

April 2005 Water Sampling

**Validation Data Package
for
Configuration 2 Interim Action
Injection Test Sampling
Moab, Utah**

September 2005

Moab, Utah

April 26-27, 2005

Data Package Contents

This data package includes the following information:

<u>Item No.</u>	<u>Description of Contents</u>
1.	Sampling Event Summary
2.	Sample Location Map
3.	Data Assessment Summary
	Water Sampling Field Activities Verification Checklist
	Laboratory Performance Assessment
	Field Analyses/Activities
	Certification

Attachment 1—Data Presentation

Minimums and Maximums Report
Water Quality Data
Water Level Data
Blanks
Time Versus Concentration Graphs

Attachment 2—Trip Report

Sampling Event Summary

Site: Moab, Utah

Sampling Period: April 26-27, 2005

The purpose of this sampling event was to collect data that can be used to evaluate the Configuration 2 injection system. This is the seventh round of sampling of the injection system since the baseline samples were collected just prior to starting injection on October 6, 2004.

Sampling and analysis was conducted in accordance with the *Operations, Maintenance, and Performance Monitoring Plan for the Interim Action Ground Water Treatment System, February 2004*. Ground water samples were collected from nine observation wells (0580, 0581, 0582, 0583, 0585, 0586, 0587, 0588 (34 feet below ground surface [bgs]) and 0589 (44 feet bgs), and three injection water samples (0550, 0572, and 0577). Including one duplicate and two equipment blanks, a total of 15 samples were submitted for laboratory analysis.

Analysis and interpretation of the validated data presented in this package will be reported as part of a performance evaluation report on the injection system scheduled in 2005. However, to monitor performance of the injection effort, time-versus concentration graphs are included for certain key indicator wells and major contaminants of concern. Generally, contaminant concentrations continue to be suppressed by the injection of fresh water.

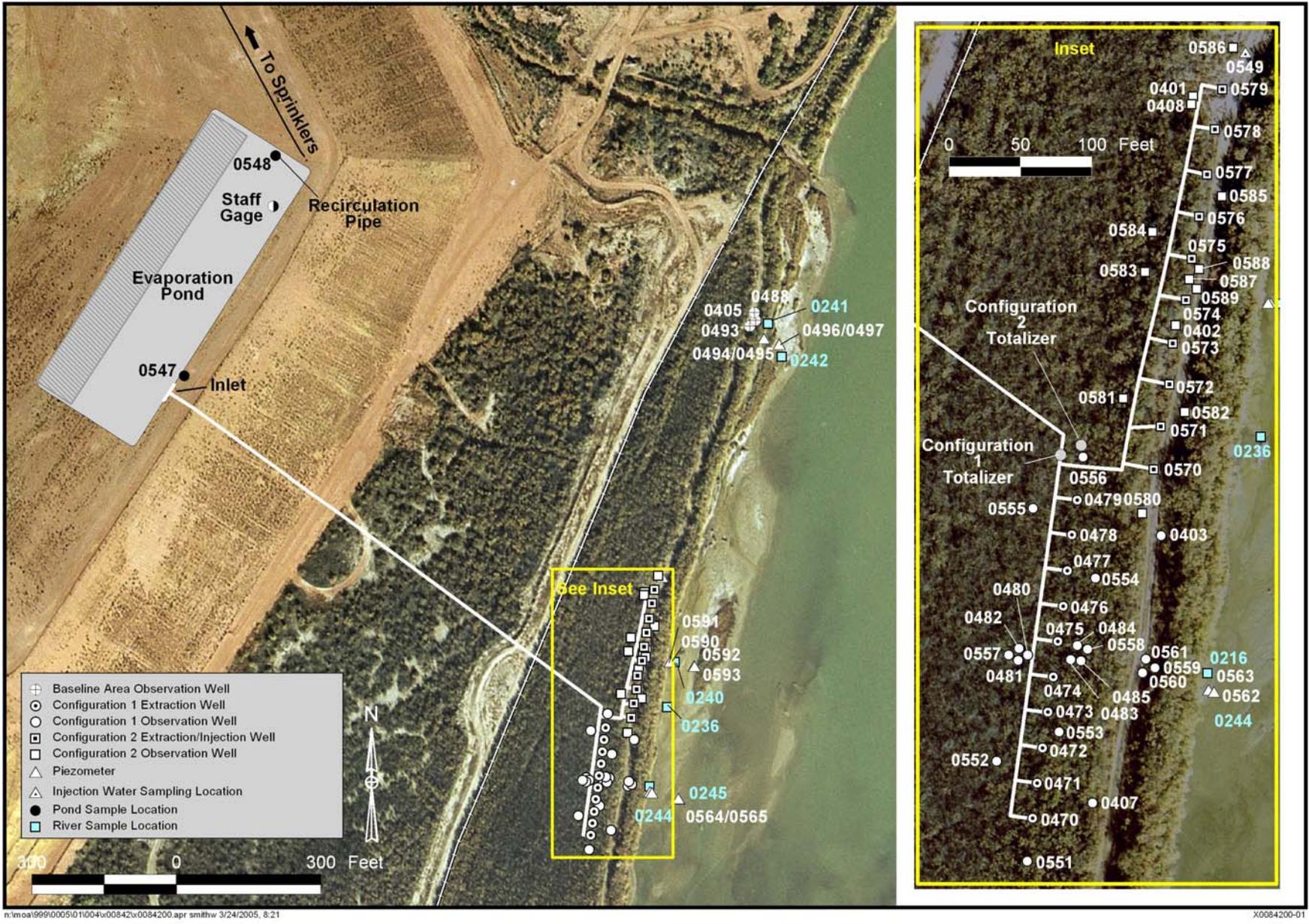


Kenneth E. Karp
Site Lead

9/9/05

Date

Sample Location Map



Sample Locations at the Interim Action Well Field and Baseline Area (may include locations not sampled)

