

Data Validation Package

February 2011
Groundwater and Surface Water
Sampling at the Grand Junction,
Colorado, Office Site

April 2011

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Sampling Event Summary

Site: Grand Junction, Colorado, Office Site

Sampling Period: February 8-17, 2011

This event consisted of sampling seven monitoring wells and six surface water locations at the Grand Junction, Colorado, Office Site (Grand Junction site). Long-term monitoring at the Grand Junction site is prescribed in the 2006 *Long-Term Surveillance and Maintenance Plan for the Grand Junction, Colorado, Site*. Groundwater and surface water samples were analyzed for manganese (groundwater only), molybdenum, selenium, sulfate, and uranium. These constituents were selected on the basis of historical data and consideration of groundwater standards (molybdenum, selenium, and uranium), secondary drinking water standards (sulfate and manganese), human health risk (manganese), and Colorado Department of Public Health and the Environment input.

Although groundwater quality at the Grand Junction site has improved, analyte concentrations in the alluvial aquifer still exceed U.S. Environmental Protection Agency (EPA) groundwater standards (40 CFR 192), with the uranium standard exceeded in all seven of the wells in the monitoring network (Table 1).

Table 1. Locations with Samples that Exceeded EPA Groundwater Standards in February 2011

Analyte	Standard ^a	Groundwater		Surface Water	
		Location	Concentration	Location	Concentration
Molybdenum	0.1	8-4S	0.16	-----	-----
Selenium	0.01	6-2N	0.035	-----	-----
		8-4S	0.035		
		GJ01-01	0.030		
Uranium	0.044	10-19N	0.18	Wetland Area	0.50
		11-1S	0.063		
		14-13NA	0.35		
		6-2N	0.080		
		8-4S	0.62		
		GJ01-01	0.34		
		GJ84-04	0.32		

^aStandards are listed in 40 CFR 192.02 Table 1 to Subpart A; concentrations are in milligrams per liter (mg/L).

Surface water features located at the Grand Junction site, which include the North Pond, the South Pond, and the Wetland Area, receive discharge of contaminated alluvial groundwater; therefore, elevated concentrations of groundwater contaminants are expected in the these ponds. Because these locations are recharged by groundwater, results from these locations were evaluated by comparing them to groundwater standards. Surface water locations with sample concentrations that exceeded groundwater standards are listed in Table 1.

Surface water results from Gunnison River locations adjacent to and downstream of the site were compared to statistical benchmark values derived using historical data from the Upper Gunnison sampling location, which is located upstream of the site on the Gunnison River. As shown in Table 2, the benchmark value for uranium was slightly exceeded at the lower Gunnison location during this event, which indicates minor impact to Gunnison River water quality from discharge of contaminated alluvial groundwater.

Table 2. Comparison of Gunnison River Concentrations to Benchmarks

Analyte	Benchmark (mg/L)	2011 Upper Mid Gunnison Concentration (mg/L)	2011 Lower Gunnison Concentration (mg/L)
Molybdenum	0.0500	0.0023	0.0032
Selenium	0.0150	0.003	0.003
Sulfate	510	269	384
Uranium	0.0116	0.0066	0.012

Groundwater modeling predicts that natural flushing of the alluvial aquifer at the Grand Junction site will reduce molybdenum, selenium, and uranium concentrations below EPA groundwater standards (40 CFR 192) within 50 to 80 years; approximately 20 years have elapsed in the 50- to 80-year timeframe predicted by the 1989 model. Sampling results indicate that natural flushing is progressing with analyte concentrations generally declining as shown in the time-concentration graphs, included in the Data Presentation section.



 Sam Campbell
 Site Lead, S.M. Stoller Corporation

5-6-2011

 Date



Legend Location Sampled ● Well ▲ Surface Location 0 500 1,000 Feet 	Site Boundary Wetland 	U.S. DEPARTMENT OF ENERGY <small>GRAND JUNCTION, COLORADO</small>	<small>Work Performed by</small> S.M. Stoller Corporation <small>Under DOE Contract No. DE-AM01-07LM00060</small>
		Grand Junction Office Data Validation	
DATE PREPARED: March 5, 2009		FILENAME: S0524600	

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Grand Junction Site, Sample Location Map

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Data Assessment Summary

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Water Sampling Field Activities Verification Checklist

Project	<u>Grand Junction, CO</u>	Date(s) of Water Sampling	<u>February 8–17, 2011</u>
Date(s) of Verification	<u>March 25, 2011</u>	Name of Verifier	<u>Steve Donovan</u>

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures? List other documents, SOPs, instructions.	<u>Yes</u>	<u>Work Order Letter dated January 13, 2011.</u>
2. Were the sampling locations specified in the planning documents sampled?	<u>Yes</u>	
3. Was a pre-trip calibration conducted as specified in the above-named documents?	<u>Yes</u>	<u>Pre-trip calibrations were performed February 4 and 14, 2011.</u>
4. Was an operational check of the field equipment conducted daily? Did the operational checks meet criteria?	<u>Yes</u> <u>Yes</u>	
5. Were the number and types (alkalinity, temperature, specific conductance, pH, turbidity, DO, ORP) of field measurements taken as specified?	<u>Yes</u>	
6. Was the category of the well documented?	<u>Yes</u>	
7. Were the following conditions met when purging a Category I well: Was one pump/tubing volume purged prior to sampling? Did the water level stabilize prior to sampling? Did pH, specific conductance, and turbidity measurements stabilize prior to sampling? Was the flow rate less than 500 mL/min? If a portable pump was used, was there a 4-hour delay between pump installation and sampling?	<u>Yes</u> <u>Yes</u> <u>Yes</u> <u>Yes</u> <u>NA</u>	

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? Was one pump/tubing volume removed prior to sampling?	NA	All wells met Category I criteria.
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	A duplicate sample was collected at location GJ01-01.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	Yes	One equipment blank was 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? Was the true identity of the samples recorded on the Quality Assurance Sample Log or in the Field Data Collection System (FDCS) report?	Yes	Location IDs 2310 and 2311 were used for QC samples.
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

Report Number (RIN): 11013578
Sample Event: February 8–17, 2011
Site(s): Grand Junction Office, Colorado
Laboratory: GEL Laboratories, Charleston, South Carolina
Work Order No.: 272567
Analysis: Metals and Wet Chemistry
Validator: Steve Donovan
Review Date: March 25, 2011

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 3.

Table 3. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Manganese	LMM-01	SW-846 3005A	SW-846 6010B
Molybdenum	LMM-02	SW-846 3005A	SW-846 6020A
Selenium	LMM-02	SW-846 3005A	SW-846 6020A
Sulfate	MIS-A-044	SW-846 9056	SW-846 9056
Uranium	LMM-02	SW-846 3005A	SW-846 6020A

Data Qualifier Summary

Analytical results were qualified as listed in Table 4. Refer to the sections below for an explanation of the data qualifiers applied.

Table 4. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
272567001	8-4S	Molybdenum	J	Matrix spike failure
272567001	8-4S	Sulfate	J	Matrix spike failure

Sample Shipping/Receiving

GEL Laboratories in Charleston, South Carolina, received 15 water samples on February 18, 2011, accompanied by a Chain of Custody (COC) form. A copy of the air bill was included in the receiving documentation. The COC form was 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 form was complete with no errors or omissions with the following exception. The filtration status for samples from locations North Pond, South Pond, and Wetland Area was not marked on the COC form. The filtration status was correctly marked on the sample labels for these samples.

Preservation and Holding Times

The sample shipment was received cool and intact with temperatures inside the iced coolers between 2 °C and 4 °C, 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.

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. All calibration and laboratory spike standards were prepared from independent sources.

Method SW-846 6010B, Manganese

Calibrations were performed on March 2, 2011, using four calibration standards. The correlation coefficient value was greater than 0.995. The absolute value of the intercept was less than 3 times the method detection limit (MDL). Initial and continuing calibration verification checks were made at the required frequency resulting in nine verification checks. All calibration checks met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit (PQL) and all results were within the acceptance range.

Method SW-846 6020A, Molybdenum, Selenium, and Uranium

Calibrations were performed on March 11, 2011, using two calibration standards. Initial and continuing calibration verification checks were made at the required frequency resulting in seven verification checks. All calibration checks associated with the samples met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the PQL and all results were within the acceptance range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.

Method SW-846 9056, Sulfate

Calibrations were performed on January 18, 2011, using six calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks were made at the required frequency resulting in 11 verification checks. All calibration checks met the acceptance criteria.

Method and Calibration Blanks

Method blanks are analyzed to assess any contamination that may have occurred during sample preparation. Calibration blanks are analyzed to assess instrument contamination prior to and during sample analysis. All blank results associated with the samples were below the 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.

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 exception of molybdenum and sulfate. The associated sample molybdenum and sulfate results are qualified with a “J” flag as estimated values.

Laboratory Replicate Analysis

Laboratory replicate sample results demonstrate acceptable laboratory precision. The relative percent difference values for the sample replicates and matrix spike replicates were less than 20 percent for results that are greater than 5 times the PQL, indicating acceptable 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. All control sample results were acceptable.

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. All evaluated serial dilution data were acceptable.

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 met for all analytes.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers. In the manganese raw data package, some of the sample identifiers were incorrect. These incorrect names can be cross-referenced to the correct laboratory identifiers, so no corrective action by the laboratory is necessary.

Chromatography Peak Integration

The integration of analytes peaks was reviewed for all sulfate data. There were no manual integrations performed for sulfate and all peak integrations were satisfactory.

Electronic Data Deliverable (EDD) File

The EDD file arrived on March 19, 2011. 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

General Data Validation Report

RIN: 11013578 Lab Code: GEN Validator: Steve Donovan Validation Date: 3/25/2011

Project: Grand Junction Office(GJO) Analysis Type: Metals General Chem Rad Organics

of Samples: 15 Matrix: Water Requested Analysis Completed: Yes

Chain of Custody

Present: OK Signed: OK Dated: OK

Sample

Integrity: OK Preservation: OK Temperature: OK

Select Quality Parameters

- Holding Times
- Detection Limits
- Field/Trip Blanks
- Field Duplicates

All analyses were completed within the applicable holding times.

There are 0 detection limit failures.

There was 1 trip/equipment blank evaluated.

There was 1 duplicate evaluated.

