DOE–LM/1505–2007

Data Validation Package

May 2007
Ground Water Sampling
at the Gunnison, Colorado, Processing Site

August 2007

U.S. Department of Energy
Office of Legacy Management

Work Performed by the S.M. Stoller Corporation Under DOE Contract No. DE–AC01–02GJ79491
for the U.S. Department of Energy Office of Legacy Management.

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Sampling Event Summary

Site: Gunnison, Colorado, Processing Site

Sampling Period: April 30, 2007 through May 3, 2007, plus May 15, 2007

This event included annual sampling of wells and surface water locations at the Gunnison, Colorado, Processing Site. Sampling and analysis was conducted as specified in *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*.

Samples were collected from 26 monitor wells, 10 domestic wells, and 5 surface locations at the processing site as specified in the *Ground Water Compliance Action Plan for the Gunnison, Colorado, Processing Site*. This event included three additional domestic wells (0476, 0477, and 0478) within the institutional control boundary that were identified as currently being used by residents. Duplicate samples were collected from locations 0081, 0188, and 0792; duplicate results met laboratory duplicate criteria and are considered acceptable. An equipment blank was not collected during this sampling event.

Water levels were measured at all monitor wells that were sampled. Ground water levels in monitor wells near the Valco gravel operation were lower than normal because Valco continued gravel mining and pit dewatering throughout the winter. Samples were not collected from shallow monitor wells 0006, 0012, and 0013 because of the depressed water levels.

Manganese and uranium were selected as the constituents of potential concern (COPC) at the Gunnison site because they exceeded a risk-based benchmark and a ground water standard, respectively. A variety of tailings-related contaminants were monitored in the past, which were eliminated as COPCs because concentrations did not exceed ground water standards and/or did not pose a significant risk to human health and the environment. Monitor wells with sample concentrations that exceeded the U.S. Environmental Protection Agency (EPA) maximum concentration limit (MCL) for uranium (40 CFR 192) or the EPA drinking water equivalent level (DWEL) for manganese are listed in Table 1.

Time versus concentration graphs for selected processing site monitor wells are included with the analytical data. Time versus concentration graphs for manganese indicate that concentrations of manganese in ground water beneath and downgradient of the site are above the DWEL, but concentrations are generally decreasing with time. Time versus concentration graphs for uranium indicate that concentrations of uranium in ground water beneath and downgradient of the site are above the MCL, with concentrations decreasing in some portions of the aquifer and remaining constant or increasing in others. A detailed analysis of the progress of natural flushing will be presented in the 2007 Verification Monitoring Report.

Uranium concentrations in the nine domestic wells sampled near the processing site were all below the EPA drinking water standard (0.030 milligrams per liter [mg/L]), and manganese concentrations in these wells were all below the DWEL.

Table 1. Gunnison Locations That Exceed the Uranium MCL and Manganese DWEL

Analyte	MCL[a]	DWEL[b]	Location	Concentration[c]
Uranium	0.044		0005	0.076
			0105	0.069
			0113	0.081
			0183	0.056
Manganese		1.6	0105	1.6
			0106	9.1
			0112	3.4
			0113	1.8
			0135	3.6
			0187	1.7

[a]Uranium standard is listed in 40 CFR 192.02 Table 1 to Subpart A; units are in mg/L.
[b]DWEL from EPA 's *2004 Edition of the Drinking Water Standards and Health Advisories.*
[c]Units are in mg/L.

Surface water uranium concentrations were compared a statistical benchmark derived from data from location 0792, which is located on the Gunnison River upstream from the site. The benchmark value was derived using the mean plus the standard deviation modified by Cohen's method, which adjusts the standard deviation for sample size. The uranium concentration at the Gunnison River downstream location 0795 was less than the benchmark value indicating minimal impact to the Gunnison River from site activities. Uranium concentration at the Valco gravel pit pond (0780) is elevated compared to the benchmark, which is expected because the gravel pit is recharged by contaminated ground water from the site. Uranium concentrations at Tomichi Creek locations (0248 and 0777) were elevated compared to the benchmark, which is expected because Tomichi Creek receives discharge from the Valco pond.

Table 2. Comparison of Surface Water Uranium Concentrations to the Benchmark Value

Description	Location	Uranium Concentration (mg/L)	Benchmark Value
Tomichi Creek	0248	0.014	0.0016
	0777	0.0042	
Valco Pond	0780	0.014	
Gunnison River	0795	0.00058	

Sam Campbell
Site Lead, S.M. Stoller

8-9-07
Date

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Gunnison, Colorado, Processing Site Sample Location Map

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	Gunnison, Colorado	**Date(s) of Water Sampling**	April 30, 2007 through May 3, 2007 plus May 15, 2007
Date(s) of Verification	June 20, 2007	**Name of Verifier**	Steve Donivan

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.		Work Order Letter dated March 30, 2007
2. Were the sampling locations specified in the planning documents sampled?	No	Shallow zone wells 0006, 0012, and 0013 were purged dry during redevelopment, did not recover, and were not sampled. Well 0665 was not sampled.
3. Was a pre-trip calibration conducted as specified in the above named documents?	Yes	Pre-trip calibration was performed on 04/30/2007.
4. Was an operational check of the field equipment conducted twice daily?	Yes	Only one check needed on 05/03/2007 and 05/15/2007.
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	No	Turbidity was not measured at the surface locations or domestic wells.
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	Wells 002 and 0102 listed as category I, but no volume data recorded.
Did the water level stabilize prior to sampling?		
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	No	Turbidity criteria not met at location 0106.
Was the flow rate less than 500 mL/min?	Yes	Wells 002 and 0102 listed as category I, but no flow rate data recorded.
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	Three duplicate samples were collected.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	No	An equipment blank was not collected.
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?	Yes	Location numbers 2487, 2488, and 2489 were used.
Was the true identity of the samples recorded on the Quality Assurance Sample Log?	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?	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	

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Laboratory Performance Assessment

General Information

Report Identification Number (RIN):	07040836
Sample Event:	April 30, 2007 - May 15, 2007
Site(s):	Gunnison, Colorado
Laboratory:	Paragon Analytics, Fort Collins, Colorado
Work Order No.:	0705054
Analysis:	Metals
Validator:	Steve Donivan
Review Date:	June 19, 2007

This validation was performed according to the *Environmental Procedures Catalog* (STO 6), "Standard Practice for Validation of Laboratory Data," GT-9(P) (2006). 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
Manganese, Mn	GJO-17	SW-846 3005A	SW-846 6010B
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020A

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received 53 water samples on May 8, 2007, and an additional sample on May 16, 2007, accompanied by Chain of Custody (COC) forms. The COC forms were checked to confirm that all of the samples were listed on the forms and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the COC form, and the sample tickets had no errors or omissions with the following exception. The COC form received on May 8, 2007, did not have relinquishment signatures.

Preservation and Holding Times

The sample shipments were received intact at ambient temperature, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses and all samples were analyzed within the applicable holding times.

Data Qualifier Summary

The analytical results were qualified as listed in Table 3. Refer to the sections below for an explanation of the data qualifiers applied.

Table 3. Data Qualifier Summary

Sample Number	Location	Analyte	Flag	Reason
0705054-17	0125	Mn	U	Negative calibration blank
0705054-19	0127	Mn	U	Negative calibration blank
0705054-22	0160	Mn	U	Negative calibration blank
0705054-25	0183	Mn	U	Negative calibration blank
0705054-33	0476	Mn	U	Less than 5 times the calibration blank
0705054-35	0667	Mn	U	Less than 5 times the calibration blank
0705054-36	0683	Mn	U	Less than 5 times the calibration blank
0705054-43	0188 Dup	Mn	U	Less than 5 times the calibration blank

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 SW-846 6010M, Manganese
Calibration was performed for manganese on May 15, 2007, and May 21, 2007. The initial calibrations were performed using one standard and a blank. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCV) checks were made at the required frequency resulting in 28 CCVs. All initial and continuing calibration verification results were within the acceptance range. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curves near the practical quantitation limit. All check results were within the acceptance range.

Method SW-846 6020A, Uranium
Calibration was performed for uranium on May 23, 2007. The initial calibration was performed using four calibration standards resulting in a calibration curve with a correlation coefficient value greater than 0.995. The absolute value of the curve intercept was less than 3 times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in six CCVs. All initial and continuing calibration verification results were within the acceptance range. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curves near the practical quantitation limit. All check results were within the acceptance range. The mass calibration and resolution was checked at the beginning of each analytical run in accordance with the procedure. Internal standard recoveries were stable and within acceptance ranges.

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 initial and continuing calibration blank results were below the practical quantitation limits for manganese and uranium. In cases where blank concentration exceeds the instrument detection limit, 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. The method blank results for manganese and uranium were below the method detection limits.

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) pairs were analyzed for manganese and uranium as a measure of method performance in the sample matrix. The MS/MSD recoveries met the acceptance criteria for both analytes.

