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MOAB UTAH

UMTRA Project

July 2005 Water Sampling Validation Data Package for Routine Ground Water and Surface Water Sampling Moab, Utah

October 2005

U.S. Department of Energy

Office of Environmental Management

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July 2005 Water Sampling

Validation Data Package for Routine Ground Water and Surface Water Sampling Moab, Utah

October 2005

Moab, Utah

July 11-15, 2005

Data Package Contents

This data package includes the following information:

Item No.	Description of Contents
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
Anomalous Data Review Checksheet
Water Quality Data
Water Level Data
Blanks Report
Time Versus Concentration Graphs

Attachment 2—Trip Report

Sampling Event Summary

Site: Moab, Utah

Sampling Period: July 11 through 15, 2005

The purpose of this sampling event was to collect water samples (and data) at selected ground water monitor wells and from the Colorado River. These data will be used to evaluate overall water quality. This sampling represents the second routine sampling event for 2005. Sampling was conducted in accordance with the *Surface Water and Ground Water Monitoring Plan for the Moab, Utah, Site* (DOE 2004). Samples were collected from 17 ground water and 21 surface water locations.

Analysis and interpretation of the validated data presented in this package will be reported as part of the performance evaluation reports on the injection system and the extraction well field scheduled for December 2005 and May 2006, respectively. The data will also be used to update the ground water/surface water calculation set scheduled for January/February 2006.

SUMMARY CRITERIA

1. **Did concentrations in water from any domestic wells sampled exceed a ground water standard, primary drinking water standard, or health advisory?**

   Domestic wells were not sampled during this event.

2. **Were standards exceeded at any point-of-compliance wells?**

   Point-of-compliance wells have not been established at the Moab site.

3. **As a result of this sampling round, is there any indication of unexpected contaminated ground water movement?**

   There is no indication of unexpected contaminated ground water movement. Ground water contamination in the shallow alluvial aquifer beneath the tailings pile and former millsite area flows southeast toward the Colorado River, as described in the Site Observation Work Plan (DOE 2003). Relatively low contaminant concentrations (as compared to non-pumping periods) in wells 0403, 0407, and 408, which are located between the extraction well field and the Colorado River, are evident in this sampling event. The contaminant concentration reduction is probably due to the pumping of the Configuration 1 extraction wells and the resultant ground water flow direction change. Instead of contaminated ground water flowing toward the Colorado River, the constant extraction well pumping has reversed the flow direction and is diluting ground water contaminants with infiltration of Colorado River water.

   Wells and surface locations that exceed water quality standards are listed in Table 1.

Table 1. Locations Where Standards Were Exceeded in July 2005.

Analyte	Standard (mg/L)	Locations Exceeding Standards
Uranium- Total	0.044	0401 (0.42), 0402 (0.88), 0403 (0.47), 0405 (1.4), 0406 (1.6), 0407 (0.26), 0408 (0.15), 0437 (4.9), 0438 (2.4), 0439 (1.0), 0492 (1.3), ATP-2-S (0.55), TP-02 (9.9)

4. Is there statistical evidence that UMTRA Project related contaminants were detected in a surface body of water in greater concentrations than upstream ambient water quality?

Since monitoring of the site began ammonia, chloride, sulfate, total dissolved solids (TDS), and uranium have periodically occurred at elevated concentrations in the Colorado River. These elevated concentrations were found primarily adjacent to and just downstream from the mill tailings pile (i.e., surface location areas 0222 – 0225). However, the results from this sampling event indicate a decrease in contaminant concentrations in the Colorado River. Because the Colorado River was at a lower stage at the time of sampling, these lower concentrations are probably primarily due to the contaminant plume being intercepted by the interim action well field and a reversed gradient from the river towards the well field.

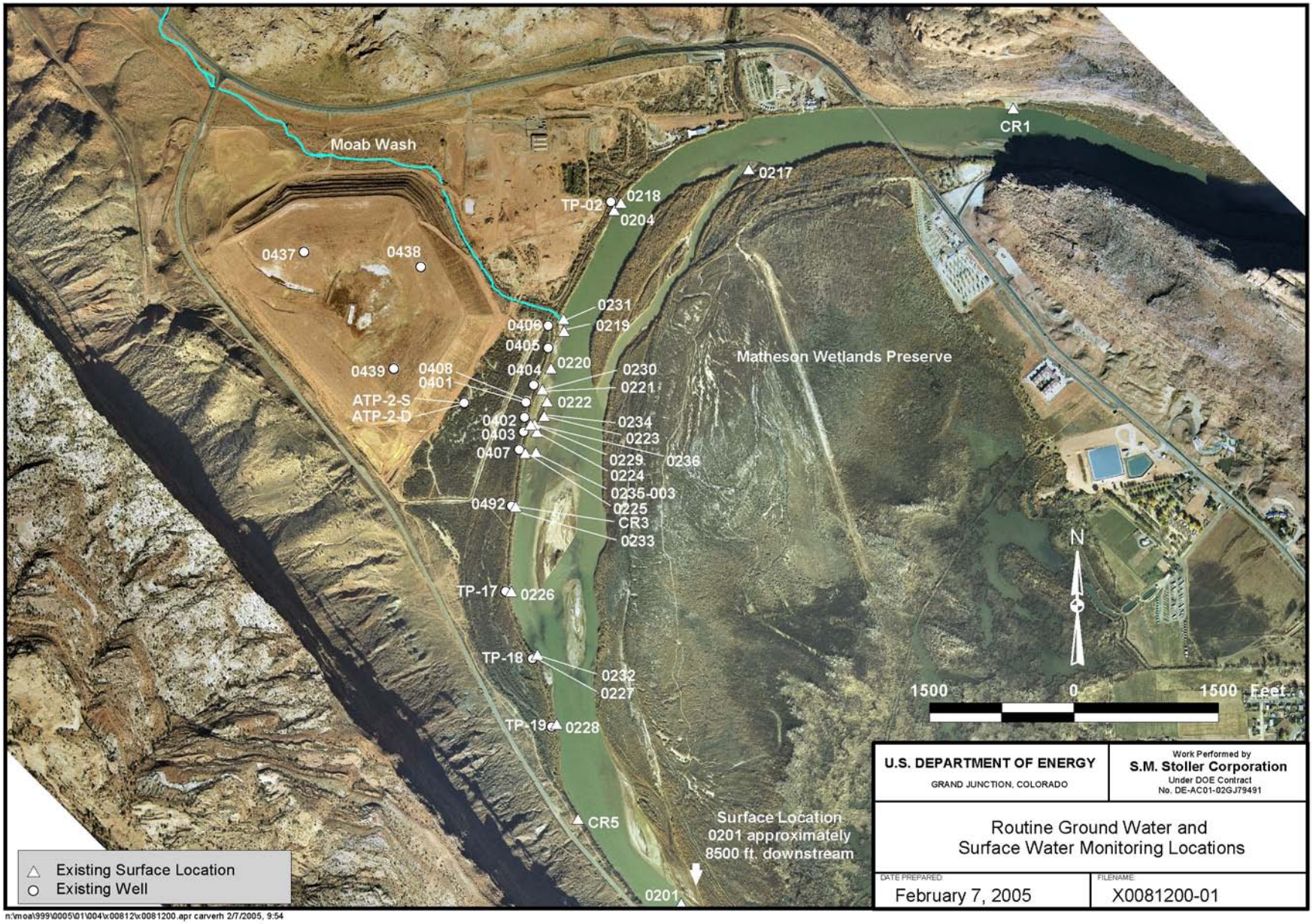
John R Ford

John R. Ford
Ground Water Lead

10-12-2005

Date

Sample Location Map



Routine Ground Water and Surface Water Sampling Locations (may include locations not sampled)

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	Moab, Utah	**Date(s) of Water Sampling**	July 11-15, 2005
Date(s) of Verification	September 15, 2005	**Name of Verifier**	Jeff Price

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.	NA	
2. Were the sampling locations specified in the planning documents sampled?	No	See trip report for explanation.
3. Was a pre-trip calibration conducted as specified in the above named documents?	Yes	
4. Was an operational check of the field equipment conducted twice daily?	Yes	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Was the Category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Unknown	Volumes were not calculated.
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
Was the flow rate less than 500 mL/min?	Yes	
If a portable pump was used, was there a 4 hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	NA	
Was one pump/tubing volume removed prior to sampling?	NA	
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?	No	One was taken, two were required.
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?	No	
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.:	05070211
Sample Event:	July 11-14, 2005
Site(s):	Moab, Utah
Laboratory:	Paragon Analytics
Work Order No.:	0507118
Analysis:	Metals and Inorganics
Validator:	Steve Donivan
Review Date:	September 8, 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, SO4	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

Data Qualifier Summary

The uranium result for samples 0507118-4 and 0507118-41 is qualified as "U" because the associated calibration blank result is greater than the method detection limit (MDL) and the sample result is less than 5 times the blank result.

