2015	Total Dissolved Solids	140		JF	180		F	150		F	11	0	No
TUB01	0921	N001	08/12/2015	Arsenic	0.00032	J	F	0.0003		F	0.00013		F	12	2	No
TUB01	0921	N001	08/12/2015	Molybdenum	0.00042	J	F	0.00039	B	U	0.00015	B	UF	12	6	NA
TUB01	0921	N001	08/12/2015	Selenium	0.00039	J	JF	0.001		F	0.00048		F	12	0	No
TUB01	0929	N001	08/12/2015	Iron	0.0880	J	FQ	0.0630		FQ	0.00290	U	FQ	21	16	No
TUB01	0930	N001	08/11/2015	Calcium	180		F	160		F	49.0		F	22	0	NA
TUB01	0930	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	41.0		F	39.0		F	1.50		F	22	0	No
TUB01	0930	N001	08/11/2015	Potassium	3.70		F	3.30		F	1.40		FJ	22	0	No
TUB01	0930	N001	08/11/2015	Sodium	23.0		F	20.0		F	8.90		F	22	0	No
TUB01	0930	N001	08/11/2015	Sulfate	240		F	230		F	41.0		F	22	0	NA
TUB01	0930	N001	08/11/2015	Total Dissolved Solids	830		F	820		F	230		F	22	0	NA
TUB01	0930	N001	08/11/2015	Uranium	0.01000		F	0.00990		F	0.00230		F	22	0	NA
TUB01	0932	N001	08/12/2015	Calcium	54.0		F	49.7		F	40.0		F	25	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0932	N001	08/12/2015	Sulfate	40.0		F	39.0		F	23.2		F	25	0	No
TUB01	0935	N001	08/12/2015	Chloride	97.0			92.0			65.0			21	0	No
TUB01	0935	N001	08/12/2015	Manganese	1.10			0.940		J	0.360		F	21	0	No
TUB01	0935	N001	08/12/2015	Total Dissolved Solids	4400		J	5700		J	4500			21	0	Yes
TUB01	0935	N001	08/12/2015	Uranium	0.0960			0.161			0.1000			21	0	No
TUB01	0938	N001	08/12/2015	Ammonia Total as N	15.0			12.0			0.1000	U	F	19	9	NA
TUB01	0938	N001	08/12/2015	Arsenic	0.00079	J		0.00415	B		0.00087			19	0	NA
TUB01	0938	N001	08/12/2015	Molybdenum	0.00180			0.140		F	0.00300			19	0	NA
TUB01	0938	N001	08/12/2015	Nitrate + Nitrite as Nitrogen	380			360			130		J	19	0	NA
TUB01	0938	N001	08/12/2015	Potassium	22.0			18.0		F	7.10			19	0	No
TUB01	0940	N001	08/11/2015	Calcium	560		FQ	557		FQ	460		FQ	11	0	No
TUB01	0940	N001	08/11/2015	Molybdenum	0.00052	J	FQ	0.00360		FQ	0.00057		F	11	1	No
TUB01	0940	N001	08/11/2015	Nitrate + Nitrite as Nitrogen	320		FQ	496		FQ	340		F	11	0	No
TUB01	0940	N001	08/11/2015	Sulfate	5000		FQ	9000		FQ	5500		FQ	11	0	No
TUB01	0940	N001	08/11/2015	Total Dissolved Solids	9300		JFQ	17000		FQ	10000		JFQ	11	0	No
TUB01	0941	N001	08/11/2015	Ammonia Total as N	1.000		FQ	0.190		FQ	0.0270	J	FQ	19	16	NA
TUB01	0941	N001	08/11/2015	Chloride	210		FQ	200		FQ	120			19	0	No
TUB01	0941	N001	08/11/2015	Potassium	11.0		FQ	10.00		FQ	5.50		FQ	19	0	No
TUB01	0941	N001	08/11/2015	Sodium	310		FQ	290		FQ	80.0			19	0	No
TUB01	0941	N001	08/11/2015	Sulfate	1800		FQ	1700		FQ	750			19	0	No

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0945	N001	08/11/2015	Molybdenum	0.00044	J	FQ	0.00086	B	UFQ	0.00054		FQ	11	2	No
TUB01	0947	0001	08/10/2015	Arsenic	0.00450		FQ	0.00310		FQ	0.00270		FQ	11	0	Yes
TUB01	0947	0001	08/10/2015	Molybdenum	0.0006	J	FQ	0.00056	B	FQ	0.0004	B	FQ	11	4	No
TUB01	0947	0001	08/10/2015	Selenium	0.00200		JFQ	0.00180	E	FQ	0.00120			11	0	No
TUB01	0947	0001	08/10/2015	Total Dissolved Solids	150		JFQ	200		FQ	160		FQ	11	0	No
TUB01	1003	N001	08/11/2015	Silica	16.0		F	15.0		F	12.0		F	12	0	No
TUB01	1003	N001	08/11/2015	Silicon	7.30		F	7.00		F	5.40		F	12	0	No
TUB01	1003	N001	08/11/2015	Sodium	42.0		F	40.0		F	15.0		F	12	0	No
TUB01	1004	N001	08/11/2015	Molybdenum	0.00032	U	F	0.00063	B	F	0.00034		F	12	4	No
TUB01	1004	N001	08/11/2015	Selenium	0.00320		JF	0.00190		F	0.00130			12	0	Yes
TUB01	1006	N001	08/11/2015	Arsenic	0.00260			0.00200		F	0.00130		F	12	0	Yes
TUB01	1006	N001	08/11/2015	Iron	0.110			0.0470	B	F	0.00340	U	QF	12	7	No
TUB01	1007	N001	08/11/2015	Ammonia Total as N	0.140		F	0.1000	U	F	0.1000	U	F	12	12	NA
TUB01	1105	N001	08/12/2015	Manganese	0.0580			1.70		J	0.0700		F	13	0	No
TUB01	NMW-1A	N001	08/11/2015	Manganese	0.00028	J	F	0.0140		JF	0.00084	B	F	10	5	No
TUB01	NMW-1A	N001	08/11/2015	Selenium	0.00089	J	UJF	0.00170		F	0.00110		F	10	3	Yes
TUB01	NMW-1A	N001	08/11/2015	Silicon	5.30		F	5.20		F	4.60		F	6	0	No
TUB01	NMW-1A	N001	08/11/2015	Sulfate	12.0		F	14.0		F	12.6		F	10	0	NA
TUB01	NMW-1A	N001	08/11/2015	Total Dissolved Solids	140		JF	170		F	150		F	10	0	No
TUB01	NMW-2A	N001	08/11/2015	Ammonia Total as N	0.500		FQ	0.1000	U	F	0.0264	J	UF	7	7	NA

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	NMW-2A	N001	08/11/2015	Manganese	0.00054	J	FQ	0.00430	B	FQ	0.00068	B	UFQ	7	5	No
TUB01	NMW-2A	N001	08/11/2015	Selenium	0.00068	J	UJF Q	0.00150	U	F	0.001		FQ	7	1	No
TUB01	NMW-2A	N002	08/11/2015	Selenium	0.00210		JFQ	0.00150	U	F	0.001		FQ	7	1	Yes
TUB01	NMW-3A	N001	08/10/2015	Arsenic	0.00150		F	0.00252	B	F	0.00200	J	F	7	0	No
TUB01	NMW-3A	N001	08/10/2015	Selenium	0.00035	J	UJF	0.00820		F	0.00110		F	7	1	NA
TUB01	NMW-3A	N001	08/10/2015	Silicon	5.50		F	5.40		F	4.80		F	5	0	No
TUB01	NMW-3A	N001	08/10/2015	Total Dissolved Solids	140		JF	170		F	150		F	7	0	NA
TUB01	NMW-4A	N001	08/10/2015	Arsenic	0.00300		F	0.00258	B	F	0.00210		F	6	0	No
TUB01	NMW-4A	N002	08/10/2015	Arsenic	0.00280		F	0.00258	B	F	0.00210		F	6	0	No
TUB01	NMW-4A	N002	08/10/2015	Molybdenum	0.00041	J	F	0.00039	B	UF	0.00024	B	F	6	1	No
TUB01	NMW-4A	N001	08/10/2015	Selenium	0.00067	J	UJF	0.00160		F	0.00110		F	6	1	No
TUB01	NMW-4A	N002	08/10/2015	Sulfate	12.0		F	14.0		F	12.5		F	6	0	No
TUB01	NMW-4A	N002	08/10/2015	Total Dissolved Solids	130		JF	160		F	136		F	6	0	No
TUB01	NMW-6S	N001	08/11/2015	Ammonia Total as N	0.330		FQ	0.1000	U	F	0.0160	U	F	8	8	NA
TUB01	NMW-6S	N001	08/11/2015	Molybdenum	0.00032	U	FQ	0.00187	B	F	0.00036	B	FQ	8	1	NA
TUB01	NMW-6S	N001	08/11/2015	Silicon	5.50		FQ	5.40		F	4.60		FQ	5	0	No
TUB01	NMW-8S	N001	08/12/2015	Chloride	7.90	N	JF	10.00		F	9.16		F	9	0	Yes
TUB01	NMW-8S	N001	08/12/2015	Molybdenum	0.0007	J	F	0.000431	B	UF	0.00025		F	9	1	Yes
TUB01	NMW-8S	N001	08/12/2015	Selenium	0.00220		JF	0.00175	B	F	0.00058		F	9	1	No
TUB01	NMW-8S	N001	08/12/2015	Sulfate	11.0		F	15.0		F	13.0		F	9	0	NA

Data Validation Outliers Report - No Field Parameters

Comparison: All historical Data Beginning 1/1/2005

Laboratory: ALS Laboratory Group

RIN: 15087262

Report Date: 10/28/2015

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current	Qualifiers		Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	NMW-8S	N001	08/12/2015	Uranium	0.00160		F	0.00156		F	0.00120		F	9	0	No
TUB01	NMW-9D	N001	08/12/2015	Manganese	0.0300		FQ	0.620		F	0.0310		FQ	8	0	No
TUB01	NMW-9D	N001	08/12/2015	Selenium	0.00065	J	JFQ	0.00174	B	QF	0.00088		FQ	8	1	No
TUB01	NMW-9D	N001	08/12/2015	Sodium	13.0		FQ	23.6		F	14.0		FQ	8	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: 11/2/2015

Location: 0251 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	200	-	300	74		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	200	-	300	0.1	U	FQ	#	0.1	
Ammonia Total as N	mg/L	08/12/2015	N002	200	-	300	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	200	-	300	0.0026		FQ	#	0.00015	
Arsenic	mg/L	08/12/2015	N002	200	-	300	0.0028		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	200	-	300	26		FQ	#	0.012	
Calcium	mg/L	08/12/2015	N002	200	-	300	27		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	200	-	300	6.6		FQ	#	0.2	
Chloride	mg/L	08/12/2015	N002	200	-	300	6.8		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	200	-	300	0.027	J	UFQ	#	0.0049	
Iron	mg/L	08/12/2015	N002	200	-	300	0.01	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	200	-	300	5.5		FQ	#	0.013	
Magnesium	mg/L	08/12/2015	N002	200	-	300	5.5		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	200	-	300	0.0041	J	FQ	#	0.00011	
Manganese	mg/L	08/12/2015	N002	200	-	300	0.0039	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	200	-	300	0.00032	U	FQ	#	0.00032	
Molybdenum	mg/L	08/12/2015	N002	200	-	300	0.0011		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	200	-	300	2.9		FQ	#	0.05	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N002	200	-	300	3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	200	-	300	155		FQ	#		
pH	s.u.	08/12/2015	N001	200	-	300	8.1		FQ	#		