SAMPLE MANAGEMENT SYSTEM
Metals Data Validation Worksheet

RIN: 11013578 Lab Code: GEN Date Due: 3/18/2011
 Matrix: Water Site Code: GJO Date Completed: 3/18/2011

Analyte	Method Type	Date Analyzed	CALIBRATION							Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB									
Manganese	ICP/AES	03/02/2011	0.0000	1.0000	OK	OK	OK	OK	OK	95.0	84.2		7.0	93.0	5.0	102.0	
Molybdenum	ICP/MS	03/11/2011			OK	OK	OK	OK	OK	96.5	71.8		1.0	97.0	5.0	91.0	
Selenium	ICP/MS	03/11/2011			OK	OK	OK	OK	OK	88.2	82.6		1.0	106.0	1.0	108.0	
Uranium	ICP/MS	03/11/2011			OK	OK	OK	OK	OK	101.0			2.0	99.0	6.0	98.0	

SAMPLE MANAGEMENT SYSTEM
Wet Chemistry Data Validation Worksheet

RIN: 11013578 Lab Code: GEN Date Due: 3/18/2011
 Matrix: Water Site Code: GJO Date Completed: 3/18/2011

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
Sulfate	03/03/2011	0.090	0.9986	OK	OK	OK	OK	OK	93.70				
Sulfate	03/06/2011				OK		OK			93.0		0	
Sulfate	03/06/2011									111.0			

Sampling Quality Control Assessment

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

Sampling Protocol

All monitoring wells met the Category I low-flow sampling criteria. Sample results for these wells were qualified with an “F” flag in the database, indicating the wells were purged and sampled using the low-flow sampling method. Surface water locations were sampled using a peristaltic pump and tubing reel.

Equipment Blank Assessment

An equipment blank (field ID 2311) was collected after decontamination of the hose reel used to collect the surface water samples. Uranium was detected in this blank at a concentration below the PQL. The associated sample results were greater than 10 times the blank concentration, not requiring qualification. The equipment blank results indicate adequate decontamination of the sampling equipment.

Field Duplicate Assessment

Field duplicate samples are collected and analyzed as an indication of overall precision of the measurement process. The precision observed includes both field and laboratory precision and has more variability than laboratory duplicates, which measure only laboratory performance. Duplicate samples were collected from location GJ01-01 (field duplicate ID 2310). The duplicate results met the EPA recommended laboratory duplicate criteria of less than 20 percent relative difference for results that are greater than 5 times the PQL, indicating acceptable overall precision.

SAMPLE MANAGEMENT SYSTEM

Page 1 of 1

Validation Report: Equipment/Trip Blanks

RIN: 11013578 Lab Code: GEN Project: Grand Junction Office(GJO) Validation Date: 3/25/2011

Blank Data

Blank Type	Lab Sample ID	Lab Method	Analyte Name	Result	Qualifier	MDL	Units
Equipment Blank	272567015	EPA 3005/6020	Uranium	0.093	B	0.067	ug/L

Sample ID	Sample Ticket	Location	Result	Dilution Factor	Lab Qualifier	Validation Qualifier
272567008	JCY 047	Upper Gunnison	6.65	1.00		
272567009	JCY 048	South Pond	38.5	1.00		
272567010	JCY 049	Upper Mid Gunnison	6.59	1.00		
272567011	JCY 050	North Pond	40.4	1.00		
272567012	JCY 051	Lower Gunnison	12.4	1.00		
272567013	JCY 052	Wetland Area	499	1.00		

SAMPLE MANAGEMENT SYSTEM
Validation Report: Field Duplicates

Page 1 of 1

RIN: 11013578 Lab Code: GEN Project: Grand Junction Office(GJO) Validation Date: 3/25/2011

Duplicate: 2310

Sample: GJ01-01

Analyte	Sample				Duplicate				RPD	RER	Units
	Result	Flag	Error	Dilution	Result	Flag	Error	Dilution			
Manganese	545			1.00	535			1.00	1.85		ug/L
Molybdenum	83.6	N		1.00	80.3	N		1.00	4.03		ug/L
Selenium	30.1			1.00	29.7			1.00	1.34		ug/L
Sulfate	537			20.00	538			20.00	0.19		mg/L
Uranium	342			1.00	319			1.00	6.96		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 Donovan
Steve Donovan

4-21-2011
Date

Data Validation Lead:

Steve Donovan
Steve Donovan

4-21-2011
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.

There were no potential outliers identified, and the data for this event are acceptable as qualified.

Data Validation Outliers Report - No Field Parameters

Comparison: All Historical Data

Laboratory: GEL Laboratories

RIN: 11013578

Report Date: 4/6/2011

Site Code	Location Code	Sample ID	Sample Date	Analyte	Current			Historical Maximum			Historical Minimum			Number of Data Points		Statistical Outlier
					Result	Qualifiers Lab Data		Result	Qualifiers Lab Data		Result	Qualifiers Lab Data		N	N Below Detect	
GJO01	10-19N	N001	02/08/2011	Molybdenum	0.0196	N	F	0.541			0.025	F	64	0	No	
GJO01	14-13NA	N001	02/08/2011	Molybdenum	0.0928	N	F	0.57			0.12	F	49	0	No	
GJO01	8-4S	N001	02/08/2011	Sulfate	611		FJ	2200			630	F	53	0	No	
GJO01	GJ01-01	N001	02/08/2011	Molybdenum	0.0836	N	F	0.162		F	0.096	F	10	0	No	
GJO01	GJ01-01	N002	02/08/2011	Uranium	0.319		F	0.507		F	0.32	F	10	0	No	
GJO01	GJ84-04	N001	02/08/2011	Molybdenum	0.0729	N	F	0.413			0.076	F	61	0	No	
GJO01	Wetland Area	0001	02/17/2011	Sulfate	1910			45200			2000		20	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.

Attachment 2

Data Presentation

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Groundwater Quality Data

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Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: 10-19N WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	-	0.83		F	#		
Manganese	mg/L	02/08/2011	N001	-	1.44		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.0196	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	95.1		F	#		
pH	s.u.	02/08/2011	N001	-	6.96		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.0015	U	F	#	0.0015	
Specific Conductance	umhos/cm	02/08/2011	N001	-	5197		F	#		
Sulfate	mg/L	02/08/2011	N001	-	2380		F	#	10	
Temperature	C	02/08/2011	N001	-	11.44		F	#		
Turbidity	NTU	02/08/2011	N001	-	5.9		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.175		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: 11-1S WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	-	1.25		F	#		
Manganese	mg/L	02/08/2011	N001	-	0.409		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.0231	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	49.2		F	#		
pH	s.u.	02/08/2011	N001	-	7.19		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.0015	U	F	#	0.0015	
Specific Conductance	umhos/cm	02/08/2011	N001	-	822		F	#		
Sulfate	mg/L	02/08/2011	N001	-	230		F	#	1	
Temperature	C	02/08/2011	N001	-	11.64		F	#		
Turbidity	NTU	02/08/2011	N001	-	1.43		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.0627		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: 14-13NA WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	-	0.89		F	#		
Manganese	mg/L	02/08/2011	N001	-	4.19		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.0928	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	73.7		F	#		
pH	s.u.	02/08/2011	N001	-	6.96		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.0015	U	F	#	0.0015	
Specific Conductance	umhos /cm	02/08/2011	N001	-	3262		F	#		
Sulfate	mg/L	02/08/2011	N001	-	1290		F	#	10	
Temperature	C	02/08/2011	N001	-	12.94		F	#		
Turbidity	NTU	02/08/2011	N001	-	2.73		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.348		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: 6-2N WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	-	1.67		F	#		
Manganese	mg/L	02/08/2011	N001	-	0.766		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.0351	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	113.7		F	#		
pH	s.u.	02/08/2011	N001	-	7.53		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.035		F	#	0.0015	
Specific Conductance	umhos/cm	02/08/2011	N001	-	2353		F	#		
Sulfate	mg/L	02/08/2011	N001	-	854		F	#	5	
Temperature	C	02/08/2011	N001	-	16.55		F	#		
Turbidity	NTU	02/08/2011	N001	-	2.43		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.0797		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: 8-4S WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	-	0.82		F	#		
Manganese	mg/L	02/08/2011	N001	-	1.18		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.157	N	FJ	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	94.6		F	#		
pH	s.u.	02/08/2011	N001	-	7.14		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.035		F	#	0.0015	
Specific Conductance	umhos/cm	02/08/2011	N001	-	1808		F	#		
Sulfate	mg/L	02/08/2011	N001	-	611		FJ	#	2	
Temperature	C	02/08/2011	N001	-	12.24		F	#		
Turbidity	NTU	02/08/2011	N001	-	1.76		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.616		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJ001, Grand Junction Site

REPORT DATE: 4/6/2011

Location: GJ01-01 WELL South of Building 20

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	02/08/2011	N001	15.5 - 25.5	1.01		F	#		
Manganese	mg/L	02/08/2011	N001	15.5 - 25.5	0.545		F	#	0.002	
Manganese	mg/L	02/08/2011	N002	15.5 - 25.5	0.535		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	15.5 - 25.5	0.0836	N	F	#	0.000165	
Molybdenum	mg/L	02/08/2011	N002	15.5 - 25.5	0.0803	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	15.5 - 25.5	96.4		F	#		
pH	s.u.	02/08/2011	N001	15.5 - 25.5	7.22		F	#		
Selenium	mg/L	02/08/2011	N001	15.5 - 25.5	0.0301		F	#	0.0015	
Selenium	mg/L	02/08/2011	N002	15.5 - 25.5	0.0297		F	#	0.0015	
Specific Conductance	umhos/cm	02/08/2011	N001	15.5 - 25.5	1717		F	#		
Sulfate	mg/L	02/08/2011	N001	15.5 - 25.5	537		F	#	2	
Sulfate	mg/L	02/08/2011	N002	15.5 - 25.5	538		F	#	2	
Temperature	C	02/08/2011	N001	15.5 - 25.5	12.95		F	#		
Turbidity	NTU	02/08/2011	N001	15.5 - 25.5	2.69		F	#		
Uranium	mg/L	02/08/2011	N001	15.5 - 25.5	0.342		F	#	0.000067	
Uranium	mg/L	02/08/2011	N002	15.5 - 25.5	0.319		F	#	0.000067	

Groundwater Quality Data by Location (USEE100) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: GJ84-04 WELL