Table 2. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
0507118-4	TP-19	U	U	Less than 5 times the calibration blank
0507118-41	2960 (Equip blank)	U	U	Less than 5 times the calibration blank

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received 41 samples on July 16, 2005, accompanied by a Chain of Custody (COC) form. The COC form was checked to confirm that all of the samples were listed on the form with sample collection dates and times, and that signatures and

dates were present indicating sample relinquishment and receipt. Three of the four COC forms submitted did not have relinquishment signatures. There was no sample date on the COC form for location 0218-005. The sample submittal documents including the COC form and the sample tickets had no other errors or omissions.

Preservation and Holding Times

The sample shipment was received cool and intact with the temperature within the cooler of 2.4, 2.0, and 4.2 °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

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

Method SW-846 6020

Calibrations for uranium were performed on July 21 and 22, 2005. The initial calibrations were performed using six 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 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 eleven CCVs. All calibration check results 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 check was within the acceptance criteria range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries were stable and within acceptable ranges.

Method SW-846 9056

The initial calibrations for chloride and sulfate were performed using five calibration standards each on July 19, 2005. The calibration curve r^2 values were greater than 0.995 and intercepts were less than 3 times the MDL. Initial calibration and calibration check standards were prepared from independent sources. Initial and continuing calibration checks were made at the required frequency resulting in eleven CCVs The calibration checks met the acceptance criteria.

Method MCAWW 350.1

The initial calibrations for ammonia as N were performed using six calibration standards on July 28, 2005, resulting in a calibration curve with a r^2 value greater than 0.995 and an intercept less than 3 times the MDL. Initial and continuing calibration checks were made at the required frequency resulting in eight CCVs. All calibration check results were within the acceptance criteria.

Method MCAWW 160.1

There is no initial or continuing calibration requirement associated with the determination of TDS.

Method and Calibration Blanks

The uranium initial and continuing calibration blanks were below the practical quantitation limits but greater than the MDL. The uranium result for samples 0507118-4 and 0507118-41 were less than 5 times the concentration of the associated continuing calibration blank and are qualified as "U". The chloride, sulfate, ammonia as N, and TDS method blanks, and initial and continuing calibration blanks were below the MDLs.

Inductively Coupled Plasma Interference Check Sample Analysis

Inductively coupled plasma interference check samples 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 pairs were analyzed for uranium, chloride, sulfate, and ammonia as N as a measure of method performance in the sample matrix. The spike recoveries met the recovery and precision criteria for all analytes.

Laboratory Replicate Analysis

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

Laboratory Control Sample

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

Metals Serial Dilution

Serial dilutions were performed during the uranium analysis to monitor physical or chemical interferences that may exist in the sample matrix. The results met the acceptance criteria.

Detection Limits/Dilutions

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

Completeness

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

Chromatography Peak Integration

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

Electronic Data Deliverable File

The electronic data deliverable file (EDD) file arrived on August 12, 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

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. An equipment blank was collected and analyzed for the same constituents as the Moab environmental samples. Concentrations measured in the equipment blank were below their respective contract required detection limit; therefore, equipment blank results are considered acceptable. Duplicate samples were collected from locations 0408 and 0219-005. 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 results met the laboratory duplicate criteria of +/- 20 RPD and 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. 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 — Steve Donivan — 10-13-05 — Date

Field Activities Validation Lead: J. E. Price — Jeff Price — 10/14/05 — 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.

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05070211
HISTORY BEGIN DATE: comparing to all historical data
REPORT DATE: 09/15/05 02:34:50: PM

				CURRENT			HISTORICAL MAXIMUM			HISTORICAL MINIMUM			COUNT	
SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	N	N BELOW DETECT
MOA01	0405	07/14/2005	Chloride	1700		F	1565.1			1300		F	6	0
MOA01	0405	07/14/2005	Total Dissolved Solids	14000		F	13000		F	12000		F	5	0
MOA01	0406	07/14/2005	Ammonia Total as N	320		F	510			400		F	5	0
MOA01	0406	07/14/2005	Sulfate	5400		F	7616.9			6300		F	5	0
MOA01	0407	07/12/2005	Ammonia Total as N	6.7		F	1360			9.9		F	20	0
MOA01	ATP-2-D	07/14/2005	Total Dissolved Solids	97000		F	94000		F	18591			35	0
MOA01	CR1	07/11/2005	Total Dissolved Solids	280			1060			310			13	0
MOA01	TP-17	07/12/2005	Uranium	0.025		F	0.0153	U		0.0062		F	9	1
MOA01	TP-18	07/11/2005	Uranium	0.011		F	0.129			0.0116		F	11	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05070211
HISTORY BEGIN DATE: comparing to all historical data
REPORT DATE: 09/15/05 02:34:50: PM

				CURRENT			HISTORICAL MAXIMUM			HISTORICAL MINIMUM			COUNT	
SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	RESULT	QUALIFIERS LAB	QUALIFIERS 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 compund (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.

Anomalous Data Review Checksheet

Anomalous Data Review Checksheet

Site: **Moab Processing Site** **Sampling Date:** **July 11-15, 2005**

Reviewer: Jeff Price (Name (print)) J. E. Price (Signature) 10/14/05 (Date)

Site Lead: John Ford (Name (print)) John R Ford (Signature) 10-11-2005 (Date)

Date of Review: September 15, 2005

Loc. No.	Analyte	Type of Anomaly	Disposition
TP-17	Uranium	High	Compare to other rounds

Water Quality Data

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	76			#	-	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	116			#	-	-
	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	111			#	-	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	115			#	-	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	112			#	-	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	112			#	-	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	123			#	-	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	131			#	-	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	115			#	-	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	113			#	-	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	98			#	-	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	116			#	-	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	112			#	-	-
	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	101			#	-	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	98			#	-	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	112			#	-	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	116			#	-	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	111			#	-	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	288		F	#	-	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	290		F	#	-	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	289		F	#	-	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	684		F	#	-	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	507		F	#	-	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	251		F	#	-	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	197		F	#	-	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	480		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	790		F	#	-	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	805		F	#	-	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	388		F	#	-	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	251		F	#	-	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	254		F	#	-	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	132			#	-	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	102			#	-	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	98			#	-	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	604		F	#	-	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	158		F	#	-	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	170		F	#	-	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	156		F	#	-	-
Ammonia Total as N	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	0.1	U		#	0.1	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0219-005	SL, RIV	07/14/2005	0002	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	0.1	U		#	0.1	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	0.1	U		#	0.1	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Ammonia Total as N	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	0.1	U		#	0.1	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	0.1	U		#	0.1	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	0.1	U		#	0.1	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	0.31			#	0.1	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	0.1	U		#	0.1	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	17		F	#	2	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	18		F	#	2	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	64		F	#	20	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	420		F	#	50	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	320		F	#	50	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	6.7		F	#	0.2	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	75		F	#	20	-
	mg/L	0408	WL	07/13/2005	0002	26.00 - 26.00	77		F	#	20	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	0.43		F	#	0.1	-
	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	20		F	#	2	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	11		F	#	0.5	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	4		F	#	0.1	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	450		F	#	50	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	320		F	#	50	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	1.9		F	#	0.1	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	3.4		F	#	0.1	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	3.3		F	#	0.1	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	3.6		F	#	0.1	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	55			#	1	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	61			#	2	-
	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	67			#	1	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	62			#	2	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	62			#	1	-
	mg/L	0219-005	SL, RIV	07/14/2005	0002	0.67 - 0.67	62			#	1	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	62			#	2	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	62			#	1	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	58			#	1	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	56			#	1	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	55			#	1	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	56			#	1	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	60			#	1	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	57			#	1	-
	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	64			#	2	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	56			#	1	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	57			#	1	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	57			#	1	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	55			#	1	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	450		F	#	10	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	620		F	#	20	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	470		F	#	10	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	1700		F	#	40	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	840		F	#	20	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	20		F	#	0.2	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	97		F	#	4	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0408	WL	07/13/2005	0002	26.00 - 26.00	98		F	#	4	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	900		F	#	20	-
	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	980		F	#	20	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	1200		F	#	20	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	50		F	#	4	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	54000		F	#	1000	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	3900		F	#	100	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	54			#	1	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	57			#	1	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	60			#	1	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	450		F	#	10	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	61000		F	#	1000	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	59000		F	#	1000	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	63000		F	#	1000	-
Oxidation Reduction Potent	mV	0201	SL, RIV	07/11/2005	N001	0.83 - 0.83	139			#	-	-
	mV	0204-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	-54			#	-	-
	mV	0217	SL, RIV	07/15/2005	N001	0.50 - 0.50	-77			#	-	-
	mV	0218-005	SL, RIV	07/14/2005	N001	0.00 - 0.00	-14			#	-	-
	mV	0219-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	32.1			#	-	-
	mV	0220-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	22.5			#	-	-
	mV	0221-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	20.9			#	-	-
	mV	0222-005	SL, RIV	07/13/2005	N001	0.67 - 0.67	-23.6			#	-	-
	mV	0223-005	SL, RIV	07/12/2005	N001	0.83 - 1.00	27.1			#	-	-
	mV	0224-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	11.1			#	-	-
	mV	0225-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	-31.7			#	-	-
	mV	0226-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	-96			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0227-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	-106			#	-	-
	mV	0228-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	-131.1			#	-	-
	mV	0232-005	SL, RIV	07/11/2005	N001	1.50 - 2.00	-77			#	-	-
	mV	0233-005	SL, RIV	07/12/2005	N001	2.00 - 2.00	-29			#	-	-
	mV	0234-005	SL, RIV	07/12/2005	N001	1.00 - 1.00	26.3			#	-	-
	mV	0235-005	SL, RIV	07/12/2005	N001	1.00 - 1.50	5.4			#	-	-
	mV	0401	WL	07/13/2005	N001	18.00 - 18.00	-11.3		F	#	-	-
	mV	0402	WL	07/12/2005	N001	17.00 - 17.00	49.3		F	#	-	-
	mV	0403	WL	07/12/2005	N001	18.00 - 18.00	21.1		F	#	-	-
	mV	0405	WL	07/14/2005	N001	18.00 - 18.00	74.3		F	#	-	-
	mV	0406	WL	07/14/2005	N001	16.00 - 16.00	68.8		F	#	-	-
	mV	0407	WL	07/12/2005	N001	17.00 - 17.00	-46		F	#	-	-
	mV	0408	WL	07/13/2005	N001	26.00 - 26.00	-12.5		F	#	-	-
	mV	0437	WL	07/13/2005	N001	97.00 - 97.00	41.8		F	#	-	-
	mV	0438	WL	07/13/2005	N001	118.00 - 118.00	37.5		F	#	-	-
	mV	0439	WL	07/13/2005	N001	118.00 - 118.00	-16.5		F	#	-	-
	mV	0492	WL	07/12/2005	N001	18.10 - 18.10	-130		F	#	-	-
	mV	ATP-2-D	WL, PZ	07/14/2005	N001	88.00 - 88.00	-244.9		F	#	-	-
	mV	ATP-2-S	WL, PZ	07/14/2005	N001	36.00 - 36.00	-194.1		F	#	-	-
	mV	CR1	SL, RIV	07/11/2005	N001	0.67 - 0.67	157			#	-	-
	mV	CR3-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	-59			#	-	-
	mV	CR5	SL, RIV	07/11/2005	N001	0.00 - 0.00	133			#	-	-
	mV	TP-02	WL	07/13/2005	N001	29.90 - 29.90	-65.3		F	#	-	-
	mV	TP-17	WL	07/12/2005	N001	28.80 - 28.80	-115.0		F	#	-	-
	mV	TP-18	WL	07/11/2005	N001	20.90 - 20.90	-107.4		F	#	-	-
	mV	TP-19	WL	07/11/2005	N001	29.50 - 29.50	-246		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