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

REPORT DATE: 11/2/2015

Location: 0251 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Potassium	mg/L	08/12/2015	N001	200	-	300	2.1		FQ	#	0.11	
Potassium	mg/L	08/12/2015	N002	200	-	300	2.2		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	200	-	300	0.00049	J	UJFQ	#	0.00032	
Selenium	mg/L	08/12/2015	N002	200	-	300	0.00039	J	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	200	-	300	11		FQ	#	0.0095	
Silica	mg/L	08/12/2015	N002	200	-	300	11		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	200	-	300	5		FQ	#	0.0044	
Silicon	mg/L	08/12/2015	N002	200	-	300	5		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	200	-	300	5.6		FQ	#	0.0066	
Sodium	mg/L	08/12/2015	N002	200	-	300	5.8		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	200	-	300	217		FQ	#		
Sulfate	mg/L	08/12/2015	N001	200	-	300	9		FQ	#	0.5	
Sulfate	mg/L	08/12/2015	N002	200	-	300	9.3		FQ	#	0.5	
Temperature	C	08/12/2015	N001	200	-	300	17.34		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	200	-	300	240		FQJ	#	40	
Total Dissolved Solids	mg/L	08/12/2015	N002	200	-	300	110		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	200	-	300	1.91		FQ	#		
Uranium	mg/L	08/12/2015	N001	200	-	300	0.0014		FQJ	#	0.000029	
Uranium	mg/L	08/12/2015	N002	200	-	300	0.0025		FQJ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0252 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	400	-	500	71		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	400	-	500	0.28		F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	400	-	500	0.003		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	400	-	500	21		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	400	-	500	4.9		F	#	0.2	
Iron	mg/L	08/12/2015	N001	400	-	500	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	400	-	500	4.1		UF	#	0.013	
Manganese	mg/L	08/12/2015	N001	400	-	500	0.00018	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	400	-	500	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	400	-	500	2.5		F	#	0.02	
Oxidation Reduction Potential	mV	08/12/2015	N001	400	-	500	108		F	#		
pH	s.u.	08/12/2015	N001	400	-	500	8.09		F	#		
Potassium	mg/L	08/12/2015	N001	400	-	500	2.1		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	400	-	500	0.001		UJF	#	0.00032	
Silica	mg/L	08/12/2015	N001	400	-	500	10		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	400	-	500	4.8		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	400	-	500	9.3		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	400	-	500	197		F	#		
Sulfate	mg/L	08/12/2015	N001	400	-	500	6.6		F	#	0.5	
Temperature	C	08/12/2015	N001	400	-	500	18.81		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	400	-	500	110		F	#	20	
Turbidity	NTU	08/12/2015	N001	400	-	500	0.41		F	#		
Uranium	mg/L	08/12/2015	N001	400	-	500	0.002		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0258 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	159	-	199	76		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	159	-	199	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	159	-	199	0.004		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	159	-	199	34		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	159	-	199	13		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	159	-	199	0.13		FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	159	-	199	7.1		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	159	-	199	0.0014	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	159	-	199	0.0011		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	159	-	199	3.3		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	159	-	199	144.8		FQ	#		
pH	s.u.	08/11/2015	N001	159	-	199	8		FQ	#		
Potassium	mg/L	08/11/2015	N001	159	-	199	1.8		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	159	-	199	0.0019		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	159	-	199	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	159	-	199	5.8		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	159	-	199	11		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	159	-	199	292		FQ	#		
Sulfate	mg/L	08/11/2015	N001	159	-	199	18		FQ	#	0.5	
Temperature	C	08/11/2015	N001	159	-	199	18.84		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	159	-	199	180		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	159	-	199	2		FQ	#		
Uranium	mg/L	08/11/2015	N001	159	-	199	0.0012		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0261 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	160	-	200	93		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	160	-	200	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	160	-	200	0.0032		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	160	-	200	33		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	160	-	200	13		F	#	0.2	
Iron	mg/L	08/12/2015	N001	160	-	200	0.045	J	UF	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	160	-	200	7.9		UF	#	0.013	
Manganese	mg/L	08/12/2015	N001	160	-	200	0.0011	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	160	-	200	0.00043	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	160	-	200	3.4		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	160	-	200	124.3		F	#		
pH	s.u.	08/12/2015	N001	160	-	200	7.98		F	#		
Potassium	mg/L	08/12/2015	N001	160	-	200	1.6		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	160	-	200	0.00087	J	UJF	#	0.00032	
Silica	mg/L	08/12/2015	N001	160	-	200	13		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	160	-	200	6.1		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	160	-	200	11		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	160	-	200	296		F	#		
Sulfate	mg/L	08/12/2015	N001	160	-	200	18		F	#	0.5	
Temperature	C	08/12/2015	N001	160	-	200	20.09		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	160	-	200	180		F	#	20	
Turbidity	NTU	08/12/2015	N001	160	-	200	2		F	#		
Uranium	mg/L	08/12/2015	N001	160	-	200	0.0013		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0262 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	477		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	1.6		FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.004		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	760		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	60	-	100	150		FQ	#	50	
Iron	mg/L	08/12/2015	N001	60	-	100	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	270		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.023		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.32		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	240		FQ	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	109		FQ	#		
pH	s.u.	08/12/2015	N001	60	-	100	6.68		FQ	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	12		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.039		FQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	19		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	9.1		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	310		FQ	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	5357		FQ	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	2300		FQ	#	120	
Temperature	C	08/12/2015	N001	60	-	100	20.25		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	4900		JFQ	#	80	
Turbidity	NTU	08/12/2015	N001	60	-	100	0.76		FQ	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.5		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0263 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	506		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	0.29		FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.0031		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	560		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	60	-	100	170		FQ	#	50	
Iron	mg/L	08/12/2015	N001	60	-	100	0.049	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	420		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.0048	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.091		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	220		FQ	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	249.4		FQ	#		
pH	s.u.	08/12/2015	N001	60	-	100	6.64		FQ	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	11		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.033		FQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	20		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	9.4		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	330		FQ	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	5240		FQ	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	2500		FQ	#	120	
Temperature	C	08/12/2015	N001	60	-	100	18.36		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	5200		JFQ	#	80	
Turbidity	NTU	08/12/2015	N001	60	-	100	7.47		FQ	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.42		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0264 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	160	-	200	111		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	160	-	200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	160	-	200	0.0024		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	160	-	200	75		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	160	-	200	16		FQ	#	1	
Iron	mg/L	08/12/2015	N001	160	-	200	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	160	-	200	14		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	160	-	200	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	160	-	200	0.0012		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	160	-	200	12		FQ	#	0.1	
Oxidation Reduction Potential	mV	08/12/2015	N001	160	-	200	217		FQ	#		
pH	s.u.	08/12/2015	N001	160	-	200	7.84		FQ	#		
Potassium	mg/L	08/12/2015	N001	160	-	200	2.2		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	160	-	200	0.0029		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	160	-	200	14		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	160	-	200	6.3		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	160	-	200	17		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	160	-	200	546		FQ	#		
Sulfate	mg/L	08/12/2015	N001	160	-	200	99		FQ	#	2.5	
Temperature	C	08/12/2015	N001	160	-	200	18.01		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	160	-	200	360		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	160	-	200	1.54		FQ	#		
Uranium	mg/L	08/12/2015	N001	160	-	200	0.0058		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0265 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	351		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.0018		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	600		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	60	-	100	140		FQ	#	20	
Iron	mg/L	08/12/2015	N001	60	-	100	0.029	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	160		UFQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.00074	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.00033	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	170		FQ	#	2	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	233.6		FQ	#		
pH	s.u.	08/12/2015	N001	60	-	100	6.97		FQ	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	7.5		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.0062		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	17		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	7.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	130		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	3662		FQ	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	1300		FQ	#	50	
Temperature	C	08/12/2015	N001	60	-	100	19.63		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	3600		JFQ	#	80	
Turbidity	NTU	08/12/2015	N001	60	-	100	1.71		FQ	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.07		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0266 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	160 - 200	78		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	160 - 200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	160 - 200	0.0023		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	160 - 200	28		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	160 - 200	7.9		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	160 - 200	0.01	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	160 - 200	7		UFQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	160 - 200	0.00023	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	160 - 200	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	160 - 200	3.4		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	160 - 200	201.2		FQ	#		
pH	s.u.	08/12/2015	N001	160 - 200	8.27		FQ	#		
Potassium	mg/L	08/12/2015	N001	160 - 200	2		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	160 - 200	0.001		UJFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	160 - 200	12		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	160 - 200	5.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	160 - 200	5.7		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	160 - 200	229		FQ	#		
Sulfate	mg/L	08/12/2015	N001	160 - 200	11		FQ	#	0.5	
Temperature	C	08/12/2015	N001	160 - 200	17.31		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	160 - 200	130		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	160 - 200	2.73		FQ	#		
Uranium	mg/L	08/12/2015	N001	160 - 200	0.0018		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0267 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers		Detection Limit	Uncertainty
									Data	QA		
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	658		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.0044		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	590		F	#	0.12	
Chloride	mg/L	08/12/2015	N001	60	-	100	130		F	#	50	
Iron	mg/L	08/12/2015	N001	60	-	100	0.027	J	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	740		F	#	0.13	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.021		F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	350		F	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	137		F	#		
pH	s.u.	08/12/2015	N001	60	-	100	6.45		F	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	14		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.041		F	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	21		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	10		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	430		F	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	7537		F	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	3800		F	#	120	
Temperature	C	08/12/2015	N001	60	-	100	17.06		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	7700		JF	#	200	
Turbidity	NTU	08/12/2015	N001	60	-	100	1.45		F	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.066		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0268 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	200	-	300	158		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	200	-	300	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	200	-	300	0.0017		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	200	-	300	170		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	200	-	300	24		F	#	2	
Iron	mg/L	08/12/2015	N001	200	-	300	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	200	-	300	31		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	200	-	300	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	200	-	300	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	200	-	300	33		F	#	0.5	
Oxidation Reduction Potential	mV	08/12/2015	N001	200	-	300	94		F	#		
pH	s.u.	08/12/2015	N001	200	-	300	6.96		F	#		
Potassium	mg/L	08/12/2015	N001	200	-	300	3.7		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	200	-	300	0.0024		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	200	-	300	12		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	200	-	300	5.6		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	200	-	300	34		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	200	-	300	1160		F	#		
Sulfate	mg/L	08/12/2015	N001	200	-	300	290		F	#	5	
Temperature	C	08/12/2015	N001	200	-	300	22.91		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	200	-	300	820		JF	#	20	
Turbidity	NTU	08/12/2015	N001	200	-	300	1.9		F	#		
Uranium	mg/L	08/12/2015	N001	200	-	300	0.065		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0271 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers		Detection Limit	Uncertainty
									Data	QA		
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	85		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.0028		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	35		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	60	-	100	12		F	#	0.2	
Iron	mg/L	08/12/2015	N001	60	-	100	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	6		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.00037	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	3.7		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	106.2		F	#		
pH	s.u.	08/12/2015	N001	60	-	100	8.07		F	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	1.7		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.00073	J	JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	11		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	5.2		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	9.2		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	274		F	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	15		F	#	0.5	
Temperature	C	08/12/2015	N001	60	-	100	17.2		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	160		JF	#	20	
Turbidity	NTU	08/12/2015	N001	60	-	100	0.75		F	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.0014		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0272 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	159.1 - 179.1	86		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	159.1 - 179.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	159.1 - 179.1	0.0028		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	159.1 - 179.1	35		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	159.1 - 179.1	8.5		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	159.1 - 179.1	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	159.1 - 179.1	7.2		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	159.1 - 179.1	0.00028	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	159.1 - 179.1	0.00096	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	159.1 - 179.1	4.2		JFQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	159.1 - 179.1	118.1		FQ	#		
pH	s.u.	08/11/2015	N001	159.1 - 179.1	7.46		FQ	#		
Potassium	mg/L	08/11/2015	N001	159.1 - 179.1	1.6		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	159.1 - 179.1	0.0012		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	159.1 - 179.1	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	159.1 - 179.1	5.4		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	159.1 - 179.1	6.5		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	159.1 - 179.1	274		FQ	#		
Sulfate	mg/L	08/11/2015	N001	159.1 - 179.1	14		FQ	#	0.5	
Temperature	C	08/11/2015	N001	159.1 - 179.1	18.17		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	159.1 - 179.1	160		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	159.1 - 179.1	4.57		FQ	#		
Uranium	mg/L	08/11/2015	N001	159.1 - 179.1	0.0015		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0273 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	153	- 173	112		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	153	- 173	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	153	- 173	0.0018		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	153	- 173	77		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	153	- 173	23		FQ	#	1	
Iron	mg/L	08/12/2015	N001	153	- 173	0.059	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	153	- 173	14		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	153	- 173	0.0015	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	153	- 173	0.0088		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	153	- 173	19		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/12/2015	N001	153	- 173	83		FQ	#		
pH	s.u.	08/12/2015	N001	153	- 173	7.49		FQ	#		
Potassium	mg/L	08/12/2015	N001	153	- 173	2		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	153	- 173	0.0057		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	153	- 173	12		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	153	- 173	5.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	153	- 173	16		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	153	- 173	740		FQ	#		
Sulfate	mg/L	08/12/2015	N001	153	- 173	79		FQ	#	2.5	
Temperature	C	08/12/2015	N001	153	- 173	19.7		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	153	- 173	380		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	153	- 173	2.62		FQ	#		
Uranium	mg/L	08/12/2015	N001	153	- 173	0.012		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0274 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	149	-	169	100		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	149	-	169	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	149	-	169	0.0022		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	149	-	169	34		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	149	-	169	11		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	149	-	169	0.021	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	149	-	169	6.5		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	149	-	169	0.0045	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	149	-	169	0.00049	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	149	-	169	3.5		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	149	-	169	184.2		FQ	#		
pH	s.u.	08/12/2015	N001	149	-	169	8		FQ	#		
Potassium	mg/L	08/12/2015	N001	149	-	169	1.4		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	149	-	169	0.00062	J	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	149	-	169	11		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	149	-	169	5.2		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	149	-	169	10		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	149	-	169	268		FQ	#		
Sulfate	mg/L	08/12/2015	N001	149	-	169	16		FQ	#	0.5	
Temperature	C	08/12/2015	N001	149	-	169	17.45		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	149	-	169	160		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	149	-	169	1.93		FQ	#		
Uranium	mg/L	08/12/2015	N001	149	-	169	0.0017		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0275 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	158.2 - 178.2	452		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	158.2 - 178.2	34		F	#	2.5	
Arsenic	mg/L	08/12/2015	N001	158.2 - 178.2	0.0015		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	158.2 - 178.2	630		F	#	0.12	
Chloride	mg/L	08/12/2015	N001	158.2 - 178.2	180		F	#	40	
Iron	mg/L	08/12/2015	N001	158.2 - 178.2	0.042	J	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	158.2 - 178.2	290		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	158.2 - 178.2	8.2		F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	158.2 - 178.2	0.00035	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	158.2 - 178.2	250		F	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	158.2 - 178.2	109		F	#		
pH	s.u.	08/12/2015	N001	158.2 - 178.2	6.39		F	#		
Potassium	mg/L	08/12/2015	N001	158.2 - 178.2	24		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	158.2 - 178.2	0.032		F	#	0.00032	
Silica	mg/L	08/12/2015	N001	158.2 - 178.2	17		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	158.2 - 178.2	7.8		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	158.2 - 178.2	320		F	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	158.2 - 178.2	5573		F	#		
Sulfate	mg/L	08/12/2015	N001	158.2 - 178.2	2400		F	#	100	
Temperature	C	08/12/2015	N001	158.2 - 178.2	18.87		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	158.2 - 178.2	4900		JF	#	80	
Turbidity	NTU	08/12/2015	N001	158.2 - 178.2	3.01		F	#		
Uranium	mg/L	08/12/2015	N001	158.2 - 178.2	0.38		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0276 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	154.5	-	174.5	89		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	154.5	-	174.5	0.12		F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	154.5	-	174.5	0.0035		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	154.5	-	174.5	34		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	154.5	-	174.5	12		F	#	0.2	
Iron	mg/L	08/12/2015	N001	154.5	-	174.5	0.012	J	UF	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	154.5	-	174.5	6.6		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	154.5	-	174.5	0.0013	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	154.5	-	174.5	0.00042	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	154.5	-	174.5	3.4		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	154.5	-	174.5	134.4		F	#		
pH	s.u.	08/12/2015	N001	154.5	-	174.5	7.83		F	#		
Potassium	mg/L	08/12/2015	N001	154.5	-	174.5	1.4		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	154.5	-	174.5	0.00063	J	JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	154.5	-	174.5	11		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	154.5	-	174.5	5.4		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	154.5	-	174.5	12		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	154.5	-	174.5	292		F	#		
Sulfate	mg/L	08/12/2015	N001	154.5	-	174.5	19		F	#	0.5	
Temperature	C	08/12/2015	N001	154.5	-	174.5	19.54		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	154.5	-	174.5	150		JF	#	20	
Turbidity	NTU	08/12/2015	N001	154.5	-	174.5	2.52		F	#		
Uranium	mg/L	08/12/2015	N001	154.5	-	174.5	0.0019		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0277 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	95.7	-	105.7	89		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	95.7	-	105.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	95.7	-	105.7	0.00059	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	95.7	-	105.7	28		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	95.7	-	105.7	11		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	95.7	-	105.7	0.19		FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	95.7	-	105.7	8.6		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	95.7	-	105.7	0.02		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	95.7	-	105.7	0.00058	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	95.7	-	105.7	3.3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	95.7	-	105.7	132.1		FQ	#		
pH	s.u.	08/12/2015	N001	95.7	-	105.7	7.68		FQ	#		
Potassium	mg/L	08/12/2015	N001	95.7	-	105.7	2.4		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	95.7	-	105.7	0.0024		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	95.7	-	105.7	15		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	95.7	-	105.7	6.9		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	95.7	-	105.7	12		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	95.7	-	105.7	279		FQ	#		
Sulfate	mg/L	08/12/2015	N001	95.7	-	105.7	16		FQ	#	0.5	
Temperature	C	08/12/2015	N001	95.7	-	105.7	19.22		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	95.7	-	105.7	150		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	95.7	-	105.7	4.54		FQ	#		
Uranium	mg/L	08/12/2015	N001	95.7	-	105.7	0.0026		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0278 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	90.5	- 100.5	82		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	90.5	- 100.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	90.5	- 100.5	0.0022		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	90.5	- 100.5	28		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	90.5	- 100.5	9.1		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	90.5	- 100.5	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	90.5	- 100.5	6.7		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	90.5	- 100.5	0.00094	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	90.5	- 100.5	0.00049	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	90.5	- 100.5	3		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	90.5	- 100.5	136.8		FQ	#		
pH	s.u.	08/11/2015	N001	90.5	- 100.5	7.96		FQ	#		
Potassium	mg/L	08/11/2015	N001	90.5	- 100.5	2.1		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	90.5	- 100.5	0.00032	U	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	90.5	- 100.5	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	90.5	- 100.5	5.4		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	90.5	- 100.5	8.6		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	90.5	- 100.5	250		FQ	#		
Sulfate	mg/L	08/11/2015	N001	90.5	- 100.5	12		FQ	#	0.5	
Temperature	C	08/11/2015	N001	90.5	- 100.5	18.45		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	90.5	- 100.5	150		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	90.5	- 100.5	3.38		FQ	#		
Uranium	mg/L	08/11/2015	N001	90.5	- 100.5	0.0013		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0279 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	26.5	- 36.5	82		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	26.5	- 36.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	26.5	- 36.5	0.0012		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	26.5	- 36.5	41		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	26.5	- 36.5	17		F	#	0.2	
Iron	mg/L	08/11/2015	N001	26.5	- 36.5	0.033	J	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	26.5	- 36.5	8.8		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	26.5	- 36.5	0.0032	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	26.5	- 36.5	0.0007	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	26.5	- 36.5	5.3		JF	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	26.5	- 36.5	130.8		F	#		
pH	s.u.	08/11/2015	N001	26.5	- 36.5	7.93		F	#		
Potassium	mg/L	08/11/2015	N001	26.5	- 36.5	2.1		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	26.5	- 36.5	0.0026		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	26.5	- 36.5	13		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	26.5	- 36.5	6		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	26.5	- 36.5	11		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	26.5	- 36.5	322		F	#		
Sulfate	mg/L	08/11/2015	N001	26.5	- 36.5	30		F	#	0.5	
Temperature	C	08/11/2015	N001	26.5	- 36.5	18.34		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	26.5	- 36.5	200		F	#	20	
Turbidity	NTU	08/11/2015	N001	26.5	- 36.5	1.59		F	#		
Uranium	mg/L	08/11/2015	N001	26.5	- 36.5	0.002		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0280 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	26.5	- 36.5	90		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	26.5	- 36.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	26.5	- 36.5	0.0026		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	26.5	- 36.5	33		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	26.5	- 36.5	19		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	26.5	- 36.5	0.043	J	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	26.5	- 36.5	6.7		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	26.5	- 36.5	0.00043	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	26.5	- 36.5	0.00075	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	26.5	- 36.5	3.1		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	26.5	- 36.5	141.5		FQ	#		
pH	s.u.	08/11/2015	N001	26.5	- 36.5	7.96		FQ	#		
Potassium	mg/L	08/11/2015	N001	26.5	- 36.5	1.6		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	26.5	- 36.5	0.00065	J	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	26.5	- 36.5	13		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	26.5	- 36.5	5.9		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	26.5	- 36.5	19		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	26.5	- 36.5	321		FQ	#		
Sulfate	mg/L	08/11/2015	N001	26.5	- 36.5	20		FQ	#	0.5	
Temperature	C	08/11/2015	N001	26.5	- 36.5	18.65		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	26.5	- 36.5	190		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	26.5	- 36.5	7.82		FQ	#		
Uranium	mg/L	08/11/2015	N001	26.5	- 36.5	0.0014		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0281 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	0001	70.5 - 80.5	117		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	0001	70.5 - 80.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	0001	70.5 - 80.5	0.00074	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	0001	70.5 - 80.5	83		FQ	#	0.012	
Chloride	mg/L	08/12/2015	0001	70.5 - 80.5	18		FQ	#	1	
Iron	mg/L	08/12/2015	0001	70.5 - 80.5	0.012	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	0001	70.5 - 80.5	15		FQ	#	0.013	
Manganese	mg/L	08/12/2015	0001	70.5 - 80.5	0.0021	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	0001	70.5 - 80.5	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	0001	70.5 - 80.5	21		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/12/2015	N001	70.5 - 80.5	110		FQ	#		
pH	s.u.	08/12/2015	N001	70.5 - 80.5	7.49		FQ	#		
Potassium	mg/L	08/12/2015	0001	70.5 - 80.5	1.9		FQ	#	0.11	
Selenium	mg/L	08/12/2015	0001	70.5 - 80.5	0.0019		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	0001	70.5 - 80.5	14		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	0001	70.5 - 80.5	6.4		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	0001	70.5 - 80.5	12		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	70.5 - 80.5	614		FQ	#		
Sulfate	mg/L	08/12/2015	0001	70.5 - 80.5	83		FQ	#	2.5	
Temperature	C	08/12/2015	N001	70.5 - 80.5	18.62		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	0001	70.5 - 80.5	400		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	70.5 - 80.5	30.6		FQ	#		
Uranium	mg/L	08/12/2015	0001	70.5 - 80.5	0.0047		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0282 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	74.1	-	84.1	124		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	74.1	-	84.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	74.1	-	84.1	0.00059	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	74.1	-	84.1	170		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	74.1	-	84.1	52		FQ	#	2	
Iron	mg/L	08/12/2015	N001	74.1	-	84.1	0.026	J	UFQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	74.1	-	84.1	31		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	74.1	-	84.1	0.002	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	74.1	-	84.1	0.00036	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	74.1	-	84.1	54		FQ	#	0.5	
Oxidation Reduction Potential	mV	08/12/2015	N001	74.1	-	84.1	135.7		FQ	#		
pH	s.u.	08/12/2015	N001	74.1	-	84.1	7.68		FQ	#		
Potassium	mg/L	08/12/2015	N001	74.1	-	84.1	3.1		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	74.1	-	84.1	0.00061	J	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	74.1	-	84.1	14		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	74.1	-	84.1	6.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	74.1	-	84.1	21		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	74.1	-	84.1	1143		FQ	#		
Sulfate	mg/L	08/12/2015	N001	74.1	-	84.1	180		FQ	#	5	
Temperature	C	08/12/2015	N001	74.1	-	84.1	20.34		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	74.1	-	84.1	830		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	74.1	-	84.1	2.42		FQ	#		
Uranium	mg/L	08/12/2015	N001	74.1	-	84.1	0.0093		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0286 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	93.2	- 103.2	588		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	93.2	- 103.2	31		FQ	#	2.5	
Arsenic	mg/L	08/11/2015	N001	93.2	- 103.2	0.0014		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	93.2	- 103.2	670		FQ	#	0.12	
Chloride	mg/L	08/11/2015	N001	93.2	- 103.2	120		FQ	#	100	
Iron	mg/L	08/11/2015	N001	93.2	- 103.2	0.044	J	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	93.2	- 103.2	260		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	93.2	- 103.2	2.8		FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	93.2	- 103.2	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	93.2	- 103.2	150		FQ	#	5	
Oxidation Reduction Potential	mV	08/11/2015	N001	93.2	- 103.2	299.2		FQ	#		
pH	s.u.	08/11/2015	N001	93.2	- 103.2	6.59		FQ	#		
Potassium	mg/L	08/11/2015	N001	93.2	- 103.2	21		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	93.2	- 103.2	0.02		FQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	93.2	- 103.2	17		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	93.2	- 103.2	7.7		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	93.2	- 103.2	280		FQ	#	0.066	
Specific Conductance	umhos /cm	08/11/2015	N001	93.2	- 103.2	4883		FQ	#		
Sulfate	mg/L	08/11/2015	N001	93.2	- 103.2	2300		FQ	#	250	
Temperature	C	08/11/2015	N001	93.2	- 103.2	18.02		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	93.2	- 103.2	4700		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	93.2	- 103.2	1.7		FQ	#		
Uranium	mg/L	08/11/2015	N001	93.2	- 103.2	0.39		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0287 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	100.7	- 110.7	599		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	100.7	- 110.7	1.3		FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	100.7	- 110.7	0.0018		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	100.7	- 110.7	850		FQ	#	0.12	
Chloride	mg/L	08/11/2015	N001	100.7	- 110.7	260		FQ	#	100	
Iron	mg/L	08/11/2015	N001	100.7	- 110.7	0.021	J	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	100.7	- 110.7	140		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	100.7	- 110.7	0.012		FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	100.7	- 110.7	0.15		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	100.7	- 110.7	270		FQ	#	5	
Oxidation Reduction Potential	mV	08/11/2015	N001	100.7	- 110.7	258.4		FQ	#		
pH	s.u.	08/11/2015	N001	100.7	- 110.7	6.57		FQ	#		
Potassium	mg/L	08/11/2015	N001	100.7	- 110.7	11		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	100.7	- 110.7	0.1		FQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	100.7	- 110.7	18		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	100.7	- 110.7	8.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	100.7	- 110.7	400		FQ	#	0.066	
Specific Conductance	umhos /cm	08/11/2015	N001	100.7	- 110.7	5411		FQ	#		
Sulfate	mg/L	08/11/2015	N001	100.7	- 110.7	1800		FQ	#	250	
Temperature	C	08/11/2015	N001	100.7	- 110.7	18.3		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	100.7	- 110.7	4900		JFQ	#	80	
Turbidity	NTU	08/11/2015	N001	100.7	- 110.7	1.55		FQ	#		
Uranium	mg/L	08/11/2015	N001	100.7	- 110.7	0.24		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0288 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	104	- 114	184		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	104	- 114	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	104	- 114	0.0012		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	104	- 114	140		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	104	- 114	19		FQ	#	2	
Iron	mg/L	08/11/2015	N001	104	- 114	0.0076	J	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	104	- 114	26		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	104	- 114	0.00054	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	104	- 114	0.001		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	104	- 114	40		FQ	#	0.25	
Oxidation Reduction Potential	mV	08/11/2015	N001	104	- 114	112		FQ	#		
pH	s.u.	08/11/2015	N001	104	- 114	7.01		FQ	#		
Potassium	mg/L	08/11/2015	N001	104	- 114	3.3		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	104	- 114	0.0012		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	104	- 114	14		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	104	- 114	6.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	104	- 114	31		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	104	- 114	1075		FQ	#		
Sulfate	mg/L	08/11/2015	N001	104	- 114	190		FQ	#	5	
Temperature	C	08/11/2015	N001	104	- 114	18.62		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	104	- 114	770		JFQ	#	20	
Turbidity	NTU	08/11/2015	N001	104	- 114	0.77		FQ	#		
Uranium	mg/L	08/11/2015	N001	104	- 114	0.0083		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0289 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	148.3	- 158.3	165		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	148.3	- 158.3	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	148.3	- 158.3	0.0014		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	148.3	- 158.3	91		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	148.3	- 158.3	15		FQ	#	1	
Iron	mg/L	08/11/2015	N001	148.3	- 158.3	0.1		FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	148.3	- 158.3	16		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	148.3	- 158.3	0.0037	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	148.3	- 158.3	0.00055	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	148.3	- 158.3	19		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/11/2015	N001	148.3	- 158.3	100.5		FQ	#		
pH	s.u.	08/11/2015	N001	148.3	- 158.3	7.17		FQ	#		
Potassium	mg/L	08/11/2015	N001	148.3	- 158.3	2.5		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	148.3	- 158.3	0.00086	J	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	148.3	- 158.3	14		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	148.3	- 158.3	6.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	148.3	- 158.3	20		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	148.3	- 158.3	816		FQ	#		
Sulfate	mg/L	08/11/2015	N001	148.3	- 158.3	82		FQ	#	2.5	
Temperature	C	08/11/2015	N001	148.3	- 158.3	17.68		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	148.3	- 158.3	430		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	148.3	- 158.3	6.2		FQ	#		
Uranium	mg/L	08/11/2015	N001	148.3	- 158.3	0.0071		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0290 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	102.7 - 112.7	202		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	102.7 - 112.7	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	102.7 - 112.7	0.00095	J	F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	102.7 - 112.7	340		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	102.7 - 112.7	59		F	#	4	
Iron	mg/L	08/11/2015	N001	102.7 - 112.7	0.024	J	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	102.7 - 112.7	50		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	102.7 - 112.7	0.00099	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	102.7 - 112.7	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	102.7 - 112.7	76		F	#	0.5	
Oxidation Reduction Potential	mV	08/11/2015	N001	102.7 - 112.7	115.4		F	#		
pH	s.u.	08/11/2015	N001	102.7 - 112.7	6.93		F	#		
Potassium	mg/L	08/11/2015	N001	102.7 - 112.7	5.4		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	102.7 - 112.7	0.0084		F	#	0.00032	
Silica	mg/L	08/11/2015	N001	102.7 - 112.7	17		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	102.7 - 112.7	7.9		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	102.7 - 112.7	73		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	102.7 - 112.7	2058		F	#		
Sulfate	mg/L	08/11/2015	N001	102.7 - 112.7	560		F	#	10	
Temperature	C	08/11/2015	N001	102.7 - 112.7	19.72		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	102.7 - 112.7	1600		F	#	40	
Turbidity	NTU	08/11/2015	N001	102.7 - 112.7	3.75		F	#		
Uranium	mg/L	08/11/2015	N001	102.7 - 112.7	0.057		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0683 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	95	-	145	85		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	95	-	145	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	95	-	145	0.0026		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	95	-	145	36		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	95	-	145	13		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	95	-	145	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	95	-	145	5.9		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	95	-	145	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	95	-	145	0.00047	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	95	-	145	3.3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	95	-	145	81.5		FQ	#		
pH	s.u.	08/11/2015	N001	95	-	145	7.93		FQ	#		
Potassium	mg/L	08/11/2015	N001	95	-	145	1.7		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	95	-	145	0.0016		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	95	-	145	13		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	95	-	145	6.1		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	95	-	145	12		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	95	-	145	300		FQ	#		
Sulfate	mg/L	08/11/2015	N001	95	-	145	19		FQ	#	0.5	
Temperature	C	08/11/2015	N001	95	-	145	17.47		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	95	-	145	180		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	95	-	145	1.08		FQ	#		
Uranium	mg/L	08/11/2015	N001	95	-	145	0.0014		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0684 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	N001	124.2	-	175.5	96		FQ	#		
Ammonia Total as N	mg/L	08/10/2015	N001	124.2	-	175.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/10/2015	N001	124.2	-	175.5	0.0037		FQ	#	0.00015	
Calcium	mg/L	08/10/2015	N001	124.2	-	175.5	34		FQ	#	0.012	
Chloride	mg/L	08/10/2015	N001	124.2	-	175.5	11		FQ	#	0.2	
Iron	mg/L	08/10/2015	N001	124.2	-	175.5	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/10/2015	N001	124.2	-	175.5	6.4		FQ	#	0.013	
Manganese	mg/L	08/10/2015	N001	124.2	-	175.5	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/10/2015	N001	124.2	-	175.5	0.00033	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	N001	124.2	-	175.5	3.1		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/10/2015	N001	124.2	-	175.5	125.8		FQ	#		
pH	s.u.	08/10/2015	N001	124.2	-	175.5	7.96		FQ	#		
Potassium	mg/L	08/10/2015	N001	124.2	-	175.5	1.5		FQ	#	0.11	
Selenium	mg/L	08/10/2015	N001	124.2	-	175.5	0.00089	J	JFQ	#	0.00032	
Silica	mg/L	08/10/2015	N001	124.2	-	175.5	12		FQ	#	0.0095	
Silicon	mg/L	08/10/2015	N001	124.2	-	175.5	5.5		FQ	#	0.0044	
Sodium	mg/L	08/10/2015	N001	124.2	-	175.5	13		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/10/2015	N001	124.2	-	175.5	282		FQ	#		
Sulfate	mg/L	08/10/2015	N001	124.2	-	175.5	16		FQ	#	0.5	
Temperature	C	08/10/2015	N001	124.2	-	175.5	19.04		FQ	#		
Total Dissolved Solids	mg/L	08/10/2015	N001	124.2	-	175.5	170		JFQ	#	20	
Turbidity	NTU	08/10/2015	N001	124.2	-	175.5	2.13		FQ	#		
Uranium	mg/L	08/10/2015	N001	124.2	-	175.5	0.0014		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0685 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	93.66	- 145.5	88		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	93.66	- 145.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	93.66	- 145.5	0.0033		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	93.66	- 145.5	33		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	93.66	- 145.5	12		F	#	0.2	
Iron	mg/L	08/12/2015	N001	93.66	- 145.5	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	93.66	- 145.5	6.2		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	93.66	- 145.5	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	93.66	- 145.5	0.00068	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	93.66	- 145.5	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	93.66	- 145.5	129.7		F	#		
pH	s.u.	08/12/2015	N001	93.66	- 145.5	7.97		F	#		
Potassium	mg/L	08/12/2015	N001	93.66	- 145.5	1.4		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	93.66	- 145.5	0.00086	J	JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	93.66	- 145.5	11		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	93.66	- 145.5	5.3		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	93.66	- 145.5	12		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	93.66	- 145.5	281		F	#		
Sulfate	mg/L	08/12/2015	N001	93.66	- 145.5	17		F	#	0.5	
Temperature	C	08/12/2015	N001	93.66	- 145.5	20.2		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	93.66	- 145.5	150		JF	#	20	
Turbidity	NTU	08/12/2015	N001	93.66	- 145.5	2.17		F	#		
Uranium	mg/L	08/12/2015	N001	93.66	- 145.5	0.0013		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0687 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	60	-	100	48		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	60	-	100	0.011		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	60	-	100	15		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	60	-	100	5.7		F	#	0.2	
Iron	mg/L	08/11/2015	N001	60	-	100	0.02	J	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	60	-	100	1.9		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	60	-	100	0.00018	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	60	-	100	0.0022		F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	60	-	100	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	60	-	100	128		F	#		
pH	s.u.	08/11/2015	N001	60	-	100	8.46		F	#		
Potassium	mg/L	08/11/2015	N001	60	-	100	1.3		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	60	-	100	0.00082	J	JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	60	-	100	11		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	60	-	100	5.4		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	60	-	100	21		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	60	-	100	204		F	#		
Sulfate	mg/L	08/11/2015	N001	60	-	100	21		F	#	0.5	
Temperature	C	08/11/2015	N001	60	-	100	19.31		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	60	-	100	140		F	#	20	
Turbidity	NTU	08/11/2015	N001	60	-	100	2.96		F	#		
Uranium	mg/L	08/11/2015	N001	60	-	100	0.00065		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0688 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	60	-	100	77		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	60	-	100	0.0019		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	60	-	100	100		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	60	-	100	82		F	#	1	
Iron	mg/L	08/12/2015	N001	60	-	100	0.053	J	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	60	-	100	14		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	60	-	100	0.00056	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	60	-	100	0.0011		F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	60	-	100	7.3		F	#	0.1	
Oxidation Reduction Potential	mV	08/12/2015	N001	60	-	100	143.3		F	#		
pH	s.u.	08/12/2015	N001	60	-	100	7.76		F	#		
Potassium	mg/L	08/12/2015	N001	60	-	100	3		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	60	-	100	0.0078		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	60	-	100	13		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	60	-	100	6.3		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	60	-	100	33		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	60	-	100	773		F	#		
Sulfate	mg/L	08/12/2015	N001	60	-	100	160		F	#	2.5	
Temperature	C	08/12/2015	N001	60	-	100	19.75		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	60	-	100	480		JF	#	20	
Turbidity	NTU	08/12/2015	N001	60	-	100	2.27		F	#		
Uranium	mg/L	08/12/2015	N001	60	-	100	0.0029		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0689 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55	-	95	83		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55	-	95	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55	-	95	0.0023		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55	-	95	34		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	55	-	95	10		F	#	0.2	
Iron	mg/L	08/11/2015	N001	55	-	95	0.039	J	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55	-	95	6.6		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	55	-	95	0.00054	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55	-	95	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55	-	95	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	55	-	95	139.2		F	#		
pH	s.u.	08/11/2015	N001	55	-	95	8.09		F	#		
Potassium	mg/L	08/11/2015	N001	55	-	95	1.6		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	55	-	95	0.00093	J	JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	55	-	95	13		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55	-	95	5.9		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55	-	95	7.7		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55	-	95	264		F	#		
Sulfate	mg/L	08/11/2015	N001	55	-	95	13		F	#	0.5	
Temperature	C	08/11/2015	N001	55	-	95	18.17		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55	-	95	160		F	#	20	
Turbidity	NTU	08/11/2015	N001	55	-	95	0.8		F	#		
Uranium	mg/L	08/11/2015	N001	55	-	95	0.0012		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0690 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55	- 95	83		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55	- 95	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55	- 95	0.0011		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55	- 95	28		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	55	- 95	9.3		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	55	- 95	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55	- 95	7.6		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	55	- 95	0.0021	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55	- 95	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55	- 95	3.1		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	55	- 95	126.2		FQ	#		
pH	s.u.	08/11/2015	N001	55	- 95	8.03		FQ	#		
Potassium	mg/L	08/11/2015	N001	55	- 95	2.5		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	55	- 95	0.0017		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	55	- 95	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55	- 95	5.5		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55	- 95	8.5		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55	- 95	254		FQ	#		
Sulfate	mg/L	08/11/2015	N001	55	- 95	12		FQ	#	0.5	
Temperature	C	08/11/2015	N001	55	- 95	21.14		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55	- 95	140		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	55	- 95	2.94		FQ	#		
Uranium	mg/L	08/11/2015	N001	55	- 95	0.0018		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0691 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55	-	95	286		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55	-	95	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55	-	95	0.0014		UF	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55	-	95	500		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	55	-	95	82		F	#	50	
Iron	mg/L	08/11/2015	N001	55	-	95	0.0065	J	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55	-	95	72		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	55	-	95	0.014		F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55	-	95	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55	-	95	95		F	#	1	
Oxidation Reduction Potential	mV	08/11/2015	N001	55	-	95	165		F	#		
pH	s.u.	08/11/2015	N001	55	-	95	6.92		F	#		
Potassium	mg/L	08/11/2015	N001	55	-	95	6.5		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	55	-	95	0.007		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	55	-	95	17		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55	-	95	7.9		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55	-	95	66		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55	-	95	2572		F	#		
Sulfate	mg/L	08/11/2015	N001	55	-	95	850		F	#	120	
Temperature	C	08/11/2015	N001	55	-	95	18.77		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55	-	95	1900		F	#	400	
Turbidity	NTU	08/11/2015	N001	55	-	95	1.01		F	#		
Uranium	mg/L	08/11/2015	N001	55	-	95	0.13		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0692 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55	- 95	77		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55	- 95	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55	- 95	0.0066		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55	- 95	28		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	55	- 95	12		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	55	- 95	0.082	J	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55	- 95	6.4		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	55	- 95	0.025		FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55	- 95	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55	- 95	3		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	55	- 95	138.9		FQ	#		
pH	s.u.	08/11/2015	N001	55	- 95	8.11		FQ	#		
Potassium	mg/L	08/11/2015	N001	55	- 95	3.9		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	55	- 95	0.00045	J	UJFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	55	- 95	13		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55	- 95	5.9		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55	- 95	11		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55	- 95	263		FQ	#		
Sulfate	mg/L	08/11/2015	N001	55	- 95	15		FQ	#	0.5	
Temperature	C	08/11/2015	N001	55	- 95	17.8		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55	- 95	140		JFQ	#	20	
Turbidity	NTU	08/11/2015	N001	55	- 95	6.13		FQ	#		
Uranium	mg/L	08/11/2015	N001	55	- 95	0.002		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0695 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55	-	95	87		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55	-	95	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55	-	95	0.0021		UF	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55	-	95	45		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	55	-	95	14		F	#	0.2	
Iron	mg/L	08/11/2015	N001	55	-	95	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55	-	95	6.9		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	55	-	95	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55	-	95	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55	-	95	4.5		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	55	-	95	138.2		F	#		
pH	s.u.	08/11/2015	N001	55	-	95	7.97		F	#		
Potassium	mg/L	08/11/2015	N001	55	-	95	1.9		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	55	-	95	0.0015		UJF	#	0.00032	
Silica	mg/L	08/11/2015	N001	55	-	95	12		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55	-	95	5.8		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55	-	95	12		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55	-	95	352		F	#		
Sulfate	mg/L	08/11/2015	N001	55	-	95	38		F	#	0.5	
Temperature	C	08/11/2015	N001	55	-	95	18.17		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55	-	95	210		F	#	20	
Turbidity	NTU	08/11/2015	N001	55	-	95	0.82		F	#		
Uranium	mg/L	08/11/2015	N001	55	-	95	0.0019		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0901 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	58	-	78	94		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	58	-	78	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	58	-	78	0.0039		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	58	-	78	40		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	58	-	78	18		F	#	0.2	
Iron	mg/L	08/11/2015	N001	58	-	78	0.19		F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	58	-	78	6.6		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	58	-	78	0.0046	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	58	-	78	0.00085	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	58	-	78	3.2		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	58	-	78	141.3		F	#		
pH	s.u.	08/11/2015	N001	58	-	78	7.95		F	#		
Potassium	mg/L	08/11/2015	N001	58	-	78	1.4		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	58	-	78	0.0022		UJF	#	0.00032	
Silica	mg/L	08/11/2015	N001	58	-	78	14		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	58	-	78	6.6		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	58	-	78	18		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	58	-	78	338		F	#		
Sulfate	mg/L	08/11/2015	N001	58	-	78	27		F	#	0.5	
Temperature	C	08/11/2015	N001	58	-	78	16.55		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	58	-	78	190		F	#	20	
Turbidity	NTU	08/11/2015	N001	58	-	78	4.75		F	#		
Uranium	mg/L	08/11/2015	N001	58	-	78	0.0018		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0902 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	63	-	73	120		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	63	-	73	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	63	-	73	0.0093		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	63	-	73	0.78	J	FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	63	-	73	7.7		UFQ	#	0.2	
Iron	mg/L	08/11/2015	N001	63	-	73	0.27		FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	63	-	73	0.15	J	UFQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	63	-	73	0.0047	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	63	-	73	0.00036	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	63	-	73	1.5		FQ	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	63	-	73	108.6		FQ	#		
pH	s.u.	08/11/2015	N001	63	-	73	10.28		FQ	#		
Potassium	mg/L	08/11/2015	N001	63	-	73	1.2		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	63	-	73	0.003		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	63	-	73	18		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	63	-	73	8.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	63	-	73	67		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	63	-	73	337		FQ	#		
Sulfate	mg/L	08/11/2015	N001	63	-	73	10		FQ	#	0.5	
Temperature	C	08/11/2015	N001	63	-	73	18.47		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	63	-	73	180		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	63	-	73	5.12		FQ	#		
Uranium	mg/L	08/11/2015	N001	63	-	73	0.00098		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0903 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers		Detection Limit	Uncertainty
									Data	QA		
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	28	-	48	93		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	28	-	48	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	28	-	48	0.002		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	28	-	48	73		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	28	-	48	26		F	#	1	
Iron	mg/L	08/12/2015	N001	28	-	48	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	28	-	48	14		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	28	-	48	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	28	-	48	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	28	-	48	15		F	#	0.2	
Oxidation Reduction Potential	mV	08/12/2015	N001	28	-	48	140.6		F	#		
pH	s.u.	08/12/2015	N001	28	-	48	7.78		F	#		
Potassium	mg/L	08/12/2015	N001	28	-	48	2.3		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	28	-	48	0.0016		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	28	-	48	12		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	28	-	48	5.8		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	28	-	48	15		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	28	-	48	565		F	#		
Sulfate	mg/L	08/12/2015	N001	28	-	48	87		F	#	2.5	
Temperature	C	08/12/2015	N001	28	-	48	19.02		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	28	-	48	350		JF	#	20	
Turbidity	NTU	08/12/2015	N001	28	-	48	0.65		F	#		
Uranium	mg/L	08/12/2015	N001	28	-	48	0.0025		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0904 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	28	-	38	171		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	28	-	38	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	28	-	38	0.0014		UF	#	0.00015	
Calcium	mg/L	08/11/2015	N001	28	-	38	57		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	28	-	38	110		F	#	2	
Iron	mg/L	08/11/2015	N001	28	-	38	1.5		F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	28	-	38	11		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	28	-	38	0.15		F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	28	-	38	0.00093	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	28	-	38	1.7		F	#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	28	-	38	191.7		F	#		
pH	s.u.	08/11/2015	N001	28	-	38	7.99		F	#		
Potassium	mg/L	08/11/2015	N001	28	-	38	1.7		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	28	-	38	0.01		F	#	0.00032	
Silica	mg/L	08/11/2015	N001	28	-	38	28		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	28	-	38	13		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	28	-	38	110		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	28	-	38	786		F	#		
Sulfate	mg/L	08/11/2015	N001	28	-	38	67		F	#	5	
Temperature	C	08/11/2015	N001	28	-	38	19.32		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	28	-	38	440		F	#	20	
Turbidity	NTU	08/11/2015	N001	28	-	38	5.1		F	#		
Uranium	mg/L	08/11/2015	N001	28	-	38	0.0041		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0906 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	44	-	64	688		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	44	-	64	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	44	-	64	0.0017		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	44	-	64	930		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	44	-	64	180		FQ	#	50	
Iron	mg/L	08/12/2015	N001	44	-	64	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	44	-	64	350		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	44	-	64	0.041		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	44	-	64	0.0012		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	44	-	64	520		JFQ	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	44	-	64	117		FQ	#		
pH	s.u.	08/12/2015	N001	44	-	64	6.34		FQ	#		
Potassium	mg/L	08/12/2015	N001	44	-	64	14		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	44	-	64	0.045		FQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	44	-	64	15		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	44	-	64	6.9		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	44	-	64	400		FQ	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	44	-	64	7214		FQ	#		
Sulfate	mg/L	08/12/2015	N001	44	-	64	2100		FQ	#	120	
Temperature	C	08/12/2015	N001	44	-	64	20.86		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	44	-	64	6600	*	JFQ	#	200	
Turbidity	NTU	08/12/2015	N001	44	-	64	1.39		FQ	#		
Uranium	mg/L	08/12/2015	N001	44	-	64	0.41		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0908 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	52	-	67	580		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	52	-	67	75		FQ	#	2.5	
Arsenic	mg/L	08/12/2015	N001	52	-	67	0.0018		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	52	-	67	610		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	52	-	67	83		FQ	#	40	
Iron	mg/L	08/12/2015	N001	52	-	67	0.018	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	52	-	67	420		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	52	-	67	0.14		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	52	-	67	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	52	-	67	240		FQ	#	2	
Oxidation Reduction Potential	mV	08/12/2015	N001	52	-	67	268.6		FQ	#		
pH	s.u.	08/12/2015	N001	52	-	67	6.64		FQ	#		
Potassium	mg/L	08/12/2015	N001	52	-	67	33		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	52	-	67	0.015		FQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	52	-	67	18		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	52	-	67	8.6		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	52	-	67	280		FQ	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	52	-	67	5829		FQ	#		
Sulfate	mg/L	08/12/2015	N001	52	-	67	2600		FQ	#	100	
Temperature	C	08/12/2015	N001	52	-	67	17.36		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	52	-	67	5400		JFQ	#	80	
Turbidity	NTU	08/12/2015	N001	52	-	67	1.3		FQ	#		
Uranium	mg/L	08/12/2015	N001	52	-	67	0.076		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0910 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	97	-	197	87		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	97	-	197	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	97	-	197	0.0032		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	97	-	197	33		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	97	-	197	11		F	#	0.2	
Iron	mg/L	08/11/2015	N001	97	-	197	0.0084	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	97	-	197	5.2		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	97	-	197	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	97	-	197	0.00048	J	UF	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	97	-	197	2.9		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	97	-	197	132.3		F	#		
pH	s.u.	08/11/2015	N001	97	-	197	8.25		F	#		
Potassium	mg/L	08/11/2015	N001	97	-	197	1.3		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	97	-	197	0.001		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	97	-	197	11		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	97	-	197	5.1		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	97	-	197	12		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	97	-	197	268		F	#		
Sulfate	mg/L	08/11/2015	N001	97	-	197	14		F	#	0.5	
Temperature	C	08/11/2015	N001	97	-	197	16.48		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	97	-	197	140		F	#	20	
Turbidity	NTU	08/11/2015	N001	97	-	197	2.3		F	#		
Uranium	mg/L	08/11/2015	N001	97	-	197	0.001		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0911 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	309.4 - 349.4	72		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	309.4 - 349.4	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	309.4 - 349.4	0.0027		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	309.4 - 349.4	27		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	309.4 - 349.4	7.1		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	309.4 - 349.4	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	309.4 - 349.4	5.2		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	309.4 - 349.4	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	309.4 - 349.4	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	309.4 - 349.4	3.1		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	309.4 - 349.4	121.3		FQ	#		
pH	s.u.	08/11/2015	N001	309.4 - 349.4	8.08		FQ	#		
Potassium	mg/L	08/11/2015	N001	309.4 - 349.4	1.5		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	309.4 - 349.4	0.00032	U	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	309.4 - 349.4	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	309.4 - 349.4	5.7		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	309.4 - 349.4	7.4		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	309.4 - 349.4	221		FQ	#		
Sulfate	mg/L	08/11/2015	N001	309.4 - 349.4	9.4		FQ	#	0.5	
Temperature	C	08/11/2015	N001	309.4 - 349.4	16.98		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	309.4 - 349.4	140		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	309.4 - 349.4	0.97		FQ	#		
Uranium	mg/L	08/11/2015	N001	309.4 - 349.4	0.0013		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0912 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	123	- 163	320		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	123	- 163	0.47		F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	123	- 163	0.0014		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	123	- 163	280		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	123	- 163	31		F	#	4	
Iron	mg/L	08/12/2015	N001	123	- 163	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	123	- 163	68		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	123	- 163	0.003	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	123	- 163	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	123	- 163	70		F	#	0.5	
Oxidation Reduction Potential	mV	08/12/2015	N001	123	- 163	100		F	#		
pH	s.u.	08/12/2015	N001	123	- 163	6.82		F	#		
Potassium	mg/L	08/12/2015	N001	123	- 163	6.9		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	123	- 163	0.0079		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	123	- 163	13		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	123	- 163	6.3		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	123	- 163	73		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	123	- 163	1933		F	#		
Sulfate	mg/L	08/12/2015	N001	123	- 163	520		F	#	10	
Temperature	C	08/12/2015	N001	123	- 163	19.72		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	123	- 163	1400		JF	#	40	
Turbidity	NTU	08/12/2015	N001	123	- 163	0.54		F	#		
Uranium	mg/L	08/12/2015	N001	123	- 163	0.023		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0913 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	328.7	- 368.7	74		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	328.7	- 368.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	328.7	- 368.7	0.0026		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	328.7	- 368.7	24		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	328.7	- 368.7	5.9		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	328.7	- 368.7	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	328.7	- 368.7	4.8		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	328.7	- 368.7	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	328.7	- 368.7	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	328.7	- 368.7	3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	328.7	- 368.7	72		FQ	#		
pH	s.u.	08/12/2015	N001	328.7	- 368.7	8.1		FQ	#		
Potassium	mg/L	08/12/2015	N001	328.7	- 368.7	1.6		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	328.7	- 368.7	0.00081	J	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	328.7	- 368.7	9.9		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	328.7	- 368.7	4.6		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	328.7	- 368.7	6.8		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	328.7	- 368.7	205		FQ	#		
Sulfate	mg/L	08/12/2015	N001	328.7	- 368.7	8.1		FQ	#	0.5	
Temperature	C	08/12/2015	N001	328.7	- 368.7	18.4		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	328.7	- 368.7	120		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	328.7	- 368.7	0.25		FQ	#		
Uranium	mg/L	08/12/2015	N001	328.7	- 368.7	0.0014		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0914 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers		Detection Limit	Uncertainty
									Data	QA		
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	137.2	-	154.2	27		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	137.2	-	154.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	137.2	-	154.2	0.0013		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	137.2	-	154.2	6.3		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	137.2	-	154.2	12		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	137.2	-	154.2	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	137.2	-	154.2	0.25	J	FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	137.2	-	154.2	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	137.2	-	154.2	0.00094	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	137.2	-	154.2	2.6		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	137.2	-	154.2	104.4		FQ	#		
pH	s.u.	08/11/2015	N001	137.2	-	154.2	9.55		FQ	#		
Potassium	mg/L	08/11/2015	N001	137.2	-	154.2	5.4		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	137.2	-	154.2	0.00032	U	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	137.2	-	154.2	37		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	137.2	-	154.2	17		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	137.2	-	154.2	19		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	137.2	-	154.2	159		FQ	#		
Sulfate	mg/L	08/11/2015	N001	137.2	-	154.2	13		FQ	#	0.5	
Temperature	C	08/11/2015	N001	137.2	-	154.2	18.26		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	137.2	-	154.2	130		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	137.2	-	154.2	0.54		FQ	#		
Uranium	mg/L	08/11/2015	N001	137.2	-	154.2	0.000029	U	FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0915 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	170	-	180	35		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	170	-	180	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	170	-	180	0.00062	J	UFQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	170	-	180	16		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	170	-	180	13		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	170	-	180	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	170	-	180	0.52	J	FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	170	-	180	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	170	-	180	0.00043	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	170	-	180	3.1		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	170	-	180	39.9		FQ	#		
pH	s.u.	08/11/2015	N001	170	-	180	10.66		FQ	#		
Potassium	mg/L	08/11/2015	N001	170	-	180	2.4		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	170	-	180	0.00095	J	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	170	-	180	7.3		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	170	-	180	3.4		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	170	-	180	13		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	170	-	180	247		FQ	#		
Sulfate	mg/L	08/11/2015	N001	170	-	180	18		FQ	#	0.5	
Temperature	C	08/11/2015	N001	170	-	180	19.07		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	170	-	180	110		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	170	-	180	0.66		FQ	#		
Uranium	mg/L	08/11/2015	N001	170	-	180	0.000029	U	FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0916 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	345.7	- 355.7	254		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	345.7	- 355.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	345.7	- 355.7	0.00077	J	UFQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	345.7	- 355.7	93		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	345.7	- 355.7	7.2		FQ	#	2	
Iron	mg/L	08/11/2015	N001	345.7	- 355.7	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	345.7	- 355.7	0.013	U	FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	345.7	- 355.7	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	345.7	- 355.7	0.00062	J	UFQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	345.7	- 355.7	1.8		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	345.7	- 355.7	9.6		FQ	#		
pH	s.u.	08/11/2015	N001	345.7	- 355.7	11.55		FQ	#		
Potassium	mg/L	08/11/2015	N001	345.7	- 355.7	6.6		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	345.7	- 355.7	0.00062	J	JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	345.7	- 355.7	16		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	345.7	- 355.7	7.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	345.7	- 355.7	19		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	345.7	- 355.7	1230		FQ	#		
Sulfate	mg/L	08/11/2015	N001	345.7	- 355.7	11		FQ	#	5	
Temperature	C	08/11/2015	N001	345.7	- 355.7	17.58		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	345.7	- 355.7	310		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	345.7	- 355.7	0.42		FQ	#		
Uranium	mg/L	08/11/2015	N001	345.7	- 355.7	0.000029	U	FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0917 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	128	-	148	79		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	128	-	148	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	128	-	148	0.0028		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	128	-	148	33		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	128	-	148	10		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	128	-	148	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	128	-	148	6.2		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	128	-	148	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	128	-	148	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	128	-	148	3.8		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	128	-	148	72.8		FQ	#		
pH	s.u.	08/12/2015	N001	128	-	148	8.29		FQ	#		
Potassium	mg/L	08/12/2015	N001	128	-	148	1.6		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	128	-	148	0.00032	U	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	128	-	148	12		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	128	-	148	5.5		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	128	-	148	7.2		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	128	-	148	262		FQ	#		
Sulfate	mg/L	08/12/2015	N001	128	-	148	14		FQ	#	0.5	
Temperature	C	08/12/2015	N001	128	-	148	17.16		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	128	-	148	150		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	128	-	148	2.55		FQ	#		
Uranium	mg/L	08/12/2015	N001	128	-	148	0.00096		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0919 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	337.7 - 347.7	1151		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	337.7 - 347.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	337.7 - 347.7	0.00065	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	337.7 - 347.7	470		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	337.7 - 347.7	2.7		FQ	#	1.6	
Iron	mg/L	08/12/2015	N001	337.7 - 347.7	0.042	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	337.7 - 347.7	0.55	J	FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	337.7 - 347.7	0.0011	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	337.7 - 347.7	0.0014		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	337.7 - 347.7	0.94		FQ	#	0.2	
Oxidation Reduction Potential	mV	08/12/2015	N001	337.7 - 347.7	1.6		FQ	#		
pH	s.u.	08/12/2015	N001	337.7 - 347.7	12.27		FQ	#		
Potassium	mg/L	08/12/2015	N001	337.7 - 347.7	14		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	337.7 - 347.7	0.00032	U	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	337.7 - 347.7	2.8		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	337.7 - 347.7	1.3		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	337.7 - 347.7	17		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	337.7 - 347.7	5185		FQ	#		
Sulfate	mg/L	08/12/2015	N001	337.7 - 347.7	6.1		FQ	#	4	
Temperature	C	08/12/2015	N001	337.7 - 347.7	17.29		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	337.7 - 347.7	1300		JFQ	#	80	
Turbidity	NTU	08/12/2015	N001	337.7 - 347.7	1.66		FQ	#		
Uranium	mg/L	08/12/2015	N001	337.7 - 347.7	0.00011		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0920 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	114.4 - 154.4	88		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	114.4 - 154.4	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	114.4 - 154.4	0.0033		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	114.4 - 154.4	33		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	114.4 - 154.4	9.5		F	#	0.2	
Iron	mg/L	08/12/2015	N001	114.4 - 154.4	0.011	J	UF	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	114.4 - 154.4	6.8		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	114.4 - 154.4	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	114.4 - 154.4	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	114.4 - 154.4	3.5		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	114.4 - 154.4	131		F	#		
pH	s.u.	08/12/2015	N001	114.4 - 154.4	8.05		F	#		
Potassium	mg/L	08/12/2015	N001	114.4 - 154.4	1.7		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	114.4 - 154.4	0.00068	J	JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	114.4 - 154.4	11		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	114.4 - 154.4	5.2		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	114.4 - 154.4	7.6		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	114.4 - 154.4	267		F	#		
Sulfate	mg/L	08/12/2015	N001	114.4 - 154.4	13		F	#	0.5	
Temperature	C	08/12/2015	N001	114.4 - 154.4	19.64		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	114.4 - 154.4	140		JF	#	20	
Turbidity	NTU	08/12/2015	N001	114.4 - 154.4	1.08		F	#		
Uranium	mg/L	08/12/2015	N001	114.4 - 154.4	0.0014		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0921 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	313.2 - 353.2	67		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	313.2 - 353.2	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	313.2 - 353.2	0.00032	J	F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	313.2 - 353.2	25		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	313.2 - 353.2	6.6		F	#	0.2	
Iron	mg/L	08/12/2015	N001	313.2 - 353.2	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	313.2 - 353.2	3.6		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	313.2 - 353.2	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	313.2 - 353.2	0.00042	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	313.2 - 353.2	2.6		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	313.2 - 353.2	123.5		F	#		
pH	s.u.	08/12/2015	N001	313.2 - 353.2	8.24		F	#		
Potassium	mg/L	08/12/2015	N001	313.2 - 353.2	5.3		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	313.2 - 353.2	0.00039	J	JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	313.2 - 353.2	9.6		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	313.2 - 353.2	4.5		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	313.2 - 353.2	9		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	313.2 - 353.2	216		F	#		
Sulfate	mg/L	08/12/2015	N001	313.2 - 353.2	8.4		F	#	0.5	
Temperature	C	08/12/2015	N001	313.2 - 353.2	18.54		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	313.2 - 353.2	100		JF	#	20	
Turbidity	NTU	08/12/2015	N001	313.2 - 353.2	0.51		F	#		
Uranium	mg/L	08/12/2015	N001	313.2 - 353.2	0.0047		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0929 WELL No Log Information.