Laboratory Replicate Analysis

The relative percent difference (RPD) values for the laboratory replicate sample results for all analytes were less than 20 percent, indicating acceptable laboratory precision.

Laboratory Control Samples (LCS)

LCS 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 LCS results were acceptable for all analyses.

Metals Serial Dilution

Serial dilutions were performed during the metals analysis to monitor physical or chemical interferences that may exist in the sample matrix. Serial dilutions were prepared and analyzed for manganese and uranium. The acceptance criteria were met for both analytes.

Detection Limits/Dilutions

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

Completeness

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

Electronic Data Deliverable (EDD) File

The EDD file arrived on June 1, 2007. 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.

SAMPLE MANAGEMENT SYSTEM

EDD Non-Conformance Report

Report Date: 6/19/2007

EDD File: \\condor\sms\07040836\07040836.txt

EDD Errors:

Record	Error Type	Field	Error Description
			NO ERRORS DETECTED

SAMPLE MANAGEMENT SYSTEM

General Data Validation Report

RIN: 07040836 **Lab Code:** PAR **Validator:** Steve Donivan **Validation Date:** 6/19/2007

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

# of Samples: 44 **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 3 duplicates evaluated.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 07040836 **Lab Code:** PAR **Date Due:** 6/5/2007

Matrix: Water **Site Code:** GUN **Date Completed:** 6/4/2007

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								
Manganese	05/15/2007			OK	OK	OK	OK	OK	98.0	97.0	95.0	2.0	94.0	1.0	101.0
Manganese	05/15/2007											1.0	95.0		
Manganese	05/21/2007			OK	OK	OK	OK						92.0		100.0
Manganese	05/21/2007												90.0		
Uranium	05/23/2007	0.0000	1.0000	OK	OK	OK	OK	OK	100.0	104.0	106.0	1.0	106.0	2.0	124.0
Uranium	05/23/2007									103.0	103.0	0.0		2.0	
Uranium	05/23/2007									102.0	100.0	1.0		2.0	
Uranium	05/23/2007											7.0			

Sampling Quality Control Assessment

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

Sampling Protocol

All monitor wells were purged and sampled using Category I criteria with the following exceptions: 0112 and 0189 – Category II, and 0136 Category – III. Sample results from all Category II and III wells were qualified with a "Q" flag in the database indicating results are qualitative based on the sampling protocol used. Sample results from all monitor wells were qualified with an "F" flag in the database indicating the wells were purged and sampled using the low-flow sampling method. The turbidity criterion was not met at location 0106 prior to sampling and the data from that well were qualified with a "Q" flag.

Equipment Blank Assessment

An equipment blank was not collected during this sampling event.

Field Duplicate Assessment

Field duplicate samples were 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 measures only laboratory performance. Duplicate samples were collected from wells 0081, 0188, and 0792. The duplicate results were acceptable, meeting the EPA recommended laboratory duplicate criteria of less than 20 percent RPD for results greater than 5 times the reporting limit, demonstrating acceptable overall precision.

SAMPLE MANAGEMENT SYSTEM

Validation Report: Field Duplicates

RIN: 07040836 **Lab Code:** PAR **Project:** Gunnison **Validation Date:** 6/19/2007

Duplicate: 2487 **Sample:** 792

Analyte	Sample Result	Sample Flag	Sample Error	Duplicate Result	Duplicate Flag	Duplicate Error	RPD	RER	Units
MANGANESE	14			13			7.41		UG/L
URANIUM	0.58			0.58			0		UG/L

Duplicate: 2488 **Sample:** 81

Analyte	Sample Result	Sample Flag	Sample Error	Duplicate Result	Duplicate Flag	Duplicate Error	RPD	RER	Units
MANGANESE	240			240			0		UG/L
URANIUM	5.8			5.5			5.31		UG/L

Duplicate: 2489 **Sample:** 188

Analyte	Sample Result	Sample Flag	Sample Error	Duplicate Result	Duplicate Flag	Duplicate Error	RPD	RER	Units
MANGANESE	0.084	U		0.21	B				UG/L
URANIUM	31			32			3.17		UG/L

Certification

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

Laboratory Coordinator: Steve Donivan — Date: 8-1-2007

Data Validation Lead: Steve Donivan — Date: 8-1-2007

Attachment 1
Assessment of Anomalous Data

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Outliers Report

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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 potential 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 all new data that fall outside the historical data range. Data listed in the report highlighted if the concentration detected is not within 50 percent of historical minimum or maximum values. A determination is also made if the data are normally distributed using the Studentized Range Test.
2. Apply the appropriate statistical test. Dixon's Extreme Value test is used to test for statistical outliers when the sample size is less than or equal to 25. This test considers both extreme values that are much smaller than the rest of the data (case 1) and extreme values that are much larger than the rest of the data (case 2). This test is valid only if the data without the suspected outlier are normally distributed. Rosner's Test is a parametric test that is used to detect outliers for sample sizes of 25 or more. This test also assumes that the data without the suspected outliers are normally distributed
3. Scientifically review statistical outliers and decide on their disposition.

The uranium results from location 0106 and 0186 were identified as potential outliers.

The sample from location 0106 was collected immediately after well development and did not meet the turbidity criteria. The data from this location have been qualified “FQ” as qualitative due to the sampling conditions.

The field data and laboratory data for location 0186 were reviewed with no errors identified. A downward trend of uranium concentration has been noted for this well. Additionally both the alkalinity and specific conductivity were observed at historic low values.

The data for all locations are considered acceptable as qualified.

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Data Validation Outliers Report - No Field Parameters
Laboratory: PARAGON (Fort Collins, CO)
RIN: 07040836
Comparison: All Historical Data
Report Date: 7/17/2007

Site Code	Location Code	Sample Date	Analyte	Current Result	Current Qualifiers Lab	Current Qualifiers Data	Historical Maximum Result	Historical Maximum Qualifiers Lab	Historical Maximum Qualifiers Data	Historical Minimum Result	Historical Minimum Qualifiers Lab	Historical Minimum Qualifiers Data	Count N	Count N Below Detect	Normally Distributed	Statistical Outlier
GUN01	0005	05/03/2007	Uranium	0.076		F	0.044		F	0.0033			5	0	No	No
GUN01	0105	05/03/2007	Manganese	1.6		F	18.5			2		F	6	0	Yes	No
GUN01	0105	05/03/2007	Uranium	0.069		F	0.042		F	0.0018			6	0	Yes	No
GUN01	0106	05/02/2007	Uranium	0.011		FQ	0.005			0.0002	U		29	15	Yes	Yes
GUN01	0112	05/02/2007	Manganese	3.4			40.8			7.5		F	13	0	Yes	No
GUN01	0125	05/03/2007	Manganese	0.0011	B	UF	0.39			0.0046	B	F	21	0	No	No
GUN01	0125	05/03/2007	Uranium	0.007		F	0.023			0.0089		F	20	0	Yes	No
GUN01	0126	05/03/2007	Uranium	0.0095		F	0.034			0.0098		F	23	0	No	No
GUN01	0186	05/02/2007	Uranium	0.0088		F	0.055			0.023		F	27	0	Yes	Yes
GUN01	0189	05/02/2007	Manganese	0.82			2.7			0.84		F	26	0	No	No
GUN01	0248	05/02/2007	Manganese	0.025			0.133			0.043			5	0	Yes	No

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.		

STATISTICAL TESTS:

