

Office of Environmental Management – Grand Junction



Moab UMTRA Project
April 2008 Validation Data Package for
Performance Assessment of the
Monthly Sampling for the Ground Water
Interim Action and for the Ground Water
and Surface Water Interaction
Investigation Sampling

January 2009



U.S. Department
of Energy

Office of Environmental Management

Moab UMTRA Project
April 2008 Validation Data Package for Performance Assessment of
the Monthly Sampling for the Ground Water Interim Action and
for the Ground Water/Surface Water Interaction Investigation
Sampling Event

January 2009

**Moab UMTRA Project
April 2008 Ground Water Sampling Events**

Revision 0

Review and Approval

Kenneth G. Pill

Kenneth G. Pill
TAC Ground Water Manager

1/12/09

Date

Joseph D. Ritchey

Joseph D. Ritchey
TAC Senior Program Manager

1/12/09

Date

REVISION HISTORY

Revision No.	Date	Reason/Basis for Revision
0	January 2009	Initial issue of Moab UMTRA Project April 2008 Ground Water Sampling Events.

Table of Contents

Section	Page
Acronyms and Abbreviations	v
Introduction.....	1
1.0 Sampling Event Summaries	1
1.1 Summary Criteria.....	1
1.1.1 Monthly Sampling Event	1
1.1.2 Ground Water/Surface Water Interaction Investigation Sampling Event.....	2
1.2 Executive Summary	5
1.2.1 Monthly Sampling Event	5
1.2.2 Ground Water/Surface Water Interaction Investigation Sampling Event.....	11
1.3 Sampling and Analyses.....	16
1.3.1 Monthly Sampling Event	16
1.3.2 Ground Water/Surface Water Interaction Investigation Sampling Event.....	16
2.0 Data Assessment Summaries	17
2.1 Water Sampling Field Activities Verification	17
2.2 Laboratory Performance Assessments.....	17
2.2.1 Monthly Sampling Event	17
2.2.2 Ground Water/Surface Water Interaction Investigation Sampling Event.....	21
2.3 Field Analyses/Activities.....	27
2.3.1 Monthly Sampling Event	27
2.3.2 Ground Water/Surface Water Interaction Investigation Sampling Event.....	27
2.4 Certification	28
3.0 Data Presentation.....	28
3.1 Minimums and Maximums Reports.....	28
3.2 Anomalous Data Review	29
3.3 Water Quality Data	29
3.4 Water Level Data	29
3.5 Blanks Report.....	29

Tables

Table 1. Interim Action Surface Water Ammonia Concentrations and Comparisons to State of Utah and Federal Criteria	11
Table 2. Ground Water/Surface Water Interaction Investigation Sampling Event Surface Water Ammonia Concentrations and Comparisons to State of Utah and Federal Criteria	16
Table 3. Interim Action Analytes and Methods.....	18
Table 4. Interim Action Data Qualifiers	18
Table 5. Interim Action Reason Codes for Data Flags	19
Table 6. Ground Water/Surface Water Interaction Investigation Sampling Event Analytes and Methods.....	22
Table 7. Ground Water/Surface Water Interaction Investigation Sampling Event Data Qualifiers	23
Table 8. Ground Water/Surface Water Interaction Investigation Sampling Event Reason Codes for Data Flags.....	23

Figure

Figure 1. Map of Sample Locations at the Interim Action Well Field and Baseline Area4

Appendices

Appendix A. Water Sampling Field Activities Verification..... A-1
Appendix B. Minimums and Maximums ReportsB-1
Appendix C. Water Quality Data.....C-1
Appendix D. Water Level Data D-1

Attachments

Attachment 1. Interim Action Well Field Monthly Sampling Trip Report
Attachment 2. Ground Water/Surface Water Interaction Investigation Sampling Trip Report

Acronyms and Abbreviations

AWQC	ambient water quality criteria
bgs	below ground surface
BL	baseline area
btoc	below top of casing
cfs	cubic feet per second
COC	chain of custody
DI	deionized
D.O.	dissolved oxygen
EB	equipment blank
EDD	electronic data deliverable
EPA	Environment Protection Agency
ft	feet
ICP	inductively coupled plasma
IDL	instrument detection limit
LCS	laboratory control samples
MDL	method detection limit
mg/L	milligram per liter
mL/m	milliliter per minute
MS	matrix spike
MSD	matrix spike duplicate
µmhos/cm	micro mhos per centimeter
µS/cm	micro siemens per centimeter
mV	millivolt
NTU	nephelometric turbidity unit
ORP	oxidation reduction potential
% meq/l	percent mil equivalent per liter
PQL	practical quantitation limit
RDL	required detection limit
RIN	report identification number
RPD	relative percent difference
RS	replicate sample
SDG	sample data group
Spec Cond	special conditions
SL	surface location
S.U.	standard unit
TDS	total dissolved solids
TS	treatment system
Turb.	turbidity
UMTRA	Uranium Mill Tailings Remedial Action
USGS	U.S. Geological Survey
VDP	validation data package
WL	well

Introduction

This purpose of this document is to summarize the results of the data validation process associated with ground water and/or surface water samples collected from the Moab UMTRA site. This data validation follows the criteria according to the *Environmental Procedures Catalog*, "Standard Practice for Validation of Laboratory Data," GT-9(P) (2006).

As part of the scope of this document, the complete results of this data validation process are provided. Section 1 presents the Sampling Event Summary, which includes an Executive Summary. Section 2 provides the Data Assessment Summaries, including the Field Activity Verification, Laboratory Performance Assessment, and Field Analyses/Activities description. All flagged data, and the reasons for the applicable flags, are also presented in Section 2. The Data Presentation is contained in Section 3, which includes a summary of the anomalous data generated by the validation process. Various Appendices contain the Water Quality Data, Water Level Data, Minimums and Maximums Report tables, and the Trip Reports. All Colorado River flow discussed in this document are measured from the USGS Cisco Gaging Station No. 09180500.

1.0 Sampling Event Summaries

This validation data package (VDP) presents the results of two April 2008 sampling events. A monthly sampling event was completed from March 31 through April 10, 2008, in which ground water and surface water samples were collected from a variety of locations across the well field. Between March 28 and 30, 2008, ground water and surface water locations were sampled as part of the second event associated with the ground water/surface water interaction investigation.

Section 1.0 contains the Summary Criteria with a sample location map (Section 1.1), Executive Summary (Section 1.2), and the Sampling and Analyses (Section 1.3) for both April 2008 sampling events.

1.1 Summary Criteria

1.1.1 Monthly Sampling Event

Sampling Period: March 31 - April 10, 2008

The purpose of this sampling was to collect data that can be used to evaluate the performance of all configurations of the ground water Interim Action well field. All sampling locations are shown on Figure 1.

1. As a result of this sampling event, is there any indication of anomalous data that may be related to well field pump rate changes, river flow, or other known causes?

No.

2. Were all Interim Action well-field pumps operating within the planned parameters?

Yes. Configuration 1 continued ground water extraction over the winter, and Configurations 3 and 4 were brought back online April 3 during this sampling event.

3. Was the evaporation pond functioning properly?

Yes. The pond level was relatively stable and was measured to be from 5.5 to 5.6 feet (ft) during this sampling event.

4. Were all proposed well (ground water) and surface-water locations sampled during this event?

No. The dedicated submersible pump in extraction well SMI-PW02 was not working during the sampling event, so this location was not sampled. Four surface water locations (0236, 0239, 0257, and 0259) were not sampled because they were dry, and one surface water location (0274) was not sampled because it was inaccessible due to high water flow. Two well points (0690 and 0724) were dry, so these locations were not sampled, and six well points (0790, 0791, 0792, 0793, 0794, and 0795) were inaccessible due to high water flow and so were not sampled.

5. Were there any site activities that have impacted or may impact the Interim Action system?

No.

1.1.2 Ground Water/Surface Water Interaction Investigation Sampling Event

Sampling Period: April 28 - 31, 2008

The purpose of this sampling was to collect a second round of data for the ground water/surface water investigation, which was designed to determine the vertical and lateral migration of freshwater from the river into the well field aquifer during the 2008 spring runoff. The first sampling event occurred when the Colorado River flows were approximately 3,500 cubic feet per second (cfs), which represents river base flow conditions. This second sampling event occurred during the early stages of the spring runoff, when the flows were approximately 13,000 cfs. A series of surface water locations, well points, observation wells, and one extraction well from the Configuration 1 and the Baseline areas were sampled at varying depths and distances from the river channel. All sampling locations are shown on Figure 1.

1. As a result of this sampling event, is there any indication of anomalous data that may be related to well field pump rate changes, river flow, or other known causes?

No.

2. Were all Interim Action well-field pumps operating within the planned parameters?

Yes. As scheduled, only Configuration 1 was actively extracting ground water during the winter and during this sampling event. Configurations 3 and 4 were brought back online April 3, 2008, before this sampling event.

3. Was the evaporation pond functioning properly?

Yes. The pond level was between 5.6 and 5.7 ft during this sampling event, and the sprinkler system was actively distributing ground water during this event.

4. Were all proposed well (ground water) and surface water locations sampled during this event?

No. Well points 0606, 0562, and 0563 were not sampled because they were inaccessible due to the high river stage. Surface water location 0243 was inaccessible, so surface water location 0242 was sampled in its place.

5. Were there any site activities that have impacted or may impact the Interim Action system?

No.

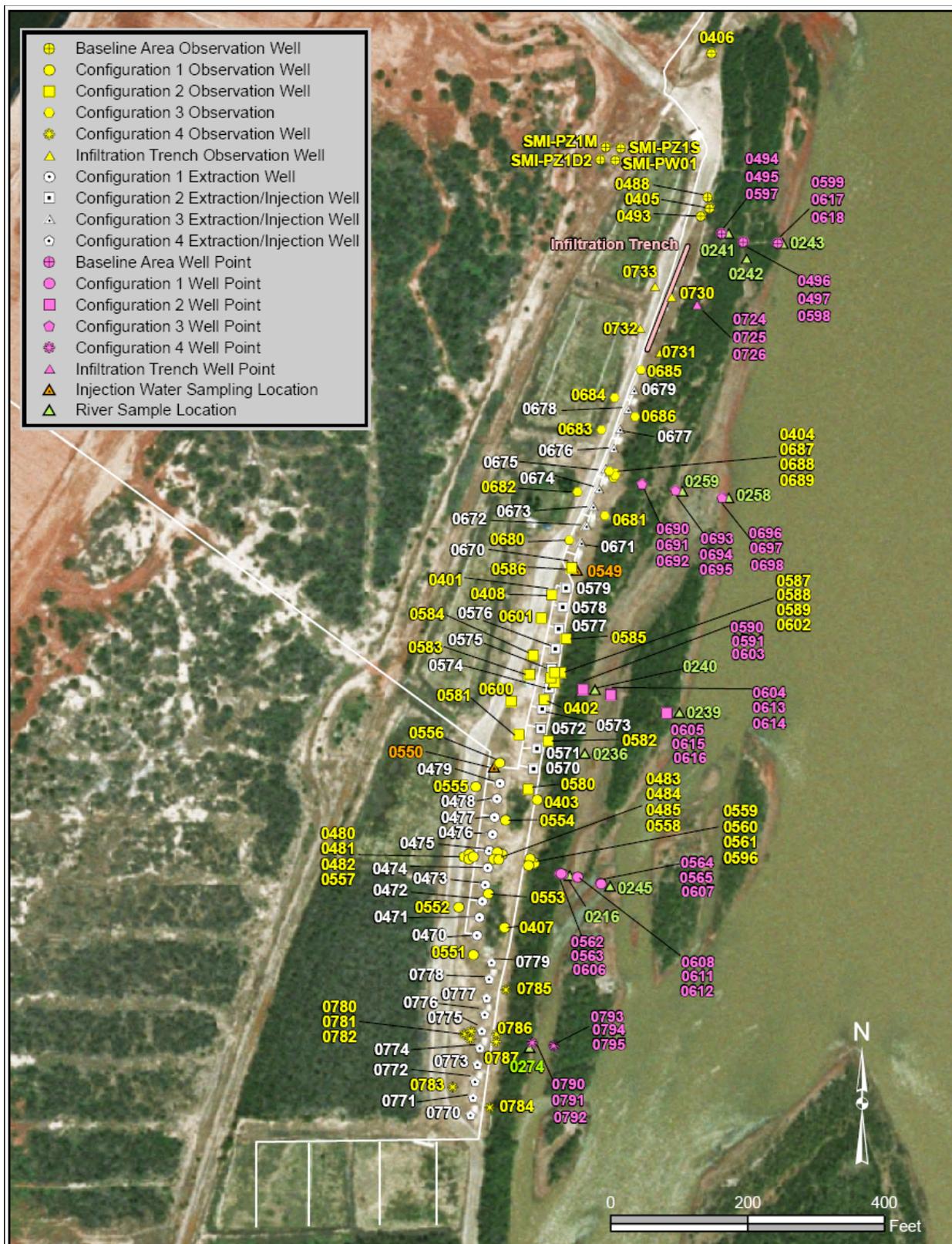


Figure 1. Sample Locations at the Interim Action Well Field and Baseline Area (may include locations not sampled)

1.2 Executive Summary

1.2.1 Monthly Sampling Event

This VDP presents the validated data associated with the ground water collected during the April 2008 monthly sampling event at the former uranium tailings processing site in Moab, Utah. This VDP includes a discussion of the data validation process in Section 2.0 with a description of how these data are qualified based on field and laboratory verification assessments (Sections 2.2 and 2.2.1). Attachment 1 contains the trip report detailing the field events associated with this sampling event.

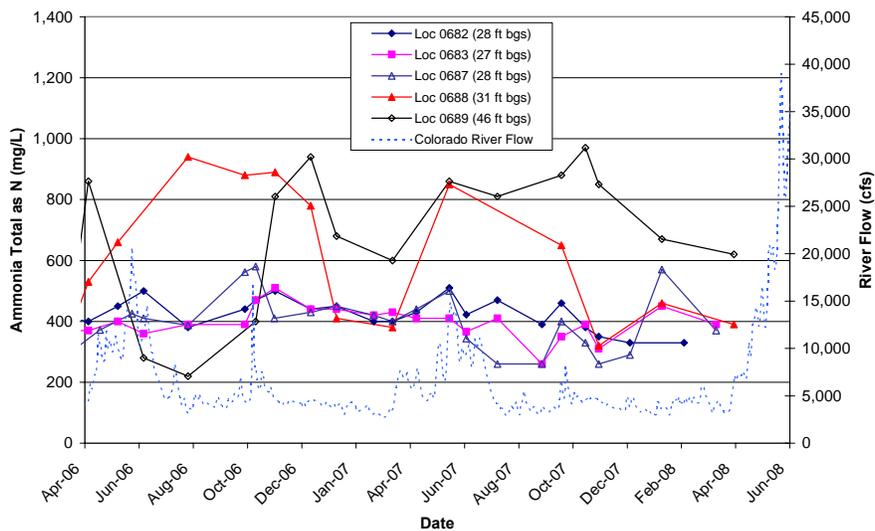
A list of flagged data is presented in Table 4 in Section 2.2.1. No data were rejected (flagged as “R”) as a result of this validation process. A Minimums and Maximums Report (presented in Section 3.1.) was generated to determine if the data are within a normal statistical range. Any anomalous data, based on the results of the Minimums and Maximums Report, are presented in Section 3.2.

While independent of the data validation process, a brief summary of the most recent concentration trends based on the April 2008 data is provided for Configurations 3, 2, 1, and 4 (listed from north to south) within the well field. Time versus concentration (ammonia, total dissolved solids [TDS], and uranium) plots for selected performance indicator monitoring wells located upgradient or downgradient within the Interim Action well field are presented to display historical trends exhibited by the data over the past 2 years. Colorado River flows over the same time frame are also plotted to determine whether the magnitude of river flows influences analyte concentrations.

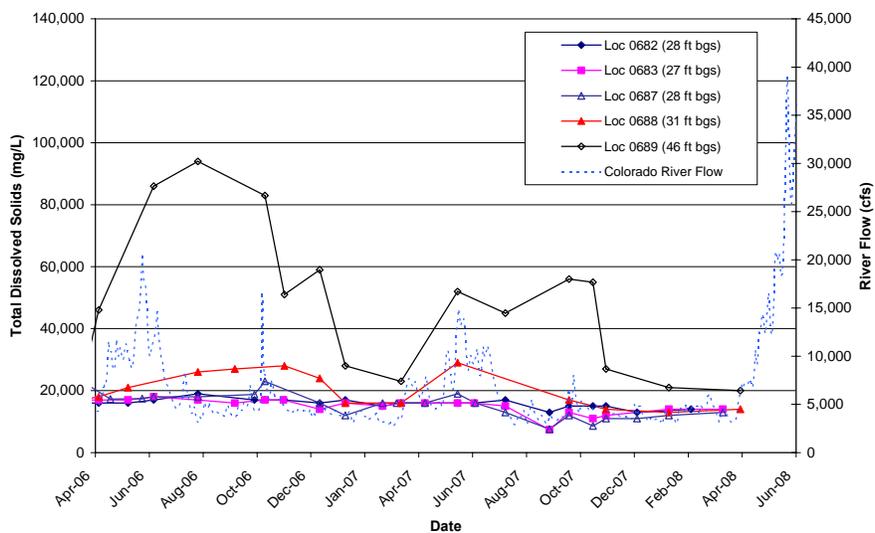
Configuration 3

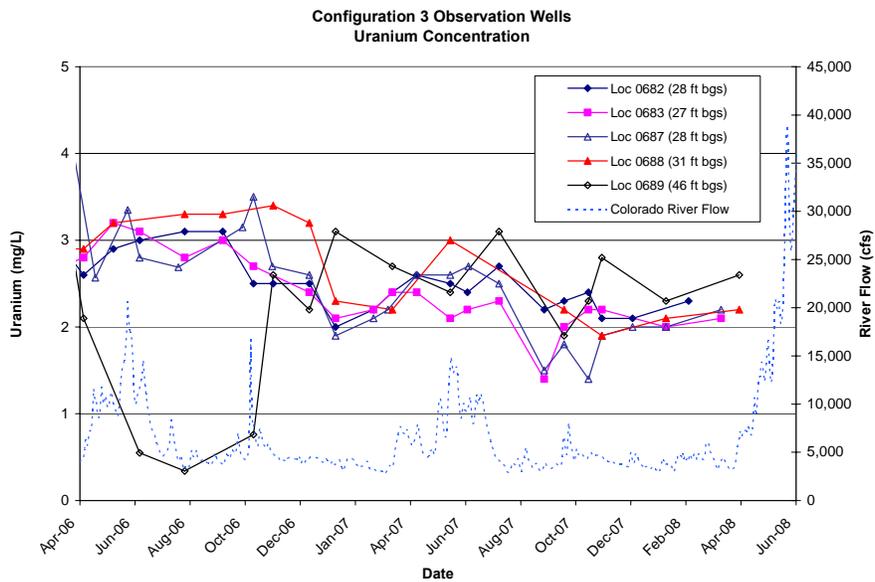
A review of the time versus concentration plots for Configuration 3 suggests ammonia and TDS concentrations for samples collected from wells screened less than 30 ft below ground surface (bgs) have not fluctuated significantly since November 2007. Ammonia and TDS concentrations in the sample collected from well 0689 (from 46 ft bgs) have exhibited a steady decline over the same time period.

**Configuration 3 Observation Wells
Ammonia Total as N Concentration**



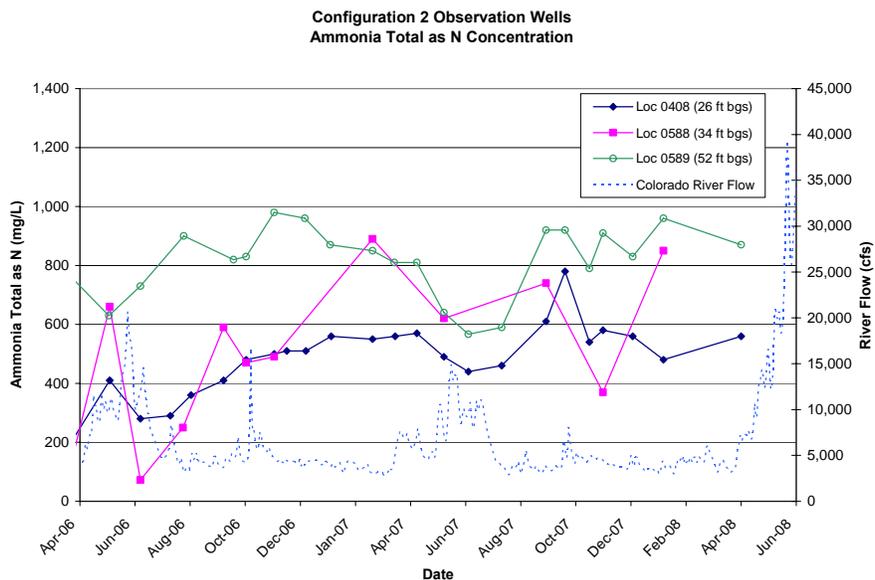
**Configuration 3 Observation Wells
Total Dissolved Solids Concentration**



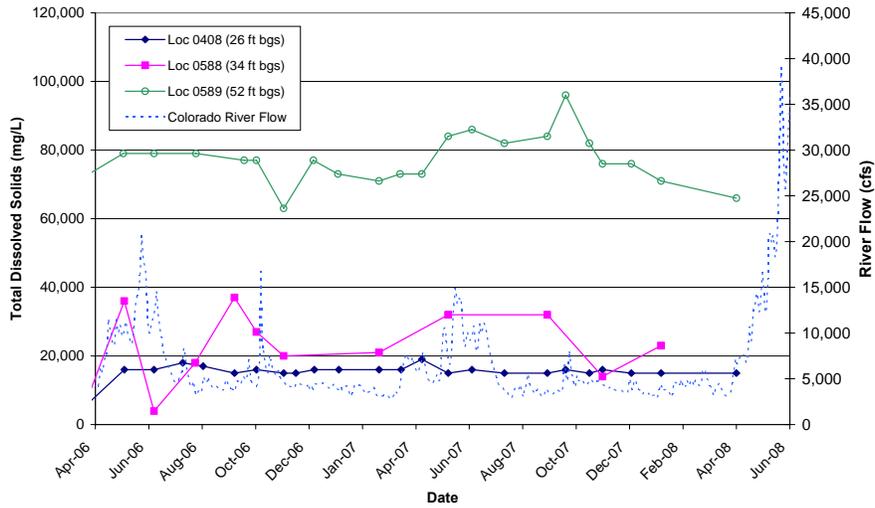


Configuration 2

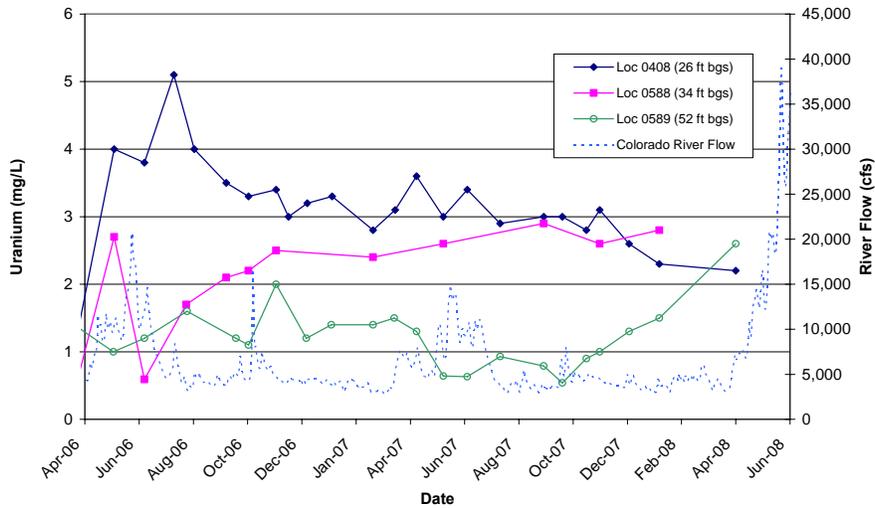
The Configuration 2 time versus concentration graphs indicate that, in general, analyte concentrations have not fluctuated significantly over the 2007-2008 winter in samples collected from wells 0408 and 0589. Uranium concentrations associated with the sample collected from 0589 (52 ft bgs) exhibit a steady increase since November 2007.