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	48.2	-	88.2	110		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	48.2	-	88.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	48.2	-	88.2	0.0014		FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	48.2	-	88.2	49		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	48.2	-	88.2	16		FQ	#	1	
Iron	mg/L	08/12/2015	N001	48.2	-	88.2	0.088	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	48.2	-	88.2	7.9		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	48.2	-	88.2	0.00064	J	FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	48.2	-	88.2	0.00046	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	48.2	-	88.2	13		FQ	#	0.1	
Oxidation Reduction Potential	mV	08/12/2015	N001	48.2	-	88.2	207.7		FQ	#		
pH	s.u.	08/12/2015	N001	48.2	-	88.2	7.85		FQ	#		
Potassium	mg/L	08/12/2015	N001	48.2	-	88.2	1.9		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	48.2	-	88.2	0.0023		JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	48.2	-	88.2	12		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	48.2	-	88.2	5.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	48.2	-	88.2	11		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	48.2	-	88.2	375		FQ	#		
Sulfate	mg/L	08/12/2015	N001	48.2	-	88.2	24		FQ	#	2.5	
Temperature	C	08/12/2015	N001	48.2	-	88.2	17.3		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	48.2	-	88.2	210		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	48.2	-	88.2	5.31		FQ	#		
Uranium	mg/L	08/12/2015	N001	48.2	-	88.2	0.0015		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0930 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	20	-	50	113		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	20	-	50	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	20	-	50	0.0019		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	20	-	50	180		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	20	-	50	53		F	#	2	
Iron	mg/L	08/11/2015	N001	20	-	50	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	20	-	50	35		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	20	-	50	0.00013	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	20	-	50	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	20	-	50	41		F	#	0.5	
Oxidation Reduction Potential	mV	08/11/2015	N001	20	-	50	168.7		F	#		
pH	s.u.	08/11/2015	N001	20	-	50	7.6		F	#		
Potassium	mg/L	08/11/2015	N001	20	-	50	3.7		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	20	-	50	0.0026		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	20	-	50	13		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	20	-	50	6.2		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	20	-	50	23		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	20	-	50	1179		F	#		
Sulfate	mg/L	08/11/2015	N001	20	-	50	240		F	#	5	
Temperature	C	08/11/2015	N001	20	-	50	18.29		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	20	-	50	830		F	#	20	
Turbidity	NTU	08/11/2015	N001	20	-	50	1.62		F	#		
Uranium	mg/L	08/11/2015	N001	20	-	50	0.01		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0932 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	112.5 - 132.5	95		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	112.5 - 132.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	112.5 - 132.5	0.002		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	112.5 - 132.5	54		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	112.5 - 132.5	13		F	#	1	
Iron	mg/L	08/12/2015	N001	112.5 - 132.5	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	112.5 - 132.5	10		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	112.5 - 132.5	0.00038	J	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	112.5 - 132.5	0.00073	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	112.5 - 132.5	9.6		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	112.5 - 132.5	131.6		F	#		
pH	s.u.	08/12/2015	N001	112.5 - 132.5	7.94		F	#		
Potassium	mg/L	08/12/2015	N001	112.5 - 132.5	2		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	112.5 - 132.5	0.0018		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	112.5 - 132.5	12		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	112.5 - 132.5	5.8		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	112.5 - 132.5	12		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	112.5 - 132.5	372		F	#		
Sulfate	mg/L	08/12/2015	N001	112.5 - 132.5	40		F	#	2.5	
Temperature	C	08/12/2015	N001	112.5 - 132.5	18.04		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	112.5 - 132.5	220		JF	#	20	
Turbidity	NTU	08/12/2015	N001	112.5 - 132.5	3.61		F	#		
Uranium	mg/L	08/12/2015	N001	112.5 - 132.5	0.0031		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0934 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	45	-	90	693		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	45	-	90	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	45	-	90	0.00064	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	45	-	90	710		FQ	#	0.12	
Chloride	mg/L	08/12/2015	N001	45	-	90	220		FQ	#	50	
Iron	mg/L	08/12/2015	N001	45	-	90	0.029	J	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	45	-	90	710		FQ	#	0.13	
Manganese	mg/L	08/12/2015	N001	45	-	90	0.0054		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	45	-	90	0.00055	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	45	-	90	400		FQ	#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	45	-	90	233		FQ	#		
pH	s.u.	08/12/2015	N001	45	-	90	6.7		FQ	#		
Potassium	mg/L	08/12/2015	N001	45	-	90	12		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	45	-	90	0.01		FQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	45	-	90	18		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	45	-	90	8.2		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	45	-	90	160		FQ	#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	45	-	90	6716		FQ	#		
Sulfate	mg/L	08/12/2015	N001	45	-	90	2700		FQ	#	120	
Temperature	C	08/12/2015	N001	45	-	90	17.75		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	45	-	90	7100	*	JFQ	#	200	
Turbidity	NTU	08/12/2015	N001	45	-	90	3.9		FQ	#		
Uranium	mg/L	08/12/2015	N001	45	-	90	0.17		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0935 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	50	-	90	528			#		
Ammonia Total as N	mg/L	08/12/2015	N001	50	-	90	57			#	2.5	
Arsenic	mg/L	08/12/2015	N001	50	-	90	0.0018			#	0.00015	
Calcium	mg/L	08/12/2015	N001	50	-	90	630			#	0.12	
Chloride	mg/L	08/12/2015	N001	50	-	90	97			#	50	
Iron	mg/L	08/12/2015	N001	50	-	90	0.017	J		#	0.0049	
Magnesium	mg/L	08/12/2015	N001	50	-	90	320			#	0.013	
Manganese	mg/L	08/12/2015	N001	50	-	90	1.1			#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	50	-	90	0.00032	U		#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	50	-	90	180			#	2	
Oxidation Reduction Potential	mV	08/12/2015	N001	50	-	90	255.7			#		
pH	s.u.	08/12/2015	N001	50	-	90	6.58			#		
Potassium	mg/L	08/12/2015	N001	50	-	90	27			#	0.11	
Selenium	mg/L	08/12/2015	N001	50	-	90	0.011			#	0.00032	
Silica	mg/L	08/12/2015	N001	50	-	90	20			#	0.0095	
Silicon	mg/L	08/12/2015	N001	50	-	90	9.2			#	0.0044	
Sodium	mg/L	08/12/2015	N001	50	-	90	270			#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	50	-	90	5162			#		
Sulfate	mg/L	08/12/2015	N001	50	-	90	2300			#	120	
Temperature	C	08/12/2015	N001	50	-	90	18.77			#		
Total Dissolved Solids	mg/L	08/12/2015	N001	50	-	90	4400		J	#	80	
Turbidity	NTU	08/12/2015	N001	50	-	90	1.45			#		
Uranium	mg/L	08/12/2015	N001	50	-	90	0.096			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0938 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	40	-	95	768			#		
Ammonia Total as N	mg/L	08/12/2015	N001	40	-	95	15			#	2.5	
Arsenic	mg/L	08/12/2015	N001	40	-	95	0.00079	J		#	0.00015	
Calcium	mg/L	08/12/2015	N001	40	-	95	820			#	0.12	
Chloride	mg/L	08/12/2015	N001	40	-	95	180			#	50	
Iron	mg/L	08/12/2015	N001	40	-	95	0.0049	U		#	0.0049	
Magnesium	mg/L	08/12/2015	N001	40	-	95	480			#	0.13	
Manganese	mg/L	08/12/2015	N001	40	-	95	0.58			#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	40	-	95	0.0018			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	40	-	95	380			#	5	
Oxidation Reduction Potential	mV	08/12/2015	N001	40	-	95	253.1			#		
pH	s.u.	08/12/2015	N001	40	-	95	6.71			#		
Potassium	mg/L	08/12/2015	N001	40	-	95	22			#	0.11	
Selenium	mg/L	08/12/2015	N001	40	-	95	0.077			#	0.00032	
Silica	mg/L	08/12/2015	N001	40	-	95	15			#	0.0095	
Silicon	mg/L	08/12/2015	N001	40	-	95	7.2			#	0.0044	
Sodium	mg/L	08/12/2015	N001	40	-	95	390			#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	40	-	95	6803			#		
Sulfate	mg/L	08/12/2015	N001	40	-	95	2700			#	120	
Temperature	C	08/12/2015	N001	40	-	95	18.67			#		
Total Dissolved Solids	mg/L	08/12/2015	N001	40	-	95	6600		J	#	200	
Turbidity	NTU	08/12/2015	N001	40	-	95	0.66			#		
Uranium	mg/L	08/12/2015	N001	40	-	95	0.31			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0940 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	45	- 60	730		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	45	- 60	50		FQ	#	2.5	
Arsenic	mg/L	08/11/2015	N001	45	- 60	0.0029		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	45	- 60	560		FQ	#	0.06	
Chloride	mg/L	08/11/2015	N001	45	- 60	170		FQ	#	120	
Iron	mg/L	08/11/2015	N001	45	- 60	0.025	U	FQ	#	0.025	
Magnesium	mg/L	08/11/2015	N001	45	- 60	1300		FQ	#	0.065	
Manganese	mg/L	08/11/2015	N001	45	- 60	20		FQ	#	0.00057	
Molybdenum	mg/L	08/11/2015	N001	45	- 60	0.00052	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	45	- 60	320		FQ	#	5	
Oxidation Reduction Potential	mV	08/11/2015	N001	45	- 60	130.6		FQ	#		
pH	s.u.	08/11/2015	N001	45	- 60	6.42		FQ	#		
Potassium	mg/L	08/11/2015	N001	45	- 60	30		FQ	#	0.54	
Selenium	mg/L	08/11/2015	N001	45	- 60	0.055		FQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	45	- 60	18		FQ	#	0.047	
Silicon	mg/L	08/11/2015	N001	45	- 60	8.3		FQ	#	0.022	
Sodium	mg/L	08/11/2015	N001	45	- 60	440		FQ	#	0.033	
Specific Conductance	umhos /cm	08/11/2015	N001	45	- 60	9486		FQ	#		
Sulfate	mg/L	08/11/2015	N001	45	- 60	5000		FQ	#	310	
Temperature	C	08/11/2015	N001	45	- 60	17.64		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	45	- 60	9300		JFQ	#	200	
Turbidity	NTU	08/11/2015	N001	45	- 60	0.74		FQ	#		
Uranium	mg/L	08/11/2015	N001	45	- 60	0.66		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0941 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	45	- 65	617		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	45	- 65	1		FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	45	- 65	0.0021		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	45	- 65	1000		FQ	#	0.12	
Chloride	mg/L	08/11/2015	N001	45	- 65	210		FQ	#	20	
Iron	mg/L	08/11/2015	N001	45	- 65	0.04	J	UFQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	45	- 65	160		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	45	- 65	0.096		FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	45	- 65	0.044		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	45	- 65	300		FQ	#	25	
Oxidation Reduction Potential	mV	08/11/2015	N001	45	- 65	252.9		FQ	#		
pH	s.u.	08/11/2015	N001	45	- 65	6.55		FQ	#		
Potassium	mg/L	08/11/2015	N001	45	- 65	11		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	45	- 65	0.09		FQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	45	- 65	19		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	45	- 65	8.7		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	45	- 65	310		FQ	#	0.066	
Specific Conductance	umhos /cm	08/11/2015	N001	45	- 65	5777		FQ	#		
Sulfate	mg/L	08/11/2015	N001	45	- 65	1800		FQ	#	50	
Temperature	C	08/11/2015	N001	45	- 65	17.74		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	45	- 65	5900	*	JFQ	#	200	
Turbidity	NTU	08/11/2015	N001	45	- 65	1.55		FQ	#		
Uranium	mg/L	08/11/2015	N001	45	- 65	0.27		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0943 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	101	- 121	41		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	101	- 121	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	08/11/2015	N002	101	- 121	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	101	- 121	0.0033		FJ	#	0.00015	
Arsenic	mg/L	08/11/2015	N002	101	- 121	0.0041		FJ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	101	- 121	16		F	#	0.012	
Calcium	mg/L	08/11/2015	N002	101	- 121	15		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	101	- 121	6.6		F	#	0.2	
Chloride	mg/L	08/11/2015	N002	101	- 121	6.4		F	#	0.2	
Iron	mg/L	08/11/2015	N001	101	- 121	0.023	J	UF	#	0.0049	
Iron	mg/L	08/11/2015	N002	101	- 121	0.029	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	101	- 121	3.3		F	#	0.013	
Magnesium	mg/L	08/11/2015	N002	101	- 121	3.4		F	#	0.013	
Manganese	mg/L	08/11/2015	N001	101	- 121	0.069		F	#	0.00011	
Manganese	mg/L	08/11/2015	N002	101	- 121	0.081		F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	101	- 121	0.00032	U	F	#	0.00032	
Molybdenum	mg/L	08/11/2015	N002	101	- 121	0.00081	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	101	- 121	3.1		F	#	0.05	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N002	101	- 121	3.2		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	101	- 121	189.1		F	#		
pH	s.u.	08/11/2015	N001	101	- 121	7.2		F	#		
Potassium	mg/L	08/11/2015	N001	101	- 121	1.4		F	#	0.11	
Potassium	mg/L	08/11/2015	N002	101	- 121	1.5		F	#	0.11	

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

REPORT DATE: 11/2/2015

Location: 0943 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Selenium	mg/L	08/11/2015	N001	101	- 121	0.0008	J	JF	#	0.00032	
Selenium	mg/L	08/11/2015	N002	101	- 121	0.00058	J	UJF	#	0.00032	
Silica	mg/L	08/11/2015	N001	101	- 121	15		F	#	0.0095	
Silica	mg/L	08/11/2015	N002	101	- 121	15		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	101	- 121	7		F	#	0.0044	
Silicon	mg/L	08/11/2015	N002	101	- 121	7.1		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	101	- 121	21		F	#	0.0066	
Sodium	mg/L	08/11/2015	N002	101	- 121	21		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	101	- 121	213		F	#		
Sulfate	mg/L	08/11/2015	N001	101	- 121	36		F	#	0.5	
Sulfate	mg/L	08/11/2015	N002	101	- 121	34		F	#	0.5	
Temperature	C	08/11/2015	N001	101	- 121	19.24		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	101	- 121	120		F	#	20	
Total Dissolved Solids	mg/L	08/11/2015	N002	101	- 121	150		JF	#	20	
Turbidity	NTU	08/11/2015	N001	101	- 121	1.53		F	#		
Uranium	mg/L	08/11/2015	N001	101	- 121	0.014		F	#	0.000029	
Uranium	mg/L	08/11/2015	N002	101	- 121	0.014		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0945 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	110	- 130	84		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	110	- 130	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	110	- 130	0.0025		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	110	- 130	55		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	110	- 130	35		FQ	#	1	
Iron	mg/L	08/11/2015	N001	110	- 130	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	110	- 130	10		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	110	- 130	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	110	- 130	0.00044	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	110	- 130	4.7		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	110	- 130	144.4		FQ	#		
pH	s.u.	08/11/2015	N001	110	- 130	7.76		FQ	#		
Potassium	mg/L	08/11/2015	N001	110	- 130	1.9		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	110	- 130	0.0036		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	110	- 130	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	110	- 130	5.5		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	110	- 130	16		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	110	- 130	451		FQ	#		
Sulfate	mg/L	08/11/2015	N001	110	- 130	61		FQ	#	2.5	
Temperature	C	08/11/2015	N001	110	- 130	17.41		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	110	- 130	250		FQ	#	20	
Turbidity	NTU	08/11/2015	N001	110	- 130	1.56		FQ	#		
Uranium	mg/L	08/11/2015	N001	110	- 130	0.0017		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0946 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	40	-	60	80		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	40	-	60	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	40	-	60	0.0078		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	40	-	60	21		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	40	-	60	6.5		F	#	0.2	
Iron	mg/L	08/11/2015	N001	40	-	60	0.0051	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	40	-	60	3.6		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	40	-	60	0.00023	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	40	-	60	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	40	-	60	3.4		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	40	-	60	213.7		F	#		
pH	s.u.	08/11/2015	N001	40	-	60	8.21		F	#		
Potassium	mg/L	08/11/2015	N001	40	-	60	1.1		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	40	-	60	0.00032	U	JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	40	-	60	12		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	40	-	60	5.4		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	40	-	60	18		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	40	-	60	222		F	#		
Sulfate	mg/L	08/11/2015	N001	40	-	60	23		F	#	0.5	
Temperature	C	08/11/2015	N001	40	-	60	19.26		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	40	-	60	140		F	#	20	
Turbidity	NTU	08/11/2015	N001	40	-	60	0.82		F	#		
Uranium	mg/L	08/11/2015	N001	40	-	60	0.00031		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0947 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	N001	105	- 125	92		FQ	#		
Ammonia Total as N	mg/L	08/10/2015	0001	105	- 125	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/10/2015	0001	105	- 125	0.0045		FQ	#	0.00015	
Calcium	mg/L	08/10/2015	0001	105	- 125	34		FQ	#	0.012	
Chloride	mg/L	08/10/2015	0001	105	- 125	13		FQ	#	0.2	
Iron	mg/L	08/10/2015	0001	105	- 125	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/10/2015	0001	105	- 125	6.7		FQ	#	0.013	
Manganese	mg/L	08/10/2015	0001	105	- 125	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/10/2015	0001	105	- 125	0.0006	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	0001	105	- 125	3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/10/2015	N001	105	- 125	182.3		FQ	#		
pH	s.u.	08/10/2015	N001	105	- 125	7.72		FQ	#		
Potassium	mg/L	08/10/2015	0001	105	- 125	1.3		FQ	#	0.11	
Selenium	mg/L	08/10/2015	0001	105	- 125	0.002		JFQ	#	0.00032	
Silica	mg/L	08/10/2015	0001	105	- 125	12		FQ	#	0.0095	
Silicon	mg/L	08/10/2015	0001	105	- 125	5.6		FQ	#	0.0044	
Sodium	mg/L	08/10/2015	0001	105	- 125	10		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/10/2015	N001	105	- 125	281		FQ	#		
Sulfate	mg/L	08/10/2015	0001	105	- 125	18		FQ	#	0.5	
Temperature	C	08/10/2015	N001	105	- 125	18.94		FQ	#		
Total Dissolved Solids	mg/L	08/10/2015	0001	105	- 125	150		JFQ	#	20	
Turbidity	NTU	08/10/2015	N001	105	- 125	33.9		FQ	#		
Uranium	mg/L	08/10/2015	0001	105	- 125	0.0012		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1003 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	55.5	- 105.5	186		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	55.5	- 105.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	55.5	- 105.5	0.0017		UF	#	0.00015	
Calcium	mg/L	08/11/2015	N001	55.5	- 105.5	330		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	55.5	- 105.5	57		F	#	4	
Iron	mg/L	08/11/2015	N001	55.5	- 105.5	0.0094	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	55.5	- 105.5	48		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	55.5	- 105.5	0.00013	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	55.5	- 105.5	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	55.5	- 105.5	62		F	#	0.5	
Oxidation Reduction Potential	mV	08/11/2015	N001	55.5	- 105.5	161.4		F	#		
pH	s.u.	08/11/2015	N001	55.5	- 105.5	7.24		F	#		
Potassium	mg/L	08/11/2015	N001	55.5	- 105.5	4.7		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	55.5	- 105.5	0.0035		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	55.5	- 105.5	16		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	55.5	- 105.5	7.3		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	55.5	- 105.5	42		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	55.5	- 105.5	1846		F	#		
Sulfate	mg/L	08/11/2015	N001	55.5	- 105.5	520		F	#	10	
Temperature	C	08/11/2015	N001	55.5	- 105.5	17.82		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	55.5	- 105.5	1500		JF	#	40	
Turbidity	NTU	08/11/2015	N001	55.5	- 105.5	0.97		F	#		
Uranium	mg/L	08/11/2015	N001	55.5	- 105.5	0.04		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1004 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data QA		Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	45.5	-	95.5	98		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	45.5	-	95.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	45.5	-	95.5	0.0022		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	45.5	-	95.5	49		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	45.5	-	95.5	16		F	#	0.2	
Iron	mg/L	08/11/2015	N001	45.5	-	95.5	0.023	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	45.5	-	95.5	8.7		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	45.5	-	95.5	0.00043	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	45.5	-	95.5	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	45.5	-	95.5	6		F	#	0.1	
Oxidation Reduction Potential	mV	08/11/2015	N001	45.5	-	95.5	146.3		F	#		
pH	s.u.	08/11/2015	N001	45.5	-	95.5	7.63		F	#		
Potassium	mg/L	08/11/2015	N001	45.5	-	95.5	1.4		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	45.5	-	95.5	0.0032		JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	45.5	-	95.5	13		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	45.5	-	95.5	6		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	45.5	-	95.5	13		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	45.5	-	95.5	387		F	#		
Sulfate	mg/L	08/11/2015	N001	45.5	-	95.5	43		F	#	0.5	
Temperature	C	08/11/2015	N001	45.5	-	95.5	18.71		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	45.5	-	95.5	240		F	#	20	
Turbidity	NTU	08/11/2015	N001	45.5	-	95.5	0.49		F	#		
Uranium	mg/L	08/11/2015	N001	45.5	-	95.5	0.0037		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1006 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	45.74	- 95.74	79			#		
Ammonia Total as N	mg/L	08/11/2015	N001	45.74	- 95.74	0.1	U		#	0.1	
Arsenic	mg/L	08/11/2015	N001	45.74	- 95.74	0.0026			#	0.00015	
Calcium	mg/L	08/11/2015	N001	45.74	- 95.74	27			#	0.012	
Chloride	mg/L	08/11/2015	N001	45.74	- 95.74	8.9			#	0.2	
Iron	mg/L	08/11/2015	N001	45.74	- 95.74	0.11			#	0.0049	
Magnesium	mg/L	08/11/2015	N001	45.74	- 95.74	7		U	#	0.013	
Manganese	mg/L	08/11/2015	N001	45.74	- 95.74	0.0013	J		#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	45.74	- 95.74	0.00032	U		#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	45.74	- 95.74	3			#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	45.74	- 95.74	145.7			#		
pH	s.u.	08/11/2015	N001	45.74	- 95.74	8.1			#		
Potassium	mg/L	08/11/2015	N001	45.74	- 95.74	2.3			#	0.11	
Selenium	mg/L	08/11/2015	N001	45.74	- 95.74	0.00097	J	J	#	0.00032	
Silica	mg/L	08/11/2015	N001	45.74	- 95.74	12			#	0.0095	
Silicon	mg/L	08/11/2015	N001	45.74	- 95.74	5.8			#	0.0044	
Sodium	mg/L	08/11/2015	N001	45.74	- 95.74	8.3			#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	45.74	- 95.74	245			#		
Sulfate	mg/L	08/11/2015	N001	45.74	- 95.74	12			#	0.5	
Temperature	C	08/11/2015	N001	45.74	- 95.74	21.26			#		
Total Dissolved Solids	mg/L	08/11/2015	N001	45.74	- 95.74	140			#	20	
Turbidity	NTU	08/11/2015	N001	45.74	- 95.74	1.94			#		
Uranium	mg/L	08/11/2015	N001	45.74	- 95.74	0.0014			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1007 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	45.79	-	95.99	80		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	45.79	-	95.99	0.14		F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	45.79	-	95.99	0.0018		UF	#	0.00015	
Calcium	mg/L	08/11/2015	N001	45.79	-	95.99	30		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	45.79	-	95.99	9.1		F	#	0.2	
Iron	mg/L	08/11/2015	N001	45.79	-	95.99	0.022	J	UF	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	45.79	-	95.99	6.9		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	45.79	-	95.99	0.0014	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	45.79	-	95.99	0.00032	U	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	45.79	-	95.99	3.2		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	45.79	-	95.99	142.7		F	#		
pH	s.u.	08/11/2015	N001	45.79	-	95.99	8.12		F	#		
Potassium	mg/L	08/11/2015	N001	45.79	-	95.99	1.9		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	45.79	-	95.99	0.0007	J	JF	#	0.00032	
Silica	mg/L	08/11/2015	N001	45.79	-	95.99	13		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	45.79	-	95.99	6.1		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	45.79	-	95.99	6.9		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	45.79	-	95.99	246		F	#		
Sulfate	mg/L	08/11/2015	N001	45.79	-	95.99	12		F	#	0.5	
Temperature	C	08/11/2015	N001	45.79	-	95.99	17.73		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	45.79	-	95.99	140		F	#	20	
Turbidity	NTU	08/11/2015	N001	45.79	-	95.99	1.24		F	#		
Uranium	mg/L	08/11/2015	N001	45.79	-	95.99	0.0014		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1101 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	96.15	-	251.5	356			#		
Ammonia Total as N	mg/L	08/12/2015	N001	96.15	-	251.5	3.2			#	0.1	
Arsenic	mg/L	08/12/2015	N001	96.15	-	251.5	0.0013			#	0.00015	
Calcium	mg/L	08/12/2015	N001	96.15	-	251.5	490			#	0.12	
Chloride	mg/L	08/12/2015	N001	96.15	-	251.5	170			#	50	
Iron	mg/L	08/12/2015	N001	96.15	-	251.5	0.0049	U		#	0.0049	
Magnesium	mg/L	08/12/2015	N001	96.15	-	251.5	140			#	0.013	
Manganese	mg/L	08/12/2015	N001	96.15	-	251.5	0.56			#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	96.15	-	251.5	0.0013			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	96.15	-	251.5	100			#	1	
Oxidation Reduction Potential	mV	08/12/2015	N001	96.15	-	251.5	236.3			#		
pH	s.u.	08/12/2015	N001	96.15	-	251.5	6.69			#		
Potassium	mg/L	08/12/2015	N001	96.15	-	251.5	14			#	0.11	
Selenium	mg/L	08/12/2015	N001	96.15	-	251.5	0.026			#	0.00032	
Silica	mg/L	08/12/2015	N001	96.15	-	251.5	17			#	0.0095	
Silicon	mg/L	08/12/2015	N001	96.15	-	251.5	7.9			#	0.0044	
Sodium	mg/L	08/12/2015	N001	96.15	-	251.5	350			#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	96.15	-	251.5	3928			#		
Sulfate	mg/L	08/12/2015	N001	96.15	-	251.5	1500			#	120	
Temperature	C	08/12/2015	N001	96.15	-	251.5	19.04			#		
Total Dissolved Solids	mg/L	08/12/2015	N001	96.15	-	251.5	3400		J	#	80	
Turbidity	NTU	08/12/2015	N001	96.15	-	251.5	1.49			#		
Uranium	mg/L	08/12/2015	N001	96.15	-	251.5	0.3			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1103 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	100	- 250	481			#		
Ammonia Total as N	mg/L	08/12/2015	N001	100	- 250	38			#	2.5	
Arsenic	mg/L	08/12/2015	N001	100	- 250	0.002			#	0.00015	
Calcium	mg/L	08/12/2015	N001	100	- 250	580			#	0.12	
Chloride	mg/L	08/12/2015	N001	100	- 250	130			#	50	
Iron	mg/L	08/12/2015	N001	100	- 250	0.0049	U		#	0.0049	
Magnesium	mg/L	08/12/2015	N001	100	- 250	290			#	0.013	
Manganese	mg/L	08/12/2015	N001	100	- 250	6.6			#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	100	- 250	0.0081			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	100	- 250	180			#	2	
Oxidation Reduction Potential	mV	08/12/2015	N001	100	- 250	268.4			#		
pH	s.u.	08/12/2015	N001	100	- 250	6.62			#		
Potassium	mg/L	08/12/2015	N001	100	- 250	24			#	0.11	
Selenium	mg/L	08/12/2015	N001	100	- 250	0.029			#	0.00032	
Silica	mg/L	08/12/2015	N001	100	- 250	17			#	0.0095	
Silicon	mg/L	08/12/2015	N001	100	- 250	7.8			#	0.0044	
Sodium	mg/L	08/12/2015	N001	100	- 250	370			#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	100	- 250	4460			#		
Sulfate	mg/L	08/12/2015	N001	100	- 250	2200			#	120	
Temperature	C	08/12/2015	N001	100	- 250	17.91			#		
Total Dissolved Solids	mg/L	08/12/2015	N001	100	- 250	4800		J	#	80	
Turbidity	NTU	08/12/2015	N001	100	- 250	0.5			#		
Uranium	mg/L	08/12/2015	N001	100	- 250	0.35			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1105 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	90	-	245	336			#		
Ammonia Total as N	mg/L	08/12/2015	N001	90	-	245	4			#	0.1	
Arsenic	mg/L	08/12/2015	N001	90	-	245	0.33			#	0.00015	
Calcium	mg/L	08/12/2015	N001	90	-	245	400			#	0.012	
Chloride	mg/L	08/12/2015	N001	90	-	245	71			#	20	
Iron	mg/L	08/12/2015	N001	90	-	245	0.0049	U		#	0.0049	
Magnesium	mg/L	08/12/2015	N001	90	-	245	99			#	0.013	
Manganese	mg/L	08/12/2015	N001	90	-	245	0.058			#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	90	-	245	0.47			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	90	-	245	110			#	1	
Oxidation Reduction Potential	mV	08/12/2015	N001	90	-	245	257.7			#		
pH	s.u.	08/12/2015	N001	90	-	245	6.72			#		
Potassium	mg/L	08/12/2015	N001	90	-	245	8			#	0.11	
Selenium	mg/L	08/12/2015	N001	90	-	245	0.038			#	0.00032	
Silica	mg/L	08/12/2015	N001	90	-	245	14			#	0.0095	
Silicon	mg/L	08/12/2015	N001	90	-	245	6.5			#	0.0044	
Sodium	mg/L	08/12/2015	N001	90	-	245	220			#	0.066	
Specific Conductance	umhos /cm	08/12/2015	N001	90	-	245	6764			#		
Sulfate	mg/L	08/12/2015	N001	90	-	245	1000			#	50	
Temperature	C	08/12/2015	N001	90	-	245	22.69			#		
Total Dissolved Solids	mg/L	08/12/2015	N001	90	-	245	2500		J	#	40	
Uranium	mg/L	08/12/2015	N001	90	-	245	0.99			#	0.000029	

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

REPORT DATE: 11/2/2015

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

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	167.5 - 187.5	87		F	#		
Ammonia Total as N	mg/L	08/11/2015	N001	167.5 - 187.5	0.1	U	F	#	0.1	
Arsenic	mg/L	08/11/2015	N001	167.5 - 187.5	0.0031		F	#	0.00015	
Calcium	mg/L	08/11/2015	N001	167.5 - 187.5	33		F	#	0.012	
Chloride	mg/L	08/11/2015	N001	167.5 - 187.5	9.9		F	#	0.2	
Iron	mg/L	08/11/2015	N001	167.5 - 187.5	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	167.5 - 187.5	5.9		UF	#	0.013	
Manganese	mg/L	08/11/2015	N001	167.5 - 187.5	0.00028	J	F	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	167.5 - 187.5	0.00042	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	167.5 - 187.5	3.3		F	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	167.5 - 187.5	98.2		F	#		
pH	s.u.	08/11/2015	N001	167.5 - 187.5	7.93		F	#		
Potassium	mg/L	08/11/2015	N001	167.5 - 187.5	1.3		F	#	0.11	
Selenium	mg/L	08/11/2015	N001	167.5 - 187.5	0.00089	J	UJF	#	0.00032	
Silica	mg/L	08/11/2015	N001	167.5 - 187.5	11		F	#	0.0095	
Silicon	mg/L	08/11/2015	N001	167.5 - 187.5	5.3		F	#	0.0044	
Sodium	mg/L	08/11/2015	N001	167.5 - 187.5	9.9		F	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	167.5 - 187.5	269		F	#		
Sulfate	mg/L	08/11/2015	N001	167.5 - 187.5	12		F	#	0.5	
Temperature	C	08/11/2015	N001	167.5 - 187.5	18.81		F	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	167.5 - 187.5	140		JF	#	20	
Turbidity	NTU	08/11/2015	N001	167.5 - 187.5	0.49		F	#		
Uranium	mg/L	08/11/2015	N001	167.5 - 187.5	0.0014		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-2A WELL NAVAJO MONITORING WELL NMW-2A; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	140.46 - 160.46	98		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	140.46 - 160.46	0.5		FQ	#	0.1	
Ammonia Total as N	mg/L	08/11/2015	N002	140.46 - 160.46	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	140.46 - 160.46	0.0036		FQ	#	0.00015	
Arsenic	mg/L	08/11/2015	N002	140.46 - 160.46	0.0035		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	140.46 - 160.46	32		FQ	#	0.012	
Calcium	mg/L	08/11/2015	N002	140.46 - 160.46	33		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	140.46 - 160.46	9.4		FQ	#	0.2	
Chloride	mg/L	08/11/2015	N002	140.46 - 160.46	9.3		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	140.46 - 160.46	0.0056	J	UFQ	#	0.0049	
Iron	mg/L	08/11/2015	N002	140.46 - 160.46	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	140.46 - 160.46	5.7		UFQ	#	0.013	
Magnesium	mg/L	08/11/2015	N002	140.46 - 160.46	5.8		UFQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	140.46 - 160.46	0.00054	J	FQ	#	0.00011	
Manganese	mg/L	08/11/2015	N002	140.46 - 160.46	0.00069	J	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	140.46 - 160.46	0.00043	J	FQ	#	0.00032	
Molybdenum	mg/L	08/11/2015	N002	140.46 - 160.46	0.00047	J	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	140.46 - 160.46	3.3		FQ	#	0.05	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N002	140.46 - 160.46	3.4		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	140.46 - 160.46	160.1		FQ	#		
pH	s.u.	08/11/2015	N001	140.46 - 160.46	7.97		FQ	#		
Potassium	mg/L	08/11/2015	N001	140.46 - 160.46	1.3		FQ	#	0.11	
Potassium	mg/L	08/11/2015	N002	140.46 - 160.46	1.3		FQ	#	0.11	