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.	0201	SL, RIV	07/11/2005	N001	0.83 - 0.83	8.40			#	-	-
	s.u.	0204-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	8.48			#	-	-
	s.u.	0217	SL, RIV	07/15/2005	N001	0.50 - 0.50	8.41			#	-	-
	s.u.	0218-005	SL, RIV	07/14/2005	N001	0.00 - 0.00	8.54			#	-	-
	s.u.	0219-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	8.52			#	-	-
	s.u.	0220-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	8.47			#	-	-
	s.u.	0221-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	8.45			#	-	-
	s.u.	0222-005	SL, RIV	07/13/2005	N001	0.67 - 0.67	8.46			#	-	-
	s.u.	0223-005	SL, RIV	07/12/2005	N001	0.83 - 1.00	8.41			#	-	-
	s.u.	0224-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	8.38			#	-	-
	s.u.	0225-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	8.36			#	-	-
	s.u.	0226-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	8.39			#	-	-
	s.u.	0227-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	8.53			#	-	-
	s.u.	0228-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	8.60			#	-	-
	s.u.	0232-005	SL, RIV	07/11/2005	N001	1.50 - 2.00	8.48			#	-	-
	s.u.	0233-005	SL, RIV	07/12/2005	N001	2.00 - 2.00	8.45			#	-	-
	s.u.	0234-005	SL, RIV	07/12/2005	N001	1.00 - 1.00	8.39			#	-	-
	s.u.	0235-005	SL, RIV	07/12/2005	N001	1.00 - 1.50	8.43			#	-	-
	s.u.	0401	WL	07/13/2005	N001	18.00 - 18.00	7.02		F	#	-	-
	s.u.	0402	WL	07/12/2005	N001	17.00 - 17.00	6.94		F	#	-	-
	s.u.	0403	WL	07/12/2005	N001	18.00 - 18.00	7.17		F	#	-	-
	s.u.	0405	WL	07/14/2005	N001	18.00 - 18.00	6.74		F	#	-	-
	s.u.	0406	WL	07/14/2005	N001	16.00 - 16.00	6.95		F	#	-	-
	s.u.	0407	WL	07/12/2005	N001	17.00 - 17.00	7.05		F	#	-	-
	s.u.	0408	WL	07/13/2005	N001	26.00 - 26.00	7.69		F	#	-	-
	s.u.	0437	WL	07/13/2005	N001	97.00 - 97.00	7.30		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0438	WL	07/13/2005	N001	118.00 - 118.00	6.76		F	#	-	-
	s.u.	0439	WL	07/13/2005	N001	118.00 - 118.00	6.87		F	#	-	-
	s.u.	0492	WL	07/12/2005	N001	18.10 - 18.10	9.05		F	#	-	-
	s.u.	ATP-2-D	WL, PZ	07/14/2005	N001	88.00 - 88.00	7.45		F	#	-	-
	s.u.	ATP-2-S	WL, PZ	07/14/2005	N001	36.00 - 36.00	7.94		F	#	-	-
	s.u.	CR1	SL, RIV	07/11/2005	N001	0.67 - 0.67	8.45			#	-	-
	s.u.	CR3-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	8.44			#	-	-
	s.u.	CR5	SL, RIV	07/11/2005	N001	0.00 - 0.00	8.30			#	-	-
	s.u.	TP-02	WL	07/13/2005	N001	29.90 - 29.90	7.04		F	#	-	-
	s.u.	TP-17	WL	07/12/2005	N001	28.80 - 28.80	7.19		F	#	-	-
	s.u.	TP-18	WL	07/11/2005	N001	20.90 - 20.90	7.22		F	#	-	-
	s.u.	TP-19	WL	07/11/2005	N001	29.50 - 29.50	6.71		F	#	-	-
Specific Conductance	umhos/cm	0201	SL, RIV	07/11/2005	N001	0.83 - 0.83	628			#	-	-
	umhos/cm	0204-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	798			#	-	-
	umhos/cm	0217	SL, RIV	07/15/2005	N001	0.50 - 0.50	738			#	-	-
	umhos/cm	0218-005	SL, RIV	07/14/2005	N001	0.00 - 0.00	695			#	-	-
	umhos/cm	0219-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	714			#	-	-
	umhos/cm	0220-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	718			#	-	-
	umhos/cm	0221-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	751			#	-	-
	umhos/cm	0222-005	SL, RIV	07/13/2005	N001	0.67 - 0.67	697			#	-	-
	umhos/cm	0223-005	SL, RIV	07/12/2005	N001	0.83 - 1.00	678			#	-	-
	umhos/cm	0224-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	694			#	-	-
	umhos/cm	0225-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	683			#	-	-
	umhos/cm	0226-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	1188			#	-	-
	umhos/cm	0227-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	721			#	-	-
	umhos/cm	0228-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	797			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0232-005	SL, RIV	07/11/2005	N001	1.50 - 2.00	634			#	-	-
	umhos/cm	0233-005	SL, RIV	07/12/2005	N001	2.00 - 2.00	672			#	-	-
	umhos/cm	0234-005	SL, RIV	07/12/2005	N001	1.00 - 1.00	707			#	-	-
	umhos/cm	0235-005	SL, RIV	07/12/2005	N001	1.00 - 1.50	679			#	-	-
	umhos/cm	0401	WL	07/13/2005	N001	18.00 - 18.00	5111		F	#	-	-
	umhos/cm	0402	WL	07/12/2005	N001	17.00 - 17.00	5837		F	#	-	-
	umhos/cm	0403	WL	07/12/2005	N001	18.00 - 18.00	4438		F	#	-	-
	umhos/cm	0405	WL	07/14/2005	N001	18.00 - 18.00	16289		F	#	-	-
	umhos/cm	0406	WL	07/14/2005	N001	16.00 - 16.00	12190		F	#	-	-
	umhos/cm	0407	WL	07/12/2005	N001	17.00 - 17.00	2362		F	#	-	-
	umhos/cm	0408	WL	07/13/2005	N001	26.00 - 26.00	1648		F	#	-	-
	umhos/cm	0437	WL	07/13/2005	N001	97.00 - 97.00	9409		F	#	-	-
	umhos/cm	0438	WL	07/13/2005	N001	118.00 - 118.00	8907		F	#	-	-
	umhos/cm	0439	WL	07/13/2005	N001	118.00 - 118.00	8864		F	#	-	-
	umhos/cm	0492	WL	07/12/2005	N001	18.10 - 18.10	1306		F	#	-	-
	umhos/cm	ATP-2-D	WL, PZ	07/14/2005	N001	88.00 - 88.00	113622		F	#	-	-
	umhos/cm	ATP-2-S	WL, PZ	07/14/2005	N001	36.00 - 36.00	20783		F	#	-	-
	umhos/cm	CR1	SL, RIV	07/11/2005	N001	0.67 - 0.67	619			#	-	-
	umhos/cm	CR3-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	691			#	-	-
	umhos/cm	CR5	SL, RIV	07/11/2005	N001	0.00 - 0.00	663			#	-	-
	umhos/cm	TP-02	WL	07/13/2005	N001	29.90 - 29.90	4355		F	#	-	-
	umhos/cm	TP-17	WL	07/12/2005	N001	28.80 - 28.80	122115		F	#	-	-
	umhos/cm	TP-18	WL	07/11/2005	N001	20.90 - 20.90	114285		F	#	-	-
	umhos/cm	TP-19	WL	07/11/2005	N001	29.50 - 29.50	119668		F	#	-	-
Sulfate	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	150			#	2.5	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	160			#	5	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	170			#	2.5	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	160			#	5	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	160			#	2.5	-
	mg/L	0219-005	SL, RIV	07/14/2005	0002	0.67 - 0.67	170			#	2.5	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	160			#	5	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	160			#	2.5	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	160			#	2.5	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	150			#	2.5	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	150			#	2.5	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	150			#	2.5	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	150			#	2.5	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	150			#	2.5	-
	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	150			#	5	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	150			#	2.5	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	150			#	2.5	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	160			#	2.5	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	150			#	2.5	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	2100		F	#	25	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	2200		F	#	50	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	1600		F	#	25	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	7000		F	#	100	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	5400		F	#	50	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	1200		F	#	50	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	460		F	#	10	-
	mg/L	0408	WL	07/13/2005	0002	26.00 - 26.00	460		F	#	10	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	4000		F	#	50	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	3800		F	#	50	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	3400		F	#	50	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	190		F	#	10	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	5100		F	#	250	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	7500		F	#	250	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	150			#	2.5	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	150			#	2.5	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	150			#	2.5	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	1400		F	#	25	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	4700		F	#	250	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	4500		F	#	250	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	4700		F	#	250	-
Temperature	C	0201	SL, RIV	07/11/2005	N001	0.83 - 0.83	25.25			#	-	-
	C	0204-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	25.64			#	-	-
	C	0217	SL, RIV	07/15/2005	N001	0.50 - 0.50	24.34			#	-	-
	C	0218-005	SL, RIV	07/14/2005	N001	0.00 - 0.00	25.52			#	-	-
	C	0219-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	26.96			#	-	-
	C	0220-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	27.93			#	-	-
	C	0221-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	28.71			#	-	-
	C	0222-005	SL, RIV	07/13/2005	N001	0.67 - 0.67	26.16			#	-	-
	C	0223-005	SL, RIV	07/12/2005	N001	0.83 - 1.00	24.87			#	-	-
	C	0224-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	26.85			#	-	-
	C	0225-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	25.54			#	-	-
	C	0226-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	23.96			#	-	-
	C	0227-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	24.02			#	-	-
	C	0228-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	24.72			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0232-005	SL, RIV	07/11/2005	N001	1.50 - 2.00	23.81			#	-	-
	C	0233-005	SL, RIV	07/12/2005	N001	2.00 - 2.00	25.39			#	-	-
	C	0234-005	SL, RIV	07/12/2005	N001	1.00 - 1.00	24.47			#	-	-
	C	0235-005	SL, RIV	07/12/2005	N001	1.00 - 1.50	25.28			#	-	-
	C	0401	WL	07/13/2005	N001	18.00 - 18.00	17.57		F	#	-	-
	C	0402	WL	07/12/2005	N001	17.00 - 17.00	15.25		F	#	-	-
	C	0403	WL	07/12/2005	N001	18.00 - 18.00	19.18		F	#	-	-