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Dissolved Oxygen	mg/L	02/08/2011	N001	-	0.43		F	#		
Manganese	mg/L	02/08/2011	N001	-	4.22		F	#	0.002	
Molybdenum	mg/L	02/08/2011	N001	-	0.0729	N	F	#	0.000165	
Oxidation Reduction Potential	mV	02/08/2011	N001	-	66.6		F	#		
pH	s.u.	02/08/2011	N001	-	7.02		F	#		
Selenium	mg/L	02/08/2011	N001	-	0.0015	U	F	#	0.0015	
Specific Conductance	umhos /cm	02/08/2011	N001	-	3373		F	#		
Sulfate	mg/L	02/08/2011	N001	-	1310		F	#	10	
Temperature	C	02/08/2011	N001	-	11.64		F	#		
Turbidity	NTU	02/08/2011	N001	-	2.58		F	#		
Uranium	mg/L	02/08/2011	N001	-	0.323		F	#	0.000067	

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 GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: Lower Gunnison SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID		Lab	Data	QA		
Molybdenum	mg/L	02/09/2011	N001	0.0032	N		#	0.000165	
Oxidation Reduction Potential	mV	02/09/2011	N001	159.5			#		
pH	s.u.	02/09/2011	N001	6.72			#		
Selenium	mg/L	02/09/2011	N001	0.00309	B		#	0.0015	
Specific Conductance	umhos/cm	02/09/2011	N001	995			#		
Sulfate	mg/L	02/09/2011	N001	323			#	1	
Temperature	C	02/09/2011	N001	2.9			#		
Turbidity	NTU	02/09/2011	N001	7.29			#		
Uranium	mg/L	02/09/2011	N001	0.0124			#	0.000067	

Surface Water Quality Data by Location (USEE102) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: North Pond SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers		Detection Limit	Uncertainty
		Date	ID		Lab	Data QA		
Molybdenum	mg/L	02/17/2011	0001	0.00641	N	#	0.000165	
Selenium	mg/L	02/17/2011	0001	0.0015	U	#	0.0015	
Sulfate	mg/L	02/17/2011	0001	384		#	2	
Uranium	mg/L	02/17/2011	0001	0.0404		#	0.000067	
Oxidation Reduction Potential	mV	02/17/2011	N001	176		#		
pH	s.u.	02/17/2011	N001	7.24		#		
Specific Conductance	umhos/cm	02/17/2011	N001	1278		#		
Temperature	C	02/17/2011	N001	10.5		#		
Turbidity	NTU	02/17/2011	N001	17.5		#		

Surface Water Quality Data by Location (USEE102) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: South Pond SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers		Detection Limit	Uncertainty
		Date	ID		Lab	Data QA		
Molybdenum	mg/L	02/17/2011	N001	0.00813	N	#	0.000165	
Oxidation Reduction Potential	mV	02/17/2011	N001	185		#		
pH	s.u.	02/17/2011	N001	6.34		#		
Selenium	mg/L	02/17/2011	N001	0.0015	U	#	0.0015	
Specific Conductance	umhos/cm	02/17/2011	N001	482		#		
Sulfate	mg/L	02/17/2011	N001	133		#	1	
Temperature	C	02/17/2011	N001	6.75		#		
Turbidity	NTU	02/17/2011	N001	5.51		#		
Uranium	mg/L	02/17/2011	N001	0.0385		#	0.000067	

Surface Water Quality Data by Location (USEE102) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: Upper Gunnison SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers		Detection Limit	Uncertainty
		Date	ID		Lab	Data QA		
Molybdenum	mg/L	02/09/2011	N001	0.00221	BN	#	0.000165	
Oxidation Reduction Potential	mV	02/09/2011	N001	88.4		#		
pH	s.u.	02/09/2011	N001	8.04		#		
Selenium	mg/L	02/09/2011	N001	0.00325	B	#	0.0015	
Specific Conductance	umhos/cm	02/09/2011	N001	849		#		
Sulfate	mg/L	02/09/2011	N001	269		#	1	
Temperature	C	02/09/2011	N001	2.71		#		
Turbidity	NTU	02/09/2011	N001	8.23		#		
Uranium	mg/L	02/09/2011	N001	0.00665		#	0.000067	

Surface Water Quality Data by Location (USEE102) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: Upper Mid Gunnison SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID		Lab	Data	QA		
Molybdenum	mg/L	02/09/2011	N001	0.00225	BN		#	0.000165	
Oxidation Reduction Potential	mV	02/09/2011	N001	103.5			#		
pH	s.u.	02/09/2011	N001	7.91			#		
Selenium	mg/L	02/09/2011	N001	0.00325	B		#	0.0015	
Specific Conductance	umhos/cm	02/09/2011	N001	849			#		
Sulfate	mg/L	02/09/2011	N001	269			#	1	
Temperature	C	02/09/2011	N001	2.74			#		
Turbidity	NTU	02/09/2011	N001	6.92			#		
Uranium	mg/L	02/09/2011	N001	0.00659			#	0.000067	

Surface Water Quality Data by Location (USEE102) FOR SITE GJO01, Grand Junction Site

REPORT DATE: 4/6/2011

Location: Wetland Area SURFACE LOCATION

Parameter	Units	Sample		Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID		Lab	Data	QA		
Molybdenum	mg/L	02/17/2011	0001	0.0736	N		#	0.000165	
Selenium	mg/L	02/17/2011	0001	0.0015	U		#	0.0015	
Sulfate	mg/L	02/17/2011	0001	1910			#	10	
Uranium	mg/L	02/17/2011	0001	0.499			#	0.000067	
Oxidation Reduction Potential	mV	02/17/2011	N001	203.6			#		
pH	s.u.	02/17/2011	N001	8.15			#		
Specific Conductance	umhos/cm	02/17/2011	N001	4810			#		
Temperature	C	02/17/2011	N001	6.46			#		
Turbidity	NTU	02/17/2011	N001	40.5			#		

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

- # Validated according to quality assurance guidelines.

Equipment Blank Data

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BLANKS REPORT

LAB: GENERAL ENGINEERING (Charleston, SC)

RIN: 11013578

Report Date: 4/6/2011

Parameter	Site Code	Location ID	Sample Date	Sample ID	Units	Result	Qualifiers Lab Data	Detection Limit	Uncertainty	Sample Type
Manganese	GJO01	0999	02/09/2011	N001	mg/L	0.002	U	0.002		E
Molybdenum	GJO01	0999	02/09/2011	N001	mg/L	0.000165	UN	0.000165		E
Selenium	GJO01	0999	02/09/2011	N001	mg/L	0.0015	U	0.0015		E
Sulfate	GJO01	0999	02/09/2011	N001	mg/L	0.1	U	0.1		E
Uranium	GJO01	0999	02/09/2011	N001	mg/L	0.000093	B	0.000067		E

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

SAMPLE TYPES:

- E Equipment Blank.

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Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE GJ001, Grand Junction Site
REPORT DATE: 4/6/2011

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)
10-19N	O	4566.62	02/08/2011	13:27:13	13.65	4552.97
11-1S	O	4572.83	02/08/2011	15:19:56	16.67	4556.16
14-13NA	O	4560.58	02/08/2011	14:38:42	6.45	4554.13
6-2N	O	4569.89	02/08/2011	10:31:04	14.25	4555.64
8-4S	O	4568.59	02/08/2011	11:38:59	12.03	4556.56
GJ01-01		4571.37	02/08/2011	10:58:54	15.56	4555.81
GJ84-04	D	4563.24	02/08/2011	14:13:13	9.73	4553.51

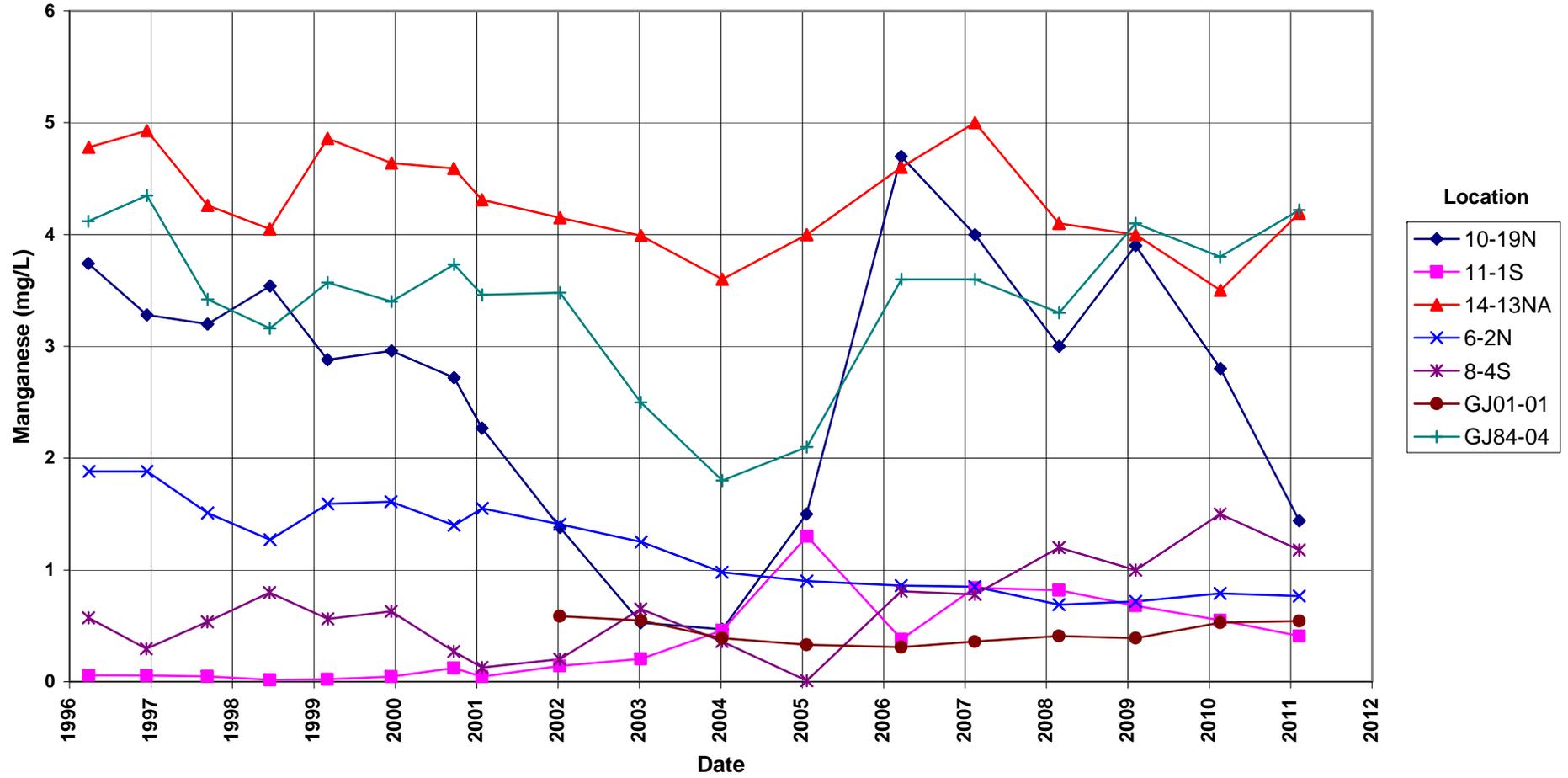
FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT F OFF SITE
 N UNKNOWN O ON SITE U UPGRADIENT