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	<u>Moab, Utah</u>	Date(s) of Water Sampling	<u>April 26-27, 2005</u>
Date(s) of Verification	<u>August 22, 2005</u>	Name of Verifier	<u>Jeff Price</u>

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures? List other documents, SOP's, instructions.	<u>Yes</u>	
	<u>NA</u>	
2. Were the sampling locations specified in the planning documents sampled?	<u>No</u>	<u>See trip report for explanation.</u>
3. Was a pre-trip calibration conducted as specified in the above named documents?	<u>Yes</u>	
4. Was an operational check of the field equipment conducted twice daily? Did the operational checks meet criteria?	<u>Yes</u>	
	<u>Yes</u>	
5. Were the number and types (alkalinity, temperature, Ec, 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?	<u>Yes</u>	
Did the water level stabilize prior to sampling?	<u>Yes</u>	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	<u>Yes</u>	
Was the flow rate less than 500 mL/min?	<u>Yes</u>	
If a portable pump was used, was there a 4 hour delay between pump installation and sampling?	<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?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	Yes	
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	
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	

Laboratory Performance Assessment

General Information

Requisition No.: 05040184
Sample Event: April 26-27, 2005 Water Sampling
Site(s): Moab, Utah
Laboratory: Paragon Analytics
Work Order No.: 0504314
Analysis: Metals and Inorganics
Validator: Steve Donovan
Review Date: June 1, 2005

This validation was performed according to the *Environmental Procedures Catalog* (STO 6), “Standard Practice for Validation of Laboratory Data”, GT-9(P). 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 1.

Table 1. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020A
Chloride, Cl	MIS-A-039	SW-846 9056	SW-846 9056
Sulfate, SO ₄	MIS-A-044	SW-846 9056	SW-846 9056
Ammonia as N, NH ₃ -N	WCH-A-005	MCAWW 350.1	MCAWW 350.1
Total Dissolved Solids, TDS	WCH-A-033	MCAWW 160.1	MCAWW 160.1
Total Suspended Solids, TSS	WCH-A-034	MCAWW 160.2	MCAWW 160.2

Data Qualifier Summary

Two uranium results are qualified with a “U” flag (not detected) as listed in Table 2.

Table 2. Qualified Results

Sample Number	Location	Analyte	Flag	Reason
0504314-13	2785 (equipment blank)	U	U	Less than 5 times the blank
0504314-15	2787 (equipment blank)	U	U	Less than 5 times the blank

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received 15 samples on April 29, 2005 accompanied by a Chain of Custody (COC) form. The COC form was checked to confirm that all of the samples were listed and that signatures and dates were present, indicating sample relinquishment and receipt. The sample submittal documents including the COC form, the

sample submittal form, and the sample tickets had no errors or omissions.

Preservation and Holding Times

The sample shipment was received cool and intact with the temperature within the cooler of 1.4 °C, which complies with requirements. All samples had been preserved correctly for the requested analyses. All samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Method SW-846 6020A

Calibration for uranium was performed on May 4, 2005 using four calibration standards resulting in a calibration curve with a correlation coefficient (r^2) 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 (CCV) checks were made at the required frequency resulting in six CCVs. All calibration verification checks met the acceptance criteria. A reporting limit verification check was made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The mass calibration and resolution was checked at the beginning of the analytical run and the internal standard intensities were stable and within acceptance range.

Method SW-846 9056

Initial calibrations were performed for chloride and sulfate using five calibration standards on March 31, 2005. The calibration curve r^2 values were greater than 0.995 and intercepts less than 3 times the MDL. Initial calibration and calibration check standards were prepared from independent sources. Calibration verifications were made at the required frequency resulting in eight CCVs. All calibration verification checks met the acceptance criteria.

Method MCAWW 350.1

The initial calibration for ammonia as N was performed using seven calibration standards on May 11, 2005 resulting in a calibration curve with a r^2 value greater than 0.995. Calibration verifications were made at the required frequency, resulting in six CCVs. All calibration verification checks were within the acceptance criteria.

Methods MCAWW 160.1 and MCAWW 160.2

There are no initial or continuing calibration requirements associated with the determination of total dissolved solids (TDS) or total suspended solids (TSS).

Method and Calibration Blanks

The uranium initial and continuing calibration blanks (CCB) were below the practical quantitation limits. The ammonia as N, chloride, sulfate, TSS, and TDS method blanks and calibration blanks were below the MDLs with the exception of chloride CCB2 analyzed on May 2, 2005. There were no samples associated with this CCB.

Inductively Coupled Plasma Interference Check Sample Analysis

Inductively coupled plasma interference check samples were analyzed at the required frequency to verify the uranium instrumental interelement and background correction factors. All results met the acceptance criteria.