**Configuration 2 Observation Wells
Total Dissolved Solids Concentration**



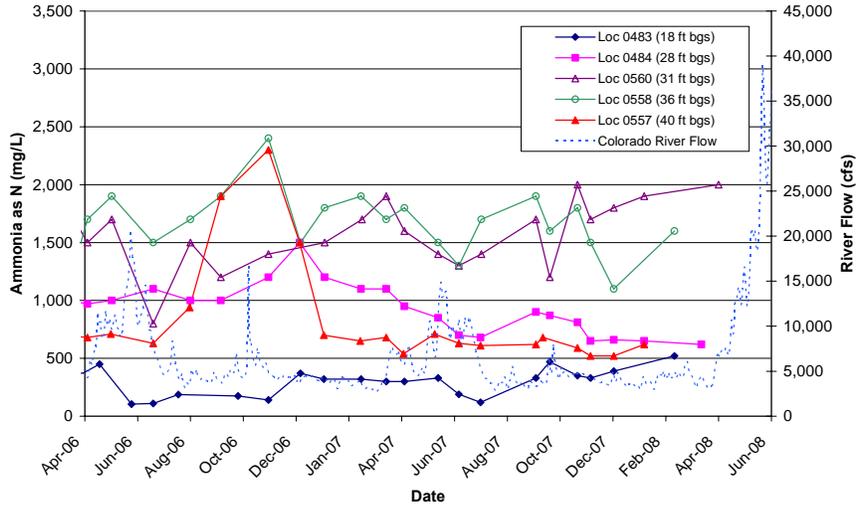
**Configuration 2 Observation Wells
Uranium Concentration**



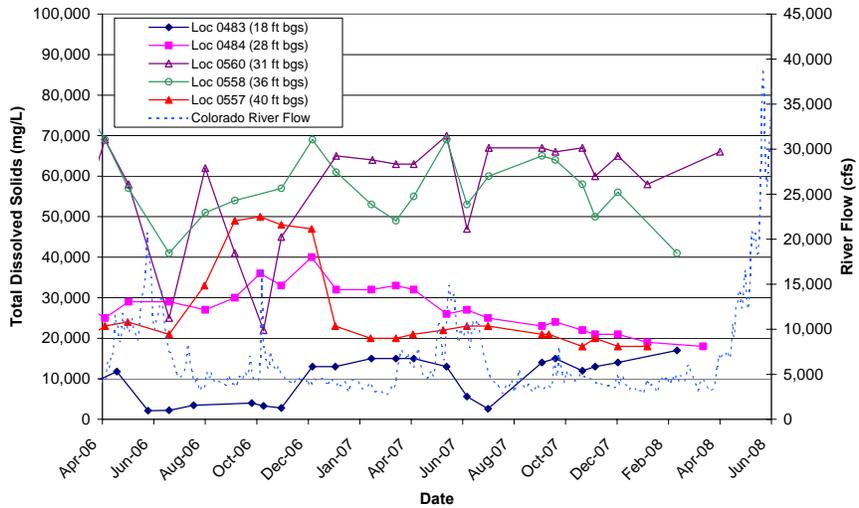
Configuration 1

Only well 0560 was sampled during this month's activities, and the concentrations of analytes were consistent with past results.

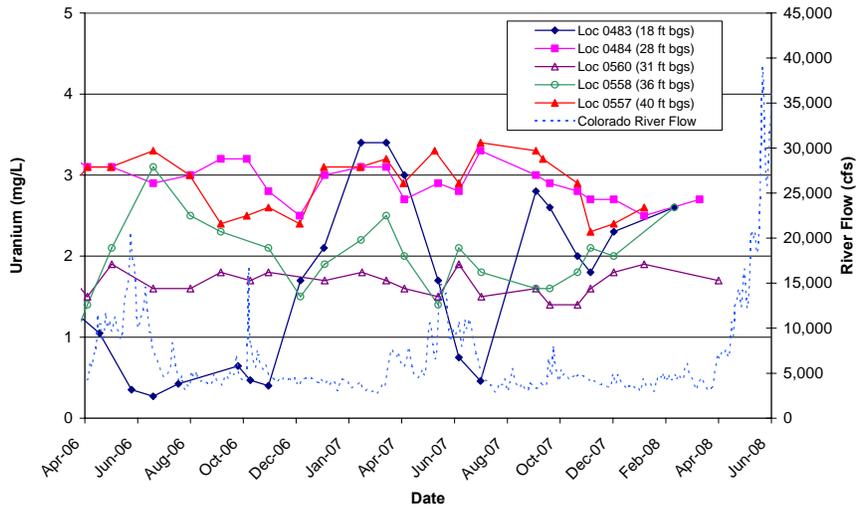
Configuration 1 Observation Wells
Ammonia Total as N Concentration



Configuration 1 Observation Wells
Total Dissolved Solids Concentration



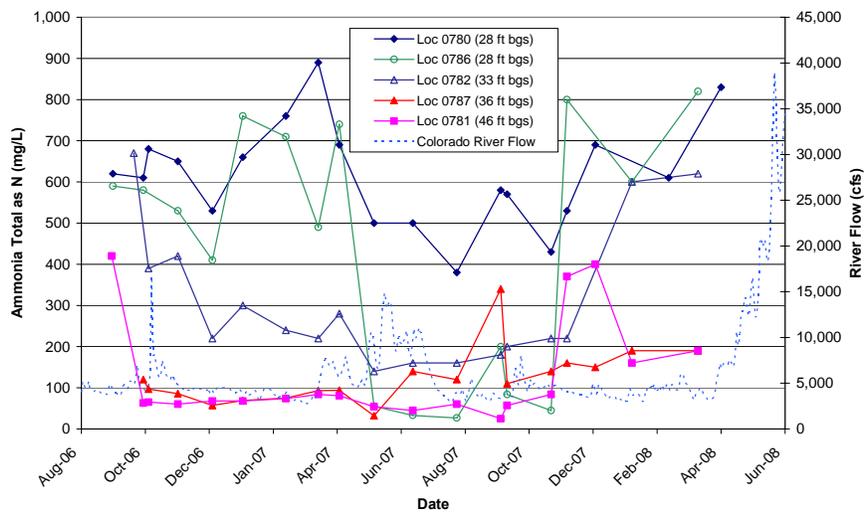
Configuration 1 Observation Wells
Uranium Concentration

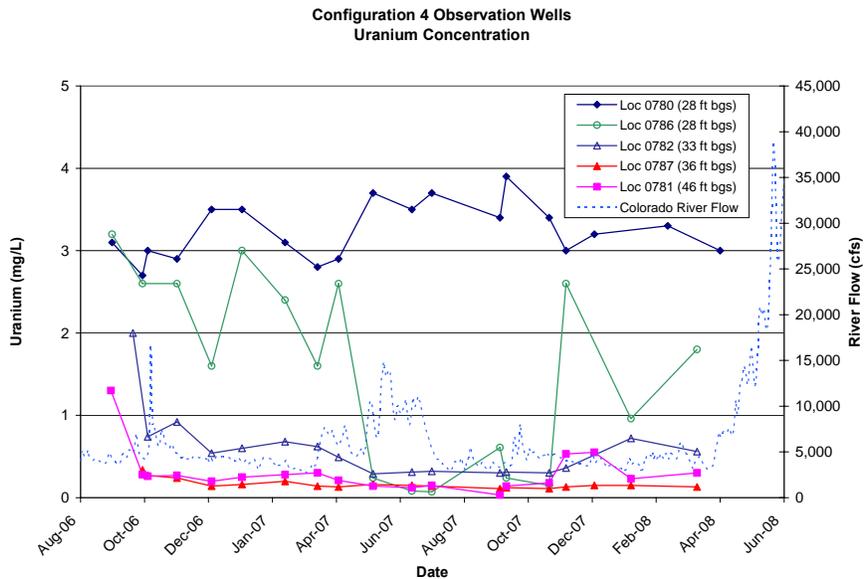
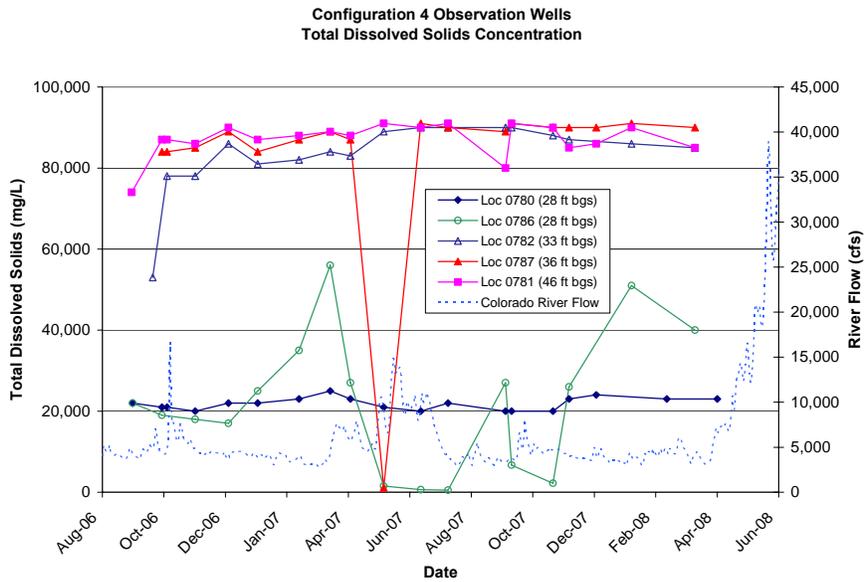


Configuration 4

Of the locations included in the time verses concentration plots for Configuration 4, only location 0780 was sampled during this sampling event. As exhibited by the plots, the sample collected from this shallow (from 28 ft bgs) upgradient observation well continued an increasing ammonia concentration trend started in July 2007, while the TDS and uranium concentrations remained stable.

Configuration 4 Observation Wells
Ammonia Total as N Concentration





Surface Water Sampling Results

Table 1 presents a summary of the ammonia concentrations associated with the surface water samples collected during this sampling event. For comparison purposes, the applicable state of Utah and federal criteria for both acute and chronic concentrations (along with the temperature and pH data used to calculate these concentrations) are provided.

Table 1. Interim Action Surface Water Ammonia Concentrations and Comparisons to State of Utah and Federal Criteria

Loc	Date	Temp (°C)	pH	Ammonia as N (mg/L)	State/Federal AWQC-Acute Total as N (mg/L) ¹	State/Federal AWQC-Chronic Total as N (mg/L) ²
0240	4/10/08	14.3	8.02	0.1	5.62	2.43
0258	4/9/08	11.8	8.07	0.1	4.64	2.10

Notes: Loc = Location, Temp = Temperature, AWQC = Ambient Water Quality Criteria

- (1) State of Utah, Standards of Quality for Waters of the State (Effective May 1, 2008), Rule R317-2, Table 2.14.2, 1-Hour Average (Acute) Concentration of Total Ammonia as N (mg/L)
- (2) State of Utah, Standards of Quality for Waters of the State (Effective May 1, 2008), Rule R317-2, Table 2.14.2, 30-Day Average (Chronic) Concentration of Total Ammonia as N (mg/L), Fish Early Life Stages Present

As shown in Table 1, neither of the surface water samples collected during this sampling event exceeded the state or federal acute or chronic criteria.

1.2.2 Ground Water/Surface Water Interaction Investigation Sampling Event

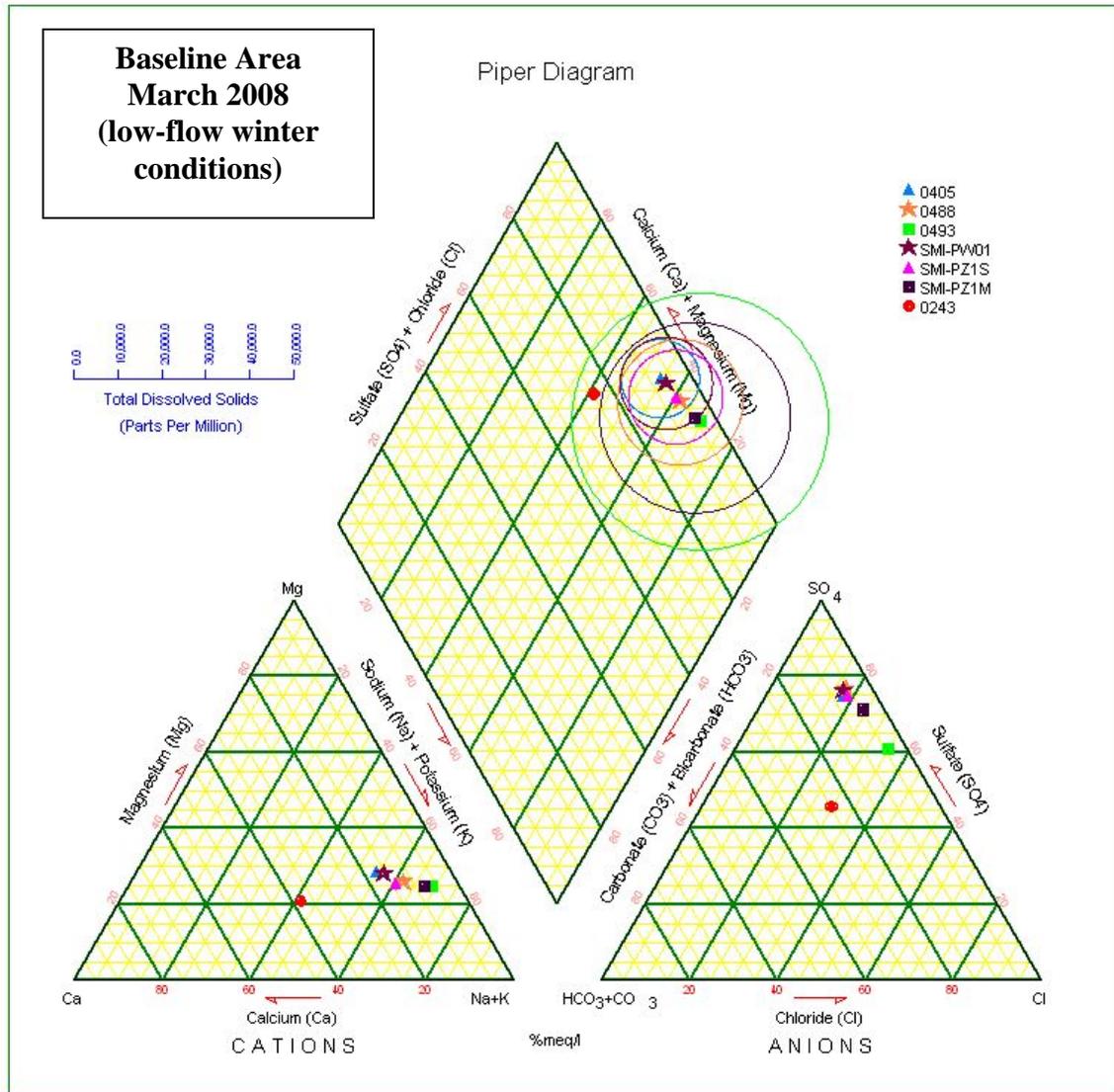
This VDP presents the April 2008 validated data associated with the second round of ground water and surface water samples collected during the Ground Water/Surface Water Interaction Investigation Sampling Event at the former uranium tailings processing site in Moab, Utah. This VDP includes a discussion of the data validation process in Section 2.0 with a description of how these data are qualified based on field and laboratory verification assessments (Sections 2.1 and 2.2.2). Attachment 2 contains the Trip Report detailing the field events associated with this sampling event.

A list of flagged data is presented in Table 7 in Section 2.2.2. No data were rejected (flagged as “R”) as a result of this validation process. A Minimums and Maximums Report (presented in Section 3.1) was generated to determine if the data are within a normal statistical range. Any anomalous data, based on the results of the Minimums and Maximums Report, are presented in Section 3.2.

Trilinear diagrams are provided based on the water chemistry data collected from the Baseline Area and Configuration 1 location samples as part of this sampling event and are discussed below. The diagrams generated, using baseline data collected in March 2008, are also provided for comparison purposes.

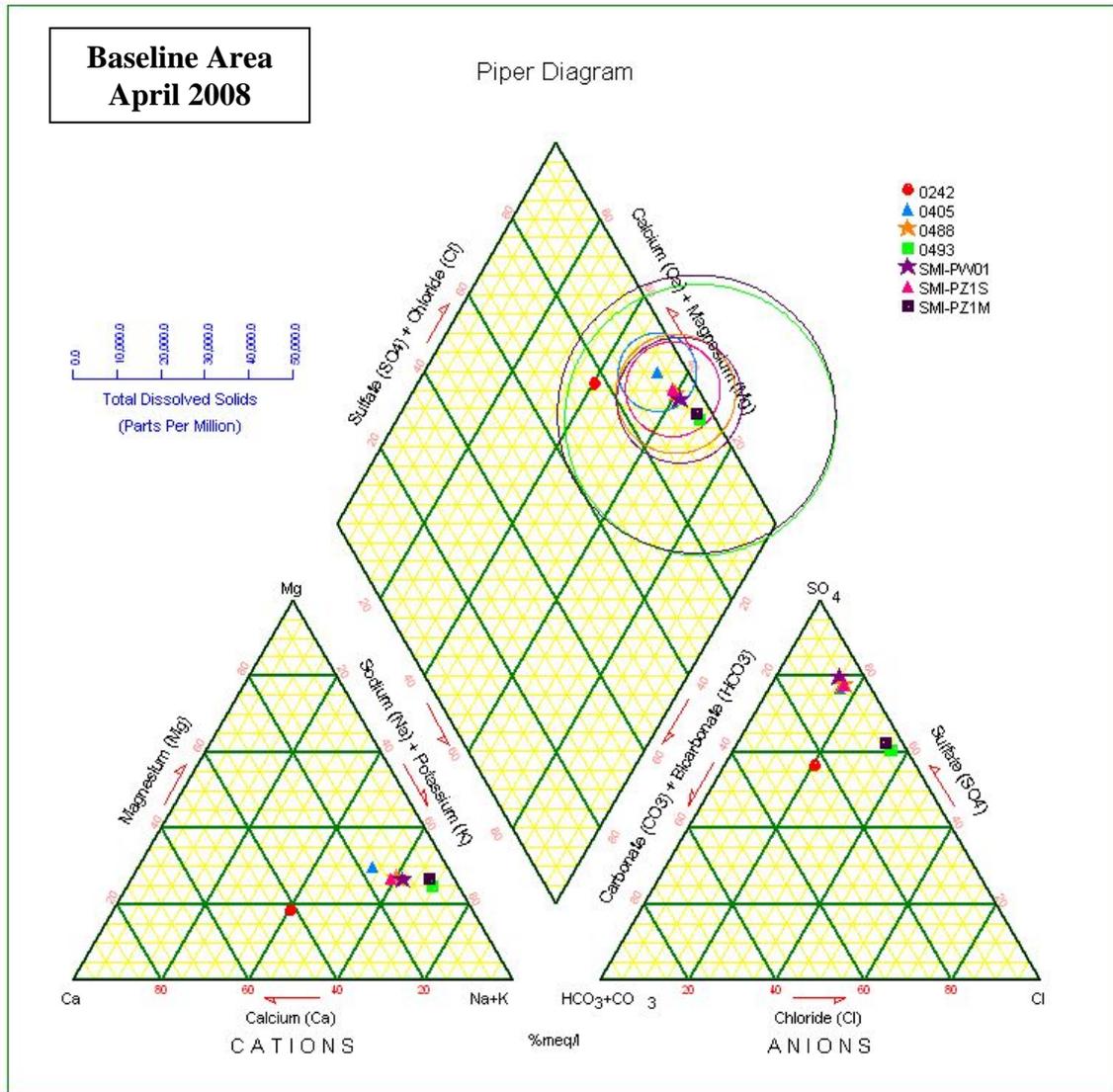
Baseline Area

The trilinear diagram below represents the March 2008 low-flow winter conditions for the Baseline Area for the ground water/surface water interaction investigation. Based on the water chemistry results, all ground water samples were classified as sodium-sulfate-type water, with no clear distinction between the samples collected from the various depths. The surface water sample was classified as a mixed type of water on the trilinear diagram.



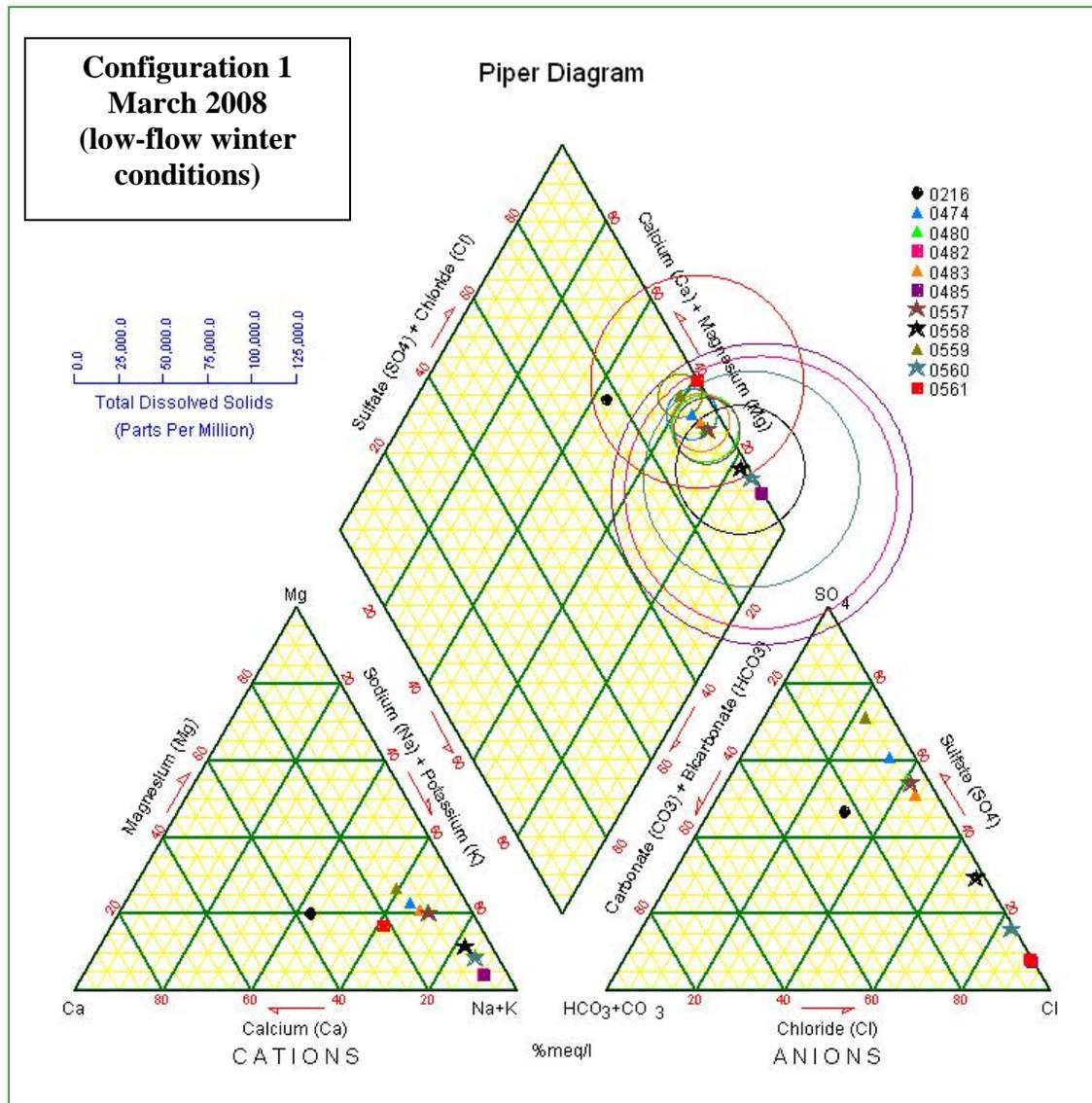
The following trilinear diagram, generated for the Baseline Area using the April 2008 water chemistry data, is similar to the low-flow winter conditions of the March 2008 data. As previously mentioned, surface water location 0242 was sampled as opposed to location 0243 (which is located closer to the river edge) because of the high river stage. The surface water sample collected from location (0242) is a mixed water.

All ground water samples collected during April can still be classified as sodium-sulfate-type water. Similar to the March water chemistry data, each ground water sample collected in April is grouped in the same area of the cation plot regardless of the depth from which the samples were collected.