	C	0405	WL	07/14/2005	N001	18.00 - 18.00	20.04		F	#	-	-
	C	0406	WL	07/14/2005	N001	16.00 - 16.00	20.54		F	#	-	-
	C	0407	WL	07/12/2005	N001	17.00 - 17.00	18.13		F	#	-	-
	C	0408	WL	07/13/2005	N001	26.00 - 26.00	15.27		F	#	-	-
	C	0437	WL	07/13/2005	N001	97.00 - 97.00	19.49		F	#	-	-
	C	0438	WL	07/13/2005	N001	118.00 - 118.00	18.88		F	#	-	-
	C	0439	WL	07/13/2005	N001	118.00 - 118.00	19.34		F	#	-	-
	C	0492	WL	07/12/2005	N001	18.10 - 18.10	16.42		F	#	-	-
	C	ATP-2-D	WL, PZ	07/14/2005	N001	88.00 - 88.00	19.77		F	#	-	-
	C	ATP-2-S	WL, PZ	07/14/2005	N001	36.00 - 36.00	19.61		F	#	-	-
	C	CR1	SL, RIV	07/11/2005	N001	0.67 - 0.67	23.11			#	-	-
	C	CR3-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	25.73			#	-	-
	C	CR5	SL, RIV	07/11/2005	N001	0.00 - 0.00	27.35			#	-	-
	C	TP-02	WL	07/13/2005	N001	29.90 - 29.90	23.08		F	#	-	-
	C	TP-17	WL	07/12/2005	N001	28.80 - 28.80	14.65		F	#	-	-
	C	TP-18	WL	07/11/2005	N001	20.90 - 20.90	15.27		F	#	-	-
	C	TP-19	WL	07/11/2005	N001	29.50 - 29.50	16.66		F	#	-	-
Total Dissolved Solids	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	450			#	20	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	460			#	20	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Total Dissolved Solids	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	480			#	20	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	910			#	40	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	470			#	20	-
	mg/L	0219-005	SL, RIV	07/14/2005	0002	0.67 - 0.67	460			#	20	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	460			#	20	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	480			#	20	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	450			#	20	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	430			#	20	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	430			#	20	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	440			#	20	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	470			#	20	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	450			#	20	-
	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	450			#	20	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	450			#	20	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	440			#	20	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	450			#	20	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	460			#	20	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	4600		F	#	80	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	5000		F	#	80	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	3400		F	#	80	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	14000		F	#	400	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	10000		F	#	200	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	2300		F	#	40	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	820		F	#	40	-
	mg/L	0408	WL	07/13/2005	0002	26.00 - 26.00	820		F	#	40	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	8000		F	#	200	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Total Dissolved Solids	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	8400		F	#	200	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	7900		F	#	200	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	860		F	#	40	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	97000		F	#	2000	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	17000		F	#	400	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	280			#	20	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	460			#	20	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	420			#	20	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	3300		F	#	80	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	110000		F	#	2000	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	110000		F	#	2000	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	110000		F	#	2000	-
Turbidity	NTU	0201	SL, RIV	07/11/2005	N001	0.83 - 0.83	34.7			#	-	-
	NTU	0204-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	41.7			#	-	-
	NTU	0217	SL, RIV	07/15/2005	N001	0.50 - 0.50	13.3			#	-	-
	NTU	0218-005	SL, RIV	07/14/2005	N001	0.00 - 0.00	21.0			#	-	-
	NTU	0219-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	14.9			#	-	-
	NTU	0220-005	SL, RIV	07/14/2005	N001	0.67 - 0.83	102			#	-	-
	NTU	0221-005	SL, RIV	07/14/2005	N001	0.67 - 0.67	14.3			#	-	-
	NTU	0222-005	SL, RIV	07/13/2005	N001	0.67 - 0.67	117			#	-	-
	NTU	0223-005	SL, RIV	07/12/2005	N001	0.83 - 1.00	84.5			#	-	-
	NTU	0224-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	39.6			#	-	-
	NTU	0225-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	59.2			#	-	-
	NTU	0226-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	120			#	-	-
	NTU	0227-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	44.6			#	-	-
	NTU	0228-005	SL, RIV	07/11/2005	N001	0.83 - 1.00	65.1			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	SAMPLE: ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0232-005	SL, RIV	07/11/2005	N001	1.50 - 2.00	45.6			#	-	-
	NTU	0233-005	SL, RIV	07/12/2005	N001	2.00 - 2.00	28.0			#	-	-
	NTU	0234-005	SL, RIV	07/12/2005	N001	1.00 - 1.00	75.2			#	-	-
	NTU	0235-005	SL, RIV	07/12/2005	N001	1.00 - 1.50	59.5			#	-	-
	NTU	0401	WL	07/13/2005	N001	18.00 - 18.00	4.73		F	#	-	-
	NTU	0402	WL	07/12/2005	N001	17.00 - 17.00	3.59		F	#	-	-
	NTU	0403	WL	07/12/2005	N001	18.00 - 18.00	2.05		F	#	-	-
	NTU	0405	WL	07/14/2005	N001	18.00 - 18.00	4.43		F	#	-	-
	NTU	0406	WL	07/14/2005	N001	16.00 - 16.00	4.38		F	#	-	-
	NTU	0407	WL	07/12/2005	N001	17.00 - 17.00	3.03		F	#	-	-
	NTU	0408	WL	07/13/2005	N001	26.00 - 26.00	6.13		F	#	-	-
	NTU	0437	WL	07/13/2005	N001	97.00 - 97.00	2.38		F	#	-	-
	NTU	0438	WL	07/13/2005	N001	118.00 - 118.00	1.93		F	#	-	-
	NTU	0439	WL	07/13/2005	N001	118.00 - 118.00	2.61		F	#	-	-
	NTU	0492	WL	07/12/2005	N001	18.10 - 18.10	13.2		F	#	-	-
	NTU	ATP-2-D	WL, PZ	07/14/2005	N001	88.00 - 88.00	4.42		F	#	-	-
	NTU	ATP-2-S	WL, PZ	07/14/2005	N001	36.00 - 36.00	7.63		F	#	-	-
	NTU	CR1	SL, RIV	07/11/2005	N001	0.67 - 0.67	30.1			#	-	-
	NTU	CR3-005	SL, RIV	07/12/2005	N001	0.67 - 0.67	78.1			#	-	-
	NTU	CR5	SL, RIV	07/11/2005	N001	0.00 - 0.00	67.9			#	-	-
	NTU	TP-02	WL	07/13/2005	N001	29.90 - 29.90	4.73		F	#	-	-
	NTU	TP-17	WL	07/12/2005	N001	28.80 - 28.80	6.86		F	#	-	-
	NTU	TP-18	WL	07/11/2005	N001	20.90 - 20.90	7.82		F	#	-	-
	NTU	TP-19	WL	07/11/2005	N001	29.50 - 29.50	13.2		F	#	-	-
Uranium	mg/L	0201	SL, RIV	07/11/2005	0001	0.83 - 0.83	0.0027			#	3.8E-06	-
	mg/L	0204-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	0.0034			#	3.8E-06	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0217	SL, RIV	07/15/2005	0001	0.50 - 0.50	0.0028			#	3.8E-06	-
	mg/L	0218-005	SL, RIV	07/14/2005	0001	0.00 - 0.00	0.0033			#	3.8E-06	-
	mg/L	0219-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	0.0038			#	3.8E-06	-
	mg/L	0219-005	SL, RIV	07/14/2005	0002	0.67 - 0.67	0.0038			#	3.8E-06	-
	mg/L	0220-005	SL, RIV	07/14/2005	0001	0.67 - 0.83	0.0041			#	3.8E-06	-
	mg/L	0221-005	SL, RIV	07/14/2005	0001	0.67 - 0.67	0.0036			#	3.8E-06	-
	mg/L	0222-005	SL, RIV	07/13/2005	0001	0.67 - 0.67	0.0035			#	3.8E-06	-
	mg/L	0223-005	SL, RIV	07/12/2005	0001	0.83 - 1.00	0.0033			#	3.8E-06	-
	mg/L	0224-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.0034			#	3.8E-06	-
	mg/L	0225-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.0035			#	3.8E-06	-
	mg/L	0226-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.0029			#	3.8E-06	-
	mg/L	0227-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	0.0028			#	3.8E-06	-
	mg/L	0228-005	SL, RIV	07/11/2005	0001	0.83 - 1.00	0.0028			#	3.8E-06	-
	mg/L	0232-005	SL, RIV	07/11/2005	0001	1.50 - 2.00	0.0027			#	3.8E-06	-
	mg/L	0233-005	SL, RIV	07/12/2005	0001	2.00 - 2.00	0.003			#	3.8E-06	-
	mg/L	0234-005	SL, RIV	07/12/2005	0001	1.00 - 1.00	0.0065			#	3.8E-06	-
	mg/L	0235-005	SL, RIV	07/12/2005	0001	1.00 - 1.50	0.0033			#	3.8E-06	-
	mg/L	0401	WL	07/13/2005	0001	18.00 - 18.00	0.420		F	#	1.9E-05	-
	mg/L	0402	WL	07/12/2005	0001	17.00 - 17.00	0.880		F	#	0.00019	-
	mg/L	0403	WL	07/12/2005	0001	18.00 - 18.00	0.470		F	#	1.9E-05	-
	mg/L	0405	WL	07/14/2005	0001	18.00 - 18.00	1.400		F	#	0.00019	-
	mg/L	0406	WL	07/14/2005	0001	16.00 - 16.00	1.600		F	#	0.00019	-
	mg/L	0407	WL	07/12/2005	0001	17.00 - 17.00	0.260		F	#	1.9E-05	-
	mg/L	0408	WL	07/13/2005	0001	26.00 - 26.00	0.150		F	#	1.9E-05	-
	mg/L	0408	WL	07/13/2005	0002	26.00 - 26.00	0.150		F	#	1.9E-05	-
	mg/L	0437	WL	07/13/2005	0001	97.00 - 97.00	4.900		F	#	0.00038	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0438	WL	07/13/2005	0001	118.00 - 118.00	2.400		F	#	0.00019	-
	mg/L	0439	WL	07/13/2005	0001	118.00 - 118.00	1.000		F	#	0.00038	-
	mg/L	0492	WL	07/12/2005	0001	18.10 - 18.10	1.300		F	#	0.00019	-
	mg/L	ATP-2-D	WL, PZ	07/14/2005	0001	88.00 - 88.00	0.038		F	#	3.8E-06	-
	mg/L	ATP-2-S	WL, PZ	07/14/2005	0001	36.00 - 36.00	0.550		F	#	3.8E-05	-
	mg/L	CR1	SL, RIV	07/11/2005	0001	0.67 - 0.67	0.0027			#	3.8E-06	-
	mg/L	CR3-005	SL, RIV	07/12/2005	0001	0.67 - 0.67	0.0031			#	3.8E-06	-
	mg/L	CR5	SL, RIV	07/11/2005	0001	0.00 - 0.00	0.0027			#	3.8E-06	-
	mg/L	TP-02	WL	07/13/2005	0001	29.90 - 29.90	9.900		F	#	0.0019	-
	mg/L	TP-17	WL	07/12/2005	0001	28.80 - 28.80	0.025		F	#	3.8E-06	-
	mg/L	TP-18	WL	07/11/2005	0001	20.90 - 20.90	0.011		F	#	3.8E-06	-
	mg/L	TP-19	WL	07/11/2005	0001	29.50 - 29.50	0.00042	B	UF	#	1.9E-05	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 9/15/2005 2:14 pm