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

REPORT DATE: 11/2/2015

Location: NMW-2A WELL NAVAJO MONITORING WELL NMW-2A; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Selenium	mg/L	08/11/2015	N001	140.46 - 160.46	0.00068	J	UJFQ	#	0.00032	
Selenium	mg/L	08/11/2015	N002	140.46 - 160.46	0.0021		JFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	140.46 - 160.46	11		FQ	#	0.0095	
Silica	mg/L	08/11/2015	N002	140.46 - 160.46	11		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	140.46 - 160.46	5.3		FQ	#	0.0044	
Silicon	mg/L	08/11/2015	N002	140.46 - 160.46	5.3		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	140.46 - 160.46	10		FQ	#	0.0066	
Sodium	mg/L	08/11/2015	N002	140.46 - 160.46	11		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	140.46 - 160.46	265		FQ	#		
Sulfate	mg/L	08/11/2015	N001	140.46 - 160.46	12		FQ	#	0.5	
Sulfate	mg/L	08/11/2015	N002	140.46 - 160.46	12		FQ	#	0.5	
Temperature	C	08/11/2015	N001	140.46 - 160.46	15.99		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	140.46 - 160.46	140		JFQ	#	20	
Total Dissolved Solids	mg/L	08/11/2015	N002	140.46 - 160.46	140		JFQ	#	20	
Turbidity	NTU	08/11/2015	N001	140.46 - 160.46	4.71		FQ	#		
Uranium	mg/L	08/11/2015	N001	140.46 - 160.46	0.0013		FQ	#	0.000029	
Uranium	mg/L	08/11/2015	N002	140.46 - 160.46	0.0012		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-3A WELL NAVAJO MONITORING WELL NMW-3A; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	N001	190.62 - 210.62	92		F	#		
Ammonia Total as N	mg/L	08/10/2015	N001	190.62 - 210.62	0.1	U	F	#	0.1	
Arsenic	mg/L	08/10/2015	N001	190.62 - 210.62	0.0015		F	#	0.00015	
Calcium	mg/L	08/10/2015	N001	190.62 - 210.62	34		F	#	0.012	
Chloride	mg/L	08/10/2015	N001	190.62 - 210.62	8.9		F	#	0.2	
Iron	mg/L	08/10/2015	N001	190.62 - 210.62	0.026	J	UF	#	0.0049	
Magnesium	mg/L	08/10/2015	N001	190.62 - 210.62	6.1		UF	#	0.013	
Manganese	mg/L	08/10/2015	N001	190.62 - 210.62	0.00094	J	F	#	0.00011	
Molybdenum	mg/L	08/10/2015	N001	190.62 - 210.62	0.00052	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	N001	190.62 - 210.62	3.2		F	#	0.05	
Oxidation Reduction Potential	mV	08/10/2015	N001	190.62 - 210.62	135.8		F	#		
pH	s.u.	08/10/2015	N001	190.62 - 210.62	8.06		F	#		
Potassium	mg/L	08/10/2015	N001	190.62 - 210.62	1.3		F	#	0.11	
Selenium	mg/L	08/10/2015	N001	190.62 - 210.62	0.00035	J	UJF	#	0.00032	
Silica	mg/L	08/10/2015	N001	190.62 - 210.62	12		F	#	0.0095	
Silicon	mg/L	08/10/2015	N001	190.62 - 210.62	5.5		F	#	0.0044	
Sodium	mg/L	08/10/2015	N001	190.62 - 210.62	9.2		F	#	0.0066	
Specific Conductance	umhos /cm	08/10/2015	N001	190.62 - 210.62	263		F	#		
Sulfate	mg/L	08/10/2015	N001	190.62 - 210.62	12		F	#	0.5	
Temperature	C	08/10/2015	N001	190.62 - 210.62	17.08		F	#		
Total Dissolved Solids	mg/L	08/10/2015	N001	190.62 - 210.62	140		JF	#	20	
Turbidity	NTU	08/10/2015	N001	190.62 - 210.62	1.26		F	#		
Uranium	mg/L	08/10/2015	N001	190.62 - 210.62	0.0012		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-4A WELL NAVAJO MONITORING WELL NMW-4A; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	N001	170.46 - 190.46	90		F	#		
Ammonia Total as N	mg/L	08/10/2015	N001	170.46 - 190.46	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	08/10/2015	N002	170.46 - 190.46	0.1	U	F	#	0.1	
Arsenic	mg/L	08/10/2015	N001	170.46 - 190.46	0.003		F	#	0.00015	
Arsenic	mg/L	08/10/2015	N002	170.46 - 190.46	0.0028		F	#	0.00015	
Calcium	mg/L	08/10/2015	N001	170.46 - 190.46	34		F	#	0.012	
Calcium	mg/L	08/10/2015	N002	170.46 - 190.46	34		F	#	0.012	
Chloride	mg/L	08/10/2015	N001	170.46 - 190.46	9.7		F	#	0.2	
Chloride	mg/L	08/10/2015	N002	170.46 - 190.46	9.6		F	#	0.2	
Iron	mg/L	08/10/2015	N001	170.46 - 190.46	0.0049	U	F	#	0.0049	
Iron	mg/L	08/10/2015	N002	170.46 - 190.46	0.026	J	UF	#	0.0049	
Magnesium	mg/L	08/10/2015	N001	170.46 - 190.46	5.6		F	#	0.013	
Magnesium	mg/L	08/10/2015	N002	170.46 - 190.46	5.6		UF	#	0.013	
Manganese	mg/L	08/10/2015	N001	170.46 - 190.46	0.00011	U	F	#	0.00011	
Manganese	mg/L	08/10/2015	N002	170.46 - 190.46	0.00028	J	F	#	0.00011	
Molybdenum	mg/L	08/10/2015	N001	170.46 - 190.46	0.00032	U	F	#	0.00032	
Molybdenum	mg/L	08/10/2015	N002	170.46 - 190.46	0.00041	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	N001	170.46 - 190.46	3.6		F	#	0.05	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	N002	170.46 - 190.46	3.6		F	#	0.05	
Oxidation Reduction Potential	mV	08/10/2015	N001	170.46 - 190.46	120.2		F	#		
pH	s.u.	08/10/2015	N001	170.46 - 190.46	7.9		F	#		
Potassium	mg/L	08/10/2015	N001	170.46 - 190.46	1.5		F	#	0.11	
Potassium	mg/L	08/10/2015	N002	170.46 - 190.46	1.6		F	#	0.11	

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

REPORT DATE: 11/2/2015

Location: NMW-4A WELL NAVAJO MONITORING WELL NMW-4A; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Selenium	mg/L	08/10/2015	N001	170.46 - 190.46	0.00067	J	UJF	#	0.00032	
Selenium	mg/L	08/10/2015	N002	170.46 - 190.46	0.0012		UJF	#	0.00032	
Silica	mg/L	08/10/2015	N001	170.46 - 190.46	11		F	#	0.0095	
Silica	mg/L	08/10/2015	N002	170.46 - 190.46	11		F	#	0.0095	
Silicon	mg/L	08/10/2015	N001	170.46 - 190.46	5		F	#	0.0044	
Silicon	mg/L	08/10/2015	N002	170.46 - 190.46	5		F	#	0.0044	
Sodium	mg/L	08/10/2015	N001	170.46 - 190.46	9.2		F	#	0.0066	
Sodium	mg/L	08/10/2015	N002	170.46 - 190.46	9.2		F	#	0.0066	
Specific Conductance	umhos /cm	08/10/2015	N001	170.46 - 190.46	263		F	#		
Sulfate	mg/L	08/10/2015	N001	170.46 - 190.46	13		F	#	0.5	
Sulfate	mg/L	08/10/2015	N002	170.46 - 190.46	12		F	#	0.5	
Temperature	C	08/10/2015	N001	170.46 - 190.46	17.7		F	#		
Total Dissolved Solids	mg/L	08/10/2015	N001	170.46 - 190.46	140		JF	#	20	
Total Dissolved Solids	mg/L	08/10/2015	N002	170.46 - 190.46	130		JF	#	20	
Turbidity	NTU	08/10/2015	N001	170.46 - 190.46	1.32		F	#		
Uranium	mg/L	08/10/2015	N001	170.46 - 190.46	0.0012		F	#	0.000029	
Uranium	mg/L	08/10/2015	N002	170.46 - 190.46	0.0012		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-6S WELL NAVAJO MONITORING WELL NMW-6S; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	167.62	- 187.62	89		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	167.62	- 187.62	0.33		FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	167.62	- 187.62	0.0027		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	167.62	- 187.62	36		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	167.62	- 187.62	11		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	167.62	- 187.62	0.018	J	UFQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	167.62	- 187.62	6.2		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	167.62	- 187.62	0.0066		FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	167.62	- 187.62	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	167.62	- 187.62	3.5		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	167.62	- 187.62	104.3		FQ	#		
pH	s.u.	08/11/2015	N001	167.62	- 187.62	7.74		FQ	#		
Potassium	mg/L	08/11/2015	N001	167.62	- 187.62	1.4		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	167.62	- 187.62	0.0014		UJFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	167.62	- 187.62	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	167.62	- 187.62	5.5		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	167.62	- 187.62	8.7		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	167.62	- 187.62	281		FQ	#		
Sulfate	mg/L	08/11/2015	N001	167.62	- 187.62	15		FQ	#	0.5	
Temperature	C	08/11/2015	N001	167.62	- 187.62	17.5		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	167.62	- 187.62	160		JFQ	#	20	
Turbidity	NTU	08/11/2015	N001	167.62	- 187.62	1.08		FQ	#		
Uranium	mg/L	08/11/2015	N001	167.62	- 187.62	0.0012		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-7D WELL NAVAJO MONITORING WELL NMW-7D; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)		Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	278.19	- 283.19	64		FQ	#		
Ammonia Total as N	mg/L	08/11/2015	N001	278.19	- 283.19	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/11/2015	N001	278.19	- 283.19	0.0027		FQ	#	0.00015	
Calcium	mg/L	08/11/2015	N001	278.19	- 283.19	27		FQ	#	0.012	
Chloride	mg/L	08/11/2015	N001	278.19	- 283.19	6.7		FQ	#	0.2	
Iron	mg/L	08/11/2015	N001	278.19	- 283.19	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/11/2015	N001	278.19	- 283.19	5.2		FQ	#	0.013	
Manganese	mg/L	08/11/2015	N001	278.19	- 283.19	0.00011	U	FQ	#	0.00011	
Molybdenum	mg/L	08/11/2015	N001	278.19	- 283.19	0.00032	U	FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	N001	278.19	- 283.19	3.2		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/11/2015	N001	278.19	- 283.19	105.6		FQ	#		
pH	s.u.	08/11/2015	N001	278.19	- 283.19	7.79		FQ	#		
Potassium	mg/L	08/11/2015	N001	278.19	- 283.19	1.4		FQ	#	0.11	
Selenium	mg/L	08/11/2015	N001	278.19	- 283.19	0.0015		UJFQ	#	0.00032	
Silica	mg/L	08/11/2015	N001	278.19	- 283.19	12		FQ	#	0.0095	
Silicon	mg/L	08/11/2015	N001	278.19	- 283.19	5.6		FQ	#	0.0044	
Sodium	mg/L	08/11/2015	N001	278.19	- 283.19	5.2		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/11/2015	N001	278.19	- 283.19	213		FQ	#		
Sulfate	mg/L	08/11/2015	N001	278.19	- 283.19	8.8		FQ	#	0.5	
Temperature	C	08/11/2015	N001	278.19	- 283.19	18.19		FQ	#		
Total Dissolved Solids	mg/L	08/11/2015	N001	278.19	- 283.19	120		JFQ	#	20	
Turbidity	NTU	08/11/2015	N001	278.19	- 283.19	0.5		FQ	#		
Uranium	mg/L	08/11/2015	N001	278.19	- 283.19	0.00085		FQ	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-8S WELL NAVAJO MONITORING WELL NMW_8S; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	149.43 - 169.43	90		F	#		
Ammonia Total as N	mg/L	08/12/2015	N001	149.43 - 169.43	0.1	U	F	#	0.1	
Arsenic	mg/L	08/12/2015	N001	149.43 - 169.43	0.0024		F	#	0.00015	
Calcium	mg/L	08/12/2015	N001	149.43 - 169.43	33		F	#	0.012	
Chloride	mg/L	08/12/2015	N001	149.43 - 169.43	7.9	N	JF	#	0.2	
Iron	mg/L	08/12/2015	N001	149.43 - 169.43	0.0049	U	F	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	149.43 - 169.43	5.4		F	#	0.013	
Manganese	mg/L	08/12/2015	N001	149.43 - 169.43	0.00011	U	F	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	149.43 - 169.43	0.0007	J	F	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	149.43 - 169.43	3.5		F	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	149.43 - 169.43	91		F	#		
pH	s.u.	08/12/2015	N001	149.43 - 169.43	7.99		F	#		
Potassium	mg/L	08/12/2015	N001	149.43 - 169.43	1.6		F	#	0.11	
Selenium	mg/L	08/12/2015	N001	149.43 - 169.43	0.0022		JF	#	0.00032	
Silica	mg/L	08/12/2015	N001	149.43 - 169.43	11		F	#	0.0095	
Silicon	mg/L	08/12/2015	N001	149.43 - 169.43	5		F	#	0.0044	
Sodium	mg/L	08/12/2015	N001	149.43 - 169.43	9.7		F	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	149.43 - 169.43	266		F	#		
Sulfate	mg/L	08/12/2015	N001	149.43 - 169.43	11		F	#	0.5	
Temperature	C	08/12/2015	N001	149.43 - 169.43	17.57		F	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	149.43 - 169.43	140		JF	#	20	
Turbidity	NTU	08/12/2015	N001	149.43 - 169.43	0.49		F	#		
Uranium	mg/L	08/12/2015	N001	149.43 - 169.43	0.0016		F	#	0.000029	

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

REPORT DATE: 11/2/2015

Location: NMW-9D WELL NAVAJO MONITORING WELL NMW-9D; Owned by NNEPA

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/12/2015	N001	265.52 - 270.52	88		FQ	#		
Ammonia Total as N	mg/L	08/12/2015	N001	265.52 - 270.52	0.1	U	FQ	#	0.1	
Arsenic	mg/L	08/12/2015	N001	265.52 - 270.52	0.00073	J	FQ	#	0.00015	
Calcium	mg/L	08/12/2015	N001	265.52 - 270.52	33		FQ	#	0.012	
Chloride	mg/L	08/12/2015	N001	265.52 - 270.52	11		FQ	#	0.2	
Iron	mg/L	08/12/2015	N001	265.52 - 270.52	0.0049	U	FQ	#	0.0049	
Magnesium	mg/L	08/12/2015	N001	265.52 - 270.52	6.5		FQ	#	0.013	
Manganese	mg/L	08/12/2015	N001	265.52 - 270.52	0.03		FQ	#	0.00011	
Molybdenum	mg/L	08/12/2015	N001	265.52 - 270.52	0.003		FQ	#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/12/2015	N001	265.52 - 270.52	3		FQ	#	0.05	
Oxidation Reduction Potential	mV	08/12/2015	N001	265.52 - 270.52	83		FQ	#		
pH	s.u.	08/12/2015	N001	265.52 - 270.52	7.24		FQ	#		
Potassium	mg/L	08/12/2015	N001	265.52 - 270.52	1.7		FQ	#	0.11	
Selenium	mg/L	08/12/2015	N001	265.52 - 270.52	0.00065	J	JFQ	#	0.00032	
Silica	mg/L	08/12/2015	N001	265.52 - 270.52	12		FQ	#	0.0095	
Silicon	mg/L	08/12/2015	N001	265.52 - 270.52	5.7		FQ	#	0.0044	
Sodium	mg/L	08/12/2015	N001	265.52 - 270.52	13		FQ	#	0.0066	
Specific Conductance	umhos /cm	08/12/2015	N001	265.52 - 270.52	293		FQ	#		
Sulfate	mg/L	08/12/2015	N001	265.52 - 270.52	25		FQ	#	0.5	
Temperature	C	08/12/2015	N001	265.52 - 270.52	17.59		FQ	#		
Total Dissolved Solids	mg/L	08/12/2015	N001	265.52 - 270.52	160		JFQ	#	20	
Turbidity	NTU	08/12/2015	N001	265.52 - 270.52	0.5		FQ	#		
Uranium	mg/L	08/12/2015	N001	265.52 - 270.52	0.0016		FQ	#	0.000029	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

Validated according to quality assurance guidelines.

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Surface Water Quality Data

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

REPORT DATE: 11/2/2015

Location: 0759 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	N001	67			#		
Arsenic	mg/L	08/11/2015	0001	0.00097	J	U	#	0.00015	
Calcium	mg/L	08/11/2015	0001	220			#	0.012	
Chloride	mg/L	08/11/2015	0001	25			#	2	
Iron	mg/L	08/11/2015	0001	0.0049	U		#	0.0049	
Magnesium	mg/L	08/11/2015	0001	39			#	0.013	
Manganese	mg/L	08/11/2015	0001	0.0092			#	0.00011	
Molybdenum	mg/L	08/11/2015	0001	0.0034			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	0001	0.87			#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	177			#		
pH	s.u.	08/11/2015	N001	8.51			#		
Potassium	mg/L	08/11/2015	0001	11			#	0.11	
Selenium	mg/L	08/11/2015	0001	0.00066	J	UJ	#	0.00032	
Sodium	mg/L	08/11/2015	0001	87			#	0.0066	
Specific Conductance	umhos/cm	08/11/2015	N001	1457			#		
Sulfate	mg/L	08/11/2015	0001	760			#	5	
Temperature	C	08/11/2015	N001	23.18			#		
Total Dissolved Solids	mg/L	08/11/2015	0001	1200			#	40	
Turbidity	NTU	08/11/2015	N001	1000			#		
Uranium	mg/L	08/11/2015	0001	0.0046			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 0778 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	0001	96			#		
Arsenic	mg/L	08/11/2015	0001	0.00071	J	U	#	0.00015	
Calcium	mg/L	08/11/2015	0001	220			#	0.012	
Chloride	mg/L	08/11/2015	0001	17			#	2	
Iron	mg/L	08/11/2015	0001	0.015	J	U	#	0.0049	
Magnesium	mg/L	08/11/2015	0001	38			#	0.013	
Manganese	mg/L	08/11/2015	0001	0.0078			#	0.00011	
Molybdenum	mg/L	08/11/2015	0001	0.0039			#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	0001	0.78			#	0.02	
Oxidation Reduction Potential	mV	08/11/2015	N001	181.6			#		
pH	s.u.	08/11/2015	N001	8.54			#		
Potassium	mg/L	08/11/2015	0001	11			#	0.11	
Selenium	mg/L	08/11/2015	0001	0.00032	U	J	#	0.00032	
Sodium	mg/L	08/11/2015	0001	85			#	0.0066	
Specific Conductance	umhos/cm	08/11/2015	N001	1470			#		
Sulfate	mg/L	08/11/2015	0001	750			#	5	
Temperature	C	08/11/2015	N001	22.45			#		
Total Dissolved Solids	mg/L	08/11/2015	0001	1200			#	40	
Turbidity	NTU	08/11/2015	N001	1000			#		
Uranium	mg/L	08/11/2015	0001	0.0049			#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1568 SURFACE LOCATION CONCRETE WATER TROUGH

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/11/2015	0001	178		#		
Arsenic	mg/L	08/11/2015	0001	0.0052		#	0.00015	
Calcium	mg/L	08/11/2015	0001	23		#	0.012	
Chloride	mg/L	08/11/2015	0001	48		#	1	
Iron	mg/L	08/11/2015	0001	0.13		#	0.0049	
Magnesium	mg/L	08/11/2015	0001	5.6		#	0.013	
Manganese	mg/L	08/11/2015	0001	0.011		#	0.00011	
Molybdenum	mg/L	08/11/2015	0001	0.0015		#	0.00032	
Nitrate + Nitrite as Nitrogen	mg/L	08/11/2015	0001	0.22		#	0.01	
Oxidation Reduction Potential	mV	08/11/2015	N001	155.9		#		
pH	s.u.	08/11/2015	N001	9.06		#		
Potassium	mg/L	08/11/2015	0001	7.6		#	0.11	
Selenium	mg/L	08/11/2015	0001	0.0019	J	#	0.00032	
Sodium	mg/L	08/11/2015	0001	97		#	0.0066	
Specific Conductance	umhos/cm	08/11/2015	N001	584		#		
Sulfate	mg/L	08/11/2015	0001	43		#	2.5	
Temperature	C	08/11/2015	N001	24.1		#		
Total Dissolved Solids	mg/L	08/11/2015	0001	360		#	20	
Turbidity	NTU	08/11/2015	N001	33.1		#		
Uranium	mg/L	08/11/2015	0001	0.0025		#	0.000029	

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

REPORT DATE: 11/2/2015

Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	0001	70			#		
Ammonia Total as N	mg/L	08/10/2015	0002	430			#	30	
Arsenic	mg/L	08/10/2015	0001	0.075		J	#	0.00074	
Arsenic	mg/L	08/10/2015	0002	0.067	E	J	#	0.00074	
Calcium	mg/L	08/10/2015	0001	580			#	0.6	
Calcium	mg/L	08/10/2015	0002	560			#	0.6	
Chloride	mg/L	08/10/2015	0001	160000			#	2000	
Chloride	mg/L	08/10/2015	0002	160000			#	2000	
Iron	mg/L	08/10/2015	0001	0.25	U		#	0.25	
Iron	mg/L	08/10/2015	0002	0.25	U		#	0.25	
Magnesium	mg/L	08/10/2015	0001	10000			#	0.65	
Magnesium	mg/L	08/10/2015	0002	10000			#	0.65	
Manganese	mg/L	08/10/2015	0001	54			#	0.0057	
Manganese	mg/L	08/10/2015	0002	55			#	0.0057	
Molybdenum	mg/L	08/10/2015	0001	0.24		J	#	0.0016	
Molybdenum	mg/L	08/10/2015	0002	0.22	N	J	#	0.0016	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	0001	8000			#	50	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	0002	8100			#	100	
Oxidation Reduction Potential	mV	08/10/2015	N001	299.4			#		
pH	s.u.	08/10/2015	N001	6.15			#		

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

REPORT DATE: 11/2/2015

Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Potassium	mg/L	08/10/2015	0001	1200			#	5.4	
Potassium	mg/L	08/10/2015	0002	1200			#	5.4	
Selenium	mg/L	08/10/2015	0001	1.3			#	0.0016	
Selenium	mg/L	08/10/2015	0002	1.3			#	0.0016	
Silica	mg/L	08/10/2015	0002	57			#	0.47	
Silicon	mg/L	08/10/2015	0002	27			#	0.22	
Sodium	mg/L	08/10/2015	0001	70000			#	3.3	
Sodium	mg/L	08/10/2015	0002	75000			#	3.3	
Specific Conductance	umhos/cm	08/10/2015	N001	129540			#		
Sulfate	mg/L	08/10/2015	0001	24000			#	5000	
Sulfate	mg/L	08/10/2015	0002	24000			#	5000	
Temperature	C	08/10/2015	N001	33.03			#		
Total Dissolved Solids	mg/L	08/10/2015	0001	290000	*	J	#	400	
Total Dissolved Solids	mg/L	08/10/2015	0002	270000		J	#	400	
Turbidity	NTU	08/10/2015	N001	8.58			#		
Uranium	mg/L	08/10/2015	0001	0.91			#	0.00015	
Uranium	mg/L	08/10/2015	0002	0.79			#	0.00015	

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

REPORT DATE: 11/2/2015

Location: 1570 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (as CaCO ₃)	mg/L	08/10/2015	0001	60			#		
Arsenic	mg/L	08/10/2015	0001	0.072		J	#	0.00074	
Calcium	mg/L	08/10/2015	0001	590			#	0.6	
Chloride	mg/L	08/10/2015	0001	160000			#	2000	
Iron	mg/L	08/10/2015	0001	0.25	U		#	0.25	
Magnesium	mg/L	08/10/2015	0001	10000			#	0.65	
Manganese	mg/L	08/10/2015	0001	54			#	0.0057	
Molybdenum	mg/L	08/10/2015	0001	0.23		J	#	0.0016	
Nitrate + Nitrite as Nitrogen	mg/L	08/10/2015	0001	8100			#	100	
Oxidation Reduction Potential	mV	08/10/2015	N001	236.2			#		
pH	s.u.	08/10/2015	N001	6.18			#		
Potassium	mg/L	08/10/2015	0001	1200			#	5.4	
Selenium	mg/L	08/10/2015	0001	1.3			#	0.0016	
Sodium	mg/L	08/10/2015	0001	69000			#	3.3	
Specific Conductance	umhos/cm	08/10/2015	N001	126629			#		
Sulfate	mg/L	08/10/2015	0001	24000			#	5000	
Temperature	C	08/10/2015	N001	34.4			#		
Total Dissolved Solids	mg/L	08/10/2015	0001	260000		J	#	400	
Turbidity	NTU	08/10/2015	N001	3.27			#		
Uranium	mg/L	08/10/2015	0001	0.88			#	0.00015	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

Validated according to quality assurance guidelines.

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Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 11/2/2015

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0251		5061.25	08/12/2015	09:35:52	63.97	4997.28	
0252		5061.3	08/12/2015	10:45:11	68.96	4992.34	
0258		5055.56	08/11/2015	17:40:07	94.08	4961.48	
0261		5069.69	08/12/2015	11:15:00	127.64	4942.05	
0262		5061.99	08/12/2015	15:00:41	44.54	5017.45	
0263		5063.1	08/12/2015	12:30:47	49.91	5013.19	
0264		5062.19	08/12/2015	12:00:50	80.26	4981.93	
0265		5053.88	08/12/2015	11:00:39	81.82	4972.06	
0266		5053.32	08/12/2015	10:45:38	91.46	4961.86	
0267		5053.4	08/12/2015	11:55:49	62.23	4991.17	
0268		5067.24	08/12/2015	17:05:09	88.96	4978.28	
0271		5046.72	08/12/2015	10:20:55	55.15	4991.57	
0272		5064.24	08/11/2015	17:00:19	55.06	5009.18	
0273		5064.74	08/12/2015	16:00:11	58.92	5005.82	
0274		5064.42	08/12/2015	09:30:16	60.1	5004.32	
0275		5062.64	08/12/2015	16:25:53	72.54	4990.10	
0276		5067.55	08/12/2015	16:50:39	63.94	5003.61	
0277		4982.35	08/12/2015	13:10:11	34.35	4948.00	
0278		4956.09	08/11/2015	15:10:12	22.2	4933.89	
0279		4951.04	08/11/2015	14:05:13	25.51	4925.53	
0280		4951.52	08/11/2015	14:30:38	27.51	4924.01	
0281		5051	08/12/2015	11:25:39	70.85	4980.15	
0282		5060.04	08/12/2015	14:30:05	82.79	4977.25	
0283		5057.97	08/12/2015	15:09:00			D
0284		5098.72	08/11/2015	15:30:00			D
0285		5096.47	08/11/2015	14:00:00			D
0286		5063.99	08/11/2015	16:50:57	53.4	5010.59	
0287		5065.65	08/11/2015	16:30:02	49.6	5016.05	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 11/2/2015

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0288		5072.54	08/11/2015	16:15:24	55.29	5017.25	
0289		5070.82	08/11/2015	16:40:58	54.51	5016.31	
0290		5068.91	08/11/2015	15:30:55	80.79	4988.12	
0683		5070.64	08/11/2015	15:05:11	93.85	4976.79	
0684		5070.05	08/10/2015	18:10:52	67.7	5002.35	
0685		5072.44	08/12/2015	16:20:26	49.37	5023.07	
0686		5107.97	08/11/2015	08:54:00			D
0687		5109.82	08/11/2015	08:40:09	59.92	5049.90	
0688		5106.98	08/12/2015	15:45:36	66.12	5040.86	
0689		4981.63	08/11/2015	17:00:59	38.44	4943.19	
0690		4950.87	08/11/2015	13:40:59	24.57	4926.30	
0691		4979.41	08/11/2015	10:00:57	40.5	4938.91	
0692		4953.31	08/11/2015	14:50:12	25.32	4927.99	
0695		4976.83	08/11/2015	11:00:25	50.19	4926.64	
0901	U	5105.46	08/11/2015	08:40:31	47.54	5057.92	
0902	N	4737.42	08/11/2015	10:00:47	30.31	4707.11	
0903	D	4983.33	08/12/2015	13:30:47	31.25	4952.08	
0904	N	4904.11	08/11/2015	12:40:22	23.31	4880.80	
0906	O	5062.1	08/12/2015	15:35:25	47.48	5014.62	
0908	D	5058.14	08/12/2015	10:15:03	56.64	5001.50	
0909	D	5057.17	08/12/2015	15:00:00			D
0910	U	5106.7	08/11/2015	09:10:22	50.8	5055.90	
0911	U	5106.96	08/11/2015	09:40:08	47.09	5059.87	
0912	D	5059.97	08/12/2015	13:50:53	58	5001.97	
0913	D	5060.16	08/12/2015	14:30:05	66.1	4994.06	
0914	D	5070.1	08/11/2015	13:20:07	110.27	4959.83	
0915	D	5070.84	08/11/2015	14:30:40	105.79	4965.05	
0916	D	5070	08/11/2015	14:00:48	117.75	4952.25	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 11/2/2015

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0917	D	5048.02	08/12/2015	09:50:03	69.64	4978.38	
0918	D	5049.63	08/12/2015	09:39:00			D
0919	D	5048.56	08/12/2015	09:25:17	146.23	4902.33	
0920	D	4982.97	08/12/2015	12:50:48	32.73	4950.24	
0921	D	4979.08	08/12/2015	12:15:48	37.21	4941.87	
0929	D	5060.82	08/12/2015	15:00:10	60.22	5000.60	
0930	D	4954.96	08/11/2015	15:35:56	20.85	4934.11	
0932	D	5057.32	08/12/2015	14:55:27	98.2	4959.12	
0934	D	5059.73	08/12/2015	14:30:17	74.67	4985.06	
0938	D	5063.64	08/12/2015	18:00:02			
0940	D	5064.77	08/11/2015	17:15:50	52.71	5012.06	
0941	D	5065.97	08/11/2015	15:50:59	49.18	5016.79	
0943	U	5098.05	08/11/2015	15:15:38	54.43	5043.62	
0945	U	5140.49	08/11/2015	09:20:29	93.69	5046.80	
0946	C	5100.5	08/11/2015	17:30:17	56.47	5044.03	
0947	U	5097.01	08/10/2015	17:25:42	67.32	5029.69	
0948	U	5117.8	08/11/2015	12:15:00	101.37	5016.43	
0968	U	5107	08/11/2015	09:30:00	51.74	5055.26	
1003		4976.58	08/11/2015	10:35:45	38.09	4938.49	
1004		4961.55	08/11/2015	11:35:55	24.15	4937.40	
1005		4947.83	08/11/2015	14:00:00	22.19	4925.64	
1006		4947.08	08/11/2015	16:05:04	16.25	4930.83	
1007		4958.56	08/11/2015	16:40:15	21.23	4937.33	
1008		4980.52	08/11/2015	17:00:00	36.77	4943.75	
1103		5059.56	08/12/2015	16:45:45	0	5059.56	
1105		5059.33	08/12/2015	18:30:28	0	5059.33	
NMW-1A		5150.95	08/11/2015	12:00:02	114.47	5036.48	
NMW-2A		5121.69	08/11/2015	08:10:23	70.04	5051.65	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 11/2/2015

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
NMW-3A		5168.51	08/10/2015	17:20:18	112.4	5056.11	
NMW-4A		5137.44	08/10/2015	17:55:01	80.15	5057.29	
NMW-6S		5145.93	08/11/2015	11:20:47	107.39	5038.54	
NMW-7D		5147.13	08/11/2015	10:40:17	116.9	5030.23	
NMW-8S		5114.87	08/12/2015	12:40:22	88.81	5026.06	
NMW-9D		5115.92	08/12/2015	13:15:12	89.95	5025.97	

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

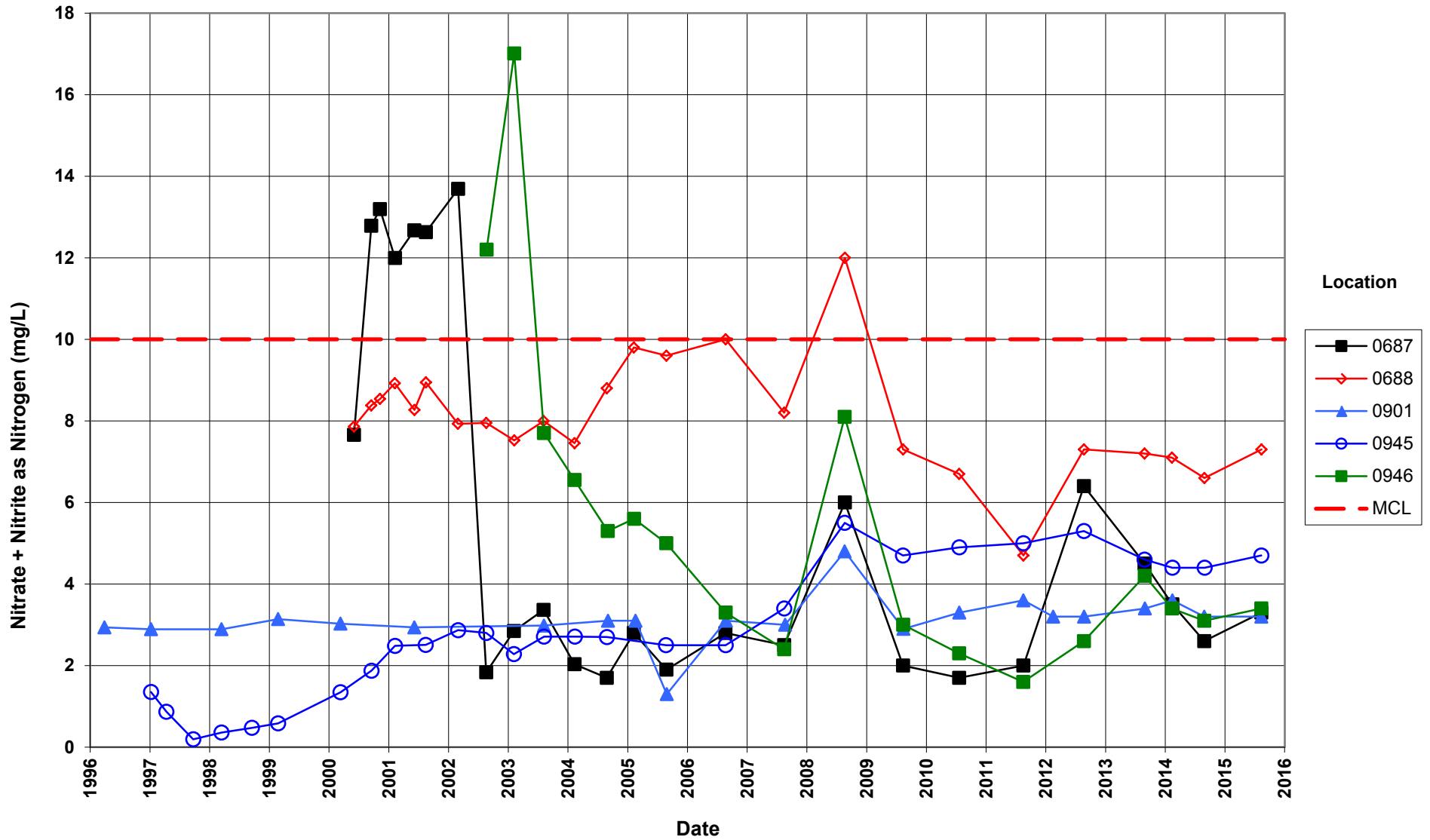
WATER LEVEL FLAGS: D Dry F Flowing B Below top of pump