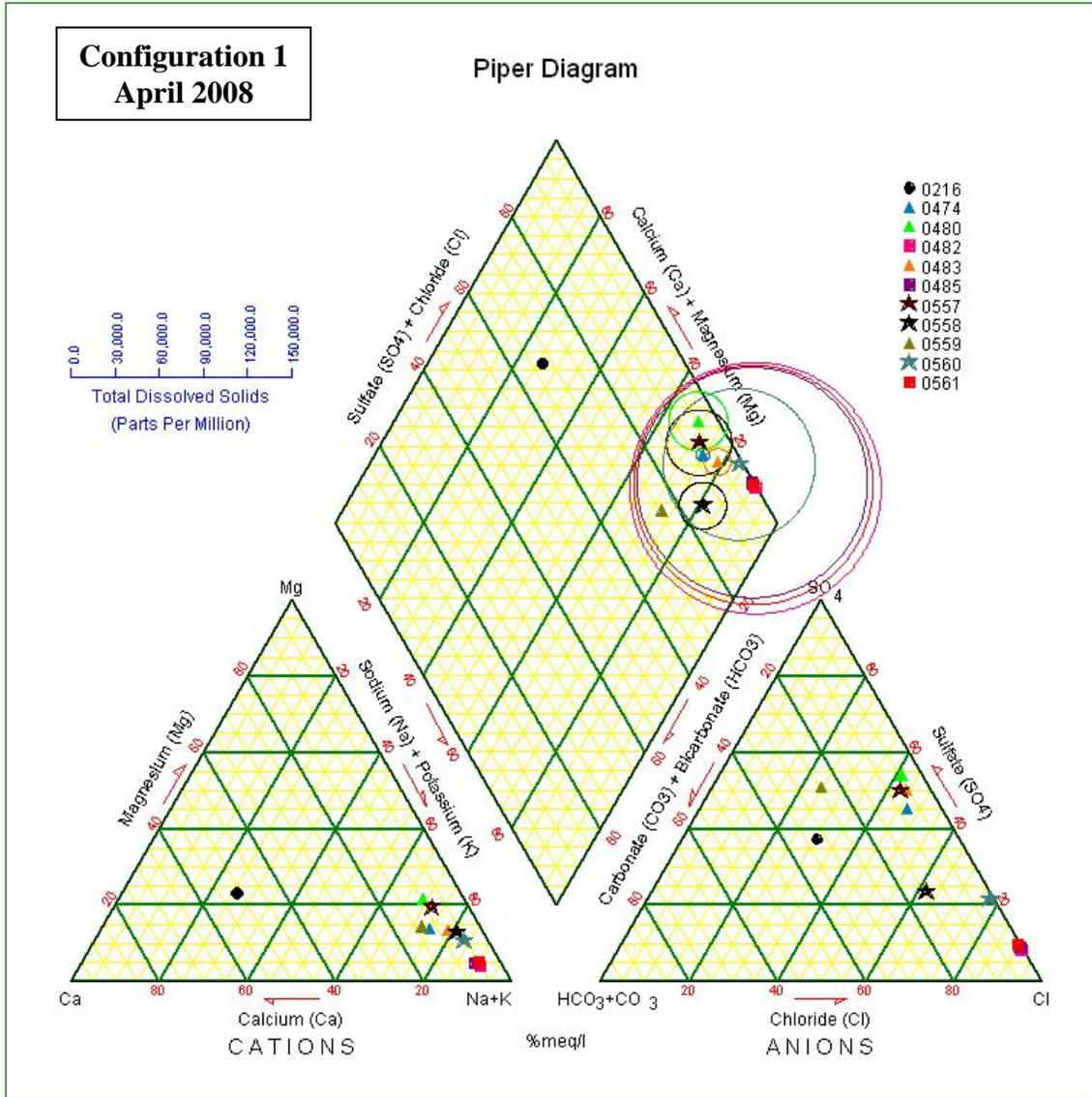
Configuration 1

The low-flow winter condition from the Configuration 1 Area March 2008 sampling is presented in the trilinear diagram below. Similar to the Baseline Area sampling, the surface water sample (0216) is a mixed ionic composition water. The surface water sample has a different ionic composition from the ground water samples. All ground water samples had the same dominant cation, sodium, but different proportions of the anion sulfate and chloride. Samples collected from the shallow depth (locations 0474, 0480, 0483, and 0559 were sampled from 18 ft bgs) and the upgradient intermediate depth (location 0557 sampled from 36 ft bgs) are classified as sodium-sulfate-type water. The remaining intermediate zone samples (locations 0558 and 0560 were sampled from 36 ft bgs) and those collected from the deep zone (locations 0482, 0485, and 0561 sampled from 55 ft bgs) are classified as sodium-chloride-type water, which is indicative of brine.



The following trilinear diagram for the Configuration 1 Area, generated using the April 2008 data, exhibits incipient changes in ground water samples compared to the March 2008 data. These changes may be related to increasing river stage or infiltration of irrigation water. Most notably, the relative proportions of carbonate and bicarbonate in ground water have increased, especially at location 0559 (downgradient of Configuration 1).

In both the March and April 2008 cation plots, sodium is the dominant cation. Samples collected from wells 0482, 0485, 0558, 0560, and 0561 are classified as sodium-chloride-type waters, and samples collected from 0480, 0483, 0557, and 0559 are classified as sodium-sulfate-type waters. This differs from the March 2008 sample results where all of the ground water samples had sulfate as the dominant anion. The surface water sample is classified as a mixed water.



Surface Water Sampling Results

Table 2 presents a summary of the ammonia concentrations associated with the surface water samples collected during this sampling event. For comparison purposes, the applicable state of Utah and federal criteria for both acute and chronic concentrations (along with the temperature and pH data used to calculate these concentrations) are provided.

Table 2. Ground Water/Surface Water Interaction Investigation Sampling Event Surface Water Ammonia Concentrations and Comparisons to State of Utah and Federal Criteria

Loc	Date	Temp (°C)	pH	Ammonia as N (mg/L)	State/Federal AWQC-Acute Total as N (mg/L) ¹	State/Federal AWQC-Chronic Total as N (mg/L) ²
0216	4/30/08	13.0	8.19	0.1	3.83	1.79
0242	4/29/08	15.0	8.12	0.15	4.64	1.91

Notes: Loc = Location, Temp = Temperature, AWQC = Ambient Water Quality Criteria

(2) State of Utah, Standards of Quality for Waters of the State (Effective May 1, 2008), Rule R317-2, Table 2.14.2, 1-Hour Average (Acute) Concentration of Total Ammonia as N (mg/L)

(2) State of Utah, Standards of Quality for Waters of the State (Effective May 1, 2008), Rule R317-2, Table 2.14.2, 30-Day Average (Chronic) Concentration of Total Ammonia as N (mg/L), Fish Early Life Stages Present

As shown in Table 2, neither of the two surface water samples collected during this sampling event exceeded the state or federal acute or chronic criteria.

1.3 Sampling and Analyses

1.3.1 Monthly Sampling Event

Sampling and analyses were conducted in accordance with the *Operations, Maintenance, and Performance Monitoring Plan for the Interim Action Ground Water Treatment System, February 2007*. Although not listed here, the normal set of locations were sampled. Please refer to the attached Trip Report (Attachment 1) for specific sampled locations and an explanation of why some locations were not sampled, such as dry conditions at specific surface water locations.

The data validations indicate that the data meet the quality-control criteria specified for this project. An inadequate number of equipment blanks (EBs) and duplicates were collected. No significant discrepancies were noted regarding sample shipping and receiving, preservation, holding times, instrument calibration, method blanks, or matrix spikes, except as qualified or noted in the Laboratory Performance Assessments (Section 2.2).

Three anomalous analytical results occurred at two locations, one in the Infiltration Trench Configuration and two in the Configuration 4 Area. Well 0726 had a high value for chloride, and well 0731 had high values for ammonia and uranium. Fewer than 10 samples have been collected from these locations, and the analyte range is still being established.

According to the U.S. Geological Survey (USGS) Cisco Gaging Station, the mean daily Colorado River flow rates varied between 6,500 and 7,640 cfs during this sampling period.

1.3.2 Ground Water/Surface Water Interaction Investigation Sampling Event

Sampling and analyses were conducted in accordance with the *Operations, Maintenance, and Performance Monitoring Plan for the Interim Action Ground Water Treatment System, February 2007*. Although not listed here, the normal set of locations were sampled. Please refer to the attached Trip Report (Attachment 2) for specific sampled locations and an explanation of why some locations were not sampled.

The data validations indicate that the data meet the quality-control criteria specified for this project. An inadequate number of EBs and duplicates were collected; see the Water Sampling Field Activities Verification Checklist for details. No significant discrepancies were noted regarding sample shipping and receiving, preservation times, holding times, instrument calibration, method blanks, or matrix spikes, except as qualified or noted in the Laboratory Performance Assessments (Section 2.2).

There were two locations with a total of three anomalous analytical results. Extraction well 0474 in Configuration 1 had a low value of manganese, and observation well 0558 had low values for chloride and sulfate. These concentrations may have likely been impacted by the high stage of the Colorado River.

According to the USGS Cisco Gaging Station, the mean daily Colorado River flow rates varied between 12,300 and 14,200 cfs during this sampling period.

2.0 Data Assessment Summaries

This section contains the Water Sampling Field Activities Verification (Section 2.1), the Laboratory Performance Assessments (Section 2.2), the Field Analyses/Activities (Section 2.3), and Certification (Section 2.4).

2.1 Water Sampling Field Activities Verifications

The field activities verification processes for these sampling events were documented. As the verification exhibits, all sampling was conducted following the applicable procedures. This verification is provided in Appendix A.

2.2 Laboratory Performance Assessments

2.2.1 Monthly Sampling Event

General Information

Requisition No.:	0804011
Sample Event:	Interim Action Well Field Monthly Sampling, April 2008
Site(s):	Moab, UT
Laboratory:	Paragon Analytics, Fort Collins, CO
Sample Data Group (SDG) No.:	0804036 and 0804116
Analysis:	Metals and Inorganics

Validator: Rebecca Hollis
 Review Date: July 20, 2008

This validation was performed according to the *Environmental Procedures Catalog*, “Standard Practice for Validation of Laboratory Data,” GT-9(P) (2006). The procedure was applied at Level 1, Data Deliverables Examination. The Level 1 validation was performed on 100 percent of the samples, which included review of the Chain of Custody (COC), case narratives, field and sample identifications, holding times, and preservation and cooler receipt. When the case narrative identified items of concern, these items were further investigated in a targeted Level 3 validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 3.

Table 3. Interim Action Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	EPA 350.1	EPA 350.1
Bromide	MIS-A-038	SW-846 9056	SW-846 9056
Chloride	MIS-A-039	SW-846 9056	SW-846 9056
Copper	MET-A-022	SW-846 3005A	SW-846 6010
Manganese	GJO-17	SW-846 3005A	SW-846 6010
Selenium	GJO-14	SW-846 3005A	SW-846 6020
Sulfate	MIS-A-044	SW-846 9056	SW-846 9056
Total Dissolved Solids	WIC-A-033	MCAWW 160.1	MCAWW 160.1
Uranium	GJO-01	SW-846 3005A	SW-846 6020

Data Qualifier Summary

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

Table 4. Interim Action Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
All 0804036 samples; 0804116-2 through -9 and 0804116-19 through -28	All 0804036 locations, 0679, 0258, 0691, 0692, 0725, 0726, 0771, 0772, 0776, 2560, 2561, 0470, 0472, 0474, 0476, 0478, 0547, and 0548 in 0804116	Ammonia as N	J	MS1
All 0804036 samples	All 0804036 locations	Ammonia as N	J	RS1
All 0804036 samples	All 0804036 locations	Chloride	J	RS1
All 0804036 samples	All 0804036 locations	Sulfate	J	RS1
0804116-1 and -2	0240 and 0258	All	J	B1

Note: J indicates results are estimated.

Table 5. Interim Action Reason Codes for Data Flags

Reason Code	Explanation
B1	Results are considered estimated (J) because the blank frequency criteria were not met.
MS1	Results for the affected analyte(s) are regarded as estimated (J) because the matrix spike sample was (a) from another client, (b) of dissimilar matrix, (c) a field blank or EB, or (d) not analyzed at the proper frequency as stated in the appropriate analytical method.
RS1	Results for the affected analyte(s) are regarded as estimated (J) because (a) the replicate sample, matrix spike duplicate, or laboratory control sample duplicate was not analyzed at the appropriate frequency for each matrix or for each data package, or (b) a field blank or EB was used for the replicate analysis.

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received a total of 48 samples for report identification number (RIN) 0804011. Twenty samples arrived with SDG 0804036 on April 3, 2008, under UPS tracking number 1Z5W1Y510191845441. Twenty-eight samples arrived with SDG 0804116 on April 11, 2008, under UPS tracking number 1Z5W1Y510194160685. All sample groups were accompanied by COC forms. The COC forms were checked to confirm that all of the samples were listed on each form with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents, including the COC forms and the sample tickets, had no errors or omissions.

Preservation and Holding Times

The sample shipments were received intact with the temperatures within the coolers between 1.6 and 2.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses. All samples were analyzed within the applicable holding times.

Case Narratives

The case narratives were reviewed and all detects were found to be within quality-control procedures except for the following:

Matrix Spike and Replicate Analysis

Matrix spike (MS) sample analysis is performed as a measure of the ability to recover analytes in a particular matrix. If the native sample concentration is greater than four times the spike concentration, MS criteria do not apply. Replicate sample (RS) analysis consists of matrix spike duplicate (MSD) samples and field duplicates that are indicators of laboratory precision for each sample matrix.

Method EPA 350.1, Ammonia as N

Method 350.1 requires MSs to be analyzed for at least 10 percent of the samples. For SDG 0804036, only one MS was analyzed for the 20 samples submitted. In addition, the native sample for the MS analysis had concentrations that were greater than four times the spike concentrations, so MS criteria do not apply to the first 10 samples following the MS in the preparation batch. The remaining 18 samples were qualified with a “J” flag. There was no associated field duplicate sample in this SDG, so all SDG 0804036 ammonia results were J-flagged for failing the replicate check.

Method SW-846 9056, Chloride

Chloride MS and MSD checks were made at the required frequency for the SDGs 0804036 and 0804116 sample preparation batches. However, the native samples for all MS analyses had concentrations that were greater than four times the spike concentrations, so MS criteria do not apply to any samples. There was no associated field duplicate sample in SDG 0804036, so all SDG 0804036 chloride results were J-flagged for failing the replicate check. For SDG 0804116, the associated field duplicate samples passed validation criteria, so chloride results for SDG 0804116 were not J-flagged for failing the replicate check.

Method SW-846 9056, Sulfate

Sulfate MS and MSD checks were made at the required frequency for the SDGs 0804036 and 0804116 sample preparation batches. However, the native samples for all MS analyses had concentrations that were greater than four times the spike concentrations, so MS criteria do not apply to any samples. There was no associated field duplicate sample in SDG 0804036, so all SDG 0804036 sulfate results were J-flagged for failing the replicate check. For SDG 0804116, the associated field duplicate samples passed validation criteria, so sulfate results for SDG 0804116 were not J-flagged for failing the replicate check.

Field Duplicate

Two field duplicates were collected during actual sampling activities. They were labeled with blind IDs and submitted with the regular samples to be analyzed by Paragon Analytics. Sample 0804116-27 (2560) was the duplicate sample taken from location 0675, and sample 0804116-28 (2561) was taken from location 0258. These samples passed the Environmental Protection Agency (EPA) criteria of ± 20 relative percent difference (RPD) for all analytes.

Laboratory Control Sample

A laboratory control sample (LCS) must be analyzed at the correct frequency (one LCS per SDG) to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation.

LCSs were prepared and analyzed as appropriate with the following exceptions:

LCSs were not reported for copper, manganese, or uranium. As a standard practice, Paragon Analytics does not prepare LCSs for samples that were field-filtered and acidified, and then run directly on the instrument without any additional sample preparation. Per national environmental laboratory accreditation requirements provided by the National Environmental Laboratory Accreditation Conference, an MS may be used in place of an LCS provided the acceptance criteria are as stringent. MS samples for manganese, selenium, and uranium passed criteria and so no manganese, selenium, or uranium detects were flagged for LCSs.

Detection Limits/Dilutions

The required detection limit (RDL) for all analytes was achieved for all SDGs. Serial dilution samples were required for inductively coupled plasma (ICP) sample analysis (manganese, selenium, and uranium). For SDG 0804116, the percent recovery of the serial dilution sample was out of range for one of the three uranium dilutions. However, serial dilutions must be analyzed for each matrix in an analytical run, so the uranium results were not qualified because there were additional uranium serial dilutions in the analytical run.

Equipment Blanks

EBs are samples of analyte-free media that have been used to rinse the nondedicated sampling equipment. EBs are collected to document adequate decontamination of nondedicated equipment. EBs are considered to be preparation blanks, and one EB should be prepared with each preparation batch.

Surface Water Samples

The only samples collected on nondedicated equipment were surface water samples from locations 0240 and 0258. Since no EBs were collected, all results from these locations were “J” qualified for this reason.

Completeness

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

Electronic Data Deliverable File

The electronic data deliverable (EDD) files arrived on April 28 and 30, 2008. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package and that all and only the requested data were delivered.

2.2.2 Ground Water/Surface Water Interaction Investigation Sampling Event

General Information

Requisition No.: 0805013

Sample Event: Interim Action Well Field Ground Water/Surface Water Interaction Investigation Sampling Event, April 2008

Site(s): Moab, UT

Laboratory: Paragon Analytics, Fort Collins, CO

SDG No.: 0805015

Analysis: Metals and Inorganics

Validator: Rebecca Hollis

Review Date: August 25, 2008

This validation was performed according to the *Environmental Procedures Catalog*, “Standard Practice for Validation of Laboratory Data,” GT-9(P) (2006). The procedure was applied at Level 1, Data Deliverables Examination, on 100 percent of the data. The Level 1 validation included review of the COC, case narratives, field and sample identifications, holding times, and preservation and cooler receipt. When the case narrative identified items of concern, these items were further investigated in a targeted Level 3 validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 6.

Table 6. Ground Water/Surface Water Interaction Investigation Sampling Event Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N	WCH-A-005	MCAWW 350.1	EPA 350.1
Bromide	MIS-A-038	SW-846 9056	SW-846 9056
Calcium	MET-A-020	SW-846 3005A	SW-846 6010
Chloride	MIS-A-039	SW-846 9056	SW-846 9056
Copper	MET-A-020	SW-846 3005A	SW-846 6010
Magnesium	MET-A-020	SW-846 3005A	SW-846 6010
Manganese	G17	SW-846 3005A	SW-846 6010
Potassium	MET-A-020	SW-846 3005A	SW-846 6010
Selenium	G14	SW-846 3005A	SW-846 6020
Sodium	MET-A-020	SW-846 3005A	SW-846 6010
Sulfate	MIS-A-044	SW-846 9056	SW-846 9056
Total Dissolved Solids	WIC-A-033	MCAWW 160.1	MCAWW 160.1
Uranium	G1	SW-846 3005A	SW-846 6020

Data Qualifier Summary

Analytical results were qualified as listed in Table 7. Refer to Table 8 below for an explanation of the data qualifiers applied.

Table 7. Ground Water/Surface Water Interaction Investigation Sampling Event Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
0805015-2 through 0805015-9 and 0805015-19 through 0805015-22	0242, 0405, 0474, 0480, 0482, 0483, 0485, 0488, 2497, SMI-PW01, SMI-PZ1M, and SMI-PZ1S	Ammonia as N	J	MS1
0805015-21 and 0805015-22	SMI-PZ1M and SMI-PZ1S	Ammonia as N	J	RS1
0805015-21 and 0805015-22	SMI-PZ1M and SMI-PZ1S	Bromide	J	MS1, RS1
0805015-21 and 0805015-22	SMI-PZ1M and SMI-PZ1S	Chloride	J	MS1, RS1
0805015-21 and 0805015-22	SMI-PZ1M and SMI-PZ1S	Sulfate	J	MS1, RS1
0805015-1 through -7	0216, 0242, 0405, 0474, 0480, 0482, and 0483	TDS	J	RS1
0805015-9, 0805015-10, and 0805015-20 through -22	0488, 0493, SMI-PW01, SMI-PZ1M, and SMI-PZ1S	Total Dissolved Solids	J	HT2
0805015-21 and 0805015-22	SMI-PZ1M and SMI-PZ1S	Calcium, Magnesium, Manganese, Potassium, Sodium,	J	LCS1, MS1, RS1,
0805015-1 and -2	0216 and 0242	All	J	B1

Note: J indicates results are estimated.

Table 8. Ground Water/Surface Water Interaction Investigation Sampling Event Reason Codes for Data Flags

Reason Code	Explanation
B1	Results are considered estimated (J) because the blank frequency criteria were not met.
HT2	Results for the affected analyte(s) are regarded as estimated (J) because the sample was analyzed after the holding time had expired but within two times the specified holding time.
LCS1	Results for the affected analyte(s) are regarded as estimated (J) because the LCS was not analyzed at the proper frequency as stated in the appropriate analytical method.
MS1	Results for the affected analyte(s) are regarded as estimated (J) because the matrix spike sample was (a) from another client, (b) of dissimilar matrix, (c) a field blank or EB, or (d) not analyzed at the proper frequency as stated in the appropriate analytical method.
RS1	Results for the affected analyte(s) are regarded as estimated (J) because (a) the RS, MSD, or LCS duplicate was not analyzed at the appropriate frequency for each matrix or for each data package, or (b) a field blank or EB was used for the replicate analysis.

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received a total of 22 samples for RIN 0805013 on May 1, 2008, under UPS tracking number 1Z5W1Y510197096786. All samples were accompanied by a COC form. The COC form was checked to confirm that all of the samples were listed on each form with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents, including the COC form and the sample tickets, had no errors or omissions.

Preservation and Holding Times

The sample shipments were received intact with the temperature within the cooler at 2.4 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses. All samples were analyzed within the applicable holding times, except for TDS analyses for five samples (0805015-9, 0805015-10, and 805015-20 through -22). Paragon Analytics included a nonconformance report for these samples with sample results to document this discrepancy.

Case Narratives

The case narratives were reviewed, and all detects were found to be within quality-control procedures except for the following:

Matrix Spike and Replicate Analysis

MS sample analysis is performed as a measure of the ability to recover analytes in a particular matrix. If the native sample concentration is greater than four times the spike concentration, MS criteria do not apply. RS analysis consists of MSD samples and field duplicates that are indicators of laboratory precision for each sample matrix.

Method EPA 350.1, Ammonia as N

Method 350.1 requires duplicates to be analyzed for at least 10 percent of the samples. For SDG 0805013 only one duplicate was analyzed from the 22 samples submitted. Therefore, ammonia results for samples 0805015-2 through 0805015-9 and 0805015-20 through 0805015-22 were “J” qualified. There was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 ammonia results were J-flagged for failing the replicate check.

Method SW-846 6010, Calcium

Only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The first 20 samples following the duplicate in the preparation batch were not qualified. The remaining two samples were qualified with a “J” flag. In addition, there was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 calcium results were J-flagged for failing the replicate check.

Method SW-846 9056, Chloride

Chloride MS and MSD checks were made at the required frequency for this SDG sample preparation batches. However, the native samples for all MS analyses had concentrations that were greater than four times the spike concentrations, so MS criteria do not apply to any samples. There was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 chloride results were J-flagged for failing the replicate check.

Method SW-846 6010, Magnesium

Only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The first 20 samples following the duplicate in the preparation batch were not qualified. The remaining two samples were qualified with a “J” flag. In addition, there was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 magnesium results were J-flagged for failing the replicate check.

Method SW-846 6010, Manganese

Only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The first 20 samples following the duplicate in the preparation batch were not qualified. The remaining two samples were qualified with a “J” flag. In addition, there was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 calcium results were J-flagged for failing the replicate check.

Method SW-846 6010, Potassium

Only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The first 20 samples following the duplicate in the preparation batch were not qualified. The remaining two samples were qualified with a “J” flag. In addition, there was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 potassium results were J-flagged for failing the replicate check.

Method SW-846 6010, Sodium

Only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The first 20 samples following the duplicate in the preparation batch were not qualified. The remaining two samples were qualified with a “J” flag. In addition, there was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 sodium results were J-flagged for failing the replicate check.

Method SW-846 9056, Sulfate

Sulfate MS and MSD checks were made at the required frequency for this SDG sample preparation batches. However, the native samples for all MS analyses had concentrations that were greater than four times the spike concentrations, so MS criteria do not apply to any samples. There was only one associated field duplicate sample in this SDG, so samples 0805015-20 through 0805015-22 sulfate results were J-flagged for failing the replicate check.

Method MCAWW160.1, TDS

For SDG 0805015 TDS analysis, only one spiked sample was analyzed for the 22 samples although the method requires one per 20 samples. The samples following the duplicate in the preparation batch were not qualified. The remaining seven samples that were in a different preparation batch were qualified with a “J” flag.

Field Duplicate

One field duplicate was collected during actual sampling activities. It was labeled with a blind ID and submitted with the regular samples to be analyzed by Paragon Analytics. Sample 0805015-19 (2497) was the duplicate sample taken from location 0559. These samples passed the EPA criteria of ± 20 RPD for all analytes.

Laboratory Control Sample

An LCS must be analyzed at the correct frequency (one LCS per SDG) to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation.

LCSs were prepared and analyzed as appropriate with the following exceptions:

LCSs were not reported for copper, manganese, or uranium. As a standard practice, Paragon Analytics does not prepare LCSs for samples that were field-filtered and acidified, and then run directly on the instrument without any additional sample preparation. Per national environmental laboratory accreditation requirements provided by the National Environmental Laboratory Accreditation Conference, an MS may be used in place of an LCS provided the acceptance criteria are as stringent. MS samples for manganese, selenium, and uranium passed the criteria, and so no manganese, selenium, or uranium detects were flagged for LCS.