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

Attachment 2
Data Presentation

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Ground Water Quality Data

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Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0002 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	05/02/2007	0001	10	-	15	223			#		
Manganese	mg/L	05/02/2007	0001	10	-	15	0.000084	U		#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	10	-	15	1.77			#		
pH	s.u.	05/02/2007	N001	10	-	15	7.21			#		
Specific Conductance	umhos /cm	05/02/2007	N001	10	-	15	570			#		
Temperature	C	05/02/2007	N001	10	-	15	8.74			#		
Turbidity	NTU	05/02/2007	N001	10	-	15	3.96			#		
Uranium	mg/L	05/02/2007	0001	10	-	15	0.003			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0005 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	05/03/2007	0001	10	-	15	260		F	#		
Manganese	mg/L	05/03/2007	0001	10	-	15	0.99		F	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	10	-	15	48		F	#		
pH	s.u.	05/03/2007	N001	10	-	15	7.26		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	10	-	15	560		F	#		
Temperature	C	05/03/2007	N001	10	-	15	6.99		F	#		
Turbidity	NTU	05/03/2007	N001	10	-	15	1.77		F	#		
Uranium	mg/L	05/03/2007	0001	10	-	15	0.076		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0062 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	05/02/2007	0001	47.9	-	57.9	197		F	#		
Manganese	mg/L	05/02/2007	0001	47.9	-	57.9	0.024		F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	47.9	-	57.9	32		F	#		
pH	s.u.	05/02/2007	N001	47.9	-	57.9	7.5		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	47.9	-	57.9	507		F	#		
Temperature	C	05/02/2007	N001	47.9	-	57.9	10.03		F	#		
Turbidity	NTU	05/02/2007	N001	47.9	-	57.9	6.05		F	#		
Uranium	mg/L	05/02/2007	0001	47.9	-	57.9	0.0085		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0063 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	05/02/2007	0001	87.9	-	97.9	164		F	#		
Manganese	mg/L	05/02/2007	0001	87.9	-	97.9	0.0047	B	F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	87.9	-	97.9	56		F	#		
pH	s.u.	05/02/2007	N001	87.9	-	97.9	7.51		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	87.9	-	97.9	420		F	#		
Temperature	C	05/02/2007	N001	87.9	-	97.9	9.91		F	#		
Turbidity	NTU	05/02/2007	N001	87.9	-	97.9	8.43		F	#		
Uranium	mg/L	05/02/2007	0001	87.9	-	97.9	0.01		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0064 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	05/03/2007	0001	86.7	-	96.7	243		F	#		
Manganese	mg/L	05/03/2007	0001	86.7	-	96.7	0.0034	B	F	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	86.7	-	96.7	114		F	#		
pH	s.u.	05/03/2007	N001	86.7	-	96.7	7.39		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	86.7	-	96.7	547		F	#		
Temperature	C	05/03/2007	N001	86.7	-	96.7	8.68		F	#		
Turbidity	NTU	05/03/2007	N001	86.7	-	96.7	6.94		F	#		
Uranium	mg/L	05/03/2007	0001	86.7	-	96.7	0.013		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0065 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	05/02/2007	0001	49.7	-	59.7	132		F	#		
Manganese	mg/L	05/02/2007	0001	49.7	-	59.7	0.053		F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	49.7	-	59.7	92		F	#		
pH	s.u.	05/02/2007	N001	49.7	-	59.7	7.39		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	49.7	-	59.7	770		F	#		
Temperature	C	05/02/2007	N001	49.7	-	59.7	8.15		F	#		
Turbidity	NTU	05/02/2007	N001	49.7	-	59.7	8.89		F	#		
Uranium	mg/L	05/02/2007	0001	49.7	-	59.7	0.033		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0066 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	05/02/2007	0001	40.2	-	50.2	119		F	#		
Manganese	mg/L	05/02/2007	0001	40.2	-	50.2	0.015		F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	40.2	-	50.2	170		F	#		
pH	s.u.	05/02/2007	N001	40.2	-	50.2	7.26		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	40.2	-	50.2	693		F	#		
Temperature	C	05/02/2007	N001	40.2	-	50.2	7.88		F	#		
Turbidity	NTU	05/02/2007	N001	40.2	-	50.2	5.63		F	#		
Uranium	mg/L	05/02/2007	0001	40.2	-	50.2	0.023		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0067 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	05/01/2007	0001	39.67	-	49.67	215		F	#		
Manganese	mg/L	05/01/2007	0001	39.67	-	49.67	0.011		F	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	39.67	-	49.67	52		F	#		
pH	s.u.	05/01/2007	N001	39.67	-	49.67	7.14		F	#		
Specific Conductance	umhos /cm	05/01/2007	N001	39.67	-	49.67	446		F	#		
Temperature	C	05/01/2007	N001	39.67	-	49.67	9.41		F	#		
Turbidity	NTU	05/01/2007	N001	39.67	-	49.67	7.19		F	#		
Uranium	mg/L	05/01/2007	0001	39.67	-	49.67	0.0094		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0080 WELL Key to pump house for well 080 can be obtained from house to the southwest, if needed.

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	05/01/2007	0001	-	214			#		
Manganese	mg/L	05/01/2007	N001	-	0.099			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	-5			#		
pH	s.u.	05/01/2007	N001	-	6.98			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	452			#		
Temperature	C	05/01/2007	N001	-	8.24			#		
Uranium	mg/L	05/01/2007	N001	-	0.0045			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0081 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	05/01/2007	0001	-	208			#		
Manganese	mg/L	05/01/2007	N001	-	0.24			#	.000084	
Manganese	mg/L	05/01/2007	N002	-	0.24			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	-10			#		
pH	s.u.	05/01/2007	N001	-	7.41			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	337			#		
Temperature	C	05/01/2007	N001	-	8.58			#		
Turbidity	NTU	05/01/2007	N001	-	2.83			#		
Uranium	mg/L	05/01/2007	N001	-	0.0058			#	.0000046	
Uranium	mg/L	05/01/2007	N002	-	0.0055			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0082 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	05/01/2007	0001	-	249			#		
Manganese	mg/L	05/01/2007	N001	-	0.2			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	-20			#		
pH	s.u.	05/01/2007	N001	-	7.37			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	472			#		
Temperature	C	05/01/2007	N001	-	10.09			#		
Turbidity	NTU	05/01/2007	N001	-	3.04			#		
Uranium	mg/L	05/01/2007	N001	-	0.0094			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0102 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	05/02/2007	0001	42	-	47	237			#		
Manganese	mg/L	05/02/2007	0001	42	-	47	0.000084	U		#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	42	-	47	164			#		
pH	s.u.	05/02/2007	N001	42	-	47	7.44			#		
Specific Conductance	umhos /cm	05/02/2007	N001	42	-	47	539			#		
Temperature	C	05/02/2007	N001	42	-	47	10.76			#		
Turbidity	NTU	05/02/2007	N001	42	-	47	0.76			#		
Uranium	mg/L	05/02/2007	0001	42	-	47	0.0037			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0105 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	05/03/2007	0001	42	-	47	223		F	#		
Manganese	mg/L	05/03/2007	0001	42	-	47	1.6		F	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	42	-	47	46		F	#		
pH	s.u.	05/03/2007	N001	42	-	47	7.16		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	42	-	47	518		F	#		
Temperature	C	05/03/2007	N001	42	-	47	9.42		F	#		
Turbidity	NTU	05/03/2007	N001	42	-	47	7.08		F	#		
Uranium	mg/L	05/03/2007	0001	42	-	47	0.069		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0106 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	05/02/2007	0001	34	-	39	58		FQ	#		
Manganese	mg/L	05/02/2007	0001	34	-	39	9.1		FQ	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	34	-	39	114		FQ	#		
pH	s.u.	05/02/2007	N001	34	-	39	5.79		FQ	#		
Specific Conductance	umhos /cm	05/02/2007	N001	34	-	39	2076		FQ	#		
Temperature	C	05/02/2007	N001	34	-	39	10.01		FQ	#		
Turbidity	NTU	05/02/2007	N001	34	-	39	21.2		FQ	#		
Uranium	mg/L	05/02/2007	0001	34	-	39	0.011		FQ	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0112 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	05/02/2007	0001	40	-	45	122		FQ	#		
Manganese	mg/L	05/02/2007	0001	40	-	45	3.4		FQ	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	40	-	45	109		FQ	#		
pH	s.u.	05/02/2007	N001	40	-	45	6.47		FQ	#		
Specific Conductance	umhos /cm	05/02/2007	N001	40	-	45	954		FQ	#		
Temperature	C	05/02/2007	N001	40	-	45	11.72		FQ	#		
Turbidity	NTU	05/02/2007	N001	40	-	45	22.8		FQ	#		
Uranium	mg/L	05/02/2007	0001	40	-	45	0.037		FQ	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0113 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	04/30/2007	0001	41	-	46	213		F	#		
Manganese	mg/L	04/30/2007	0001	41	-	46	1.8		F	#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	41	-	46	123		F	#		
pH	s.u.	04/30/2007	N001	41	-	46	6.97		F	#		
Specific Conductance	umhos /cm	04/30/2007	N001	41	-	46	528		F	#		
Temperature	C	04/30/2007	N001	41	-	46	15.44		F	#		
Turbidity	NTU	04/30/2007	N001	41	-	46	4.48		F	#		
Uranium	mg/L	04/30/2007	0001	41	-	46	0.081		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0125 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	05/03/2007	0001	17.8	-	22.8	258		F	#		
Manganese	mg/L	05/03/2007	0001	17.8	-	22.8	0.0011	B	UF	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	17.8	-	22.8	103		F	#		
pH	s.u.	05/03/2007	N001	17.8	-	22.8	7.37		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	17.8	-	22.8	443		F	#		
Temperature	C	05/03/2007	N001	17.8	-	22.8	8.44		F	#		
Turbidity	NTU	05/03/2007	N001	17.8	-	22.8	3.15		F	#		
Uranium	mg/L	05/03/2007	0001	17.8	-	22.8	0.007		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0126 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	05/03/2007	0001	54	-	59	259		F	#		
Manganese	mg/L	05/03/2007	0001	54	-	59	0.0019	B	F	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	54	-	59	88		F	#		
pH	s.u.	05/03/2007	N001	54	-	59	7.44		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	54	-	59	404		F	#		
Temperature	C	05/03/2007	N001	54	-	59	9.87		F	#		
Turbidity	NTU	05/03/2007	N001	54	-	59	2.16		F	#		
Uranium	mg/L	05/03/2007	0001	54	-	59	0.0095		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0127 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	05/03/2007	0001	94	-	99	251		F	#		
Manganese	mg/L	05/03/2007	0001	94	-	99	0.00031	B	UF	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	94	-	99	108		F	#		
pH	s.u.	05/03/2007	N001	94	-	99	7.3		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	94	-	99	1075		F	#		
Temperature	C	05/03/2007	N001	94	-	99	10.41		F	#		
Turbidity	NTU	05/03/2007	N001	94	-	99	8.26		F	#		
Uranium	mg/L	05/03/2007	0001	94	-	99	0.029		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0135 WELL Well is knocked over!!