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE200 WHERE site_code='MOA01' 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 #7/10/2005# and #7/16/2005#

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

LOCATION TYPES: SL SURFACE LOCATION WL WELL

LOCATION SUBTYPES: PZ Piezometer RIV River

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 compund (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: 9/15/2005 2:15 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0401	O	3969.60	07/13/2005	15:10	13.68	3955.92	
0402	O	3968.63	07/12/2005	16:05	12.97	3955.66	
0403	O	3968.95	07/12/2005	14:43	13.89	3955.06	
0405	O	3968.47	07/14/2005	14:46	12.77	3955.70	
0406	O	3969.91	07/14/2005	15:53	13.92	3955.99	
0407	O	3969.09	07/12/2005	12:58	14.29	3954.80	
0408	O	3969.17	07/13/2005	15:37	13.28	3955.89	
0437	O	4048.25	07/13/2005	09:00	88.31	3959.94	
0438	O	4054.22	07/13/2005	08:11	95.40	3958.82	
0439	O	4055.27	07/13/2005	10:44	96.80	3958.47	
0492		-	07/12/2005	09:21	12.92	-12.92	
ATP-2-D	O	3967.05	07/14/2005	08:38	13.14	3953.91	
ATP-2-S	O	3967.04	07/14/2005	08:05	10.53	3956.51	
TP-02	O	3975.55	07/13/2005	13:16	19.25	3956.30	
TP-17	D	3963.69	07/12/2005	08:15	10.01	3953.68	
TP-18	D	3963.63	07/11/2005	15:58	9.20	3954.43	
TP-19	D	3962.17	07/11/2005	14:45	8.35	3953.82	