Detection Limits/Dilutions

The RDL for all analytes was achieved for all SDGs. Serial dilution samples were required for ICP sample analysis (calcium, copper, magnesium, manganese, potassium, selenium, sodium, and uranium). All serial dilutions passed the criteria.

Equipment Blanks

EBs are samples of analyte-free media that have been used to rinse the nondedicated sampling equipment. EBs are collected to document adequate decontamination of nondedicated equipment. EBs are considered to be preparation blanks, and one EB should be prepared with each preparation batch.

Surface Water Samples

The only samples collected on nondedicated equipment were surface water samples from

locations 0216 and 0242. Since no EBs were collected, all analyses from these locations were “J” qualified for this reason.

Completeness

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

Electronic Data Deliverable File

The EDD files arrived on May 28, 2008. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package and that all and only the requested data were delivered.

2.3 Field Analyses/Activities

2.3.1 Monthly Sampling Event

The following information summarizes the field analyses and activities for the April 2008 monthly sampling event:

Field Activities

All monitor wells were purged and sampled using the low-flow sampling method; this method was not used at extraction wells. One EB was collected for the nondedicated surface water collection equipment. Five duplicate samples were collected. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, EPA guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. All results met the criteria of ± 20 RPD and are considered acceptable.

2.3.2 Ground Water/Surface Water Interaction Investigation Sampling Event

The following information summarizes the field analyses and activities for the April 2008 ground water/surface water interaction investigation sampling event:

Field Activities

All monitor wells were purged and sampled using the low-flow sampling method; this method was not used at extraction wells. All ground water samples were collected on dedicated equipment. One duplicate sample was collected. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, EPA guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. All results met the criteria of ± 20 RPD and are considered acceptable.

2.4 Certification

Results were reported in correct units for all analytes requested. Appropriate contract required laboratory qualifiers and target analyte lists were used. The RDLs 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.

3.0 Data Presentation

This section contains the Minimums and Maximums Reports (Section 3.1), the Anomalous Data Review Check Sheets (Section 3.2), a table containing the Water Quality Data and Water Level Data (Sections 3.3 and 3.4, respectively), and the Blanks Reports (Section 3.5).

3.1 Minimums and Maximums Reports

The Minimums and Maximums Reports (see Appendix B) are generated by the Sample Management System used to query the SEEPro database. The DataVal program compares the new data set with historical data and lists all new data that fall outside the historical data range. Values listed in the reports are further screened, and the 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; or (3) there were fewer than five historical samples for comparison.

3.2 Anomalous Data Review

As exhibited by the Minimums and Maximums Reports, there are three anomalous data points associated with each of the sampling events completed this month.

Monthly Sampling Event

Site: Moab Processing Site **Sampling Date:** March 31 to April 10, 2008

Loc. No.	Analyte	Type of Anomaly	Disposition
0726	Chloride	High	Less than 10 samples collected from location, still establishing analyte range.
0731	Ammonia	High	Less than 10 samples collected from location.
0731	Uranium	High	Less than 10 samples collected from location.

Ground Water/Surface Water Interaction Investigation Sampling Event

Site: Moab Processing Site **Sampling Date:** April 28 to 30, 2008

Loc. No.	Analyte	Type of Anomaly	Disposition
0474	Manganese	Low	Concentration likely diluted due to high river stage.
0558	Chloride	Low	Concentration likely diluted due to high river stage.
0558	Sulfate	Low	Concentration likely diluted due to high river stage.

3.3 Water Quality Data

All water quality data are presented in Appendix C.

3.4 Water Level Data

All water level data are presented in Appendix D.

3.5 Blanks Reports

Only two samples were collected during each of the sampling events using nondedicated equipment, and EBs were not collected.

Appendix A. Water Sampling Field Activities Verification

Sampling Event / RIN	<u>April 2008 / 0804011</u>	Date(s) of Water Sampling	<u>March 31 - April 10, 2008</u>
Date(s) of Verification	<u>July 28, 2008</u>	Name of Verifier	<u>Rachel Cowan</u>
		Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures? List other documents, standard operating procedures, 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 and Section 1.1 for explanation.</u>
3. Was a pre-trip calibration conducted as specified in the aforementioned 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, electrical conductivity, pH, turbidity, dissolved oxygen, oxidation reduction potential) 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 milliliters per minute (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 (continued)

- | | |
|---|--|
| 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? | No _____
Ground water samples are collected on dedicated equipment; however, the surface water samples are not. Two surface water samples were collected, but there were no equipment blanks. |
| 11. Were trip blanks prepared and included with each shipment of volatile organic compound samples? | NA _____ |
| 12. Were Quality Control 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 (COC) 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 _____ |

Water Sampling Field Activities Verification (continued)

Sampling Event / RIN	<u>April 2008 GW/SW Investigation / 0805013</u>	Date(s) of Water Sampling	<u>April 28-30, 2008</u>
Date(s) of Verification	<u>August 18, 2008</u>	Name of Verifier	<u>Rachel Cowan</u>

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures? List other documents, standard operating procedures, instructions.	<u>Yes</u>	
	<u>NA</u>	
2. Were the sampling locations specified in the planning documents sampled?	<u>Yes</u>	
3. Was a pre-trip calibration conducted as specified in the aforementioned 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, electrical conductivity, pH, turbidity, dissolved oxygen, oxidation reduction potential) 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 milliliters per minute (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 (continued)

- | | |
|---|---|
| 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? | No _____
Twenty-six samples were collected, but only one duplicate sample was collected. |
| 10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment? | No _____
Although two surface water samples were collected, no equipment blank samples were collected. |
| 11. Were trip blanks prepared and included with each shipment of volatile organic compound samples? | NA _____ |
| 12. Were Quality Control 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 (COC) 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 _____ |

Appendix B. Minimums and Maximums Reports

Monthly Data Validation Minimums and Maximums Report - No Field Parameters

Laboratory: PARAGON (Fort Collins, CO)

RIN: 0804011

Comparison: All Historical Data

Report Date: 7/23/2008

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	0408	04/01/2008	Manganese	4.3		5.6	F	4.4	J	13	0		
MOA01	0476	04/08/2008	Manganese	4.2		4.1	J	1.9	J	9	0		
MOA01	0547	04/08/2008	Manganese	4.7		4.5		3.1		12	0		
MOA01	0548	04/08/2008	Manganese	2		3.7		2.2		8	0		
MOA01	0590	04/10/2008	Manganese	2.3		1.9	FQ	0.57	J	9	0		
MOA01	0678	04/08/2008	Ammonia Total as N	830		820		19	F	26	0		
MOA01	0679	04/08/2008	Manganese	5.3		5.1		0.81		5	0		
MOA01	0680	03/31/2008	Ammonia Total as N	460		390	F	210	F	8	0		
MOA01	0688	03/31/2008	Sulfate	6100		59000	J	6900		33	0		
MOA01	0689	03/31/2008	Chloride	2300		56000	F	3000	F	35	0		
MOA01	0689	03/31/2008	Manganese	3		7.7		3.6	J	15	0		
MOA01	0725	04/10/2008	Manganese	4.3		3.7	N FQ	0.38		11	0		
MOA01	0726	04/10/2008	Chloride	350		200	J	57	J	9	0		
MOA01	0726	04/10/2008	Manganese	1.7		1.18	QF	0.12	QF	10	0		
MOA01	0726	04/10/2008	Sulfate	1800		1600	J	340	J	10	0		

Monthly Data Validation Minimums and Maximums Report - No Field Parameters

Laboratory: PARAGON (Fort Collins, CO)

RIN: 0804011

Comparison: All Historical Data

Report Date: 7/23/2008

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	0731	03/31/2008	Ammonia Total as N	31		8	J	1.3	J	7	0	
MOA01	0731	03/31/2008	Sulfate	2200		1500	F	170	J	7	0	
MOA01	0731	03/31/2008	Total Dissolved Solids	4400		3200	F	490		7	0	
MOA01	0731	03/31/2008	Uranium	0.79		0.51	J	0.022	J	7	0	
MOA01	0733	03/31/2008	Uranium	3		2.7	F	0.063	J	8	0	
MOA01	0784	04/02/2008	Ammonia Total as N	410		390	F	3.6		6	0	

Ground Water/Surface Water Interaction Investigation Data Validation Minimums and Maximums Report - No Field Parameters

Laboratory: PARAGON (Fort Collins, CO)

RIN: 0805013

Comparison: All Historical Data

Report Date: 8/5/2008

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	0474	04/30/2008	Manganese	0.83		4.4	F	2.1		11	0	
MOA01	0485	04/30/2008	Ammonia Total as N	740		650		420	F	22	0	
MOA01	0558	04/30/2008	Chloride	1900		48000	F	13000	J	33	0	
MOA01	0558	04/30/2008	Sulfate	970		12000	F	6500	F	33	0	
MOA01	0559	04/30/2008	Manganese	0.17		5.6	J	0.219	E FJ	20	0	
MOA01	0559	04/30/2008	Manganese	0.18		5.6	J	0.219	E FJ	20	0	
MOA01	SMI-PW01	04/28/2008	Manganese	3.2		7.56		4.3	F	9	0	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