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	05/03/2007	0001	18	-	23	49		F	#		
Manganese	mg/L	05/03/2007	0001	18	-	23	3.6		F	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	18	-	23	22		F	#		
pH	s.u.	05/03/2007	N001	18	-	23	6.88		F	#		
Specific Conductance	umhos /cm	05/03/2007	N001	18	-	23	422		F	#		
Temperature	C	05/03/2007	N001	18	-	23	8.04		F	#		
Turbidity	NTU	05/03/2007	N001	18	-	23	1.01		F	#		
Uranium	mg/L	05/03/2007	0001	18	-	23	0.001		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0136 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	05/03/2007	0001	53	-	58	220		FQ	#		
Manganese	mg/L	05/03/2007	0001	53	-	58	0.17		FQ	#	.000084	
Oxidation Reduction Potential	mV	05/03/2007	N001	53	-	58	17		FQ	#		
pH	s.u.	05/03/2007	N001	53	-	58	8.06		FQ	#		
Specific Conductance	umhos /cm	05/03/2007	N001	53	-	58	678		FQ	#		
Temperature	C	05/03/2007	N001	53	-	58	12.4		FQ	#		
Uranium	mg/L	05/03/2007	0001	53	-	58	0.011		FQ	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0160 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	05/01/2007	0001	51	-	56	172		F	#		
Manganese	mg/L	05/01/2007	0001	51	-	56	0.0007	B	UF	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	51	-	56	143		F	#		
pH	s.u.	05/01/2007	N001	51	-	56	6.66		F	#		
Specific Conductance	umhos /cm	05/01/2007	N001	51	-	56	775		F	#		
Temperature	C	05/01/2007	N001	51	-	56	7.76		F	#		
Turbidity	NTU	05/01/2007	N001	51	-	56	6.98		F	#		
Uranium	mg/L	05/01/2007	0001	51	-	56	0.023		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0161 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	05/01/2007	0001	93	-	98	242		F	#		
Manganese	mg/L	05/01/2007	0001	93	-	98	0.012		F	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	93	-	98	134		F	#		
pH	s.u.	05/01/2007	N001	93	-	98	6.67		F	#		
Specific Conductance	umhos /cm	05/01/2007	N001	93	-	98	732		F	#		
Temperature	C	05/01/2007	N001	93	-	98	7.72		F	#		
Turbidity	NTU	05/01/2007	N001	93	-	98	9.1		F	#		
Uranium	mg/L	05/01/2007	0001	93	-	98	0.017		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0181 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	05/01/2007	0001	18	-	23	215		F	#		
Manganese	mg/L	05/01/2007	0001	18	-	23	0.018		F	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	18	-	23	110		F	#		
pH	s.u.	05/01/2007	N001	18	-	23	7.39		F	#		
Specific Conductance	umhos /cm	05/01/2007	N001	18	-	23	544		F	#		
Temperature	C	05/01/2007	N001	18	-	23	7.54		F	#		
Turbidity	NTU	05/01/2007	N001	18	-	23	8.8		F	#		
Uranium	mg/L	05/01/2007	0001	18	-	23	0.015		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0183 WELL Casing bent.

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	05/01/2007	0001	93	-	98	301		F	#		
Manganese	mg/L	05/01/2007	0001	93	-	98	0.00043	B	UF	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	93	-	98	115		F	#		
pH	s.u.	05/01/2007	N001	93	-	98	6.67		F	#		
Specific Conductance	umhos /cm	05/01/2007	N001	93	-	98	917		F	#		
Temperature	C	05/01/2007	N001	93	-	98	8.34		F	#		
Turbidity	NTU	05/01/2007	N001	93	-	98	9.8		F	#		
Uranium	mg/L	05/01/2007	0001	93	-	98	0.056		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0186 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	05/02/2007	0001	53	-	58	211		F	#		
Manganese	mg/L	05/02/2007	0001	53	-	58	0.00067	B	F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	53	-	58	-5		F	#		
pH	s.u.	05/02/2007	N001	53	-	58	7.49		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	53	-	58	505		F	#		
Temperature	C	05/02/2007	N001	53	-	58	8.4		F	#		
Turbidity	NTU	05/02/2007	N001	53	-	58	1.15		F	#		
Uranium	mg/L	05/02/2007	0001	53	-	58	0.0088		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0187 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	05/02/2007	0001	93	-	98	342		F	#		
Manganese	mg/L	05/02/2007	0001	93	-	98	1.7		F	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	93	-	98	12		F	#		
pH	s.u.	05/02/2007	N001	93	-	98	6.52		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	93	-	98	1129		F	#		
Temperature	C	05/02/2007	N001	93	-	98	8.52		F	#		
Turbidity	NTU	05/02/2007	N001	93	-	98	9.6		F	#		
Uranium	mg/L	05/02/2007	0001	93	-	98	0.026		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0188 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	05/02/2007	0001	53	-	58	220		F	#		
Manganese	mg/L	05/02/2007	0001	53	-	58	0.000084	U	F	#	.000084	
Manganese	mg/L	05/02/2007	0002	53	-	58	0.00021	B	UF	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	53	-	58	159		F	#		
pH	s.u.	05/02/2007	N001	53	-	58	7.19		F	#		
Specific Conductance	umhos /cm	05/02/2007	N001	53	-	58	733		F	#		
Temperature	C	05/02/2007	N001	53	-	58	8.01		F	#		
Turbidity	NTU	05/02/2007	N001	53	-	58	0.44		F	#		
Uranium	mg/L	05/02/2007	0001	53	-	58	0.031		F	#	.0000046	
Uranium	mg/L	05/02/2007	0002	53	-	58	0.032		F	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0189 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	05/02/2007	0001	93	-	98	902		FQ	#		
Manganese	mg/L	05/02/2007	0001	93	-	98	0.82		FQ	#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	93	-	98	21		FQ	#		
pH	s.u.	05/02/2007	N001	93	-	98	6.36		FQ	#		
Specific Conductance	umhos /cm	05/02/2007	N001	93	-	98	1890		FQ	#		
Temperature	C	05/02/2007	N001	93	-	98	8.14		FQ	#		
Turbidity	NTU	05/02/2007	N001	93	-	98	73.6		FQ	#		
Uranium	mg/L	05/02/2007	0001	93	-	98	0.015		FQ	#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0468 WELL MARKS, 529 TOMICHI TRAIL

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	05/01/2007	0001	-	220			#		
Manganese	mg/L	05/01/2007	N001	-	0.23			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	-48			#		
pH	s.u.	05/01/2007	N001	-	6.95			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	724			#		
Temperature	C	05/01/2007	N001	-	8.82			#		
Turbidity	NTU	05/01/2007	N001	-	4.03			#		
Uranium	mg/L	05/01/2007	N001	-	0.026			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0469 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	05/01/2007	0001	-	116			#		
Manganese	mg/L	05/01/2007	N001	-	0.013			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	4			#		
pH	s.u.	05/01/2007	N001	-	7.17			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	270			#		
Temperature	C	05/01/2007	N001	-	19.47			#		
Uranium	mg/L	05/01/2007	N001	-	0.0017			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0476 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	05/01/2007	0001	-	92			#		
Manganese	mg/L	05/01/2007	0001	-	0.0006	B	U	#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	99			#		
pH	s.u.	05/01/2007	N001	-	7.51			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	225			#		
Temperature	C	05/01/2007	N001	-	15.64			#		
Uranium	mg/L	05/01/2007	0001	-	0.0016			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0477 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	05/01/2007	0001	-	79			#		
Manganese	mg/L	05/01/2007	0001	-	0.0067			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	-	81			#		
pH	s.u.	05/01/2007	N001	-	7.41			#		
Specific Conductance	umhos /cm	05/01/2007	N001	-	222			#		
Temperature	C	05/01/2007	N001	-	10.62			#		
Uranium	mg/L	05/01/2007	0001	-	0.0018			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0478 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Manganese	mg/L	05/15/2007	0001	-	0.38			#	.000084	
Uranium	mg/L	05/15/2007	0001	-	0.0022			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0667 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	04/30/2007	0001	-	87			#		
Manganese	mg/L	04/30/2007	N001	-	0.00036	B	U	#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	-	157			#		
pH	s.u.	04/30/2007	N001	-	7.11			#		
Specific Conductance	umhos /cm	04/30/2007	N001	-	242			#		
Temperature	C	04/30/2007	N001	-	19.25			#		
Uranium	mg/L	04/30/2007	N001	-	0.0011			#	.0000046	

Ground Water Quality Data by Location (USEE100) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0683 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	04/30/2007	0001	-	102			#		
Manganese	mg/L	04/30/2007	N001	-	0.0011	B	U	#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	-	125			#		
pH	s.u.	04/30/2007	N001	-	7.76			#		
Specific Conductance	umhos /cm	04/30/2007	N001	-	270			#		
Temperature	C	04/30/2007	N001	-	9.63			#		
Uranium	mg/L	04/30/2007	N001	-	0.0014			#	.0000046	

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.