Matrix Spike Analysis

Matrix spike and matrix spike duplicate samples were analyzed for ammonia as N, sulfate, and uranium as a measure of method performance in the site-specific sample matrix. The matrix spike recoveries met the acceptance criteria for all analytes.

Laboratory Replicate Analysis

Matrix spike duplicate and laboratory duplicate samples were analyzed as indicators of laboratory precision. The relative percent difference values for the duplicate results for ammonia as N, sulfate, TDS, and uranium were less than 20 percent.

Laboratory Control Sample

Laboratory control samples (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 analytes.

Metals Serial Dilution

A serial dilution was analyzed during the uranium analysis to monitor physical or chemical interferences that may exist in the site-specific sample matrix. The serial dilution results were not evaluated because the concentration of the undiluted sample was less than one hundred times the reporting limit.

Detection Limits/Dilutions

The samples were diluted prior to analysis of uranium to reduce interferences. Samples were diluted in a consistent and acceptable manner when required. The required detection limits (RDL) were achieved for all analytes with the following exception. The RDL was not met for TSS because of the limited sample volume submitted.

Completeness

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

Chromatography Peak Integration

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

Electronic Data Deliverable File

The electronic data deliverable (EDD) file arrived on May 26, 2005. 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.

Field Analyses/Activities

The following information summarizes the field activities for this sampling event period.

Field Activities

All monitor well results were qualified with an “F” flag in the database, indicating the wells were purged and sampled using the low-flow sampling method. A duplicate sample was collected from well 0589. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, U.S. Environmental Protection Agency (EPA) guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. Duplicate sample results varied by less than +/-20 RPD and are considered acceptable. Two equipment blanks were collected and analyzed for the same constituents as the regular water samples. Concentrations measured in the equipment blank were below levels of concern; therefore, equipment blank results are considered acceptable.

Certification

Results were reported in correct units for all analytes requested, appropriate contract-required laboratory qualifiers and target analyte lists were used, and the required detection limits were met when possible, or an explanation of why they were not met was given in the laboratory case narrative. All analytical quality control criteria were met except as qualified on the Ground Water Quality Data by Parameter, Surface Water Quality by Parameter, or equipment/trip blank database printouts. The meaning of data qualifiers is defined on the database printouts or defined in the EPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media Multi-Concentration, Document Number ILMO2.0, 1991. All data in this package are considered validated and may be treated as final results.

Laboratory Validation Lead: Steve Donivan 9-6-05
Steve Donivan Date

Field Activities Validation Lead: Jeff Price 9/6/05
Jeff Price Date

Attachment 1
Data Presentation

Minimums and Maximums Report

Minimums and Maximums Report

The Minimums and Maximums Report is generated by a data validation application (DataVal) used to query the SEEPro database. The DataVal compares the new data set with historical data and lists all new data that fall outside the historical data range. Values listed in the report are further screened using the following criteria. Results are not considered anomalous if (1) identified low concentrations are the result of low detection limits; (2) the concentration detected is within 50 percent of historical minimum or maximum values; (3) there were fewer than five historical samples for comparison.

Although it appears that results from locations 0572 and 0577 have anomalously low data, the samples are actually fresh injection water collected at injection wells 0572 and 0577.

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters

LAB CODE: PAR, PARAGON (Fort Collins, CO)

LAB REQUISITION(S): 05040184

HISTORY BEGIN DATE: comparing to all historical data

REPORT DATE: 08/22/05 09:43:44: AM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	CURRENT			HISTORICAL MAXIMUM			HISTORICAL MINIMUM			COUNT	
				RESULT	QUALIFIERS LAB DATA		RESULT	QUALIFIERS LAB DATA		RESULT	QUALIFIERS LAB DATA		N	N BELOW DETECT
MOA01	0572	04/26/2005	Ammonia Total as N	0.1	U	F	1200		F	940		7	0	
MOA01	0572	04/26/2005	Chloride	26		F	23000		F	12000	F	7	0	
MOA01	0572	04/26/2005	Sulfate	83		F	9100		F	8200		7	0	
MOA01	0572	04/26/2005	Total Dissolved Solids	280		F	48000		F	29000	F	7	0	
MOA01	0572	04/26/2005	Uranium	0.003		F	2.5		F	2		7	0	
MOA01	0577	04/26/2005	Ammonia Total as N	0.1	U	F	1200		F	960	F	5	0	
MOA01	0577	04/26/2005	Chloride	27		F	23000			3900	F	5	0	
MOA01	0577	04/26/2005	Sulfate	83		F	13000		F	9400		5	0	
MOA01	0577	04/26/2005	Total Dissolved Solids	280		F	46000			24000	F	5	0	
MOA01	0577	04/26/2005	Uranium	0.0031		F	3.1		F	2.1		5	0	
MOA01	0581	04/26/2005	Ammonia Total as N	85		F	600		F	92	F	5	0	
MOA01	0581	04/26/2005	Sulfate	730		F	7900		F	990	F	5	0	
MOA01	0581	04/26/2005	Total Dissolved Solids	1600		F	15000		F	1800	F	5	0	
MOA01	0581	04/26/2005	Uranium	0.22		F	2.5		F	0.33	F	5	0	
MOA01	0583	04/26/2005	Ammonia Total as N	150		F	600		F	270	F	6	0	
MOA01	0583	04/26/2005	Sulfate	1600		F	8400		F	2900	F	6	0	
MOA01	0583	04/26/2005	Total Dissolved Solids	3300		F	15000		F	4300	F	6	0	
MOA01	0587	04/27/2005	Sulfate	1100		F	8000		F	1300	F	5	0	
MOA01	0587	04/27/2005	Uranium	0.24		F	2.2		F	0.29	F	5	0	