- # Validated according to quality assurance guidelines

Appendix C. Water Quality Data

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Alkalinity, Total (As CaCO3)	mg/L	0240	SL	04/10/2008	0001	1	-	1	180			0		
Alkalinity, Total (As CaCO3)	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	260			0		
Alkalinity, Total (As CaCO3)	mg/L	0403	WL	04/01/2008	0001	18	-	18	714			0		
Alkalinity, Total (As CaCO3)	mg/L	0407	WL	04/01/2008	0001	17	-	17	404			0		
Alkalinity, Total (As CaCO3)	mg/L	0408	WL	04/01/2008	0001	26	-	26	874			0		
Alkalinity, Total (As CaCO3)	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	910			0		
Alkalinity, Total (As CaCO3)	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	830			0		
Alkalinity, Total (As CaCO3)	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	800			0		
Alkalinity, Total (As CaCO3)	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	940			0		
Alkalinity, Total (As CaCO3)	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	930			0		
Alkalinity, Total (As CaCO3)	mg/L	0481	WL	04/02/2008	0001	28	-	28	934			0		
Alkalinity, Total (As CaCO3)	mg/L	0547	TS	04/08/2008	0001	0	-	0	880			0		
Alkalinity, Total (As CaCO3)	mg/L	0548	TS	04/08/2008	0001	0	-	0	530			0		
Alkalinity, Total (As CaCO3)	mg/L	0555	WL	04/02/2008	0001	18	-	18	940			0		
Alkalinity, Total (As CaCO3)	mg/L	0560	WL	04/02/2008	0001	31	-	31	506			0		
Alkalinity, Total (As CaCO3)	mg/L	0581	WL	04/01/2008	0001	18	-	18	894			0		
Alkalinity, Total (As CaCO3)	mg/L	0585	WL	04/01/2008	0001	18	-	18	400			0		
Alkalinity, Total (As CaCO3)	mg/L	0589	WL	04/01/2008	0001	52	-	52	530			0		
Alkalinity, Total (As CaCO3)	mg/L	0590	WL	04/10/2008	0001	1	-	2	640			0		
Alkalinity, Total (As CaCO3)	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	700			0		
Alkalinity, Total (As CaCO3)	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	650			0		
Alkalinity, Total (As CaCO3)	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	780			0		
Alkalinity, Total (As CaCO3)	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	780			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Alkalinity, Total (As CaCO3)	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	760			0		
Alkalinity, Total (As CaCO3)	mg/L	0675	WL	04/08/2008	0001	16	-	46	750			0		
Alkalinity, Total (As CaCO3)	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	790			0		
Alkalinity, Total (As CaCO3)	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	980			0		
Alkalinity, Total (As CaCO3)	mg/L	0679	WL	04/08/2008	0001	15	-	45	1000			0		
Alkalinity, Total (As CaCO3)	mg/L	0680	WL	03/31/2008	0001	18	-	18	818			0		
Alkalinity, Total (As CaCO3)	mg/L	0681	WL	03/31/2008	0001	18	-	18	740			0		
Alkalinity, Total (As CaCO3)	mg/L	0684	WL	03/31/2008	0001	19	-	19	476			0		
Alkalinity, Total (As CaCO3)	mg/L	0688	WL	03/31/2008	0001	31	-	31	684			0		
Alkalinity, Total (As CaCO3)	mg/L	0689	WL	03/31/2008	0001	46	-	46	976			0		
Alkalinity, Total (As CaCO3)	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	660			0		
Alkalinity, Total (As CaCO3)	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	790			0		
Alkalinity, Total (As CaCO3)	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	380			0		
Alkalinity, Total (As CaCO3)	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	300			0		
Alkalinity, Total (As CaCO3)	mg/L	0731	WL	03/31/2008	0001	18	-	18	290			0		
Alkalinity, Total (As CaCO3)	mg/L	0733	WL	03/31/2008	0001	18	-	18	576			0		
Alkalinity, Total (As CaCO3)	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	930			0		
Alkalinity, Total (As CaCO3)	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	910			0		
Alkalinity, Total (As CaCO3)	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	680			0		
Alkalinity, Total (As CaCO3)	mg/L	0780	WL	04/02/2008	0001	28	-	28	892			0		
Alkalinity, Total (As CaCO3)	mg/L	0783	WL	04/02/2008	0001	18	-	18	1000			0		
Alkalinity, Total (As CaCO3)	mg/L	0784	WL	04/02/2008	0001	18	-	18	996			0		
Alkalinity, Total (As CaCO3)	mg/L	0785	WL	04/02/2008	0001	18	-	18	826			0		
Ammonia Total as N	mg/L	0240	SL	04/10/2008	0001	1	-	1	0.1	U		0	0.1	
Ammonia Total as N	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	0.1	U		0	0.1	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Ammonia Total as N	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	0.1	U		0	0.1	
Ammonia Total as N	mg/L	0403	WL	04/01/2008	0001	18	-	18	380			0	20	
Ammonia Total as N	mg/L	0407	WL	04/01/2008	0001	17	-	17	160			0	20	
Ammonia Total as N	mg/L	0408	WL	04/01/2008	0001	26	-	26	560			0	20	
Ammonia Total as N	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	640			0	20	
Ammonia Total as N	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	610			0	20	
Ammonia Total as N	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	470			0	20	
Ammonia Total as N	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	430			0	20	
Ammonia Total as N	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	500			0	20	
Ammonia Total as N	mg/L	0481	WL	04/02/2008	0001	28	-	28	600			0	20	
Ammonia Total as N	mg/L	0547	TS	04/08/2008	0001	0	-	0	600			0	20	
Ammonia Total as N	mg/L	0548	TS	04/08/2008	0001	0	-	0	500			0	20	
Ammonia Total as N	mg/L	0555	WL	04/02/2008	0001	18	-	18	370			0	20	
Ammonia Total as N	mg/L	0560	WL	04/02/2008	0001	31	-	31	2000			0	50	
Ammonia Total as N	mg/L	0581	WL	04/01/2008	0001	18	-	18	410			0	20	
Ammonia Total as N	mg/L	0585	WL	04/01/2008	0001	18	-	18	400			0	20	
Ammonia Total as N	mg/L	0589	WL	04/01/2008	0001	52	-	52	870			0	20	
Ammonia Total as N	mg/L	0590	WL	04/10/2008	0001	1	-	2	290			0	20	
Ammonia Total as N	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	360			0	20	
Ammonia Total as N	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	480			0	20	
Ammonia Total as N	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	410			0	20	
Ammonia Total as N	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	390			0	20	
Ammonia Total as N	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	390			0	20	
Ammonia Total as N	mg/L	0675	WL	04/08/2008	0001	16	-	46	440			0	20	
Ammonia Total as N	mg/L	0675	WL	04/08/2008	0002	16	-	46	370			0	20	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Ammonia Total as N	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	430			0	20	
Ammonia Total as N	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	830			0	20	
Ammonia Total as N	mg/L	0679	WL	04/08/2008	0001	15	-	45	750			0	20	
Ammonia Total as N	mg/L	0680	WL	03/31/2008	0001	18	-	18	460			0	10	
Ammonia Total as N	mg/L	0681	WL	03/31/2008	0001	18	-	18	120			0	20	
Ammonia Total as N	mg/L	0684	WL	03/31/2008	0001	19	-	19	160			0	20	
Ammonia Total as N	mg/L	0688	WL	03/31/2008	0001	31	-	31	390			0	20	
Ammonia Total as N	mg/L	0689	WL	03/31/2008	0001	46	-	46	620			0	20	
Ammonia Total as N	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	170			0	20	
Ammonia Total as N	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	260			0	20	
Ammonia Total as N	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	1.1			0	0.1	
Ammonia Total as N	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	51			0	2	
Ammonia Total as N	mg/L	0731	WL	03/31/2008	0001	18	-	18	31			0	2	
Ammonia Total as N	mg/L	0733	WL	03/31/2008	0001	18	-	18	100			0	20	
Ammonia Total as N	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	650			0	20	
Ammonia Total as N	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	830			0	20	
Ammonia Total as N	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	990			0	20	
Ammonia Total as N	mg/L	0780	WL	04/02/2008	0001	28	-	28	830			0	20	
Ammonia Total as N	mg/L	0783	WL	04/02/2008	0001	18	-	18	370			0	20	
Ammonia Total as N	mg/L	0784	WL	04/02/2008	0001	18	-	18	410			0	20	
Ammonia Total as N	mg/L	0785	WL	04/02/2008	0001	18	-	18	540			0	50	
Bromide	mg/L	0240	SL	04/10/2008	0001	1	-	1	0.2	U		0	0.2	
Bromide	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	0.4	U		0	0.4	
Bromide	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	0.4	U		0	0.4	
Bromide	mg/L	0403	WL	04/01/2008	0001	18	-	18	2	U		0	2	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Bromide	mg/L	0407	WL	04/01/2008	0001	17	-	17	1	U	0	1		
Bromide	mg/L	0408	WL	04/01/2008	0001	26	-	26	2	U	0	2		
Bromide	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	4	U	0	4		
Bromide	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	4	U	0	4		
Bromide	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	4	U	0	4		
Bromide	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	2	U	0	2		
Bromide	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	4	U	0	4		
Bromide	mg/L	0481	WL	04/02/2008	0001	28	-	28	4	U	0	4		
Bromide	mg/L	0547	TS	04/08/2008	0001	0	-	0	4	U	0	4		
Bromide	mg/L	0548	TS	04/08/2008	0001	0	-	0	4	U	0	4		
Bromide	mg/L	0555	WL	04/02/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0560	WL	04/02/2008	0001	31	-	31	10	U	0	10		
Bromide	mg/L	0581	WL	04/01/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0585	WL	04/01/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0589	WL	04/01/2008	0001	52	-	52	15		0	10		
Bromide	mg/L	0590	WL	04/10/2008	0001	1	-	2	2	U	0	2		
Bromide	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	2	U	0	2		
Bromide	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	2	U	0	2		
Bromide	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	2	U	0	2		
Bromide	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	2	U	0	2		
Bromide	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	2	U	0	2		
Bromide	mg/L	0675	WL	04/08/2008	0001	16	-	46	2	U	0	2		
Bromide	mg/L	0675	WL	04/08/2008	0002	16	-	46	2	U	0	2		
Bromide	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	2	U	0	2		
Bromide	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	4	U	0	4		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Bromide	mg/L	0679	WL	04/08/2008	0001	15	-	45	4	U	0	4		
Bromide	mg/L	0680	WL	03/31/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0681	WL	03/31/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0684	WL	03/31/2008	0001	19	-	19	1	U	0	1		
Bromide	mg/L	0688	WL	03/31/2008	0001	31	-	31	2	U	0	2		
Bromide	mg/L	0689	WL	03/31/2008	0001	46	-	46	4	U	0	4		
Bromide	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	1	U	0	1		
Bromide	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	1	U	0	1		
Bromide	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	0.4	U	0	0.4		
Bromide	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	1	U	0	1		
Bromide	mg/L	0731	WL	03/31/2008	0001	18	-	18	1	U	0	1		
Bromide	mg/L	0733	WL	03/31/2008	0001	18	-	18	1	U	0	1		
Bromide	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	10	U	0	10		
Bromide	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	10	U	0	10		
Bromide	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	10	U	0	10		
Bromide	mg/L	0780	WL	04/02/2008	0001	28	-	28	4	U	0	4		
Bromide	mg/L	0783	WL	04/02/2008	0001	18	-	18	2	U	0	2		
Bromide	mg/L	0784	WL	04/02/2008	0001	18	-	18	4	U	0	4		
Bromide	mg/L	0785	WL	04/02/2008	0001	18	-	18	4	U	0	4		
Chloride	mg/L	0240	SL	04/10/2008	0001	1	-	1	63		0	1		
Chloride	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	320		0	10		
Chloride	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	320		0	10		
Chloride	mg/L	0403	WL	04/01/2008	0001	18	-	18	1700		0	40		
Chloride	mg/L	0407	WL	04/01/2008	0001	17	-	17	1400		0	20		
Chloride	mg/L	0408	WL	04/01/2008	0001	26	-	26	1900		0	40		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Chloride	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	3700			0	40	
Chloride	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	3800			0	40	
Chloride	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	2900			0	40	
Chloride	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	2500			0	40	
Chloride	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	3300			0	40	
Chloride	mg/L	0481	WL	04/02/2008	0001	28	-	28	5000			0	100	
Chloride	mg/L	0547	TS	04/08/2008	0001	0	-	0	8400			0	100	
Chloride	mg/L	0548	TS	04/08/2008	0001	0	-	0	4900			0	100	
Chloride	mg/L	0555	WL	04/02/2008	0001	18	-	18	1500			0	40	
Chloride	mg/L	0560	WL	04/02/2008	0001	31	-	31	39000			0	400	
Chloride	mg/L	0581	WL	04/01/2008	0001	18	-	18	1700			0	40	
Chloride	mg/L	0585	WL	04/01/2008	0001	18	-	18	1900			0	40	
Chloride	mg/L	0589	WL	04/01/2008	0001	52	-	52	37000			0	400	
Chloride	mg/L	0590	WL	04/10/2008	0001	1	-	2	1100			0	20	
Chloride	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	1100			0	20	
Chloride	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	1000			0	20	
Chloride	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	1700			0	20	
Chloride	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	1700			0	20	
Chloride	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	1700			0	20	
Chloride	mg/L	0675	WL	04/08/2008	0001	16	-	46	1700			0	20	
Chloride	mg/L	0675	WL	04/08/2008	0002	16	-	46	1700			0	20	
Chloride	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	1700			0	20	
Chloride	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	2500			0	40	
Chloride	mg/L	0679	WL	04/08/2008	0001	15	-	45	2200			0	40	
Chloride	mg/L	0680	WL	03/31/2008	0001	18	-	18	1900			0	40	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)		Result	Qualifiers		Detection Limit	Uncertainty
						Lab	Data		QA			
Chloride	mg/L	0681	WL	03/31/2008	0001	18	- 18	1600		0	40	
Chloride	mg/L	0684	WL	03/31/2008	0001	19	- 19	450		0	20	
Chloride	mg/L	0688	WL	03/31/2008	0001	31	- 31	1500		0	40	
Chloride	mg/L	0689	WL	03/31/2008	0001	46	- 46	2300		0	40	
Chloride	mg/L	0691	WL	04/09/2008	0001	6.5	- 7.5	820		0	20	
Chloride	mg/L	0692	WL	04/09/2008	0001	9.7	- 10.1	1200		0	20	
Chloride	mg/L	0725	WL	04/10/2008	0001	4.6	- 5.6	220		0	10	
Chloride	mg/L	0726	WL	04/10/2008	0001	9.7	- 10.3	350		0	10	
Chloride	mg/L	0731	WL	03/31/2008	0001	18	- 18	330		0	10	
Chloride	mg/L	0733	WL	03/31/2008	0001	18	- 18	850		0	20	
Chloride	mg/L	0771	WL	04/08/2008	0001	15	- 34.9	19000		0	400	
Chloride	mg/L	0772	WL	04/08/2008	0001	15.15	- 35.05	14000		0	200	
Chloride	mg/L	0776	WL	04/08/2008	0001	15.15	- 35.05	21000		0	400	
Chloride	mg/L	0780	WL	04/02/2008	0001	28	- 28	6200		0	100	
Chloride	mg/L	0783	WL	04/02/2008	0001	18	- 18	2800		0	40	
Chloride	mg/L	0784	WL	04/02/2008	0001	18	- 18	3000		0	40	
Chloride	mg/L	0785	WL	04/02/2008	0001	18	- 18	5100		0	100	
Dissolved Oxygen	mg/L	0240	SL	04/10/2008	0001	1	- 1	10.44		0		
Dissolved Oxygen	mg/L	0258	SL	04/09/2008	0001	0.02	- 0.02	12.27		0		
Dissolved Oxygen	mg/L	0403	WL	04/01/2008	0001	18	- 18	0.92		0		
Dissolved Oxygen	mg/L	0407	WL	04/01/2008	0001	17	- 17	0.69		0		
Dissolved Oxygen	mg/L	0408	WL	04/01/2008	0001	26	- 26	0.91		0		
Dissolved Oxygen	mg/L	0470	WL	04/08/2008	0001	10.3	- 19.7	7.41		0		
Dissolved Oxygen	mg/L	0472	WL	04/08/2008	0001	10.3	- 19.7	7.2		0		
Dissolved Oxygen	mg/L	0474	WL	04/08/2008	0001	10.3	- 19.7	6.94		0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)	Result	Qualifiers			Detection Limit	Uncertainty
								Lab	Data	QA		
Dissolved Oxygen	mg/L	0476	WL	04/08/2008	0001	10.3 - 19.7	6.9			0		
Dissolved Oxygen	mg/L	0478	WL	04/08/2008	0001	9.6 - 23.9	6.67			0		
Dissolved Oxygen	mg/L	0481	WL	04/02/2008	0001	28 - 28	1			0		
Dissolved Oxygen	mg/L	0547	TS	04/08/2008	0001	0 - 0	11.54			0		
Dissolved Oxygen	mg/L	0548	TS	04/08/2008	0001	0 - 0	10.9			0		
Dissolved Oxygen	mg/L	0555	WL	04/02/2008	0001	18 - 18	1.35			0		
Dissolved Oxygen	mg/L	0560	WL	04/02/2008	0001	31 - 31	1.1			0		
Dissolved Oxygen	mg/L	0581	WL	04/01/2008	0001	18 - 18	1.09			0		
Dissolved Oxygen	mg/L	0585	WL	04/01/2008	0001	18 - 18	0.76			0		
Dissolved Oxygen	mg/L	0589	WL	04/01/2008	0001	52 - 52	0.53			0		
Dissolved Oxygen	mg/L	0590	WL	04/10/2008	0001	1 - 2	8.95			0		
Dissolved Oxygen	mg/L	0591	WL	04/10/2008	0001	3.9 - 4.9	5.44			0		
Dissolved Oxygen	mg/L	0603	WL	04/10/2008	0001	9.2 - 10.2	2.47			0		
Dissolved Oxygen	mg/L	0670	WL	04/08/2008	0001	15.9 - 45.9	9.09			0		
Dissolved Oxygen	mg/L	0671	WL	04/08/2008	0001	14.4 - 44.4	3.15			0		
Dissolved Oxygen	mg/L	0674	WL	04/08/2008	0001	15.1 - 45.1	4.14			0		
Dissolved Oxygen	mg/L	0675	WL	04/08/2008	0001	16 - 46	2.51			0		
Dissolved Oxygen	mg/L	0676	WL	04/08/2008	0001	15.9 - 45.9	7.91			0		
Dissolved Oxygen	mg/L	0678	WL	04/08/2008	0001	16.3 - 46.3	3.14			0		
Dissolved Oxygen	mg/L	0679	WL	04/08/2008	0001	15 - 45	3.97			0		
Dissolved Oxygen	mg/L	0680	WL	03/31/2008	0001	18 - 18	0.74			0		
Dissolved Oxygen	mg/L	0681	WL	03/31/2008	0001	18 - 18	0.94			0		
Dissolved Oxygen	mg/L	0684	WL	03/31/2008	0001	19 - 19	1.24			0		
Dissolved Oxygen	mg/L	0688	WL	03/31/2008	0001	39 - 39	0.71			0		
Dissolved Oxygen	mg/L	0688	WL	03/31/2008	0001	31 - 31	0.78			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
						Lab	Data	QA						
Dissolved Oxygen	mg/L	0689	WL	03/31/2008	0001	46	-	46	0.53			0		
Dissolved Oxygen	mg/L	0689	WL	03/31/2008	0001	54	-	54	0.53			0		
Dissolved Oxygen	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	4.36			0		
Dissolved Oxygen	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	7.58			0		
Dissolved Oxygen	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	6.54			0		
Dissolved Oxygen	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	3.03			0		
Dissolved Oxygen	mg/L	0731	WL	03/31/2008	0001	18	-	18	1.05			0		
Dissolved Oxygen	mg/L	0733	WL	03/31/2008	0001	18	-	18	0.96			0		
Dissolved Oxygen	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	4.41			0		
Dissolved Oxygen	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	5.72			0		
Dissolved Oxygen	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	4.13			0		
Dissolved Oxygen	mg/L	0780	WL	04/02/2008	0001	28	-	28	1.52			0		
Dissolved Oxygen	mg/L	0783	WL	04/02/2008	0001	18	-	18	1.74			0		
Dissolved Oxygen	mg/L	0784	WL	04/02/2008	0001	18	-	18	1.81			0		
Dissolved Oxygen	mg/L	0785	WL	04/02/2008	0001	18	-	18	1.26			0		
Manganese	mg/L	0240	SL	04/10/2008	0001	1	-	1	0.0059			0	0.00015	
Manganese	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	0.42			0	0.00015	
Manganese	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	0.4			0	0.00015	
Manganese	mg/L	0403	WL	04/01/2008	0001	18	-	18	4			0	0.00076	
Manganese	mg/L	0407	WL	04/01/2008	0001	17	-	17	1.9			0	0.00076	
Manganese	mg/L	0408	WL	04/01/2008	0001	26	-	26	4.3			0	0.00076	
Manganese	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	4.6			0	0.0015	
Manganese	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	3.8			0	0.0015	
Manganese	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	3.6			0	0.0015	
Manganese	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	4.2			0	0.0015	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Manganese	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	4.2		0	0.0015		
Manganese	mg/L	0481	WL	04/02/2008	0001	28	-	28	5.1		0	0.0015		
Manganese	mg/L	0547	TS	04/08/2008	0001	0	-	0	4.7		0	0.0015		
Manganese	mg/L	0548	TS	04/08/2008	0001	0	-	0	2		0	0.0015		
Manganese	mg/L	0555	WL	04/02/2008	0001	18	-	18	3.7		0	0.00076		
Manganese	mg/L	0560	WL	04/02/2008	0001	31	-	31	9.8		0	0.0038		
Manganese	mg/L	0581	WL	04/01/2008	0001	18	-	18	4.6		0	0.00076		
Manganese	mg/L	0585	WL	04/01/2008	0001	18	-	18	4.9		0	0.00076		
Manganese	mg/L	0589	WL	04/01/2008	0001	52	-	52	7.9		0	0.0038		
Manganese	mg/L	0590	WL	04/10/2008	0001	1	-	2	2.3		0	0.00076		
Manganese	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	2		0	0.00076		
Manganese	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	1.7		0	0.00076		
Manganese	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	4.4		0	0.00076		
Manganese	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	4.4		0	0.00076		
Manganese	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	4.5		0	0.00076		
Manganese	mg/L	0675	WL	04/08/2008	0001	16	-	46	4.5		0	0.00076		
Manganese	mg/L	0675	WL	04/08/2008	0002	16	-	46	4.5		0	0.00076		
Manganese	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	4.4		0	0.00076		
Manganese	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	5.4		0	0.0015		
Manganese	mg/L	0679	WL	04/08/2008	0001	15	-	45	5.3		0	0.0015		
Manganese	mg/L	0680	WL	03/31/2008	0001	18	-	18	5.2		0	0.00076		
Manganese	mg/L	0681	WL	03/31/2008	0001	18	-	18	3.2		0	0.00076		
Manganese	mg/L	0684	WL	03/31/2008	0001	19	-	19	1.1		0	0.00031		
Manganese	mg/L	0688	WL	03/31/2008	0001	31	-	31	3.8		0	0.00076		
Manganese	mg/L	0689	WL	03/31/2008	0001	46	-	46	3		0	0.0015		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Manganese	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	2.5			0	0.00076	
Manganese	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	3.1			0	0.00076	
Manganese	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	4.3			0	0.00015	
Manganese	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	1.7			0	0.00031	
Manganese	mg/L	0731	WL	03/31/2008	0001	18	-	18	1.4			0	0.00031	
Manganese	mg/L	0733	WL	03/31/2008	0001	18	-	18	3			0	0.00031	
Manganese	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	5.9			0	0.0038	
Manganese	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	6.9			0	0.0038	
Manganese	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	7			0	0.0038	
Manganese	mg/L	0780	WL	04/02/2008	0001	28	-	28	5.5			0	0.0015	
Manganese	mg/L	0783	WL	04/02/2008	0001	18	-	18	4.4			0	0.0015	
Manganese	mg/L	0784	WL	04/02/2008	0001	18	-	18	5.5			0	0.0015	
Manganese	mg/L	0785	WL	04/02/2008	0001	18	-	18	6.8			0	0.0015	
Oxidation Reduction Potential	mV	0240	SL	04/10/2008	0001	1	-	1	-29			0		
Oxidation Reduction Potential	mV	0258	SL	04/09/2008	0001	0.02	-	0.02	127			0		
Oxidation Reduction Potential	mV	0403	WL	04/01/2008	0001	18	-	18	124			0		
Oxidation Reduction Potential	mV	0407	WL	04/01/2008	0001	17	-	17	108			0		
Oxidation Reduction Potential	mV	0408	WL	04/01/2008	0001	26	-	26	178			0		
Oxidation Reduction Potential	mV	0470	WL	04/08/2008	0001	10.3	-	19.7	196			0		
Oxidation Reduction Potential	mV	0472	WL	04/08/2008	0001	10.3	-	19.7	190			0		
Oxidation Reduction Potential	mV	0474	WL	04/08/2008	0001	10.3	-	19.7	188			0		
Oxidation Reduction Potential	mV	0476	WL	04/08/2008	0001	10.3	-	19.7	238			0		
Oxidation Reduction Potential	mV	0478	WL	04/08/2008	0001	9.6	-	23.9	219			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers		Detection Limit	Uncertainty
				Date	ID					Lab	Data QA		
Oxidation Reduction Potential	mV	0481	WL	04/02/2008	0001	28	-	28	201		0		
Oxidation Reduction Potential	mV	0547	TS	04/08/2008	0001	0	-	0	2.54		0		
Oxidation Reduction Potential	mV	0548	TS	04/08/2008	0001	0	-	0	241		0		
Oxidation Reduction Potential	mV	0555	WL	04/02/2008	0001	18	-	18	134		0		
Oxidation Reduction Potential	mV	0560	WL	04/02/2008	0001	31	-	31	152		0		
Oxidation Reduction Potential	mV	0581	WL	04/01/2008	0001	18	-	18	121		0		
Oxidation Reduction Potential	mV	0585	WL	04/01/2008	0001	18	-	18	173		0		
Oxidation Reduction Potential	mV	0589	WL	04/01/2008	0001	52	-	52	136		0		
Oxidation Reduction Potential	mV	0590	WL	04/10/2008	0001	1	-	2	-36		0		
Oxidation Reduction Potential	mV	0591	WL	04/10/2008	0001	3.9	-	4.9	5		0		
Oxidation Reduction Potential	mV	0603	WL	04/10/2008	0001	9.2	-	10.2	27		0		
Oxidation Reduction Potential	mV	0670	WL	04/08/2008	0001	15.9	-	45.9	185		0		
Oxidation Reduction Potential	mV	0671	WL	04/08/2008	0001	14.4	-	44.4	189		0		
Oxidation Reduction Potential	mV	0674	WL	04/08/2008	0001	15.1	-	45.1	187		0		
Oxidation Reduction Potential	mV	0675	WL	04/08/2008	0001	16	-	46	188		0		
Oxidation Reduction Potential	mV	0676	WL	04/08/2008	0001	15.9	-	45.9	181		0		
Oxidation Reduction Potential	mV	0678	WL	04/08/2008	0001	16.3	-	46.3	141		0		
Oxidation Reduction Potential	mV	0679	WL	04/08/2008	0001	15	-	45	164		0		
Oxidation Reduction Potential	mV	0680	WL	03/31/2008	0001	18	-	18	127		0		
Oxidation Reduction Potential	mV	0681	WL	03/31/2008	0001	18	-	18	116		0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Oxidation Reduction Potential	mV	0684	WL	03/31/2008	0001	19	-	19	-1			0		
Oxidation Reduction Potential	mV	0688	WL	03/31/2008	0001	31	-	31	154			0		
Oxidation Reduction Potential	mV	0688	WL	03/31/2008	0001	39	-	39	162			0		
Oxidation Reduction Potential	mV	0689	WL	03/31/2008	0001	54	-	54	87			0		
Oxidation Reduction Potential	mV	0689	WL	03/31/2008	0001	46	-	46	176			0		
Oxidation Reduction Potential	mV	0691	WL	04/09/2008	0001	6.5	-	7.5	139			0		
Oxidation Reduction Potential	mV	0692	WL	04/09/2008	0001	9.7	-	10.1	180			0		
Oxidation Reduction Potential	mV	0725	WL	04/10/2008	0001	4.6	-	5.6	-112			0		
Oxidation Reduction Potential	mV	0726	WL	04/10/2008	0001	9.7	-	10.3	-221			0		
Oxidation Reduction Potential	mV	0731	WL	03/31/2008	0001	18	-	18	-42			0		
Oxidation Reduction Potential	mV	0733	WL	03/31/2008	0001	18	-	18	45			0		
Oxidation Reduction Potential	mV	0771	WL	04/08/2008	0001	15	-	34.9	246			0		
Oxidation Reduction Potential	mV	0772	WL	04/08/2008	0001	15.15	-	35.05	230			0		
Oxidation Reduction Potential	mV	0776	WL	04/08/2008	0001	15.15	-	35.05	233			0		
Oxidation Reduction Potential	mV	0780	WL	04/02/2008	0001	28	-	28	141			0		
Oxidation Reduction Potential	mV	0783	WL	04/02/2008	0001	18	-	18	91			0		
Oxidation Reduction Potential	mV	0784	WL	04/02/2008	0001	18	-	18	44			0		
Oxidation Reduction Potential	mV	0785	WL	04/02/2008	0001	18	-	18	141			0		
pH	s.u.	0240	SL	04/10/2008	0001	1	-	1	8.02			0		
pH	s.u.	0258	SL	04/09/2008	0001	0.02	-	0.02	8.07			0		
pH	s.u.	0403	WL	04/01/2008	0001	18	-	18	6.77			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
 REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
pH	s.u.	0407	WL	04/01/2008	0001	17	-	17	7.22			0		
pH	s.u.	0408	WL	04/01/2008	0001	26	-	26	6.72			0		
pH	s.u.	0470	WL	04/08/2008	0001	10.3	-	19.7	6.95			0		
pH	s.u.	0472	WL	04/08/2008	0001	10.3	-	19.7	7.06			0		
pH	s.u.	0474	WL	04/08/2008	0001	10.3	-	19.7	7.08			0		
pH	s.u.	0476	WL	04/08/2008	0001	10.3	-	19.7	6.7			0		
pH	s.u.	0478	WL	04/08/2008	0001	9.6	-	23.9	6.87			0		
pH	s.u.	0481	WL	04/02/2008	0001	28	-	28	6.82			0		
pH	s.u.	0547	TS	04/08/2008	0001	0	-	0	6.65			0		
pH	s.u.	0548	TS	04/08/2008	0001	0	-	0	7.81			0		
pH	s.u.	0555	WL	04/02/2008	0001	18	-	18	6.72			0		
pH	s.u.	0560	WL	04/02/2008	0001	31	-	31	6.65			0		
pH	s.u.	0581	WL	04/01/2008	0001	18	-	18	6.72			0		
pH	s.u.	0585	WL	04/01/2008	0001	18	-	18	6.7			0		
pH	s.u.	0589	WL	04/01/2008	0001	52	-	52	6.71			0		
pH	s.u.	0590	WL	04/10/2008	0001	1	-	2	8.79			0		
pH	s.u.	0591	WL	04/10/2008	0001	3.9	-	4.9	7.51			0		
pH	s.u.	0603	WL	04/10/2008	0001	9.2	-	10.2	7.41			0		
pH	s.u.	0670	WL	04/08/2008	0001	15.9	-	45.9	7.19			0		
pH	s.u.	0671	WL	04/08/2008	0001	14.4	-	44.4	7.09			0		
pH	s.u.	0674	WL	04/08/2008	0001	15.1	-	45.1	7.07			0		
pH	s.u.	0675	WL	04/08/2008	0001	16	-	46	7.02			0		
pH	s.u.	0676	WL	04/08/2008	0001	15.9	-	45.9	7.09			0		
pH	s.u.	0678	WL	04/08/2008	0001	16.3	-	46.3	7.15			0		
pH	s.u.	0679	WL	04/08/2008	0001	15	-	45	6.98			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
 REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers		Detection Limit	Uncertainty
						Lab	Data	QA					
pH	s.u.	0680	WL	03/31/2008	0001	18	-	18	6.74		0		
pH	s.u.	0681	WL	03/31/2008	0001	18	-	18	6.69		0		
pH	s.u.	0684	WL	03/31/2008	0001	19	-	19	6.95		0		
pH	s.u.	0688	WL	03/31/2008	0001	31	-	31	6.78		0		
pH	s.u.	0688	WL	03/31/2008	0001	39	-	39	6.83		0		
pH	s.u.	0689	WL	03/31/2008	0001	54	-	54	6.56		0		
pH	s.u.	0689	WL	03/31/2008	0001	46	-	46	6.96		0		
pH	s.u.	0691	WL	04/09/2008	0001	6.5	-	7.5	8.69		0		
pH	s.u.	0692	WL	04/09/2008	0001	9.7	-	10.1	6.71		0		
pH	s.u.	0725	WL	04/10/2008	0001	4.6	-	5.6	7.01		0		
pH	s.u.	0726	WL	04/10/2008	0001	9.7	-	10.3	8.74		0		
pH	s.u.	0731	WL	03/31/2008	0001	18	-	18	6.81		0		
pH	s.u.	0733	WL	03/31/2008	0001	18	-	18	6.7		0		
pH	s.u.	0771	WL	04/08/2008	0001	15	-	34.9	6.82		0		
pH	s.u.	0772	WL	04/08/2008	0001	15.15	-	35.05	6.85		0		
pH	s.u.	0776	WL	04/08/2008	0001	15.15	-	35.05	6.89		0		
pH	s.u.	0780	WL	04/02/2008	0001	28	-	28	6.79		0		
pH	s.u.	0783	WL	04/02/2008	0001	18	-	18	6.68		0		
pH	s.u.	0784	WL	04/02/2008	0001	18	-	18	6.65		0		
pH	s.u.	0785	WL	04/02/2008	0001	18	-	18	6.8		0		
Selenium	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	0.014		0	9.5E-005	
Selenium	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	0.0056		0	9.5E-005	
Selenium	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	0.00081		0	9.5E-005	
Selenium	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	0.0045		0	9.5E-005	
Specific Conductance	umhos /cm	0240	SL	04/10/2008	0001	1	-	1	1157		0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Specific Conductance	umhos /cm	0258	SL	04/09/2008	0001	0.02	-	0.02	3142			0		
Specific Conductance	umhos /cm	0403	WL	04/01/2008	0001	18	-	18	15072			0		
Specific Conductance	umhos /cm	0407	WL	04/01/2008	0001	17	-	17	8656			0		
Specific Conductance	umhos /cm	0408	WL	04/01/2008	0001	26	-	26	17507			0		
Specific Conductance	umhos /cm	0470	WL	04/08/2008	0001	10.3	-	19.7	21200			0		
Specific Conductance	umhos /cm	0472	WL	04/08/2008	0001	10.3	-	19.7	19653			0		
Specific Conductance	umhos /cm	0474	WL	04/08/2008	0001	10.3	-	19.7	18232			0		
Specific Conductance	umhos /cm	0476	WL	04/08/2008	0001	10.3	-	19.7	17003			0		
Specific Conductance	umhos /cm	0478	WL	04/08/2008	0001	9.6	-	23.9	19403			0		
Specific Conductance	umhos /cm	0481	WL	04/02/2008	0001	28	-	28	24229			0		
Specific Conductance	umhos /cm	0547	TS	04/08/2008	0001	0	-	0	30201			0		
Specific Conductance	umhos /cm	0548	TS	04/08/2008	0001	0	-	0	22715			0		
Specific Conductance	umhos /cm	0555	WL	04/02/2008	0001	18	-	18	15798			0		
Specific Conductance	umhos /cm	0560	WL	04/02/2008	0001	31	-	31	87056			0		
Specific Conductance	umhos /cm	0581	WL	04/01/2008	0001	18	-	18	16303			0		
Specific Conductance	umhos /cm	0585	WL	04/01/2008	0001	18	-	18	16882			0		
Specific Conductance	umhos /cm	0589	WL	04/01/2008	0001	52	-	52	82429			0		
Specific Conductance	umhos /cm	0590	WL	04/10/2008	0001	1	-	2	7483			0		
Specific Conductance	umhos /cm	0591	WL	04/10/2008	0001	3.9	-	4.9	11017			0		
Specific Conductance	umhos /cm	0603	WL	04/10/2008	0001	9.2	-	10.2	11316			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Specific Conductance	umhos /cm	0670	WL	04/08/2008	0001	15.9	-	45.9	16909			0		
Specific Conductance	umhos /cm	0671	WL	04/08/2008	0001	14.4	-	44.4	16341			0		
Specific Conductance	umhos /cm	0674	WL	04/08/2008	0001	15.1	-	45.1	16126			0		
Specific Conductance	umhos /cm	0675	WL	04/08/2008	0001	16	-	46	15927			0		
Specific Conductance	umhos /cm	0676	WL	04/08/2008	0001	15.9	-	45.9	15786			0		
Specific Conductance	umhos /cm	0678	WL	04/08/2008	0001	16.3	-	46.3	21588			0		
Specific Conductance	umhos /cm	0679	WL	04/08/2008	0001	15	-	45	20261			0		
Specific Conductance	umhos /cm	0680	WL	03/31/2008	0001	18	-	18	16909			0		
Specific Conductance	umhos /cm	0681	WL	03/31/2008	0001	18	-	18	15145			0		
Specific Conductance	umhos /cm	0684	WL	03/31/2008	0001	19	-	19	6217			0		
Specific Conductance	umhos /cm	0688	WL	03/31/2008	0001	31	-	31	15670			0		
Specific Conductance	umhos /cm	0688	WL	03/31/2008	0001	39	-	39	17869			0		
Specific Conductance	umhos /cm	0689	WL	03/31/2008	0001	46	-	46	23392			0		
Specific Conductance	umhos /cm	0689	WL	03/31/2008	0001	54	-	54	43374			0		
Specific Conductance	umhos /cm	0691	WL	04/09/2008	0001	6.5	-	7.5	7971			0		
Specific Conductance	umhos /cm	0692	WL	04/09/2008	0001	9.7	-	10.1	10203			0		
Specific Conductance	umhos /cm	0725	WL	04/10/2008	0001	4.6	-	5.6	2884			0		
Specific Conductance	umhos /cm	0726	WL	04/10/2008	0001	9.7	-	10.3	2448			0		
Specific Conductance	umhos /cm	0731	WL	03/31/2008	0001	18	-	18	4629			0		
Specific Conductance	umhos /cm	0733	WL	03/31/2008	0001	18	-	18	9830			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Specific Conductance	umhos /cm	0771	WL	04/08/2008	0001	15	-	34.9	51389			0		
Specific Conductance	umhos /cm	0772	WL	04/08/2008	0001	15.15	-	35.05	44858			0		
Specific Conductance	umhos /cm	0776	WL	04/08/2008	0001	15.15	-	35.05	57651			0		
Specific Conductance	umhos /cm	0780	WL	04/02/2008	0001	28	-	28	27626			0		
Specific Conductance	umhos /cm	0783	WL	04/02/2008	0001	18	-	18	20582			0		
Specific Conductance	umhos /cm	0784	WL	04/02/2008	0001	18	-	18	22403			0		
Specific Conductance	umhos /cm	0785	WL	04/02/2008	0001	18	-	18	22875			0		
Sulfate	mg/L	0240	SL	04/10/2008	0001	1	-	1	170			0	2.5	
Sulfate	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	1100			0	25	
Sulfate	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	1100			0	25	
Sulfate	mg/L	0403	WL	04/01/2008	0001	18	-	18	6400			0	100	
Sulfate	mg/L	0407	WL	04/01/2008	0001	17	-	17	2400			0	50	
Sulfate	mg/L	0408	WL	04/01/2008	0001	26	-	26	8000			0	100	
Sulfate	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	6900			0	100	
Sulfate	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	6600			0	100	
Sulfate	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	6500			0	100	
Sulfate	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	7500			0	100	
Sulfate	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	7400			0	100	
Sulfate	mg/L	0481	WL	04/02/2008	0001	28	-	28	8700			0	100	
Sulfate	mg/L	0547	TS	04/08/2008	0001	0	-	0	7100			0	100	
Sulfate	mg/L	0548	TS	04/08/2008	0001	0	-	0	7400			0	100	
Sulfate	mg/L	0555	WL	04/02/2008	0001	18	-	18	7400			0	100	
Sulfate	mg/L	0560	WL	04/02/2008	0001	31	-	31	8200			0	250	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Sulfate	mg/L	0581	WL	04/01/2008	0001	18	-	18	7700			0	100	
Sulfate	mg/L	0585	WL	04/01/2008	0001	18	-	18	7800			0	100	
Sulfate	mg/L	0589	WL	04/01/2008	0001	52	-	52	8300			0	250	
Sulfate	mg/L	0590	WL	04/10/2008	0001	1	-	2	4200			0	50	
Sulfate	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	4500			0	50	
Sulfate	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	5000			0	50	
Sulfate	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	7300			0	50	
Sulfate	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	7300			0	50	
Sulfate	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	7400			0	50	
Sulfate	mg/L	0675	WL	04/08/2008	0001	16	-	46	7100			0	50	
Sulfate	mg/L	0675	WL	04/08/2008	0002	16	-	46	7200			0	50	
Sulfate	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	7200			0	50	
Sulfate	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	10000			0	100	
Sulfate	mg/L	0679	WL	04/08/2008	0001	15	-	45	9900			0	100	
Sulfate	mg/L	0680	WL	03/31/2008	0001	18	-	18	7700			0	100	
Sulfate	mg/L	0681	WL	03/31/2008	0001	18	-	18	6800			0	100	
Sulfate	mg/L	0684	WL	03/31/2008	0001	19	-	19	2500			0	50	
Sulfate	mg/L	0688	WL	03/31/2008	0001	31	-	31	6100			0	100	
Sulfate	mg/L	0689	WL	03/31/2008	0001	46	-	46	9800			0	100	
Sulfate	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	3800			0	50	
Sulfate	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	5300			0	50	
Sulfate	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	1400			0	25	
Sulfate	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	1800			0	25	
Sulfate	mg/L	0731	WL	03/31/2008	0001	18	-	18	2200			0	25	
Sulfate	mg/L	0733	WL	03/31/2008	0001	18	-	18	4600			0	50	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Sulfate	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	8100			0	250	