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

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

Surface Water Quality Data

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Surface Water Quality Data by Location (USEE102) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0248 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	05/02/2007	0001	45			#		
Manganese	mg/L	05/02/2007	0001	0.025			#	.000084	
Oxidation Reduction Potential	mV	05/02/2007	N001	58			#		
pH	s.u.	05/02/2007	N001	8.36			#		
Specific Conductance	umhos/cm	05/02/2007	N001	496			#		
Temperature	C	05/02/2007	N001	12.7			#		
Uranium	mg/L	05/02/2007	0001	0.014			#	.0000046	

Surface Water Quality Data by Location (USEE102) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0777 SURFACE LOCATION Tomichi Creek SSE of well 0058

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	05/01/2007	0001	109			#		
Manganese	mg/L	05/01/2007	0001	0.073			#	.000084	
Oxidation Reduction Potential	mV	05/01/2007	N001	47			#		
pH	s.u.	05/01/2007	N001	8.24			#		
Specific Conductance	umhos/cm	05/01/2007	N001	285			#		
Temperature	C	05/01/2007	N001	14.61			#		
Uranium	mg/L	05/01/2007	0001	0.0042			#	.0000046	

Surface Water Quality Data by Location (USEE102) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0780 SURFACE LOCATION NE CORNER VALCO PIT

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	04/30/2007	0001	214			#		
Manganese	mg/L	04/30/2007	0001	0.0041	B		#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	153			#		
pH	s.u.	04/30/2007	N001	8.62			#		
Specific Conductance	umhos/cm	04/30/2007	N001	540			#		
Temperature	C	04/30/2007	N001	17.29			#		
Uranium	mg/L	04/30/2007	0001	0.014			#	.0000046	

Surface Water Quality Data by Location (USEE102) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0792 SURFACE LOCATION KMONKS, SURFACE LOCATION, 8/11/94

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	04/30/2007	0001	86			#		
Manganese	mg/L	04/30/2007	0001	0.014			#	.000084	
Manganese	mg/L	04/30/2007	0002	0.013			#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	141			#		
pH	s.u.	04/30/2007	N001	8.12			#		
Specific Conductance	umhos/cm	04/30/2007	N001	190			#		
Temperature	C	04/30/2007	N001	10.77			#		
Uranium	mg/L	04/30/2007	0001	0.00058			#	.0000046	
Uranium	mg/L	04/30/2007	0002	0.00058			#	.0000046	

Surface Water Quality Data by Location (USEE102) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007
Location: 0795 SURFACE LOCATION KMONKS, SURFACE LOCATION, 8/11/94

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	04/30/2007	0001	63			#		
Manganese	mg/L	04/30/2007	0001	0.015			#	.000084	
Oxidation Reduction Potential	mV	04/30/2007	N001	107			#		
pH	s.u.	04/30/2007	N001	7.96			#		
Specific Conductance	umhos/cm	04/30/2007	N001	211			#		
Temperature	C	04/30/2007	N001	12.95			#		
Uranium	mg/L	04/30/2007	0001	0.00058			#	.0000046	

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.

DATA QUALIFIERS:

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

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

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Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 7/17/2007

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
0002	U	7646.75	05/02/2007	13:25:00	10.75	7636	
0005	O	7644.66	05/03/2007	08:07:00	10.3	7634.36	
0062	O	7630.61	05/02/2007	10:48:00	11.47	7619.14	
0063	O	7630.34	05/02/2007	11:10:00	11.68	7618.66	
0064	O	7620.76	05/03/2007	10:08:00	5.63	7615.13	
0065	O	7610.27	05/02/2007	17:40:00	1.78	7608.49	
0066	O	7606.22	05/02/2007	08:30:00	1.72	7604.5	
0067	O	7628.96	05/01/2007	09:50:00	4.65	7624.31	
0102	U	7647.3	05/02/2007	13:40:00	11.5	7635.8	
0105	O	7646.11	05/03/2007	08:26:00	10.51	7635.6	
0106	O	7647.3	05/02/2007	16:23:00	20.9	7626.4	
0112	O	7644.84	05/02/2007	17:05:00	25.3	7619.54	
0113	D	7643.83	04/30/2007	15:05:00	26.43	7617.4	
0125	D	7633.52	05/03/2007	13:32:00	3.56	7629.96	
0126	D	7634.14	05/03/2007	13:06:00	15.73	7618.41	
0127	D	7634.64	05/03/2007	12:40:00	19.17	7615.47	
0135	D	7627.03	05/03/2007	11:18:00	4.26	7622.77	
0136	D	7626.24	05/03/2007	10:52:00	51.3	7574.94	
0160	D	7604.39	05/01/2007	16:55:00	4.37	7600.02	
0161	D	7605.63	05/01/2007	17:15:00	5.83	7599.8	
0181	D	7619.07	05/01/2007	16:05:00	2.59	7616.48	
0183	D	7617.82	05/01/2007	15:15:00	4.06	7613.76	
0186	D	7627.21	05/02/2007	09:44:00	7.91	7619.3	
0187	D	7625.91	05/02/2007	09:00:00	7.42	7618.49	
0188	D	7613.65	05/02/2007	14:50:00	5.25	7608.4	
0189	D	7613.56	05/02/2007	15:08:00	6.05	7607.51	

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT O ON SITE
U UPGRADIENT

WATER LEVEL FLAGS: D Dry

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Time Versus Concentration Graphs