Time-Concentration Graphs

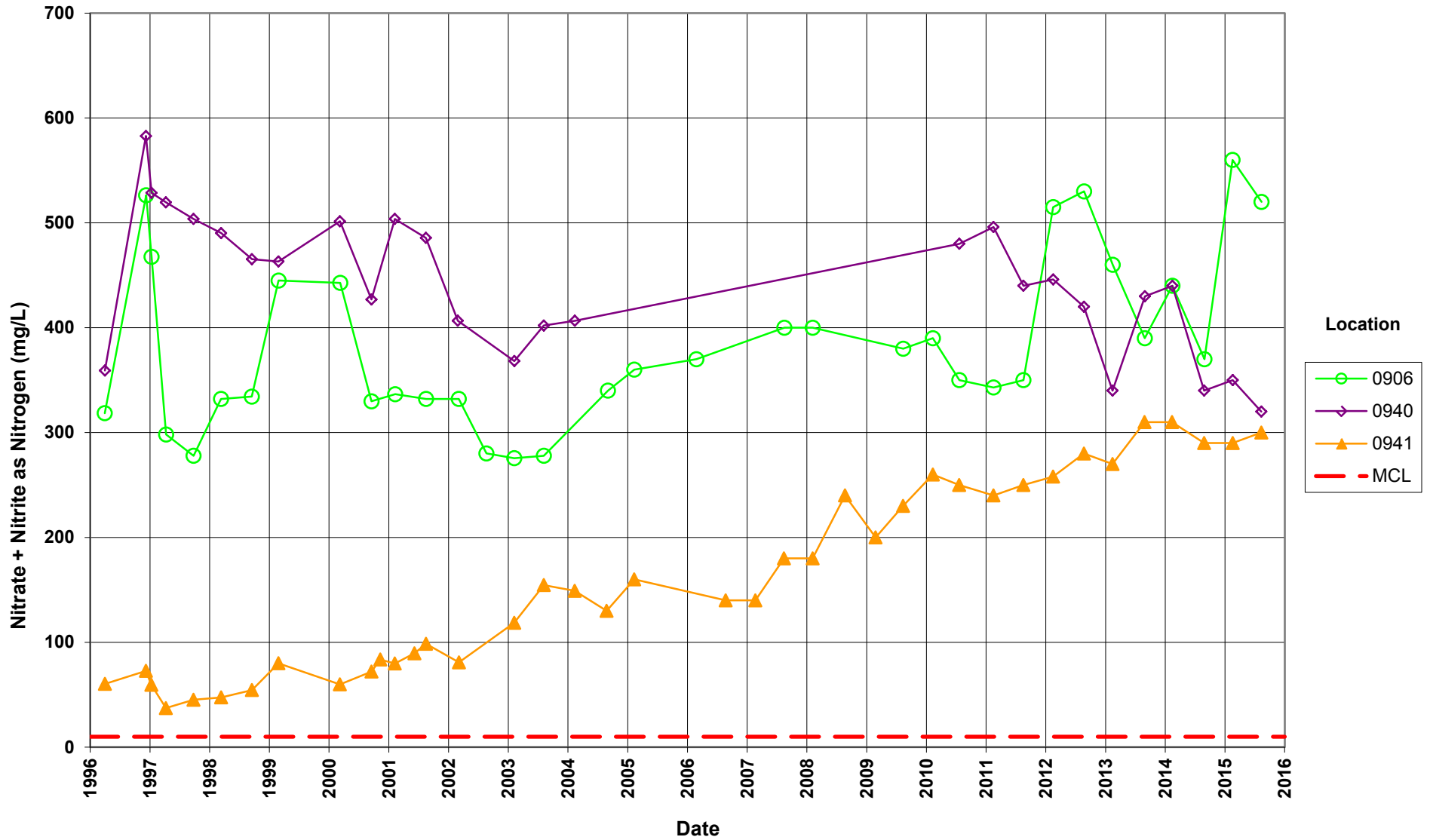
Primary Contaminants in Monitoring Wells

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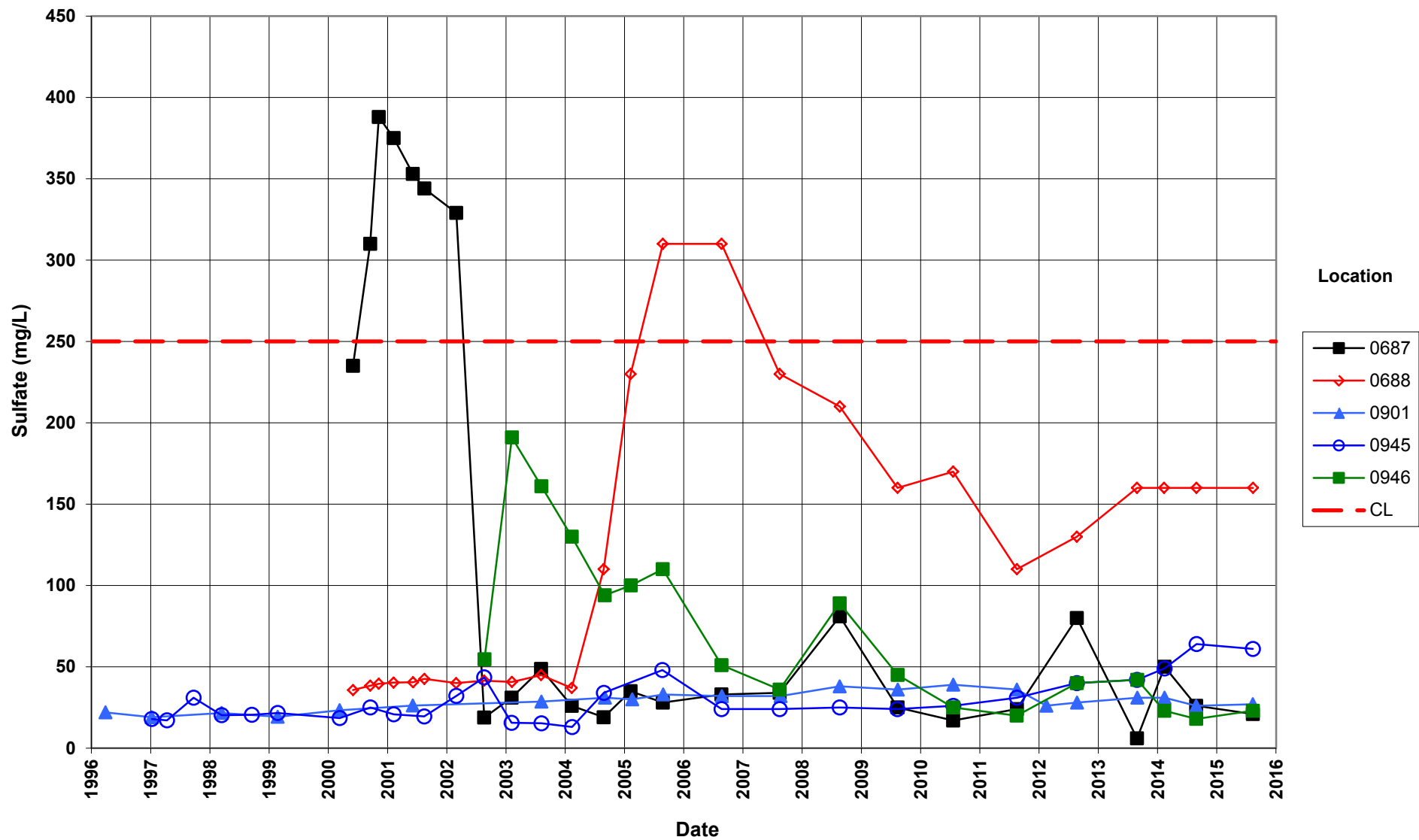
Tuba City Disposal Site
Horizon A Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



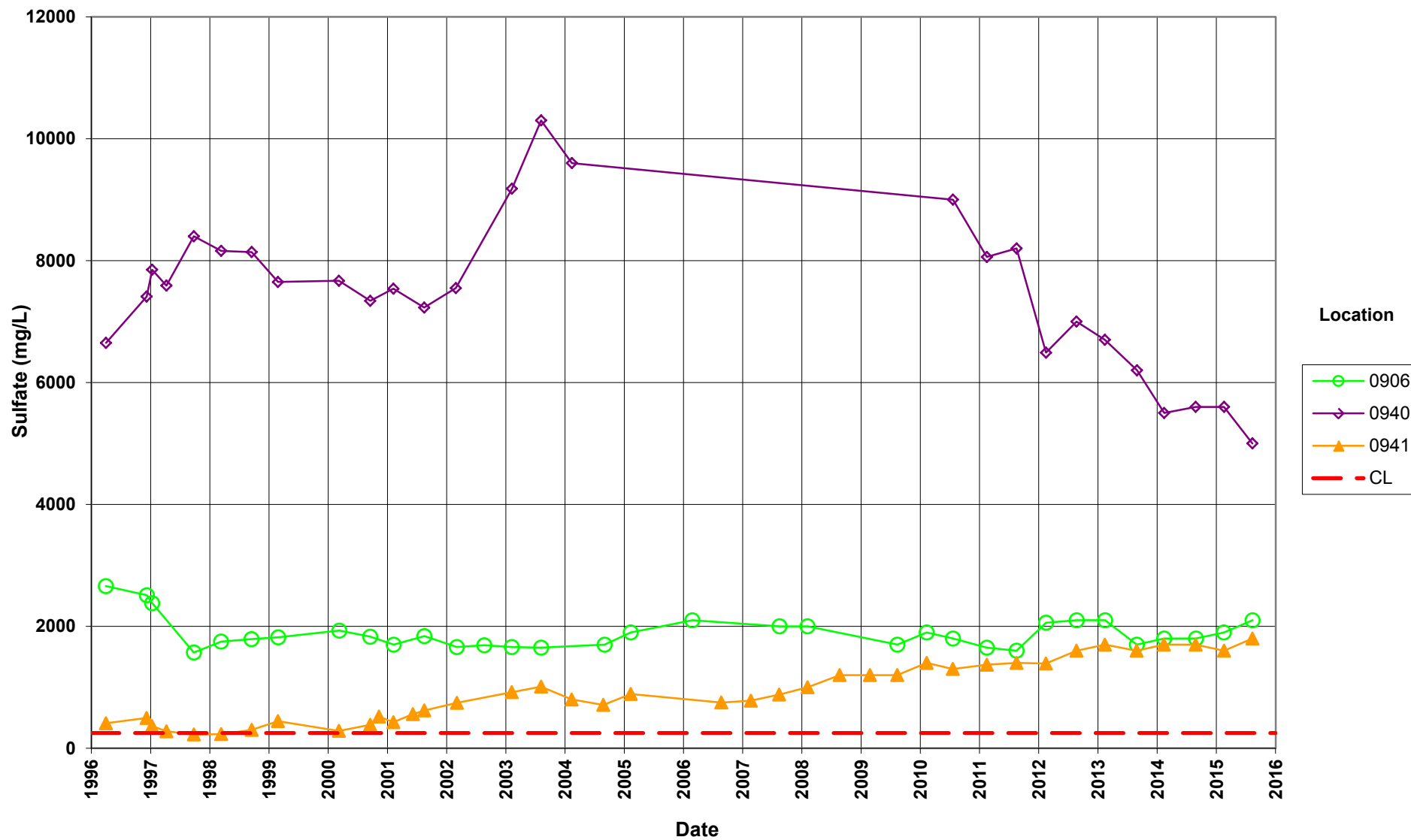
Tuba City Disposal Site
Horizon A Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



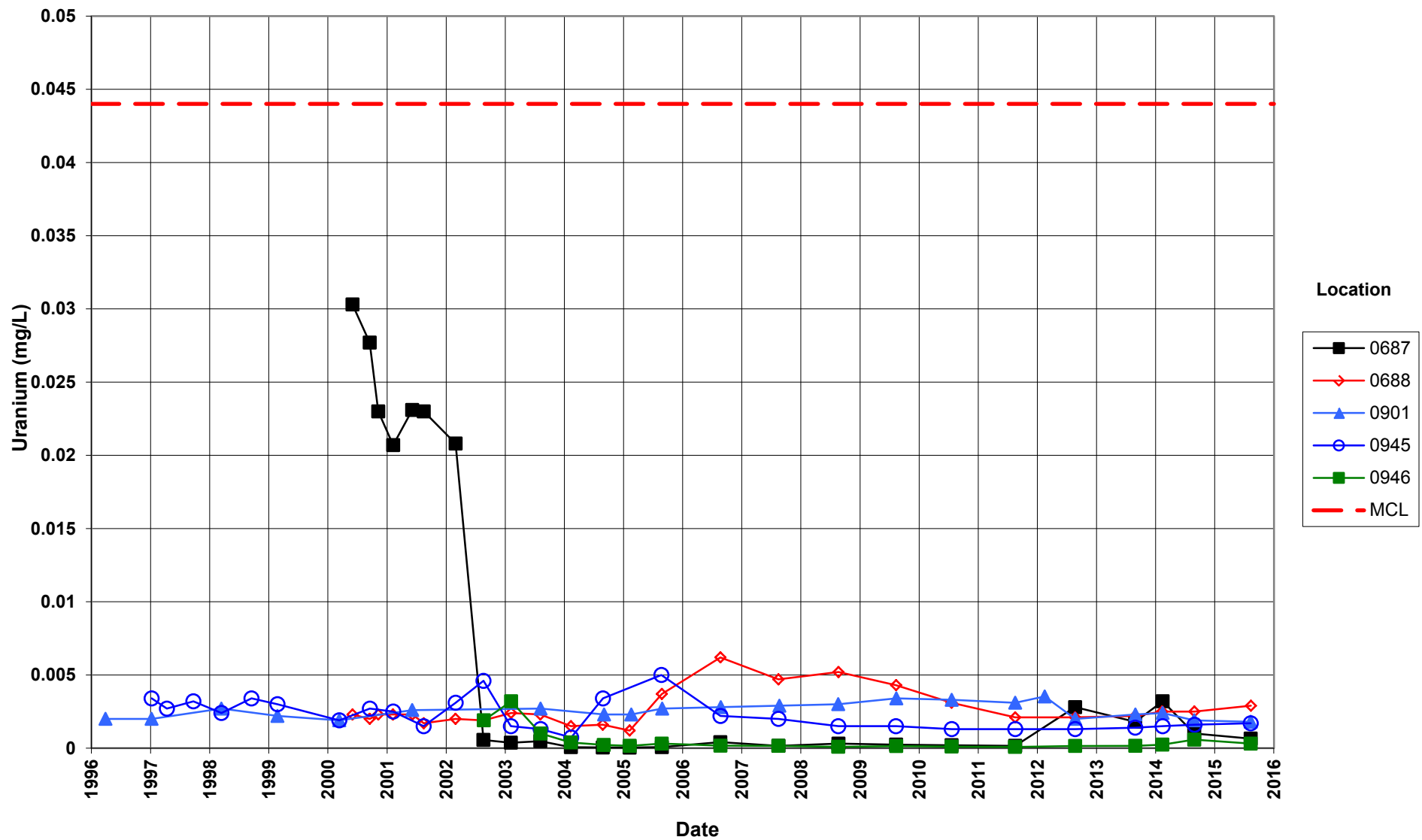
Tuba City Disposal Site
Horizon A Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



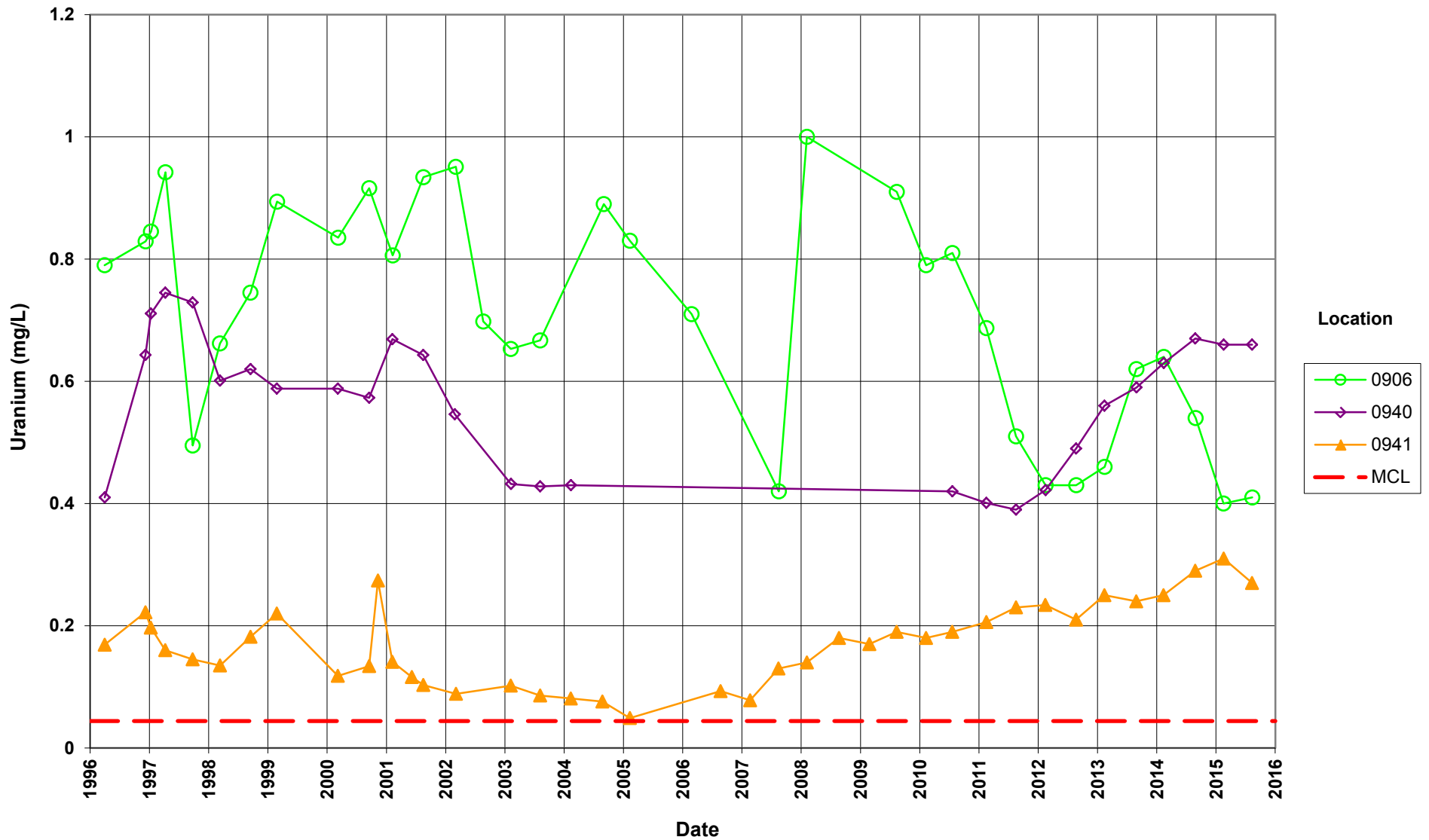
Tuba City Disposal Site
Horizon A Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



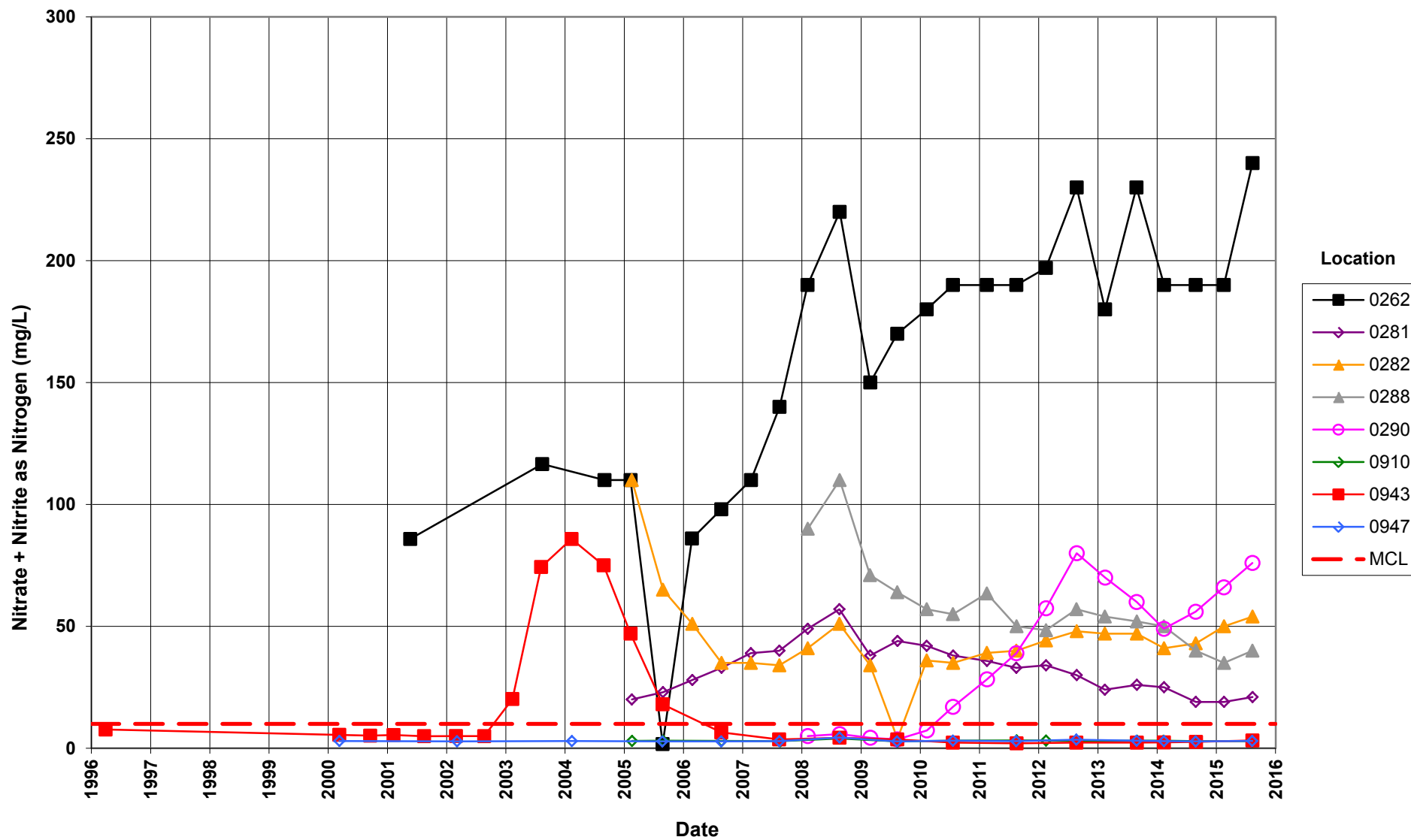
Tuba City Disposal Site
Horizon A Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



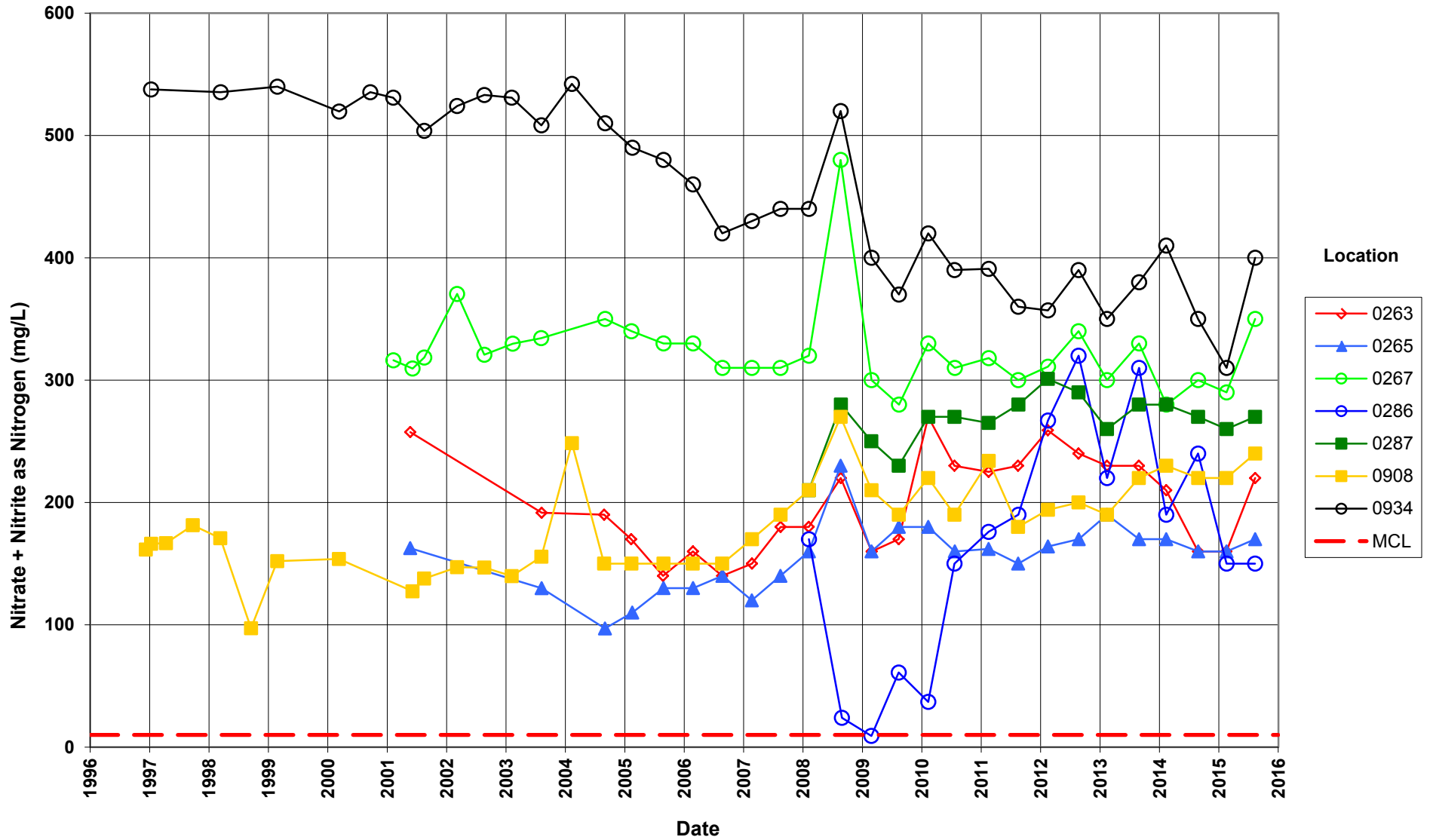
Tuba City Disposal Site
Horizon A Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



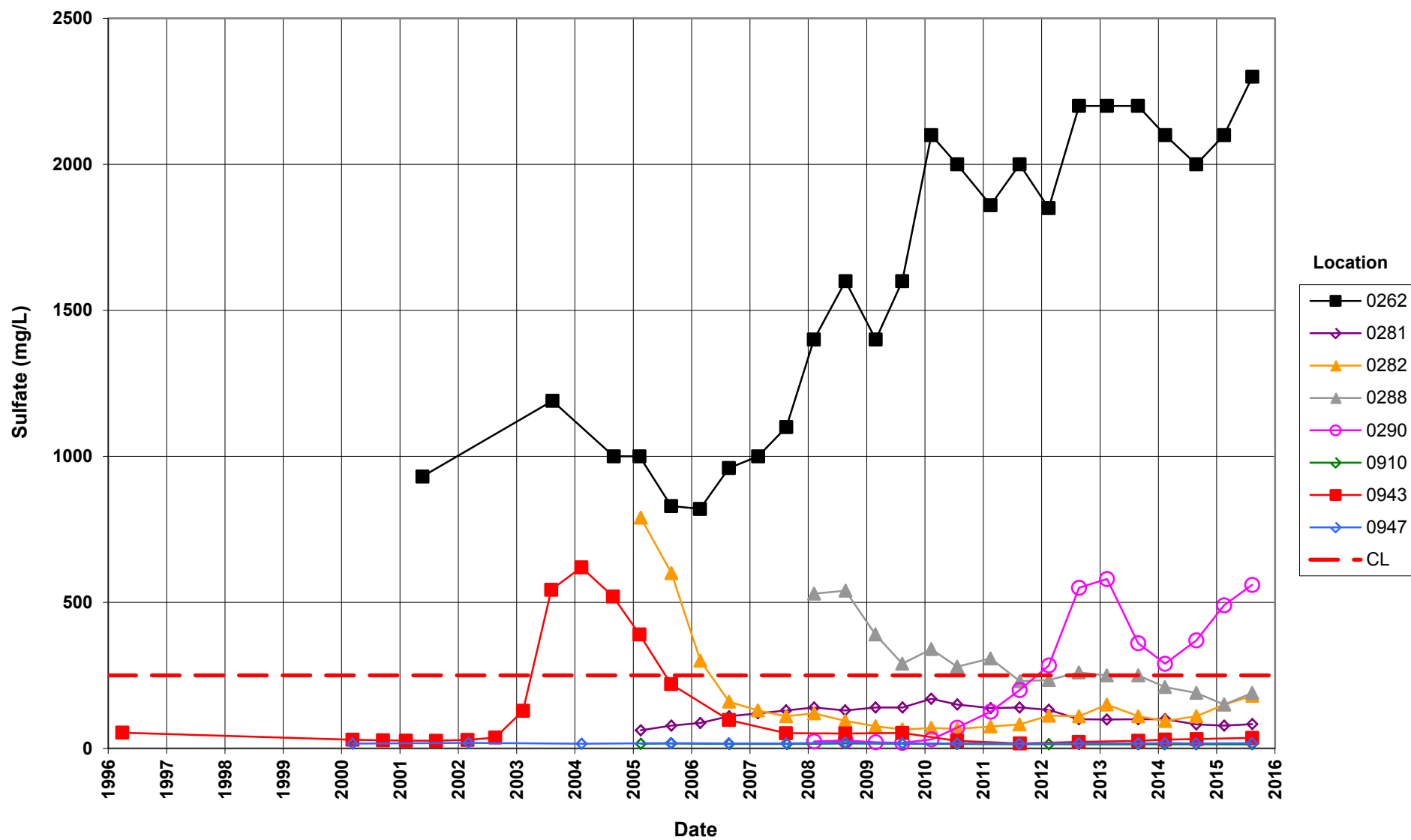
Tuba City Disposal Site
 Horizon B Monitoring Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L



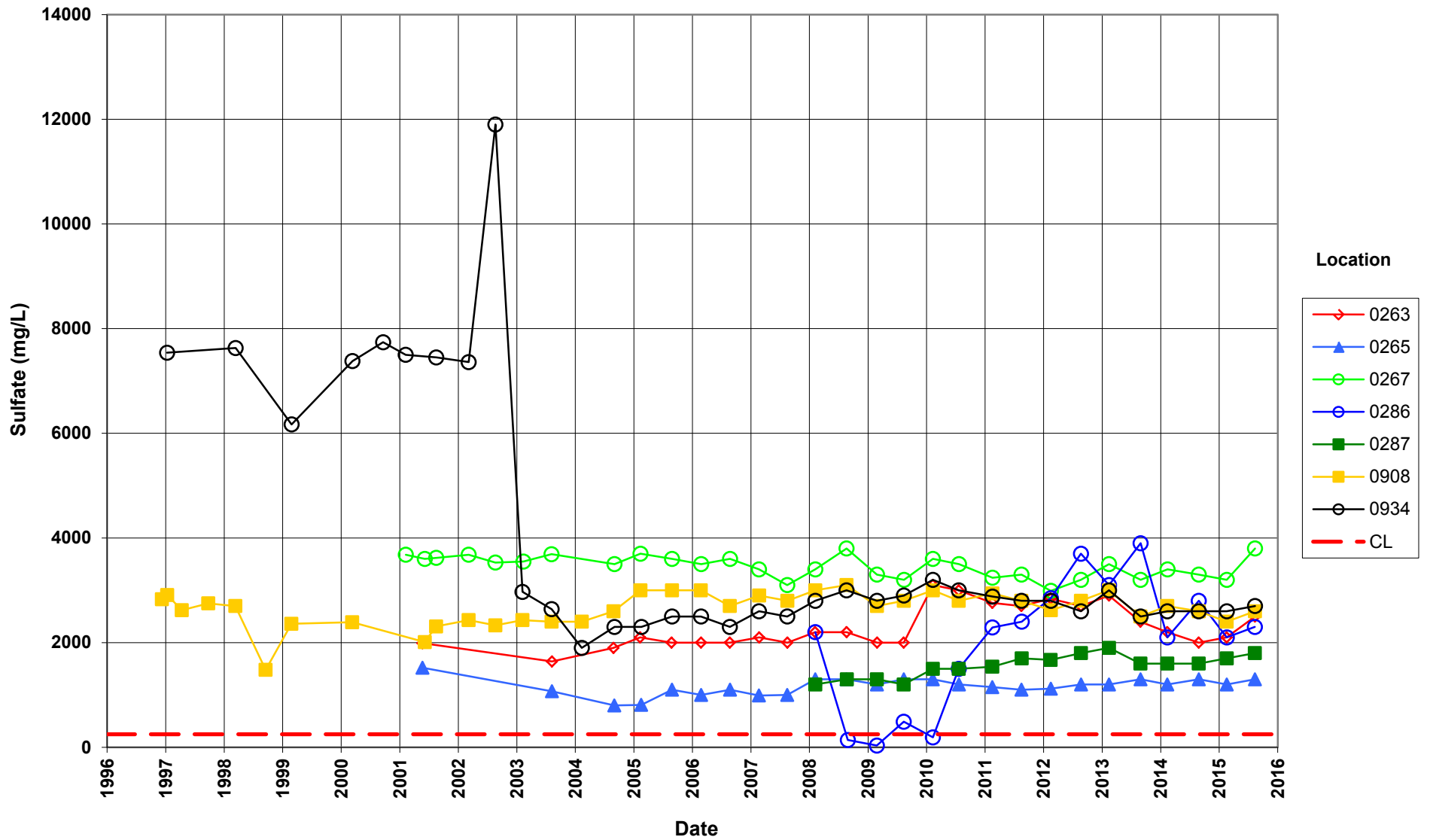
Tuba City Disposal Site
Horizon B Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



