Data Validation Package

February 2010
Groundwater and Surface Water Sampling at the Tuba City, Arizona, Disposal Site

April 2010

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Contents

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Sampling Event Summary

Site: Tuba City, Arizona, Disposal Site

Sampling Period: February 9−10, 2010

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

Sampling and analysis were conducted as specified in *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PLN/S04351, continually updated).

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

The data from this sampling event are generally consistent with previously obtained values and are acceptable for general use as qualified. Data anomalies are not significant with respect to the known nature and extent of contamination and progress of remedial action at the site. The data from this sampling event will be incorporated into the annual performance evaluation report that will present a comprehensive hydrologic summary and evaluation of groundwater remedial action performance at the Tuba City site through March 2010.

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

Analyte	Standard	Location	Concentration
Molybdenum	0.1	0262	1.3
Nitrate + Nitrite as Nitrogen	10	0262	180
Nitrate + Nitrite as Nitrogen	10	0263	270
Nitrate + Nitrite as Nitrogen	10	0264	11
Nitrate + Nitrite as Nitrogen	10	0265	180
Nitrate + Nitrite as Nitrogen	10	0267	270
Nitrate + Nitrite as Nitrogen	10	0268	17
Nitrate + Nitrite as Nitrogen	10	0273	51
Nitrate + Nitrite as Nitrogen	10	0275	250
Nitrate + Nitrite as Nitrogen	10	0281	42
Nitrate + Nitrite as Nitrogen	10	0282	36
Nitrate + Nitrite as Nitrogen	10	0286	37
Nitrate + Nitrite as Nitrogen	10	0287	270
Nitrate + Nitrite as Nitrogen	10	0288	57
Nitrate + Nitrite as Nitrogen	10	0289	65
Nitrate + Nitrite as Nitrogen	10	0691	65
Nitrate + Nitrite as Nitrogen	10	0906	390

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

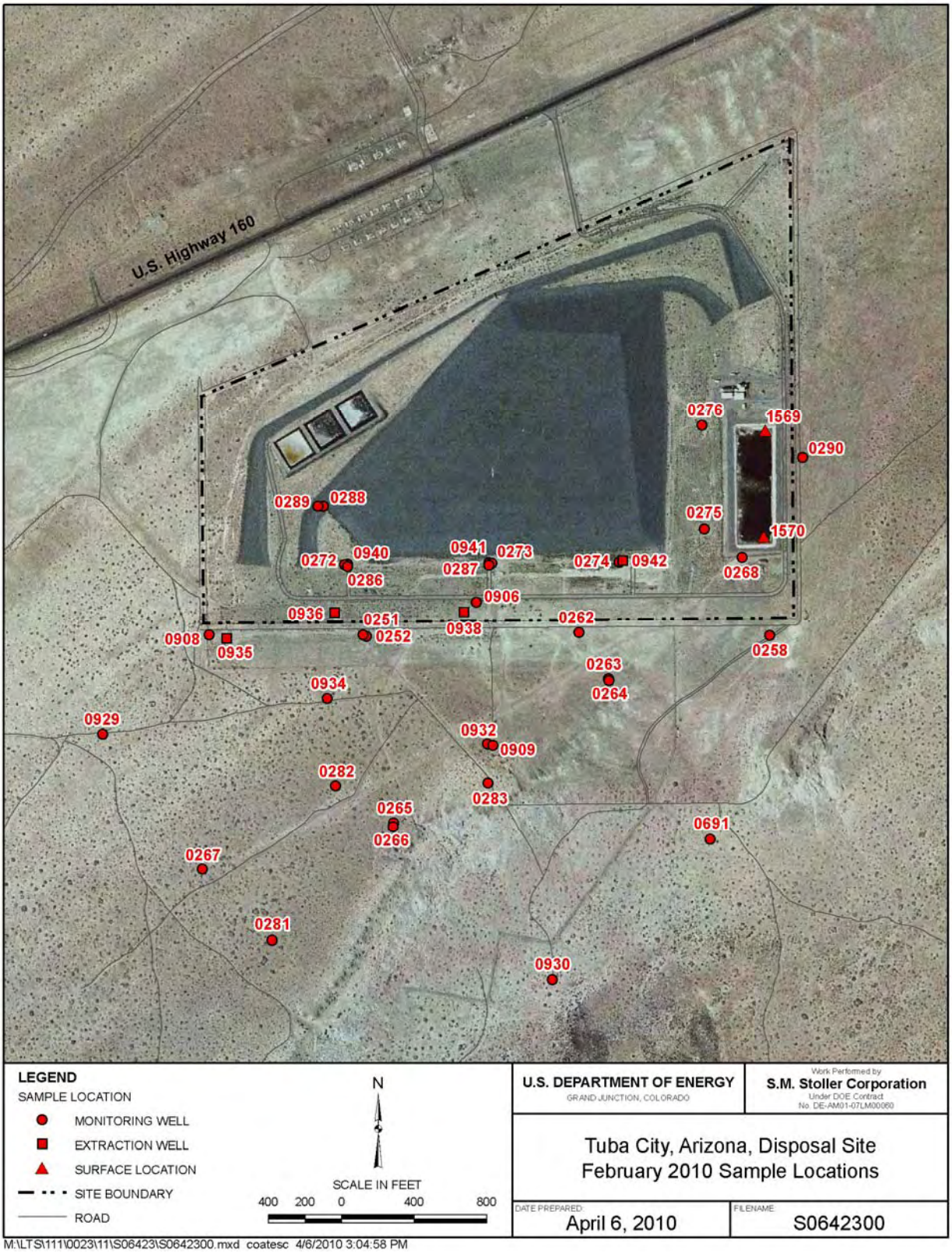
Analyte	Standard	Location	Concentration
Nitrate + Nitrite as Nitrogen	10	0908	220
Nitrate + Nitrite as Nitrogen	10	0909	170
Nitrate + Nitrite as Nitrogen	10	0929	18
Nitrate + Nitrite as Nitrogen	10	0930	13
Nitrate + Nitrite as Nitrogen	10	0934	420
Nitrate + Nitrite as Nitrogen	10	0935	230
Nitrate + Nitrite as Nitrogen	10	0938	180
Nitrate + Nitrite as Nitrogen	10	0941	260
Nitrate + Nitrite as Nitrogen	10	0942	190
Selenium	0.01	0262	0.11
Selenium	0.01	0263	0.036
Selenium	0.01	0267	0.043
Selenium	0.01	0273	0.014
Selenium	0.01	0275	0.022
Selenium	0.01	0287	0.099
Selenium	0.01	0906	0.021
Selenium	0.01	0908	0.022
Selenium	0.01	0909	0.051
Selenium	0.01	0935	0.018
Selenium	0.01	0938	0.029
Selenium	0.01	0941	0.098
Selenium	0.01	0942	0.047
Uranium	0.044	0262	1.1
Uranium	0.044	0263	0.14
Uranium	0.044	0265	0.067
Uranium	0.044	0267	0.064
Uranium	0.044	0273	0.045
Uranium	0.044	0275	0.5
Uranium	0.044	0287	0.24
Uranium	0.044	0691	0.047
Uranium	0.044	0906	0.79
Uranium	0.044	0908	0.089
Uranium	0.044	0909	0.051
Uranium	0.044	0934	0.19
Uranium	0.044	0935	0.1
Uranium	0.044	0938	0.36
Uranium	0.044	0941	0.18
Uranium	0.044	0942	0.5

TR Bartlett

Tim Bartlett
Site Hydrologist, S.M. Stoller

4/7/10

Date



Tuba City, Arizona, Disposal Site, Sample Location Map

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	Tuba City, Arizona	**Date(s) of Water Sampling**	February 9−10, 2010
Date(s) of Verification	March 19, 2010	**Name of Verifier**	Steve Donivan

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOPs, instructions.		Work Order Letter dated January 20, 2010
2. Were the sampling locations specified in the planning documents sampled?	No	Monitoring wells 0283, 0936, and 0940 were not sampled because they were dry.
3. Was a pre-trip calibration conducted as specified in the above-named documents?	Yes	Pre-trip calibration was performed on February 3, 2010.
4. Was an operational check of the field equipment conducted daily?	Yes	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Was the category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	No	Water level criteria were not met for well 0940. This well was reclassified as Category II.
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
Was the flow rate less than 500 mL/min?	Yes	
If a portable pump was used, was there a 4-hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	Duplicate samples were collected from wells 0267 and 0268.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	NA	Dedicated equipment was used at all locations.
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?	Yes	Location IDs 2723 and 2724 were used for the duplicate samples.
Was the true identity of the samples recorded on the Quality Assurance Sample Log or in the Field Data Collection System (FDCS) report?	Yes	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members (hardcopies) or are dates present for the “Date Signed” fields (FDCS)?	Yes	
18. Was all other pertinent information documented on the field data sheets?	Yes	
19. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Requisition No.:	10022833
Sample Event:	February 9−10, 2010
Site(s):	Tuba City, Arizona
Laboratory:	ALS Laboratory Group, Fort Collins, Colorado
Work Order No.:	1002138
Analysis:	Metals and Inorganics
Validator:	Steve Donivan
Review Date:	March 15, 2010

This validation was performed according to the *Environmental Procedures Catalog* (LMS/PRO/S04325, continually updated), "Standard Practice for Validation of Laboratory Data." The procedure was applied at Level 3, Data Validation. See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 2.

Table 2. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	MCAWW 350.1	MCAWW 350.1
Arsenic, Molybdenum, Selenium, Uranium	LMM-02	SW-846 3005A	SW-846 6020A
Calcium, Iron, Magnesium, Manganese, Potassium, Silica, Sodium	LMM-01	SW-846 3005A	SW-846 6010B
Chloride	MIS-A-039	SW-846 9056	SW-846 9056
Nitrite + Nitrate as N	WCH-A-022	MCAWW 353.2	MCAWW 353.2
Sulfate	MIS-A-044	SW-846 9056	SW-846 9056
Total Dissolved Solids	WCH-A-033	MCAWW 160.1	MCAWW 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
All	All	Potassium	J	Negative calibration blanks
All	All	Sodium	J	Serial dilution failure
1002138-1	0251	Iron	U	Less than 5 times the method blank
1002138-1	0251	Molybdenum	U	Less than 5 times the method blank
1002138-2	0252	Molybdenum	U	Less than 5 times the method blank
1002138-3	0258	Iron	U	Less than 5 times the method blank
1002138-3	0258	Molybdenum	U	Less than 5 times the method blank
1002138-5	0263	Manganese	U	Less than 5 times the method blank
1002138-6	0264	Molybdenum	U	Less than 5 times the method blank
1002138-7	0265	Iron	U	Less than 5 times the method blank
1002138-7	0265	Manganese	U	Less than 5 times the method blank
1002138-7	0265	Molybdenum	U	Less than 5 times the method blank
1002138-8	0266	Molybdenum	U	Less than 5 times the method blank
1002138-9	0267	Molybdenum	U	Less than 5 times the method blank
1002138-10	0268	Iron	U	Less than 5 times the method blank
1002138-10	0268	Manganese	U	Less than 5 times the method blank
1002138-10	0268	Molybdenum	U	Less than 5 times the method blank
1002138-11	0272	Manganese	U	Less than 5 times the method blank
1002138-11	0272	Molybdenum	U	Less than 5 times the method blank
1002138-12	0273	Iron	U	Less than 5 times the method blank
1002138-12	0273	Manganese	U	Less than 5 times the method blank
1002138-13	0274	Manganese	U	Less than 5 times the method blank
1002138-13	0274	Molybdenum	U	Less than 5 times the method blank
1002138-14	0275	Iron	U	Less than 5 times the method blank
1002138-14	0275	Molybdenum	U	Less than 5 times the method blank
1002138-15	0276	Iron	U	Less than 5 times the method blank
1002138-15	0276	Manganese	U	Less than 5 times the method blank
1002138-15	0276	Molybdenum	U	Less than 5 times the method blank
1002138-16	0281	Molybdenum	U	Less than 5 times the method blank
1002138-17	0282	Manganese	U	Less than 5 times the method blank
1002138-17	0282	Molybdenum	U	Less than 5 times the method blank
1002138-18	0286	Molybdenum	U	Less than 5 times the method blank
1002138-19	0287	Manganese	U	Less than 5 times the calibration blank
1002138-20	0280	Iron	J	Negative method blank
1002138-20	0280	Manganese	U	Less than 5 times the calibration blank
1002138-20	0280	Molybdenum	U	Less than 5 times the method blank
1002138-21	0289	Ammonia as N	J	Matrix spike failure
1002138-21	0289	Iron	J	Negative method blank
1002138-21	0289	Molybdenum	J	Reporting limit verification failure
1002138-22	0290	Iron	U	Less than 5 times the calibration blank
1002138-22	0290	Manganese	U	Less than 5 times the calibration blank
1002138-22	0290	Molybdenum	J	Reporting limit verification failure
1002138-23	0691	Molybdenum	U	Less than 5 times the method blank
1002138-24	0908	Iron	J	Negative method blank

Table 3 (continued). Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
1002138-24	0908	Molybdenum	J	Reporting limit verification failure
1002138-25	0909	Iron	U	Less than 5 times the calibration blank
1002138-25	0909	Manganese	U	Less than 5 times the calibration blank
1002138-25	0909	Molybdenum	U	Less than 5 times the method blank
1002138-26	0929	Iron	U	Less than 5 times the calibration blank
1002138-26	0929	Manganese	U	Less than 5 times the calibration blank
1002138-26	0929	Molybdenum	J	Reporting limit verification failure
1002138-27	0930	Arsenic	J	Serial dilution failure
1002138-27	0930	Iron	J	Negative method blank
1002138-27	0930	Manganese	U	Less than 5 times the calibration blank
1002138-27	0930	Molybdenum	J	Reporting limit verification failure
1002138-28	0932	Iron	U	Less than 5 times the calibration blank
1002138-28	0932	Molybdenum	J	Reporting limit verification failure
1002138-29	0934	Iron	J	Negative method blank
1002138-29	0934	Molybdenum	U	Less than 5 times the method blank
1002138-30	0935	Iron	J	Negative method blank
1002138-30	0935	Molybdenum	U	Less than 5 times the method blank
1002138-31	0938	Iron	J	Negative method blank
1002138-33	0942	Iron	J	Negative method blank
1002138-36	0268 Duplicate	Iron	U	Less than 5 times the calibration blank
1002138-37	0267 Duplicate	Iron	J	Negative method blank
1002138-37	0267 Duplicate	Molybdenum	J	Reporting limit verification failure

Sample Shipping/Receiving

ALS Laboratory Group in Fort Collins, Colorado, received 38 water samples on February 12, 2010, accompanied by Chain of Custody (COC) forms. The COC forms were checked to confirm that all of the samples were listed with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The COC forms had no errors or omissions. A copy of the air waybill was included with the receiving documentation.

Preservation and Holding Times

The sample shipments were received intact with temperatures inside the iced cooler at 4.0 °C which compiles with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses with the following exception. The metals bottle from location 0290 was received with a pH of 5. The laboratory acidified this bottle to a pH less than two upon receipt. All samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the

beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Method MCAWW 160.1
There is no initial or continuing calibration requirement associated with the determination of total dissolved solids.

Method MCAWW 350.1
The initial calibrations for ammonia as N were performed on February 18, 2010 using six calibration standards as follows. Initial and continuing calibration verification checks were made at the required frequency resulting in ten verification checks. All calibration verification checks met the acceptance criteria. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources.

Method MCAWW 353.2
The initial calibrations for nitrate + nitrite as N were performed using seven calibration standards on February 22, 2010. Initial and continuing calibration verification checks were made at the required frequency resulting in ten verification checks. All calibration verification checks met the acceptance criteria. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources.

Method SW-846 6010B
Calibrations for calcium, iron, magnesium, manganese, potassium, silica, and sodium were performed using a single point calibration on February 24, 2010. Initial and continuing calibration verification checks were made at the required frequency resulting in 10 verification checks. All calibration verification checks met the acceptance criteria. Calibration and laboratory spike standards were prepared from independent sources. Reporting limit verification checks were made at the beginning of each analytical sequence to verify the linearity of the calibration curve near the practical quantitation limit and all results were within the acceptance range.

Method SW-846 6020A
Calibrations for arsenic, selenium, molybdenum, and uranium were performed using seven standards on February 24, 2010. Initial and continuing calibration verification checks were made at the required frequency resulting in 15 verification checks. All calibration verification checks met the acceptance criteria. The calibration curve correlation coefficient values were greater than 0.995. The absolute values of the calibration curve intercepts were slightly greater than 3 times the MDL for some calibrations, but are acceptable for this project. Calibration and laboratory spike standards were prepared from independent sources. Reporting limit verification checks were made at the beginning of each analytical sequence to verify the linearity of the calibration curve near the practical quantitation limit. All results were within the acceptance range with the exception of molybdenum. Sample molybdenum results that are greater than the MDL, but less than 5 times the practical quantitation limit are qualified with a “J” flag as estimated values. Mass calibration and resolution verifications were performed at the beginning of each analytical

run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.

Method SW-846 9056

Calibrations for chloride and sulfate were performed on February 16, 2010, using five calibration standards as follows. Initial and continuing calibration verification checks were made at the required frequency resulting in nine verification checks. All calibration checks met the acceptance criteria. 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.

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 initial and continuing calibration blank results associated with the samples were below the practical quantitation limits (PQLs) for all analytes. In cases where a blank concentration exceeds the MDL, the associated sample results are qualified with a "U" flag (not detected) when the sample result is greater than the MDL but less than 5 times the blank concentration.

All potassium calibration blank results were negative, biasing the potassium results low. All potassium results are qualified with a "J" flag as estimated values.

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

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

Matrix Spike Analysis

Matrix spike and matrix spike duplicate (MS/MSD) samples are used to measure method performance in the sample matrix. The MS/MSD data are not evaluated when the concentration of the unspiked sample is greater than 4 times the spike concentration. The spike recoveries met the recovery and precision criteria for all analytes evaluated with the following exception. The ammonia as N MS/MSD recoveries for sample 0289 did not meet the acceptance criteria. The ammonia as N result for this sample is qualified with a "J" flag as an estimated value.

Laboratory Replicate Analysis

Laboratory replicate analyses are use to determine laboratory precision for each sample matrix. The relative percent difference for replicate results that are greater than 5 times the PQL should be less than 20 percent. For results that are less than 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 100 times the PQL for ICP-MS or greater than 50 times the PQL for ICP.

The arsenic serial dilution percent difference for sample 0930 was above the acceptance criteria indicating a matrix interference. The arsenic result for this sample is qualified with a "J" flag as an estimated value.

The sodium serial dilution percent difference for both samples analyzed was above the acceptance criteria indicating a matrix interference. All sample sodium results are qualified with a "J" flag as estimated values.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The samples were diluted prior to analysis of molybdenum and uranium to reduce interferences. The required detection limits were achieved for all analytes.

Completeness

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

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all ion chromatography data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable File

The electronic data deliverable (EDD) was received on February 27, 2010. The Sample Management System EDD validation module was used to verify that the EDD file was complete and in compliance with requirements. The module compares the contents of the file to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

Anion/Cation Balance

The anion/cation balance is used to determine if major ion concentrations have been quantified correctly. The total anions should balance with (be equal to) the total cations when expressed in milliequivalents per liter (meq/L). Table 4 shows the total anion and cation results from this event and the charge balance, which is a relative percent difference calculation. Typically, a

charge balance difference of 10 percent is considered acceptable.