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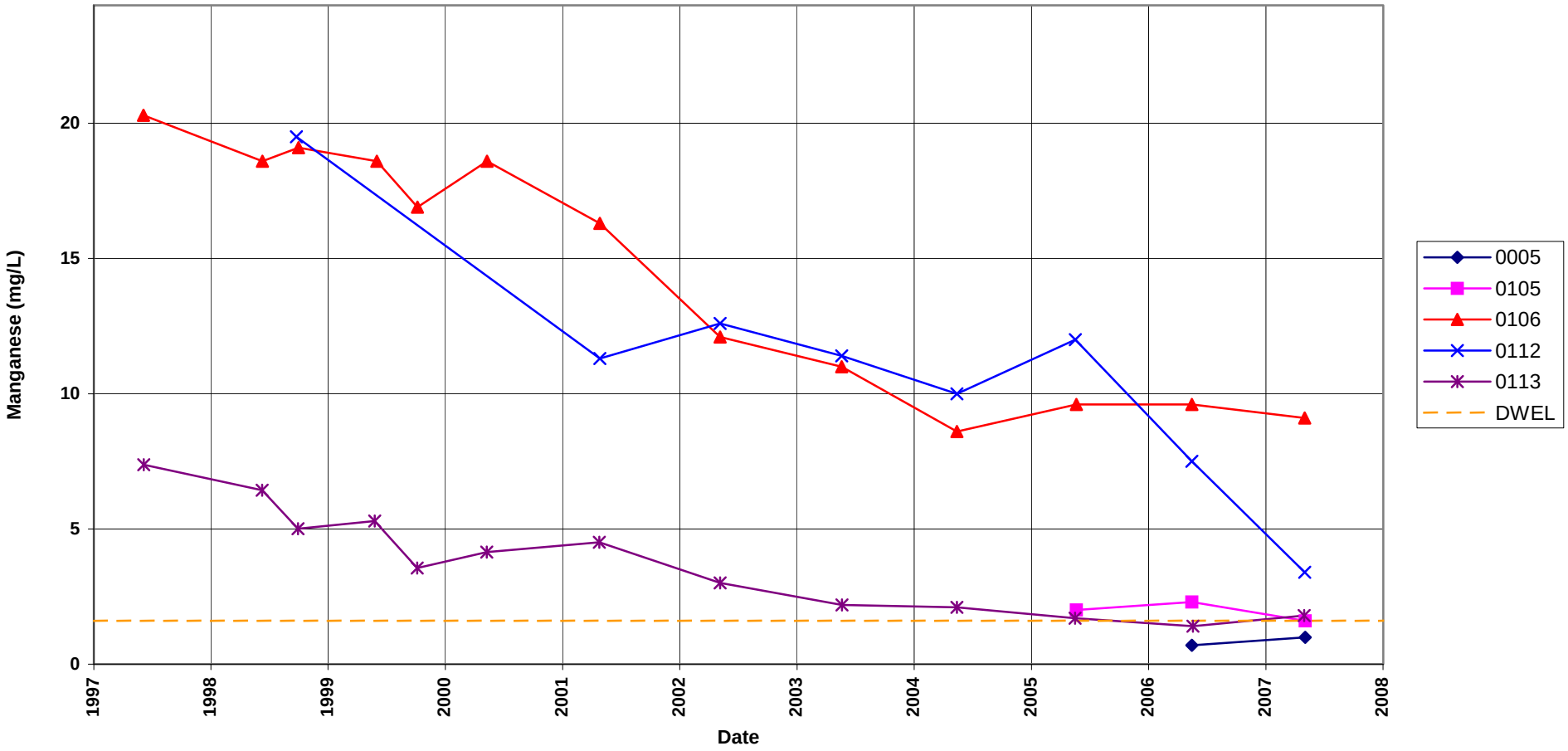
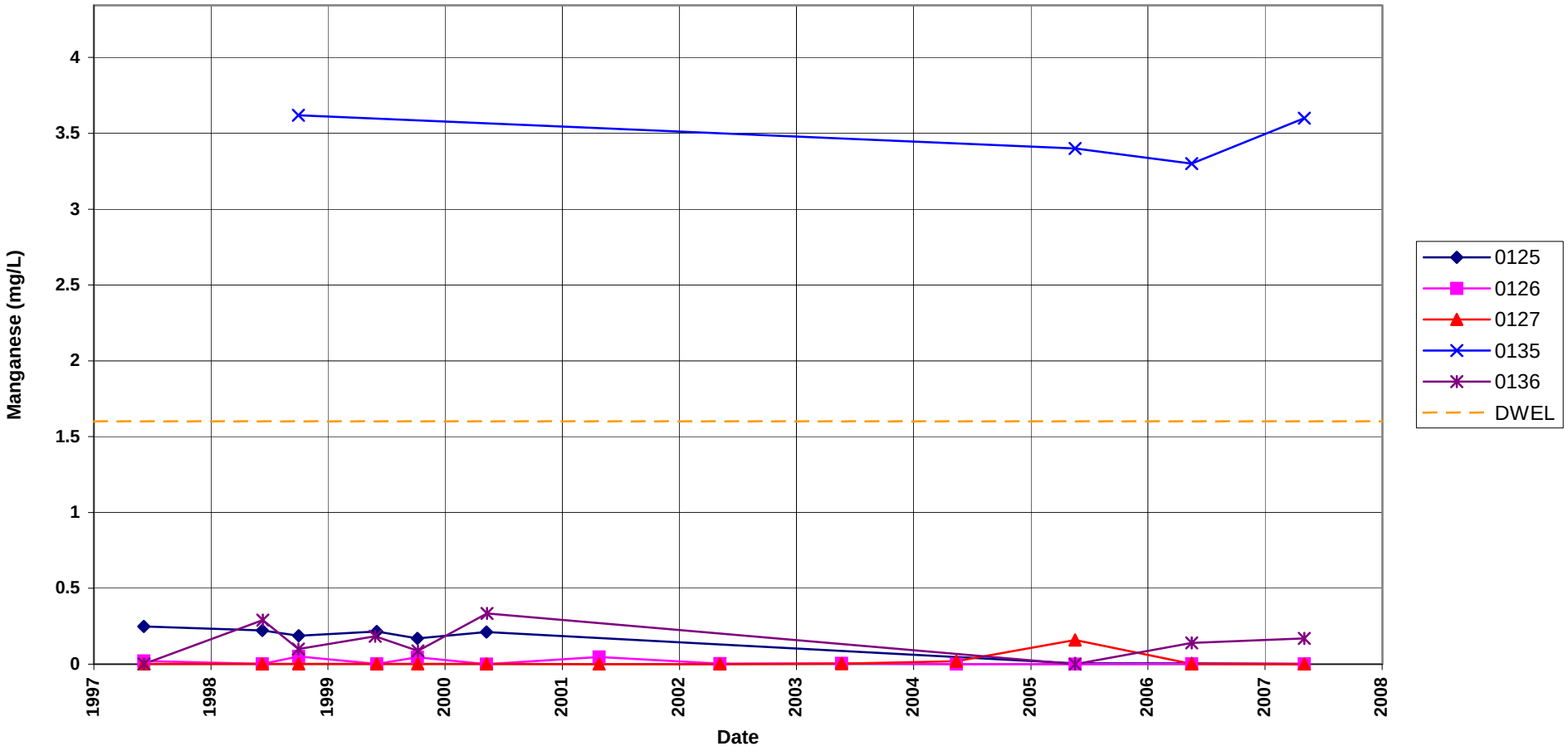
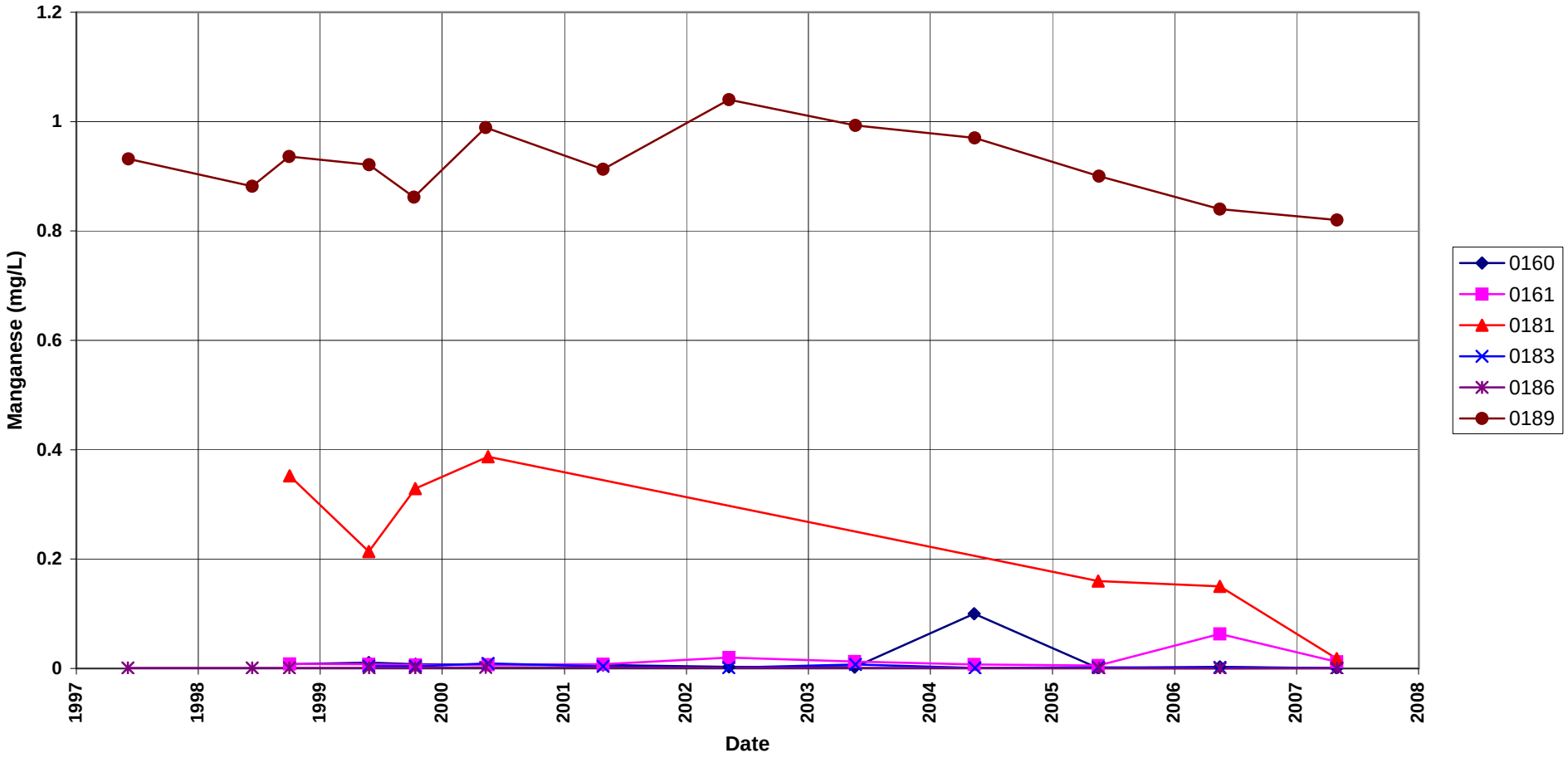
Gunnison Processing Site
Manganese Concentration
Drinking Water Equivalent Level (DWEL) = 1.6 mg/L