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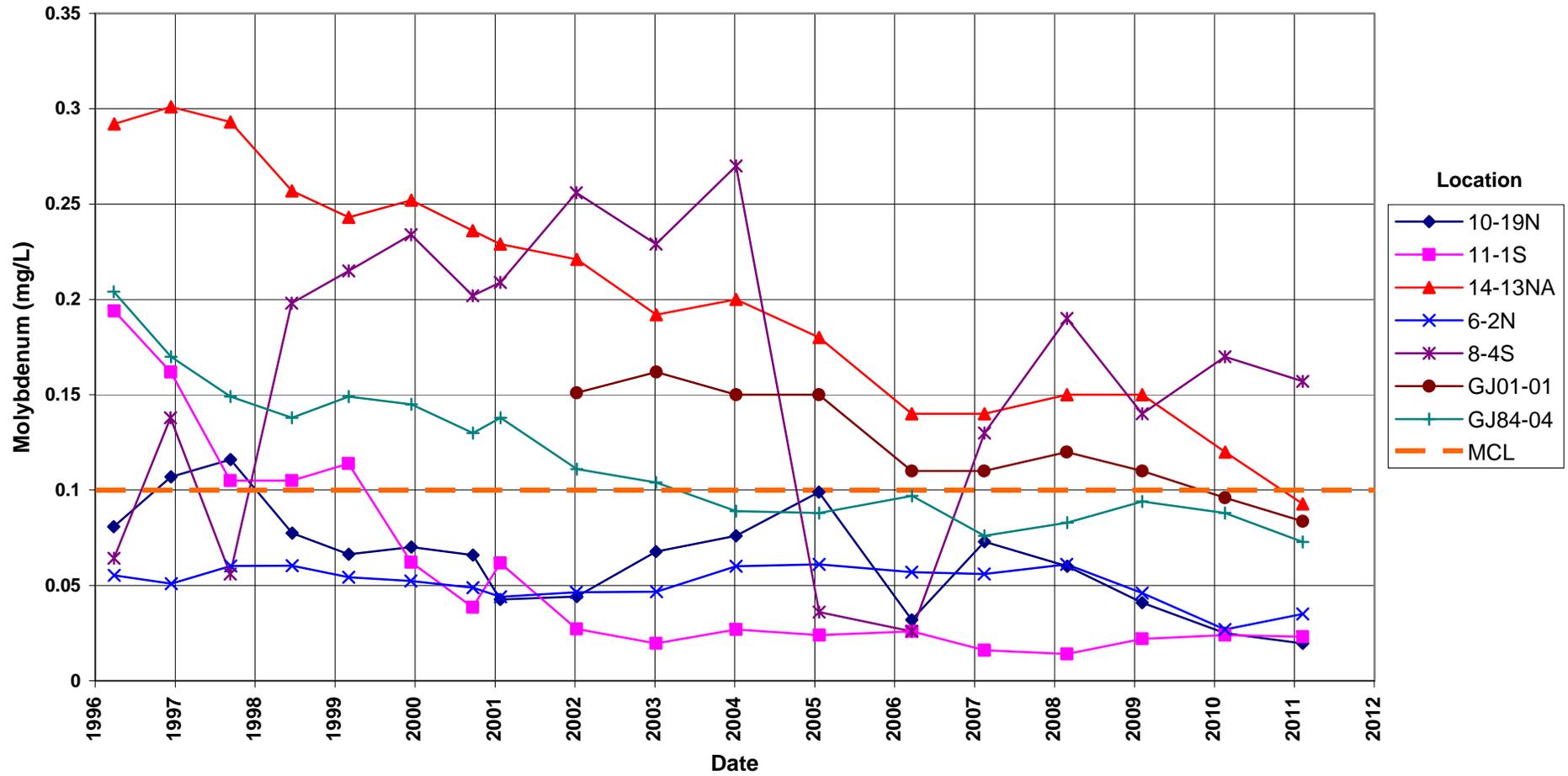
Time-Concentration Graphs Groundwater Locations

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Grand Junction Site Manganese Concentration

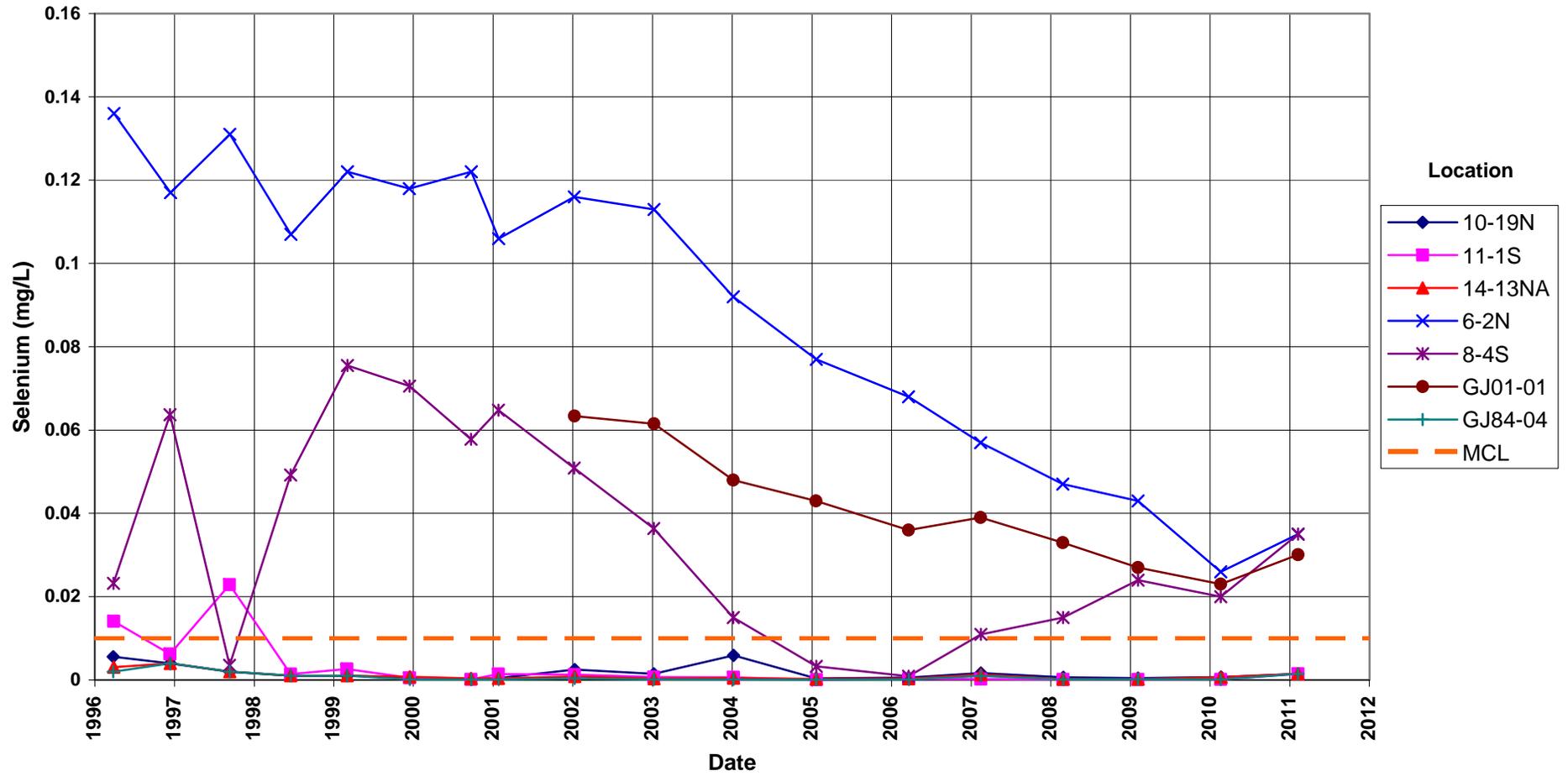


**Grand Junction Site
Molybdenum Concentration**
Maximum Contaminant Level (MCL) = 0.1 mg/L



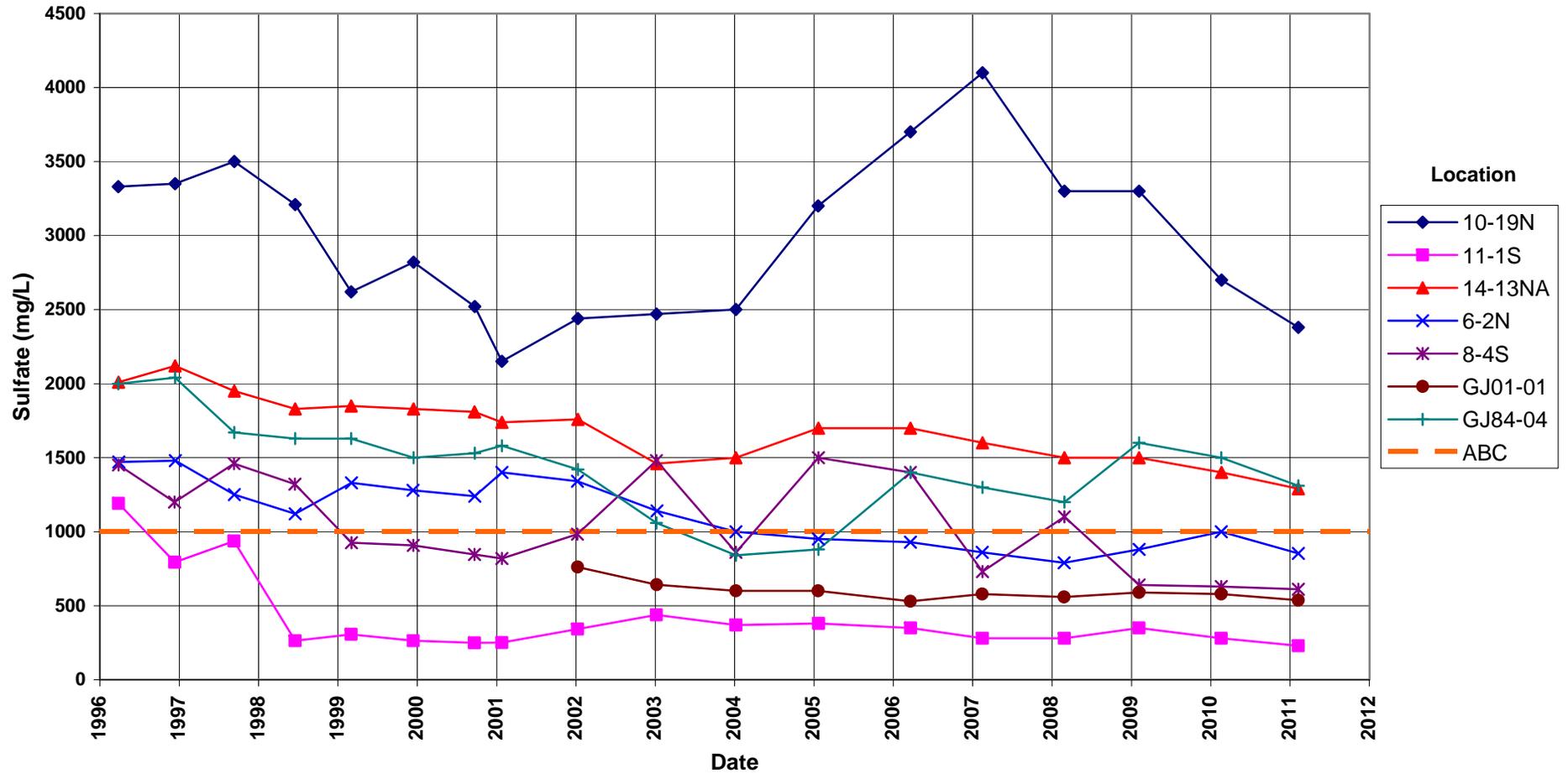
Grand Junction Site Selenium Concentration