Table 4. Comparison of Major Anions and Cations

Location	Cations (meq/L)	Anions (meq/L)	Charge Balance (%)
0251	2.30	2.04	5.81
0252	1.83	1.75	2.18
0258	2.79	3.14	5.96
0262	66.41	69.22	2.08
0263	85.63	96.05	5.74
0264	4.55	4.94	4.14
0265	46.37	51.47	5.21
0266	2.18	2.57	8.28
0267	108.41	114.68	2.81
0268	7.03	7.38	2.42
0272	2.44	3.10	12.01
0273	10.99	12.00	4.40
0274	2.75	3.91	17.33
0275	77.33	82.79	3.41
0276	2.71	2.73	0.29
0281	9.26	9.98	3.78
0282	6.94	7.92	6.66
0286	11.03	10.89	0.62
0287	64.19	67.79	2.73
0288	18.98	17.27	4.72
0289	18.40	18.43	0.08
0290	3.38	3.60	3.11
0691	21.06	21.35	0.70
0906	90.28	93.69	1.85
0908	85.57	87.88	1.33
0909	35.11	36.62	2.10
0929	3.57	4.59	12.47
0930	4.25	4.73	5.33
0932	3.35	3.66	4.42
0934	111.59	118.55	3.02
0935	75.91	88.18	7.48
0938	49.86	52.54	2.61
0941	59.09	63.19	3.36
0942	92.65	103.82	5.68
1569	NA	NA	NA
1570	NA	NA	NA

NA: Alkalinity data not available

The charge balance value for most locations was less than 10 percent.

At three locations, the charge balances were above 10 percent. The alkalinity measurements made at locations 0272 and 0274 are anomalously high and impact the charge balance. There were no laboratory analytical errors identified during the review of the data.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 10022833 **Lab Code:** PAR **Validator:** Steve Donivan **Validation Date:** 3/15/2010

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

# of Samples: 38 **Matrix:** WATER **Requested Analysis Completed:** Yes

Chain of Custody

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

Sample

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

Select Quality Parameters

☑ Holding Times	All analyses were completed within the applicable holding times.
☑ Detection Limits	The reported detection limits are equal to or below contract requirements.
☐ Field/Trip Blanks	
☑ Field Duplicates	There were 2 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 10022833 **Lab Code:** PAR **Date Due:** 3/12/2010

Matrix: Water **Site Code:** TUB **Date Completed:** 3/2/2010

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
		Int.	R^2	ICV	CCV	ICB	CCB								
ARSENIC	02/24/2010	0.0000	1.0000	OK	OK	OK	OK	OK	94.0	91.0	92.0	0.0	98.0	5.0	121.0
ARSENIC	02/24/2010							OK	96.0	93.0	92.0	0.0		12.0	
CALCIUM	02/24/2010			OK	OK	OK	OK	OK	99.0	106.0	100.0	3.0	106.0	1.0	102.0
CALCIUM	02/24/2010							OK	99.0	106.0	110.0	2.0	107.0	4.0	102.0
IRON	02/24/2010			OK	OK	OK	OK	OK	95.0	97.0	96.0	1.0	104.0		99.0
IRON	02/24/2010							OK	94.0	95.0	96.0	1.0	105.0		98.0
MAGNESIUM	02/24/2010			OK	OK	OK	OK	OK	99.0	103.0	99.0	3.0	107.0	1.0	100.0
MAGNESIUM	02/24/2010							OK	99.0	101.0	103.0	2.0	109.0	4.0	101.0
MANGANESE	02/24/2010			OK	OK	OK	OK	OK	95.0	96.0	94.0	2.0	89.0		96.0
MANGANESE	02/24/2010							OK	93.0	96.0	97.0	1.0	90.0		97.0
MOLYBDENUM	02/24/2010	0.0000	1.0000	OK	OK	OK	OK	OK	105.0	101.0	103.0	2.0	111.0		151.0
MOLYBDENUM	02/24/2010							OK	104.0	105.0	106.0	1.0			
POTASSIUM	02/24/2010			OK	OK	OK	OK	OK	95.0	99.0	99.0	0.0			71.0
POTASSIUM	02/24/2010							OK	94.0	99.0	99.0	0.0			71.0
SELENIUM	02/24/2010	0.0000	1.0000	OK	OK	OK	OK	OK	91.0	80.0	81.0	1.0	98.0		95.0
SELENIUM	02/24/2010							OK	95.0	82.0	83.0	1.0			
SILICON	02/24/2010			OK	OK	OK	OK	OK	99.0	102.0	97.0	1.0	95.0	1.0	113.0
SILICON	02/24/2010							OK	98.0	102.0	105.0	1.0	95.0	4.0	109.0

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 10022833 **Lab Code:** PAR **Date Due:** 3/12/2010

Matrix: Water **Site Code:** TUB **Date Completed:** 3/2/2010

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
		Int.	R^2	ICV	CCV	ICB	CCB								
SODIUM	02/24/2010			OK	OK	OK	OK	OK	97.0	100.0	99.0	1.0		25.0	85.0
SODIUM	02/24/2010							OK	96.0	98.0	99.0	0.0		17.0	85.0
URANIUM	02/24/2010	0.0000	1.0000	OK	OK	OK	OK	OK	106.0	106.0	109.0	3.0	106.0	6.0	99.0
URANIUM	02/24/2010							OK	104.0	105.0	104.0	1.0		6.0	

SAMPLE MANAGEMENT SYSTEM

Wet Chemistry Data Validation Worksheet

RIN: 10022833 **Lab Code:** PAR **Date Due:** 3/12/2010

Matrix: Water **Site Code:** TUB **Date Completed:** 3/2/2010

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
AMMONIA AS N	02/18/2010							OK	97.00	93.0	90.0	2.00	
AMMONIA AS N	02/18/2010	0.000	1.0000	OK	OK	OK	OK	OK	99.00	74.0	73.0	1.00	
CHLORIDE	02/16/2010	0.000	1.0000	OK	OK	OK	OK	OK	101.00	109.0	110.0	1.00	
CHLORIDE	02/16/2010							OK	100.00	104.0	105.0	0	
CHLORIDE	02/16/2010									105.0			
CHLORIDE	02/16/2010									109.0			
NITRATE/NITRITE AS N	02/22/2010							OK	100.00	93.0	96.0	1.00	
NITRATE/NITRITE AS N	02/22/2010							OK	102.00	89.0	93.0	1.00	
SULFATE	02/16/2010	0.000	1.0000	OK	OK	OK	OK	OK	99.00	110.0	106.0	2.00	
SULFATE	02/16/2010							OK	99.00	106.0	104.0	1.00	
SULFATE	02/16/2010									105.0			
SULFATE	02/16/2010									102.0			
TOTAL DISSOLVED SOLIDS	02/16/2010							OK	102.00			0	
TOTAL DISSOLVED SOLIDS	02/16/2010							OK	103.00				
TOTAL DISSOLVED SOLIDS	02/17/2010							OK	101.00				

Sampling Quality Control Assessment

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

Sampling Protocol

Sample results for monitoring wells that met the Category I, II, or III low-flow sampling criteria were qualified with an "F" flag in the database, indicating the wells were purged and sampled using the low-flow sampling method. All monitoring wells are equipped with either dedicated downhole and pump-head tubing or a bladder pump. Extraction wells (0935, 0936, 0938, and 0942) are spigot samples and are designated as Category IV.

All monitoring wells met the Category I criteria and were sampled with dedicated tubing using the low-flow purge procedure with the following exceptions.

- Water level requirements could not be met at well 0941. Data from this well were qualified as a Category II well.
- The following 21 wells were classified as Category II or III: 0251, 0252, 0258, 0262, 0263, 0264, 0266, 0273, 0274, 0281, 0282, 0286, 0287, 0288, 0289, 0290, 0906, 0908, 0909, 0929, and 0934.

The sample results for these 21 wells were qualified with a "Q" flag, indicating the data are qualitative because of the sampling technique.

Equipment Blank Assessment

No equipment blanks were taken. All groundwater and surface water samples were collected using dedicated equipment that did not require equipment blanks.

Field Duplicate Assessment

Field duplicate samples are collected and analyzed as an indication of overall precision of the measurement process. The precision observed includes both field and laboratory precision and has more variability than laboratory duplicates, which measure only laboratory performance. The relative percent difference for duplicate results that are greater than 5 times the PQL should be less than 20 percent. For results that are less than the PQL, the range should be no greater than the PQL. Duplicate samples were collected from locations 0267 and 0268. The duplicate results met these criteria, demonstrating acceptable overall precision.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 10022833 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/15/2010

Duplicate: 2723 **Sample:** 0268

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
ARSENIC	0.53			1	0.59			1	10.71		UG/L
CALCIUM	96000			1	96000			1	0		UG/L
CHLORIDE	18			5	18			5	0		MG/L
IRON	4	B		1	9.3	B		1			UG/L
MAGNESIUM	17000			1	18000			1	5.71		UG/L
MANGANESE	0.34	B		1	7.7			1			UG/L
MOLYBDENUM	0.42	B		10	1.1			10	89.47		UG/L
NITRATE/NITRITE AS N	17			10	19			10	11.11		MG/L
POTASSIUM	3700			1	3800			1	2.67		UG/L
SELENIUM	1.8			1	2			1	10.53		UG/L
Silica	10000			1	11000			1	9.52		UG/L
SILICON	4900			1	4900			1	0		UG/L
SODIUM	17000			1	19000			1	11.11		UG/L
SULFATE	140			5	140			5	0		MG/L
TOTAL DISSOLVED SOLIDS	460			1	470			1	2.15		MG/L
URANIUM	20			10	20			10	0		UG/L

Duplicate: 2724 **Sample:** 0267

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
AMMONIA AS N	0.1	U		1	0.1	U		1			MG/L
ARSENIC	2.6			2	3			5	14.29		UG/L
CALCIUM	610000			5	590000			5	3.33		UG/L
CHLORIDE	120			50	130			50	8.00		MG/L
IRON	27	B		5	7.2	U		5			UG/L
MAGNESIUM	750000			5	750000			5	0		UG/L
MANGANESE	28			5	28			5	0		UG/L
MOLYBDENUM	0.44	B		10	0.51	B		10	14.74		UG/L
NITRATE/NITRITE AS N	270			200	330			200	20.00		MG/L
POTASSIUM	7600			5	7400			5	2.67		UG/L
SELENIUM	43			2	44			5	2.30		UG/L
Silica	23000			5	23000			5	0		UG/L
SILICON	11000			5	11000			5	0		UG/L
SODIUM	370000			5	370000			5	0		UG/L
SULFATE	3600			50	3600			50	0		MG/L
TOTAL DISSOLVED SOLIDS	7600			1	7600			1	0		MG/L

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 10022833 **Lab Code:** PAR **Project:** Tuba City **Validation Date:** 3/15/2010

Duplicate: 2724 **Sample:** 0267

Analyte	Sample Result	Sample Flag	Sample Error	Sample Dilution	Duplicate Result	Duplicate Flag	Duplicate Error	Duplicate Dilution	RPD	RER	Units
URANIUM	67			10	64			10	4.58		UG/L

Certification

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

Laboratory Coordinator: Steve Donivan — Steve Donivan — 4-6-2010 — Date

Data Validation Lead: Steve Donivan — Steve Donivan — 4-6-2010 — 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 may result from transcription errors, data-coding errors, or measurement system problems. However, outliers may also represent true extreme values of a distribution and indicate more variability in the population than was expected.

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

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

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

Eighteen laboratory results were identified as potentially anomalous. Of the 18 results, four were potassium values that are anomalously low. Review of the laboratory reports indicated that the potassium calibration blank results were negative, biasing the potassium results low. All potassium results are qualified with a “J” flag as estimated values. Other results identified as potentially anomalous are from locations where analyte concentrations are trending downward or upward. At this time, all data from this sampling event may be treated as validated results.

The ammonia as N result for location 0938 was listed on the Anomalous Data Review Checksheet for further review in the December 2009 Data Validation Package. Ammonia as N had not been detected at this location previously and was not detected in the sample from this sampling event, indicating that the result obtained during the August 2009 sampling event was likely erroneous.

Data Validation Outliers Report - Field Parameters Only
Comparison: All Historical Data
Laboratory: Field Measurements
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0251	N001	02/09/2010	Turbidity	9.85			7.75		F	0.32		F	21	0	No
TUB01	0258	N001	02/09/2010	Alkalinity, Total (As CaCO3)	107			99		F	86			12	0	Yes
TUB01	0258	N001	02/09/2010	Oxidation Reduction Potential	55			205.8		FQ	57			11	0	No
TUB01	0258	N001	02/09/2010	Specific Conductance	300			299		F	250			11	0	No
TUB01	0262	N001	02/09/2010	Alkalinity, Total (As CaCO3)	449			392		FQ	144			15	0	No
TUB01	0262	N001	02/09/2010	Specific Conductance	4725			3905		FQ	1102			14	0	No
TUB01	0262	N001	02/09/2010	Turbidity	9.34			2.73		F	0.47		FQ	12	0	Yes
TUB01	0263	N001	02/09/2010	Oxidation Reduction Potential	70.5			233.4		FQ	94		FQ	13	0	No
TUB01	0263	N001	02/09/2010	pH	7.04			7.02		FQ	6.55			13	0	No
TUB01	0263	N001	02/09/2010	Specific Conductance	5884			5150			3972		FQ	13	0	Yes
TUB01	0264	N001	02/09/2010	Oxidation Reduction Potential	56.7			208.4		FQ	69.2		FQ	13	0	No
TUB01	0264	N001	02/09/2010	Specific Conductance	512			473		FQ	397		FQ	13	0	Yes
TUB01	0264	N001	02/09/2010	Turbidity	9.51			6.95			0.33		FQ	13	0	No
TUB01	0272	N001	02/09/2010	Alkalinity, Total (As CaCO3)	118			104		F	80		F	10	0	Yes
TUB01	0274	N001	02/09/2010	Alkalinity, Total (As CaCO3)	151			99		FQ	82		FQ	10	0	Yes
TUB01	0275	N001	02/09/2010	Specific Conductance	5709			5699		F	4880		F	10	0	No
TUB01	0276	N001	02/10/2010	Alkalinity, Total (As CaCO3)	89			192		F	91		F	10	0	No
TUB01	0281	N001	02/09/2010	Specific Conductance	920			909		QF	561		FQ	10	0	No

Data Validation Outliers Report - Field Parameters Only
Comparison: All Historical Data
Laboratory: Field Measurements
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0282	N001	02/09/2010	Oxidation Reduction Potential	47			382.7		FQ	109		FQ	10	0	No
TUB01	0282	N001	02/09/2010	Turbidity	25.2			18.8		FQ	1.76		FQ	10	0	No
TUB01	0287	N001	02/09/2010	Alkalinity, Total (As CaCO3)	568			508		FQ	298			5	0	No
TUB01	0287	N001	02/09/2010	Specific Conductance	4925			4555		FQ	3447			6	0	No
TUB01	0288	N001	02/09/2010	Alkalinity, Total (As CaCO3)	261			336		FQ	263		FQ	5	0	No
TUB01	0288	N001	02/09/2010	Specific Conductance	1670			2530			1697		FQ	6	0	No
TUB01	0288	N001	02/09/2010	Turbidity	1.81			5.13		FQ	1.98			5	0	No
TUB01	0289	N001	02/09/2010	Alkalinity, Total (As CaCO3)	268			231		FQ	202		FQ	5	0	Yes
TUB01	0289	N001	02/09/2010	Turbidity	0.92			5.97			3.49		FQ	5	0	No
TUB01	0290	N001	02/10/2010	Oxidation Reduction Potential	187.5			186.8		FQ	84			5	0	No
TUB01	0909	N001	02/09/2010	pH	7.41			7.3		F	6.07			41	0	No
TUB01	0930	N001	02/09/2010	Turbidity	2.33			1.8		F	0			22	1	No
TUB01	0935	N001	02/09/2010	Alkalinity, Total (As CaCO3)	770			750			383		F	32	0	No
TUB01	0941	N001	02/09/2010	Alkalinity, Total (As CaCO3)	492			488		FQ	118		F	33	0	No
TUB01	0941	N001	02/09/2010	Specific Conductance	5093			4160		FQ	1130			26	0	No
TUB01	1569	N001	02/10/2010	Specific Conductance	180300			179500			6044			15	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0251	N001	02/09/2010	Potassium	1.6		FQ	3.1		F	2.1		FQ	19	0	Yes
TUB01	0252	N001	02/09/2010	Potassium	1.5		FQ	3.7		F	2.1		F	20	0	No
TUB01	0258	N001	02/09/2010	Potassium	1.1		FQ	2.2		F	1.6		FQ	11	0	Yes
TUB01	0262	N001	02/09/2010	Calcium	880		FQ	730		FQ	433			13	0	No
TUB01	0262	N001	02/09/2010	Chloride	130		FQ	110		FQ	54		FQ	13	0	No
TUB01	0262	N001	02/09/2010	Magnesium	160		FQ	140		FQ	71		FQ	13	0	No
TUB01	0262	N001	02/09/2010	Sulfate	2100		FQ	1600		FQ	255			14	0	Yes
TUB01	0262	N001	02/09/2010	Total Dissolved Solids	4600		FQ	4300		FQ	2000		FQ	13	0	No
TUB01	0263	N001	02/09/2010	Magnesium	390		FQ	294			220		F	13	0	Yes
TUB01	0263	N001	02/09/2010	Nitrate + Nitrite as Nitrogen	270		FQ	220		FQJ	140		FQ	11	0	Yes
TUB01	0263	N001	02/09/2010	Potassium	5.2		FQ	11		F	5.73		F	13	0	No
TUB01	0263	N001	02/09/2010	Sulfate	3100		FQ	2200		FQ	1640			13	0	No
TUB01	0263	N001	02/09/2010	Total Dissolved Solids	6100		FQ	5350			4200		F	13	0	No
TUB01	0264	N001	02/09/2010	Potassium	1.4		FQ	4.2		FQ	1.71			13	0	No
TUB01	0264	N001	02/09/2010	Sulfate	68		FQ	65		FQJ	37.7			13	0	No
TUB01	0266	N001	02/09/2010	Magnesium	6.6		FQ	7.6	N	FJ	6.7		F	13	0	No
TUB01	0266	N001	02/09/2010	Potassium	1.6		FQ	2.9		FQ	2.1		F	13	0	No
TUB01	0266	N001	02/09/2010	Uranium	0.0022		FQ	0.002		F	0.0012		F	13	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0267	N001	02/09/2010	Nitrate + Nitrite as Nitrogen	270		F	480		FJ	280		F	12	0	No
TUB01	0267	N002	02/09/2010	Potassium	7.4		F	16		F	9.44		F	16	0	No
TUB01	0267	N001	02/09/2010	Potassium	7.6		F	16		F	9.44		F	16	0	No
TUB01	0272	N001	02/09/2010	Arsenic	0.0019		F	0.0018		F	0.0012		F	12	0	No
TUB01	0272	N001	02/09/2010	Potassium	0.92	B	F	2.2		F	1.4		F	12	0	No
TUB01	0273	N001	02/09/2010	Potassium	2.2		FQ	4		FQ	2.4		FQ	10	0	No
TUB01	0274	N001	02/09/2010	Potassium	0.8	B	FQ	3.5		FQ	1.3		FQ	10	0	No
TUB01	0275	N001	02/09/2010	Chloride	160		F	130		F	96		F	10	0	No
TUB01	0276	N001	02/10/2010	Potassium	0.79	B	F	2.2		F	1.4		F	11	0	Yes
TUB01	0281	0001	02/09/2010	Chloride	30		FQ	29		FQ	21		F	11	0	No
TUB01	0281	0001	02/09/2010	Potassium	1.6		FQ	6		FQ	2.3		FQ	11	0	No
TUB01	0281	0001	02/09/2010	Sulfate	170		FQ	140		FQ	62		F	11	0	No
TUB01	0282	0001	02/09/2010	Calcium	97		FQ	390		F	98		FQ	10	0	No
TUB01	0282	0001	02/09/2010	Magnesium	18		FQ	120		F	19		F	10	0	No
TUB01	0282	0001	02/09/2010	Potassium	1.7		FQ	7.2		F	2.5		FQ	10	0	No
TUB01	0282	0001	02/09/2010	Silicon	6.3		FQ	7.7		FQ	6.6		FQ	10	0	No
TUB01	0282	0001	02/09/2010	Uranium	0.004		FQ	0.054		F	0.0044		F	10	0	No
TUB01	0287	N001	02/09/2010	Chloride	210		FQ	170		FQ	121			5	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0287	N001	02/09/2010	Sulfate	1500		FQ	1300		FQ	905			5	0	No
TUB01	0287	N001	02/09/2010	Uranium	0.24		FQ	0.2		FQ	0.1056			5	0	No
TUB01	0691	N001	02/09/2010	Manganese	0.25		F	0.23		F	0.000054	U	F	24	15	No
TUB01	0691	N001	02/09/2010	Nitrate + Nitrite as Nitrogen	65		F	52		F	12		F	13	0	No
TUB01	0906	N001	02/09/2010	Molybdenum	0.0014		FQ	0.8			0.0015		FQ	56	5	No
TUB01	0929	N001	02/09/2010	Nitrate + Nitrite as Nitrogen	18		FQ	16		FQ	8.3		FJ	11	0	No
TUB01	0929	N001	02/09/2010	Potassium	1.2		FQ	3.2		FQ	1.75		L	19	0	Yes
TUB01	0930	N001	02/09/2010	Potassium	1.4		F	3		F	2		F	20	0	No
TUB01	0932	N001	02/09/2010	Potassium	1.3		F	3.9		F	1.8		F	25	0	No
TUB01	0934	N001	02/09/2010	Potassium	6.3		FQ	16		QF	8.05		L	24	0	No
TUB01	0935	N001	02/09/2010	Ammonia Total as N	69			98			78		F	9	0	No
TUB01	0935	N001	02/09/2010	Molybdenum	0.000099	B	U	0.01	U		0.00015	B	J	28	24	No
TUB01	0935	N001	02/09/2010	Potassium	17			32		F	18.3			24	0	No
TUB01	0941	N001	02/09/2010	Chloride	200		FQ	167		QF	42.8		F	25	0	No
TUB01	0941	N001	02/09/2010	Iron	0.089	B	FQ	0.048	B	FQ	0.0012	B	UL	33	27	Yes
TUB01	0941	N001	02/09/2010	Magnesium	140		FQ	130		FQ	28.3		F	26	0	No
TUB01	0941	N001	02/09/2010	Nitrate + Nitrite as Nitrogen	260		FQ	240		FQ	130		FQ	9	0	No
TUB01	0941	N001	02/09/2010	Selenium	0.098		FQ	0.0827		L	0.0182		L	31	0	No