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters

LAB CODE: PAR, PARAGON (Fort Collins, CO)

LAB REQUISITION(S): 05040184

HISTORY BEGIN DATE: comparing to all historical data

REPORT DATE: 08/22/05 09:43:44: AM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	CURRENT			HISTORICAL MAXIMUM			HISTORICAL MINIMUM			COUNT	
				RESULT	QUALIFIERS LAB DATA		RESULT	QUALIFIERS LAB DATA		RESULT	QUALIFIERS LAB DATA		N	N BELOW DETECT

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

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

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

Water Quality Data

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Alkalinity, Total (As CaCO3	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	88			#	-	-
	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	92	F		#	-	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	124	F		#	-	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	234	F		#	-	-
	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	218	F		#	-	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	216	F		#	-	-
	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	344	F		#	-	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	188	F		#	-	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	174	F		#	-	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	178	F		#	-	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	180	F		#	-	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	644	F		#	-	-
Ammonia Total as N	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	0.1	U	F	#	0.1	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	0.1	U	F	#	0.1	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	52		F	#	2	-
	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	85		F	#	20	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	86		F	#	20	-
	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	150		F	#	20	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	38		F	#	2	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	7.2		F	#	0.2	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	47		F	#	2	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	30		F	#	2	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	860		F	#	20	-
	mg/L	0589	WL	04/27/2005	0002	42.70 - 52.70	890		F	#	20	-
	Chloride	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	25			#	1

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Chloride	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	26	F	#		1	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	27	F	#		1	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	560	F	#		10	-
	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	250	F	#		10	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	490	F	#		10	-
	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	520	F	#		10	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	350	F	#		10	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	65	F	#		2	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	360	F	#		10	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	590	F	#		10	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	23000	F	#		400	-
	mg/L	0589	WL	04/27/2005	0002	42.70 - 52.70	22000	F	#		400	-
	Dissolved Oxygen	mg/L	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	5.99		#		-
mg/L		0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	5.87	F	#		-	-
mg/L		0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	5.62	F	#		-	-
mg/L		0580	WL	04/26/2005	N001	18.00 - 18.00	2.93	F	#		-	-
mg/L		0581	WL	04/26/2005	N001	18.00 - 18.00	0.84	F	#		-	-
mg/L		0582	WL	04/26/2005	N001	18.00 - 18.00	0.75	F	#		-	-
mg/L		0583	WL	04/26/2005	N001	18.00 - 18.00	0.88	F	#		-	-
mg/L		0584	WL	04/27/2005	N001	18.00 - 18.00	1.84	F	#		-	-
mg/L		0585	WL	04/27/2005	N001	18.00 - 18.00	2.62	F	#		-	-
mg/L		0586	WL	04/27/2005	N001	18.00 - 18.00	2.54	F	#		-	-
mg/L		0587	WL	04/27/2005	N001	18.00 - 18.00	1.76	F	#		-	-
mg/L		0588	WL	04/27/2005	N001	34.00 - 34.00	1.35	F	#		-	-
mg/L		0588	WL	04/27/2005	N001	26.00 - 26.00	2.70	F	#		-	-
mg/L		0589	WL	04/27/2005	N001	44.00 - 44.00	5.77	F	#		-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Dissolved Oxygen	mg/L	0589	WL	04/27/2005	N001	52.00 - 52.00	2.03	F	#	-	-	
Oxidation Reduction Potent	mV	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	210.0		#	-	-	
	mV	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	162	F	#	-	-	
	mV	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	170	F	#	-	-	
	mV	0580	WL	04/26/2005	N001	18.00 - 18.00	177.3	F	#	-	-	
	mV	0581	WL	04/26/2005	N001	18.00 - 18.00	163.8	F	#	-	-	
	mV	0582	WL	04/26/2005	N001	18.00 - 18.00	171.5	F	#	-	-	
	mV	0583	WL	04/26/2005	N001	18.00 - 18.00	171.9	F	#	-	-	
	mV	0584	WL	04/27/2005	N001	18.00 - 18.00	153.5	F	#	-	-	
	mV	0585	WL	04/27/2005	N001	18.00 - 18.00	162.5	F	#	-	-	
	mV	0586	WL	04/27/2005	N001	18.00 - 18.00	163.8	F	#	-	-	
	mV	0587	WL	04/27/2005	N001	18.00 - 18.00	92.0	F	#	-	-	
	mV	0588	WL	04/27/2005	N001	34.00 - 34.00	135.1	F	#	-	-	
	mV	0588	WL	04/27/2005	N001	26.00 - 26.00	127.5	F	#	-	-	
	mV	0589	WL	04/27/2005	N001	52.00 - 52.00	56.3	F	#	-	-	
	mV	0589	WL	04/27/2005	N001	44.00 - 44.00	113.9	F	#	-	-	
pH	s.u.	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	6.85		#	-	-	
	s.u.	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	7.62	F	#	-	-	
	s.u.	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	7.65	F	#	-	-	
	s.u.	0580	WL	04/26/2005	N001	18.00 - 18.00	7.03	F	#	-	-	
	s.u.	0581	WL	04/26/2005	N001	18.00 - 18.00	7.79	F	#	-	-	
	s.u.	0582	WL	04/26/2005	N001	18.00 - 18.00	7.51	F	#	-	-	
	s.u.	0583	WL	04/26/2005	N001	18.00 - 18.00	7.61	F	#	-	-	
	s.u.	0584	WL	04/27/2005	N001	18.00 - 18.00	7.38	F	#	-	-	
	s.u.	0585	WL	04/27/2005	N001	18.00 - 18.00	7.44	F	#	-	-	
s.u.	0586	WL	04/27/2005	N001	18.00 - 18.00	7.67	F	#	-	-		