Maximum Contaminant Level (MCL) = 0.01 mg/L



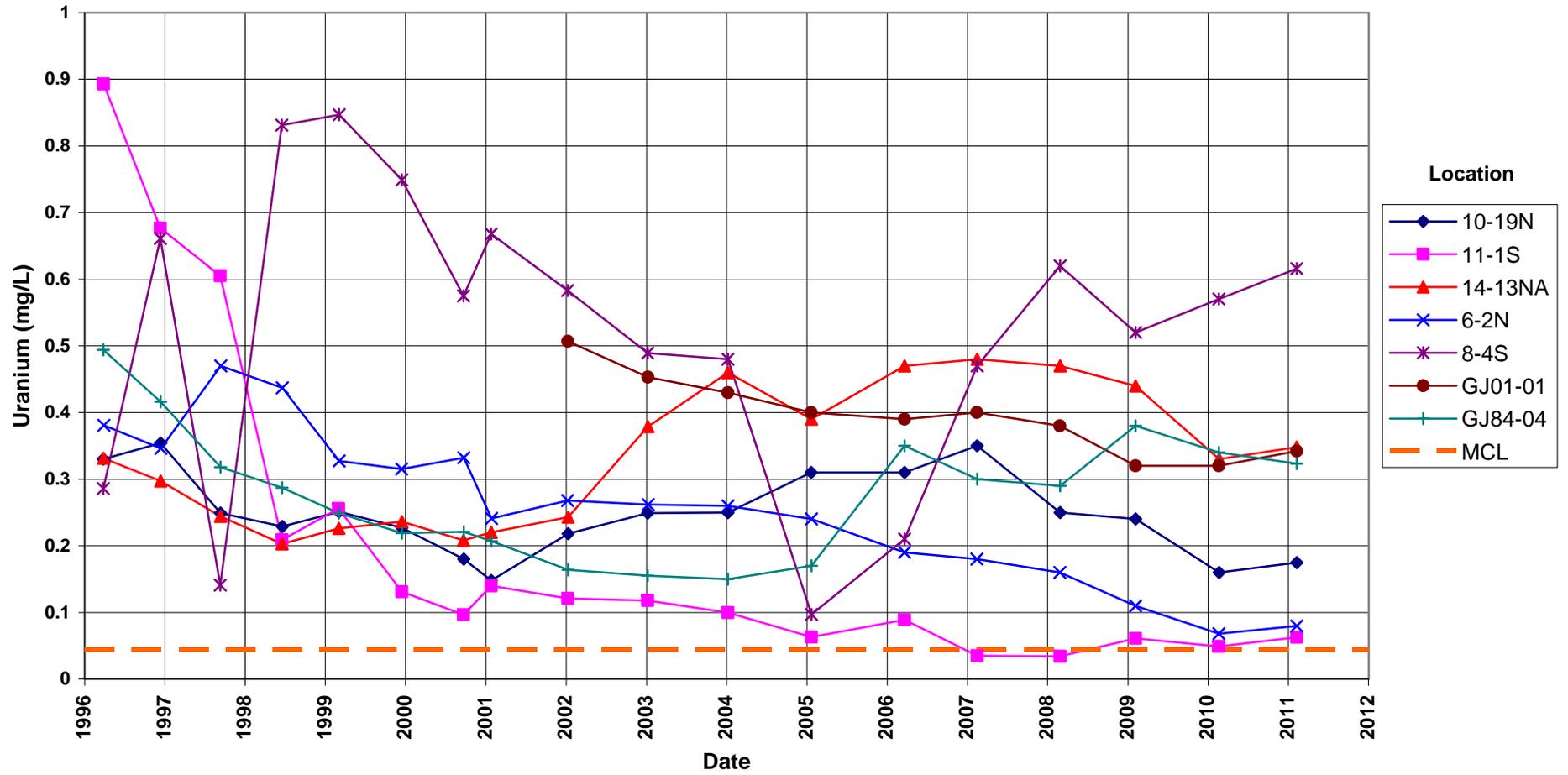
Grand Junction Site Sulfate Concentration

Average Background Concentration (ABC) in Background Wells = 1,003 mg/L



Grand Junction Site Uranium Concentration

Maximum Contaminant Level (MCL) = 0.044 mg/L

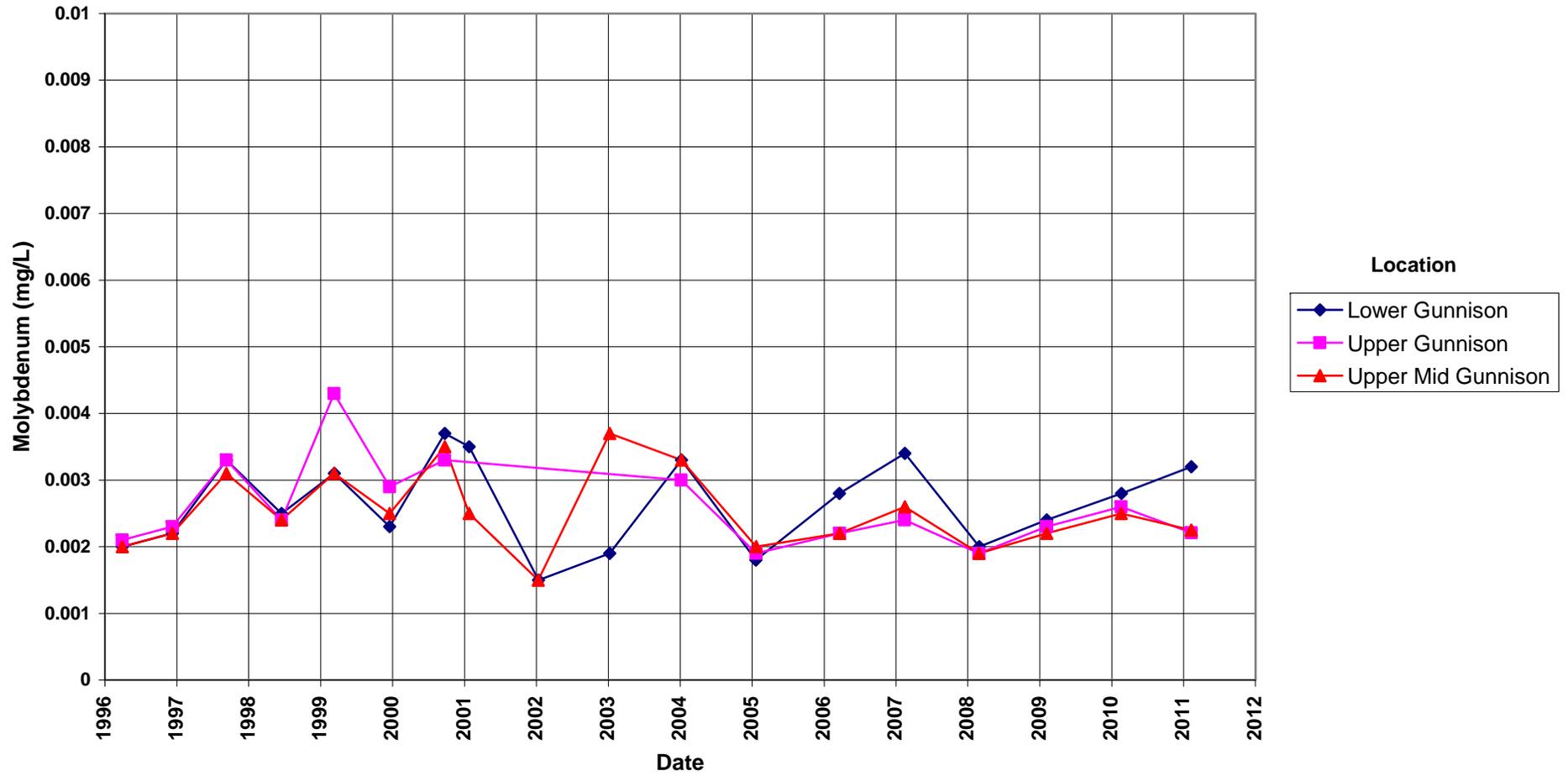


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Time-Concentration Graphs Surface Water Locations