Data Validation Outliers Report - No Field Parameters
Comparison: All Historical Data
Laboratory: ALS Laboratory Group
RIN: 10022833
Report Date: 3/19/2010

					Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
						Qualifiers			Qualifiers			Qualifiers				
Site Code	Location Code	Sample ID	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N Below Detect	
TUB01	0941	N001	02/09/2010	Sulfate	1400		FQ	1200		FQ	225			30	0	No
TUB01	0942	N001	02/10/2010	Arsenic	0.0032			0.0031			0.0013		F	16	0	No
TUB01	0942	N001	02/10/2010	Calcium	570			847		F	580		F	28	0	No
TUB01	0942	N001	02/10/2010	Magnesium	420			755		F	422		F	28	0	No
TUB01	0942	N001	02/10/2010	Manganese	4.5			3.98			2.96			29	0	Yes
TUB01	1569	N001	02/10/2010	Magnesium	27000			24000			472			17	0	Yes
TUB01	1570	N001	02/10/2010	Iron	11			9.5			0.0008	U		23	17	No
TUB01	1570	N001	02/10/2010	Magnesium	35000			28000			544			22	0	No
TUB01	1570	N001	02/10/2010	Molybdenum	4.2			3.75			0.27			23	0	No
TUB01	1570	N001	02/10/2010	Nitrate + Nitrite as Nitrogen	25000			19000			3000			13	0	Yes
TUB01	1570	N001	02/10/2010	Selenium	3.9			3.4			0.0507			23	0	No
TUB01	1570	N001	02/10/2010	Sulfate	67000			56000			2490			23	0	No

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

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Attachment 2
Data Presentation

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Groundwater Quality Data

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Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0251 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	200	-	300	59		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	200	-	300	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	200	-	300	0.0019		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	200	-	300	30		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	200	-	300	7.4		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	200	-	300	0.0018	B	UFQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	200	-	300	6.1		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	200	-	300	0.0023	B	FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	200	-	300	0.00088	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	200	-	300	4.5		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/09/2010	N001	200	-	300	108.4		FQ	#		
pH	s.u.	02/09/2010	N001	200	-	300	8.08		FQ	#		
Potassium	mg/L	02/09/2010	N001	200	-	300	1.6		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	200	-	300	0.0009		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	200	-	300	10		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	200	-	300	4.7		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	200	-	300	5.7	E	FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	200	-	300	242		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0251 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	200	-	300	16		FQ	#	0.5	
Temperature	C	02/09/2010	N001	200	-	300	15.4		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	200	-	300	150		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	200	-	300	9.85		FQ	#		
Uranium	mg/L	02/09/2010	N001	200	-	300	0.0021		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0252 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	400	-	500	65		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	400	-	500	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	400	-	500	0.0015		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	400	-	500	21		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	400	-	500	5		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	400	-	500	0.04	B	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	400	-	500	4		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	400	-	500	0.02		FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	400	-	500	0.00072	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	400	-	500	2.3		FQ	#	0.02	
Oxidation Reduction Potential	mV	02/09/2010	N001	400	-	500	59.2		FQ	#		
pH	s.u.	02/09/2010	N001	400	-	500	8.05		FQ	#		
Potassium	mg/L	02/09/2010	N001	400	-	500	1.5		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	400	-	500	0.00078		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	400	-	500	9.8		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	400	-	500	4.6		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	400	-	500	9.4		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	400	-	500	194		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0252 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	400	-	500	7.1		FQ	#	0.5	
Temperature	C	02/09/2010	N001	400	-	500	15.64		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	400	-	500	120		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	400	-	500	5		FQ	#		
Uranium	mg/L	02/09/2010	N001	400	-	500	0.002		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0258 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	159	-	199	107		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	159	-	199	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	159	-	199	0.0022		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	159	-	199	34		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	159	-	199	13		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	159	-	199	0.0081	B	UFQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	159	-	199	7		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	159	-	199	0.0002	U	FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	159	-	199	0.00074	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	159	-	199	3.3		FQ	#	0.02	
Oxidation Reduction Potential	mV	02/09/2010	N001	159	-	199	55		FQ	#		
pH	s.u.	02/09/2010	N001	159	-	199	7.94		FQ	#		
Potassium	mg/L	02/09/2010	N001	159	-	199	1.1		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	159	-	199	0.0016		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	159	-	199	12		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	159	-	199	5.6		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	159	-	199	11		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	159	-	199	300		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0258 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	159	-	199	19		FQ	#	0.5	
Temperature	C	02/09/2010	N001	159	-	199	15.5		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	159	-	199	180		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	159	-	199	3.6		FQ	#		
Uranium	mg/L	02/09/2010	N001	159	-	199	0.0013		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0262 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	60	-	100	449		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	60	-	100	0.87		FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	60	-	100	0.0015		FQ	#	0.000028	
Calcium	mg/L	02/09/2010	N001	60	-	100	880		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	60	-	100	130		FQ	#	10	
Iron	mg/L	02/09/2010	N001	60	-	100	0.0072	U	FQ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	60	-	100	160		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	60	-	100	0.012	B	FQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	60	-	100	1.3		FQ	#	0.0022	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	60	-	100	180		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	60	-	100	59.8		FQ	#		
pH	s.u.	02/09/2010	N001	60	-	100	6.76		FQ	#		
Potassium	mg/L	02/09/2010	N001	60	-	100	5.5		FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	60	-	100	0.11		FQ	#	0.00023	
Silica	mg/L	02/09/2010	N001	60	-	100	18		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	60	-	100	8.6		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	60	-	100	210		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	60	-	100	4725		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0262 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	60	-	100	2100		FQ	#	25	
Temperature	C	02/09/2010	N001	60	-	100	14.89		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	60	-	100	4600		FQ	#	80	
Turbidity	NTU	02/09/2010	N001	60	-	100	9.34		FQ	#		
Uranium	mg/L	02/09/2010	N001	60	-	100	1.1		FQ	#	0.000088	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0263 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	60	-	100	400		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	60	-	100	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	60	-	100	0.0016		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	60	-	100	870		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	60	-	100	150		FQ	#	10	
Iron	mg/L	02/09/2010	N001	60	-	100	0.0072	U	FQ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	60	-	100	390		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	60	-	100	0.002	B	UFQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	60	-	100	0.024		FQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	60	-	100	270		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	60	-	100	70.5		FQ	#		
pH	s.u.	02/09/2010	N001	60	-	100	7.04		FQ	#		
Potassium	mg/L	02/09/2010	N001	60	-	100	5.2		FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	60	-	100	0.036		FQ	#	0.00023	
Silica	mg/L	02/09/2010	N001	60	-	100	16		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	60	-	100	7.3		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	60	-	100	230		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	60	-	100	5884		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0263 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	60	-	100	3100		FQ	#	25	
Temperature	C	02/09/2010	N001	60	-	100	15.96		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	60	-	100	6100		FQ	#	80	
Turbidity	NTU	02/09/2010	N001	60	-	100	4.57		FQ	#		
Uranium	mg/L	02/09/2010	N001	60	-	100	0.14		FQ	#	0.0000088	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0264 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	160	-	200	116		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	160	-	200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	160	-	200	0.002		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	160	-	200	60		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	160	-	200	15		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	160	-	200	0.0014	U	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	160	-	200	11		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	160	-	200	0.0002	U	FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	160	-	200	0.00087	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	160	-	200	11		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/09/2010	N001	160	-	200	56.7		FQ	#		
pH	s.u.	02/09/2010	N001	160	-	200	7.83		FQ	#		
Potassium	mg/L	02/09/2010	N001	160	-	200	1.4		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	160	-	200	0.0017		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	160	-	200	13		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	160	-	200	5.9		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	160	-	200	14		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	160	-	200	512		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0264 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	160	-	200	68		FQ	#	0.5	
Temperature	C	02/09/2010	N001	160	-	200	15.75		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	160	-	200	300		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	160	-	200	9.51		FQ	#		
Uranium	mg/L	02/09/2010	N001	160	-	200	0.0037		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0265 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	60	-	100	380		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	60	-	100	0.00094		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	60	-	100	550		F	#	0.028	
Chloride	mg/L	02/09/2010	N001	60	-	100	140		F	#	10	
Iron	mg/L	02/09/2010	N001	60	-	100	0.0019	B	UF	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	60	-	100	170		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	60	-	100	0.0012	B	UF	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	60	-	100	0.00025	B	UF	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	60	-	100	180		F	#	1	
Oxidation Reduction Potential	mV	02/09/2010	N001	60	-	100	88		F	#		
pH	s.u.	02/09/2010	N001	60	-	100	6.78		F	#		
Potassium	mg/L	02/09/2010	N001	60	-	100	6.1		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	60	-	100	0.0058		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	60	-	100	15		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	60	-	100	7.2		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	60	-	100	110		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	60	-	100	3840		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0265 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	60	-	100	1300		F	#	25	
Temperature	C	02/09/2010	N001	60	-	100	14.2		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	60	-	100	3300		F	#	80	
Turbidity	NTU	02/09/2010	N001	60	-	100	3.52		F	#		
Uranium	mg/L	02/09/2010	N001	60	-	100	0.067		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0266 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	160	-	200	95		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	160	-	200	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	160	-	200	0.0014		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	160	-	200	27		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	160	-	200	7.8		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	160	-	200	0.0014	U	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	160	-	200	6.6		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	160	-	200	0.0002	U	FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	160	-	200	0.00082	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	160	-	200	3.1		FQ	#	0.02	
Oxidation Reduction Potential	mV	02/09/2010	N001	160	-	200	56		FQ	#		
pH	s.u.	02/09/2010	N001	160	-	200	8.08		FQ	#		
Potassium	mg/L	02/09/2010	N001	160	-	200	1.6		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	160	-	200	0.0012		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	160	-	200	11		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	160	-	200	5.3		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	160	-	200	5.5		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	160	-	200	238		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0266 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	160	-	200	11		FQ	#	0.5	
Temperature	C	02/09/2010	N001	160	-	200	14		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	160	-	200	140		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	160	-	200	2.36		FQ	#		
Uranium	mg/L	02/09/2010	N001	160	-	200	0.0022		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	60	-	100	853		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	60	-	100	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	02/09/2010	N002	60	-	100	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	60	-	100	0.0026		F	#	0.000028	
Arsenic	mg/L	02/09/2010	N002	60	-	100	0.003		F	#	0.000069	
Calcium	mg/L	02/09/2010	N001	60	-	100	610		F	#	0.014	
Calcium	mg/L	02/09/2010	N002	60	-	100	590		F	#	0.014	
Chloride	mg/L	02/09/2010	N001	60	-	100	120		F	#	10	
Chloride	mg/L	02/09/2010	N002	60	-	100	130		F	#	10	
Iron	mg/L	02/09/2010	N001	60	-	100	0.027	B	F	#	0.0072	
Iron	mg/L	02/09/2010	N002	60	-	100	0.0072	U	FJ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	60	-	100	750		F	#	0.033	
Magnesium	mg/L	02/09/2010	N002	60	-	100	750		F	#	0.033	
Manganese	mg/L	02/09/2010	N001	60	-	100	0.028		F	#	0.001	
Manganese	mg/L	02/09/2010	N002	60	-	100	0.028		F	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	60	-	100	0.00044	B	UF	#	0.000044	
Molybdenum	mg/L	02/09/2010	N002	60	-	100	0.00051	B	FJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	60	-	100	270		F	#	2	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N002	60	-	100	330		F	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	60	-	100	60		F	#		
pH	s.u.	02/09/2010	N001	60	-	100	6.5		F	#		
Potassium	mg/L	02/09/2010	N001	60	-	100	7.6		FJ	#	0.51	
Potassium	mg/L	02/09/2010	N002	60	-	100	7.4		FJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	60	-	100	0.043		F	#	0.000047	
Selenium	mg/L	02/09/2010	N002	60	-	100	0.044		F	#	0.00012	
Silica	mg/L	02/09/2010	N001	60	-	100	23		F	#	0.059	
Silica	mg/L	02/09/2010	N002	60	-	100	23		F	#	0.059	
Silicon	mg/L	02/09/2010	N001	60	-	100	11		F	#	0.028	
Silicon	mg/L	02/09/2010	N002	60	-	100	11		F	#	0.028	
Sodium	mg/L	02/09/2010	N001	60	-	100	370		FJ	#	0.12	
Sodium	mg/L	02/09/2010	N002	60	-	100	370		FJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	60	-	100	7500		F	#		
Sulfate	mg/L	02/09/2010	N001	60	-	100	3600		F	#	25	
Sulfate	mg/L	02/09/2010	N002	60	-	100	3600		F	#	25	
Temperature	C	02/09/2010	N001	60	-	100	15		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	60	-	100	7600		F	#	80	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0267 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Total Dissolved Solids	mg/L	02/09/2010	N002	60	-	100	7600		F	#	80	
Turbidity	NTU	02/09/2010	N001	60	-	100	1.9		F	#		
Uranium	mg/L	02/09/2010	N001	60	-	100	0.067		F	#	0.0000018	
Uranium	mg/L	02/09/2010	N002	60	-	100	0.064		F	#	0.0000018	

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Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	200	-	300	137		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	200	-	300	0.1	U	F	#	0.1	
Ammonia Total as N	mg/L	02/09/2010	N002	200	-	300	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	200	-	300	0.00053		F	#	0.000014	
Arsenic	mg/L	02/09/2010	N002	200	-	300	0.00059		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	200	-	300	96		F	#	0.0028	
Calcium	mg/L	02/09/2010	N002	200	-	300	96		F	#	0.0028	
Chloride	mg/L	02/09/2010	N001	200	-	300	18		F	#	1	
Chloride	mg/L	02/09/2010	N002	200	-	300	18		F	#	1	
Iron	mg/L	02/09/2010	N001	200	-	300	0.004	B	F	#	0.0014	
Iron	mg/L	02/09/2010	N002	200	-	300	0.0093	B	UF	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	200	-	300	17		F	#	0.0067	
Magnesium	mg/L	02/09/2010	N002	200	-	300	18		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	200	-	300	0.00034	B	UF	#	0.0002	
Manganese	mg/L	02/09/2010	N002	200	-	300	0.0077		F	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	200	-	300	0.00042	B	UF	#	0.000044	
Molybdenum	mg/L	02/09/2010	N002	200	-	300	0.0011		F	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	200	-	300	17		F	#	0.1	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N002	200	-	300	19		F	#	0.1	
Oxidation Reduction Potential	mV	02/09/2010	N001	200	-	300	170.6		F	#		
pH	s.u.	02/09/2010	N001	200	-	300	7.49		F	#		
Potassium	mg/L	02/09/2010	N001	200	-	300	3.7		FJ	#	0.1	
Potassium	mg/L	02/09/2010	N002	200	-	300	3.8		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	200	-	300	0.0018		F	#	0.000023	
Selenium	mg/L	02/09/2010	N002	200	-	300	0.002		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	200	-	300	10		F	#	0.012	
Silica	mg/L	02/09/2010	N002	200	-	300	11		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	200	-	300	4.9		F	#	0.0055	
Silicon	mg/L	02/09/2010	N002	200	-	300	4.9		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	200	-	300	17		FJ	#	0.025	
Sodium	mg/L	02/09/2010	N002	200	-	300	19		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	200	-	300	691		F	#		
Sulfate	mg/L	02/09/2010	N001	200	-	300	140		F	#	2.5	
Sulfate	mg/L	02/09/2010	N002	200	-	300	140		F	#	2.5	
Temperature	C	02/09/2010	N001	200	-	300	15.33		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	200	-	300	460		F	#	20	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0268 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Total Dissolved Solids	mg/L	02/09/2010	N002	200	-	300	470		F	#	20	
Turbidity	NTU	02/09/2010	N001	200	-	300	1.06		F	#		
Uranium	mg/L	02/09/2010	N001	200	-	300	0.02		F	#	0.0000018	
Uranium	mg/L	02/09/2010	N002	200	-	300	0.02		F	#	0.0000018	

