DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO ATTENTION OF

March 4, 2011

Environmental Programs Branch
Planning, Programs and Project Management Division

Mr. Ken Rapplean, Remedial Project Manager
U.S. Environmental Protection Agency, Region VII
Superfund Division, Kansas/Missouri Remedial Section
901 N. 5th Street
Kansas City, Kansas 66101

Ms. Stacey Stricker
Nebraska Department of Environmental Quality
The Atrium 1200 N Street
P.O. Box 98922
Lincoln, NE 68509-8922

Dear Mr. Rapplean and Ms. Stricker,

Enclosed for your records is the Final Quarterly Summary Report, Fourth Quarter 2010 Sampling Events for Operable Unit No. 2 (Groundwater) at the former Nebraska Ordnance Plant. One hard copy of this report is included along with 1 compact disc (CD) in electronic format which includes the Fourth Quarter Quality Control Summary Reports for 2010 and the raw data on CD. Results letters containing Fourth Quarter data have been sent to landowners and a hard copy of this report has been posted at the Mead public library. If you have any questions, please contact me at (816) 389-3172 or by email at Kristine.M.Stein@usace.army.mil

Sincerely,

Kristine M. Stein
Project Manager

Printed on Recycled Paper

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE: March 4, 2011	TRANSMITTAL NO. 2011-023

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by contractor)

Attn: Kristine Stein USACE, Kansas City District 601 E. 12th St. Kansas City, MO 64106-2896	FROM: Susan Carter ECC 1746 Cole Blvd, Bldg 21, Lakewood, CO 80401	CONTRACT NO. W912DQ-08-D-0001, Task Order 0002	CHECK ONE: __X__ THIS IS A NEW TRANSMITTAL ____ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SECTION NO. (cover only one section with each transmittal)	PROJECT TITLE AND LOCATION: Operable Unit No. 2 (Groundwater) Former Nebraska Ordnance Plant, Mead, Nebraska		CHECK ONE: ___ FIO __X__ For Govt. Approval

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type, size, model number, etc.)* *b.*	MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction No. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruc. no. 6)* *h.*	FOR C E USE CODE *i.*
1	Final Quarterly Summary Report, Fourth Quarter 2010		1 electronic					

REMARKS

Stacey Stricker, NDEQ (1 copy)
Ken Rapplean, NDEQ (1 copy)
Mead Library (1 copy)

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
Susan Carter, Denver Science & Engineering Group

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

FINAL

QUARTERLY SUMMARY REPORT
FOURTH QUARTER 2010 SAMPLING EVENTS

OPERABLE UNIT No. 2 (GROUNDWATER)
FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

March 2011

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1746 Cole Boulevard, Building 21, Suite 350
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FINAL
QUARTERLY SUMMARY REPORT
FOURTH QUARTER 2010 SAMPLING EVENTS

OPERABLE UNIT No. 2 (GROUNDWATER)
FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

March 2011

I hereby certify that the enclosed *Quarterly Summary Report Fourth Quarter 2010 Sampling Events*, shown and marked in this submittal, is in compliance with the contract specifications and is submitted for government approval for the former Nebraska Ordnance Plant near Mead, Nebraska.

Reviewed by:

3-3-11

ECC Project Manager — Date

Accepted as a submittal:

USACE Contracting Officer — Date

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LIST OF ACRONYMS AND ABBREVIATIONS

AMA	Atlas Missile Area
AOP	Advanced Oxidation Process
CD	compact disc
COC	contaminant of concern
EPA	Environmental Protection Agency
EW	extraction well
FEW	focused extraction well
GAC	granular activated carbon
GCW	groundwater circulation well
g/m^3	grams per cubic meter
GMP	Groundwater Monitoring Program
GTP	Groundwater Treatment Plant
LL	Load Line
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
M.U.D	Metropolitan Utilities District
MS/MSD	matrix spike/matrix spike duplicate
MW	monitoring well
NPDES	National Pollutant Discharge Elimination System
NDEQ	Nebraska Department of Environmental Quality
NOP	Nebraska Ordnance Plant
O&M	operations and maintenance
QC	quality control
QCSR	Quality Control Summary Report
OU	Operable Unit
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
ROD	Record of Decision
TCE	trichloroethene
VOC	volatile organic compound
WSW	water supply well