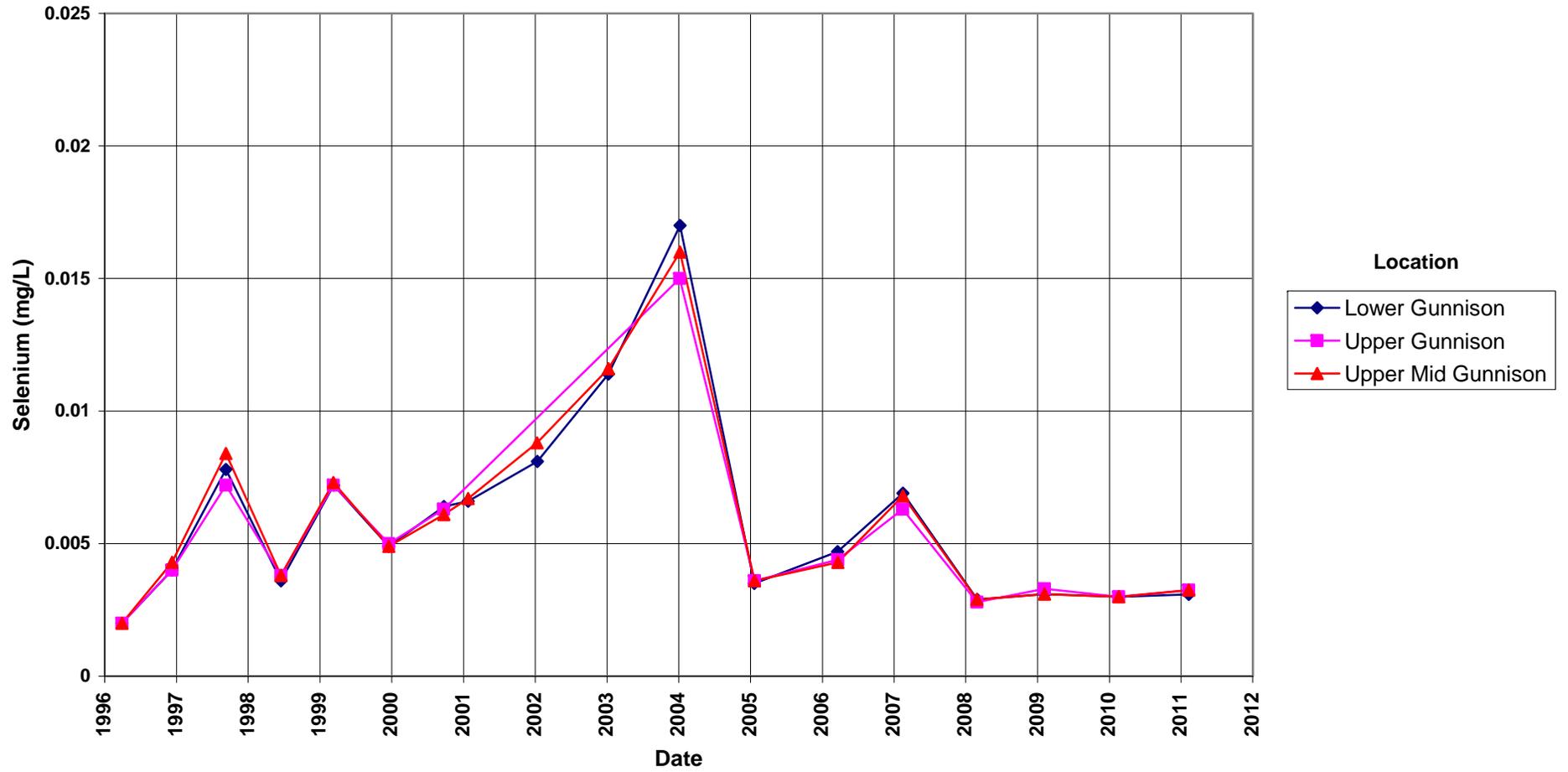
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Grand Junction Site
Molybdenum Concentration
River Locations



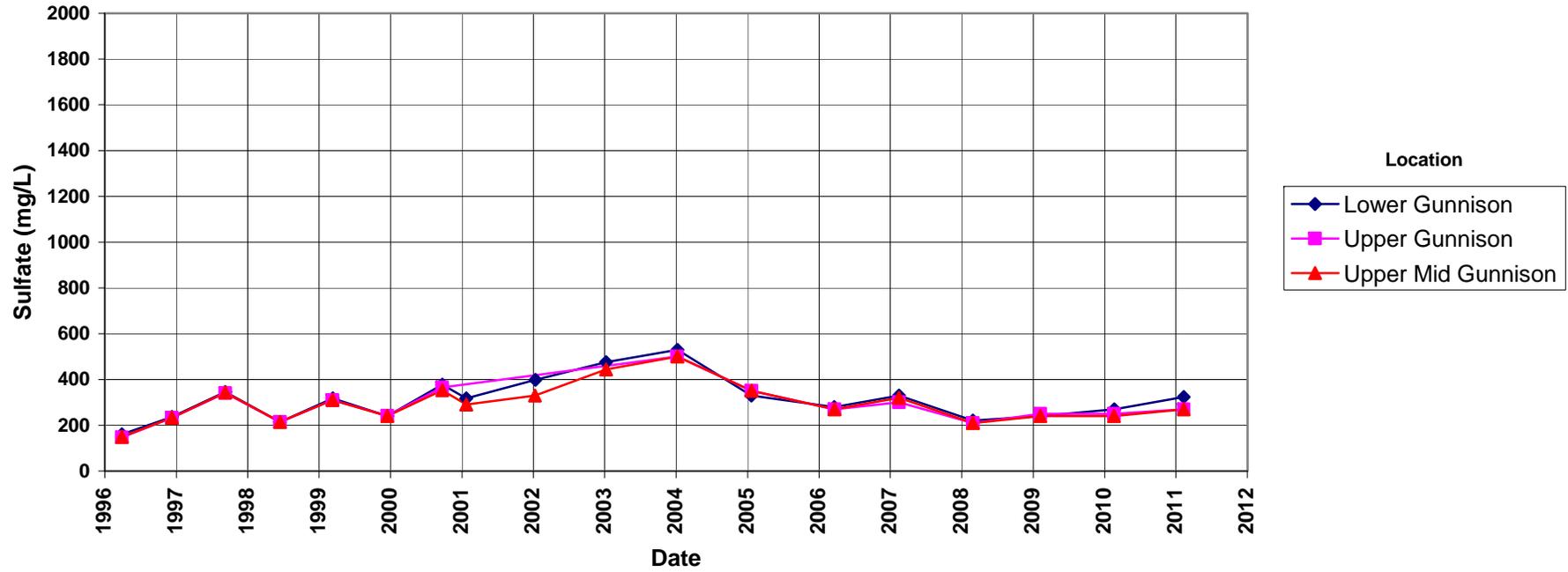
Grand Junction Site Selenium Concentration

River Locations



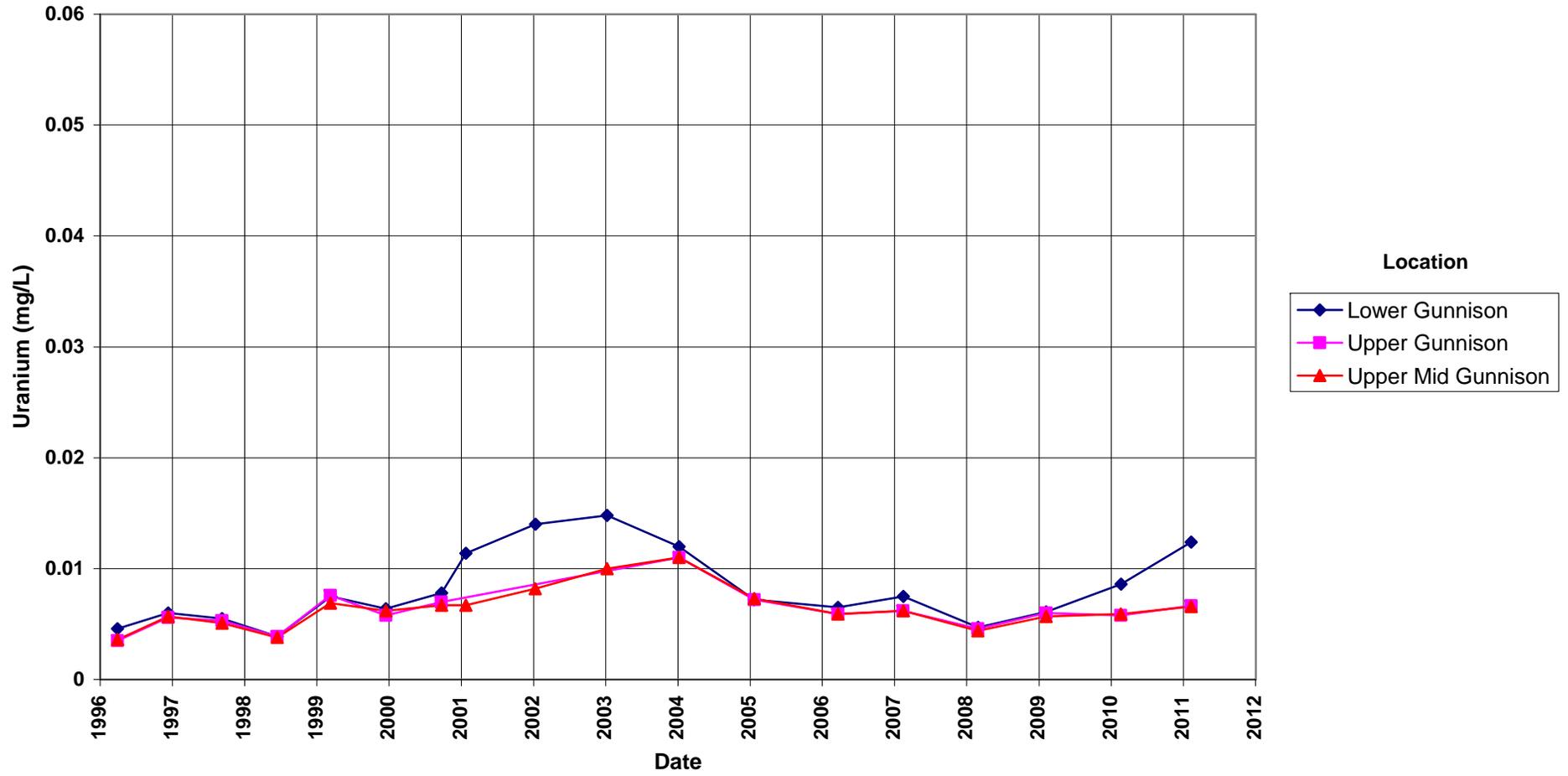
Grand Junction Site Sulfate Concentration