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Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0272 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	159.1	-	179.1	118		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	159.1	-	179.1	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	159.1	-	179.1	0.0019		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	159.1	-	179.1	32		F	#	0.0028	
Chloride	mg/L	02/09/2010	N001	159.1	-	179.1	8.3		F	#	0.2	
Iron	mg/L	02/09/2010	N001	159.1	-	179.1	0.0014	U	F	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	159.1	-	179.1	6.7		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	159.1	-	179.1	0.0003	B	UF	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	159.1	-	179.1	0.00041	B	UF	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	159.1	-	179.1	3.6		F	#	0.02	
Oxidation Reduction Potential	mV	02/09/2010	N001	159.1	-	179.1	167.1		F	#		
pH	s.u.	02/09/2010	N001	159.1	-	179.1	7.49		F	#		
Potassium	mg/L	02/09/2010	N001	159.1	-	179.1	0.92	B	FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	159.1	-	179.1	0.0012		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	159.1	-	179.1	11		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	159.1	-	179.1	5.1		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	159.1	-	179.1	5.9		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	159.1	-	179.1	255		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0272 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	159.1	-	179.1	12		F	#	0.5	
Temperature	C	02/09/2010	N001	159.1	-	179.1	15.25		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	159.1	-	179.1	150		F	#	20	
Turbidity	NTU	02/09/2010	N001	159.1	-	179.1	1.34		F	#		
Uranium	mg/L	02/09/2010	N001	159.1	-	179.1	0.0015		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0273 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	153	-	173	149		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	153	-	173	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	153	-	173	0.0015		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	153	-	173	150		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	153	-	173	43		FQ	#	2	
Iron	mg/L	02/09/2010	N001	153	-	173	0.0068	B	UFQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	153	-	173	27		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	153	-	173	0.00052	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	153	-	173	0.021		FQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	153	-	173	51		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	153	-	173	158.4		FQ	#		
pH	s.u.	02/09/2010	N001	153	-	173	7.42		FQ	#		
Potassium	mg/L	02/09/2010	N001	153	-	173	2.2		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	153	-	173	0.014		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	153	-	173	13		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	153	-	173	5.9		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	153	-	173	28		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	153	-	173	1027		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0273 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	153	-	173	200		FQ	#	5	
Temperature	C	02/09/2010	N001	153	-	173	15.36		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	153	-	173	740		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	153	-	173	1.3		FQ	#		
Uranium	mg/L	02/09/2010	N001	153	-	173	0.045		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0274 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	149	-	169	151		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	149	-	169	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	149	-	169	0.0023		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	149	-	169	35		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	149	-	169	11		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	149	-	169	0.0014	U	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	149	-	169	6.6		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	149	-	169	0.00027	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	149	-	169	0.00076	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	149	-	169	3.4		FQ	#	0.02	
Oxidation Reduction Potential	mV	02/09/2010	N001	149	-	169	141.9		FQ	#		
pH	s.u.	02/09/2010	N001	149	-	169	7.88		FQ	#		
Potassium	mg/L	02/09/2010	N001	149	-	169	0.8	B	FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	149	-	169	0.0015		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	149	-	169	11		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	149	-	169	5.2		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	149	-	169	10		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	149	-	169	281		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0274 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	149	-	169	16		FQ	#	0.5	
Temperature	C	02/09/2010	N001	149	-	169	14.91		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	149	-	169	160		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	149	-	169	1.52		FQ	#		
Uranium	mg/L	02/09/2010	N001	149	-	169	0.0016		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0275 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	158.2	-	178.2	523		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	158.2	-	178.2	24		F	#	0.5	
Arsenic	mg/L	02/09/2010	N001	158.2	-	178.2	0.00084		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	158.2	-	178.2	700		F	#	0.028	
Chloride	mg/L	02/09/2010	N001	158.2	-	178.2	160		F	#	10	
Iron	mg/L	02/09/2010	N001	158.2	-	178.2	0.0039	B	UF	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	158.2	-	178.2	350		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	158.2	-	178.2	9.4		F	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	158.2	-	178.2	0.00051	B	UF	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	158.2	-	178.2	250		F	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	158.2	-	178.2	230.6		F	#		
pH	s.u.	02/09/2010	N001	158.2	-	178.2	6.38		F	#		
Potassium	mg/L	02/09/2010	N001	158.2	-	178.2	23		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	158.2	-	178.2	0.022		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	158.2	-	178.2	16		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	158.2	-	178.2	7.6		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	158.2	-	178.2	260		FJ	#	0.25	
Specific Conductance	umhos /cm	02/09/2010	N001	158.2	-	178.2	5709		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0275 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	158.2	-	178.2	2400		F	#	25	
Temperature	C	02/09/2010	N001	158.2	-	178.2	15.43		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	158.2	-	178.2	5300		F	#	80	
Uranium	mg/L	02/09/2010	N001	158.2	-	178.2	0.5		F	#	0.0000088	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0276 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	154.5	-	174.5	89		F	#		
Ammonia Total as N	mg/L	02/10/2010	N001	154.5	-	174.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/10/2010	N001	154.5	-	174.5	0.0025		F	#	0.000014	
Calcium	mg/L	02/10/2010	N001	154.5	-	174.5	33		F	#	0.0028	
Chloride	mg/L	02/10/2010	N001	154.5	-	174.5	12		F	#	0.2	
Iron	mg/L	02/10/2010	N001	154.5	-	174.5	0.012	B	UF	#	0.0014	
Magnesium	mg/L	02/10/2010	N001	154.5	-	174.5	6.3		F	#	0.0067	
Manganese	mg/L	02/10/2010	N001	154.5	-	174.5	0.0012	B	UF	#	0.0002	
Molybdenum	mg/L	02/10/2010	N001	154.5	-	174.5	0.00061	B	UF	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	154.5	-	174.5	3.3		F	#	0.02	
Oxidation Reduction Potential	mV	02/10/2010	N001	154.5	-	174.5	191		F	#		
pH	s.u.	02/10/2010	N001	154.5	-	174.5	7.8		F	#		
Potassium	mg/L	02/10/2010	N001	154.5	-	174.5	0.79	B	FJ	#	0.1	
Selenium	mg/L	02/10/2010	N001	154.5	-	174.5	0.0016		F	#	0.000023	
Silica	mg/L	02/10/2010	N001	154.5	-	174.5	11		F	#	0.012	
Silicon	mg/L	02/10/2010	N001	154.5	-	174.5	5.2		F	#	0.0055	
Sodium	mg/L	02/10/2010	N001	154.5	-	174.5	12		FJ	#	0.025	
Specific Conductance	umhos /cm	02/10/2010	N001	154.5	-	174.5	280		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0276 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/10/2010	N001	154.5	-	174.5	18		F	#	0.5	
Temperature	C	02/10/2010	N001	154.5	-	174.5	13.03		F	#		
Total Dissolved Solids	mg/L	02/10/2010	N001	154.5	-	174.5	170		F	#	20	
Turbidity	NTU	02/10/2010	N001	154.5	-	174.5	1.64		F	#		
Uranium	mg/L	02/10/2010	N001	154.5	-	174.5	0.0017		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0281 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	0001	70.5	-	80.5	130		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	0001	70.5	-	80.5	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	0001	70.5	-	80.5	0.0002		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	0001	70.5	-	80.5	130		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	0001	70.5	-	80.5	30		FQ	#	1	
Iron	mg/L	02/09/2010	0001	70.5	-	80.5	0.096	B	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	0001	70.5	-	80.5	22		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	0001	70.5	-	80.5	0.019		FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	0001	70.5	-	80.5	0.0012		UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	0001	70.5	-	80.5	42		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	70.5	-	80.5	43		FQ	#		
pH	s.u.	02/09/2010	N001	70.5	-	80.5	7.5		FQ	#		
Potassium	mg/L	02/09/2010	0001	70.5	-	80.5	1.6		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	0001	70.5	-	80.5	0.0021		FQ	#	0.000023	
Silica	mg/L	02/09/2010	0001	70.5	-	80.5	13		FQ	#	0.012	
Silicon	mg/L	02/09/2010	0001	70.5	-	80.5	6.3		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	0001	70.5	-	80.5	21		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	70.5	-	80.5	920		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0281 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	0001	70.5	-	80.5	170		FQ	#	2.5	
Temperature	C	02/09/2010	N001	70.5	-	80.5	14.7		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	0001	70.5	-	80.5	640		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	70.5	-	80.5	18.2		FQ	#		
Uranium	mg/L	02/09/2010	0001	70.5	-	80.5	0.0082		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0282 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	0001	74.1	-	84.1	137		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	0001	74.1	-	84.1	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	0001	74.1	-	84.1	0.00013		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	0001	74.1	-	84.1	97		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	0001	74.1	-	84.1	41		FQ	#	1	
Iron	mg/L	02/09/2010	0001	74.1	-	84.1	0.0014	U	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	0001	74.1	-	84.1	18		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	0001	74.1	-	84.1	0.00081	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	0001	74.1	-	84.1	0.0006	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	0001	74.1	-	84.1	36		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	74.1	-	84.1	47		FQ	#		
pH	s.u.	02/09/2010	N001	74.1	-	84.1	7.64		FQ	#		
Potassium	mg/L	02/09/2010	0001	74.1	-	84.1	1.7		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	0001	74.1	-	84.1	0.0015		FQ	#	0.000023	
Silica	mg/L	02/09/2010	0001	74.1	-	84.1	14		FQ	#	0.012	
Silicon	mg/L	02/09/2010	0001	74.1	-	84.1	6.3		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	0001	74.1	-	84.1	13		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	74.1	-	84.1	815		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0282 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	0001	74.1	-	84.1	70		FQ	#	2.5	
Temperature	C	02/09/2010	N001	74.1	-	84.1	13.8		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	0001	74.1	-	84.1	530		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	74.1	-	84.1	25.2		FQ	#		
Uranium	mg/L	02/09/2010	0001	74.1	-	84.1	0.004		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0286 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	93.2	-	103.2	171		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	93.2	-	103.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	93.2	-	103.2	0.00046		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	93.2	-	103.2	140		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	93.2	-	103.2	31		FQ	#	2	
Iron	mg/L	02/09/2010	N001	93.2	-	103.2	0.0014	U	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	93.2	-	103.2	34		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	93.2	-	103.2	0.072		FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	93.2	-	103.2	0.00043	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	93.2	-	103.2	37		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	93.2	-	103.2	205.8		FQ	#		
pH	s.u.	02/09/2010	N001	93.2	-	103.2	6.8		FQ	#		
Potassium	mg/L	02/09/2010	N001	93.2	-	103.2	2.5		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	93.2	-	103.2	0.0035		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	93.2	-	103.2	13		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	93.2	-	103.2	6.2		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	93.2	-	103.2	27		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	93.2	-	103.2	1223		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0286 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	93.2	-	103.2	190		FQ	#	5	
Temperature	C	02/09/2010	N001	93.2	-	103.2	14.77		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	93.2	-	103.2	730		FQ	#	20	
Uranium	mg/L	02/09/2010	N001	93.2	-	103.2	0.025		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0287 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	100.7	-	110.7	568		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	100.7	-	110.7	0.22		FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	100.7	-	110.7	0.0015		FQ	#	0.00014	
Calcium	mg/L	02/09/2010	N001	100.7	-	110.7	870		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	100.7	-	110.7	210		FQ	#	10	
Iron	mg/L	02/09/2010	N001	100.7	-	110.7	0.0072	U	FQ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	100.7	-	110.7	140		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	100.7	-	110.7	0.01	B	UFQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	100.7	-	110.7	0.081		FQ	#	0.00022	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	100.7	-	110.7	270		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	100.7	-	110.7	197.1		FQ	#		
pH	s.u.	02/09/2010	N001	100.7	-	110.7	6.56		FQ	#		
Potassium	mg/L	02/09/2010	N001	100.7	-	110.7	4.6	B	FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	100.7	-	110.7	0.099		FQ	#	0.00023	
Silica	mg/L	02/09/2010	N001	100.7	-	110.7	18		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	100.7	-	110.7	8.2		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	100.7	-	110.7	210		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	100.7	-	110.7	4925		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0287 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	100.7	-	110.7	1500		FQ	#	25	
Temperature	C	02/09/2010	N001	100.7	-	110.7	15.35		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	100.7	-	110.7	4300		FQ	#	80	
Turbidity	NTU	02/09/2010	N001	100.7	-	110.7	4.45		FQ	#		
Uranium	mg/L	02/09/2010	N001	100.7	-	110.7	0.24		FQ	#	0.0000088	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0288 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	104	-	114	261		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	104	-	114	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	104	-	114	0.00048		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	104	-	114	250		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	104	-	114	32		FQ	#	4	
Iron	mg/L	02/09/2010	N001	104	-	114	0.0072	U	FQ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	104	-	114	47		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	104	-	114	0.0029	B	UFQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	104	-	114	0.00025	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	104	-	114	57		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	104	-	114	228.5		FQ	#		
pH	s.u.	02/09/2010	N001	104	-	114	6.68		FQ	#		
Potassium	mg/L	02/09/2010	N001	104	-	114	1	B	FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	104	-	114	0.0028		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	104	-	114	16		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	104	-	114	7.5		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	104	-	114	60		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	104	-	114	1670		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0288 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	104	-	114	340		FQ	#	10	
Temperature	C	02/09/2010	N001	104	-	114	13.8		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	104	-	114	1200		FQ	#	40	
Turbidity	NTU	02/09/2010	N001	104	-	114	1.81		FQ	#		
Uranium	mg/L	02/09/2010	N001	104	-	114	0.016		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0289 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	148.3	-	158.3	268		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	148.3	-	158.3	0.1	UN	FQJ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	148.3	-	158.3	0.00094		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	148.3	-	158.3	260		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	148.3	-	158.3	33		FQ	#	4	
Iron	mg/L	02/09/2010	N001	148.3	-	158.3	0.0014	U	FQJ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	148.3	-	158.3	43		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	148.3	-	158.3	0.012		FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	148.3	-	158.3	0.00072	B	FQJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	148.3	-	158.3	65		FQ	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	148.3	-	158.3	215.6		FQ	#		
pH	s.u.	02/09/2010	N001	148.3	-	158.3	6.96		FQ	#		
Potassium	mg/L	02/09/2010	N001	148.3	-	158.3	3.8		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	148.3	-	158.3	0.0031		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	148.3	-	158.3	15		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	148.3	-	158.3	7		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	148.3	-	158.3	41		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	148.3	-	158.3	1603		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0289 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	148.3	-	158.3	360		FQ	#	10	
Temperature	C	02/09/2010	N001	148.3	-	158.3	14.67		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	148.3	-	158.3	1200		FQ	#	40	
Turbidity	NTU	02/09/2010	N001	148.3	-	158.3	0.92		FQ	#		
Uranium	mg/L	02/09/2010	N001	148.3	-	158.3	0.024		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0290 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	102.7	-	112.7	99		FQ	#		
Ammonia Total as N	mg/L	02/10/2010	N001	102.7	-	112.7	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/10/2010	N001	102.7	-	112.7	0.002		FQ	#	0.000014	
Calcium	mg/L	02/10/2010	N001	102.7	-	112.7	44		FQ	#	0.0028	
Chloride	mg/L	02/10/2010	N001	102.7	-	112.7	16		FQ	#	0.2	
Iron	mg/L	02/10/2010	N001	102.7	-	112.7	0.021	B	UFQ	#	0.0014	
Magnesium	mg/L	02/10/2010	N001	102.7	-	112.7	7.1		FQ	#	0.0067	
Manganese	mg/L	02/10/2010	N001	102.7	-	112.7	0.0016	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/10/2010	N001	102.7	-	112.7	0.00053	B	FQJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	102.7	-	112.7	7.3		FQ	#	0.05	
Oxidation Reduction Potential	mV	02/10/2010	N001	102.7	-	112.7	187.5		FQ	#		
pH	s.u.	02/10/2010	N001	102.7	-	112.7	7.87		FQ	#		
Potassium	mg/L	02/10/2010	N001	102.7	-	112.7	1.1		FQJ	#	0.1	
Selenium	mg/L	02/10/2010	N001	102.7	-	112.7	0.0018		FQ	#	0.000023	
Silica	mg/L	02/10/2010	N001	102.7	-	112.7	12		FQ	#	0.012	
Silicon	mg/L	02/10/2010	N001	102.7	-	112.7	5.8		FQ	#	0.0055	
Sodium	mg/L	02/10/2010	N001	102.7	-	112.7	13		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/10/2010	N001	102.7	-	112.7	338		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0290 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/10/2010	N001	102.7	-	112.7	31		FQ	#	0.5	
Temperature	C	02/10/2010	N001	102.7	-	112.7	14.57		FQ	#		
Total Dissolved Solids	mg/L	02/10/2010	N001	102.7	-	112.7	220		FQ	#	20	
Turbidity	NTU	02/10/2010	N001	102.7	-	112.7	5.5		FQ	#		
Uranium	mg/L	02/10/2010	N001	102.7	-	112.7	0.0014		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0691 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	55	-	95	202		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	55	-	95	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	55	-	95	0.0012		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	55	-	95	310		F	#	0.0028	
Chloride	mg/L	02/09/2010	N001	55	-	95	58		F	#	4	
Iron	mg/L	02/09/2010	N001	55	-	95	0.064	B	F	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	55	-	95	46		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	55	-	95	0.25		F	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	55	-	95	0.0003	B	UF	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	55	-	95	65		F	#	0.5	
Oxidation Reduction Potential	mV	02/09/2010	N001	55	-	95	60		F	#		
pH	s.u.	02/09/2010	N001	55	-	95	7.2		F	#		
Potassium	mg/L	02/09/2010	N001	55	-	95	3.9		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	55	-	95	0.0033		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	55	-	95	15		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	55	-	95	7.1		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	55	-	95	39		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	55	-	95	1787		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0691 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	55	-	95	530		F	#	10	
Temperature	C	02/09/2010	N001	55	-	95	15		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	55	-	95	1300		F	#	40	
Turbidity	NTU	02/09/2010	N001	55	-	95	5.69		F	#		
Uranium	mg/L	02/09/2010	N001	55	-	95	0.047		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0906 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	44	-	64	1131		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	44	-	64	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	44	-	64	0.00096		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	44	-	64	960		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	44	-	64	130		FQ	#	10	
Iron	mg/L	02/09/2010	N001	44	-	64	0.0072	U	FQ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	44	-	64	360		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	44	-	64	0.087		FQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	44	-	64	0.0014		FQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	44	-	64	390		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	44	-	64	201.9		FQ	#		
pH	s.u.	02/09/2010	N001	44	-	64	6.31		FQ	#		
Potassium	mg/L	02/09/2010	N001	44	-	64	5.9		FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	44	-	64	0.021		FQ	#	0.00023	
Silica	mg/L	02/09/2010	N001	44	-	64	16		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	44	-	64	7.5		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	44	-	64	290		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	44	-	64	6722		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0906 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Lab Qualifiers	Data QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	44	-	64	1900		FQ #	25	
Temperature	C	02/09/2010	N001	44	-	64	16.29		FQ #		
Total Dissolved Solids	mg/L	02/09/2010	N001	44	-	64	6200		FQ #	80	
Turbidity	NTU	02/09/2010	N001	44	-	64	3.1		FQ #		
Uranium	mg/L	02/09/2010	N001	44	-	64	0.79		FQ #	0.000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0908 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	52	-	67	374		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	52	-	67	58		FQ	#	2	
Arsenic	mg/L	02/09/2010	N001	52	-	67	0.00083		FQ	#	0.000028	
Calcium	mg/L	02/09/2010	N001	52	-	67	610		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	52	-	67	79		FQ	#	10	
Iron	mg/L	02/09/2010	N001	52	-	67	0.0072	U	FQJ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	52	-	67	460		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	52	-	67	0.15		FQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	52	-	67	0.001		FQJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	52	-	67	220		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	52	-	67	84.2		FQ	#		
pH	s.u.	02/09/2010	N001	52	-	67	6.62		FQ	#		
Potassium	mg/L	02/09/2010	N001	52	-	67	21		FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	52	-	67	0.022		FQ	#	0.000047	
Silica	mg/L	02/09/2010	N001	52	-	67	20		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	52	-	67	9.5		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	52	-	67	290		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	52	-	67	6068		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0908 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Lab Qualifiers	Data QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	52	-	67	3000		FQ #	25	
Temperature	C	02/09/2010	N001	52	-	67	11.03		FQ #		
Total Dissolved Solids	mg/L	02/09/2010	N001	52	-	67	5700		FQ #	80	
Turbidity	NTU	02/09/2010	N001	52	-	67	9.73		FQ #		
Uranium	mg/L	02/09/2010	N001	52	-	67	0.089		FQ #	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0909 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	0001	65	-	80	132		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	0001	65	-	80	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	0001	65	-	80	0.0012		FQ	#	0.000069	
Calcium	mg/L	02/09/2010	0001	65	-	80	480		FQ	#	0.028	
Chloride	mg/L	02/09/2010	0001	65	-	80	110		FQ	#	4	
Iron	mg/L	02/09/2010	0001	65	-	80	0.0031	B	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	0001	65	-	80	87		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	0001	65	-	80	0.00041	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	0001	65	-	80	0.00023	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	0001	65	-	80	170		FQ	#	1	
Oxidation Reduction Potential	mV	02/09/2010	N001	65	-	80	64.1		FQ	#		
pH	s.u.	02/09/2010	N001	65	-	80	7.41		FQ	#		
Potassium	mg/L	02/09/2010	0001	65	-	80	5		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	0001	65	-	80	0.051		FQ	#	0.00012	
Silica	mg/L	02/09/2010	0001	65	-	80	14		FQ	#	0.012	
Silicon	mg/L	02/09/2010	0001	65	-	80	6.5		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	0001	65	-	80	89		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	65	-	80	3107		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0909 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	0001	65	-	80	900		FQ	#	10	
Temperature	C	02/09/2010	N001	65	-	80	13.31		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	0001	65	-	80	2500		FQ	#	40	
Turbidity	NTU	02/09/2010	N001	65	-	80	13.5		FQ	#		
Uranium	mg/L	02/09/2010	0001	65	-	80	0.051		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0929 WELL No Log Information.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	48.2	-	88.2	115		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	48.2	-	88.2	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	48.2	-	88.2	0.0015		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	48.2	-	88.2	48		FQ	#	0.0028	
Chloride	mg/L	02/09/2010	N001	48.2	-	88.2	17		FQ	#	0.2	
Iron	mg/L	02/09/2010	N001	48.2	-	88.2	0.016	B	UFQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	48.2	-	88.2	8		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	48.2	-	88.2	0.0015	B	UFQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	48.2	-	88.2	0.00043	B	FQJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	48.2	-	88.2	18		FQ	#	0.1	
Oxidation Reduction Potential	mV	02/09/2010	N001	48.2	-	88.2	50		FQ	#		
pH	s.u.	02/09/2010	N001	48.2	-	88.2	7.84		FQ	#		
Potassium	mg/L	02/09/2010	N001	48.2	-	88.2	1.2		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	48.2	-	88.2	0.0021		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	48.2	-	88.2	12		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	48.2	-	88.2	5.4		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	48.2	-	88.2	11	E	FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	48.2	-	88.2	393		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0929 WELL No Log Information.