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0587	WL	04/27/2005	N001	18.00 - 18.00	7.50	F #	-	-
	s.u.	0588	WL	04/27/2005	N001	26.00 - 26.00	7.83	F #	-	-
	s.u.	0588	WL	04/27/2005	N001	34.00 - 34.00	7.83	F #	-	-
	s.u.	0589	WL	04/27/2005	N001	52.00 - 52.00	6.82	F #	-	-
	s.u.	0589	WL	04/27/2005	N001	44.00 - 44.00	6.90	F #	-	-
Specific Conductance	umhos/cm	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	463	#	-	-
	umhos/cm	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	486	F #	-	-
	umhos/cm	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	463	F #	-	-
	umhos/cm	0580	WL	04/26/2005	N001	18.00 - 18.00	5964	F #	-	-
	umhos/cm	0581	WL	04/26/2005	N001	18.00 - 18.00	2994	F #	-	-
	umhos/cm	0582	WL	04/26/2005	N001	18.00 - 18.00	4497	F #	-	-
	umhos/cm	0583	WL	04/26/2005	N001	18.00 - 18.00	5378	F #	-	-
	umhos/cm	0584	WL	04/27/2005	N001	18.00 - 18.00	5543	F #	-	-
	umhos/cm	0585	WL	04/27/2005	N001	18.00 - 18.00	4045	F #	-	-
	umhos/cm	0586	WL	04/27/2005	N001	18.00 - 18.00	910	F #	-	-
	umhos/cm	0587	WL	04/27/2005	N001	18.00 - 18.00	4208	F #	-	-
	umhos/cm	0588	WL	04/27/2005	N001	34.00 - 34.00	4074	F #	-	-
	umhos/cm	0588	WL	04/27/2005	N001	26.00 - 26.00	2141	F #	-	-
	umhos/cm	0589	WL	04/27/2005	N001	44.00 - 44.00	63573	F #	-	-
	umhos/cm	0589	WL	04/27/2005	N001	52.00 - 52.00	91824	F #	-	-
Sulfate	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	81	#	2.5	-
	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	83	F #	2.5	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	83	F #	2.5	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	2200	F #	25	-
	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	730	F #	25	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	1500	F #	25	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Sulfate	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	1600	F	#		25	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	1200	F	#		25	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	190	F	#		5	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	1100	F	#		25	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	880	F	#		25	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	8800	F	#		500	-
	mg/L	0589	WL	04/27/2005	0002	42.70 - 52.70	8700	F	#		500	-
Temperature	C	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	14.95		#		-	-
	C	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	15.04	F	#		-	-
	C	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	14.46	F	#		-	-
	C	0580	WL	04/26/2005	N001	18.00 - 18.00	13.00	F	#		-	-
	C	0581	WL	04/26/2005	N001	18.00 - 18.00	12.09	F	#		-	-
	C	0582	WL	04/26/2005	N001	18.00 - 18.00	11.83	F	#		-	-
	C	0583	WL	04/26/2005	N001	18.00 - 18.00	11.89	F	#		-	-
	C	0584	WL	04/27/2005	N001	18.00 - 18.00	6.82	F	#		-	-
	C	0585	WL	04/27/2005	N001	18.00 - 18.00	9.75	F	#		-	-
	C	0586	WL	04/27/2005	N001	18.00 - 18.00	10.72	F	#		-	-
	C	0587	WL	04/27/2005	N001	18.00 - 18.00	10.21	F	#		-	-
	C	0588	WL	04/27/2005	N001	34.00 - 34.00	9.79	F	#		-	-
	C	0588	WL	04/27/2005	N001	26.00 - 26.00	10.33	F	#		-	-
	C	0589	WL	04/27/2005	N001	44.00 - 44.00	10.11	F	#		-	-
C	0589	WL	04/27/2005	N001	52.00 - 52.00	10.94	F	#		-	-	
Total Dissolved Solids	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	280		#		20	-
	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	280	F	#		20	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	280	F	#		20	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	4600	F	#		80	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE:		DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS:			DETECTION LIMIT	UN-CERTAINTY
				DATE	ID			LAB	DATA	QA		
Total Dissolved Solids	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	1600	F	#		40	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	3100	F	#		80	-
	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	3300	F	#		80	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	2600	F	#		80	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	520	F	#		20	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	2500	F	#		80	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	2300	F	#		80	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	46000	F	#		1000	-
	mg/L	0589	WL	04/27/2005	0002	42.70 - 52.70	46000	F	#		1000	-
Total Suspended Solids	mg/L	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	20	U		#	20	-
	mg/L	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	29	F		#	20	-
	mg/L	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	37	F		#	20	-
Turbidity	NTU	0550	IS, IHYD	04/26/2005	N001	0.00 - 0.00	52.8			#	-	-
	NTU	0572	WL, I&E	04/26/2005	N001	15.00 - 30.00	159	F		#	-	-
	NTU	0577	WL, I&E	04/26/2005	N001	25.00 - 40.00	237	F		#	-	-
	NTU	0580	WL	04/26/2005	N001	18.00 - 18.00	65.6	F		#	-	-
	NTU	0581	WL	04/26/2005	N001	18.00 - 18.00	96.4	F		#	-	-
	NTU	0582	WL	04/26/2005	N001	18.00 - 18.00	8.57	F		#	-	-
	NTU	0583	WL	04/26/2005	N001	18.00 - 18.00	27.8	F		#	-	-
	NTU	0584	WL	04/27/2005	N001	18.00 - 18.00	170	F		#	-	-
	NTU	0585	WL	04/27/2005	N001	18.00 - 18.00	17.0	F		#	-	-
	NTU	0586	WL	04/27/2005	N001	18.00 - 18.00	3.86	F		#	-	-
	NTU	0587	WL	04/27/2005	N001	18.00 - 18.00	4.71	F		#	-	-
	NTU	0588	WL	04/27/2005	N001	26.00 - 26.00	0.57	F		#	-	-
	NTU	0588	WL	04/27/2005	N001	34.00 - 34.00	0.84	F		#	-	-
	NTU	0589	WL	04/27/2005	N001	44.00 - 44.00	4.51	F		#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0589	WL	04/27/2005	N001	52.00 - 52.00	10.6	F #	-	-
Uranium	mg/L	0550	IS, IHYD	04/26/2005	0001	0.00 - 0.00	0.0034	E #	2.2E-06	-
	mg/L	0572	WL, I&E	04/26/2005	0001	15.00 - 30.00	0.003	F #	2.2E-06	-
	mg/L	0577	WL, I&E	04/26/2005	0001	25.00 - 40.00	0.0031	F #	2.2E-06	-
	mg/L	0580	WL	04/26/2005	0001	18.00 - 18.00	0.540	F #	2.2E-05	-
	mg/L	0581	WL	04/26/2005	0001	18.00 - 18.00	0.220	F #	2.2E-05	-
	mg/L	0582	WL	04/26/2005	0001	18.00 - 18.00	0.320	F #	2.2E-05	-
	mg/L	0583	WL	04/26/2005	0001	18.00 - 18.00	0.860	F #	0.00022	-
	mg/L	0585	WL	04/27/2005	0001	18.00 - 18.00	0.170	F #	2.2E-05	-
	mg/L	0586	WL	04/27/2005	0001	18.00 - 18.00	0.036	F #	2.2E-06	-
	mg/L	0587	WL	04/27/2005	0001	18.00 - 18.00	0.240	F #	2.2E-05	-
	mg/L	0588	WL	04/27/2005	0001	34.00 - 34.00	0.089	F #	2.2E-05	-
	mg/L	0589	WL	04/27/2005	0001	44.00 - 44.00	2.200	F #	0.00022	-
	mg/L	0589	WL	04/27/2005	0002	42.70 - 52.70	2.300	F #	0.00022	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
 REPORT DATE: 8/22/2005 9:55 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
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RECORDS: SELECTED FROM USEE200 WHERE site_code='MOA01' AND location_code in('0580','0581','0582','0583','0585','0586','0587','0588','0589','0550','0572','0577','0584') AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #4/26/2005# and #4/27/2005#