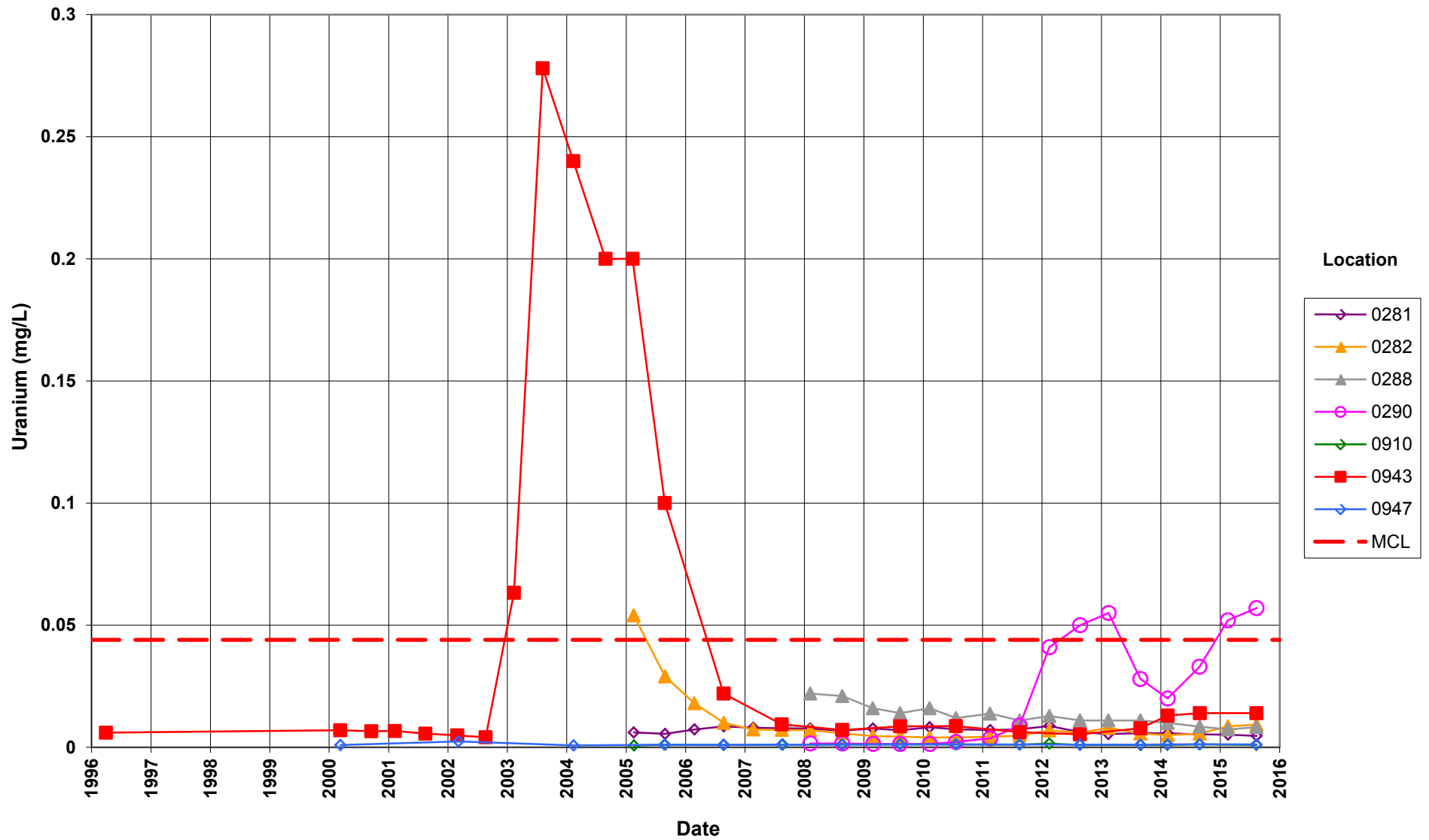
Tuba City Disposal Site
Horizon B Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



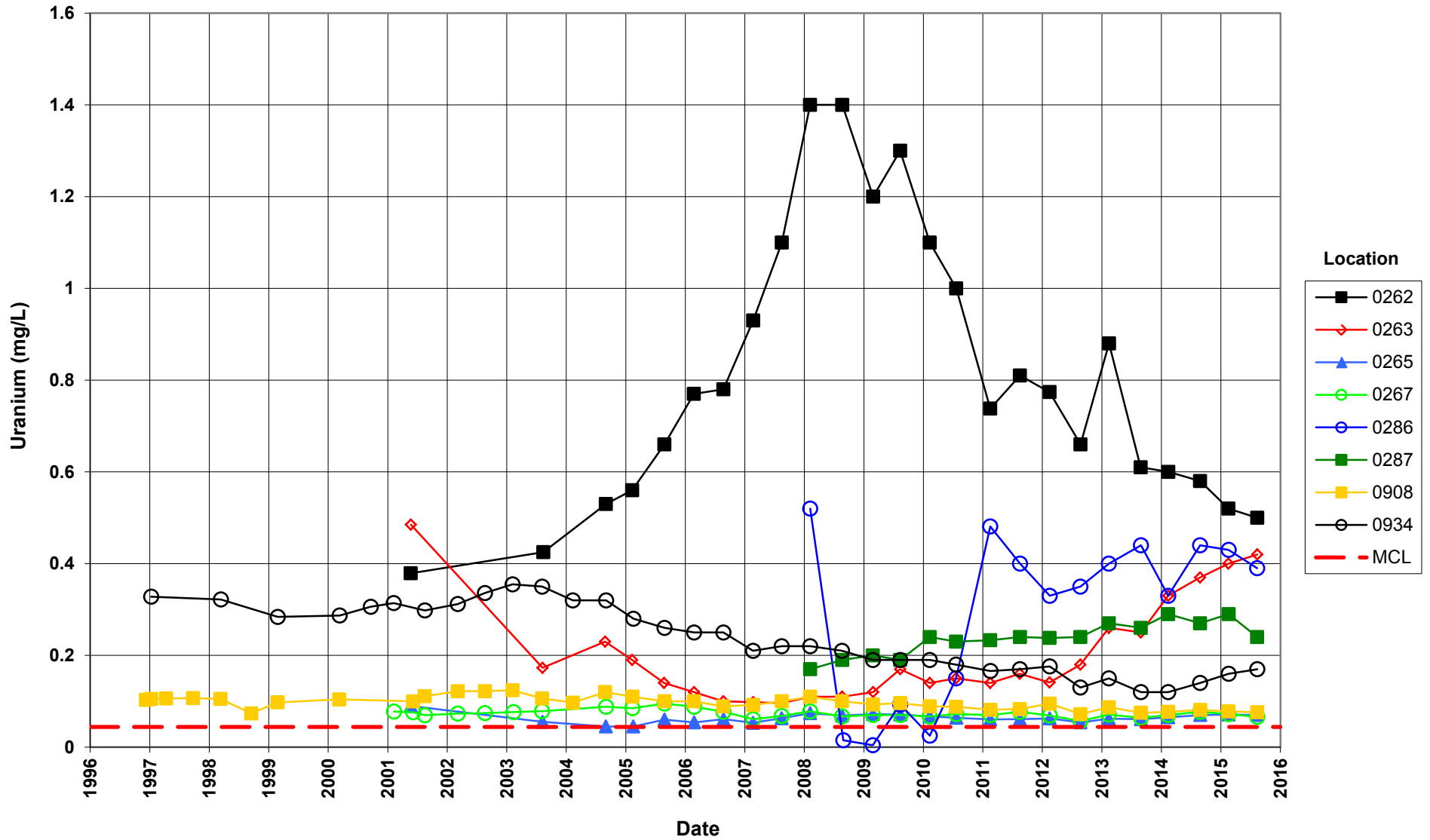
Tuba City Disposal Site
Horizon B Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



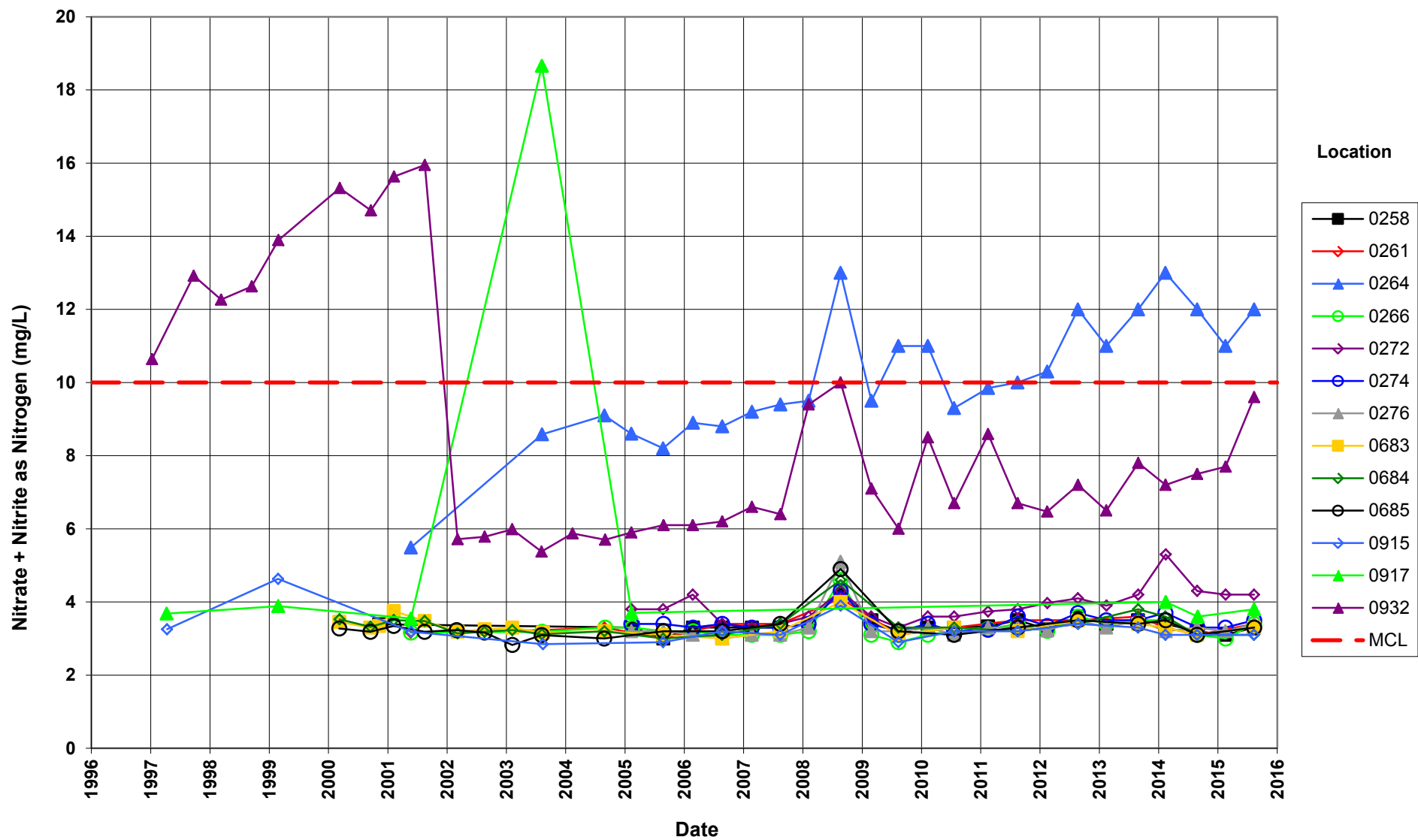
Tuba City Disposal Site
Horizon B Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



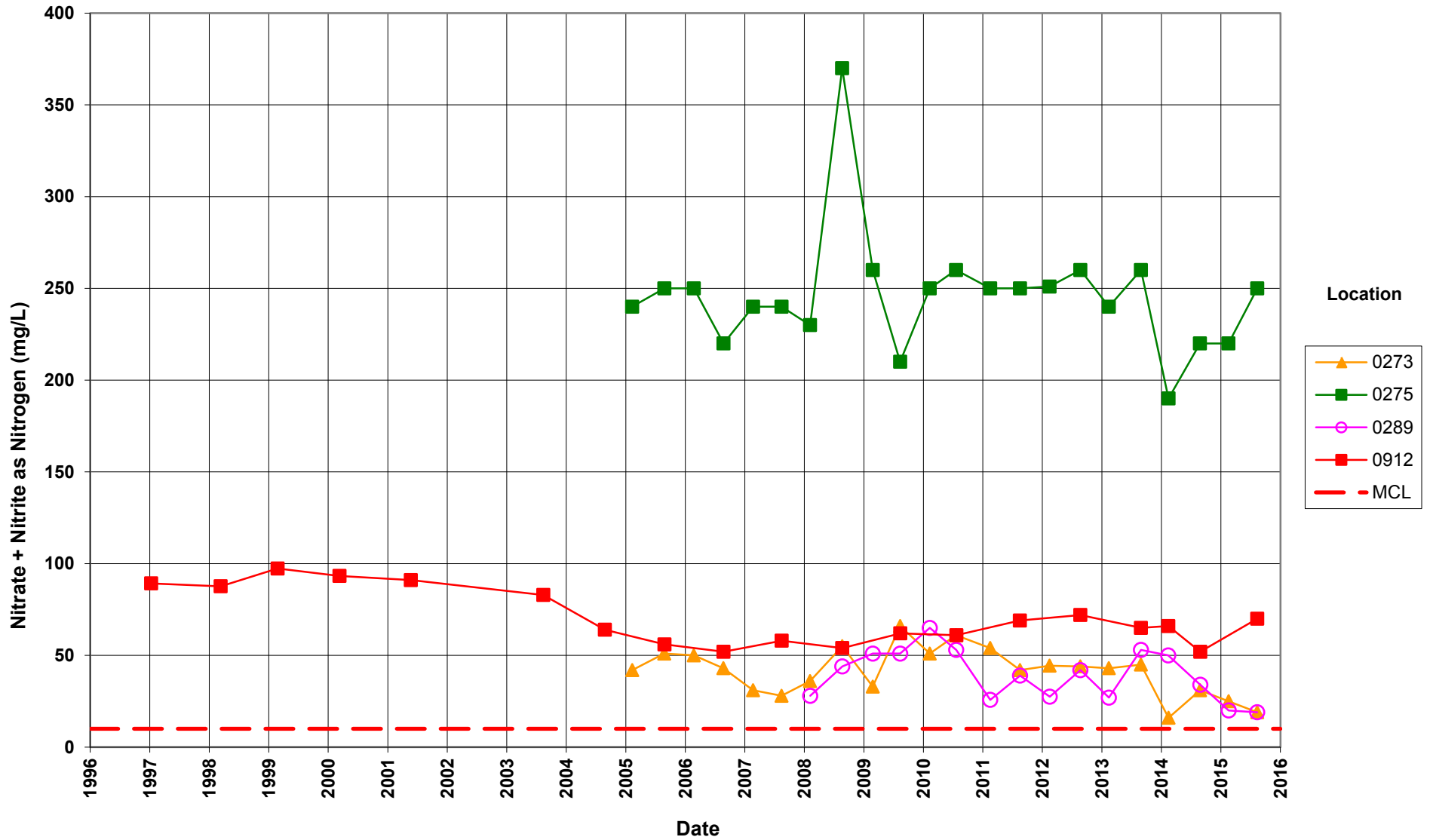
Tuba City Disposal Site
Horizon B Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



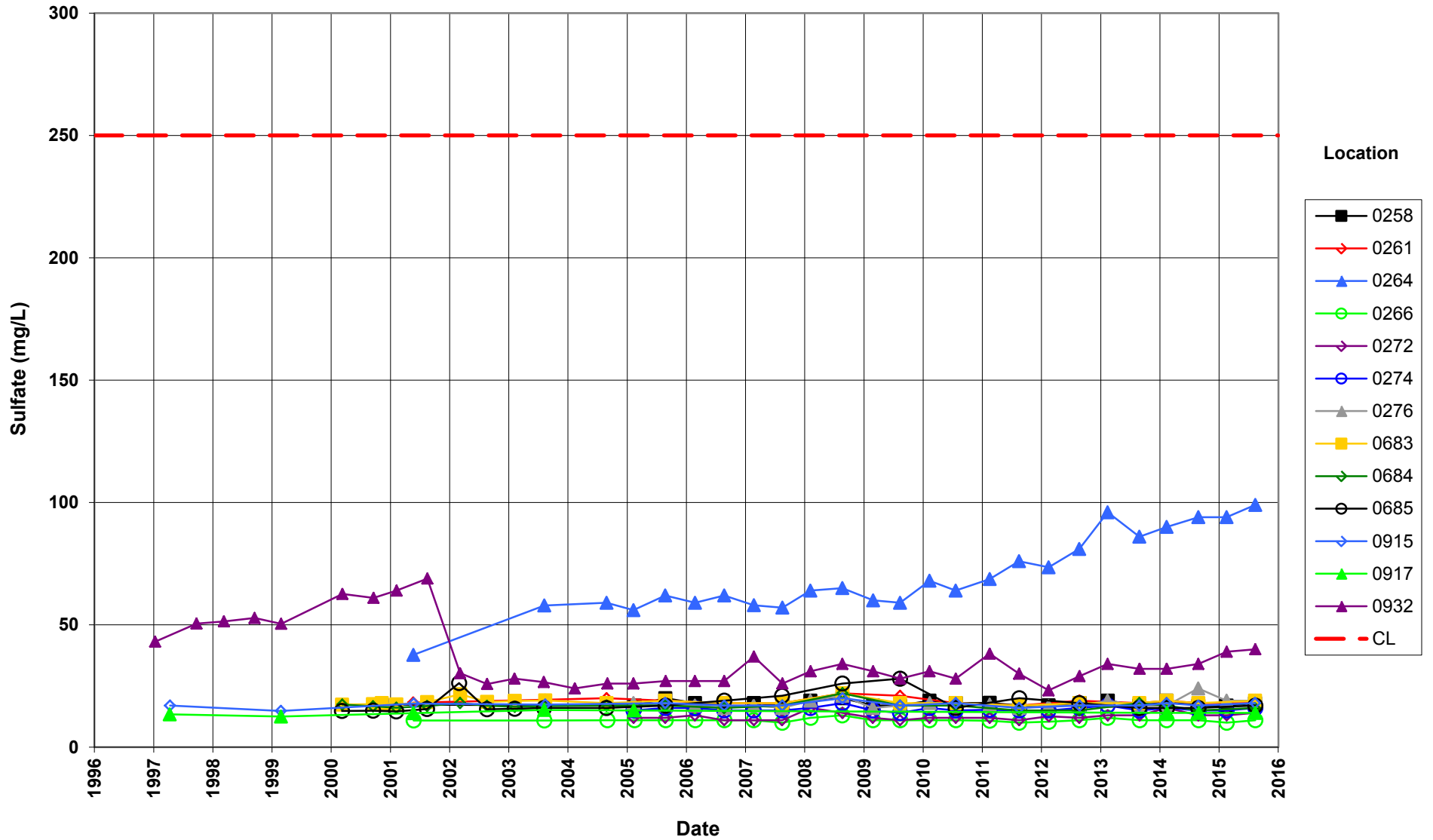
Tuba City Disposal Site
 Horizons C & D Monitoring Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L



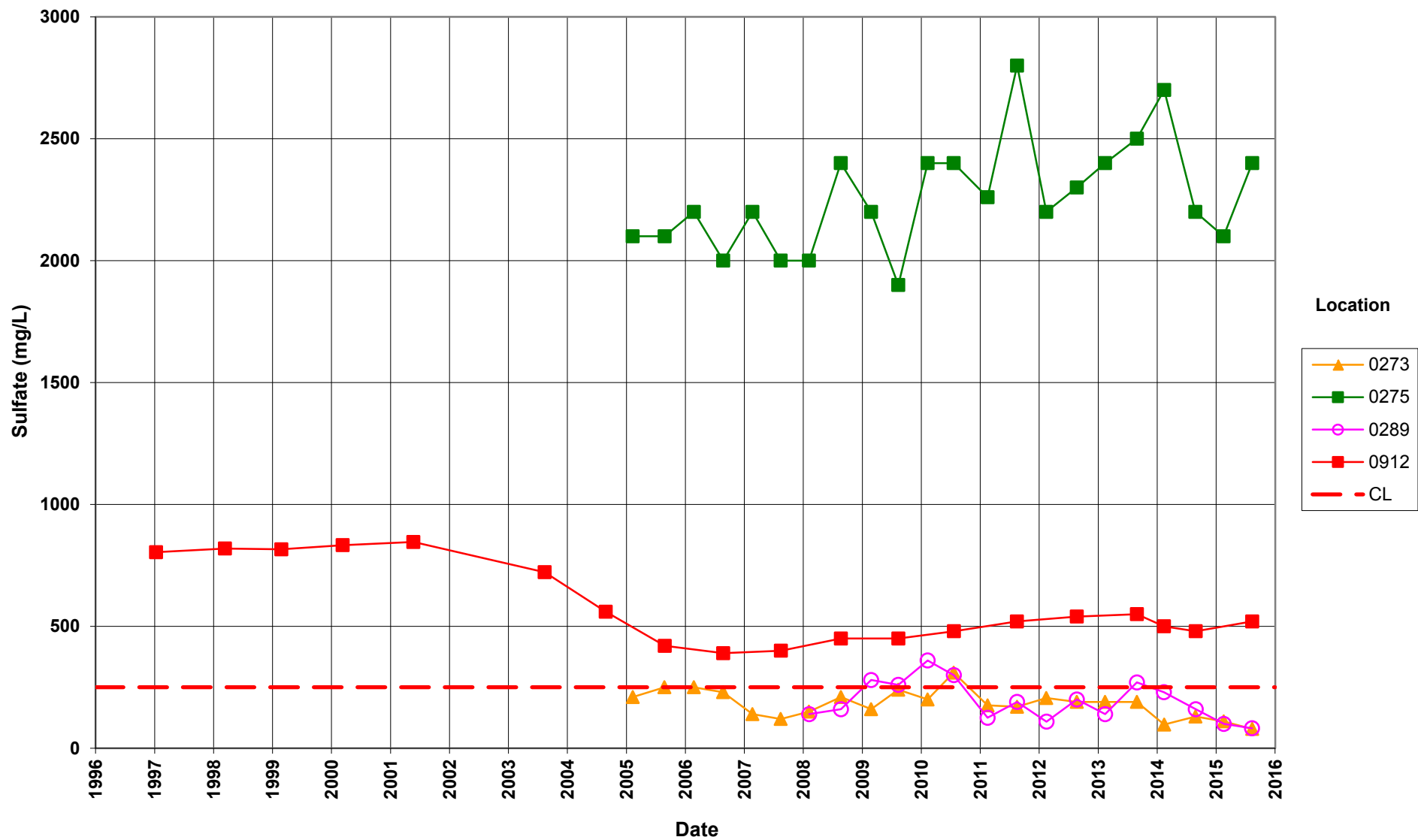
Tuba City Disposal Site
 Horizons C & D Monitoring Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L



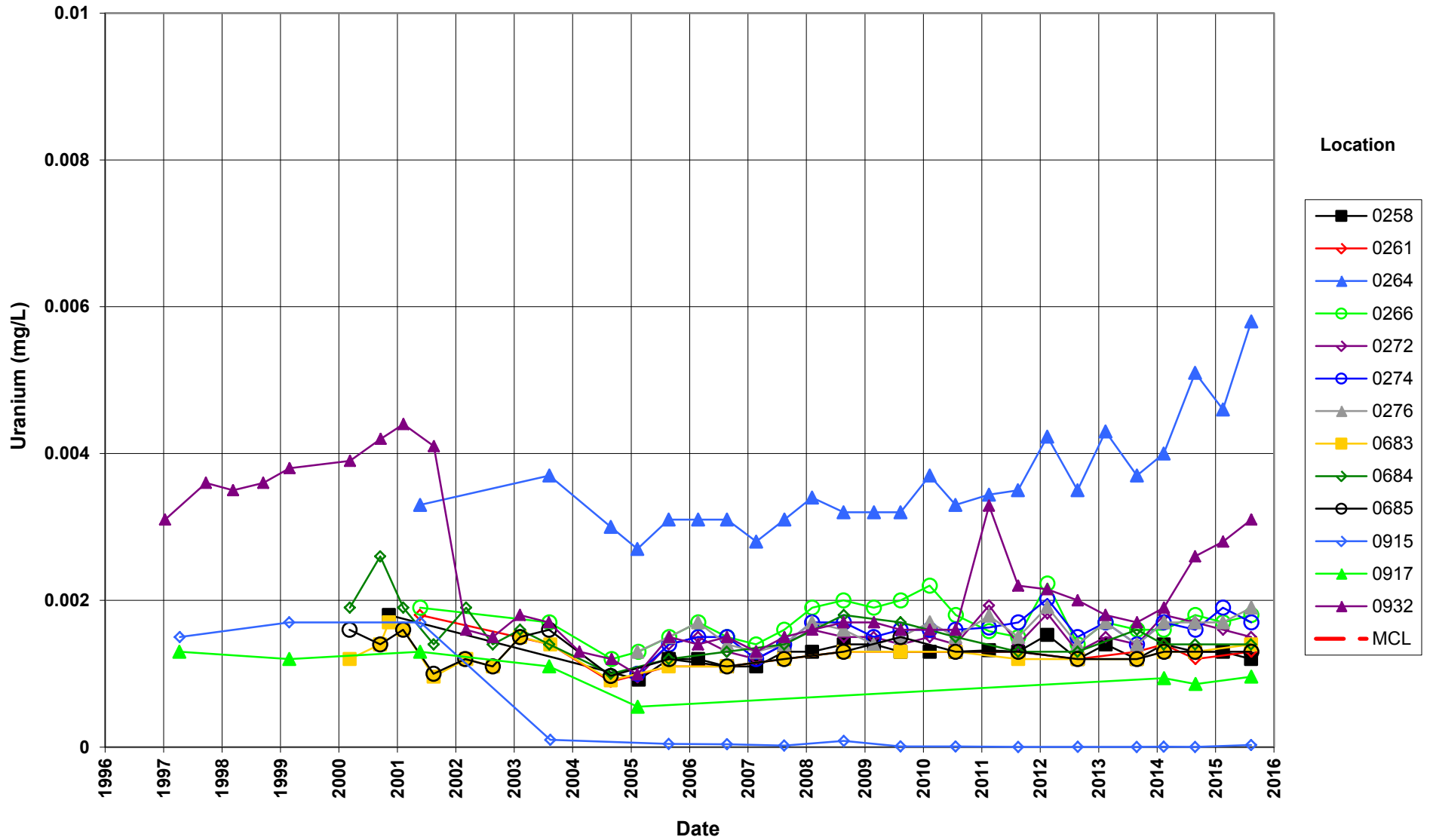
Tuba City Disposal Site
Horizons C & D Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



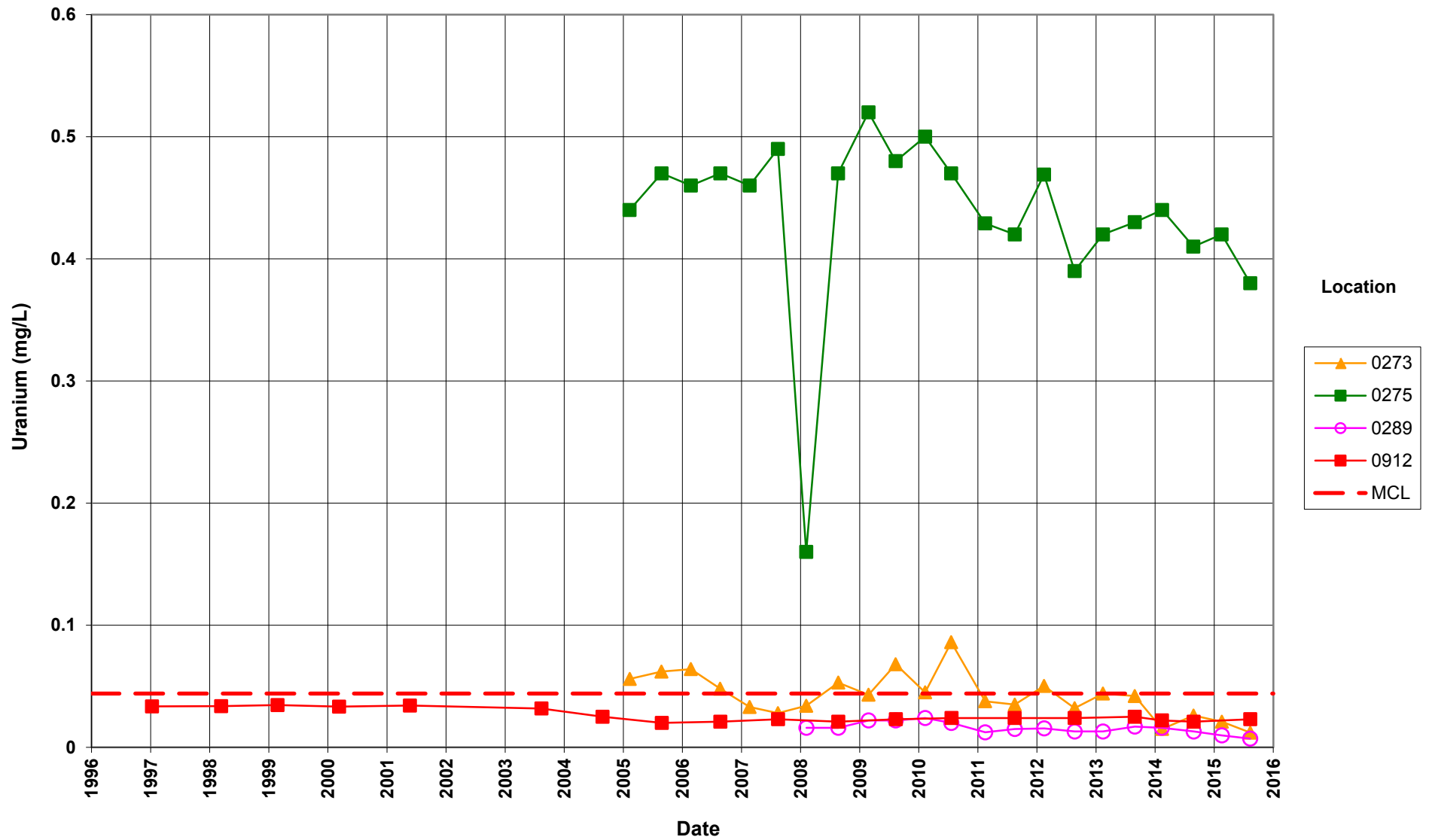
Tuba City Disposal Site
Horizons C & D Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



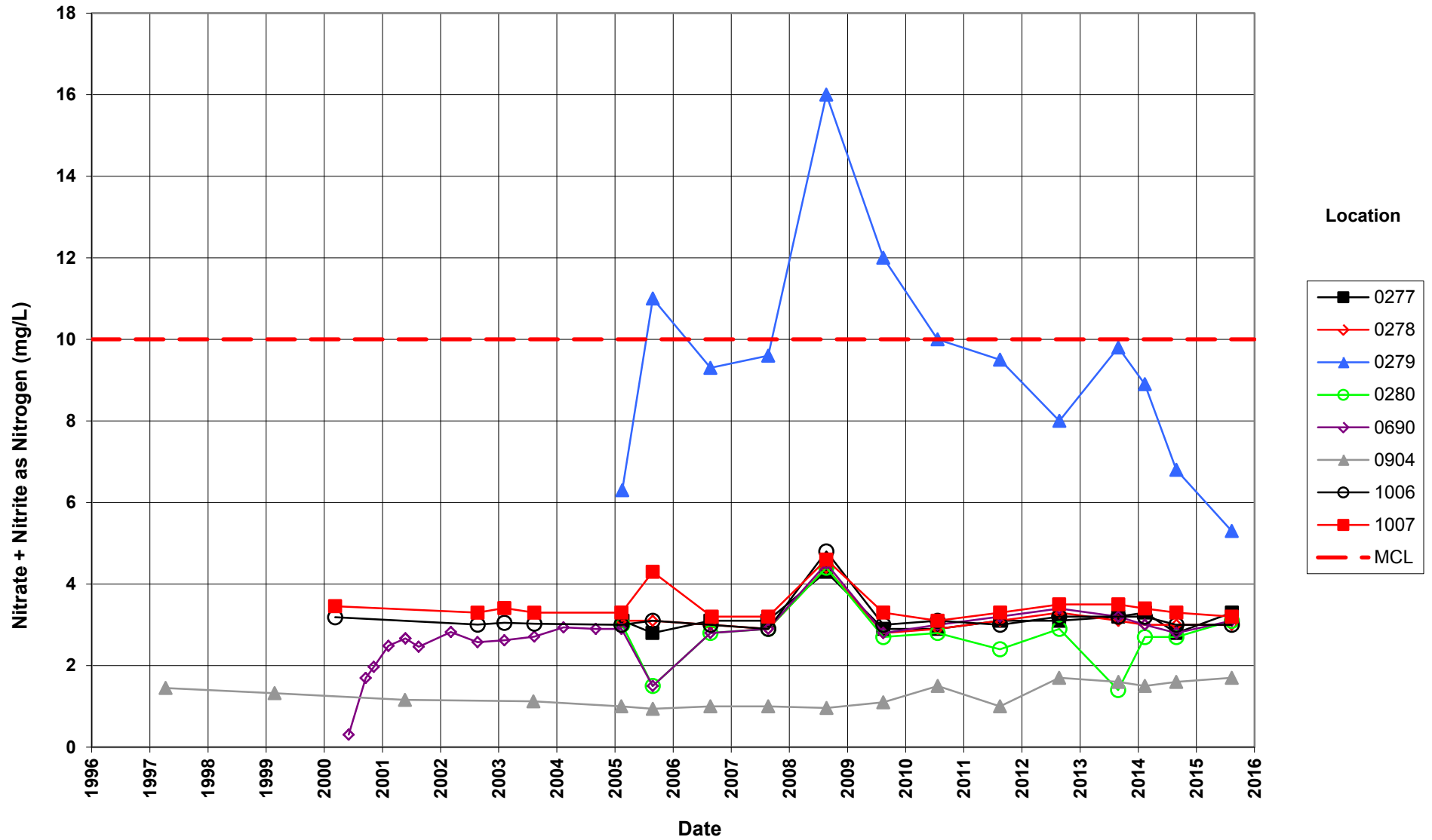
Tuba City Disposal Site
 Horizons C & D Monitoring Wells
 Uranium Concentration
 Maximum Concentration Limit (MCL) = 0.044 mg/L