RECORDS: SELECTED FROM USEE700 WHERE site_code='MOA01' AND LOG_DATE between #7/10/2005# and #7/16/2005#

FLOW CODES: D DOWN GRADIENT O ON-SITE

WATER LEVEL FLAGS:

Blanks Report

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05070211
REPORT DATE: 09/15/05 02:08:27: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB	DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Ammonia Total as N	MOA01	0999	07/15/2005	0001	mg/L	0.1	U		0.1		E
Chloride	MOA01	0999	07/15/2005	0001	mg/L	0.2	U		0.2		E
Sulfate	MOA01	0999	07/15/2005	0001	mg/L	0.5	U		0.5		E
Total Dissolved Solids	MOA01	0999	07/15/2005	0001	mg/L	20	U		20		E
Uranium	MOA01	0999	07/15/2005	0001	mg/L	0.000095	B	U	0.0000038		E

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05070211
REPORT DATE: 09/15/05 02:08:27: PM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE

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 compund (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

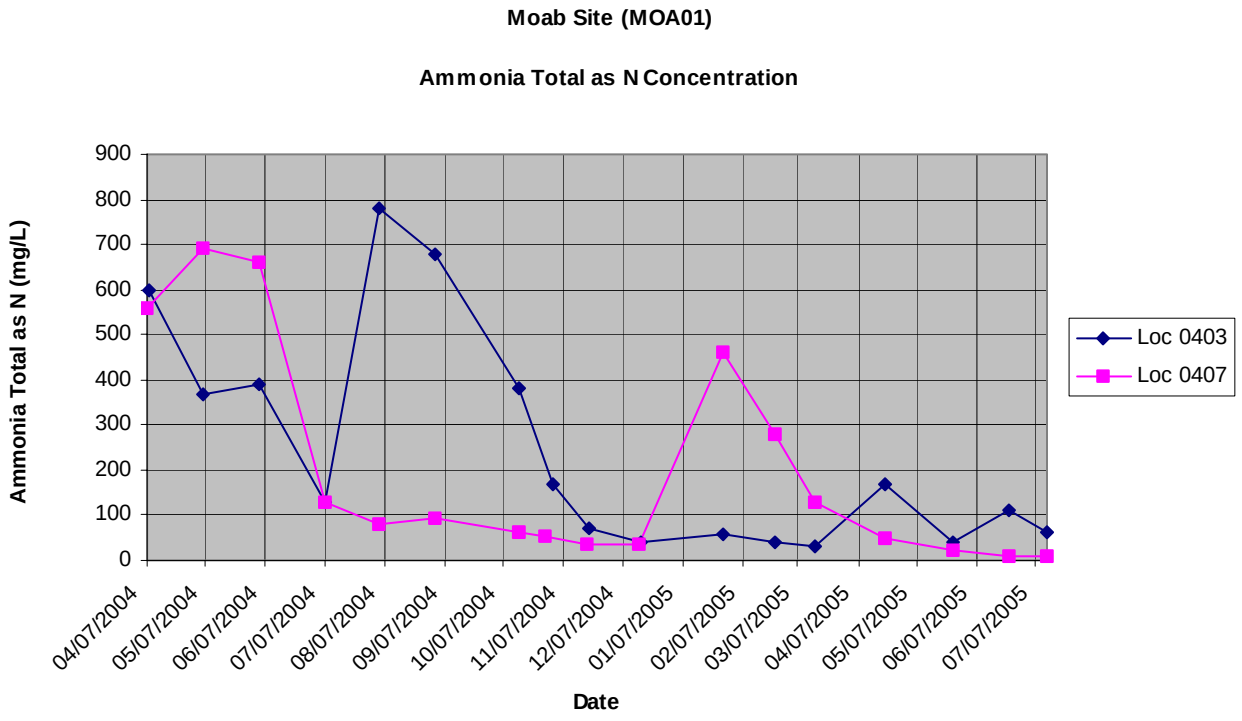
DATA QUALIFIERS:

- 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
Ammonia Total as N (mg/L)
900
800
700
600
500
400
300
200
100
0
04/07/2004
05/07/2004
06/07/2004
07/07/2004
08/07/2004
09/07/2004
10/07/2004
11/07/2004
12/07/2004
01/07/2005
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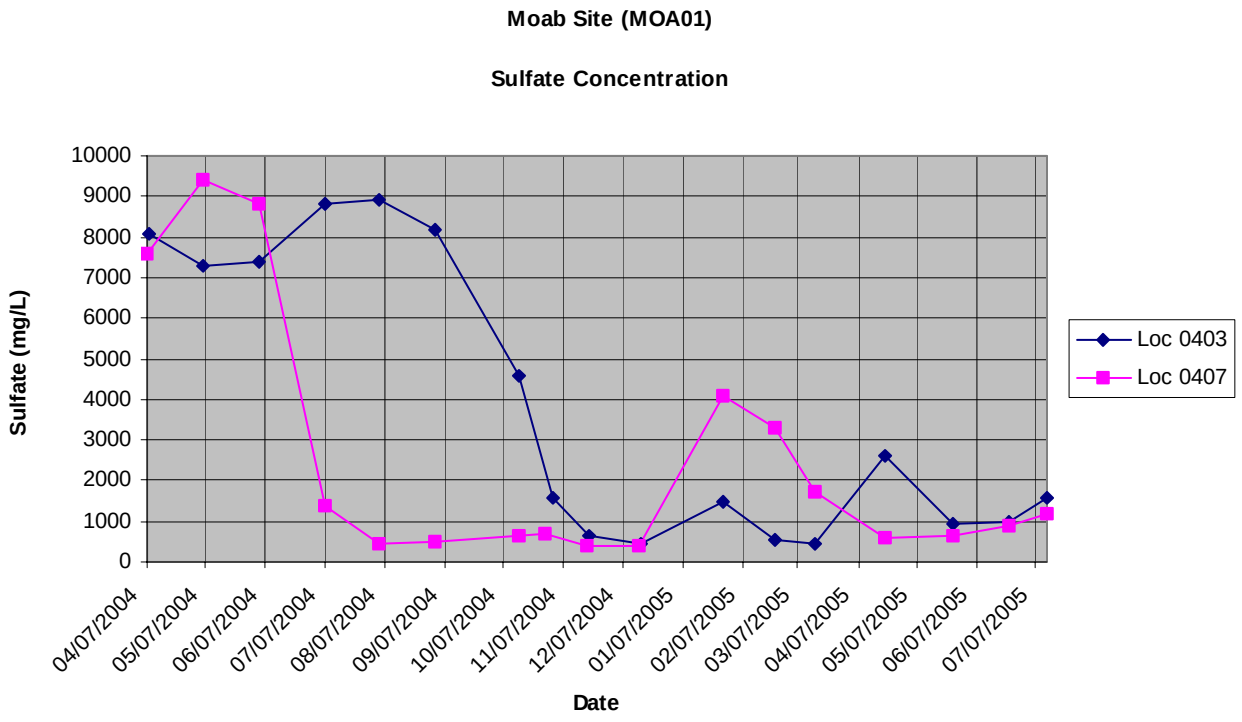
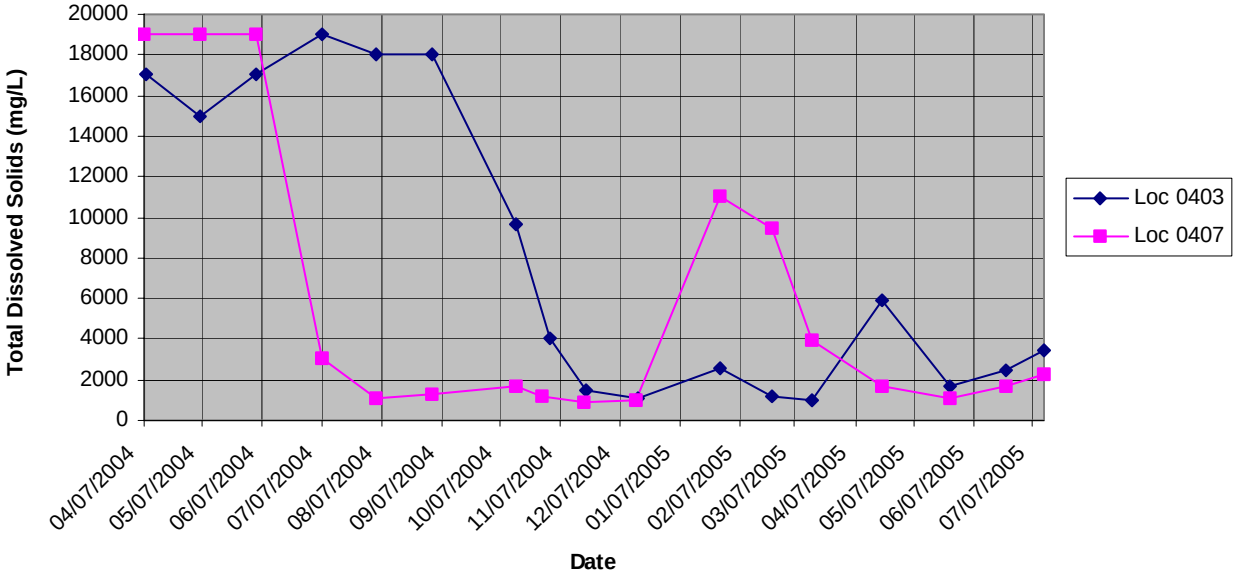
05/07/2005
06/07/2005
07/07/2005
Date
Loc 0403
Loc 0407