Sulfate	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	8600			0	250	
Sulfate	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	8100			0	250	
Sulfate	mg/L	0780	WL	04/02/2008	0001	28	-	28	9300			0	100	
Sulfate	mg/L	0783	WL	04/02/2008	0001	18	-	18	9900			0	100	
Sulfate	mg/L	0784	WL	04/02/2008	0001	18	-	18	10000			0	100	
Sulfate	mg/L	0785	WL	04/02/2008	0001	18	-	18	8200			0	100	
Temperature	C	0240	SL	04/10/2008	0001	1	-	1	14.3			0		
Temperature	C	0258	SL	04/09/2008	0001	0.02	-	0.02	11.84			0		
Temperature	C	0403	WL	04/01/2008	0001	18	-	18	14.54			0		
Temperature	C	0407	WL	04/01/2008	0001	17	-	17	15.95			0		
Temperature	C	0408	WL	04/01/2008	0001	26	-	26	15.48			0		
Temperature	C	0470	WL	04/08/2008	0001	10.3	-	19.7	16.33			0		
Temperature	C	0472	WL	04/08/2008	0001	10.3	-	19.7	15.6			0		
Temperature	C	0474	WL	04/08/2008	0001	10.3	-	19.7	14.97			0		
Temperature	C	0476	WL	04/08/2008	0001	10.3	-	19.7	16			0		
Temperature	C	0478	WL	04/08/2008	0001	9.6	-	23.9	16.2			0		
Temperature	C	0481	WL	04/02/2008	0001	28	-	28	14.76			0		
Temperature	C	0547	TS	04/08/2008	0001	0	-	0	15.99			0		
Temperature	C	0548	TS	04/08/2008	0001	0	-	0	12.77			0		
Temperature	C	0555	WL	04/02/2008	0001	18	-	18	14.28			0		
Temperature	C	0560	WL	04/02/2008	0001	31	-	31	14.22			0		
Temperature	C	0581	WL	04/01/2008	0001	18	-	18	14.55			0		
Temperature	C	0585	WL	04/01/2008	0001	18	-	18	14.39			0		
Temperature	C	0589	WL	04/01/2008	0001	52	-	52	14.61			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Temperature	C	0590	WL	04/10/2008	0001	1	-	2	14.12			0		
Temperature	C	0591	WL	04/10/2008	0001	3.9	-	4.9	10.64			0		
Temperature	C	0603	WL	04/10/2008	0001	9.2	-	10.2	11.2			0		
Temperature	C	0670	WL	04/08/2008	0001	15.9	-	45.9	15.79			0		
Temperature	C	0671	WL	04/08/2008	0001	14.4	-	44.4	15.33			0		
Temperature	C	0674	WL	04/08/2008	0001	15.1	-	45.1	15.91			0		
Temperature	C	0675	WL	04/08/2008	0001	16	-	46	17.16			0		
Temperature	C	0676	WL	04/08/2008	0001	15.9	-	45.9	16.11			0		
Temperature	C	0678	WL	04/08/2008	0001	16.3	-	46.3	19			0		
Temperature	C	0679	WL	04/08/2008	0001	15	-	45	18.38			0		
Temperature	C	0680	WL	03/31/2008	0001	18	-	18	14.81			0		
Temperature	C	0681	WL	03/31/2008	0001	18	-	18	14.64			0		
Temperature	C	0684	WL	03/31/2008	0001	19	-	19	13.83			0		
Temperature	C	0688	WL	03/31/2008	0001	39	-	39	15.63			0		
Temperature	C	0688	WL	03/31/2008	0001	31	-	31	15.68			0		
Temperature	C	0689	WL	03/31/2008	0001	54	-	54	14.83			0		
Temperature	C	0689	WL	03/31/2008	0001	46	-	46	15.9			0		
Temperature	C	0691	WL	04/09/2008	0001	6.5	-	7.5	11.54			0		
Temperature	C	0692	WL	04/09/2008	0001	9.7	-	10.1	11.71			0		
Temperature	C	0725	WL	04/10/2008	0001	4.6	-	5.6	13.36			0		
Temperature	C	0726	WL	04/10/2008	0001	9.7	-	10.3	13.91			0		
Temperature	C	0731	WL	03/31/2008	0001	18	-	18	16.37			0		
Temperature	C	0733	WL	03/31/2008	0001	18	-	18	15.17			0		
Temperature	C	0771	WL	04/08/2008	0001	15	-	34.9	14.53			0		
Temperature	C	0772	WL	04/08/2008	0001	15.15	-	35.05	15.02			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Temperature	C	0776	WL	04/08/2008	0001	15.15	-	35.05	14.59			0		
Temperature	C	0780	WL	04/02/2008	0001	28	-	28	15.47			0		
Temperature	C	0783	WL	04/02/2008	0001	18	-	18	15.44			0		
Temperature	C	0784	WL	04/02/2008	0001	18	-	18	16.25			0		
Temperature	C	0785	WL	04/02/2008	0001	18	-	18	15.27			0		
Total Dissolved Solids	mg/L	0240	SL	04/10/2008	0001	1	-	1	490			0	40	
Total Dissolved Solids	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	2400			0	40	
Total Dissolved Solids	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	2400			0	40	
Total Dissolved Solids	mg/L	0403	WL	04/01/2008	0001	18	-	18	13000			0	200	
Total Dissolved Solids	mg/L	0407	WL	04/01/2008	0001	17	-	17	5800			0	200	
Total Dissolved Solids	mg/L	0408	WL	04/01/2008	0001	26	-	26	15000			0	200	
Total Dissolved Solids	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	16000			0	400	
Total Dissolved Solids	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	15000			0	400	
Total Dissolved Solids	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	14000			0	400	
Total Dissolved Solids	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	15000			0	400	
Total Dissolved Solids	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	17000			0	400	
Total Dissolved Solids	mg/L	0481	WL	04/02/2008	0001	28	-	28	21000			0	400	
Total Dissolved Solids	mg/L	0547	TS	04/08/2008	0001	0	-	0	24000			0	400	
Total Dissolved Solids	mg/L	0548	TS	04/08/2008	0001	0	-	0	18000			0	400	
Total Dissolved Solids	mg/L	0555	WL	04/02/2008	0001	18	-	18	14000			0	200	
Total Dissolved Solids	mg/L	0560	WL	04/02/2008	0001	31	-	31	66000			0	1000	
Total Dissolved Solids	mg/L	0581	WL	04/01/2008	0001	18	-	18	15000			0	200	
Total Dissolved Solids	mg/L	0585	WL	04/01/2008	0001	18	-	18	15000			0	200	
Total Dissolved Solids	mg/L	0589	WL	04/01/2008	0001	52	-	52	66000			0	1000	
Total Dissolved Solids	mg/L	0590	WL	04/10/2008	0001	1	-	2	7800			0	200	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Total Dissolved Solids	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	8200			0	200	
Total Dissolved Solids	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	8600			0	200	
Total Dissolved Solids	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	14000			0	200	
Total Dissolved Solids	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	13000			0	200	
Total Dissolved Solids	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	14000			0	200	
Total Dissolved Solids	mg/L	0675	WL	04/08/2008	0001	16	-	46	14000			0	200	
Total Dissolved Solids	mg/L	0675	WL	04/08/2008	0002	16	-	46	14000			0	200	
Total Dissolved Solids	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	14000			0	200	
Total Dissolved Solids	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	18000			0	400	
Total Dissolved Solids	mg/L	0679	WL	04/08/2008	0001	15	-	45	18000			0	400	
Total Dissolved Solids	mg/L	0680	WL	03/31/2008	0001	18	-	18	15000			0	200	
Total Dissolved Solids	mg/L	0681	WL	03/31/2008	0001	18	-	18	15000			0	200	
Total Dissolved Solids	mg/L	0684	WL	03/31/2008	0001	19	-	19	5100			0	80	
Total Dissolved Solids	mg/L	0688	WL	03/31/2008	0001	31	-	31	14000			0	200	
Total Dissolved Solids	mg/L	0689	WL	03/31/2008	0001	46	-	46	20000			0	400	
Total Dissolved Solids	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	7400			0	80	
Total Dissolved Solids	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	11000			0	200	
Total Dissolved Solids	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	2900			0	40	
Total Dissolved Solids	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	3600			0	80	
Total Dissolved Solids	mg/L	0731	WL	03/31/2008	0001	18	-	18	4400			0	80	
Total Dissolved Solids	mg/L	0733	WL	03/31/2008	0001	18	-	18	8600			0	2000	
Total Dissolved Solids	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	40000			0	2000	
Total Dissolved Solids	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	36000			0	400	
Total Dissolved Solids	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	41000			0	2000	
Total Dissolved Solids	mg/L	0780	WL	04/02/2008	0001	28	-	28	23000			0	400	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers		Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA			
Total Dissolved Solids	mg/L	0783	WL	04/02/2008	0001	18	-	18	19000		0	2000	
Total Dissolved Solids	mg/L	0784	WL	04/02/2008	0001	18	-	18	21000		0	2000	
Total Dissolved Solids	mg/L	0785	WL	04/02/2008	0001	18	-	18	19000		0	400	
Turbidity	NTU	0240	SL	04/10/2008	0001	1	-	1	130		0		
Turbidity	NTU	0258	SL	04/09/2008	0001	0.02	-	0.02	606		0		
Turbidity	NTU	0403	WL	04/01/2008	0001	18	-	18	4.16		0		
Turbidity	NTU	0407	WL	04/01/2008	0001	17	-	17	2.54		0		
Turbidity	NTU	0408	WL	04/01/2008	0001	26	-	26	4.78		0		
Turbidity	NTU	0470	WL	04/08/2008	0001	10.3	-	19.7	9.49		0		
Turbidity	NTU	0472	WL	04/08/2008	0001	10.3	-	19.7	5.53		0		
Turbidity	NTU	0474	WL	04/08/2008	0001	10.3	-	19.7	4.33		0		
Turbidity	NTU	0476	WL	04/08/2008	0001	10.3	-	19.7	5.59		0		
Turbidity	NTU	0478	WL	04/08/2008	0001	9.6	-	23.9	4.81		0		
Turbidity	NTU	0481	WL	04/02/2008	0001	28	-	28	2.59		0		
Turbidity	NTU	0547	TS	04/08/2008	0001	0	-	0	5.77		0		
Turbidity	NTU	0548	TS	04/08/2008	0001	0	-	0	11.3		0		
Turbidity	NTU	0555	WL	04/02/2008	0001	18	-	18	1.19		0		
Turbidity	NTU	0560	WL	04/02/2008	0001	31	-	31	3.14		0		
Turbidity	NTU	0581	WL	04/01/2008	0001	18	-	18	19.31		0		
Turbidity	NTU	0585	WL	04/01/2008	0001	18	-	18	2.63		0		
Turbidity	NTU	0589	WL	04/01/2008	0001	52	-	52	2.82		0		
Turbidity	NTU	0591	WL	04/10/2008	0001	3.9	-	4.9	48.6		0		
Turbidity	NTU	0603	WL	04/10/2008	0001	9.2	-	10.2	6.85		0		
Turbidity	NTU	0670	WL	04/08/2008	0001	15.9	-	45.9	5.68		0		
Turbidity	NTU	0671	WL	04/08/2008	0001	14.4	-	44.4	3.28		0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Turbidity	NTU	0674	WL	04/08/2008	0001	15.1	-	45.1	3.2			0		
Turbidity	NTU	0675	WL	04/08/2008	0001	16	-	46	3.81			0		
Turbidity	NTU	0676	WL	04/08/2008	0001	15.9	-	45.9	2.89			0		
Turbidity	NTU	0678	WL	04/08/2008	0001	16.3	-	46.3	7.24			0		
Turbidity	NTU	0679	WL	04/08/2008	0001	15	-	45	5.77			0		
Turbidity	NTU	0680	WL	03/31/2008	0001	18	-	18	3.86			0		
Turbidity	NTU	0681	WL	03/31/2008	0001	18	-	18	2.05			0		
Turbidity	NTU	0684	WL	03/31/2008	0001	19	-	19	2.24			0		
Turbidity	NTU	0688	WL	03/31/2008	0001	31	-	31	2.17			0		
Turbidity	NTU	0688	WL	03/31/2008	0001	39	-	39	4.04			0		
Turbidity	NTU	0689	WL	03/31/2008	0001	46	-	46	2.07			0		
Turbidity	NTU	0689	WL	03/31/2008	0001	54	-	54	4.37			0		
Turbidity	NTU	0691	WL	04/09/2008	0001	6.5	-	7.5	492			0		
Turbidity	NTU	0692	WL	04/09/2008	0001	9.7	-	10.1	39.5			0		
Turbidity	NTU	0725	WL	04/10/2008	0001	4.6	-	5.6	16.9			0		
Turbidity	NTU	0726	WL	04/10/2008	0001	9.7	-	10.3	150			0		
Turbidity	NTU	0731	WL	03/31/2008	0001	18	-	18	3.23			0		
Turbidity	NTU	0733	WL	03/31/2008	0001	18	-	18	0.76			0		
Turbidity	NTU	0771	WL	04/08/2008	0001	15	-	34.9	1.04			0		
Turbidity	NTU	0772	WL	04/08/2008	0001	15.15	-	35.05	11.3			0		
Turbidity	NTU	0776	WL	04/08/2008	0001	15.15	-	35.05	7.54			0		
Turbidity	NTU	0780	WL	04/02/2008	0001	28	-	28	1.32			0		
Turbidity	NTU	0783	WL	04/02/2008	0001	18	-	18	1.04			0		
Turbidity	NTU	0784	WL	04/02/2008	0001	18	-	18	1.23			0		
Turbidity	NTU	0785	WL	04/02/2008	0001	18	-	18	7.04			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Uranium	mg/L	0240	SL	04/10/2008	0001	1	-	1	0.0048			0	5.9E-006	
Uranium	mg/L	0258	SL	04/09/2008	0001	0.02	-	0.02	0.04			0	5.9E-006	
Uranium	mg/L	0258	SL	04/09/2008	0002	0.02	-	0.02	0.039			0	5.9E-006	
Uranium	mg/L	0403	WL	04/01/2008	0001	18	-	18	2.5			0	0.0003	
Uranium	mg/L	0407	WL	04/01/2008	0001	17	-	17	0.58			0	0.0003	
Uranium	mg/L	0408	WL	04/01/2008	0001	26	-	26	2.4			0	0.0003	
Uranium	mg/L	0470	WL	04/08/2008	0001	10.3	-	19.7	2.3			0	0.0003	
Uranium	mg/L	0472	WL	04/08/2008	0001	10.3	-	19.7	2			0	0.0003	
Uranium	mg/L	0474	WL	04/08/2008	0001	10.3	-	19.7	2.1			0	0.0003	
Uranium	mg/L	0476	WL	04/08/2008	0001	10.3	-	19.7	2.7			0	0.0003	
Uranium	mg/L	0478	WL	04/08/2008	0001	9.6	-	23.9	2.7			0	0.0003	
Uranium	mg/L	0481	WL	04/02/2008	0001	28	-	28	3.1			0	0.0003	
Uranium	mg/L	0547	TS	04/08/2008	0001	0	-	0	2.2			0	0.0003	
Uranium	mg/L	0548	TS	04/08/2008	0001	0	-	0	2.5			0	0.0003	
Uranium	mg/L	0555	WL	04/02/2008	0001	18	-	18	2.6			0	0.0003	
Uranium	mg/L	0560	WL	04/02/2008	0001	31	-	31	1.7			0	0.0003	
Uranium	mg/L	0581	WL	04/01/2008	0001	18	-	18	3.1			0	0.0003	
Uranium	mg/L	0585	WL	04/01/2008	0001	18	-	18	2.5			0	0.0003	
Uranium	mg/L	0589	WL	04/01/2008	0001	52	-	52	1.8			0	0.0003	
Uranium	mg/L	0590	WL	04/10/2008	0001	1	-	2	1.3			0	0.0003	
Uranium	mg/L	0591	WL	04/10/2008	0001	3.9	-	4.9	1.3			0	0.0003	
Uranium	mg/L	0603	WL	04/10/2008	0001	9.2	-	10.2	1.2			0	0.0003	
Uranium	mg/L	0670	WL	04/08/2008	0001	15.9	-	45.9	2.1			0	0.0003	
Uranium	mg/L	0671	WL	04/08/2008	0001	14.4	-	44.4	2.1			0	0.0003	
Uranium	mg/L	0674	WL	04/08/2008	0001	15.1	-	45.1	2.1			0	0.0003	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Uranium	mg/L	0675	WL	04/08/2008	0001	16	-	46	2.2			0	0.0003	
Uranium	mg/L	0675	WL	04/08/2008	0002	16	-	46	2	E		0	0.0003	
Uranium	mg/L	0676	WL	04/08/2008	0001	15.9	-	45.9	2.2			0	0.0003	
Uranium	mg/L	0678	WL	04/08/2008	0001	16.3	-	46.3	2.4			0	0.0003	
Uranium	mg/L	0679	WL	04/08/2008	0001	15	-	45	2.4			0	0.0003	
Uranium	mg/L	0680	WL	03/31/2008	0001	18	-	18	2.6			0	0.0003	
Uranium	mg/L	0681	WL	03/31/2008	0001	18	-	18	3.2			0	0.0003	
Uranium	mg/L	0684	WL	03/31/2008	0001	19	-	19	1.5			0	0.0003	
Uranium	mg/L	0688	WL	03/31/2008	0001	31	-	31	2.2			0	0.0003	
Uranium	mg/L	0689	WL	03/31/2008	0001	46	-	46	2.6			0	0.0003	
Uranium	mg/L	0691	WL	04/09/2008	0001	6.5	-	7.5	1.3			0	0.0003	
Uranium	mg/L	0692	WL	04/09/2008	0001	9.7	-	10.1	1.9			0	0.0003	
Uranium	mg/L	0725	WL	04/10/2008	0001	4.6	-	5.6	0.099			0	3.E-005	
Uranium	mg/L	0726	WL	04/10/2008	0001	9.7	-	10.3	0.84			0	0.00012	
Uranium	mg/L	0731	WL	03/31/2008	0001	18	-	18	0.79			0	0.0003	
Uranium	mg/L	0733	WL	03/31/2008	0001	18	-	18	3			0	0.0003	
Uranium	mg/L	0771	WL	04/08/2008	0001	15	-	34.9	2			0	0.0003	
Uranium	mg/L	0772	WL	04/08/2008	0001	15.15	-	35.05	2.1			0	0.0003	
Uranium	mg/L	0776	WL	04/08/2008	0001	15.15	-	35.05	1.9			0	0.0003	
Uranium	mg/L	0780	WL	04/02/2008	0001	28	-	28	3			0	0.0003	
Uranium	mg/L	0783	WL	04/02/2008	0001	18	-	18	3.1			0	0.0003	
Uranium	mg/L	0784	WL	04/02/2008	0001	18	-	18	3.5			0	0.0003	
Uranium	mg/L	0785	WL	04/02/2008	0001	18	-	18	2.6			0	0.0003	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 8/5/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Alkalinity, Total (As CaCO3)	mg/L	0216	SL	04/30/2008	0001	0	-	0	97			0		
Alkalinity, Total (As CaCO3)	mg/L	0242	SL	04/29/2008	0001	2	-	3	180			0		
Alkalinity, Total (As CaCO3)	mg/L	0405	WL	04/28/2008	0001	18	-	18	609			0		
Alkalinity, Total (As CaCO3)	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	373			0		
Alkalinity, Total (As CaCO3)	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	948			0		
Alkalinity, Total (As CaCO3)	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	296			0		
Alkalinity, Total (As CaCO3)	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	514			0		
Alkalinity, Total (As CaCO3)	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	277			0		
Alkalinity, Total (As CaCO3)	mg/L	0488	WL	04/28/2008	0001	36	-	36	784			0		
Alkalinity, Total (As CaCO3)	mg/L	0493	WL	04/28/2008	0001	55	-	55	1143			0		
Alkalinity, Total (As CaCO3)	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	1571			0		
Alkalinity, Total (As CaCO3)	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	1132			0		
Alkalinity, Total (As CaCO3)	mg/L	0557	WL	04/29/2008	0001	35	-	45	1632			0		
Alkalinity, Total (As CaCO3)	mg/L	0558	WL	04/30/2008	0001	35	-	45	766			0		
Alkalinity, Total (As CaCO3)	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	274			0		
Alkalinity, Total (As CaCO3)	mg/L	0560	WL	04/30/2008	0001	30	-	40	581			0		
Alkalinity, Total (As CaCO3)	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	316			0		
Alkalinity, Total (As CaCO3)	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	572			0		
Alkalinity, Total (As CaCO3)	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	808			0		
Alkalinity, Total (As CaCO3)	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	1203			0		
Alkalinity, Total (As CaCO3)	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	604			0		
Ammonia Total as N	mg/L	0216	SL	04/30/2008	0001	0	-	0	0.1	U		0	0.1	
Ammonia Total as N	mg/L	0242	SL	04/29/2008	0001	2	-	3	0.15			0	0.1	
Ammonia Total as N	mg/L	0405	WL	04/28/2008	0001	18	-	18	200			0	50	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers		Detection Limit	Uncertainty
				Date	ID					Lab	Data QA		
Ammonia Total as N	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	180		0	10	
Ammonia Total as N	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	550		0	50	
Ammonia Total as N	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	600		0	50	
Ammonia Total as N	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	320		0	50	
Ammonia Total as N	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	740		0	50	
Ammonia Total as N	mg/L	0488	WL	04/28/2008	0001	36	-	36	690		0	50	
Ammonia Total as N	mg/L	0493	WL	04/28/2008	0001	55	-	55	1100		0	50	
Ammonia Total as N	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	0.74		0	0.1	
Ammonia Total as N	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	3.7		0	0.1	
Ammonia Total as N	mg/L	0557	WL	04/29/2008	0001	35	-	45	540		0	50	
Ammonia Total as N	mg/L	0558	WL	04/30/2008	0001	35	-	45	1600		0	50	
Ammonia Total as N	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	61		0	5	
Ammonia Total as N	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	62		0	5	
Ammonia Total as N	mg/L	0560	WL	04/30/2008	0001	30	-	40	2000		0	50	
Ammonia Total as N	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	1100		0	50	
Ammonia Total as N	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	130		0	5	
Ammonia Total as N	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	600		0	50	
Ammonia Total as N	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	930		0	50	
Ammonia Total as N	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	360		0	10	
Bromide	mg/L	0216	SL	04/30/2008	0001	0	-	0	0.2	U	0	0.2	
Bromide	mg/L	0242	SL	04/29/2008	0001	2	-	3	0.2	U	0	0.2	
Bromide	mg/L	0405	WL	04/28/2008	0001	18	-	18	2	U	0	2	
Bromide	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	2	U	0	2	
Bromide	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	4	U	0	4	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Lab	Qualifiers		Detection Limit	Uncertainty
				Date	ID						Data	QA		
Bromide	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	20	U	0	20		
Bromide	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	4	U	0	4		
Bromide	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	20	U	0	20		
Bromide	mg/L	0488	WL	04/28/2008	0001	36	-	36	4	U	0	4		
Bromide	mg/L	0493	WL	04/28/2008	0001	55	-	55	10	U	0	10		
Bromide	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	4	U	0	4		
Bromide	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	1	U	0	1		
Bromide	mg/L	0557	WL	04/29/2008	0001	35	-	45	4	U	0	4		
Bromide	mg/L	0558	WL	04/30/2008	0001	35	-	45	10	U	0	10		
Bromide	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	0.4	U	0	0.4		
Bromide	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	0.4	U	0	0.4		
Bromide	mg/L	0560	WL	04/30/2008	0001	30	-	40	20	U	0	20		
Bromide	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	20	U	0	20		
Bromide	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	2	U	0	2		
Bromide	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	4	U	0	4		
Bromide	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	10	U	0	10		
Bromide	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	2	U	0	2		
Calcium	mg/L	0216	SL	04/30/2008	0001	0	-	0	47		0	0.0038		
Calcium	mg/L	0242	SL	04/29/2008	0001	2	-	3	110		0	0.0038		
Calcium	mg/L	0405	WL	04/28/2008	0001	18	-	18	400		0	0.019		
Calcium	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	140		0	0.019		
Calcium	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	480		0	0.038		
Calcium	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	1300		0	0.19		
Calcium	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	180		0	0.038		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Calcium	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	1300			0	0.38	
Calcium	mg/L	0488	WL	04/28/2008	0001	36	-	36	410			0	0.038	
Calcium	mg/L	0493	WL	04/28/2008	0001	55	-	55	460			0	0.095	
Calcium	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	400			0	0.038	
Calcium	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	540			0	0.019	
Calcium	mg/L	0557	WL	04/29/2008	0001	35	-	45	490			0	0.038	
Calcium	mg/L	0558	WL	04/30/2008	0001	35	-	45	690			0	0.19	
Calcium	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	39			0	0.0038	
Calcium	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	39			0	0.0038	
Calcium	mg/L	0560	WL	04/30/2008	0001	30	-	40	840			0	0.38	
Calcium	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	1200			0	0.19	
Calcium	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	480			0	0.019	
Calcium	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	400			0	0.038	
Calcium	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	440			0	0.095	
Calcium	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	410			0	0.038	
Chloride	mg/L	0216	SL	04/30/2008	0001	0	-	0	53			0	2	
Chloride	mg/L	0242	SL	04/29/2008	0001	2	-	3	94			0	4	
Chloride	mg/L	0405	WL	04/28/2008	0001	18	-	18	800			0	20	
Chloride	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	1300			0	20	
Chloride	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	5000			0	100	
Chloride	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	50000			0	1000	
Chloride	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	2400			0	40	
Chloride	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	47000			0	1000	
Chloride	mg/L	0488	WL	04/28/2008	0001	36	-	36	1300			0	40	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Chloride	mg/L	0493	WL	04/28/2008	0001	55	-	55	6600			0	100	
Chloride	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	4000			0	100	
Chloride	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	530			0	20	
Chloride	mg/L	0557	WL	04/29/2008	0001	35	-	45	5700			0	100	
Chloride	mg/L	0558	WL	04/30/2008	0001	35	-	45	1900			0	20	
Chloride	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	160			0	4	
Chloride	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	160			0	4	
Chloride	mg/L	0560	WL	04/30/2008	0001	30	-	40	25000			0	1000	
Chloride	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	47000			0	1000	
Chloride	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	750			0	20	
Chloride	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	1200			0	40	
Chloride	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	6400			0	100	
Chloride	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	1000			0	40	
Copper	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	0.03	U		0	0.03	
Dissolved Oxygen	mg/L	0216	SL	04/30/2008	0001	0	-	0	10.68			0		
Dissolved Oxygen	mg/L	0242	SL	04/29/2008	0001	2	-	3	4.96			0		
Dissolved Oxygen	mg/L	0405	WL	04/28/2008	0001	18	-	18	1.26			0		
Dissolved Oxygen	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	6.47			0		
Dissolved Oxygen	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	1.29			0		
Dissolved Oxygen	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	0.56			0		
Dissolved Oxygen	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	0.98			0		
Dissolved Oxygen	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	0.82			0		
Dissolved Oxygen	mg/L	0488	WL	04/28/2008	0001	36	-	36	1.17			0		
Dissolved Oxygen	mg/L	0493	WL	04/28/2008	0001	55	-	55	0.61			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Dissolved Oxygen	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	5.13			0		
Dissolved Oxygen	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	6.83			0		
Dissolved Oxygen	mg/L	0557	WL	04/29/2008	0001	35	-	45	0.9			0		
Dissolved Oxygen	mg/L	0558	WL	04/30/2008	0001	35	-	45	1			0		
Dissolved Oxygen	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	2.7			0		
Dissolved Oxygen	mg/L	0560	WL	04/30/2008	0001	30	-	40	0.63			0		
Dissolved Oxygen	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	0.67			0		
Dissolved Oxygen	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	1.3			0		
Dissolved Oxygen	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	2.22			0		
Dissolved Oxygen	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	3.51			0		
Dissolved Oxygen	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	1.95			0		
Magnesium	mg/L	0216	SL	04/30/2008	0001	0	-	0	13			0	0.0047	
Magnesium	mg/L	0242	SL	04/29/2008	0001	2	-	3	30			0	0.0047	
Magnesium	mg/L	0405	WL	04/28/2008	0001	18	-	18	430			0	0.024	
Magnesium	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	100			0	0.024	
Magnesium	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	670			0	0.047	
Magnesium	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	650			0	0.24	
Magnesium	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	190			0	0.047	
Magnesium	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	650			0	0.47	
Magnesium	mg/L	0488	WL	04/28/2008	0001	36	-	36	520			0	0.047	
Magnesium	mg/L	0493	WL	04/28/2008	0001	55	-	55	1200			0	0.12	
Magnesium	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	1100			0	0.047	
Magnesium	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	330			0	0.024	
Magnesium	mg/L	0557	WL	04/29/2008	0001	35	-	45	680			0	0.047	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Magnesium	mg/L	0558	WL	04/30/2008	0001	35	-	45	880			0	0.24	
Magnesium	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	26			0	0.0047	
Magnesium	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	25			0	0.0047	
Magnesium	mg/L	0560	WL	04/30/2008	0001	30	-	40	970			0	0.47	
Magnesium	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	750			0	0.24	
Magnesium	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	390			0	0.024	
Magnesium	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	540			0	0.047	
Magnesium	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	1300			0	0.12	
Magnesium	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	470			0	0.047	
Manganese	mg/L	0216	SL	04/30/2008	0001	0	-	0	0.005	B		0	0.00013	
Manganese	mg/L	0242	SL	04/29/2008	0001	2	-	3	0.34			0	0.00013	
Manganese	mg/L	0405	WL	04/28/2008	0001	18	-	18	4.5			0	0.00064	
Manganese	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	0.83			0	0.00064	
Manganese	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	5.3			0	0.0013	
Manganese	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	7			0	0.0064	
Manganese	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	1.5			0	0.0013	
Manganese	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	7.1			0	0.013	
Manganese	mg/L	0488	WL	04/28/2008	0001	36	-	36	5.3			0	0.0013	
Manganese	mg/L	0493	WL	04/28/2008	0001	55	-	55	9.5			0	0.0032	
Manganese	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	2			0	0.0013	
Manganese	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	2			0	0.00064	
Manganese	mg/L	0557	WL	04/29/2008	0001	35	-	45	5.4			0	0.0013	
Manganese	mg/L	0558	WL	04/30/2008	0001	35	-	45	8.7			0	0.0064	
Manganese	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	0.18			0	0.00013	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers		Detection Limit	Uncertainty
				Date	ID					Lab	Data		
Manganese	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	0.17		0	0.00013	
Manganese	mg/L	0560	WL	04/30/2008	0001	30	-	40	9.3		0	0.013	
Manganese	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	8.3		0	0.0064	
Manganese	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	3.3		0	0.00064	
Manganese	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	3.2		0	0.0013	
Manganese	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	9.2		0	0.0032	
Manganese	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	5.3		0	0.0013	
Oxidation Reduction Potential	mV	0216	SL	04/30/2008	0001	0	-	0	-8		0		
Oxidation Reduction Potential	mV	0242	SL	04/29/2008	0001	2	-	3	30		0		
Oxidation Reduction Potential	mV	0405	WL	04/28/2008	0001	18	-	18	113		0		
Oxidation Reduction Potential	mV	0474	WL	04/30/2008	0001	10.3	-	19.7	95		0		
Oxidation Reduction Potential	mV	0480	WL	04/30/2008	0001	15.5	-	19.8	219		0		
Oxidation Reduction Potential	mV	0482	WL	04/29/2008	0001	55.4	-	59.7	142		0		
Oxidation Reduction Potential	mV	0483	WL	04/30/2008	0001	15.5	-	19.8	176		0		
Oxidation Reduction Potential	mV	0485	WL	04/30/2008	0001	55.6	-	59.9	162		0		
Oxidation Reduction Potential	mV	0488	WL	04/28/2008	0001	36	-	36	115		0		
Oxidation Reduction Potential	mV	0493	WL	04/28/2008	0001	55	-	55	138		0		
Oxidation Reduction Potential	mV	0494	WL	04/29/2008	0001	2.4	-	3.4	88		0		
Oxidation Reduction Potential	mV	0495	WL	04/29/2008	0001	4.6	-	5.6	150		0		
Oxidation Reduction Potential	mV	0557	WL	04/29/2008	0001	35	-	45	187		0		
Oxidation Reduction Potential	mV	0558	WL	04/30/2008	0001	35	-	45	124		0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Oxidation Reduction Potential	mV	0559	WL	04/30/2008	0001	10.52	-	20.45	7.5			0		
Oxidation Reduction Potential	mV	0560	WL	04/30/2008	0001	30	-	40	81			0		
Oxidation Reduction Potential	mV	0561	WL	04/30/2008	0001	45.2	-	55.2	23			0		
Oxidation Reduction Potential	mV	0597	WL	04/29/2008	0001	9.3	-	10.3	109			0		
Oxidation Reduction Potential	mV	SMI-PW01	WL	04/28/2008	0001	36	-	36	172			0		
Oxidation Reduction Potential	mV	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	195			0		
Oxidation Reduction Potential	mV	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	201			0		
pH	s.u.	0216	SL	04/30/2008	0001	0	-	0	8.19			0		
pH	s.u.	0242	SL	04/29/2008	0001	2	-	3	8.12			0		
pH	s.u.	0405	WL	04/28/2008	0001	18	-	18	6.79			0		
pH	s.u.	0474	WL	04/30/2008	0001	10.3	-	19.7	7.37			0		
pH	s.u.	0480	WL	04/30/2008	0001	15.5	-	19.8	6.72			0		
pH	s.u.	0482	WL	04/29/2008	0001	55.4	-	59.7	6.67			0		
pH	s.u.	0483	WL	04/30/2008	0001	15.5	-	19.8	7.14			0		
pH	s.u.	0485	WL	04/30/2008	0001	55.6	-	59.9	6.66			0		
pH	s.u.	0488	WL	04/28/2008	0001	36	-	36	6.78			0		
pH	s.u.	0493	WL	04/28/2008	0001	55	-	55	6.69			0		
pH	s.u.	0494	WL	04/29/2008	0001	2.4	-	3.4	8.9			0		
pH	s.u.	0495	WL	04/29/2008	0001	4.6	-	5.6	7.07			0		
pH	s.u.	0557	WL	04/29/2008	0001	35	-	45	6.76			0		
pH	s.u.	0558	WL	04/30/2008	0001	35	-	45	6.71			0		
pH	s.u.	0559	WL	04/30/2008	0001	10.52	-	20.45	7.78			0		
pH	s.u.	0560	WL	04/30/2008	0001	30	-	40	6.61			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers		Detection Limit	Uncertainty
				Date	ID					Lab	Data QA		
pH	s.u.	0561	WL	04/30/2008	0001	45.2	-	55.2	6.67		0		
pH	s.u.	0597	WL	04/29/2008	0001	9.3	-	10.3	7.32		0		
pH	s.u.	SMI-PW01	WL	04/28/2008	0001	36	-	36	6.79		0		
pH	s.u.	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	6.7		0		
pH	s.u.	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	6.72		0		
Potassium	mg/L	0216	SL	04/30/2008	0001	0	-	0	2.8		0	0.044	
Potassium	mg/L	0242	SL	04/29/2008	0001	2	-	3	6.3		0	0.044	
Potassium	mg/L	0405	WL	04/28/2008	0001	18	-	18	77		0	0.22	
Potassium	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	71		0	0.22	
Potassium	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	220		0	0.44	
Potassium	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	1000		0	2.2	
Potassium	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	140		0	0.44	
Potassium	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	880		0	4.4	
Potassium	mg/L	0488	WL	04/28/2008	0001	36	-	36	170		0	0.44	
Potassium	mg/L	0493	WL	04/28/2008	0001	55	-	55	330		0	1.1	
Potassium	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	150		0	0.44	
Potassium	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	59		0	0.22	
Potassium	mg/L	0557	WL	04/29/2008	0001	35	-	45	240		0	0.44	
Potassium	mg/L	0558	WL	04/30/2008	0001	35	-	45	830		0	2.2	
Potassium	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	27		0	0.044	
Potassium	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	27		0	0.044	
Potassium	mg/L	0560	WL	04/30/2008	0001	30	-	40	880		0	4.4	
Potassium	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	1100		0	2.2	
Potassium	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	53		0	0.22	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Potassium	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	180			0	0.44	
Potassium	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	320			0	1.1	
Potassium	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	85			0	0.44	
Selenium	mg/L	0405	WL	04/28/2008	0001	18	-	18	0.013			0	0.0002	
Sodium	mg/L	0216	SL	04/30/2008	0001	0	-	0	26			0	0.0026	
Sodium	mg/L	0242	SL	04/29/2008	0001	2	-	3	120			0	0.0026	
Sodium	mg/L	0405	WL	04/28/2008	0001	18	-	18	1400			0	0.26	
Sodium	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	970			0	0.013	
Sodium	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	3900			0	0.26	
Sodium	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	26000			0	1.3	
Sodium	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	2000			0	0.026	
Sodium	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	22000			0	0.26	
Sodium	mg/L	0488	WL	04/28/2008	0001	36	-	36	2100			0	0.026	
Sodium	mg/L	0493	WL	04/28/2008	0001	55	-	55	6100			0	0.065	
Sodium	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	5100			0	0.26	
Sodium	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	910			0	0.013	
Sodium	mg/L	0557	WL	04/29/2008	0001	35	-	45	4600			0	1.3	
Sodium	mg/L	0558	WL	04/30/2008	0001	35	-	45	10000			0	0.13	
Sodium	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	230			0	0.0026	
Sodium	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	230			0	0.0026	
Sodium	mg/L	0560	WL	04/30/2008	0001	30	-	40	14000			0	0.26	
Sodium	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	24000			0	1.3	
Sodium	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	1200			0	0.13	
Sodium	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	2300			0	0.026	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Sodium	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	6000			0	0.13	
Sodium	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	1900			0	0.026	
Specific Conductance	umhos/cm	0216	SL	04/30/2008	0001	0	-	0	467			0		
Specific Conductance	umhos/cm	0242	SL	04/29/2008	0001	2	-	3	1441			0		
Specific Conductance	umhos/cm	0405	WL	04/28/2008	0001	18	-	18	11113			0		
Specific Conductance	umhos/cm	0474	WL	04/30/2008	0001	10.3	-	19.7	8013			0		
Specific Conductance	umhos/cm	0480	WL	04/30/2008	0001	15.5	-	19.8	25106			0		
Specific Conductance	umhos/cm	0482	WL	04/29/2008	0001	55.4	-	59.7	6295			0		
Specific Conductance	umhos/cm	0483	WL	04/30/2008	0001	15.5	-	19.8	13963			0		
Specific Conductance	umhos/cm	0485	WL	04/30/2008	0001	55.6	-	59.9	105484			0		
Specific Conductance	umhos/cm	0488	WL	04/28/2008	0001	36	-	36	16541			0		
Specific Conductance	umhos/cm	0493	WL	04/28/2008	0001	55	-	55	35608			0		
Specific Conductance	umhos/cm	0494	WL	04/29/2008	0001	2.4	-	3.4	25159			0		
Specific Conductance	umhos/cm	0495	WL	04/29/2008	0001	4.6	-	5.6	6890			0		
Specific Conductance	umhos/cm	0557	WL	04/29/2008	0001	35	-	45	25905			0		
Specific Conductance	umhos/cm	0558	WL	04/30/2008	0001	35	-	45	56825			0		
Specific Conductance	umhos/cm	0559	WL	04/30/2008	0001	10.52	-	20.45	2078			0		
Specific Conductance	umhos/cm	0560	WL	04/30/2008	0001	30	-	40	75763			0		
Specific Conductance	umhos/cm	0561	WL	04/30/2008	0001	45.2	-	55.2	102284			0		
Specific Conductance	umhos/cm	0597	WL	04/29/2008	0001	9.3	-	10.3	10024			0		
Specific Conductance	umhos/cm	SMI-PW01	WL	04/28/2008	0001	36	-	36	16964			0		