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

LOCATION TYPES: IS INJECTION SYSTEM WL WELL

LOCATION SUBTYPES: I&E Dual Purpose Injection and Ex IHYD Injection System Hydrant

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > 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
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) 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.

Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
 REPORT DATE: 9/2/2005 7:45 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0580		3969.32	04/26/2005	16:20	13.75	3955.57	
0581		3969.02	04/26/2005	17:10	13.36	3955.66	
0582		3969.65	04/26/2005	16:45	13.64	3956.01	
0583		3969.64	04/26/2005	17:34	13.78	3955.86	
0584		3969.13	04/27/2005	09:37	13.09	3956.04	
0585		3969.36	04/27/2005	10:00	13.09	3956.27	
0586		3969.20	04/27/2005	10:29	12.78	3956.42	
0587		3968.89	04/27/2005	08:31	12.73	3956.16	
0588		3969.04	04/27/2005	09:00	12.78	3956.26	
0589		3968.87	04/27/2005	07:45	12.80	3956.07	

RECORDS: SELECTED FROM USEE700 WHERE site_code='MOA01' AND location_code in('0580','0581','0582','0583','0584','0585','0586','0587','0588','0589') AND LOG_DATE between #4/26/2005# and #4/27/2005#

FLOW CODES:

WATER LEVEL FLAGS:

Blanks

BLANKS REPORT

LAB CODE: PAR, PARAGON (Fort Collins, CO)