Moab Site (MOA01)
Sulfate Concentration
Sulfate (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
04/07/2004
05/07/2004
06/07/2004
07/07/2004
08/07/2004
09/07/2004
10/07/2004
11/07/2004
12/07/2004
01/07/2005
02/07/2005
03/07/2005
04/07/2005
05/07/2005
06/07/2005
07/07/2005
Date
Loc 0403
Loc 0407

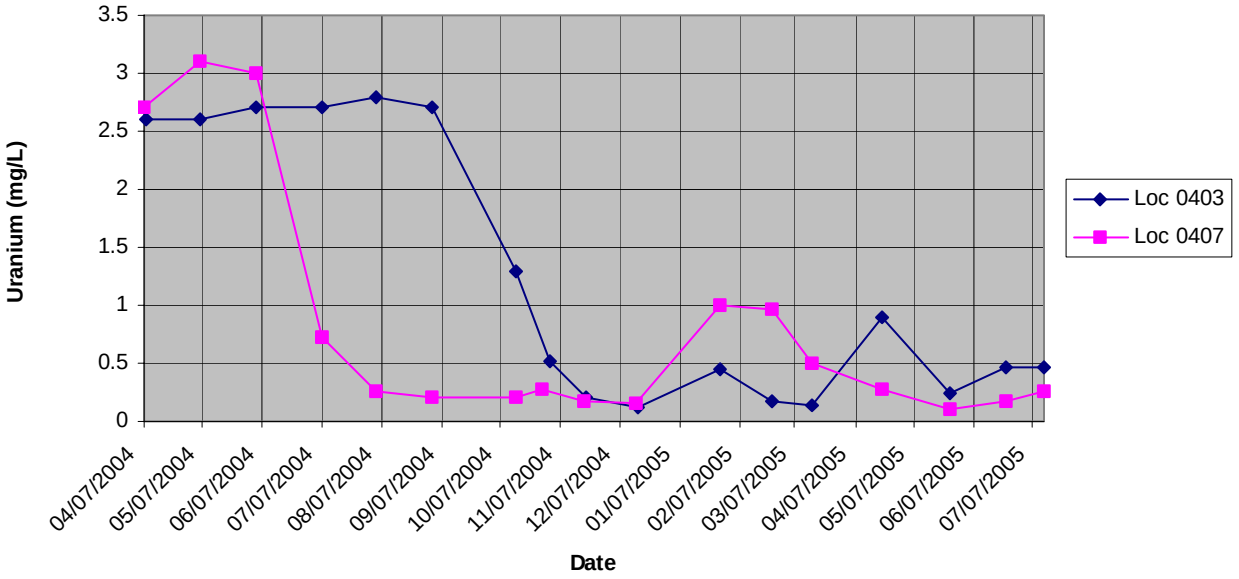
Moab Site (MOA01)

Total Dissolved Solids Concentration



Moab Site (MOA01)

Uranium Concentration



Attachment 2

Trip Report

Stoller

established 1959

Memorandum

DATE: August 2, 2005

TO: Ken Karp

FROM: Dave Traub

SUBJECT: Sampling Event Trip Report

Site: Moab, Utah

Date of Sampling Event: July 11 through July 15, 2005.

Team Members: Dave Traub and Emile Bettez

Number of Locations Sampled: 17 ground water and 21 surface water locations were sampled.

Locations Not Sampled/Reason: Well 0404 was not sampled as it was in the middle of a trench during the period sampling was underway. There was a lot of construction activity in this area during the sampling event. Any sampling would have caused caving of the trench walls and danger to the sampling team.

Field Variance: Only a 125 ml sample was collected for uranium analysis as opposed to the standard 500 ml sample volume for metals. No other metals are being sampled and this volume is sufficient for the uranium analysis.

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

Ticket Number	False ID	True ID	Sample Type	Associated Matrix
NDV 828	2958	Well 0408	Sample Dup.	Water
NDV 839	2959	Surf. Loc. 0219-005	Sample Dup.	Water
NDV 841	2960	Equipment Blank	Equipment Blank	DI Water

RIN Number Assigned: All samples were assigned to RIN 05070211.

Sample Shipments: Samples were shipped to Paragon Analytics, Inc. from Moab, Utah, on July 14, and from the GJO on July 15.

Location Specific Information: All monitor wells and piezometers were sampled using either dedicated bladder pumps or peristaltic pumps with dedicated tubing. Several of the narrow 1" piezometers had data loggers that were removed so tubing could be used for sampling. After sampling, the tubing was discarded and the data loggers were placed back in the piezometers.

Two bladder pumps and the associated tubing were found lying on a wooden reel next to a well not shown on our maps (four 2-inch wells inside one casing, south of pile). The pumps were removed from the site and surveyed out. The associated tubing was ruined due to exposure.

Surface water locations were sampled using portable peristaltic pumps. Due to the recent drop in river level, the banks were very muddy and treacherous. We could not access several locations to collect GPS data. The river was also flowing much faster than it has the last several years. Photos of the surface water locations can be found in G:\Sites\UT\Moab\images\2005\20050711_Traub_RoutineMaintenance

There was a strong H_2S odor from the water at well TP-19. Tubing was pulled up 2.8' at well TP-18, 2.9' at TP-17, and 2.0' at ATP-2-S. Turbidity could not be reached at well 0492.

Temperatures were over 100° every day and over 110° several times. The highest temperature noted by the sampling team was 117° on our Brunton weather station.

The following table indicates specific comments noted at each surface water location:

Ticket Number	Location	Sample Date	Time	Sample Depth	Comment
NDV 427	201	7/11/05	1305	10"	Collected 2' from shore, very slow flow, river dropped ~ 2' in last week.
NDV 832	204-005	7/14/05	1010	8 – 10"	Collected 2 ft. from shore, calm, strong flow 15 ft out. Some plants and grasses in river nearby.
NDV 840	217	7/15/005	0835	6"	Collected 1 ft. from shore, strong flow, VERY hard to access this site, took over an hour to cut way to location. Location needs access trail cut.
NDV 833	218-005	7/14/05	1020	Bottom	Collected from bottom 12" from shore, strong flow, slight ripples, ~ 5 ft past weeds in water, can't get to rivers edge
NDV 838	219-005	7/14/05	1650	8"	Collected 4 ft. from shore. At intake hose, moderate flow, some fish jumping, frog sounds, duck nearby.
NDV 836	220-005	7/14/05	1540	8 – 10"	Collected 2–3 ft. off shore, muddy, slow flow, main channel, several fish jumping nearby, small minnows (1 ½") in river nearby. 113.3°!
NDV 834	221-005	7/14/05	1410	8"	Collected 9" from shore, moderate flow, numerous bird / mammal tracks nearby, killdeer
NDV 829	222-005	7/13/05	1630	8"	Collected 14" from shore, Small fish jumping nearby, Killdeer (bird) nearby, slow flow, water is 8 – 10" lower than yesterday, channel is open to main river ~ 100 yards upstream. 6800 cfs, 3.9 ft gage height at 1500.
NDV 445	223-005	7/12/05	1640	10 – 12"	Collected 1 ½ ft. from shore, very muddy, slow flow
NDV 443	224-005	7/12/05	1530	8"	Collected 1 ft. from shore, slow flow, several small 1" minnows swimming nearby
NDV 440	225-005	7/12/05	1345	8"	Collected 6" from shore, strong flow. No fish but did see / hear hummingbirds!
NDV 435	226-005	7/12/05	0850	8"	Collected 1 foot from shore, slow flow.
NDV 432	227-005	7/11/05	1650	10-12"	Collected 16" from shore, good flow, murky, no fish observed, hard to get to water due to mud.
NDV 430	228-005	7/11/05	1530	10-12"	Collected 1 ft from shore, depth uncertain, prob. 10-12", too muddy to access.