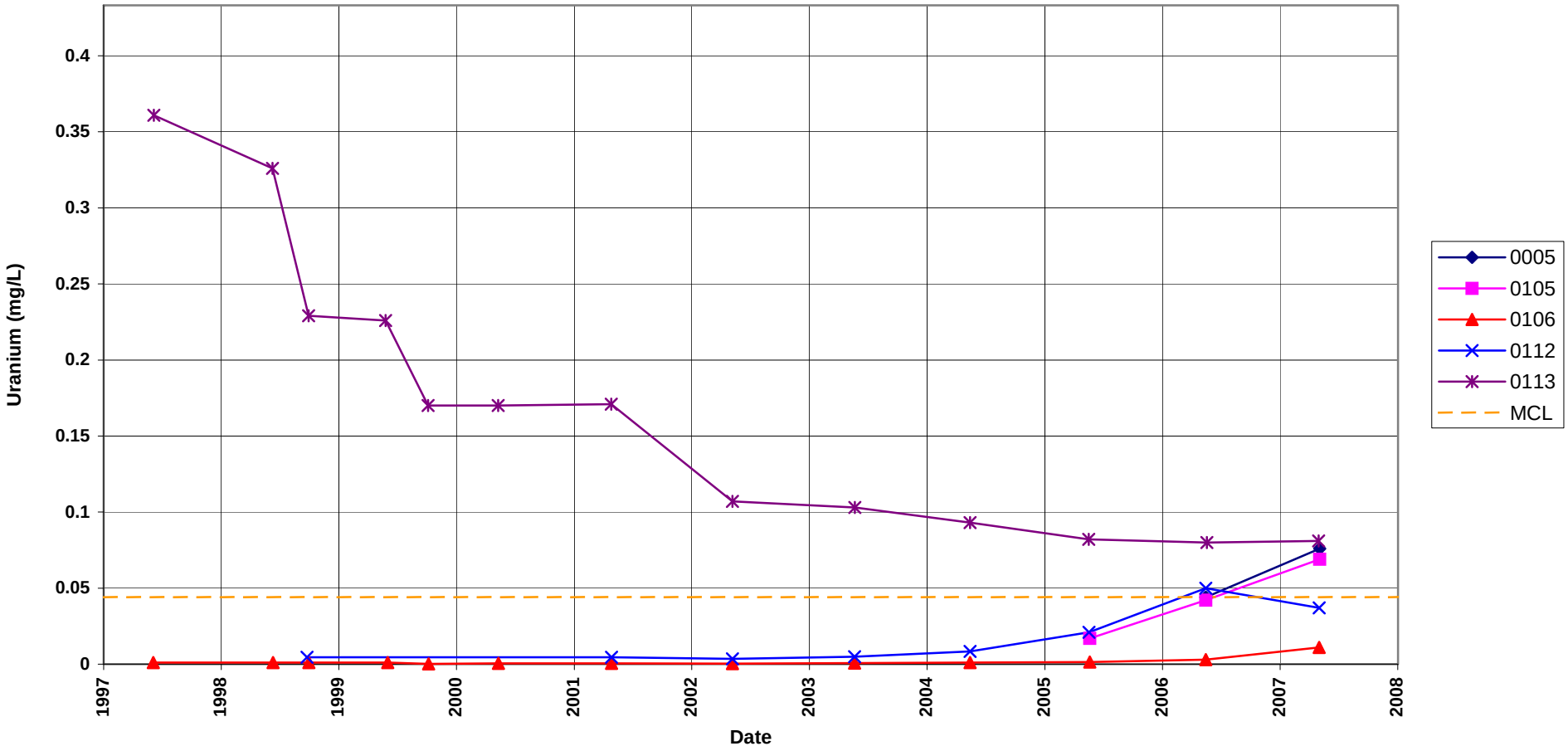
Gunnison Processing Site
Manganese Concentration
Drinking Water Equivalent Level (DWEL) = 1.6 mg/L



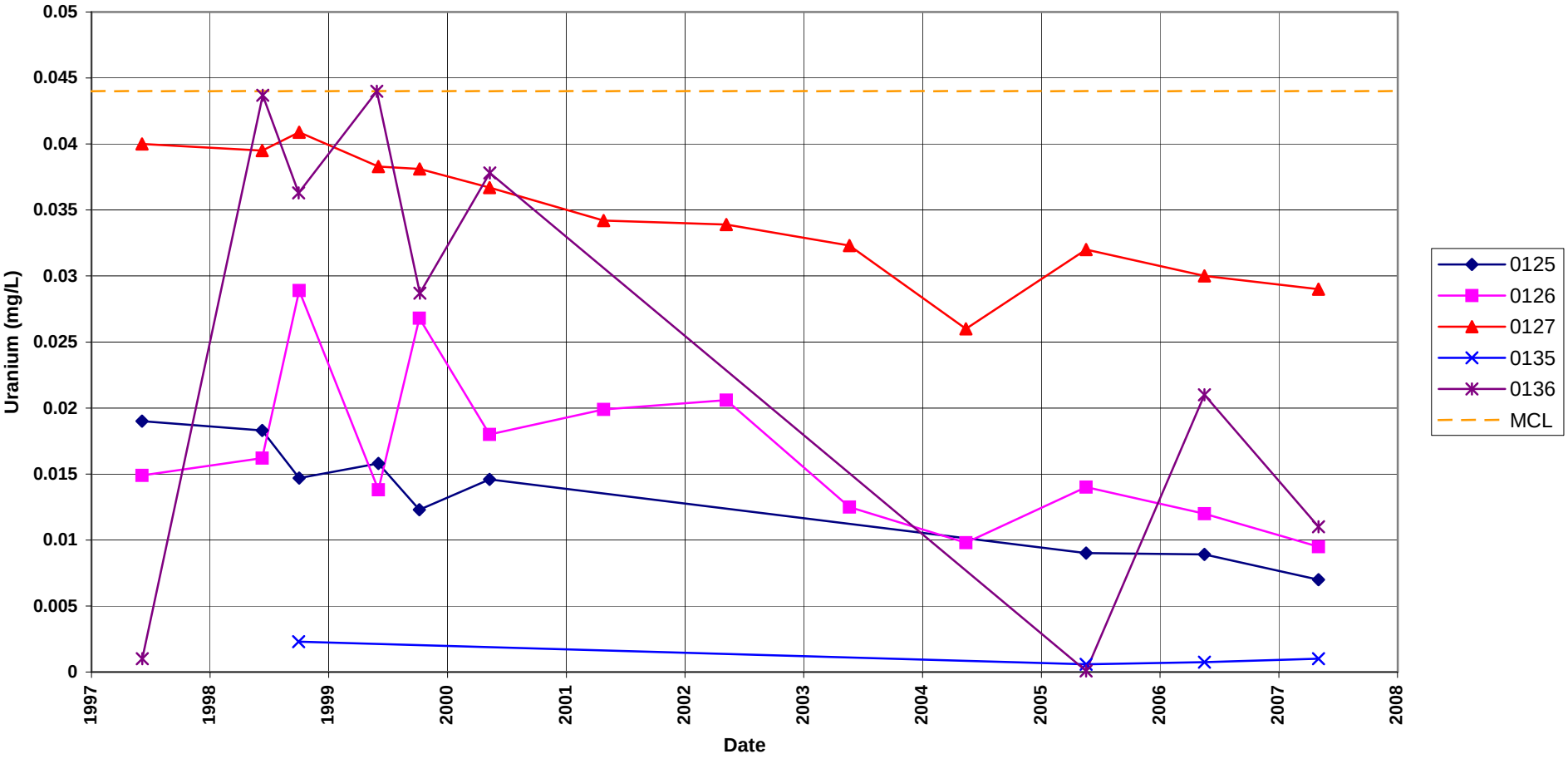
Gunnison Processing Site
Manganese Concentration
Drinking Water Equivalent Level = 1.6 mg/L