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Specific Conductance	umhos /cm	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	35886			0		
Specific Conductance	umhos /cm	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	13181			0		
Sulfate	mg/L	0216	SL	04/30/2008	0001	0	-	0	88			0	0.5	
Sulfate	mg/L	0242	SL	04/29/2008	0001	2	-	3	350			0	10	
Sulfate	mg/L	0405	WL	04/28/2008	0001	18	-	18	5200			0	50	
Sulfate	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	1700			0	50	
Sulfate	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	8900			0	250	
Sulfate	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	6200			0	50	
Sulfate	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	3700			0	100	
Sulfate	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	6300			0	50	
Sulfate	mg/L	0488	WL	04/28/2008	0001	36	-	36	8300			0	100	
Sulfate	mg/L	0493	WL	04/28/2008	0001	55	-	55	15000			0	250	
Sulfate	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	12000			0	250	
Sulfate	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	3300			0	50	
Sulfate	mg/L	0557	WL	04/29/2008	0001	35	-	45	9000			0	100	
Sulfate	mg/L	0558	WL	04/30/2008	0001	35	-	45	970			0	50	
Sulfate	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	450			0	10	
Sulfate	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	430			0	10	
Sulfate	mg/L	0560	WL	04/30/2008	0001	30	-	40	9400			0	50	
Sulfate	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	7000			0	50	
Sulfate	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	4900			0	50	
Sulfate	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	8900			0	100	
Sulfate	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	16000			0	250	
Sulfate	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	6300			0	100	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample Date	Sample ID	Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
										Lab	Data	QA		
Temperature	C	0216	SL	04/30/2008	0001	0	-	0	13.01			0		
Temperature	C	0242	SL	04/29/2008	0001	2	-	3	15.04			0		
Temperature	C	0405	WL	04/28/2008	0001	18	-	18	17.81			0		
Temperature	C	0474	WL	04/30/2008	0001	10.3	-	19.7	15.56			0		
Temperature	C	0480	WL	04/30/2008	0001	15.5	-	19.8	15.92			0		
Temperature	C	0482	WL	04/29/2008	0001	55.4	-	59.7	17.53			0		
Temperature	C	0483	WL	04/30/2008	0001	15.5	-	19.8	15.46			0		
Temperature	C	0485	WL	04/30/2008	0001	55.6	-	59.9	16.31			0		
Temperature	C	0488	WL	04/28/2008	0001	36	-	36	17.22			0		
Temperature	C	0493	WL	04/28/2008	0001	55	-	55	17.74			0		
Temperature	C	0494	WL	04/29/2008	0001	2.4	-	3.4	16.34			0		
Temperature	C	0495	WL	04/29/2008	0001	4.6	-	5.6	15.72			0		
Temperature	C	0557	WL	04/29/2008	0001	35	-	45	18.49			0		
Temperature	C	0558	WL	04/30/2008	0001	35	-	45	18.24			0		
Temperature	C	0559	WL	04/30/2008	0001	10.52	-	20.45	13.54			0		
Temperature	C	0560	WL	04/30/2008	0001	30	-	40	15.92			0		
Temperature	C	0561	WL	04/30/2008	0001	45.2	-	55.2	16.31			0		
Temperature	C	0597	WL	04/29/2008	0001	9.3	-	10.3	15.43			0		
Temperature	C	SMI-PW01	WL	04/28/2008	0001	36	-	36	21.32			0		
Temperature	C	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	18.35			0		
Temperature	C	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	16.23			0		
Total Dissolved Solids	mg/L	0216	SL	04/30/2008	0001	0	-	0	300			0	20	
Total Dissolved Solids	mg/L	0242	SL	04/29/2008	0001	2	-	3	940			0	40	
Total Dissolved Solids	mg/L	0405	WL	04/28/2008	0001	18	-	18	9600			0	200	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID	(Ft BGS)	Lab	Data		QA				
Total Dissolved Solids	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	4700		0	200		
Total Dissolved Solids	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	21000		0	400		
Total Dissolved Solids	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	85000		0	2000		
Total Dissolved Solids	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	8200		0	4000		
Total Dissolved Solids	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	85000		0	4000		
Total Dissolved Solids	mg/L	0488	WL	04/28/2008	0001	36	-	36	14000		0	400		
Total Dissolved Solids	mg/L	0493	WL	04/28/2008	0001	55	-	55	32000		0	1000		
Total Dissolved Solids	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	27000		0	400		
Total Dissolved Solids	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	7000		0	200		
Total Dissolved Solids	mg/L	0557	WL	04/29/2008	0001	35	-	45	22000		0	400		
Total Dissolved Solids	mg/L	0558	WL	04/30/2008	0001	35	-	45	43000		0	1000		
Total Dissolved Solids	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	1000		0	40		
Total Dissolved Solids	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	1100		0	40		
Total Dissolved Solids	mg/L	0560	WL	04/30/2008	0001	30	-	40	59000		0	2000		
Total Dissolved Solids	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	82000		0	2000		
Total Dissolved Solids	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	9000		0	200		
Total Dissolved Solids	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	15000		0	400		
Total Dissolved Solids	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	34000		0	1000		
Total Dissolved Solids	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	12000		0	200		
Turbidity	NTU	0216	SL	04/30/2008	0001	0	-	0	350		0			
Turbidity	NTU	0405	WL	04/28/2008	0001	18	-	18	2.65		0			
Turbidity	NTU	0474	WL	04/30/2008	0001	10.3	-	19.7	7.72		0			
Turbidity	NTU	0480	WL	04/30/2008	0001	15.5	-	19.8	1.25		0			
Turbidity	NTU	0482	WL	04/29/2008	0001	55.4	-	59.7	3.39		0			

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Turbidity	NTU	0483	WL	04/30/2008	0001	15.5	-	19.8	2.08			0		
Turbidity	NTU	0485	WL	04/30/2008	0001	55.6	-	59.9	7.72			0		
Turbidity	NTU	0488	WL	04/28/2008	0001	36	-	36	2.21			0		
Turbidity	NTU	0493	WL	04/28/2008	0001	55	-	55	2.23			0		
Turbidity	NTU	0495	WL	04/29/2008	0001	4.6	-	5.6	40.4			0		
Turbidity	NTU	0557	WL	04/29/2008	0001	35	-	45	9.21			0		
Turbidity	NTU	0558	WL	04/30/2008	0001	35	-	45	1.95			0		
Turbidity	NTU	0559	WL	04/30/2008	0001	10.52	-	20.45	272			0		
Turbidity	NTU	0560	WL	04/30/2008	0001	30	-	40	2.38			0		
Turbidity	NTU	0561	WL	04/30/2008	0001	45.2	-	55.2	6			0		
Turbidity	NTU	0597	WL	04/29/2008	0001	9.3	-	10.3	210			0		
Turbidity	NTU	SMI-PW01	WL	04/28/2008	0001	36	-	36	4.81			0		
Turbidity	NTU	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	2.96			0		
Turbidity	NTU	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	2.96			0		
Uranium	mg/L	0216	SL	04/30/2008	0001	0	-	0	0.0021			0	3.5E-006	
Uranium	mg/L	0242	SL	04/29/2008	0001	2	-	3	0.04			0	3.5E-006	
Uranium	mg/L	0405	WL	04/28/2008	0001	18	-	18	1.7			0	0.00018	
Uranium	mg/L	0474	WL	04/30/2008	0001	10.3	-	19.7	0.58			0	0.00018	
Uranium	mg/L	0480	WL	04/30/2008	0001	15.5	-	19.8	2.9			0	0.00018	
Uranium	mg/L	0482	WL	04/29/2008	0001	55.4	-	59.7	0.59			0	0.00018	
Uranium	mg/L	0483	WL	04/30/2008	0001	15.5	-	19.8	1.2			0	0.00018	
Uranium	mg/L	0485	WL	04/30/2008	0001	55.6	-	59.9	0.63			0	0.00018	
Uranium	mg/L	0488	WL	04/28/2008	0001	36	-	36	1.9			0	0.00018	
Uranium	mg/L	0493	WL	04/28/2008	0001	55	-	55	3.4			0	0.00018	

General Water Quality Data by Parameter (USEE205) for site MOA01, Moab Site
REPORT DATE: 7/23/2008

Parameter	Units	Location ID	Location Type	Sample		Depth Range (Ft BGS)			Result	Qualifiers			Detection Limit	Uncertainty
				Date	ID					Lab	Data	QA		
Uranium	mg/L	0494	WL	04/29/2008	0001	2.4	-	3.4	12			0	0.0007	
Uranium	mg/L	0495	WL	04/29/2008	0001	4.6	-	5.6	2.1			0	0.00018	
Uranium	mg/L	0557	WL	04/29/2008	0001	35	-	45	3.1			0	0.00018	
Uranium	mg/L	0558	WL	04/30/2008	0001	35	-	45	2.4			0	0.00018	
Uranium	mg/L	0559	WL	04/30/2008	0001	10.52	-	20.45	0.25			0	1.8E-005	
Uranium	mg/L	0559	WL	04/30/2008	0002	10.52	-	20.45	0.26			0	7.E-005	
Uranium	mg/L	0560	WL	04/30/2008	0001	30	-	40	1.8			0	0.00018	
Uranium	mg/L	0561	WL	04/30/2008	0001	45.2	-	55.2	1			0	7.E-005	
Uranium	mg/L	0597	WL	04/29/2008	0001	9.3	-	10.3	2			0	0.00018	
Uranium	mg/L	SMI-PW01	WL	04/28/2008	0001	36	-	36	2.4			0	0.00018	
Uranium	mg/L	SMI-PZ1M	WL	04/28/2008	0001	55	-	55	3.5			0	0.00018	
Uranium	mg/L	SMI-PZ1S	WL	04/28/2008	0001	18	-	18	2.2			0	0.00018	

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

LAB QUALIFIERS:

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

DATA QUALIFIERS:

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

QA QUALIFIER:

- # Validated according to quality assurance guidelines.