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	48.2	-	88.2	25		FQ	#	0.5	
Temperature	C	02/09/2010	N001	48.2	-	88.2	16		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	48.2	-	88.2	250		FQ	#	20	
Turbidity	NTU	02/09/2010	N001	48.2	-	88.2	4.85		FQ	#		
Uranium	mg/L	02/09/2010	N001	48.2	-	88.2	0.0015		FQ	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0930 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	20	-	50	102		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	20	-	50	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	20	-	50	0.0015	E	FJ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	20	-	50	55		F	#	0.0028	
Chloride	mg/L	02/09/2010	N001	20	-	50	19		F	#	0.2	
Iron	mg/L	02/09/2010	N001	20	-	50	0.0014	U	FJ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	20	-	50	12		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	20	-	50	0.00046	B	UF	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	20	-	50	0.00062	B	FJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	20	-	50	13		F	#	0.1	
Oxidation Reduction Potential	mV	02/09/2010	N001	20	-	50	50		F	#		
pH	s.u.	02/09/2010	N001	20	-	50	7.86		F	#		
Potassium	mg/L	02/09/2010	N001	20	-	50	1.4		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	20	-	50	0.0016	E	F	#	0.000023	
Silica	mg/L	02/09/2010	N001	20	-	50	13		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	20	-	50	5.9		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	20	-	50	11		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	20	-	50	453		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0930 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	20	-	50	59		F	#	0.5	
Temperature	C	02/09/2010	N001	20	-	50	14.7		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	20	-	50	280		F	#	20	
Turbidity	NTU	02/09/2010	N001	20	-	50	2.33		F	#		
Uranium	mg/L	02/09/2010	N001	20	-	50	0.0028		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0932 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	112.5	-	132.5	102		F	#		
Ammonia Total as N	mg/L	02/09/2010	N001	112.5	-	132.5	0.1	U	F	#	0.1	
Arsenic	mg/L	02/09/2010	N001	112.5	-	132.5	0.0014		F	#	0.000014	
Calcium	mg/L	02/09/2010	N001	112.5	-	132.5	42		F	#	0.0028	
Chloride	mg/L	02/09/2010	N001	112.5	-	132.5	13		F	#	0.2	
Iron	mg/L	02/09/2010	N001	112.5	-	132.5	0.0028	B	F	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	112.5	-	132.5	8.4		F	#	0.0067	
Manganese	mg/L	02/09/2010	N001	112.5	-	132.5	0.0002	U	F	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	112.5	-	132.5	0.00063	B	FJ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	112.5	-	132.5	8.5		F	#	0.05	
Oxidation Reduction Potential	mV	02/09/2010	N001	112.5	-	132.5	51.8		F	#		
pH	s.u.	02/09/2010	N001	112.5	-	132.5	7.94		F	#		
Potassium	mg/L	02/09/2010	N001	112.5	-	132.5	1.3		FJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	112.5	-	132.5	0.0015		F	#	0.000023	
Silica	mg/L	02/09/2010	N001	112.5	-	132.5	11		F	#	0.012	
Silicon	mg/L	02/09/2010	N001	112.5	-	132.5	5.3		F	#	0.0055	
Sodium	mg/L	02/09/2010	N001	112.5	-	132.5	12		FJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	112.5	-	132.5	347		F	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0932 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	112.5	-	132.5	31		F	#	0.5	
Temperature	C	02/09/2010	N001	112.5	-	132.5	15.41		F	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	112.5	-	132.5	220		F	#	20	
Turbidity	NTU	02/09/2010	N001	112.5	-	132.5	2.1		F	#		
Uranium	mg/L	02/09/2010	N001	112.5	-	132.5	0.0016		F	#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0934 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	45	-	90	730		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	45	-	90	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	45	-	90	0.00062		FQ	#	0.000014	
Calcium	mg/L	02/09/2010	N001	45	-	90	710		FQ	#	0.014	
Chloride	mg/L	02/09/2010	N001	45	-	90	260		FQ	#	10	
Iron	mg/L	02/09/2010	N001	45	-	90	0.0072	U	FQJ	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	45	-	90	850		FQ	#	0.033	
Manganese	mg/L	02/09/2010	N001	45	-	90	0.0071	B	FQ	#	0.001	
Molybdenum	mg/L	02/09/2010	N001	45	-	90	0.00031	B	UFQ	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	45	-	90	420		FQ	#	5	
Oxidation Reduction Potential	mV	02/09/2010	N001	45	-	90	66		FQ	#		
pH	s.u.	02/09/2010	N001	45	-	90	6.68		FQ	#		
Potassium	mg/L	02/09/2010	N001	45	-	90	6.3		FQJ	#	0.51	
Selenium	mg/L	02/09/2010	N001	45	-	90	0.0099		FQ	#	0.000023	
Silica	mg/L	02/09/2010	N001	45	-	90	18		FQ	#	0.059	
Silicon	mg/L	02/09/2010	N001	45	-	90	8.3		FQ	#	0.028	
Sodium	mg/L	02/09/2010	N001	45	-	90	140		FQJ	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	45	-	90	7470		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0934 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	45	-	90	3200		FQ	#	25	
Temperature	C	02/09/2010	N001	45	-	90	15.7		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	45	-	90	7500		FQ	#	80	
Turbidity	NTU	02/09/2010	N001	45	-	90	6.83		FQ	#		
Uranium	mg/L	02/09/2010	N001	45	-	90	0.19		FQ	#	0.0000035	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0935 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	50	-	90	770			#		
Ammonia Total as N	mg/L	02/09/2010	N001	50	-	90	69			#	2	
Arsenic	mg/L	02/09/2010	N001	50	-	90	0.00078			#	0.000028	
Calcium	mg/L	02/09/2010	N001	50	-	90	650			#	0.014	
Chloride	mg/L	02/09/2010	N001	50	-	90	79			#	10	
Iron	mg/L	02/09/2010	N001	50	-	90	0.0072	U	J	#	0.0072	
Magnesium	mg/L	02/09/2010	N001	50	-	90	310			#	0.033	
Manganese	mg/L	02/09/2010	N001	50	-	90	0.45			#	0.001	
Molybdenum	mg/L	02/09/2010	N001	50	-	90	0.000099	B	U	#	0.000044	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	50	-	90	230			#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	50	-	90	86.6			#		
pH	s.u.	02/09/2010	N001	50	-	90	6.6			#		
Potassium	mg/L	02/09/2010	N001	50	-	90	17		J	#	0.51	
Selenium	mg/L	02/09/2010	N001	50	-	90	0.018			#	0.000047	
Silica	mg/L	02/09/2010	N001	50	-	90	20			#	0.059	
Silicon	mg/L	02/09/2010	N001	50	-	90	9.5			#	0.028	
Sodium	mg/L	02/09/2010	N001	50	-	90	290		J	#	0.12	
Specific Conductance	umhos /cm	02/09/2010	N001	50	-	90	5765			#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0935 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	50	-	90	2600			#	25	
Temperature	C	02/09/2010	N001	50	-	90	9.25			#		
Total Dissolved Solids	mg/L	02/09/2010	N001	50	-	90	5200			#	80	
Turbidity	NTU	02/09/2010	N001	50	-	90	9			#		
Uranium	mg/L	02/09/2010	N001	50	-	90	0.1			#	0.0000018	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0938 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	40	-	95	608			#		
Ammonia Total as N	mg/L	02/10/2010	N001	40	-	95	0.1	U		#	0.1	
Arsenic	mg/L	02/10/2010	N001	40	-	95	0.0013			#	0.000028	
Calcium	mg/L	02/10/2010	N001	40	-	95	560			#	0.028	
Chloride	mg/L	02/10/2010	N001	40	-	95	90			#	10	
Iron	mg/L	02/10/2010	N001	40	-	95	0.0014	U	J	#	0.0014	
Magnesium	mg/L	02/10/2010	N001	40	-	95	190			#	0.0067	
Manganese	mg/L	02/10/2010	N001	40	-	95	0.065			#	0.0002	
Molybdenum	mg/L	02/10/2010	N001	40	-	95	0.042			#	0.00022	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	40	-	95	180			#	1	
Oxidation Reduction Potential	mV	02/10/2010	N001	40	-	95	285			#		
pH	s.u.	02/10/2010	N001	40	-	95	6.82			#		
Potassium	mg/L	02/10/2010	N001	40	-	95	7.7		J	#	0.1	
Selenium	mg/L	02/10/2010	N001	40	-	95	0.029			#	0.000047	
Silica	mg/L	02/10/2010	N001	40	-	95	15			#	0.012	
Silicon	mg/L	02/10/2010	N001	40	-	95	7.1			#	0.0055	
Sodium	mg/L	02/10/2010	N001	40	-	95	140		J	#	0.025	
Specific Conductance	umhos /cm	02/10/2010	N001	40	-	95	4190			#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0938 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/10/2010	N001	40	-	95	1200			#	25	
Temperature	C	02/10/2010	N001	40	-	95	12.6			#		
Total Dissolved Solids	mg/L	02/10/2010	N001	40	-	95	3400			#	80	
Turbidity	NTU	02/10/2010	N001	40	-	95	1.84			#		
Uranium	mg/L	02/10/2010	N001	40	-	95	0.36			#	0.0000088	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0941 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/09/2010	N001	45	-	65	492		FQ	#		
Ammonia Total as N	mg/L	02/09/2010	N001	45	-	65	0.1	U	FQ	#	0.1	
Arsenic	mg/L	02/09/2010	N001	45	-	65	0.0017		FQ	#	0.00014	
Calcium	mg/L	02/09/2010	N001	45	-	65	810		FQ	#	0.028	
Chloride	mg/L	02/09/2010	N001	45	-	65	200		FQ	#	10	
Iron	mg/L	02/09/2010	N001	45	-	65	0.089	B	FQ	#	0.0014	
Magnesium	mg/L	02/09/2010	N001	45	-	65	140		FQ	#	0.0067	
Manganese	mg/L	02/09/2010	N001	45	-	65	0.0098		FQ	#	0.0002	
Molybdenum	mg/L	02/09/2010	N001	45	-	65	0.018		FQ	#	0.000088	
Nitrate + Nitrite as Nitrogen	mg/L	02/09/2010	N001	45	-	65	260		FQ	#	2	
Oxidation Reduction Potential	mV	02/09/2010	N001	45	-	65	192.3		FQ	#		
pH	s.u.	02/09/2010	N001	45	-	65	6.68		FQ	#		
Potassium	mg/L	02/09/2010	N001	45	-	65	7.5		FQJ	#	0.1	
Selenium	mg/L	02/09/2010	N001	45	-	65	0.098		FQ	#	0.00023	
Silica	mg/L	02/09/2010	N001	45	-	65	16		FQ	#	0.012	
Silicon	mg/L	02/09/2010	N001	45	-	65	7.7		FQ	#	0.0055	
Sodium	mg/L	02/09/2010	N001	45	-	65	160		FQJ	#	0.025	
Specific Conductance	umhos /cm	02/09/2010	N001	45	-	65	5093		FQ	#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0941 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/09/2010	N001	45	-	65	1400		FQ	#	25	
Temperature	C	02/09/2010	N001	45	-	65	15.5		FQ	#		
Total Dissolved Solids	mg/L	02/09/2010	N001	45	-	65	4100		FQ	#	80	
Turbidity	NTU	02/09/2010	N001	45	-	65	3.93		FQ	#		
Uranium	mg/L	02/09/2010	N001	45	-	65	0.18		FQ	#	0.0000035	

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0942 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	54	-	74	705			#		
Ammonia Total as N	mg/L	02/10/2010	N001	54	-	74	120			#	5	
Arsenic	mg/L	02/10/2010	N001	54	-	74	0.0032			#	0.000069	
Calcium	mg/L	02/10/2010	N001	54	-	74	570			#	0.014	
Chloride	mg/L	02/10/2010	N001	54	-	74	190			#	10	
Iron	mg/L	02/10/2010	N001	54	-	74	0.0072	U	J	#	0.0072	
Magnesium	mg/L	02/10/2010	N001	54	-	74	420			#	0.033	
Manganese	mg/L	02/10/2010	N001	54	-	74	4.5			#	0.001	
Molybdenum	mg/L	02/10/2010	N001	54	-	74	0.0079			#	0.00022	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	54	-	74	190			#	1	
Oxidation Reduction Potential	mV	02/10/2010	N001	54	-	74	298			#		
pH	s.u.	02/10/2010	N001	54	-	74	6.47			#		
Potassium	mg/L	02/10/2010	N001	54	-	74	25		J	#	0.51	
Selenium	mg/L	02/10/2010	N001	54	-	74	0.047			#	0.00012	
Silica	mg/L	02/10/2010	N001	54	-	74	18			#	0.059	
Silicon	mg/L	02/10/2010	N001	54	-	74	8.4			#	0.028	
Sodium	mg/L	02/10/2010	N001	54	-	74	470		J	#	0.12	
Specific Conductance	umhos /cm	02/10/2010	N001	54	-	74	6840			#		

Ground Water Quality Data by Location (USEE100) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 0942 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Sulfate	mg/L	02/10/2010	N001	54	-	74	3400			#	25	
Temperature	C	02/10/2010	N001	54	-	74	8.4			#		
Total Dissolved Solids	mg/L	02/10/2010	N001	54	-	74	6200			#	80	
Turbidity	NTU	02/10/2010	N001	54	-	74	1.22			#		
Uranium	mg/L	02/10/2010	N001	54	-	74	0.5			#	0.0000088	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

Surface Water Quality Data

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Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	0			#		
Arsenic	mg/L	02/10/2010	N001	2.5			#	0.0069	
Calcium	mg/L	02/10/2010	N001	300			#	0.28	
Chloride	mg/L	02/10/2010	N001	160000			#	4000	
Iron	mg/L	02/10/2010	N001	5.5	B		#	0.14	
Magnesium	mg/L	02/10/2010	N001	27000			#	0.67	
Manganese	mg/L	02/10/2010	N001	410			#	0.02	
Molybdenum	mg/L	02/10/2010	N001	3.2			#	0.0022	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	17000			#	100	
Oxidation Reduction Potential	mV	02/10/2010	N001	565			#		
pH	s.u.	02/10/2010	N001	1.3			#		
Potassium	mg/L	02/10/2010	N001	2300		J	#	10	
Selenium	mg/L	02/10/2010	N001	2.7			#	0.012	
Sodium	mg/L	02/10/2010	N001	63000		J	#	25	
Specific Conductance	umhos/cm	02/10/2010	N001	180300			#		
Sulfate	mg/L	02/10/2010	N001	37000			#	1000	
Temperature	C	02/10/2010	N001	14.5			#		
Total Dissolved Solids	mg/L	02/10/2010	N001	370000			#	8000	

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 1569 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Turbidity	NTU	02/10/2010	N001	9.33			#		
Uranium	mg/L	02/10/2010	N001	3.2			#	0.000088	

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 1570 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	02/10/2010	N001	0			#		
Arsenic	mg/L	02/10/2010	N001	3.4			#	0.0069	
Calcium	mg/L	02/10/2010	N001	190			#	0.28	
Chloride	mg/L	02/10/2010	N001	160000			#	4000	
Iron	mg/L	02/10/2010	N001	11			#	0.14	
Magnesium	mg/L	02/10/2010	N001	35000			#	0.67	
Manganese	mg/L	02/10/2010	N001	520			#	0.02	
Molybdenum	mg/L	02/10/2010	N001	4.2			#	0.0044	
Nitrate + Nitrite as Nitrogen	mg/L	02/10/2010	N001	25000			#	200	
Oxidation Reduction Potential	mV	02/10/2010	N001	512			#		
pH	s.u.	02/10/2010	N001	1.1			#		
Potassium	mg/L	02/10/2010	N001	2600		J	#	10	
Selenium	mg/L	02/10/2010	N001	3.9			#	0.012	
Sodium	mg/L	02/10/2010	N001	59000		J	#	25	
Specific Conductance	umhos/cm	02/10/2010	N001	145870			#		
Sulfate	mg/L	02/10/2010	N001	67000			#	1000	
Temperature	C	02/10/2010	N001	14.4			#		
Total Dissolved Solids	mg/L	02/10/2010	N001	360000			#	8000	