River Locations

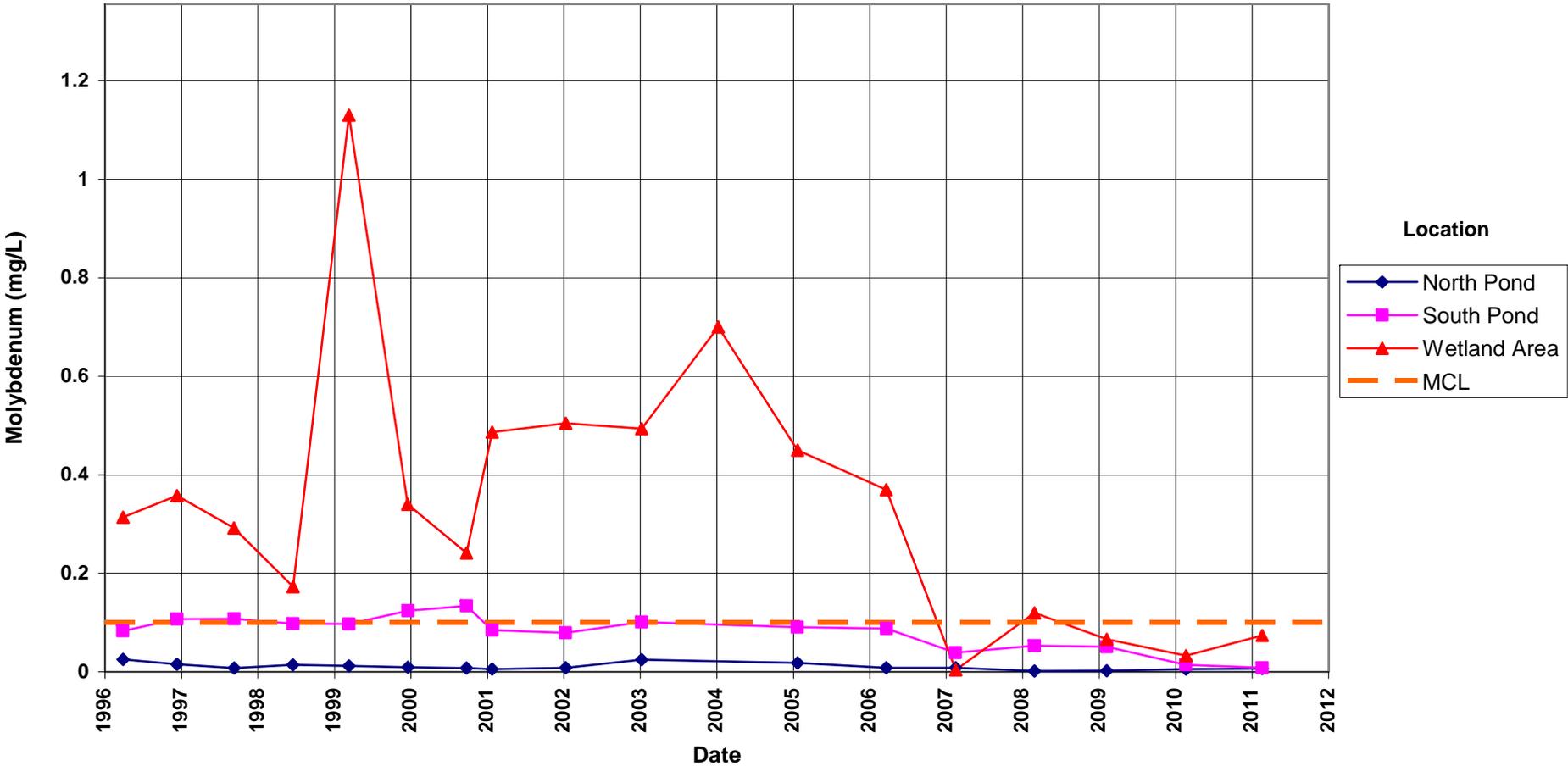


Grand Junction Site Uranium Concentration

River Locations



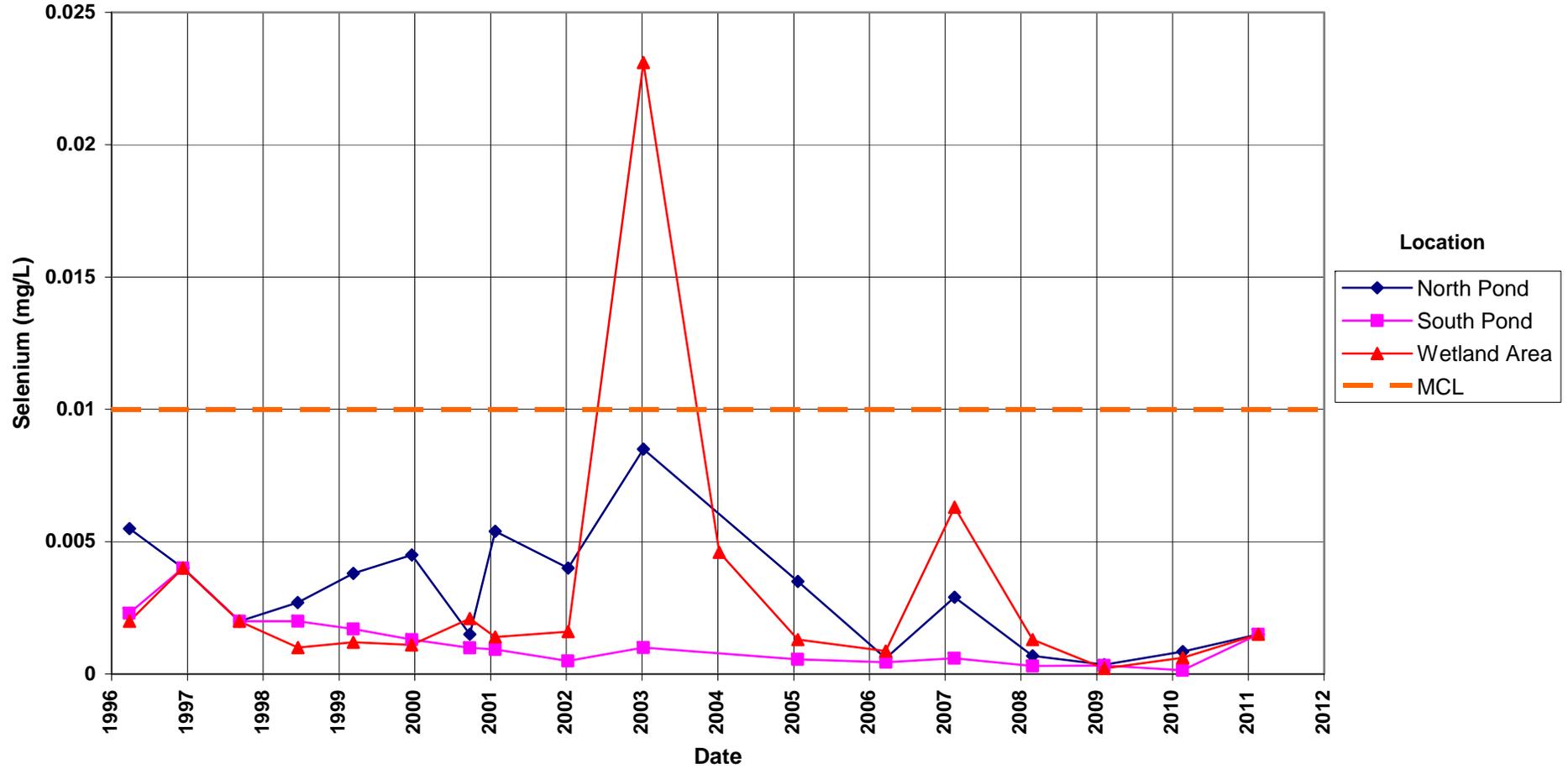
Grand Junction Site
Molybdenum Concentration
Pond and Wetland Locations
Maximum Contaminant Level (MCL) = 0.1 mg/L



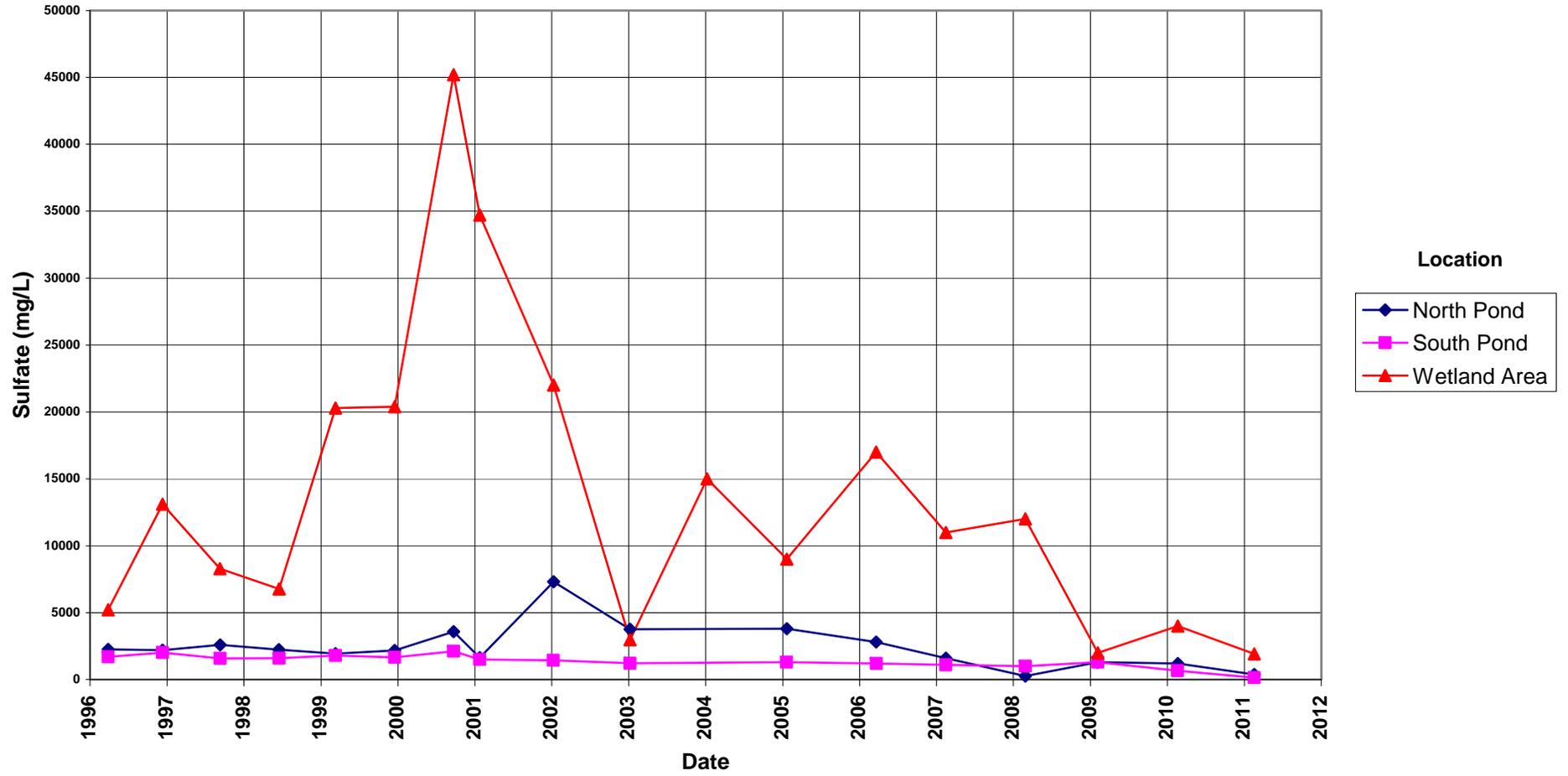
Grand Junction Site Selenium Concentration