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1.0 INTRODUCTION

This *Quarterly Summary Report Fourth Quarter 2010* summarizes and discusses the results of the groundwater monitoring wells, water supply wells, surface water, and operations and maintenance locations sampled during the Fourth Quarter 2010 at the former Nebraska Ordnance Plant (NOP). Historical data and information prior to 2010 are presented in various documents including the *Supplemental Remedial Investigation/Feasibility Study, Operable Unit No. 1* (SEC Donohue, 1992); the *Remedial Investigation Report, Operable Unit No. 2 (Groundwater)* (Woodward-Clyde, 1993a); the *Draft Additional Field Investigation Report Operable Unit No. 2 (Groundwater)* (Woodward-Clyde, 1993b); and a series of Groundwater Monitoring Program (GMP) and Operations and Maintenance (O&M) Annual Reports from 2000 through 2009.

This report contains the following Appendices:

- Appendix A contains the Concentration Trend Charts for Select Monitoring Wells;
- Appendix B contains the Concentration Trend Charts for Select Water Supply Wells;
- Appendix C contains the Concentration Trend Charts for Select Surface Water Locations;
- Appendix D contains the Quality Control Summary Report Fourth Quarter 2010 Groundwater Monitoring Program Sampling Events;
- Appendix E contains the Quality Control Summary Report Fourth Quarter 2010 Water Supply Well Sampling Event;
- Appendix F contains the Quality Control Summary Report Fourth Quarter 2010 Operations and Maintenance Sampling Events;
- Appendix G contains the historical spreadsheet of all trichloroethene (TCE) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) results for the groundwater sampling program sampling events;

1.1 Objectives

The objectives of the GMP and O&M activities were established in the *Site-Wide Work Plan* (ECC, 2009a), which includes the Field Sampling Plan. The objectives consist of the following:

- To monitor and evaluate potential changes in the concentrations of contaminants of concern (COCs), as shown on Table 1-1 and defined in the *Record of Decision, Operable Unit No. 2, Former Nebraska Ordnance Plant, Mead, Nebraska* (Woodward-Clyde, 1996);
- To monitor and evaluate the concentration of groundwater plumes;
- To provide data for evaluating whether plume(s) are being contained by the groundwater extraction well network; and
- Treat and discharge extracted groundwater to meet applicable standards.

2.0 SUMMARY OF FOURTH QUARTER 2010 GROUNDWATER MONITORING WELL SAMPLING EVENT

The following sections are an Operable Unit (OU) 2 Record of Decision (ROD) Contaminants of Concern (COCs) and other site specific compound summary of results for the Fourth Quarter 2010 sampling event.

2.1 Field Sampling

Samples from 140 monitoring wells (MW) were collected during the Fourth Quarter 2010 monitoring well sampling event and are summarized below:

- One hundred and twenty-three monitoring wells were sampled for volatile organic compounds (VOCs);
- One hundred and thirty monitoring wells were sampled for explosives;
- Twenty-two field duplicate samples were collected;
- Six matrix spike (MS)/matrix spike duplicate (MSD) pairs were collected;
- Five rinsate blanks were collected from sampling equipment used to sample monitoring wells; and
- Nine trip blanks were included with the volatile shipments.

Two wells MW-20A and MW-20C were scheduled for explosives and VOCs; however, only the volatile sample was collected from these locations because there was insufficient sample to collect the explosive analysis.

2.2 Analytical Results

The Fourth Quarter 2010 groundwater monitoring well validated analytical results for all site specific compounds are presented in Tables 2-1 through 2-7. Figure 2-1 illustrates all monitoring wells sampled during the Fourth Quarter 2010 sampling event. Monitoring well results are presented based on the following well categories defined in the 2010 GMP Plan:

- Perimeter monitoring wells;
- Compliance monitoring wells;
- Load Line (LL) 2 and LL3 Interior Plume monitoring wells;
- LL1 and Atlas Missile Area (AMA) Interior plume monitoring wells;
- Focused Extraction monitoring wells at focused extraction well (FEW)-11, FEW-14, and FEW-15 sites;
- Upgradient, Sidegradient and Downgradient monitoring wells; and
- Non-program monitoring wells.

Three additional non-program monitoring wells were sampled during the Fourth Quarter 2010 sampling event. These monitoring wells are not within the GMP program at the former NOP and are located within the Metropolitan Utilities District (M.U.D) sampling programs. In November 2009, M.U.D detected TCE in three groundwater monitoring wells located to the east of the former NOP. Groundwater samples from these wells were collected again in February 2010 and the results did not indicate any detectable levels of contamination related to the former NOP site.