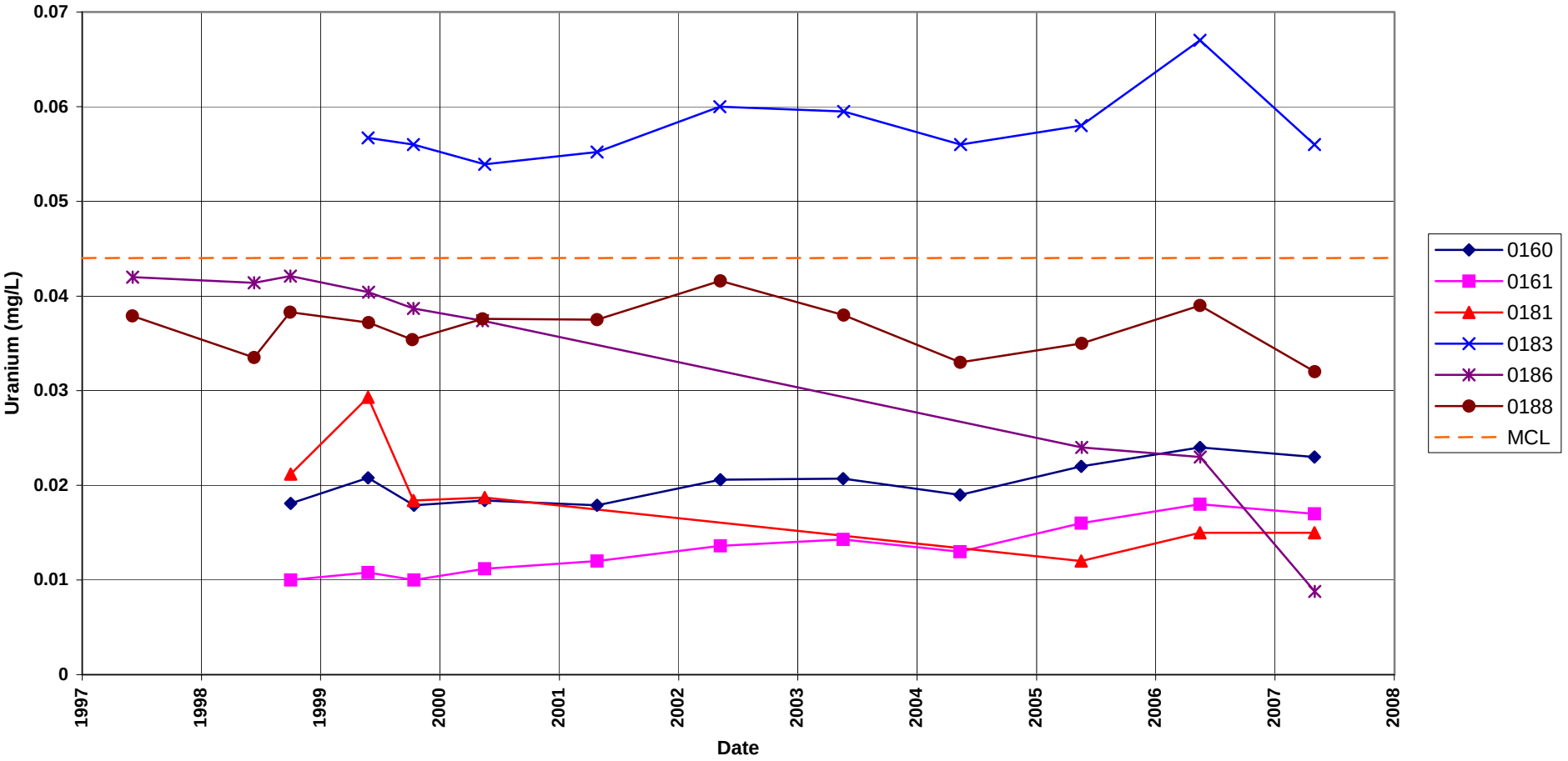
Gunnison Processing Site
Uranium Concentration
Maximum Contaminant Level = 0.044 mg/L



Gunnison Processing Site
Uranium Concentration
Maximum Contaminant Level = 0.044 mg/L



Gunnison Processing Site
Uranium Concentration
Maximum Contaminant Level = 0.044 mg/L



Attachment 3
Sampling and Analysis Work Order

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Stoller
Grand Junction Office
established 1959

Task Order ST07-102
Control Number 1000-T07-0669

March 30, 2007

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

SUBJECT: Contract No. DE-AC01-02GJ79491, Stoller
April 2007 Environmental Sampling at Gunnison, Colorado

Reference: FY 2007 LM Task Order No. ST07-102-12

Dear Mr. Bush:

The purpose of this letter is to inform you of the upcoming sampling at Gunnison, Colorado. Enclosed are the maps and tables specifying sample locations and analytes for monitoring at the Gunnison, Colorado, Processing Site. Water quality data will be collected at this site as part of the routine environmental sampling currently scheduled to begin the week of April 23, 2007.

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

Processing Site (GUN01) Monitor Wells (filtered)*

002 Al	062 Al	066 Al	106 Al	126 Al	160 Al	186 Al
005 Al	063 Al	067 Al	112 Al	127 Al	161 Al	187 Al
006 Al	064 Al	102 Al	113 Al	135 Al	181 Al	188 Al
012 Al	065 Al	105 Al	125 Al	136 Al	183 Al	189 Al
013 Al						

Processing Site (GUN01) Domestic Wells (Unfiltered)

080 Nr	082 Nr	469 Al	667 Al	680 Al	683 Nr	685 Nr
081 Nr	468 Al	665 Al				

*NOTE: Al = Alluvium; Nr = no recovery of data for classifying

Surface Locations (GUN01) (filtered)
248 777 780 792 795

QA/QC samples will be collected as directed in the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*. Access agreements are being reviewed and are expected to be complete by the beginning of fieldwork.

If you have any questions, please call me at extension 6588 or Sam Campbell at extension 6654.

Sincerely,

Clay Carpenter
Project Manager

CC/mat/lcg
Enclosures (3)

cc: C. I. Bahrke, Stoller
S. E. Campbell, Stoller (e)
S. E. Donivan, Stoller (e)
L. C. Goodknight, Stoller (e)
EDD Delivery (e)

cc w/o enclosures:
Correspondence Control File (Thru C. Weston)

Site	Gunnison	
Analyte	**Ground Water**	**Surface Water**
Approx. No. Samples/yr.	39	5
Alkalinity	X	X
Dissolved Oxygen		
Redox Potential	X	X
pH	X	X
Specific Conductance	X	X
Turbidity	X	X
Temperature	X	X
Laboratory Measurements	*GUN01*	
Aluminum		
Ammonia as N (NH3-N)		
Antimony		
Arsenic		
Boron		
Beryllium		
Bromide		
Cadmium		
Calcium		
Chloride		
Chromium		
Cobalt		
Copper		
Fluoride		
Gamma Spec		
Gross Alpha		
Gross Beta		
Iron		
Lead		
Lead-210		
Magnesium		
Manganese	X	X
Molybdenum		
Nickel		
Nickel-63		
Nitrate + Nitrite as N (NO3+NO2)-N		
PCBs		
Phosphate		
Polonium-210		
Potassium		
Radium-226		
Radium-228		
Selenium		

Analyte	Ground Water	Surface Water
Silica		
Sodium		
Strontium		
Sulfate		
Sulfide		
Thallium		
Thorium-230		
Tin		
Total Dissolved Solids		
Total Organic Carbon		
Tritium		
Uranium	X	X
Uranium-234, -238		
Vanadium		
Zinc		
Total Analytes	2	2

Note: All analyte samples are considered filtered 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: May 22, 2007

TO: Distribution

FROM: Sam E. Campbell

SUBJECT: Trip Report

Site: Gunnison, Colorado, Processing Site.

Dates of Sampling Event: April 30 to May 3, and May 15, 2007.

Team Members: Sam Campbell, Jeff Price, Dan Sellers, and Emile Bettez.

Number of Locations Sampled: 26 monitor wells, 5 surface water locations, and 10 domestic wells.

Locations Not Sampled/Reason: Shallow zone wells 0006, 0012, and 0013 were purged dry during redevelopment and did not recover. The lower water level in these wells is attributed to the Valco gravel operation, which continued throughout the winter with mining and dewatering activities.

Location Specific Information: All monitor wells were purged and sampled using Category I criteria with the following exceptions: 0112 and 0189 – Category II, and 0136 Category – III.

The PVC casing of monitor wells 0181 and 0183 on the Dos Rios Golf Course were repaired, and the wells were reconfigured from an above-grade surface completion to a flush-mount surface completion to facilitate mowing at the golf course. New survey coordinates were sent to the Data Management group.

Four additional domestic wells within the IC boundary were identified by Gunnison County officials as currently being used by the residents. Three of these wells, 0476, 0477, and 0478, were sampled during this event. Permission to sample fourth well was denied by the owners (Scott and Monica Newman, 656 Camino Del Rio). Coordinates of the sampled wells were collected with a GPS unit and forwarded to the Data Management group. The sampling team was unable to contact the property owner at well 0478 prior to or during the week of April 30. Contact with the owner was made later, and the well was sampled on May 15th. Owner names and addresses were forwarded to the Data Management and Real Property groups.

Field Variance: Turbidity criteria was not met at well 0106. An equipment blank was not collected.

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

False ID	True ID	Sample Type	Ticket Number
2489	0188	Duplicate	NFK-821
2487	0792	Duplicate	NFA-496
2488	0081	Duplicate	NFA-500

Requisition Numbers Assigned: Samples were assigned to report identification number (RIN) 07040836.

Water Level Measurements: Water levels were measured at all sampled monitor wells

Well Inspection Summary: All wells in the sampling network were redeveloped. Nine wells were identified that need additional maintenance work because the PVC casing is either bent or broken at the base of protective casing. These wells include 0006, 0012, 0106, 0112, 0125, 0126, 0127, 0135, and 0136.

Equipment: All equipment functioned properly.

Regulatory: None

Institutional Controls

Fences, Gates, Locks: No issues identified.
Signs: Not applicable
Trespassing/Site Disturbances: None

Site Issues: None

Disposal Cell/Drainage Structure Integrity: Not applicable.
Vegetation/Noxious Weed Concerns: Not applicable.
Maintenance Requirements: None.

Access Issues: None

Corrective Action Required/Taken: Repairs on the nine wells mentioned above are needed.

(SEC/lcg)

cc: J. Desormeau, DOE (e)
C. I. Bahrke, Stoller (e)
S. E. Donivan, Stoller (e)
EDD Delivery (e)

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