Appendix D. Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 7/23/2008

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0403	O	3968.95	04/01/2008		16.11	3952.84	
0407	O	3969.09	04/01/2008		16.45	3952.64	
0408	O	3969.17	04/01/2008		15.04	3954.13	
0470		3964.12	04/08/2008		11.77	3952.35	
0472		3964.4	04/08/2008		12.09	3952.31	
0474		3964.99	04/08/2008		12.41	3952.58	
0476		3965.24	04/08/2008		14.35	3950.89	
0478		3964.91	04/08/2008		12.88	3952.03	
0481		3968.83	04/02/2008		15.42	3953.41	
0555		3969.31	04/02/2008		16.38	3952.93	
0560		3968.77	04/02/2008		15.68	3953.09	
0581		3969.02	04/01/2008		15.68	3953.34	
0585		3969.36	04/01/2008		15.37	3953.99	
0589		3968.87	04/01/2008		15.04	3953.83	
0590		3956.19	04/10/2008		2.16	3954.03	
0591		3955.2	04/10/2008		1.06	3954.14	
0603		3955.1	04/10/2008		0.9	3954.2	
0670		3969.54	04/08/2008		14.99	3954.55	
0671		3969.5	04/08/2008		14.94	3954.56	
0674		3969.49	04/08/2008		14.87	3954.62	
0675		3969.64	04/08/2008		15	3954.64	
0676		3969.69	04/08/2008		15.11	3954.58	
0678		3969.65	04/08/2008		15.28	3954.37	
0679		3969.59	04/08/2008		15.14	3954.45	

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 7/23/2008

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0680		3969.8	03/31/2008		15.56	3954.24	
0681		3970.67	03/31/2008		16.36	3954.31	
0684		3970.22	03/31/2008		15.74	3954.48	
0688		3968.66	03/31/2008		14.25	3954.41	
0689		3968.66	03/31/2008		14.43	3954.23	
0691		3962.7	04/09/2008		4.27	3958.43	
0692		3962.29	04/09/2008		3.8	3958.49	
0725		3959.95	04/10/2008		5.26	3954.69	
0726		3958.81	04/10/2008		3.86	3954.95	
0731		3968.77	03/31/2008		14.28	3954.49	
0733		3968.5	03/31/2008		13.85	3954.65	
0771		3969.04	04/08/2008		16.25	3952.79	
0772		3969.21	04/08/2008		16.48	3952.73	
0776		3968.97	04/08/2008		16.19	3952.78	
0780		3968.45	04/02/2008		16.11	3952.34	
0783		3968.82	04/02/2008		16.4	3952.42	
0784		3968.73	04/02/2008		16.02	3952.71	
0785		3969.24	04/02/2008		15.9	3953.34	

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

WATER LEVEL FLAGS: D Dry

Attachment 1
Interim Action Well Field Sampling Event Trip Report



DATE: April 21, 2008
TO: K. Pill, M. Mullis
FROM: E. Glowiak
SUBJECT: April 21, 2008 Trip Report

Site: Moab – Interim Action Well Field Quarterly Sampling – April 2008

Date of Sampling Event: March 31 - April 10, 2008

Team Members: Steve Back, Elizabeth Glowiak, Ken Pill

RIN Number Assigned: All samples were assigned to RIN 0804011

Sample Shipment: All samples were shipped in a cooler overnight UPS to Paragon Analytics, Inc. from Moab, Utah, on April 1, 2, and 10, 2008 (Tracking Nos. 194858271, 392936650, 191845441, and 395026360)

April 2008 Configuration 1 Sampling

Number of Locations Sampled: Five extraction wells (0470, 0472, 0474, 0476, and 0478), five observation wells (0403, 0407, 0481, 0560, and 0555), and two evaporation pond locations (0547 and 0548) were sampled during the April 2008 sampling event. A total of 12 samples were collected.

Locations Not Sampled: None

Field Variance: None.

Location Specific Information – Configuration 1 Extraction Wells: Extraction wells were sampled using dedicated submersible pumps.

Well No.	Date	Time	Water Level (ft btoc*)	Pump Intake (ft bgs)
0470	04/08/2008	10:51	11.77	18
0472	04/08/2008	11:00	12.09	18
0474	04/08/2008	11:10	12.41	18
0476	04/08/2008	13:10	14.35	18
0478	04/08/2008	13:20	12.88	23

*Below top of casing

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated downhole and pump-head tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0403	04/01/2008	15:26	16.11	18
0407	04/01/2008	15:53	16.45	17
0481	04/02/2008	09:42	15.42	28
0555	04/02/2008	10:32	16.38	18
0560	04/02/2008	10:08	15.68	31

April 2008 Configuration 2 Sampling

Number of Locations Sampled: Four Configuration 2 observation wells (0408, 0581, 0585, and 0589), three well points (0590, 0591, and 0603), and one surface water locations (0240) were sampled during the April 2008 sampling event. A total of eight locations were sampled.

Locations Not Sampled: The following locations were not sampled during the February 2008 sampling event.

Location No.	Type	Reason
0236	Surface Water	Dry
0239	Surface Water	Inaccessible

Field Variance: A limited volume was sampled at location 0590 due to the lack of discharge.

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

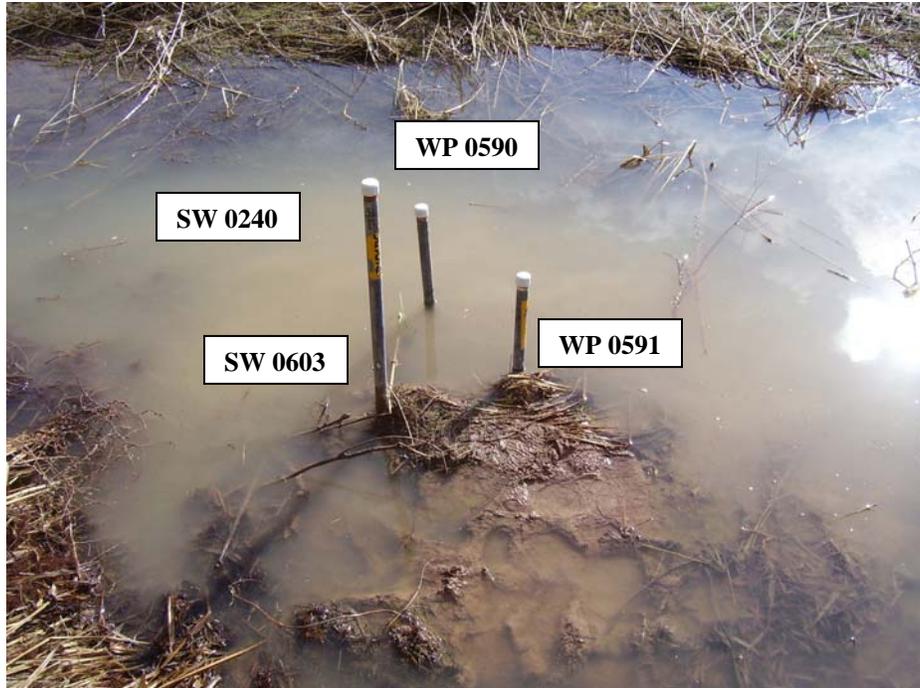
Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0408	04/01/2008	13:28	15.04	26
0581	04/01/2008	14:43	15.68	18
0585	04/01/2008	13:52	15.37	18
0589	04/10/2008	14:18	15.04	52

Location-Specific Information – Well Point Sampling: The table below presents the water level, stick up height, and depth to the river surface prior to the initial purge.

WP No.	Date	Time	Depth to Water (ft btoc)	Stick Up Height (ft)	Depth to River Surface (ft btoc)
0590	04/10/2008	10:22	2.16	1.90	1.90
0591	04/10/2008	10:28	1.06	0.89	0.89
0603	04/10/2008	10:38	0.90	0.76	0.76

Location-Specific Information – Surface Water Sampling: The table below represents the surface water locations sampled.

SW No.	Date	Time	Depth (in. below surface)	Characteristics
0240	04/10/2008	10:50	12	Taken off of the main backwater channel, which is connected both up and down river, low turbidity, low flow.



Configuration 2 River Bank Well Points and Surface Water Location 0240.

April 2008 Configuration 3 Sampling

Number of Locations Sampled: Seven remediation wells (0670, 0671, 0674, 0675, 0676, 0678, and 0679), five observation wells (0684, 0689-46, 0688-31, 0681, and 0680), two well points (0691 and 0692), and one surface water location (0258) were sampled during the April 2008 sampling event. Including two duplicates, a total of 17 samples were collected.

Locations Not Sampled: The following locations were not sampled during the April 2008 sampling event.

Location No.	Type	Reason
0257	Surface Water	Dry
0259	Surface Water	Inaccessible
0690	Well Point	Dry

Field Variance: None

Locations in Which Field Parameters Were Measured Only: Parameters were measured at locations 0688 at 39 ft and 0689 at 54 ft.

Well No.	Date	Time	Depth (ft bgs)	Depth To Water (ft btoc)	Field Parameters					
					Temp (°C)	Spec Cond (µS/cm)	D.O. (mg/L)	pH	ORP	Turb. (NTUs)
0688	03/31/2008	14:21	39	14.24	15.63	17,869	0.71	6.83	162	4.04
0689	03/31/2008	11:28	54	14.41	14.83	43,374	0.53	6.56	87	4.37

Location Specific Information – Configuration 3 Remediation Wells: Remediation wells were sampled using dedicated submersible pumps.

Well No.	Date	Time	Water Level (ft btoc)	Pump Intake (ft bgs)
0670	04/08/2008	14:36	14.99	40
0671	04/08/2008	14:42	14.94	40
0674	04/08/2008	14:53	14.87	40
0675	04/08/2008	15:05	15.00	40
0676	04/08/2008	15:26	15.11	40
0678	04/08/2008	15:50	15.28	40
0679	04/08/2008	16:02	15.14	40

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

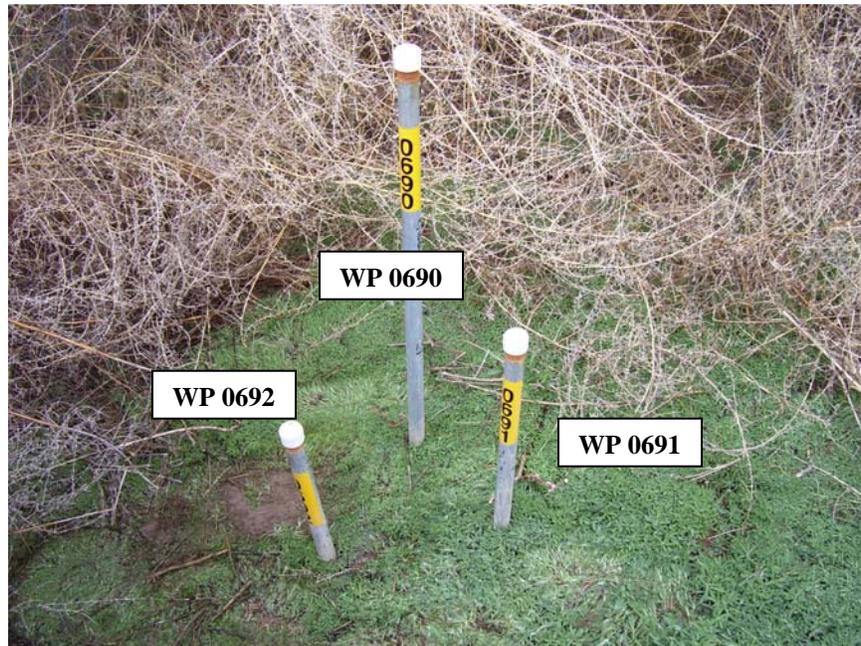
Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0680	03/31/2008	15:33	15.56	18
0681	03/31/2008	15:06	16.36	18
0684	03/31/2008	11:07	15.74	19
0688-31	03/31/2008	14:38	14.25	31
0689-46	03/31/2008	13:56	14.43	46

Location-Specific Information – Well Point Sampling: The table below presents the water level, stick up height, and depth to the river surface prior to the initial purge.

WP No.	Date	Time	Depth to Water (ft btoc)	Stick Up Height (ft)	Depth to River Surface (ft btoc)
0690	04/09/2008	09:44	Dry	2.40	Dry at base
0691	04/09/2008	10:00	4.27	1.30	Dry at base
0692	04/09/2008	09:49	3.80	1.00	Dry at base

Location-Specific Information – Surface Water Sampling: The table below represents the surface water locations sampled.

SW No.	Date	Time	Depth (in. below surface)	Characteristics
0258	04/09/2008	10:24	2	Collected in approximately 2-in. of turbid water, slow flow, open up and down river.



Configuration 3 River Bank Well Points and Dry Surface Water Location 0257.

April 2008 Configuration 4 Sampling

Number of Locations Sampled: Three extraction wells (0771, 0772, and 0776) and four observation wells (0780, 0783, 0784, and 0785) were sampled during the April 2008 sampling event. A total of seven locations were sampled.

Field Variance: None.

Locations Not Sampled: The following locations were not sampled during the February 2008 sampling event.

Location No.	Type	Reason
0790, 0791, 0792, 0793, 0794, and 0795	Well Points	These locations were inaccessible due to high river flow.
0274	Surface Water	Inaccessible due to high river flow.

Location Specific Information – Configuration 4 Remediation Wells: Remediation wells were sampled using dedicated submersible pumps.

Well No.	Date	Time	Water Level (ft btoc)	Pump Intake (ft bgs)
0771	04/08/2008	09:49	16.25	30
0772	04/08/2008	10:00	16.48	30
0776	04/08/2008	10:19	16.19	30

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0780	04/02/2008	11:00	16.11	28
0783	04/02/2008	14:11	16.40	18
0784	04/02/2008	13:40	16.02	18
0785	04/02/2008	11:25	15.90	18

April 2008 Infiltration Trench Sampling

Number of Locations Sampled: Two observation wells (0731 and 0733) and two well points (0725 and 0726) were sampled during the April 2008 sampling event. A total of four locations were sampled.

Field Variance: None.

Locations Not Sampled: The following locations were not sampled during the February 2008 sampling event.

Location No.	Type	Reason
0724	Well Point	Dry

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0731	03/31/2008	10:03	14.28	18
0733	03/31/2008	10:25	13.85	18

Location-Specific Information – Well Point Sampling: The table below presents the water level, stick up height, and depth to the river surface prior to the initial purge.

WP No.	Date	Time	Depth to Water (ft btoc)	Stick Up Height (ft)	Depth to River Surface (ft btoc)
0724	04/10/2008	08:49	Dry	1.50	Dry at base
0725	04/10/2008	08:54	5.26	2.20	Dry at base
0726	04/10/2008	09:05	3.86	1.60	Dry at base



Infiltration Trench Well Points.

Well Inspection Summary: A well inspection was not conducted.

Site Issues: 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)
03/31/2008	6,500
04/01/2008	7,190
04/02/2008	6,740
04/03/2008	6,580
04/07/2008	7,220
04/08/2008	7,180
04/09/2008	7,160
04/10/2008	7,640

Equipment Issues: None.

Corrective Action Required/Taken: None.

Attachment 2
Ground Water/Surface Water Interaction Investigation
Sampling Event Trip Report



DATE: May 27, 2008
TO: K. Pill, M. Mullis
FROM: E. Glowiak
SUBJECT: May 27, 2008 Trip Report

Site: Moab – Interim Action Well Field Ground Water/Surface Water Interaction Investigation Sampling Event – April

Date of Sampling Event: April 28 - 30, 2008

Team Members: Steve Back, Elizabeth Glowiak, Ken Pill

RIN Number Assigned: All samples were assigned to RIN 0805013

Sample Shipment: All samples were shipped in a cooler overnight UPS to Paragon Analytics, Inc. from Moab, Utah, on April 30, 2008 (Tracking No. 97096786)

Purpose: The purpose of this investigation is to determine the extent of infiltration inland on the Colorado River adjacent to the Moab UMTRA site during high river flows. Migration of river water inland could potentially dilute the ground water contaminants during high river stage. If this is the case, evaporation pond capacity could be saved by reducing pumping during periods of high river stage. A series of surface water locations, well points, extraction wells, and observation wells from Configuration 1 and the Baseline areas were sampled at varying depths and distances from the river channel.

April 2008 Configuration 1 Sampling

Number of Locations Sampled: One extraction well (0474), eleven observation wells (0403, 0407, 0480, 0482, 0483, 0485, 0557, 0558, 0559, 0560, and 0561), and one surface water location (0216) were sampled during the April 2008 sampling event. A total of 13 samples were collected.

Locations Not Sampled: The following locations were not sampled during the April 2008 sampling event.

Location No.	Type	Reason
0606, 0562, and 0563	Well Points	Inaccessible

Field Variance: None.

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

False ID	True ID	Sample Type	Associated Matrix	Ticket Number
2497	0559	Duplicate from 18 ft bgs	Ground Water	NFC 571

Location Specific Information – Configuration 1 Extraction Wells: Extraction wells were sampled using dedicated submersible pumps.

Well No.	Date	Time	Water Level (ft btoc)	Pump Intake (ft bgs)
0474	04/30/2008	09:30	10.19	18

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated downhole and pump-head tubing. Sample depths and water levels for each observation well are listed below.

Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
0480	04/30/2008	08:31	13.73	18
0482	04/29/2008	16:35	14.44	58
0483	04/30/2008	08:51	13.80	18
0485	04/30/2008	09:12	14.30	58
0557	04/29/2008	16:17	13.16	36
0558	04/30/2008	09:51	13.55	36
0559	04/30/2007	11:04	14.10	18
0560	04/30/2008	10:39	13.60	36
0561	04/30/2008	10:17	13.84	55

Location-Specific Information – Surface Water Sampling: The table below represents the surface water locations sampled.

SW No.	Date	Time	Depth (in. below surface)	Characteristics
0216	04/30/2008	11:35	Unknown	Taken about 30 ft up-river from 0216, turbid, rapid flow, flooded into walking path on slope.

April 2008 Baseline Sampling

Number of Locations Sampled: Six observation wells (SMI-PZ1M, SMI-PZ1S, SMI-PW01, 0405, 0488, and 0495), three well points (0494, 0495, and 0597), and one surface water location (0243) were sampled during the April 2008 sampling event. A total of 10 samples were collected.

Locations Not Sampled: None.

Field Variance: During the March Surface Water/Ground Water Investigation Sampling Event, surface water location 0243 was sampled off of the Baseline river edge. During April, this location was inaccessible, so surface water location 0242 was sampled in place of 0243.

Location Specific Information – Observation Wells: All observation wells were sampled using micro-purge techniques with a peristaltic pump and dedicated pump-head and downhole tubing. Sample depths and water levels for each observation well are listed below.

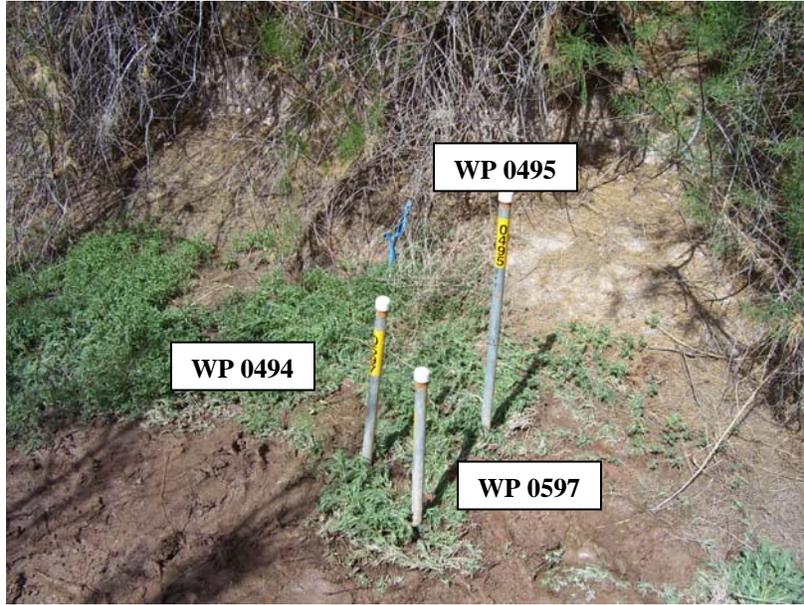
Well No.	Date	Time	Depth to Water (ft btoc)	Sample Depth (ft bgs)
SMI-PZ1M	04/28/2008	14:05	11.94	55
SMI-PZ1S	04/28/2008	13:38	12.73	18
SMI-PW01	04/28/2008	14:33	12.02	36
0405	04/28/2008	15:41	11.96	18
0488	04/28/2008	16:09	11.82	36
0493	04/28/2008	15:15	11.47	55

Location-Specific Information – Well Point Sampling: The table below presents the water level, stick up height, and depth to the river surface prior to the initial purge.

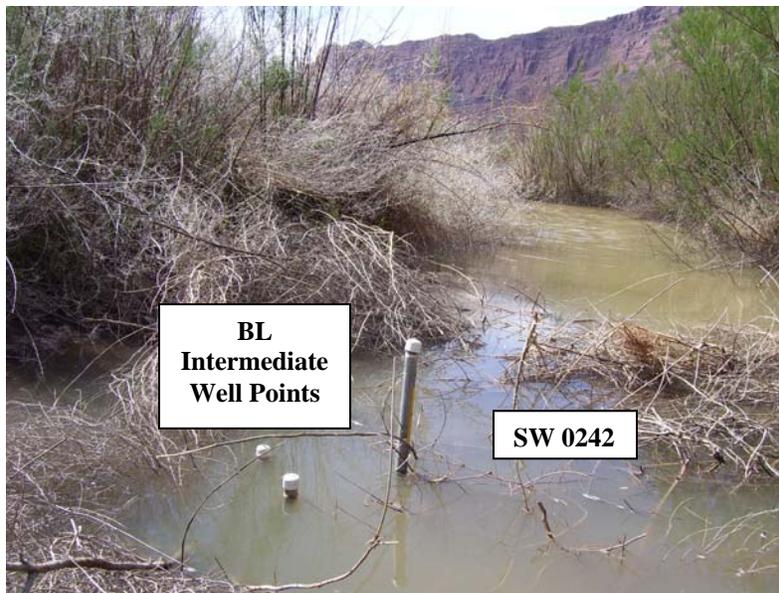
WP No.	Date	Time	Depth to Water (ft btoc)	Stick Up Height (ft)	Depth to River Surface (ft btoc)
0494	04/29/2008	09:56	2.07	1.35	Dry at base
0495	04/29/2008	09:39	3.36	2.30	Dry at base
0597	04/29/2008	10:15	2.55	1.55	Dry at base

Location-Specific Information – Surface Water Sampling: The table below represents the surface water locations sampled.

SW No.	Date	Time	Depth (in. below surface)	Characteristics
0242	04/29/2007	10:43	24-36	Collected off of intermediate backwater channel, water is stagnant and connected down river only.



Baseline River Bank Well Points.



Surface Water Location 0242.

Well Inspection Summary: A well inspection was not conducted.

Site Issues: 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)
04/28/2008	12,300
04/29/2008	12,800
04/30/2008	14,200

Equipment Issues: None.

Corrective Action Required/Taken: None.