These three M.U.D non-program monitoring wells were sampled on a quarterly basis through 2010 as a precautionary measure.
The following is a summary of the former NOP monitoring well categories sampled during the Fourth Quarter 2010 sampling event:

- Sixty-eight Perimeter monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-1);
- Twelve Compliance monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-2);
- Twelve LL2 and LL3 Interior Plume monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-3);
- Eighteen LL1 and AMA Interior Plume monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-4);
- Eighteen Focused Extraction monitoring wells were sampled (detected results for site specific compounds are presented in Table 2-5);
- Nine Upgradient, Sidegradient and Downgradient monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-6); and
- Three non-program monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-7).

2.3 Groundwater Monitoring Well Summary

The following is a summary of the groundwater monitoring well results for the Fourth Quarter 2010 sampling event:

- COCs were detected in 10 Perimeter monitoring wells. No COCs exceeded the Final Target Groundwater Cleanup Goals. Results for all Perimeter monitoring wells are presented in Tables 2-1.
- COCs were detected in one Compliance monitoring well. The detection did not exceed the Final Target Groundwater Cleanup Goal. Results for all Compliance monitoring wells are presented in Tables 2-2.
- RDX exceeded the Final Target Groundwater Cleanup Goals in the LL2 and LL3 Interior Plume monitoring well locations. Additional COCs were detected below the Final Target Groundwater Cleanup Goals in the LL2 and LL3 Interior Plume monitoring wells. Results for all LL2 and LL3 Interior Plume monitoring wells are presented in Tables 2-3.
- RDX and TCE exceeded the Final Target Groundwater Cleanup Goals in the LL1 and AMA Interior Plume monitoring well locations. Additional COCs were detected below the Final Target Groundwater Cleanup Goals in the LL1 and AMA Interior Plume monitoring wells. Results for all LL1 and AMA Interior Plume monitoring wells are presented in Tables 2-4.
- TCE was the only COC that exceeded the Final Target Groundwater Cleanup Goals in the thirteen Focused Extraction monitoring well locations. Results for all Focused Extraction monitoring well locations are presented in Tables 2-5.

- TCE was the only COC in the Upgradient, Sidegradient and Downgradient monitoring wells that exceeded the Final Target Groundwater Cleanup Goals. Additional COCs were detected below the Final Target Groundwater Cleanup Goals. Results for all Upgradient, Sidegradient and Downgradient monitoring wells are presented in Tables 2-6.
- There were no detections of COCs in any non-program monitoring wells. Results for all non-program monitoring wells are presented in Tables 2-7.

Historical results are presented for all sampling locations in Appendix G. Appendix A contains trending charts for monitoring wells sampled during the Fourth Quarter 2010 sampling event, which have shown an increasing or decreasing concentration of TCE and/or RDX compared to the previous sampling event. Perimeter and Compliance monitoring well trending charts are included for locations with any detection of TCE or RDX. All trending charts require four or more data points to be included in this report.

3.0 SUMMARY OF FOURTH QUARTER 2010 WATER SUPPLY WELL SAMPLING EVENT

The following sections are a summary of the water supply well (WSW) from the Fourth Quarter 2010 sampling event.

3.1 Field Sampling

During the Fourth Quarter 2010 water supply well sampling event, one water supply well location (WSW-55) was sampled. In addition, a field duplicate sample, a MS/MSD sample pair, and one trip blank were also collected with this sampling location. In addition, a Proficiency Test sample was submitted to the laboratory with the Fourth Quarter 2010 WSW sampling event. Results from the Proficiency Test sample are presented in table 3-2.

3.2 Analytical Results and Summary

The Fourth Quarter 2010 water supply well validated analytical results for site-specific compounds are presented in Table 3-1. No COCs were detected in WSW-55 during the Fourth Quarter sampling event. Figure 3-1 illustrates the water supply wells sampled during the Fourth Quarter 2010 sampling event.

Historical results are presented for all sampling locations in Appendix G. Appendix B contains trending charts for water supply well sampled during the Fourth Quarter 2010 sampling event.

4.0 SUMMARY OF FOURTH QUARTER 2010 SURFACE WATER SAMPLING EVENT

The following sections are a summary of the surface water from the Fourth Quarter 2010 sampling event.