Ticket Number	Location	Sample Date	Time	Sample Depth	Comment
NDV 433	232-005	7/11/05	1700	1.5 – 2 ft.	9-10' off bank; strong current, no fish visible.
NDV 438	233-005	7/12/05	1115	2 ft	Collected from bottom, 10 ft. from shore. Bank too steep / river too full to observe for fish, accurate depth
NDV 446	234-005	7/12/05	1700	-	Info not noted, probably ~ 12" deep from photo, ~ 10 ft from bank, slow flow, very muddy.
NDV 441	235-005	7/12/05	1410	1- 11/2 ft.	Collected 10 ft. from shore, strong current, No GPS.
NDV 426	CR1	7/11/05	1210	8"	Collected 2' from shore, many small 1-1.5" minnows, calm but strong flow.
NDV 437	CR3-005	7/12/05	1100	8"	Collected 1 foot from shore, No fish, slow flow.
NDV 428	CR5	7/11/05	1415		River calm but strong flow

Water Level Measurements: Water levels were taken on all sampled wells.

Well Inspection Summary: Well inspections were conducted at all sampled wells. Several of the piezometers do not have protective casings or sealing caps. All wells were in good condition but salt spray from the evaporation system is corroding the protective casings at wells 0437, 0438, and 0439 on top of the pile. These wells are not locked due to the corrosion.

Equipment: All sampling equipment functioned properly.

Regulatory: None.

Site Issues: While sampling on the road that extends south of the extraction wellfield area we noticed that the area is very overgrown and there is a considerable fire danger. Much of the underbrush is very dry and very thick. A tent camper was using the area south of the pile as a campsite for several days and the possibility of a fire should be examined.

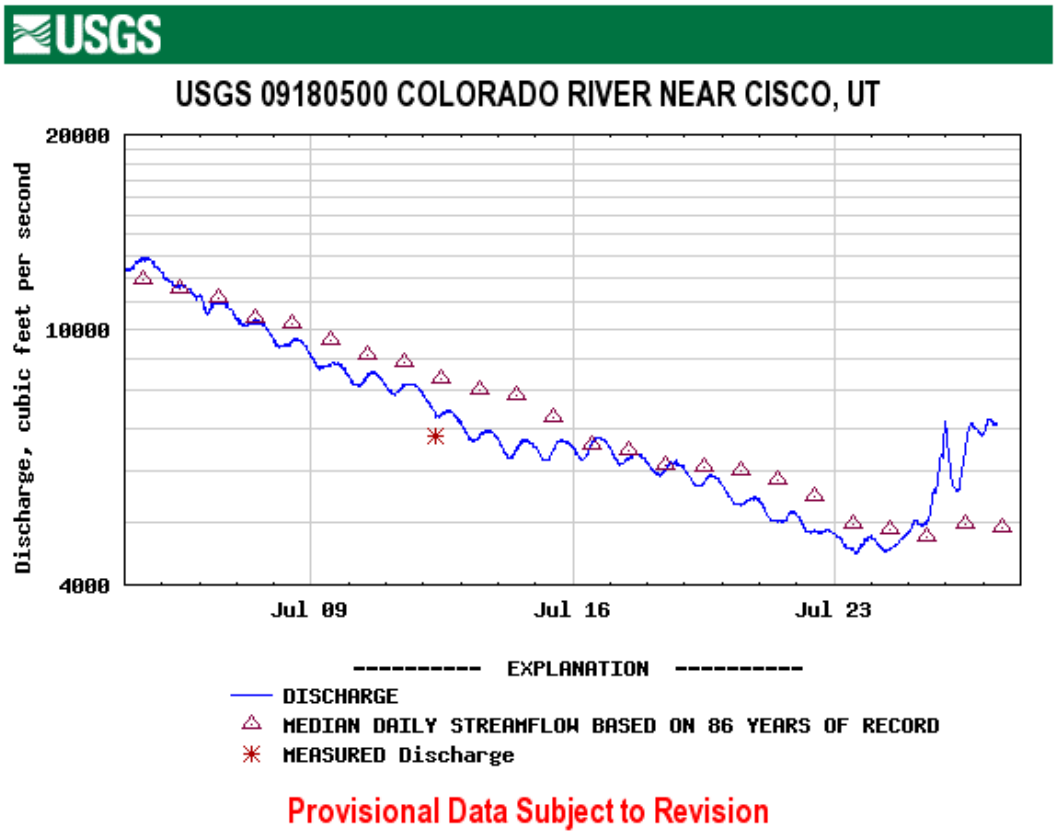
Surface water location 0217 on the east side of the river is very difficult to access. We took over an hour to cut our way to the location. The recent high water has caused the weeds to grow over five feet tall. A trail needs to be cut to this location, preferably not when the temperature is over 100°.

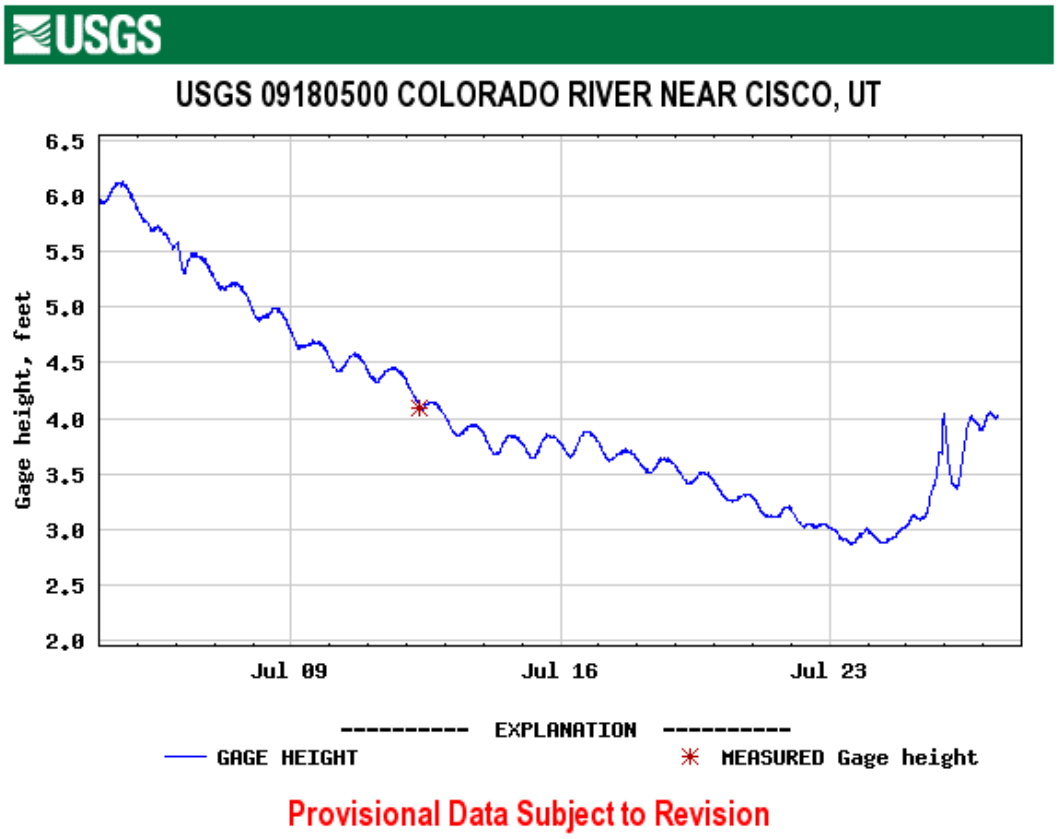
River Level: The following data was taken from the USGS website for the Cisco, Utah river gage station.

Date / Time	Gage height, feet	Stream-flow (ft^3/s)
07/10/2005 23:45	4.43	8,160
07/11/2005 12:00	4.43	8,160
07/12/2005 12:00	4.12	7,370
07/13/2005 12:00	3.89	6,800
07/14/2005 12:00	3.76	6,490
07/15/2005 03:15	3.70	6,350

Corrective Action Required/Taken: None.

(DGT/lcg)


USGS
USGS 09180500 COLORADO RIVER NEAR CISCO, UT
Discharge, cubic feet per second
20000
10000
4000
Jul 09
Jul 16
Jul 23
---------- EXPLANATION ----------
DISCHARGE
MEDIAN DAILY STREAMFLOW BASED ON 86 YEARS OF RECORD
MEASURED Discharge
Provisional Data Subject to Revision


USGS
USGS 09180500 COLORADO RIVER NEAR CISCO, UT
Gage height, feet
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
Jul 09
Jul 16
Jul 23
---------- EXPLANATION ----------
GAGE HEIGHT
MEASURED Gage height
Provisional Data Subject to Revision

cc: J. D. Berwick, DOE-EM (e)
D. R. Metzler, DOE-EM
C. I. Bahrke, Stoller (e)
L. E. Cummins, Stoller (e)
S. E. Donivan, Stoller (e)
L. M. Edwards, Stoller (e)
S. D. Lyon, Stoller (e)
K. E. Miller, Stoller
K. G. Pill, Stoller (e)
J. E. Price, Stoller (e)

K:\SMO\Moab\DATA VALIDATION PACKAGES\Routine\Final Files\July 2005 Routine VDP.doc