Surface Water Quality Data by Location (USEE102) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010
Location: 1570 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Turbidity	NTU	02/10/2010	N001	4.21			#		
Uranium	mg/L	02/10/2010	N001	8.3			#	0.00018	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
000I		5064.56	02/09/2010	08:04:00	61.55	5003.01	
000M		5063.7	02/09/2010	08:06:00	61.65	5002.05	
0251		5061.25	02/09/2010	08:45:09	107.39	4953.86	
0252		5061.3	02/09/2010	09:00:25	78.19	4983.11	
0258		5055.56	02/09/2010	12:05:37	105.66	4949.9	
0261		5069.69	02/09/2010	08:49:00	130.72	4938.97	
0262		5061.99	02/09/2010	11:10:22	65	4996.99	
0263		5063.1	02/09/2010	11:25:22	69.11	4993.99	
0264		5062.19	02/09/2010	11:45:46	108.22	4953.97	
0265		5053.88	02/09/2010	15:20:05	79.74	4974.14	
0266		5053.32	02/09/2010	15:45:34	110.64	4942.68	
0267		5053.4	02/09/2010	14:05:54	61.94	4991.46	
0268		5067.24	02/09/2010	16:30:00	120.79	4946.45	
0272		5064.24	02/09/2010	11:40:40	104.94	4959.3	
0273		5064.74	02/09/2010	13:55:25	118.23	4946.51	
0274		5064.42	02/09/2010	15:20:35	115.24	4949.18	
0275		5062.64	02/09/2010	17:05:33	113.97	4948.67	
0276		5067.55	02/10/2010	09:20:12	126.89	4940.66	
0277		4982.35	02/09/2010	15:59:00	43.42	4938.93	
0278		4956.09	02/09/2010	16:13:00	26.12	4929.97	
0279		4951.04	02/10/2010	09:59:00	25.82	4925.22	
0280		4951.52	02/10/2010	10:01:00	27.62	4923.9	
0281		5051	02/09/2010	14:35:43	70.57	4980.43	
0282		5060.04	02/09/2010	15:00:56	84.35	4975.69	
0283		5057.97	02/09/2010	15:54:38			D
0284		5098.72	02/09/2010	08:15:00	29.37	5069.35	
0285		5096.47	02/09/2010	08:34:00			D
0286		5063.99	02/09/2010	10:40:06	84.36	4979.63	
0287		5065.65	02/09/2010	14:45:13	68.81	4996.84	

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0288		5072.54	02/09/2010	09:35:38	59.58	5012.96	
0289		5070.82	02/09/2010	10:00:22	61.38	5009.44	
0290		5068.91	02/10/2010	09:45:31	102.92	4965.99	
0685		5072.44	02/09/2010	08:21:00	52.21	5020.23	
0686		5107.97	02/09/2010	08:07:00	56.44	5051.53	
0687		5109.82	02/09/2010	08:45:00	47.99	5061.83	
0688		5106.98	02/09/2010	08:37:00			B
0688		5106.98	02/09/2010	08:44:00	57.67	5049.31	
0689		4981.63	02/09/2010	16:03:00	42.63	4939	
0690		4950.87	02/10/2010	10:00:00	26.61	4924.26	
0691		4979.41	02/09/2010	17:05:41	45.25	4934.16	
0692		4953.31	02/10/2010	10:04:00	28.85	4924.46	
0695		4976.83	02/09/2010	17:14:00	50.87	4925.96	
0902	N	4737.42	02/09/2010	17:10:00	30.12	4707.3	
0903	D	4983.33	02/09/2010	16:00:00	36.91	4946.42	
0904	N	4904.11	02/09/2010	17:11:00	22.85	4881.26	
0906	O	5062.1	02/09/2010	13:25:40	58.42	5003.68	
0908	D	5058.14	02/09/2010	09:30:44	63.51	4994.63	
0909	D	5057.17	02/09/2010	10:45:04			E
0920	D	4982.97	02/09/2010	15:58:00	44.91	4938.06	
0921	D	4979.08	02/09/2010	16:02:00	45.03	4934.05	
0929	D	5060.82	02/09/2010	13:35:59	63.91	4996.91	
0930	D	4954.96	02/09/2010	16:45:05	21.86	4933.1	
0932	D	5057.32	02/09/2010	10:25:41	110.61	4946.71	
0934	D	5059.73	02/09/2010	13:15:48	77.59	4982.14	
0936	D	5062.3	02/10/2010	09:23:15			D
0938	D	5063.64	02/10/2010	09:35:56			F
0941	D	5065.97	02/09/2010	14:25:05	65.89	5000.08	
0942	D	5066.45	02/10/2010	09:45:31			F

STATIC WATER LEVELS (USEE700) FOR SITE TUB01, Tuba City Disposal Site
REPORT DATE: 3/19/2010

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0943	U	5098.05	02/09/2010	08:29:00	48.42	5049.63	
0945	U	5140.49	02/10/2010	10:25:00	86.24	5054.25	
0946	C	5100.5	02/09/2010	08:19:00	37.05	5063.45	
1003		4976.58	02/09/2010	17:12:00	42.45	4934.13	
1004		4961.55	02/10/2010	09:54:00	27.4	4934.15	
1005		4947.83	02/10/2010	09:56:00	22.51	4925.32	
1006		4947.08	02/09/2010	16:17:00	19.3	4927.78	
1007		4958.56	02/09/2010	16:10:00	24.77	4933.79	
1008		4980.52	02/09/2010	16:07:00	40.8	4939.72	

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

WATER LEVEL FLAGS: B Water level is below the top of the pump
D Dry
E Water elevation may not be comparable to other water elevations at this site
F Flowing

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Time-Concentration Graphs

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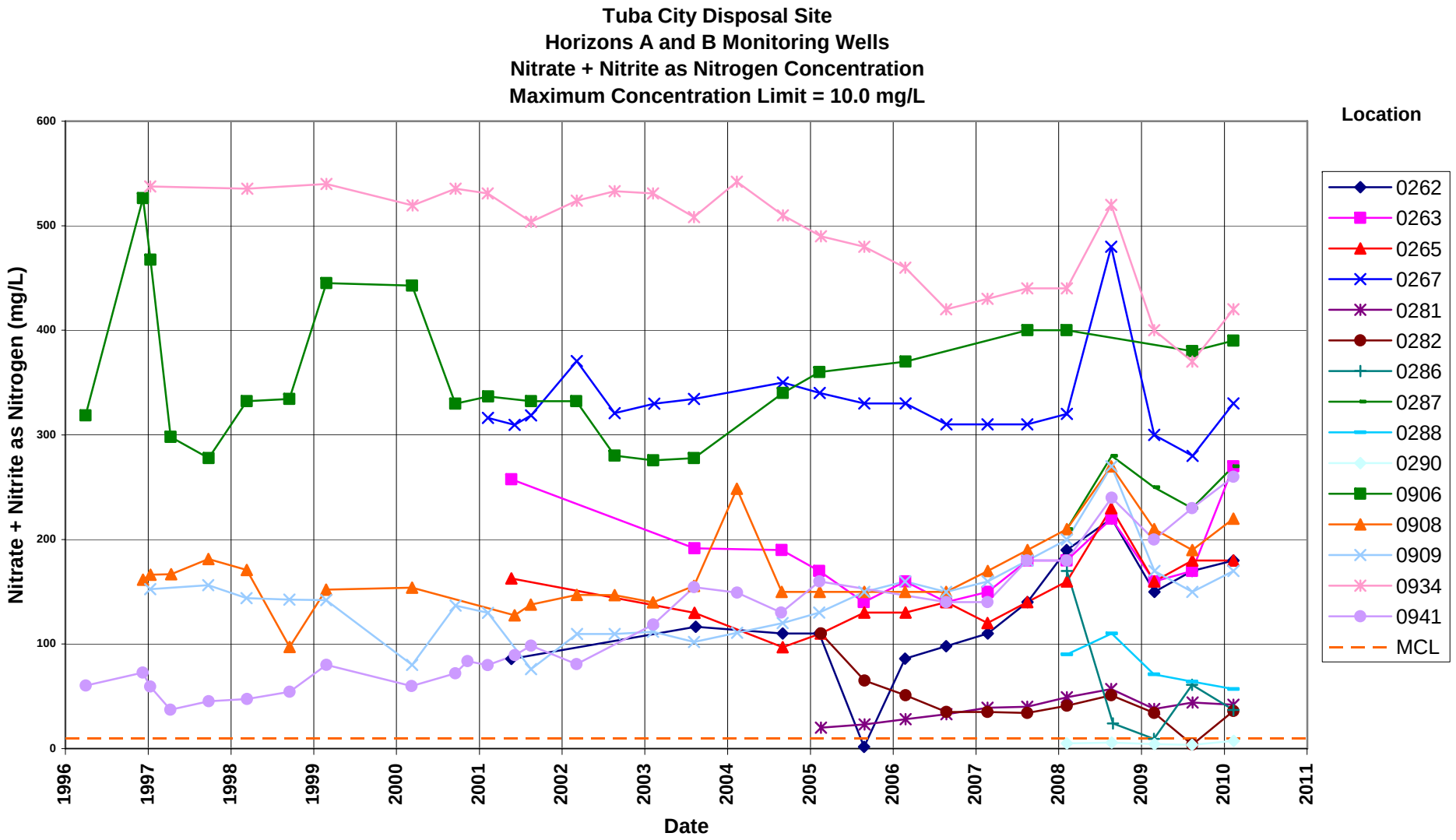
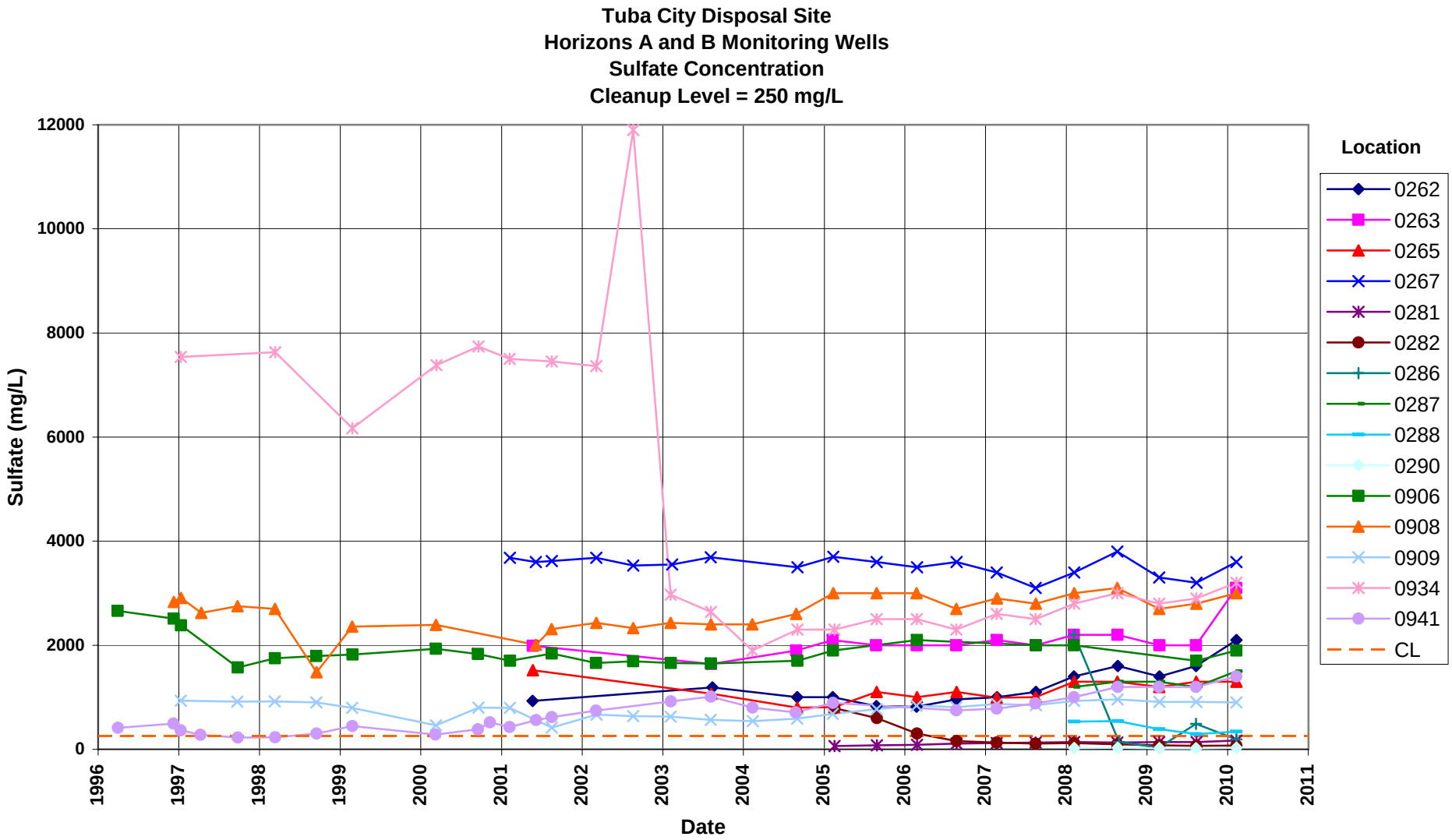
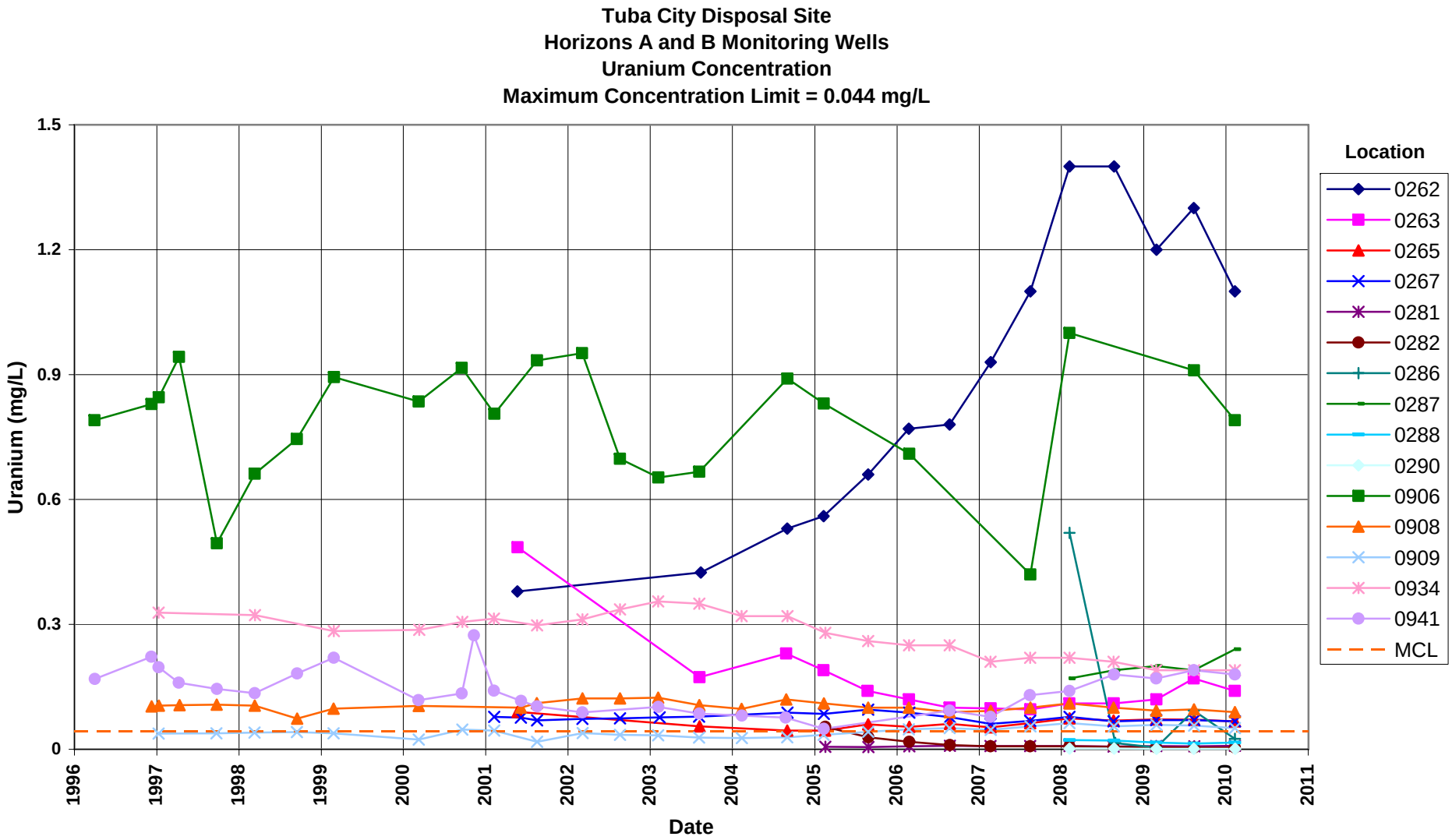
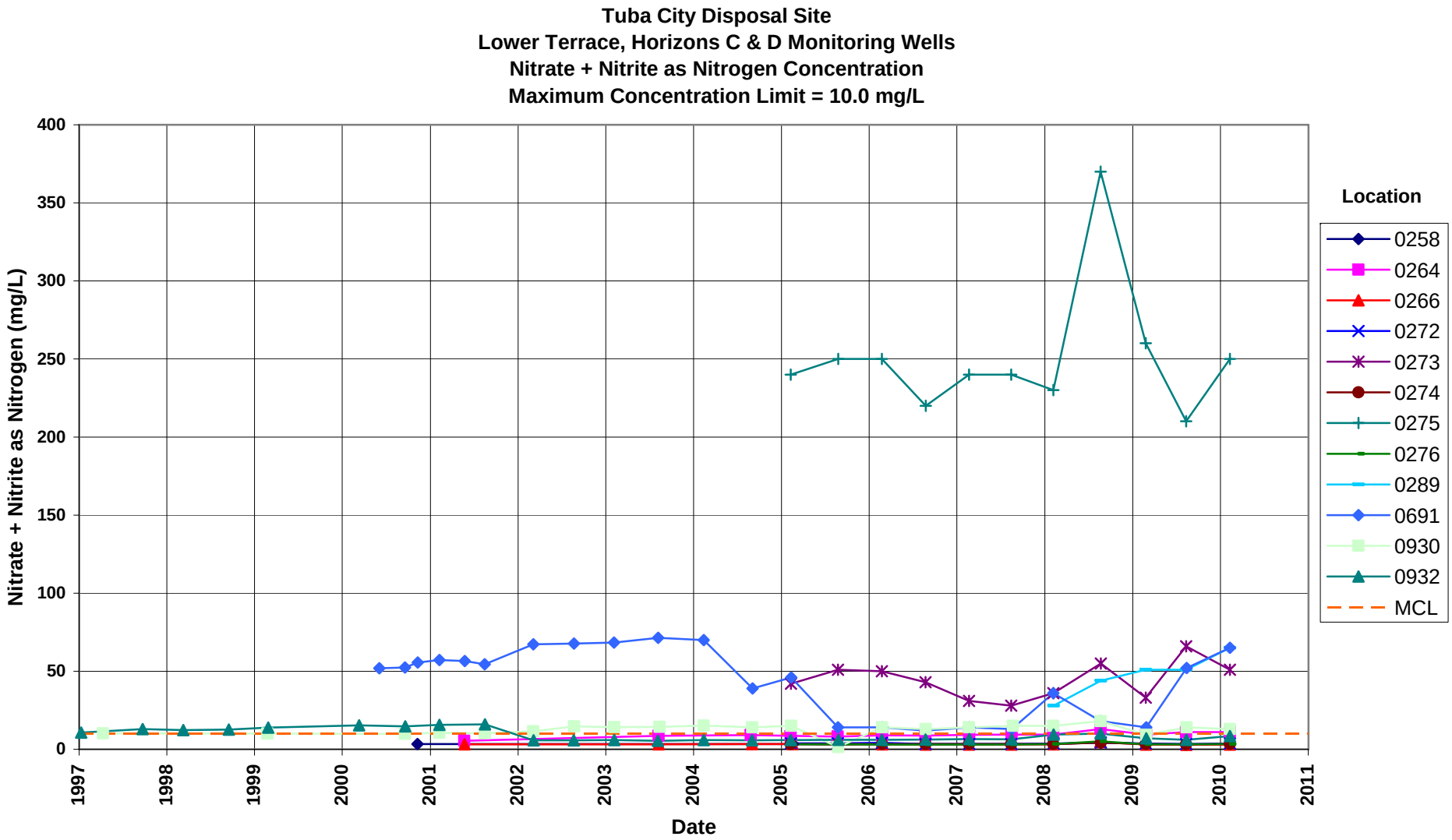
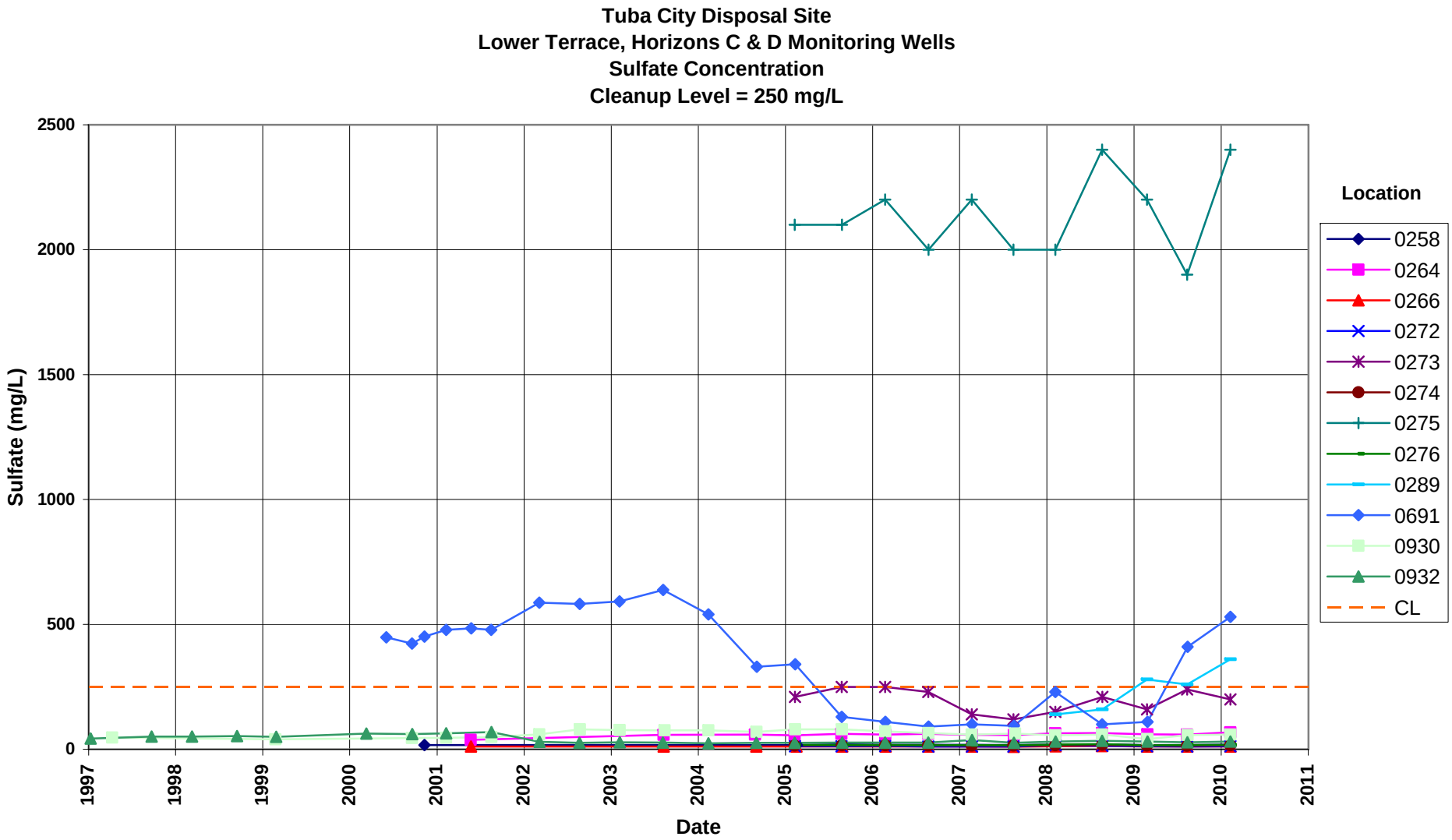
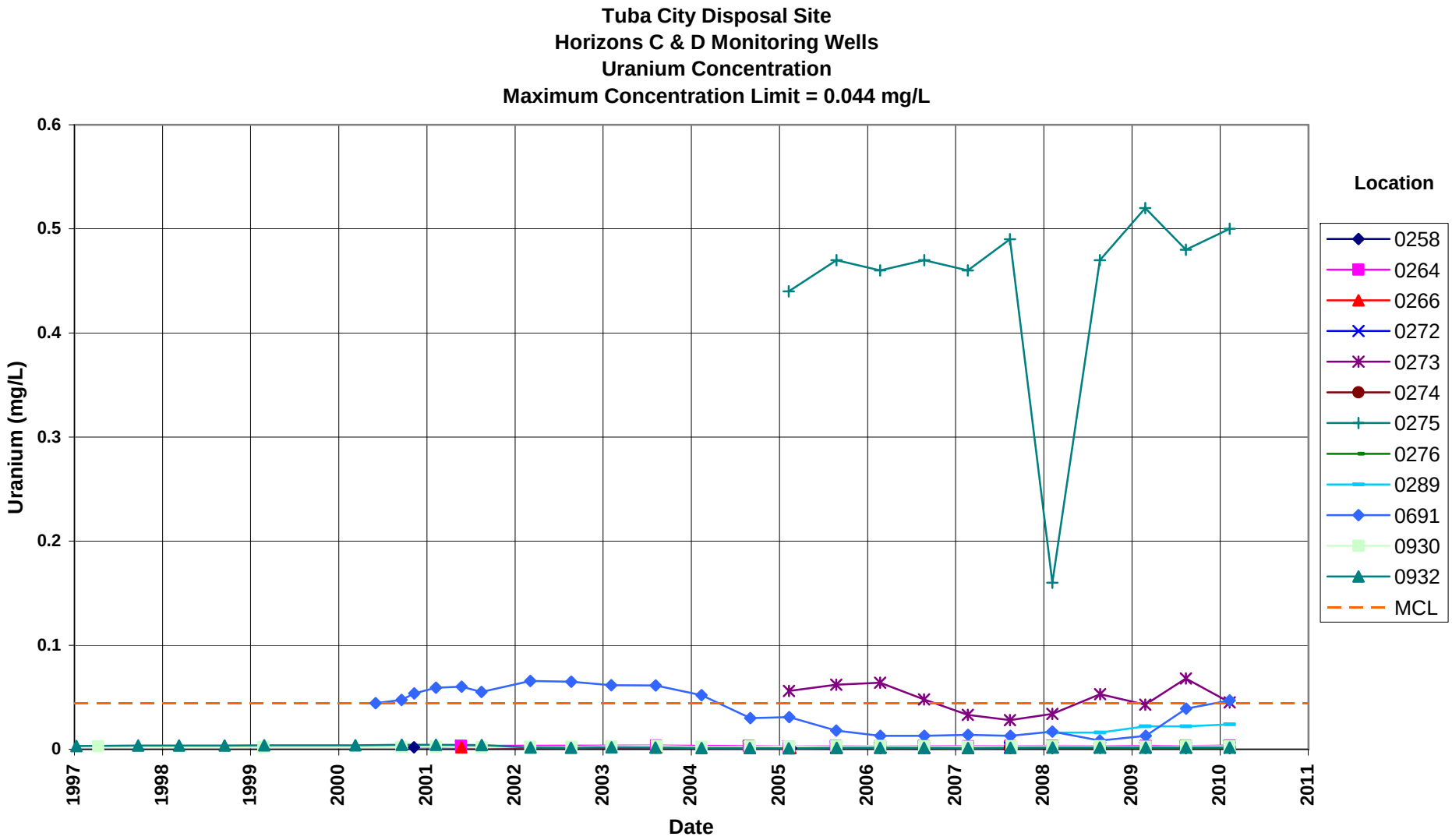