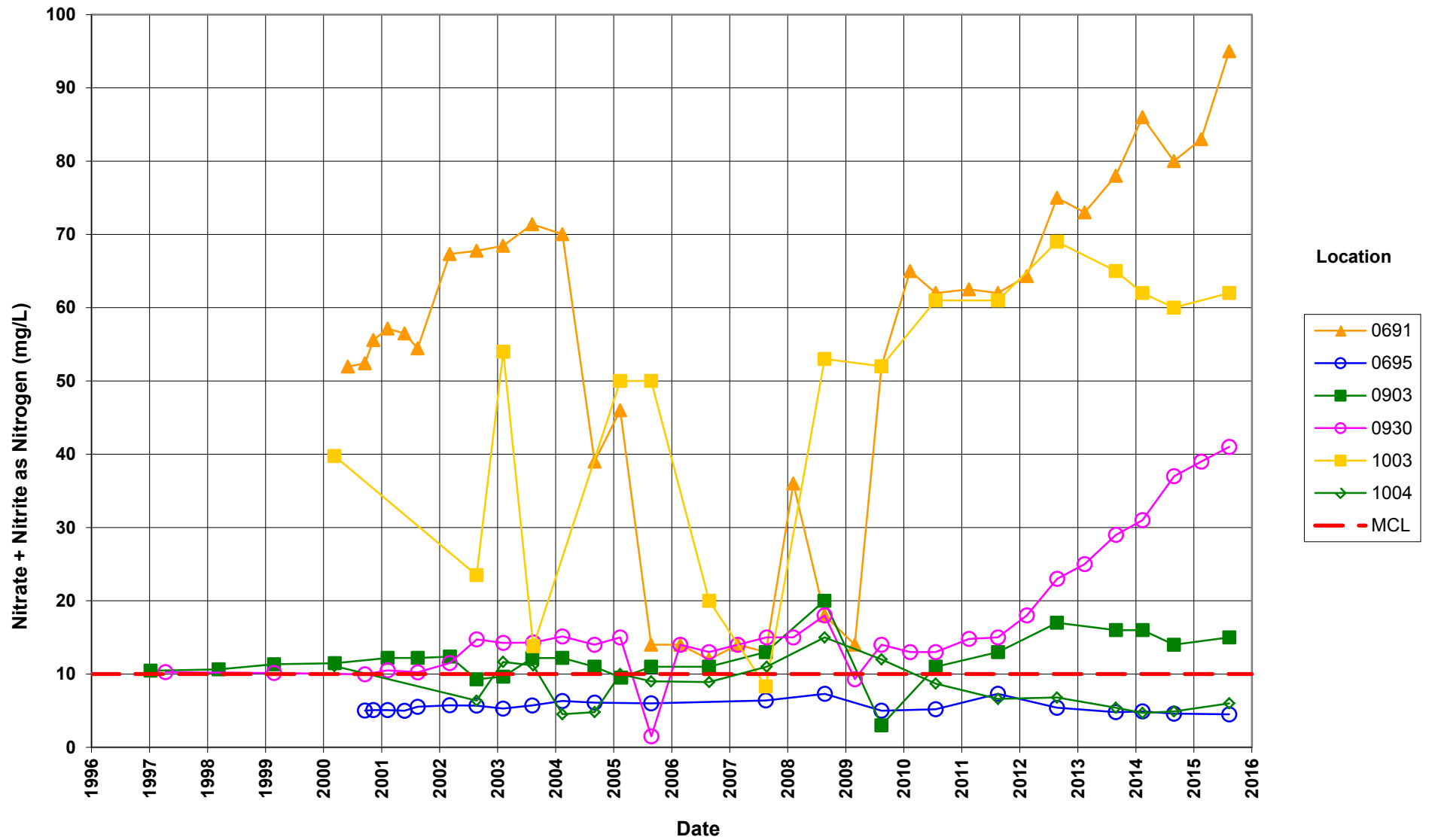
Tuba City Disposal Site
 Horizons C & D Monitoring Wells
 Uranium Concentration
 Maximum Concentration Limit (MCL) = 0.044 mg/L



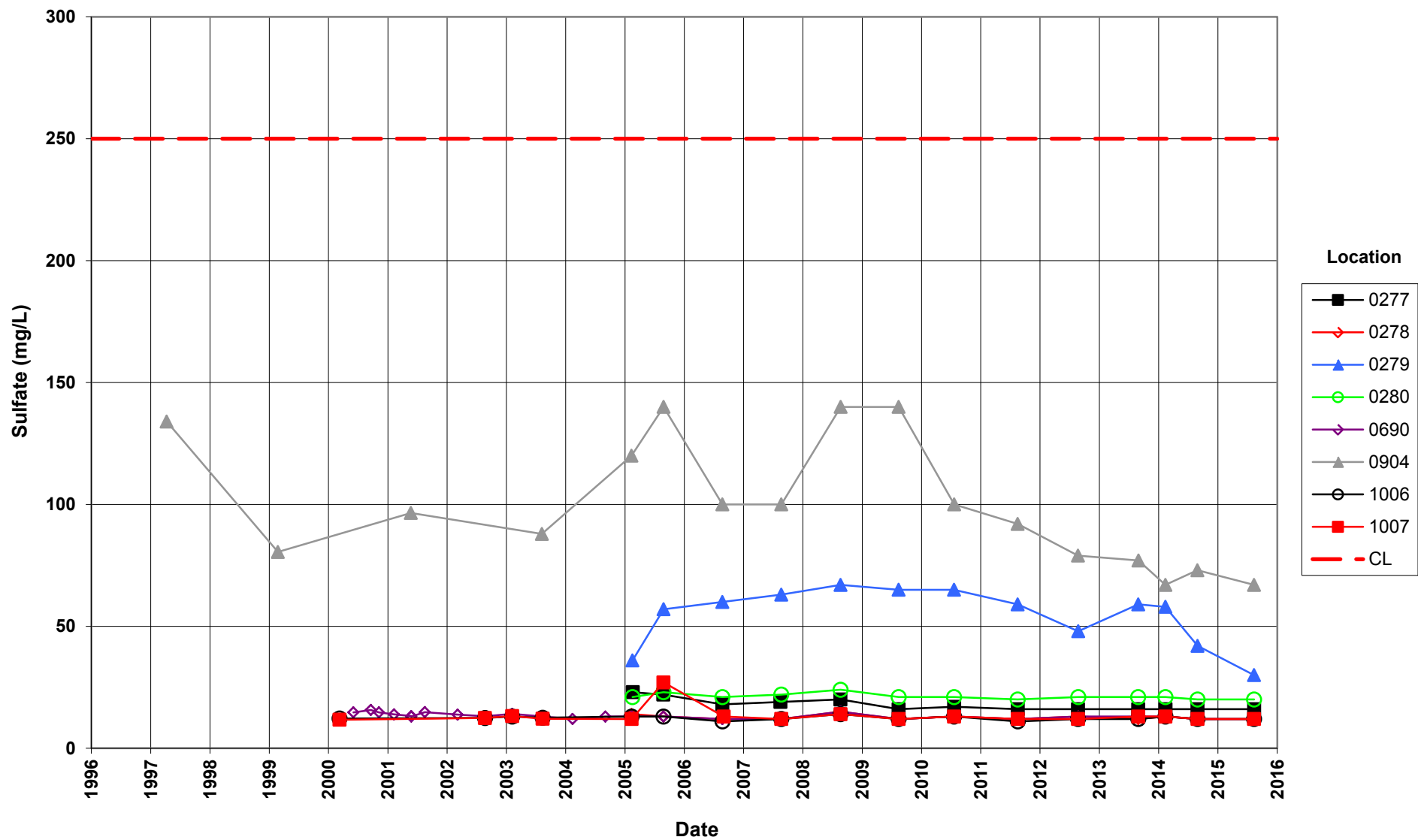
Tuba City Disposal Site
 Lower Terrace, Horizons C & D Monitoring Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L



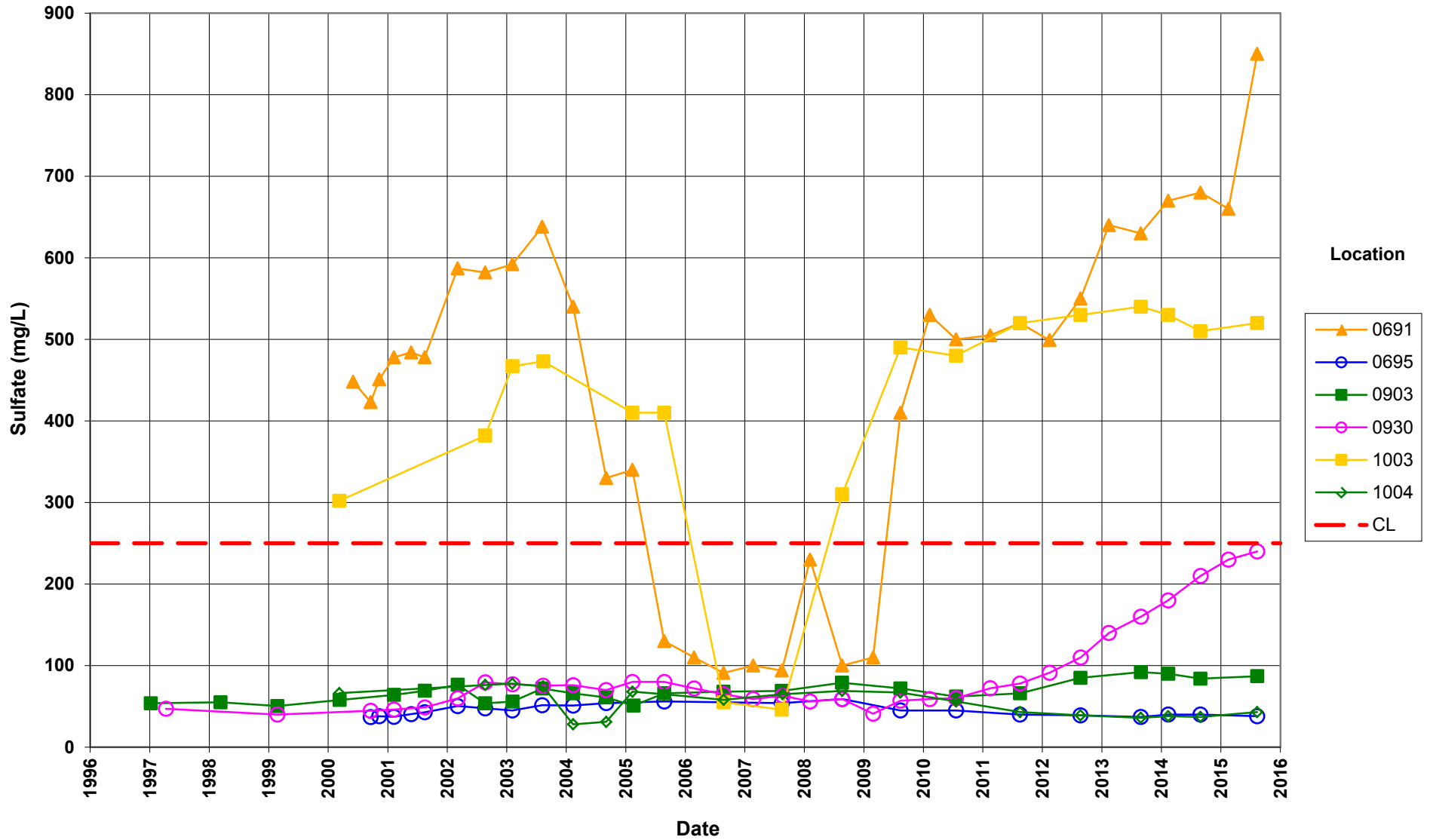
Tuba City Disposal Site
 Lower Terrace, Horizons C & D Monitoring Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L



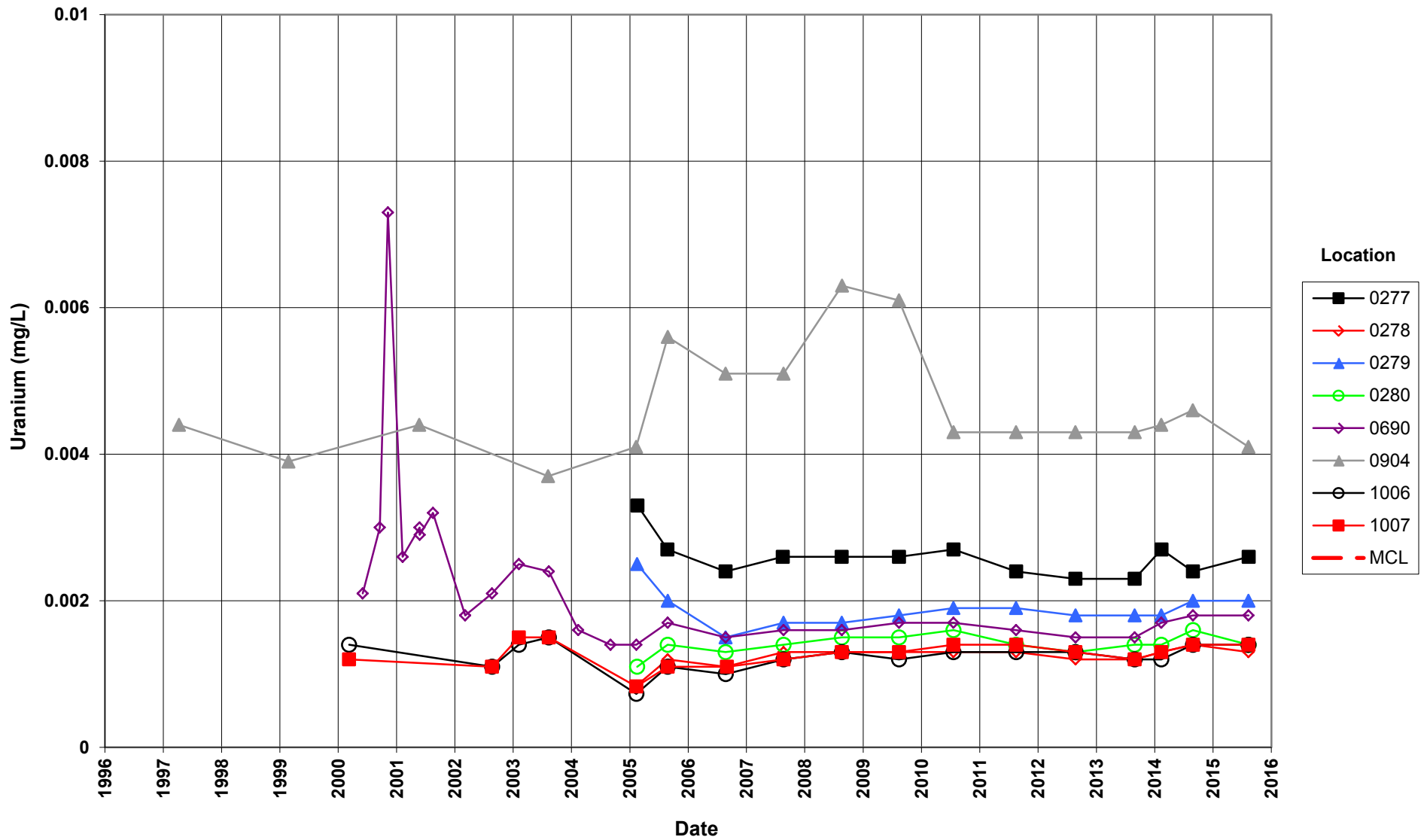
Tuba City Disposal Site
Lower Terrace, Horizons C & D Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



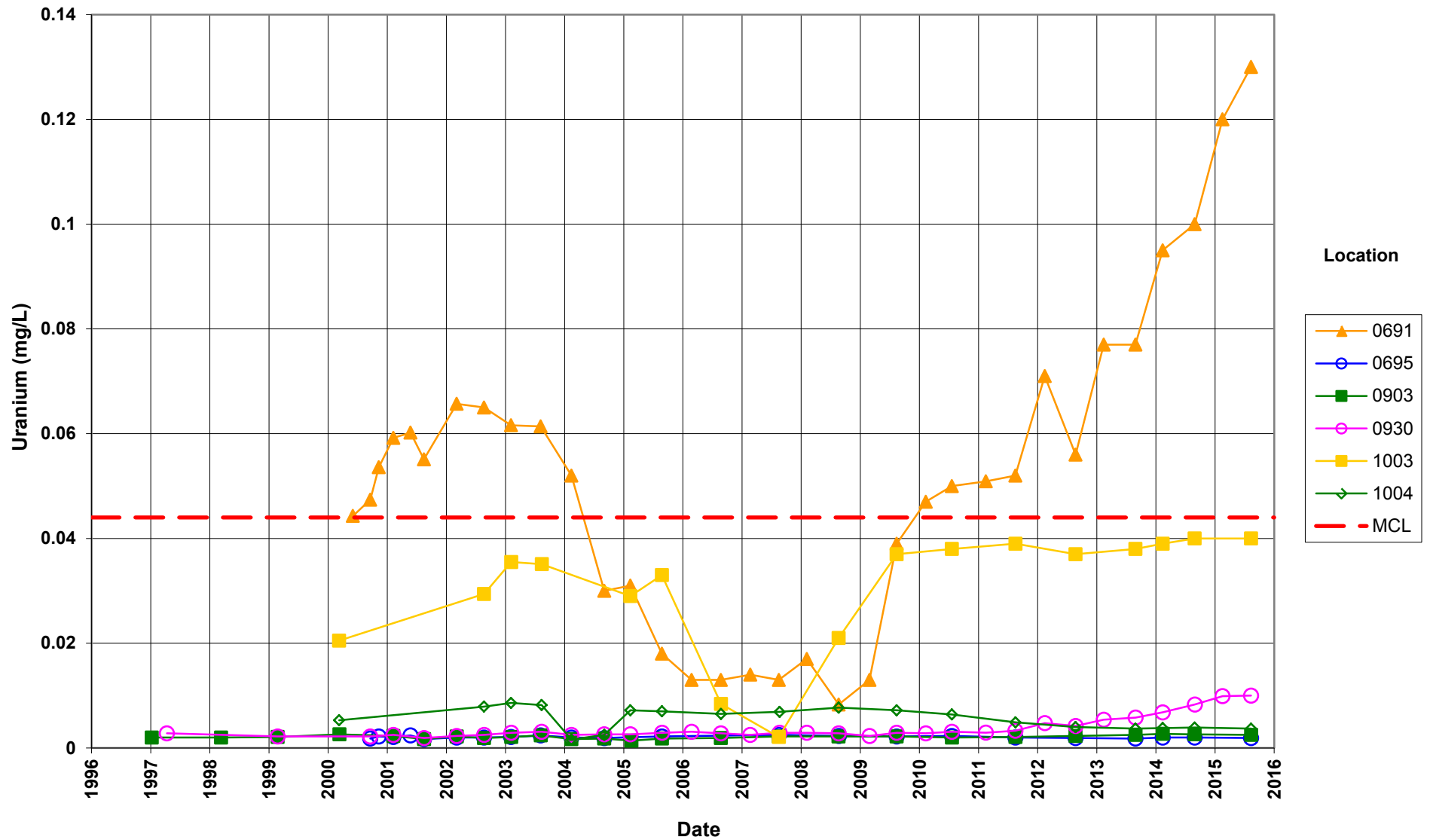
Tuba City Disposal Site
 Lower Terrace, Horizons C & D Monitoring Wells
 Sulfate Concentration
 Cleanup Level (CL) = 250 mg/L



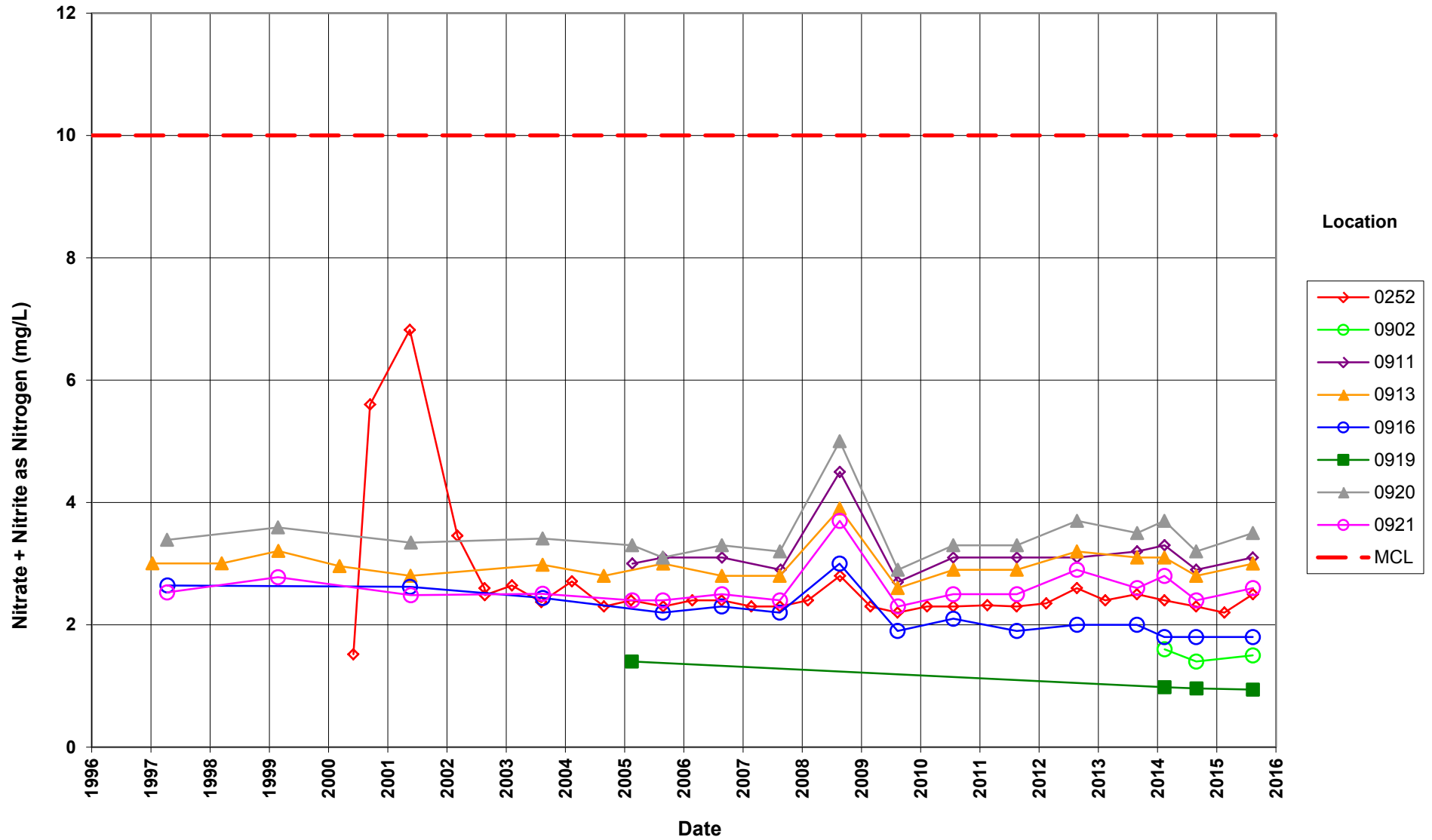
Tuba City Disposal Site
Lower Terrace, Horizons C & D Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



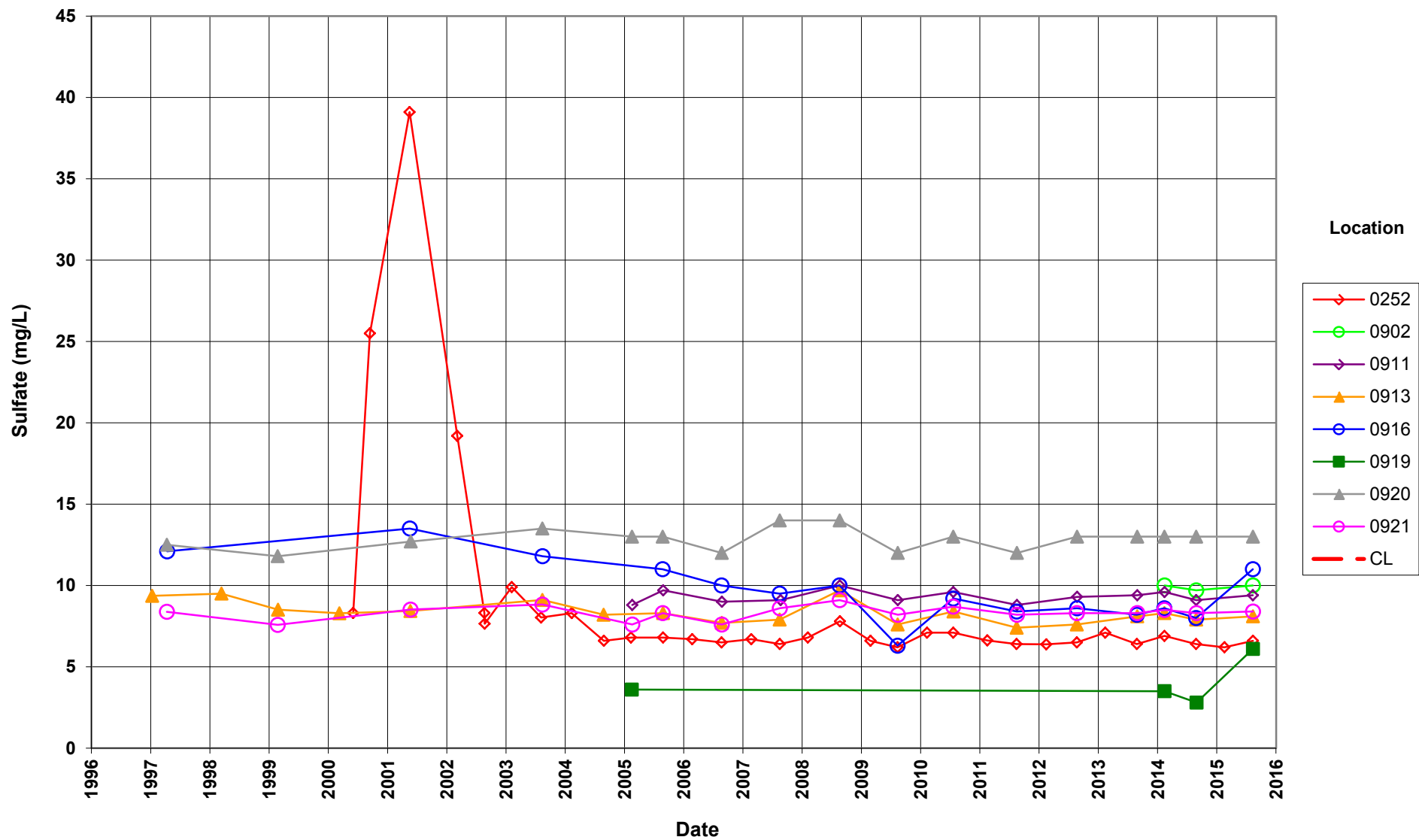
Tuba City Disposal Site
Lower Terrace, Horizons C & D Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



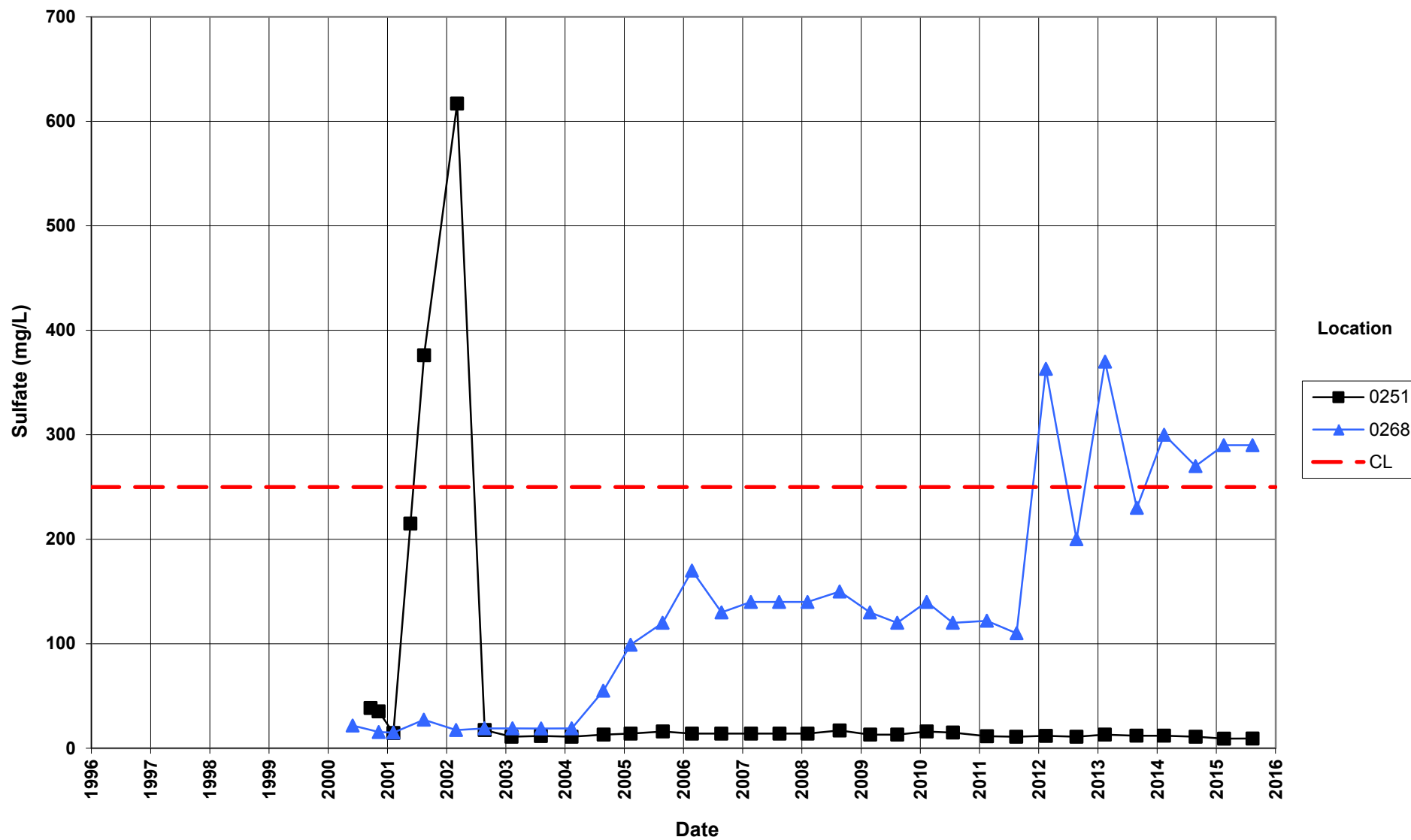
Tuba City Disposal Site
Deep Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



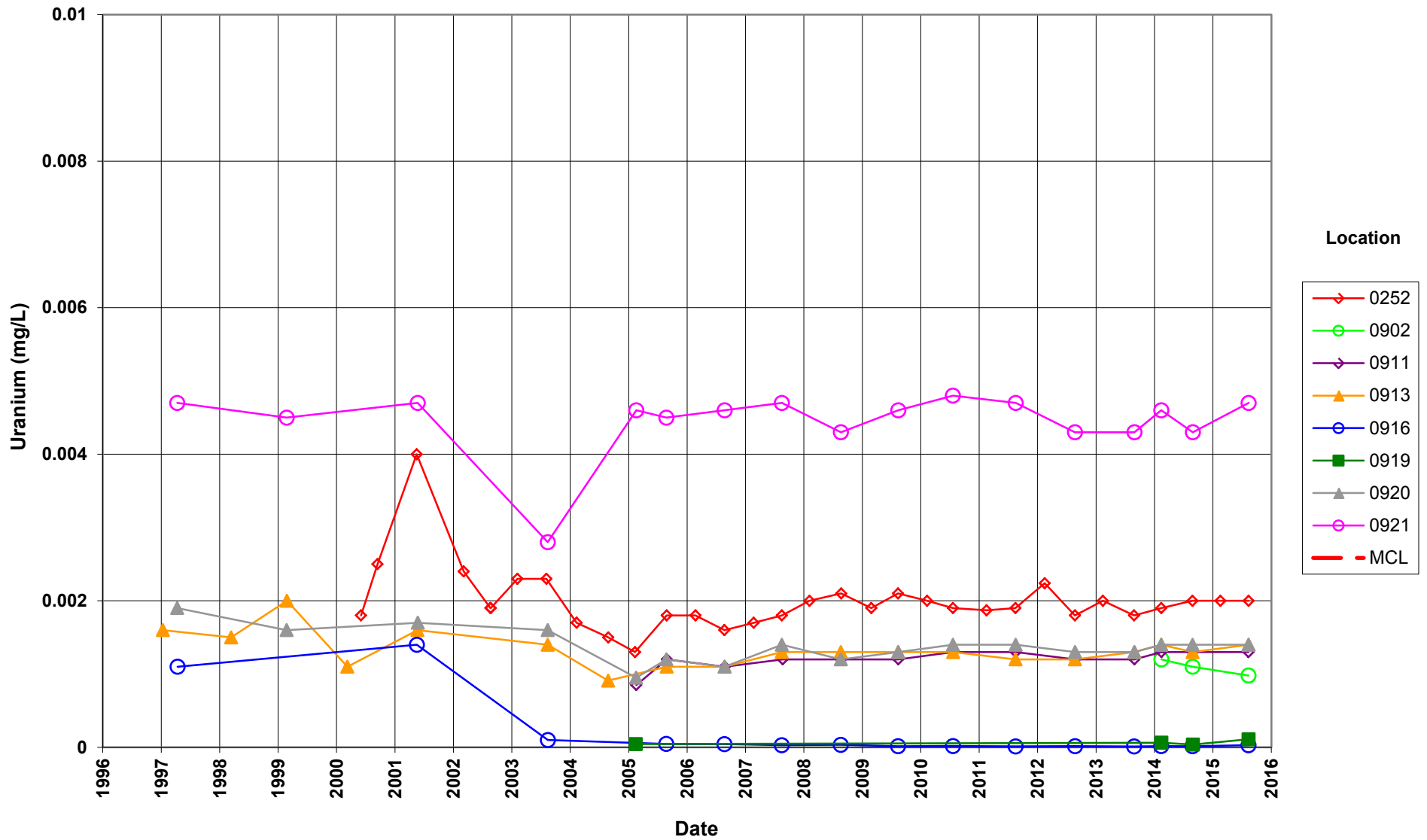
Tuba City Disposal Site
 Deep Monitoring Wells
 Sulfate Concentration
 Cleanup Level (CL) = 250 mg/L



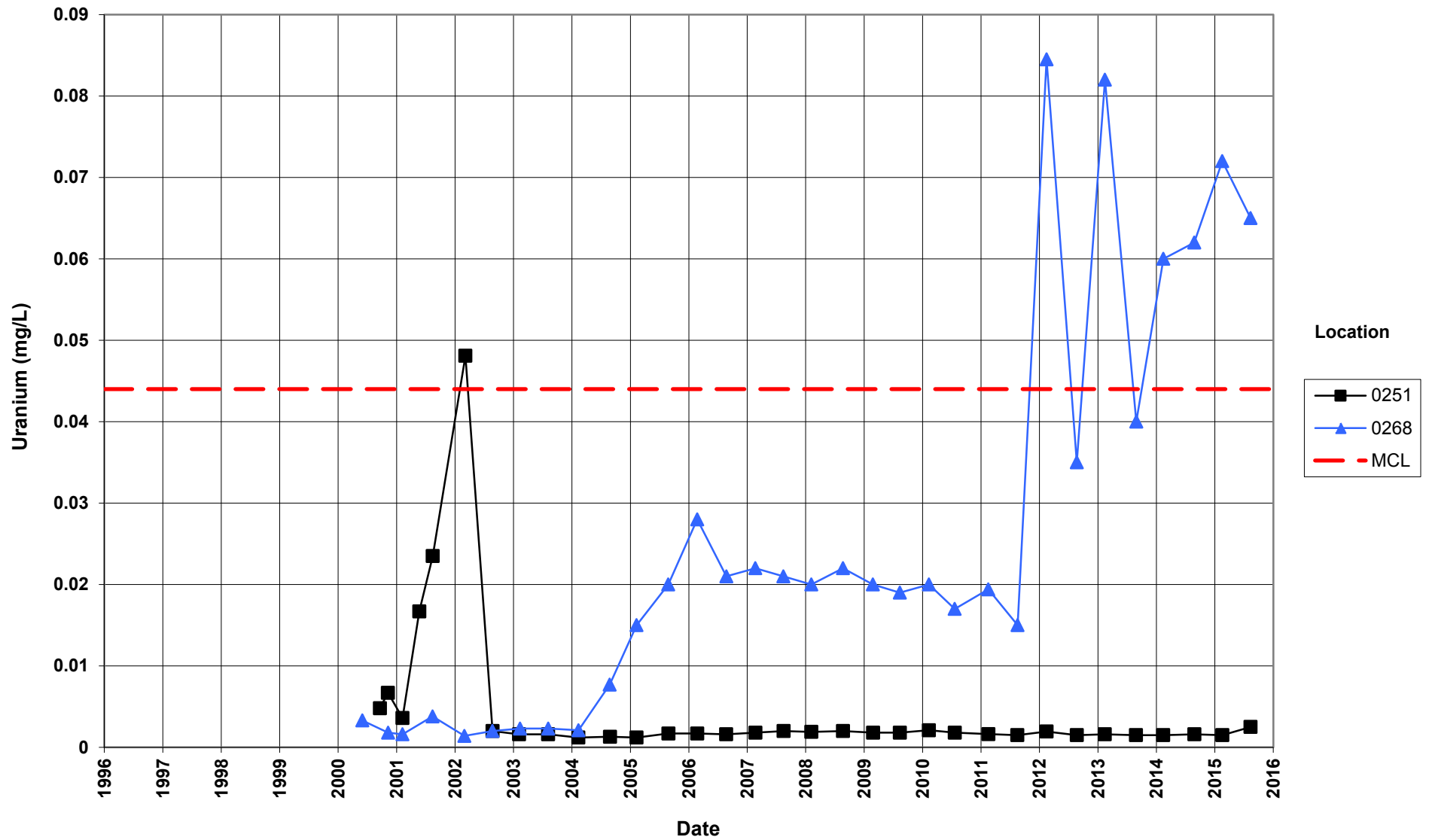
Tuba City Disposal Site
Deep Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