4.1 Field Sampling

During the Fourth Quarter 2010 surface water sampling event, 13 surface water locations were sampled. All samples were collected as planned. In addition, the following samples were collected:

- Two field duplicate samples;
- One MS/MSD sample; and
- One trip blank.

4.2 Analytical Results

The Fourth Quarter 2010 surface water validated analytical results for site-specific compounds are presented in Table 4-1. Figure 4-1 illustrates all surface water locations sampled during the Fourth Quarter 2010 sampling event.

4.3 Surface Water Summary

During the Fourth Quarter 2010 surface water sampling event there were no detections of COCs exceeding the site-specific surface water standards. TCE results are compared to the Nebraska Department of Environmental Quality (NDEQ) surface water criteria (chronic) "for the protection of aquatic life and their uses (e.g., fish consumption)", which is 810 micrograms per liter (μg/L) (NDEQ, 2009). This source does not establish a value for RDX. Therefore, RDX analytical results for surface water samples are compared to the Final Effluent Limitations Monitoring Requirements provided by the State of Nebraska on October 5, 1998, which is 100 μg/L (NDEQ, 1998). Results for all surface water locations sampled during the Fourth Quarter 2010 are presented in Tables 4-1. Historical results are presented for all sampling locations in Appendix G. Appendix C contains trending charts for surface water wells sampled during the Fourth Quarter 2010, which have shown an increasing or decreasing concentration of TCE and/or RDX compared to the previous sampling event. All trending charts require four or more data points to be included in this report.

5.0 SUMMARY OF FOURTH QUARTER 2010 OPERATIONS AND MAINTENANCE SAMPLING EVENTS

The following sections are a summary of the O&M from the Fourth Quarter 2010 sampling event.

5.1 Field Sampling

During the Fourth Quarter 2010 O&M sampling events, the following field samples were collected:

- Water samples were collected from each of the following extraction wells (EWs) and focused extraction wells during the Fourth Quarter 2010 O&M sampling event: EW-1, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.
- During October 2010, one water sample was collected from each of the following granular activated carbon (GAC) units: 320, 340, 360, and 380.
- During November 2010, one water sample was collected from the following GAC units: 310, 320, 330, 340, 350, 360, 370, and 380.
- During December 2010, one water sample was collected from the following GAC units: 320, 340, 360, 370, and 380.
- One influent water sample and one effluent water sample were collected from the Main Groundwater Treatment Plant (GTP) during each month of this quarter.
- One influent water sample and one effluent water sample were collected from groundwater circulation well (GCW)-1 during December 2010.
- One influent sample and one effluent sample were collected from the LL1 GTP during each month of this quarter as well as two field duplicate samples (one influent sample and one effluent sample).
- One air sample and a field duplicate sample were collected at the LL1 GTP.
- One influent water sample and one effluent water sample were collected from the LL4 GTP during November and December 2010.
- One air sample was collected at the LL4 GTP.
- One influent sample and one effluent sample were collected from the Advanced Oxidation Process (AOP) GTP facility during each month of the Fourth Quarter 2010 sampling event with the exception of the November sampling event. Only the effluent sample was collected in August as the associated influent water sample was collected from FEW-11.

A trip blank was included in each shipment that contained field samples scheduled for analysis of VOCs. The required frequency of collection for quality control (QC) samples (field duplicate and MS/MSD is one per quarter. At least one QC field duplicate sample and one MS/MSD for each parameter, except total suspended solids, were collected for the O&M sampling events. Field duplicates and MS/MSD samples were not collected for the AOP or LL4 sampling events.

5.2 Analytical Results

The Fourth Quarter 2010 O&M validated analytical results for site-specific compounds are presented in Table 5-1. Figure 5-1 illustrates all O&M locations sampled during the Fourth Quarter 2010.

5.3 Operations and Maintenance Summary

All extracted groundwater was treated on-site using GAC adsorption, AOP, or air stripping during the Fourth Quarter 2010 O&M sampling events. Treated groundwater was properly

disposed of through surface discharge. During the Fourth Quarter 2010 O&M sampling events, there were no detections of TCE or RDX that exceeded the National Pollutant Discharge Elimination System (NPDES) limits in any treatment plant effluent water sample. The air sample results are compared to a limit of 253 grams per cubic meter (g/m^3) that represents the modeled concentration necessary to assure that the Environmental Protection Agency (EPA) Region 9 Preliminary Remediation Goal of 0.017 micrograms per cubic meter ($\mu g/m^3$) is not exceeded at the property boundary. All air effluent sampling results are presented in Table 5-1.