Tuba City Disposal Site
Horizons A and B Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit = 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
Date
Location
0262
0263
0265
0267
0281
0282
0286
0287
0288
0290
0906
0908
0909
0934
0941
MCL
0
100
200
300
400
500
600
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011

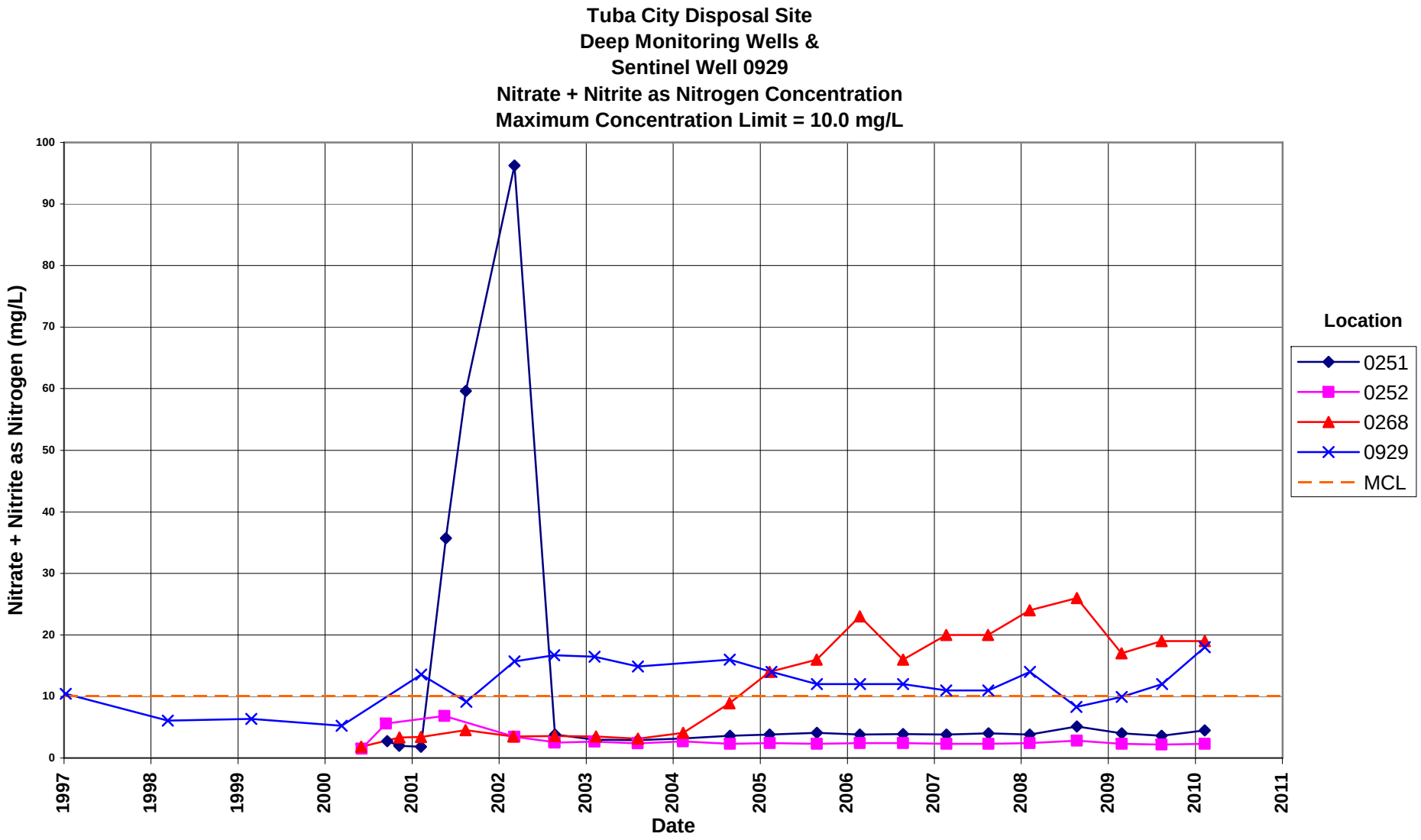

Tuba City Disposal Site
Horizons A and B Monitoring Wells
Sulfate Concentration
Cleanup Level = 250 mg/L
Sulfate (mg/L)
12000
10000
8000
6000
4000
2000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0262
0263
0265
0267
0281
0282
0286
0287
0288
0290
0906
0908
0909
0934
0941
CL

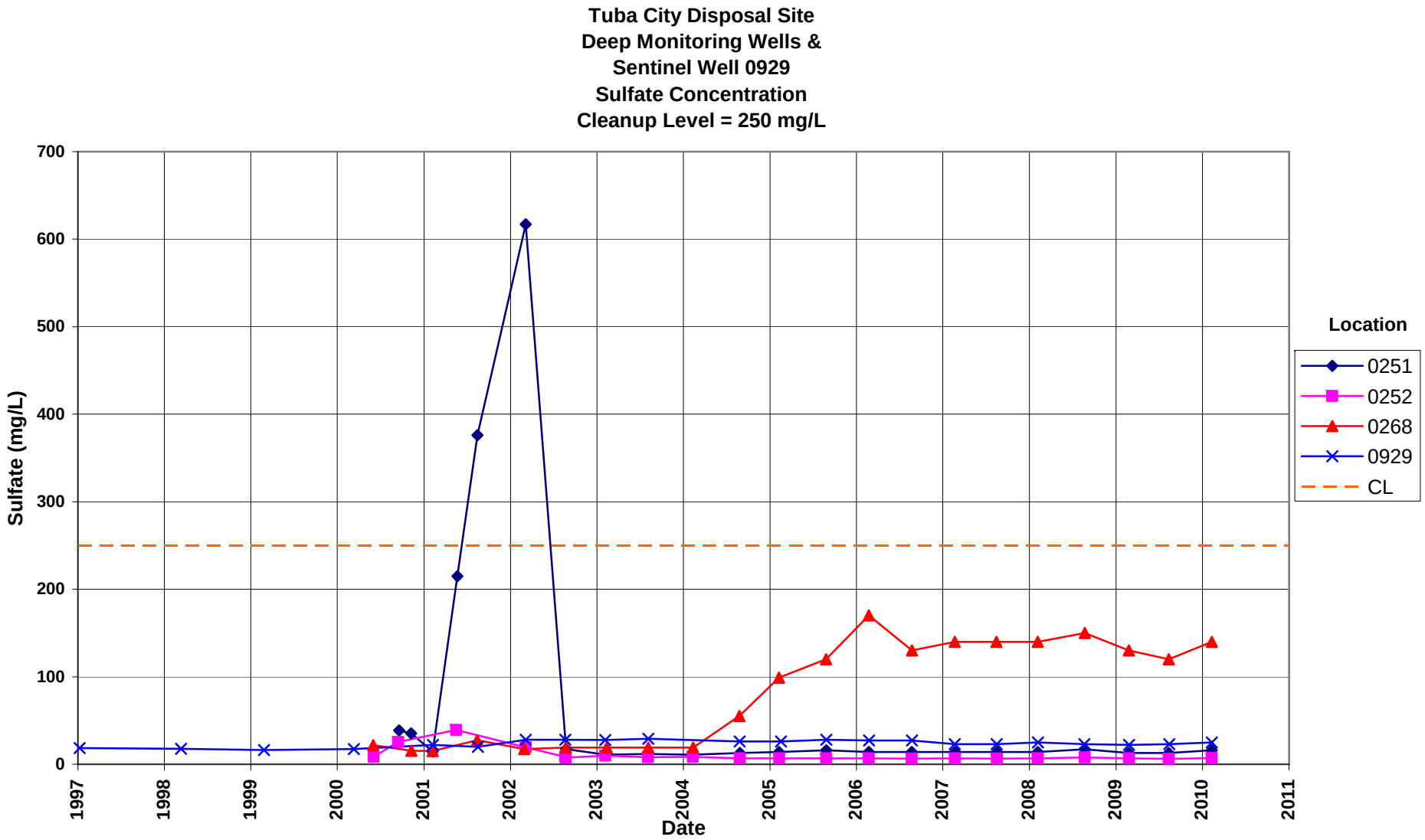

Tuba City Disposal Site
Horizons A and B Monitoring Wells
Uranium Concentration
Maximum Concentration Limit = 0.044 mg/L
Uranium (mg/L)
1.5
1.2
0.9
0.6
0.3
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0262
0263
0265
0267
0281
0282
0286
0287
0288
0290
0906
0908
0909
0934
0941
MCL

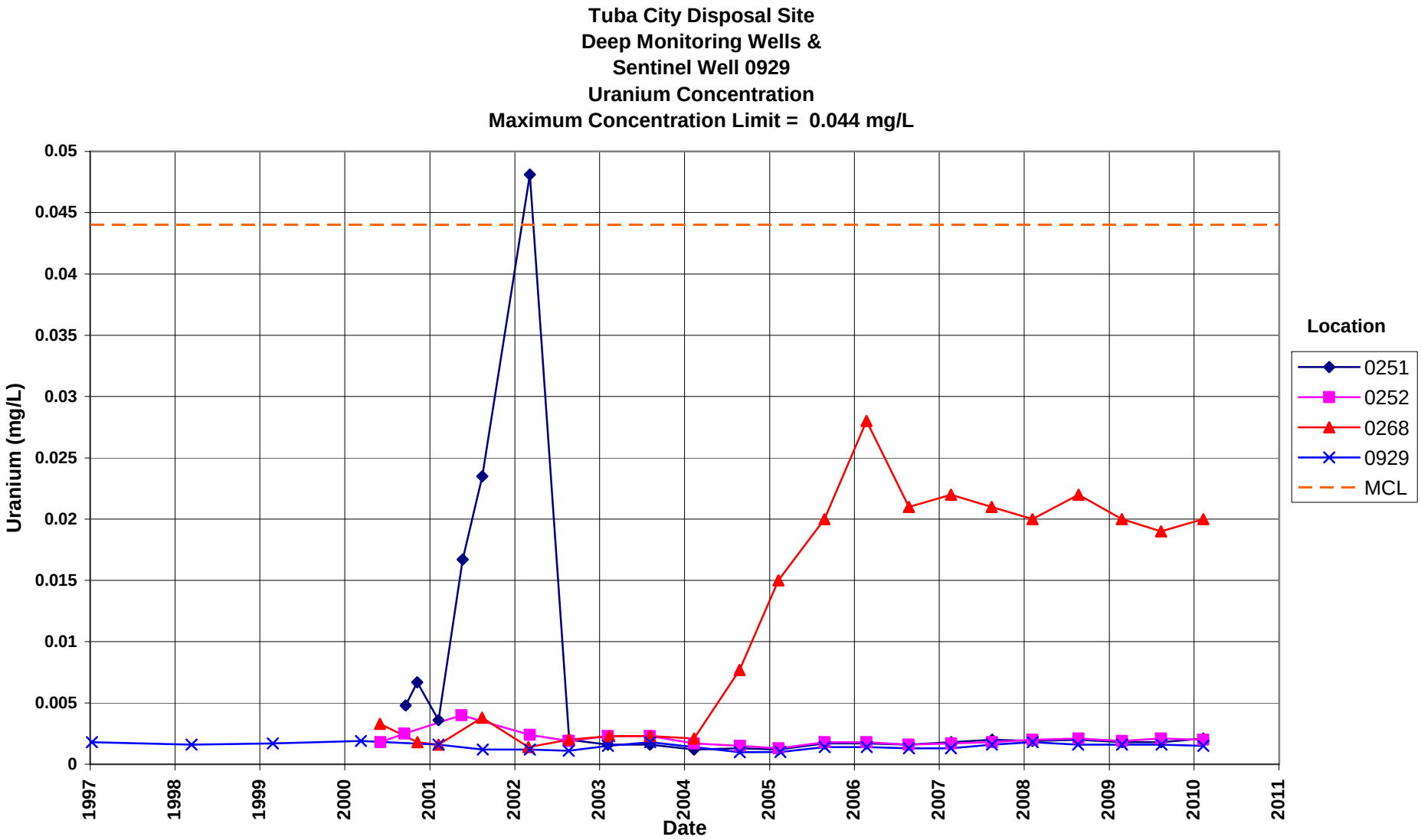

Tuba City Disposal Site
Lower Terrace, Horizons C & D Monitoring Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit = 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
400
350
300
250
200
150
100
50
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0258
0264
0266
0272
0273
0274
0275
0276
0289
0691
0930
0932
MCL