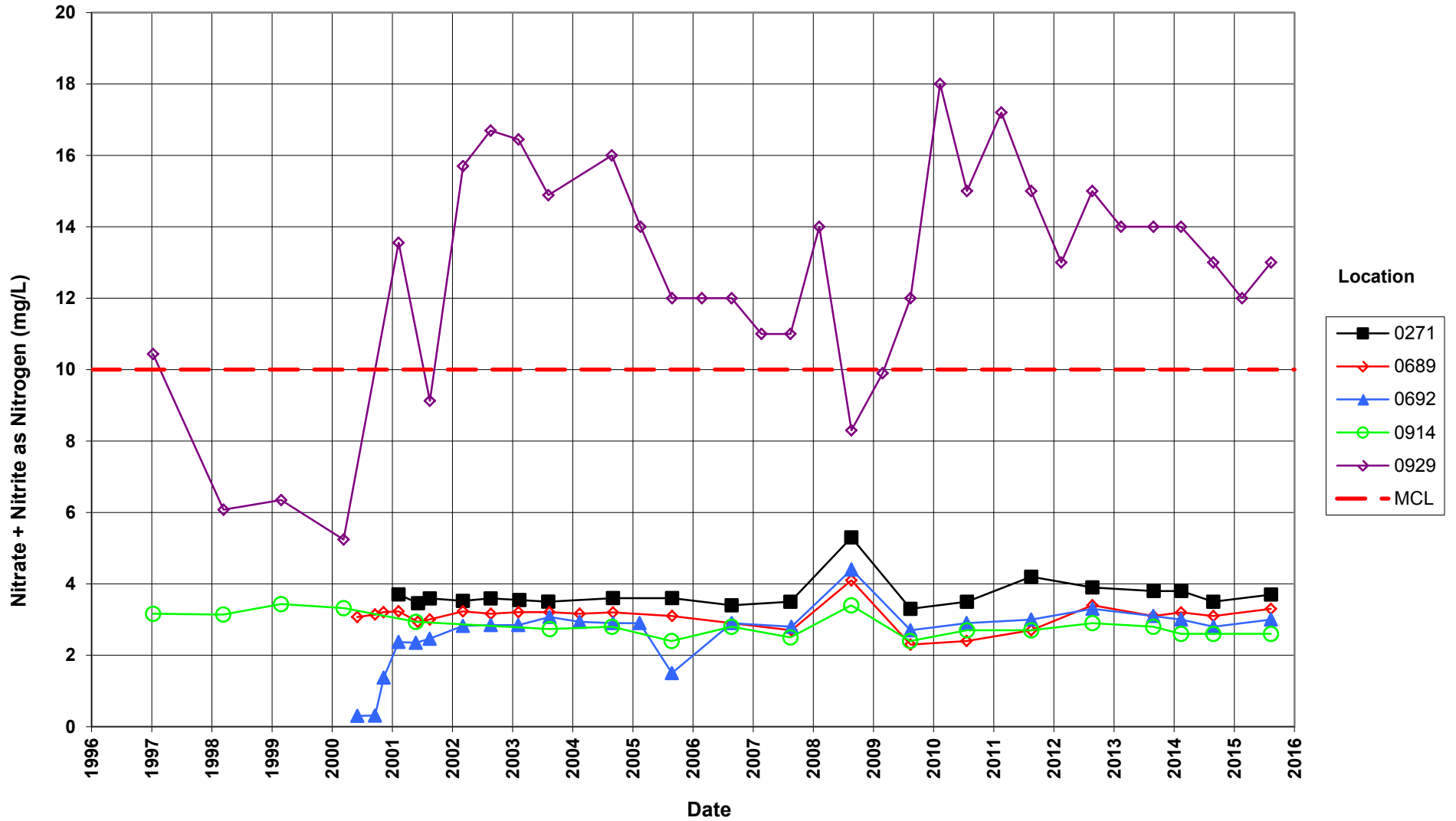
Tuba City Disposal Site
 Deep Monitoring Wells
 Uranium Concentration
 Maximum Concentration Limit (MCL) = 0.044 mg/L



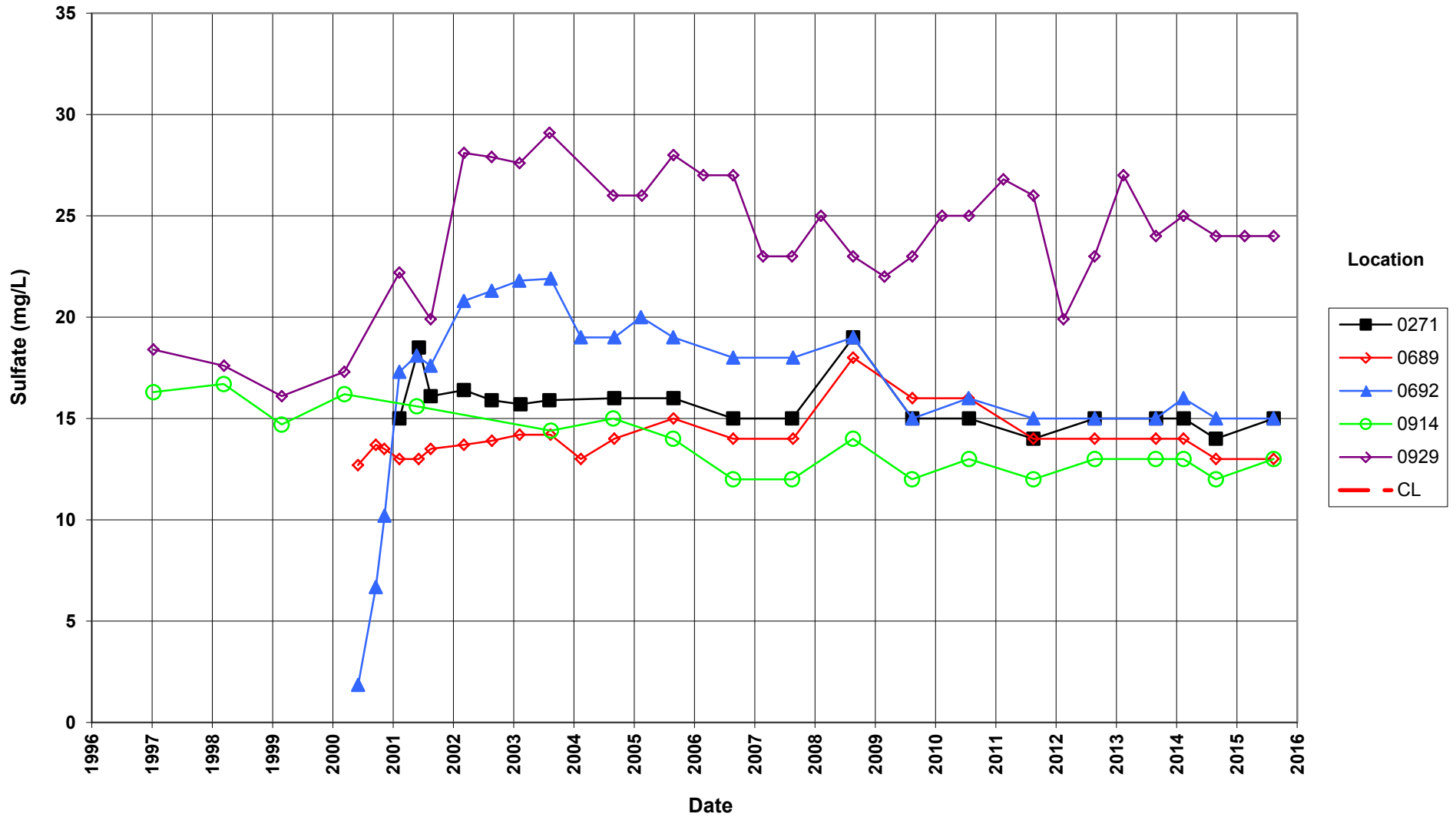
Tuba City Disposal Site
Deep Monitoring Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L



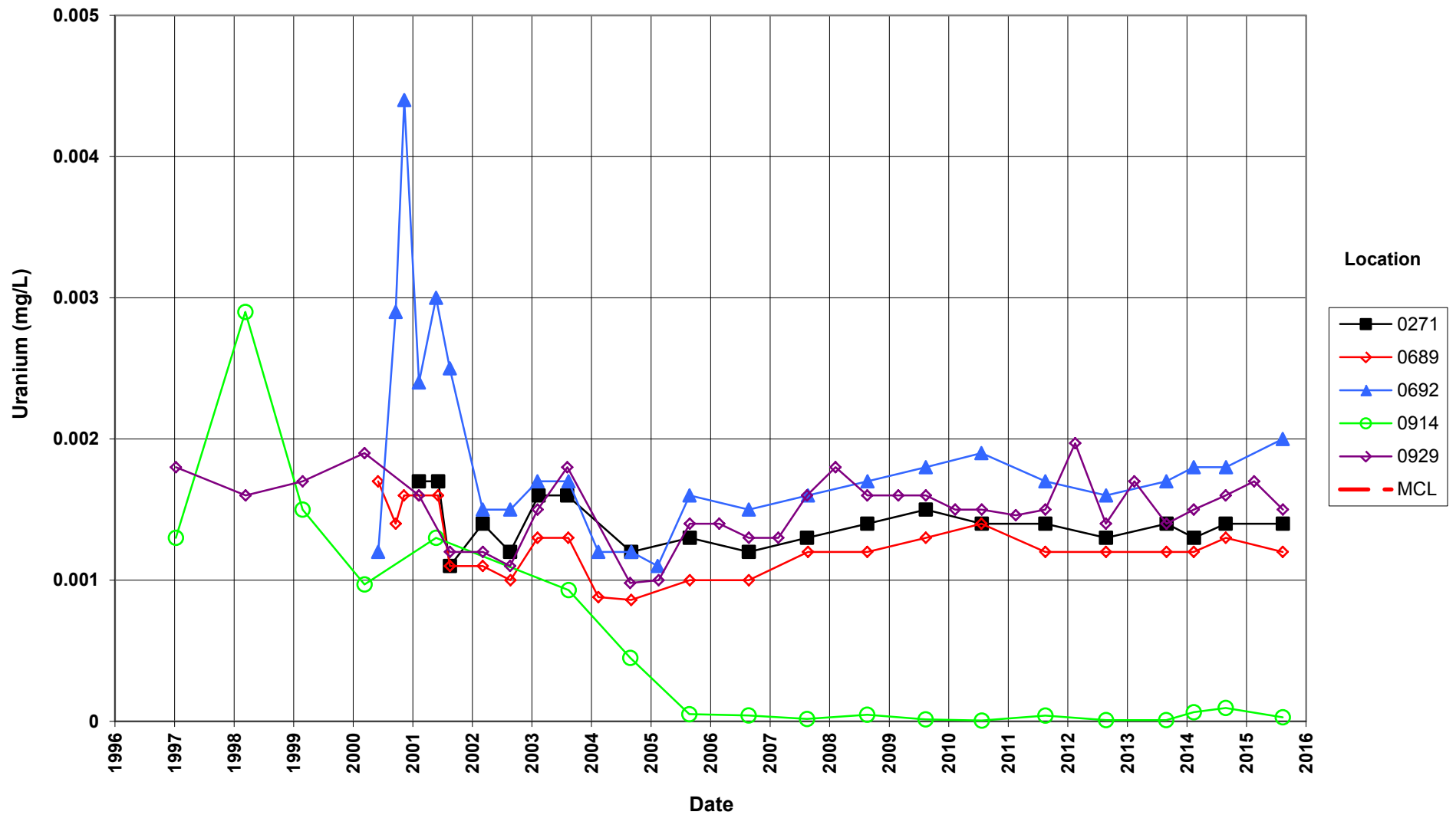
Tuba City Disposal Site
"Sentinel" Wells
 Nitrate + Nitrite as Nitrogen Concentration
 Maximum Concentration Limit (MCL) = 10.0 mg/L
 (Wells 0683 and 0684 are no longer considered sentinel wells)



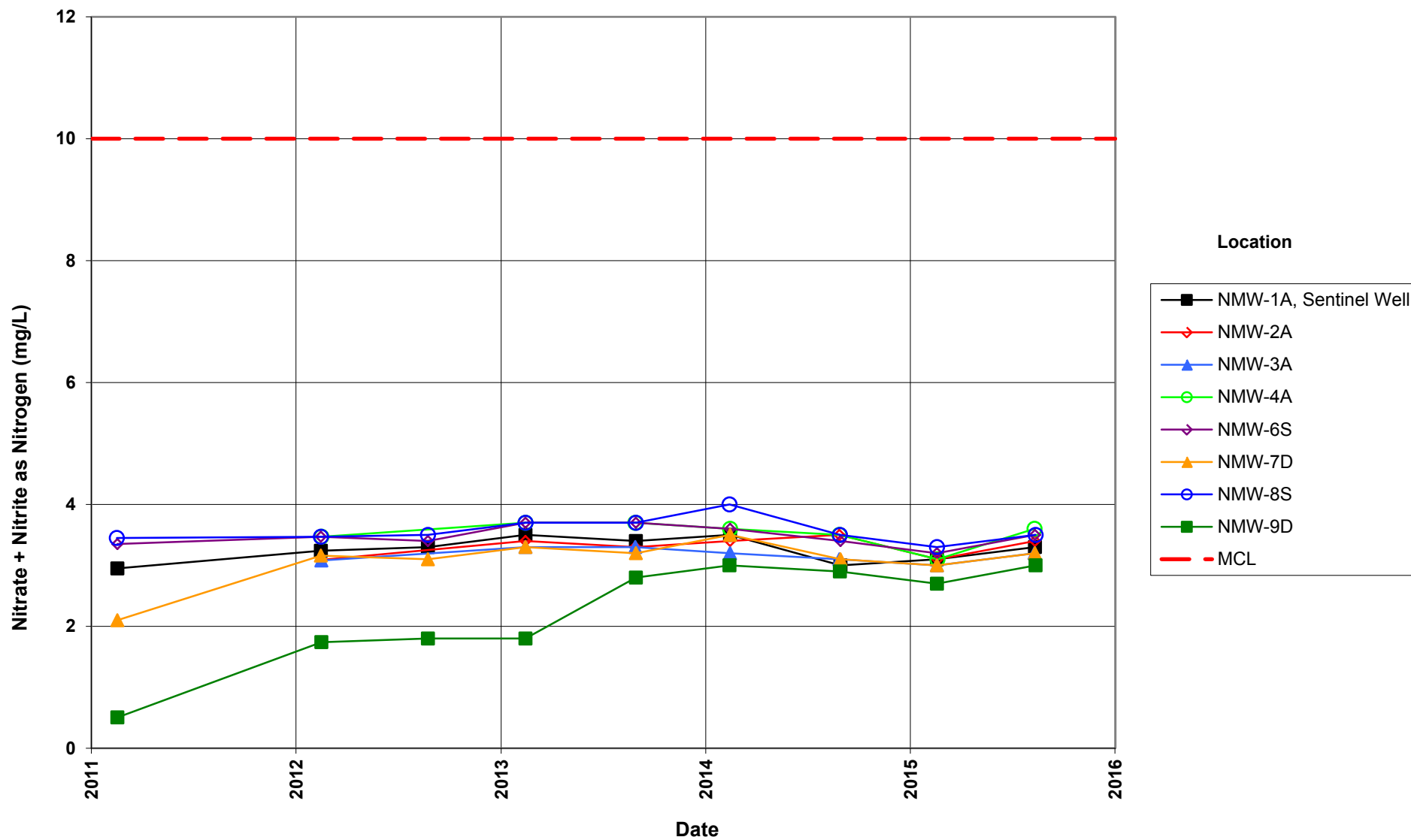
Tuba City Disposal Site
"Sentinel" Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L
 (Wells 0683 and 0684 are no longer considered sentinel wells)



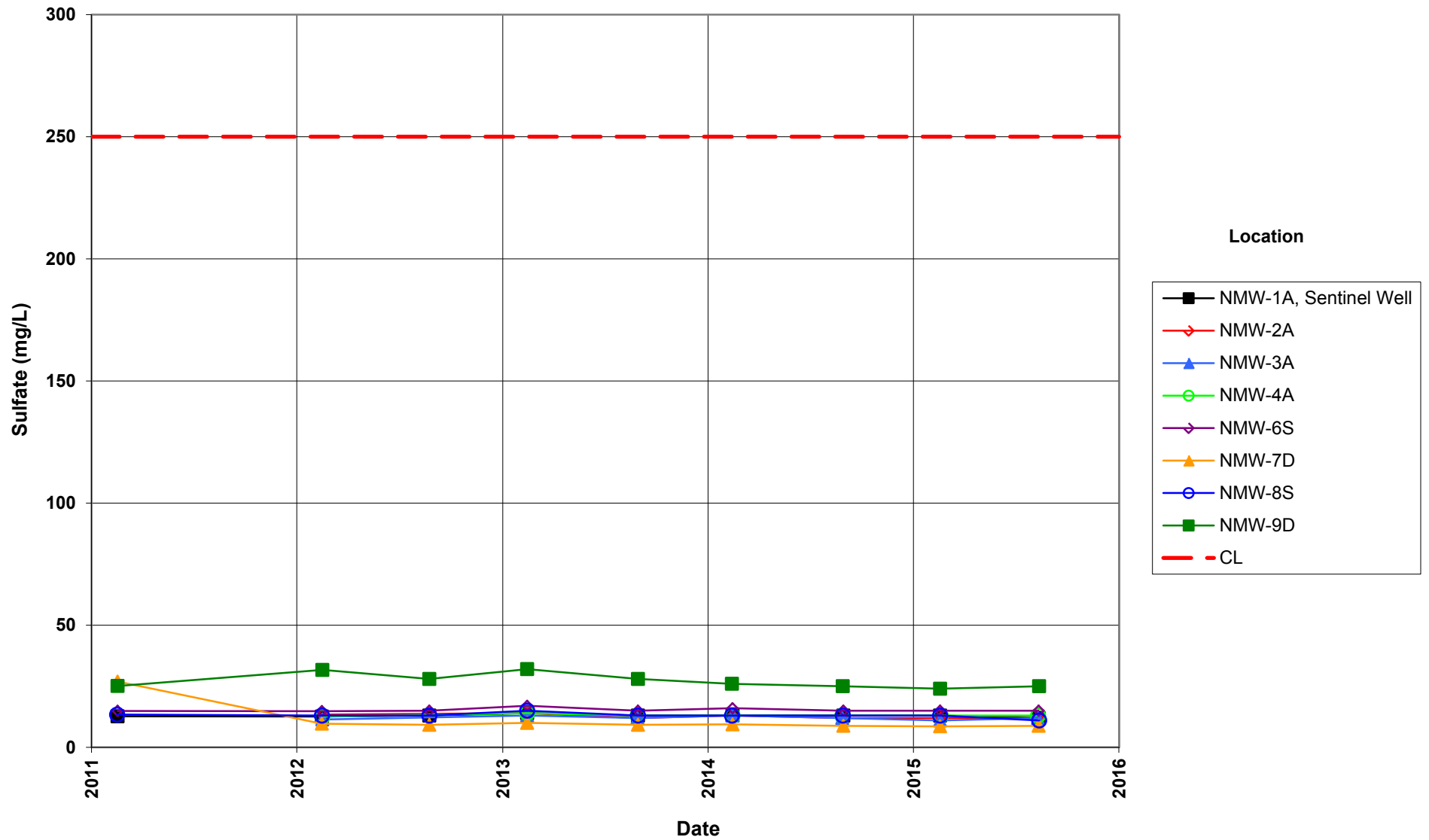
Tuba City Disposal Site
"Sentinel" Wells
Uranium Concentration
Maximum Concentration Limit (MCL) = 0.044 mg/L
 (Wells 0683 and 0684 are no longer considered sentinel wells)



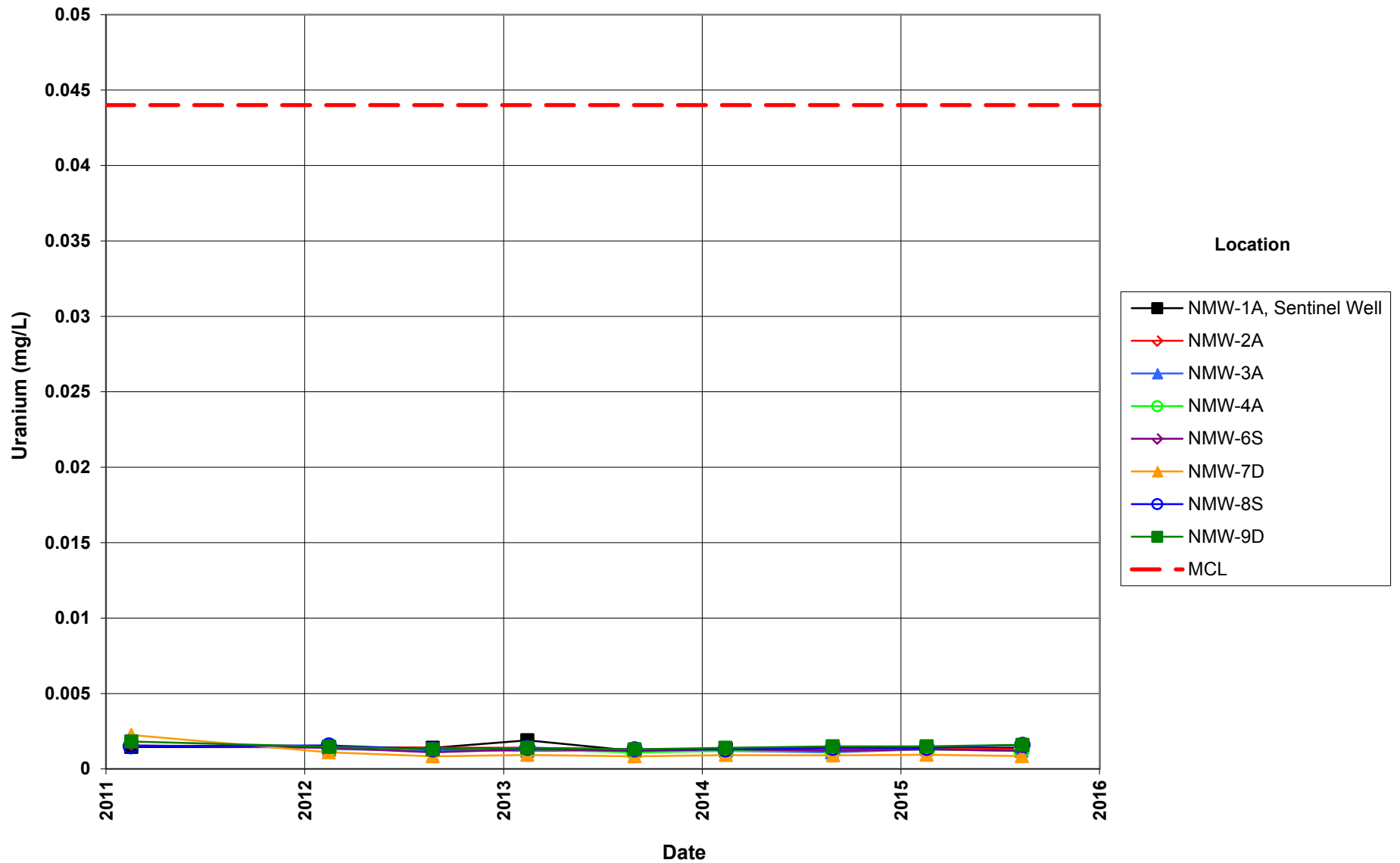
Tuba City Disposal Site
Navajo Nation Environmental Protection Agency Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit (MCL) = 10.0 mg/L



Tuba City Disposal Site
Navajo Nation Environmental Protection Agency Monitoring Wells
Sulfate Concentration
Cleanup Level (CL) = 250 mg/L



Tuba City Disposal Site
Navajo Nation Environmental Protection Agency 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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Stoller Newport News Nuclear

July 9, 2015

Task Assignment 103
Control Number 15-0659

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-LM0000415, Stoller Newport News Nuclear, Inc. (SN3),
a wholly owned subsidiary of Huntington Ingalls Industries, Inc.
Task Assignment 103 LTS&M - UMTRCA TI & TII, D&D, Others, and AS&T
August 2015 Environmental Sampling at the Tuba City, Arizona, Disposal Site

REFERENCE: Task Assignment 103, 3-103-1-02-122, Tuba City, Arizona, Disposal Site

Dear Mr. Bush:

The purpose of this letter is to inform you of the upcoming sampling event at Tuba City, Arizona. 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 August 10, 2015.

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	271 Na	282 Na	687 Na	906 Na	918 Na	940 Na	1101 Na
252 Na	272 Na	283 Na	688 Na	908 Na	919 Na	941 Na	1103 Na
258 Na	273 Na	286 Na	689 Na	909 Na	920 Na	942 Na	1105 Na
261 Na	274 Na	287 Na	690 Na	910 Na	921 Na	943 Na	NMW-1A Ss
262 Na	275 Na	288 Na	691 Na	911 Na	929 Na	945 Na	NMW-2A Ss
263 Na	276 Na	289 Na	692 Na	912 Na	930 Na	946 Na	NMW-3A Ss
264 Na	277 Na	290 Na	695 Na	913 Na	932 Na	947 Na	NMW-4A Ss
265 Na	278 Na	683 Al	901 Na	914 Na	934 Na	1003 Al	NMW-6S Ss
266 Na	279 Na	684 Al	902 Na	915 Na	935 Na	1004 Al	NMW-7D Ss
267 Na	280 Na	685 Al	903 Na	916 Na	936 Na	1006 Al	NMW-8S Ss
268 Na	281 Na	686 Na	904 Na	917 Na	938 Na	1007 Al	NMW-9D Ss

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

SURFACE LOCATIONS

759 778 1569 1570 1571 1573

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Richard Bush
Control Number 15-0659
Page 2

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 on site as noted in the enclosure.

This August 2015 sampling departs from what is normally required by eliminating those extraction wells that are not in operation because of suspended distillation treatment. Similarly, treatment system locations 1202, 1205, and 1206 will not be sampled. Also, sample collection at a far upgradient location (0965) on Moenkopi Wash will not be conducted because the location is redundant with upgradient location 0778.

Please contact me at (970) 248-6019 or Tim Bartlett at (970) 248-7741 if you have any questions.

Sincerely,



Scott Smith
Site Manager

SS/lcg/bkb

Enclosures (3)

cc: (electronic)

Christina Pennal, DOE
Steve Donovan, SN3
Lauren Goodknight, SN3
Scott Smith, SN3
EDD Delivery
rc-grand.junction
File: TUB 400.02

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Constituent Sampling Breakdown

Site	Tuba City		Required Detection Limit (mg/L)	Analytical Method	Line Item Code
Analyte	Groundwater	Surface Water			
Approx. No. Samples/yr	143	9			
Field Measurements					
Alkalinity	X	X			
Dissolved Oxygen					
Redox Potential	X	X			
pH	X	X			
Specific Conductance	X	X			
Turbidity	X				
Temperature	X	X			
Laboratory Measurements					
Aluminum					
Ammonia as N (NH ₃ -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 (NO ₃ +NO ₂)-N	X	X	0.05	EPA 353.1	WCH-A-022
Potassium	X	X	1	SW-846 6010	LMM-01
Radium-226					
Radium-228					
Selenium	X	X	0.0001	SW-846 6020	LMM-02
Silica	X		0.2	SW-846 6010	LMM-01
Sodium	X	X	1	SW-846 6010	LMM-01
Strontium					
Sulfate	X	X	0.5	SW-846 9056	MIS-A-044
Sulfide					
Total Dissolved Solids	X	X	10	SM2540 C	WCH-A-033
Total Organic Carbon					
Uranium	X	X	0.0001	SW-846 6020	LMM-02
Vanadium					
Zinc					
Total No. of Analytes	16	14			

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

**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				
261			X			August
262		X				
263		X				
264		X				
265		X				
266		X				
267		X				
268		X				
271			X			August
272		X				
273		X				
274		X				
275		X				
276		X				
277			X			August
278			X			August
279			X			August
280			X			August
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				
683			X			August
684			X			August
685			X			August
686			X			DATA LOGGER; August
687			X			DATA LOGGER; August
688			X			DATA LOGGER; August
689			X			August
690			X			August
691		X				
692			X			August
695			X			August

**Sampling Frequencies for Locations at
Tuba City, Arizona**

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
901			X			August
902			X			
903			X			August
904			X			August
906		X				DATA LOGGER
908		X				DATA LOGGER
909		X				DATA LOGGER
910			X			August
911			X			August
912			X			August
913			X			August
914			X			August
915			X			August
916			X			August
917			X			August
918			X			August
919			X			August
920			X			August
921			X			August
929		X				
930		X				
932		X				
934		X				DATA LOGGER
935		X				Converted to extraction well 7/05
936		X				DATA LOGGER
938		X				Converted to extraction well 7/05
940		X				DATA LOGGER
941		X				DATA LOGGER
942		X				DATA LOGGER
943			X			DATA LOGGER; August
945			X			August
946			X			DATA LOGGER; August
947			X			August
948					X	Water level only
968					X	Water level only
1003			X			August
1004			X			August
1005					X	Water level only
1006			X			August
1007			X			August
1008					X	Water level only
1101			X			August

**Sampling Frequencies for Locations at
Tuba City, Arizona**

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
1102					X	August
1103			X			August
1104					X	August
1105			X			August
1106					X	August
1107					X	August
1108					X	August
1109					X	August
1110					X	August
1111					X	August
1112					X	August
1113					X	August
1114					X	August
1115					X	August
1116					X	August
1117					X	August
1118					X	August
1119					X	August
1120					X	August
1121					X	August
1122					X	August
1123					X	August
1124					X	August
1125					X	August
1126					X	August
1127					X	August
1128					X	August
1129					X	August
1130					X	August
1131					X	August
1132					X	August
1133					X	August
NMW-1A		X				
NMW-2A		X				
NMW-3A		X				
NMW-4A		X				
NMW-5					X	
NMW-6S		X				
NMW-7D		X				
NMW-8S		X				
NMW-9D		X				
Surface Locations						

Sampling Frequencies for Locations at Tuba City, Arizona

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
759			X			August, Moenkopi wash-down gradient
778			X			August, Moenkopi wash-at Jimmy Spring
965					X	August, Moenkopi wash-at up gradient
1569		X				Evap pond - North
1570		X				Evap pond - South
1571			X			Jimmy Spr West - August
1572					X	Jimmy Spr East
1573			X			West pipe Shonto Well - August
1574					X	East pipe Shonto Well
Treatment System Locations						
1202					X	
1205					X	Treatment system distillate; verify location with system operators
1206					X	

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

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Attachment 4

Trip Report

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Memorandum

DATE: August 25, 2015

TO: Scott Smith

FROM: Gretchen Baer

SUBJECT: Sampling Trip Report

Site: Tuba City, Arizona, Disposal Site

Dates of Sampling Event: August 10–12, 2015

Team Members: David Atkinson, Gretchen Baer, Rob Rice, Dan Sellers, Eric Szabelski, and Sam Tigar

Number of Locations Sampled: Samples were collected from 87 of the 94 locations identified on the sampling notification letter as follows:

	Locations that were sampled	Planned locations	Comments
Monitoring and extraction wells	82	88	Four monitoring wells were dry. Samples could not be collected at two extraction wells because there was no power supplied to the pumps.
Surface water locations	5	6	One location was added to the event and two were removed.

Locations Not Sampled/Reason: 0283, 0686, 0909, and 0918 were dry. Samples could not be collected at 0936 and 0942 because there was no power supplied to the pumps at these extraction wells. Per site lead instruction, surface water location 1568 was added to the event and locations 1571 and 1573 were removed.

Location Specific Information:

Location IDs	Comments
0265	Listed in paperwork as CAT I but has been CAT II the last few sample events.
0290	Borderline CAT I/II. Sampled as CAT I this event.
0686	Well was dry at ~70 feet below top of casing. Well Completion Log provides total depth as 102.73 feet. Small root particles and organic debris were observed on water level probe after measurement was attempted. Well may be blocked at ~70 feet.
0902, 0914, 0915, 0916, 0919	pH >9. Suspected grout contamination. Phenolphthalein alkalinities = 27, 9, 35, 249, 1151 mg/L, respectively.
0935	Extraction well. Purged 18 liters before sampling (88 feet of 1-inch PVC pipe).
0946	Low discharge rate indicates that bladder pump needs to be replaced.
1003, 1004, 1006, 1007	Initial water level was taken from top of casing as required. Water levels recorded during the purge were taken from top of vault to avoid repeated entries into the vault. This is an acceptable method to verify water level stability.

Location IDs	Comments
1101	Extraction well. Purged 40 liters before sampling.
1103	Extraction well. Purged 40 liters before sampling.
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
2186	NJQ 188	1569	Duplicate	Surface water	N/A
2386	NJQ 198	0943	Duplicate	Groundwater	N/A
2532	NJQ 176	0251	Duplicate	Groundwater	N/A
2987	NJQ 169	NMW-2A	Duplicate	Groundwater	N/A
2988	NJQ 170	NMW-4A	Duplicate	Groundwater	N/A

Requisition Index Number (RIN) Assigned: Samples were assigned to RIN 15087262. Field data sheets can be found in \\crow\SMS\15087262\FieldData.

Sample Shipments: Samples were shipped overnight via FedEx from the Tuba City site to ALS Laboratory on August 12, 2015, and from Moab, Utah, to ALS Laboratory on August 13, 2015.

Water Level Measurements: Water levels were measured in all sampled wells and in 6 additional wells. A water level data report for these 6 wells can be found in the \\crow\SMS\FDCS\WATER LEVELS folder under the file name TUB01_8172015.pdf.

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 and information from each data logger can be viewed electronically using SEPro.

Stakeholder/Regulatory/DOE: Nothing to note.

Institutional Controls:

Fences, Gates, and Locks: All gates were locked and in good condition.

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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 vaults. 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:

- Use a borehole camera to investigate the blockage at monitoring well 0686.
- The bladder pump at 0946 may need to be replaced: the discharge is <100 mL for only 5 seconds per cycle.
- At well 0909, check if the well is dry or if the WL is below the top of the pump. In the future, this well might need to be sampled with a bailer or the pump might need to be lowered.

These items were added to the Operation and Maintenance Punchlist found at \\lm\projects\SamplingProg\Maintenance for tracking and future resolution.

(GB/lcg)

cc: (electronic)
Richard Bush, DOE
Timothy Bartlett, SN3
Steve Donovan, SN3
Susan Kamp, SN3
Scott Smith, SN3
EDD Delivery

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