Pond and Wetland Locations

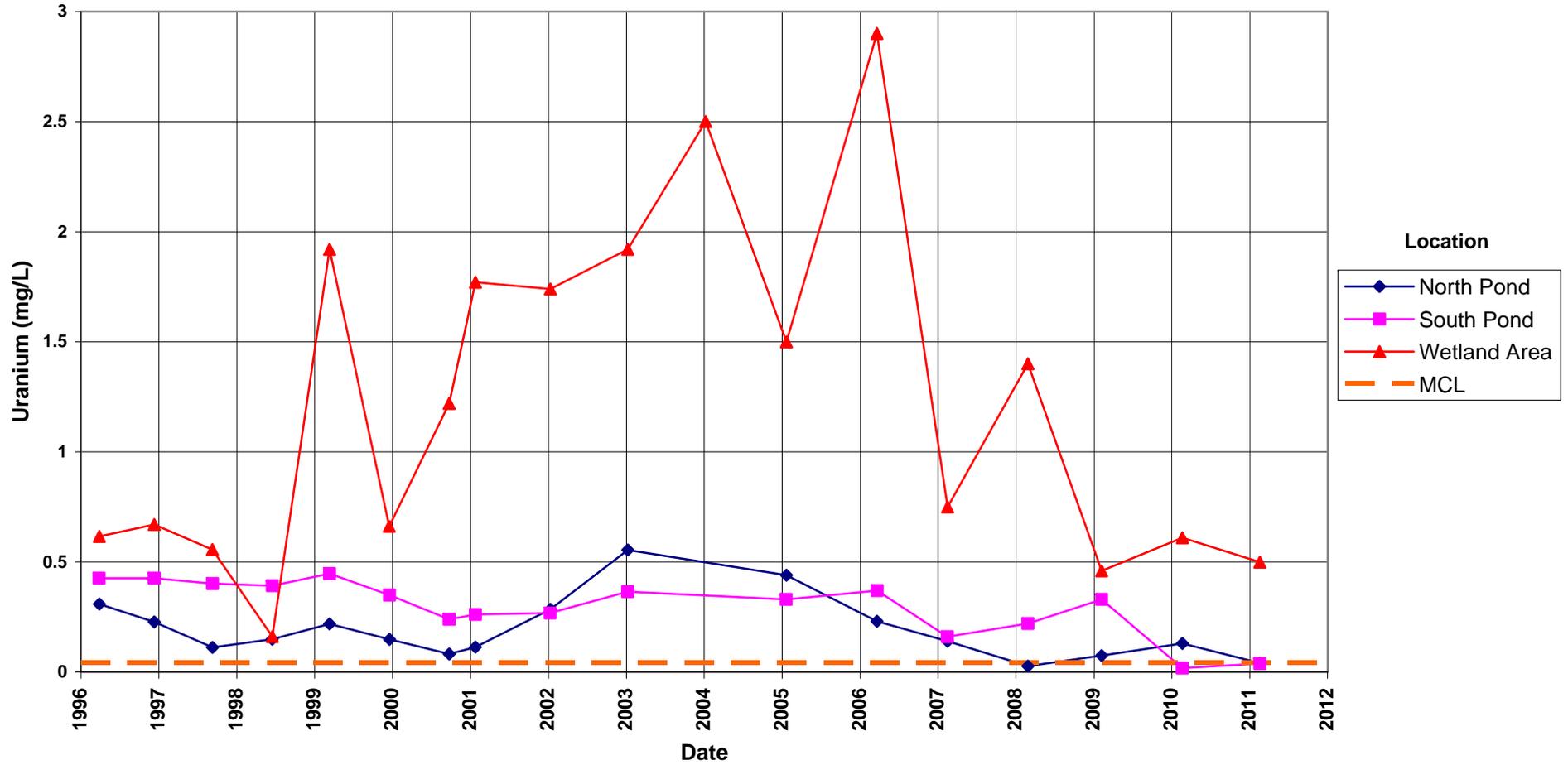
Maximum Contaminant Level (MCL) = 0.01 mg/L



Grand Junction Site Sulfate Concentration Pond and Wetland Locations



Grand Junction Site
Uranium Concentration
Pond and Wetland Locations
Maximum Contaminant Level (MCL) = 0.044 mg/L



Attachment 3
Sampling and Analysis Work Order

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Joseph Desormeau
Control Number 11-0246
Page 2

Please call me at (970) 248-6654 if you have any questions.

Sincerely,



Sam Campbell
Site Lead

SC/lcg/lb

Enclosures (3)

cc: (electronic)

Cheri Bahrke, Stoller
Sam Campbell, Stoller
Steve Donovan, Stoller
Bev Gallagher, Stoller
Lauren Goodknight, Stoller
Michele Miller, Stoller
EDD Delivery
rc-grand.junction
File: GJO 410.02(A)

Sampling Frequencies for Locations at the Grand Junction Office Facility

Location ID	Quarterly	Semiannually	Annually	Biennially	Not Sampled	Notes
Monitoring Wells						
8-4S			X			
11-1S			X			
6-2N			X			
14-13NA			X			
GJ84-04			X			
GJ01-01			X			
10-19N			X			
Surface Locations						
Upper Gunnison			X			
Upper Middle Gunnison			X			
Lower Gunnison			X			
South Pond			X			
North Pond			X			
Wetland Area			X			

Sampling conducted in February

Constituent Sampling Breakdown

Site	Grand Junction Office Facility		Required Detection Limit (mg/L)	Analytical Method	Line Item Code
	Groundwater	Surface Water			
Approx. No. Samples/yr	7	6			
<i>Field Measurements</i>					
Alkalinity					
Dissolved Oxygen					
Redox Potential	X	X			
pH	X	X			
Specific Conductance	X	X			
Turbidity	X	X			
Temperature	X	X			
<i>Laboratory Measurements</i>					
Aluminum					
Ammonia as N (NH3-N)					
Calcium					
Chloride					
Chromium					
Gross Alpha					
Gross Beta					
Iron					
Lead					
Magnesium					
Manganese	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					
Potassium					
Radium-226					
Radium-228					
Selenium	X	X	0.0001	SW-846 6020	LMM-02
Silica					
Sodium					
Strontium					
Sulfate	X	X	0.5	SW-846 9056	MIS-A-044
Sulfide					
Total Dissolved Solids					
Total Organic Carbon					
Uranium	X	X	0.0001	SW-846 6020	LMM-02
Vanadium					
Zinc					
Total No. of Analytes	5	4			

Note: 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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Memorandum

DATE: February 24, 2011

TO: Sam Campbell

FROM: Jeff Walters

SUBJECT: Trip Report

Site: Grand Junction, CO Site

Dates of Sampling Event: February 8, 9, and 17, 2011

Team Members: Kent Moe and Jeff Walters (February 8 and 9, 2011)
David Atkinson and Sam Campbell (February 17, 2011)

Number of Locations Sampled: Samples for 7 monitoring wells, 6 surface water locations, 1 duplicate, and 1 equipment blank were collected for Mn, Mo, Se, and U.

Locations Not Sampled/Reason: None.

Location Specific Information: Samples for South Pond, North Pond, and Wetland Area were collected a week after the other samples so those surface water locations could thaw out.

Date	Time	Sample ID	Ticket Number	Matrix
2/8/11	1030	6-2N	JCY 042	Groundwater
2/8/11	1138	8-4S	JCY 040	Groundwater
2/8/11	1327	10-19N	JCY 046	Groundwater
2/8/11	1519	11-1S	JCY 041	Groundwater
2/8/11	1438	14-13NA	JCY 043	Groundwater
2/8/11	1058	GJ01-01	JCY 045	Groundwater
2/8/11	1413	GJ84-04	JCY 044	Groundwater
2/9/11	1434	Lower Gunnison	JCY 051	Surface Water
2/9/11	1459	Upper Mid Gunnison	JCY 049	Surface Water
2/9/11	1528	Upper Gunnison	JCY 047	Surface Water
2/17/11	1340	North Pond	JCY 050	Surface Water
2/17/11	1300	South Pond	JCY 048	Surface Water
2/17/11	1355	Wetland Area	JCY 052	Surface Water

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

False ID	True ID	Ticket Number	Sample Type	Associated Matrix
2310	GJ01-01	JCY 053	Duplicate	Groundwater
2311	-----	JCY 054	Equipment Blank	Analyte Free Water

RIN Number Assigned: All samples were assigned to RIN 11013578.

Sample Shipment: Samples were shipped overnight via FedEx to GEL Laboratories in Charleston, SC on February 17, 2011.

Water Level Measurements: Water levels were collected in all sampled wells. See Field Data Collection System (FDCS) Water Sampling Logs for measurements.

Well Inspection Summary: Inspections were performed at all sampled wells. All wells were in good condition.

Field Variance: None.

Equipment: All equipment functioned properly. Joe Desormeau recommended getting a removal tool for the flush mount well covers instead of using two pry bars.

Institutional Controls:

Fences, Gates, Locks: All appeared in working condition.

Trespassing/Site Disturbances: None observed.

Site Issues:

Disposal Cell/Drainage Structure Integrity: N/A

Vegetation/Noxious Weed Concerns: None observed.

Maintenance Requirements: None observed.

Access Issues: None.

Safety Issues: None. Joe Desormeau (DOE) observed sampling on February 8, 2011.

Corrective Action Taken: None.

JW/lcg

cc: (electronic)
Joe Desormeau, DOE
Cheri Bahrke, Stoller
Steve Donivan, Stoller
Michele Miller, Stoller
EDD Delivery