6.0 DATA VALIDATION RESULTS

Data from the Fourth Quarter 2010 GMP and O&M sampling events were validated in accordance with project required criteria and appropriate qualifiers were assigned to data. Data validation for the former NOP was performed in accordance with the *Mead Validation Guidelines* (ECC, 2007), which includes an evaluation of holding times, a comparison of both field and laboratory duplicate results, a review of trip blank results, and an evaluation of other QC measurements reported by the laboratory.

The *Quality Control Summary Report Fourth Quarter 2010 Groundwater Monitoring Program Sampling Events* is included as Appendix D, *Quality Control Summary Report Fourth Quarter 2010 Water Supply Well Sampling Event,* is included as Appendix E, and the *Quality Control Summary Report Fourth Quarter 2010 Operations and Maintenance Sampling Events,* is included as Appendix F. These Quality Control Summary Reports (QCSRs) present the following information: locations sampled, planned and actual sample collection and analyses, detailed results of the data validation for all sampling events; including data qualifiers, sample collection summaries, data summary tables, and completeness calculations. Each QCSR contains appendices which include the sample Chain-of-Custody Records; field sampling documents, water quality parameter forms, and daily field logbook pages, data validation qualifiers reference sheet; and the complete analytical laboratory report for the associated sampling events.

7.0 FOURTH QUARTER 2010 GROUNDWATER MONITORING PROGRAM AND OPERATIONS AND MAINTENANCE SAMPLING EVENTS SUMMARY.

Based on the results of the Fourth Quarter 2010 GMP and O&M sampling events, the 2010 Sampling Plans that were previously developed are sufficient and meet the following objectives:

- To monitor and evaluate potential changes in the concentrations of COCs defined in the *Record of Decision, Operable Unit No. 2, Former Nebraska Ordnance Plant, Mead, Nebraska* (Woodward-Clyde, 1996);
- To monitor and evaluate the concentration of groundwater plumes;
- To provide data for evaluating whether the plume(s) are being contained by the groundwater extraction well network; and
- Treat and discharge extracted groundwater to meet applicable standards.

The GMP and O&M sampling programs will continue as planned for the 2011 quarterly sampling events.

8.0 REFERENCES

ECC, 2007. *Mead Validation Guidelines.* 2007

ECC, 2009. *Final Site-Wide Work Plan, Support Services, Former Nebraska Ordnance Plant, Mead, Nebraska*. August.

SEC Donohue, 1992. *Supplemental Remedial Investigation/Feasibility Study, Operable Unit No. 1 Former Nebraska Ordnance Plant, Mead, Nebraska.* September.

Woodward-Clyde, 1993a. *Remedial Investigation Report, Operable Unit No. 2 (Groundwater) for Former Nebraska Ordnance Plant, Mead, Nebraska.* May.

Woodward-Clyde, 1993b. *Draft Additional Field Investigation Report, Operable Unit No. 2 (Groundwater) for Former Nebraska Ordnance Plant, Mead, Nebraska.* October.

Woodward-Clyde, 1996. *Record of Decision, Operable Unit No. 2, Former Nebraska Ordnance Plant, Mead, Nebraska*. Contract No. DACA41-92-C-0023. April.

TABLES

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List of Acronyms for Tables

Term	Definition
µg/L	micrograms per liter
1,2-DCP	1,2-dichloropropane
2,4-DNT	2,4-dinitrotoluene
2ADNT	2-amino-4,6-dinitrotoluene
4ADNT	4-amino-2,6-dinitrotoluene
AOP	Advanced Oxidation Process
CIS-1,2-DCE	cis-1,2-dichloroethene
EFF	effluent
EW	extraction well
GCW	groundwater circulation well
INF	influent
J	estimated
LL	Load Line
MW	monitoring well
ppbv	parts per billion by volume
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
SW	surface water
TCE	trichloroethene
TNB	1,3,5-trinitrobenzene
TNT	2,4,6-trinitrotoluene
Trans-1,2-DCE	trans-1,2-dichloroethene
U	not detected at laboratory limit of quantitation
UJ	qualified as estimated and not detected at laboratory limit of quantitation
VOC	volatile organic compound
WSW	water supply well

All results are reported in µg/L

All air results are reported in ppbv

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Table 1-1
Final Target Groundwater Cleanup Goals
Groundwater Monitoring Program
Former Nebraska Ordnance Plant, Mead, Nebraska