LAB REQUISITION(S): 05040184

REPORT DATE: 08/22/05 09:43:27: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Ammonia Total as N	MOA01	0999	04/26/2005	0001	mg/L	0.1	U	0.1		E
Ammonia Total as N	MOA01	0999	04/27/2005	0001	mg/L	0.1	U	0.1		E
Chloride	MOA01	0999	04/26/2005	0001	mg/L	0.2	U	0.2		E
Chloride	MOA01	0999	04/27/2005	0001	mg/L	0.21		0.2		E
Sulfate	MOA01	0999	04/26/2005	0001	mg/L	0.5	U	0.5		E
Sulfate	MOA01	0999	04/27/2005	0001	mg/L	0.5	U	0.5		E
Total Dissolved Solids	MOA01	0999	04/26/2005	0001	mg/L	20	U	20		E
Total Dissolved Solids	MOA01	0999	04/27/2005	0001	mg/L	20	U	20		E
Uranium	MOA01	0999	04/26/2005	0001	mg/L	0.00013	U	0.000022		E
Uranium	MOA01	0999	04/27/2005	0001	mg/L	0.00007	B U	0.000022		E

BLANKS REPORT

LAB CODE: PAR, PARAGON (Fort Collins, CO)

LAB REQUISITION(S): 05040184

REPORT DATE: 08/22/05 09:43:27: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
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SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

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

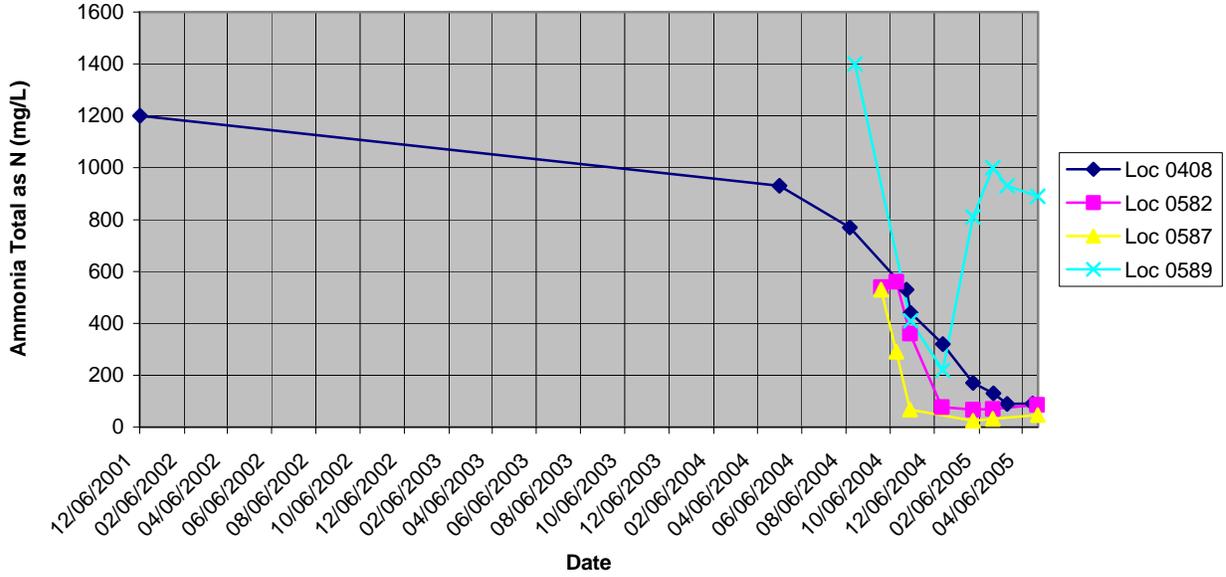
SAMPLE TYPES:

- E EQUIPMENT BLANK

Time Versus Concentration Graphs

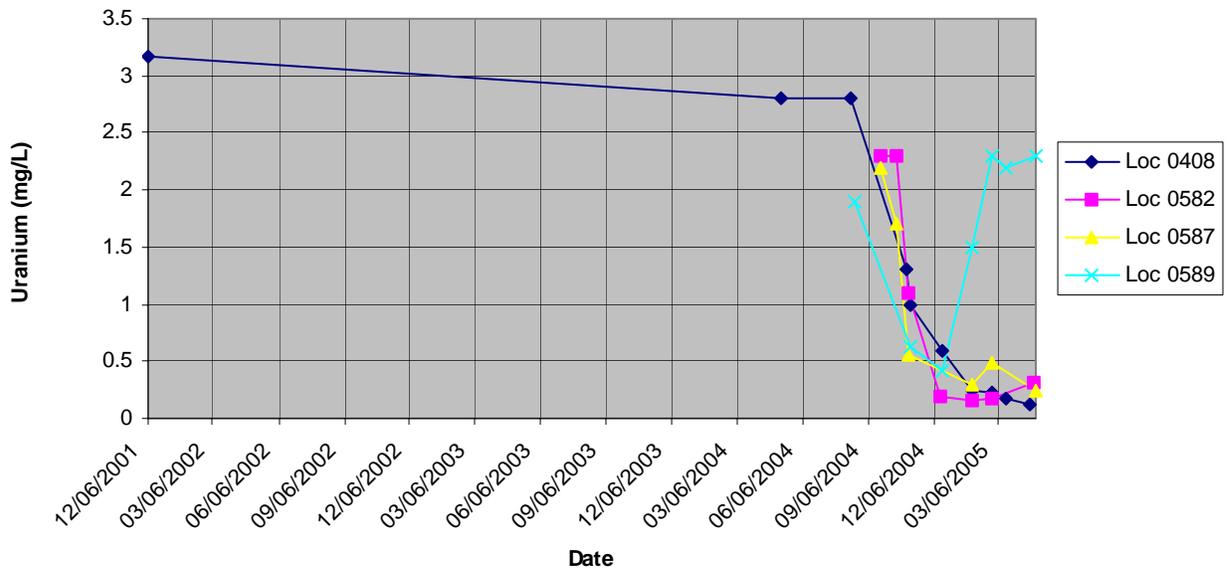
Moab Site (MOA01)

Ammonia Total as N Concentration



Moab Site (MOA01)

Uranium Concentration



Attachment 2
Trip Report

Stoller

established 1959

DATE: May 12, 2005
TO: Ken Karp
FROM: K. G. Pill
SUBJECT: Trip Report

Site: Moab – Interim Action Configuration 2 Injection Test Sampling – April 2005

Date of Sampling Event: April 26 and 27, 2005.