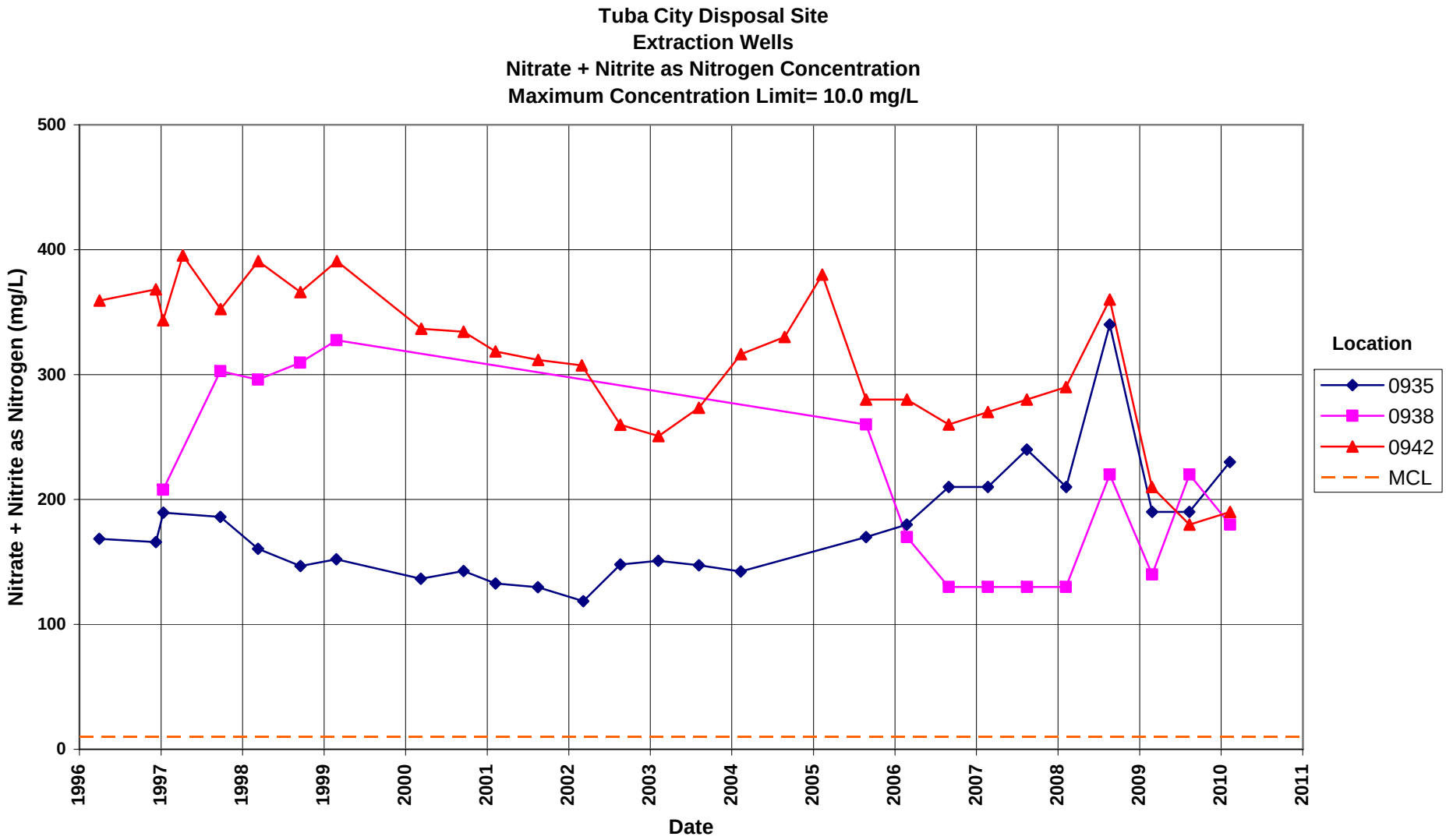

Tuba City Disposal Site
Lower Terrace, Horizons C & D Monitoring Wells
Sulfate Concentration
Cleanup Level = 250 mg/L
Sulfate (mg/L)
2500
2000
1500
1000
500
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0258
0264
0266
0272
0273
0274
0275
0276
0289
0691
0930
0932
CL

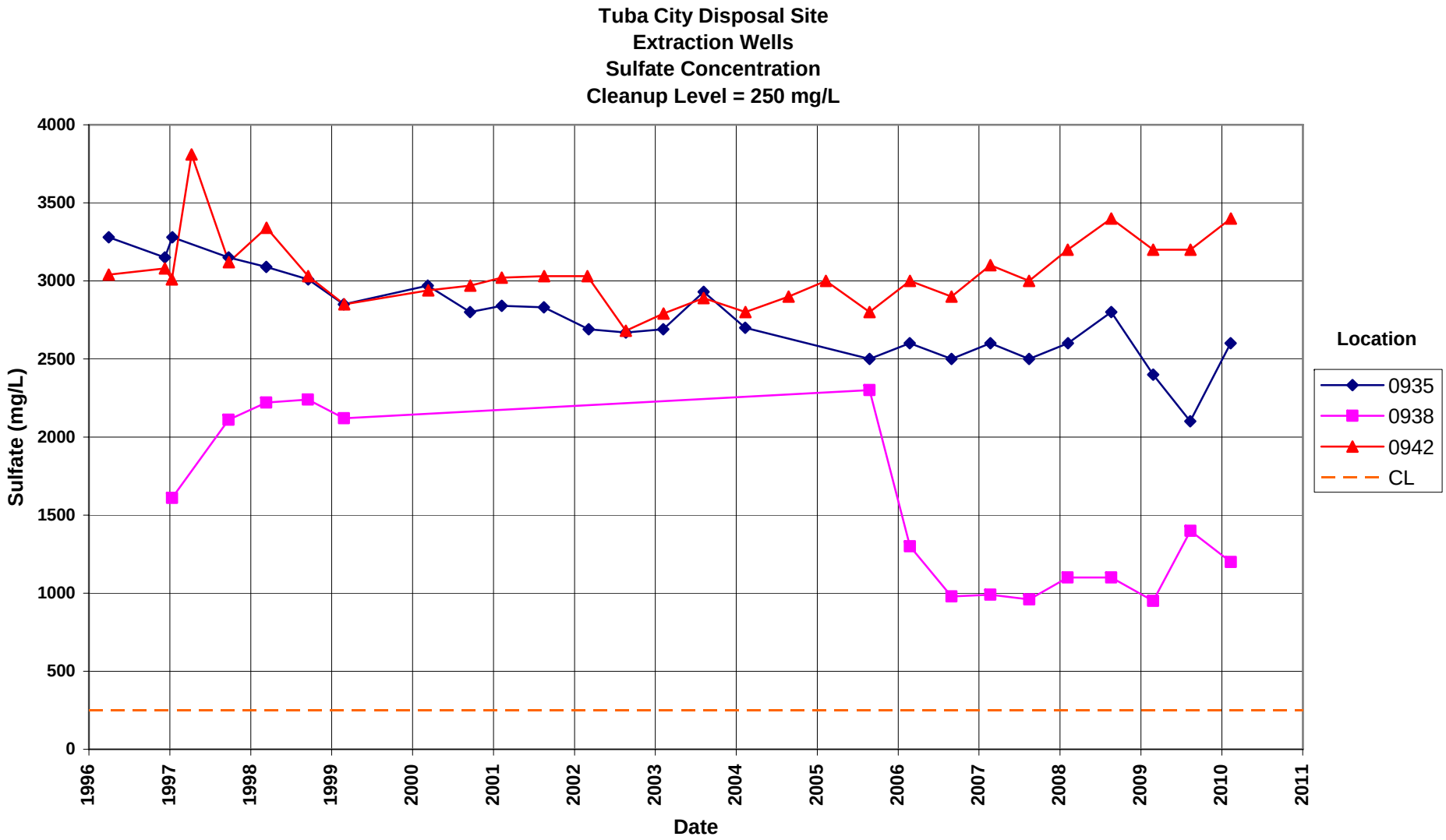

Tuba City Disposal Site
Horizons C & D Monitoring Wells
Uranium Concentration
Maximum Concentration Limit = 0.044 mg/L
Uranium (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0258
0264
0266
0272
0273
0274
0275
0276
0289
0691
0930
0932
MCL

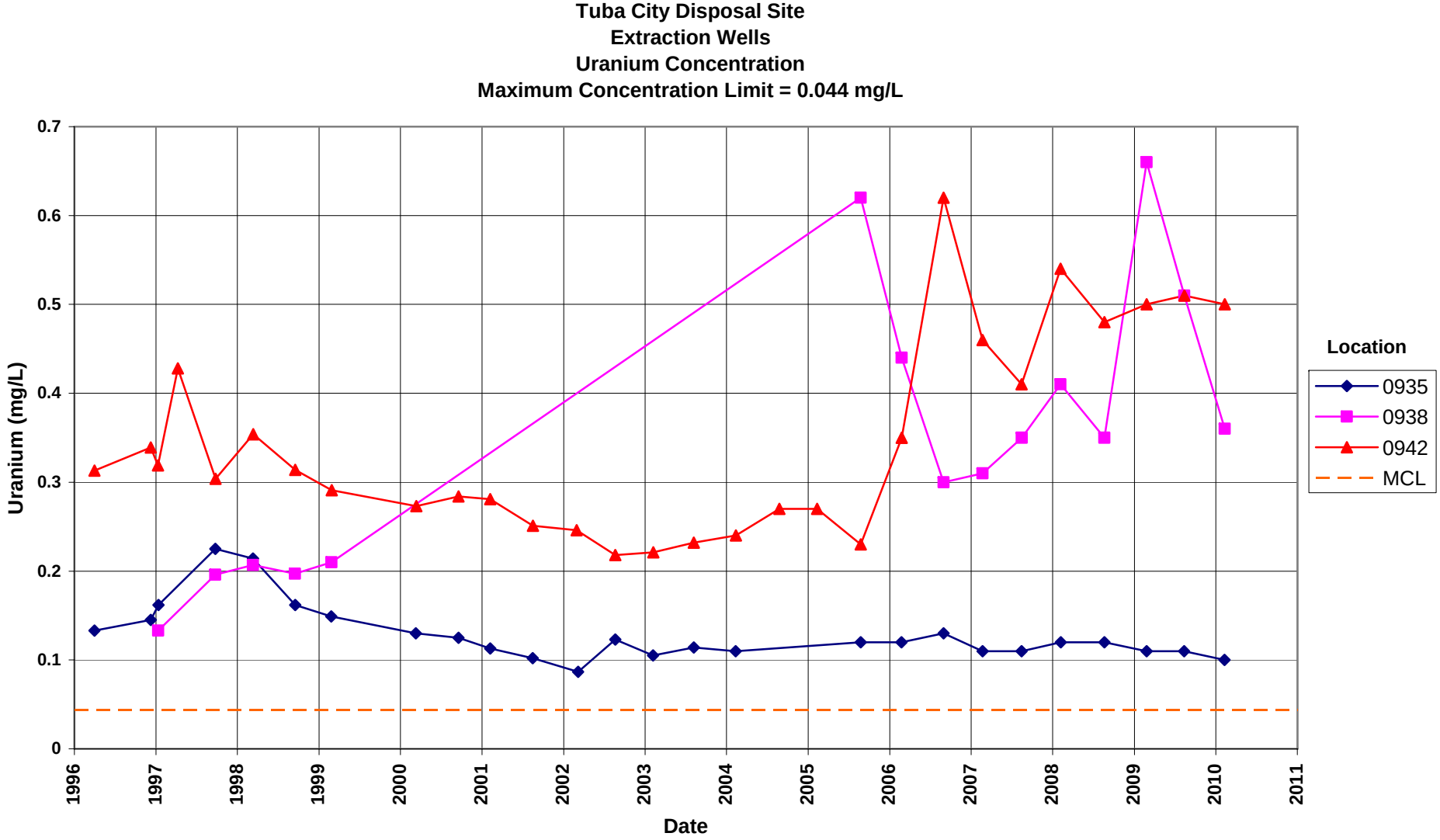

Tuba City Disposal Site
Deep Monitoring Wells &
Sentinel Well 0929
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit = 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
100
90
80
70
60
50
40
30
20
10
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0251
0252
0268
0929
MCL


Tuba City Disposal Site
Deep Monitoring Wells &
Sentinel Well 0929
Sulfate Concentration
Cleanup Level = 250 mg/L
Sulfate (mg/L)
700
600
500
400
300
200
100
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0251
0252
0268
0929
CL


Tuba City Disposal Site
Deep Monitoring Wells &
Sentinel Well 0929
Uranium Concentration
Maximum Concentration Limit = 0.044 mg/L
Uranium (mg/L)
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0251
0252
0268
0929
MCL


Tuba City Disposal Site
Extraction Wells
Nitrate + Nitrite as Nitrogen Concentration
Maximum Concentration Limit= 10.0 mg/L
Nitrate + Nitrite as Nitrogen (mg/L)
500
400
300
200
100
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0935
0938
0942
MCL


Tuba City Disposal Site
Extraction Wells
Sulfate Concentration
Cleanup Level = 250 mg/L
Sulfate (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0935
0938
0942
CL


Tuba City Disposal Site
Extraction Wells
Uranium Concentration
Maximum Concentration Limit = 0.044 mg/L
Uranium (mg/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Date
Location
0935
0938
0942
MCL

Attachment 3
Sampling and Analysis Work Order

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Stoller established 1959

Task Order LM00-501
Control Number 10-0300

January 20, 2010

U.S. Department of Energy
Office of Legacy Management
ATTN: Richard Bush
Site Manager
2597 B ¾ Road
Grand Junction, CO 81503

SUBJECT: Contract No. DE-AM01-07LM00060, Stoller
February 2010 Environmental Sampling at the Tuba City, Arizona, Disposal Site

REFERENCE: Task Order LM00-501-02-122-402, Tuba City, AZ, 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 February 8, 2010.

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

Monitor Wells*

251 Na	265 Na	274 Na	283 Na	290 Na	929 Na	936 Na
252 Na	266 Na	275 Na	286 Na	691 Na	930 Na	938 Na
258 Na	267 Na	276 Na	287 Na	906 Na	932 Na	940 Na
262 Na	268 Na	281 Na	288 Na	908 Na	934 Na	941 Na
263 Na	272 Na	282 Na	289 Na	909 Na	935 Na	942 Na
264 Na	273 Na					

*NOTE: Al = alluvium; Na = Navajo sandstone

Surface locations

1569	1570

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

The S.M. Stoller Corporation 2597 B ¾ Road Grand Junction, CO 81503 (970) 248-6000 Fax: (970) 248-6040

Please call me at extension (970) 248-6568 if you have any questions.

Sincerely,

Carl Jacobson
Site Lead

CJ/lcg/lb

Enclosures (3)

cc: (electronic)
Steve Donivan, Stoller
Lauren Goodknight, Stoller
Carl Jacobson, Stoller
EDD Delivery
rc-grand.junction

The S.M. Stoller Corporation 2597 B ¾ Road Grand Junction, CO 81503 (970) 248-6000 Fax: (970) 248-6040

Sampling Frequencies for Locations at Tuba City, Arizona

Location	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitor Wells						
251		X				
252		X				
258		X				
262		X				
263		X				
264		X				
265		X				
266		X				
267		X				
268		X				
272		X				
273		X				
274		X				
275		X				
276		X				
281		X				
282		X				
283		X				
284					X	Water level only
285					X	Water level only
286		X				
287		X				
288		X				
289		X				
290		X				
691		X				
902					X	Water level only
906		X				DATA LOGGER
908		X				DATA LOGGER
909		X				DATA LOGGER
917					X	Water level only
918					X	Water level only
919					X	Water level only
929		X				
930		X				
932		X				
934		X				DATA LOGGER
935		X				Converted to extraction well 7/05
936		X				DATA LOGGER
938		X				Converted to extraction well 7/05
940		X				DATA LOGGER
941		X				DATA LOGGER
942		X				DATA LOGGER
948					X	Water level only
1005					X	Water level only
1008					X	Water level only
000I					X	Water level only
000J					X	Water level only
000M					X	Water level only
Surface Locations						
1569		X				Evap pond - North
1570		X				Evap pond - South

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

Constituent Sampling Breakdown

Site	Tuba City				
Analyte	Groundwater	Surface Water	Required Detection Limit (mg/L)	Analytical Method	Line Item Code
Approx. No. Samples/yr	143	9			
Field Measurements					
Alkalinity	X	X			
Dissolved Oxygen					
Redox Potential	X	X			
pH	X	X			
Specific Conductance	X	X			
Turbidity	X				
Temperature	X	X			
Laboratory Measurements					
Aluminum					
Ammonia as N (NH3-N)	X		0.1	EPA 350.1	WCH-A-005
Arsenic	X	X	0.0001	SW-846 6020	LMM-02
Calcium	X	X	5	SW-846 6010	LMM-01
Chloride	X	X	0.5	SW-846 9056	WCH-A-039
Chromium					
Iron	X	X	0.05	SW-846 6020	LMM-02
Lead					
Magnesium	X	X	5	SW-846 6010	LMM-01
Manganese	X	X	0.005	SW-846 6010	LMM-01
Molybdenum	X	X	0.003	SW-846 6020	LMM-02
Nickel					
Nickel-63					
Nitrate + Nitrite as N (NO3+NO2)-N	X	X	0.05	EPA 353.1	WCH-A-022
Potassium	X	X	1	SW-846 6010	LMM-01
Radium-226					
Radium-228					
Selenium	X	X	0.0001	SW-846 6020	LMM-02
Silica	X		0.2	SW-846 6010	LMM-01
Sodium	X	X	1	SW-846 6010	LMM-01
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 analyte samples are considered unfiltered unless stated otherwise. All private well samples are to be unfiltered. The total number of analytes does not include field parameters.

Attachment 4
Trip Report

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Stoller established 1959
Grand Junction Office

Memorandum

Control Number N/A

DATE: February 17, 2010

TO: Carl Jacobson

FROM: David Atkinson

SUBJECT: Trip Report

Site: Tuba City Disposal Site

Dates of Sampling Event: February 8 – February 10, 2010

Team Members: David Atkinson, Kent Moe, Jeff Price, and Joe Treviño

Number of Locations Sampled: 34 monitoring well locations, 2 surface locations, and 2 duplicates for a total of 38 samples.

Locations Not Sampled/Reason: Monitoring wells 0283, 0936, and 0940 were not sampled because they were dry.

Location Specific Information: Monitoring well location 0282: final water level was below top of pump.

Field Variance: None.

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

False ID	True ID	Sample Type	Ticket Number
2723	268	Duplicate	IDU 332
2724	267	Duplicate	IDU 333

Requisition Numbers Assigned: All samples were assigned to requisition identification number (RIN) 10022833 and were shipped to the ALS Laboratory Group on February 11, 2010.

Water Level Measurements: Water levels were measured at all monitoring wells on site.

Well Inspection Summary: No issues were identified.

Equipment: Wells were sampled using dedicated bladder pumps and compressed gas. Extraction wells were sampled using dedicated submersible pumps.

Data Loggers: Data loggers were downloaded from the following locations: 0908, 0934, 0943, and 0946. Data Loggers were installed at locations: 0263, 0286, and 0287, and removed from location 0940.

Stakeholder/Regulatory: N/A

Institutional Controls

Fences, Gates, Locks: No issues identified.
Signs: Warning signs around the outside of the property appeared to be in good condition.
Trespassing/Site Disturbances: None
Access Issues: None
Safety Issues: None

Corrective Action Required/Taken: None

(DA/lcg)

cc: (electronic)
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Timothy Bartlett, Stoller
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EDD Delivery