Team Members: Ken Pill and Emile Bettez.

Number of Locations Sampled: 9 observation wells (0580, 0581, 0582, 0583, 0585, 0586, 0587, 0588 [34 ft bgs], and 0589 [44 ft bgs]) and 3 injection water samples (0550, 0572, and 0577). Including two equipment blanks and one duplicate, a total of **15** samples were collected.

Locations in Which Field Parameters Were Measured Only: Field parameters were measured from 3 observation wells (0584, 0588 [26 ft bgs], and 0589 [52 ft bgs]). Samples were not submitted to Paragon for laboratory analysis from these locations.

Locations Not Sampled/Reason: Observation wells 0401, 0402, and 0408 were sampled during the routine sampling event during the previous week, and were not sampled during this event. Due to the high stage of the Colorado River (photo attached) it was not possible to reach any of the four piezometers (0590 through 0593) or surface water location 0236. As a result, samples were not collected from these locations.

Field Variance: Only a 125 ml sample was collected for uranium analysis as opposed to the standard 500 ml sample volume.

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

False ID	True ID	Sample Type	Associated Matrix	Ticket Number
2785	NA	Equipment Blank – GW Equip	DI Water	NDY-165
2786	0589 (44 ft bgs)	Duplicate	Ground Water	NDY-174
2787	NA	Equipment Blank – GW Equip	DI Water	NDV-454

Sample number 2785 was collected as an equipment blank for the routine sampling event completed the previous week. This equipment blank was collected prior to any of the CF2 locations being sampled, and represents the ground water equipment blank for RIN 05030172.

RIN Number Assigned: All samples were assigned to RIN **05040184**.

Sample Shipment: All samples were shipped in one cooler overnight FEDEX to Paragon Analytics, Inc. from Moab, Utah, on April 28, 2005 (Airbill No. 8473 2967 6395).

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and downhole tubing. Sample depths and water levels for each observation well are listed below. **Note the sample depths are below ground surface (bgs).**

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0580	4/26/05	16:20	13.75	18
0581	4/26/05	17:10	13.36	18
0582	4/26/05	16:45	13.64	18
0583	4/26/05	17:34	13.78	18
0585	4/27/05	10:00	13.09	18
0586	4/27/05	10:29	12.78	18
0587	4/27/05	08:31	12.73	18
0588	4/27/05	9:11	12.78	34
0589	4/27/05	07:45	12.80	44

Field parameters (only) were measured from locations 0584, 0588 (26 ft bgs), and 0589 (52 ft bgs). These data are presented below with the sample depths (provided in feet below ground surface). These samples were not submitted for laboratory analysis.

Well No.	Date	Time	Sample Depth (ft bgs)	Depth To Water (ft btoc)	Field Parameters					
					Tem p (°C)	Spec Cond (µS/cm)	D.O. (mg/L)	pH	ORP	Turb. (NTUs)
0584	4/27/05	09:37	18	13.09	6.82	5,543	1.84	7.38	154	170
0588	4/27/05	09:00	26	12.78	10.33	2,141	2.70	7.83	128	0.57
0589	4/27/05	08:22	52	12.80	10.94	91,824	2.03	6.82	56.3	10.6

Location Specific Information – Injection Water Sampling: The hydrant used to sample injection water from the fresh water supply line was moved from its former location north of the CF 2 well field (location 0549) to a new location (0550) between the CF1 and CF2 well fields. As a result, this sampling event represents the first time location 0550 was sampled, and location 0549 was decommissioned.

Samples were collected from injection wells 0572 and 0577 in order to measure the injected water's total suspended solid concentration after being filtered at the wellhead. On the day prior to sampling these locations, the injection water source pond was drawn down to near the bottom, and the wellhead filters were flushed earlier in the day the wells were sampled.

Well Inspection Summary: A well inspection was not conducted.

Equipment: All equipment functioned properly.

Site Issues: The injection test had been running approximately 29 weeks (since October 6, 2004) prior to this sampling effort.

According to the USGS Cisco Gaging Station (Station No. 09180500), the mean daily Colorado River Flows during this sampling event are provided below:

Date	Daily Mean Flow (cfs)
04/24/2005	9,830
04/25/2005	No data
04/26/2005	No data
04/27/2005	No data
04/28/2005	12,000

Note: The station experienced equipment problems from 4/25 through 4/27. However, based on field observations from during the sampling event and during the previous week's routine sampling event, it is estimated that the flow ranged from 10,000 and 12,000 cfs on 4/26 and 4/27/05.

Corrective Action Required/Taken: None.

(KGP/lcg)

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Piezometers 0590 and 0592