COCs	Final Target Groundwater Cleanup Goal (μg/L)
Volatile Organic Compounds	
Methylene chloride	5
1,2-Dichloropropane	5
TCE	5
Explosive Compounds	
Trinitrobenzene (TNB)	0.778
2,4-Dinitrotoluene (2,4-DNT)	1.24
RDX	2
2,4,6-Trinitrotoluene (TNT)	2

Notes: *Source: Woodward-Clyde, Mead ROD, 1996*
Italics = Indicator compounds used to define groundwater contamination at the former Nebraska Ordnance Plant

ug/L = micrograms per liter
COC = contaminant of concern
TCE = trichloroethene
TNB = trinitrobenzene
2,4-DNT = 2,4-dinitrotoluene
TNT = 2,4,6-trinitrotoluene
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine

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Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-102A	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-102B	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-102D	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-103A	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-103B	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-103D	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-106A	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-106B	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-106D	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-107A	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-107B	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-107D	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-108A	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-108B	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-108D	11/02/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-110A	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-110B	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-110D	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-112A	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-112B	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-113A	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-113B	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-113D	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-114A	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-114B	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-114D	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-115A	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-115B	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-115D	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-116A	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-116B	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-116D	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-117A	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-117B	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-117D	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-118A	10/26/2010	0.20 U	0.20 U	**0.049 J**	**0.29 J**	0.20 U	0.20 U
MW-118B	10/26/2010	0.20 U	0.20 U	**0.16 J**	**0.86**	0.20 U	0.20 U
MW-147A	11/11/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-147B	11/11/2010	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
MW-147D	11/11/2010	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
MW-159A	11/10/2010	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
MW-159B	11/10/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-35A	10/22/2010	0.20 U	0.20 U	0.20 U	**0.20**	0.20 U	0.20 U
MW-35B	10/22/2010	0.20 U	0.20 U	0.20 U	**0.14 J**	0.20 U	0.20 U
MW-35D	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-38A	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-38D	10/25/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-41A	10/28/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-41B	10/28/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-41D	10/28/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-46A	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-46B	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-46D	10/27/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-81A	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-81B	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-81D	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-83A	10/26/2010	0.20 U	0.20 U	0.20 U	**0.092 J**	0.20 U	0.20 U
MW-83B	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-83D	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-84A	10/26/2010	0.20 U	0.20 U	0.20 U	**0.22**	0.20 U	0.20 U
MW-84B	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-84D	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-85A	10/22/2010	0.20 U	0.20 U	0.20 U	**0.68**	0.20 U	0.20 U
MW-85B	10/22/2010	0.20 U	0.20 U	**0.11 J**	**1.4**	0.20 U	0.20 U
MW-85D	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-95A	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-95B	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-95D	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	1,2-DCP	CIS-1,2-DCE	Methylene Chloride	TCE	TRANS-1,2-DCE	Vinyl Chloride
MW-102A	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-102B	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-102D	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-103A	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-103B	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-103D	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-106A	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-106B	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-106D	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-107A	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-107B	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-107D	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-108A	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-108B	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-108D	11/02/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-110A	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-110B	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-110D	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-112A	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-112B	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-113A	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-113B	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-113D	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-114A	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-114B	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-114D	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	1,2-DCP	CIS-1,2-DCE	Methylene Chloride	TCE	TRANS-1,2-DCE	Vinyl Chloride
MW-115A	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-115B	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-115D	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-116A	10/25/2010	1.0 U	1.0 U	1.0 U	**1.2**	1.0 U	1.0 U
MW-116B	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-116D	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117A	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117B	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117D	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118A	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118B	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147A	11/11/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147B	11/11/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147D	11/11/2010	1.0 U	1.0 U	1.0 U	**0.42 J**	1.0 U	1.0 U
MW-159A	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.44 J**
MW-159B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-35A	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-35B	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-35D	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-38A	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-38D	10/25/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-41A	10/28/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-41B	10/28/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-41D	10/28/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-46A	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-46B	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	1,2-DCP	CIS-1,2-DCE	Methylene Chloride	TCE	TRANS-1,2-DCE	Vinyl Chloride
MW-46D	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-81A	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-81B	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-81D	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-83A	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-83B	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-83D	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-84A	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-84B	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-84D	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-85A	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-85B	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-85D	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-95A	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-95B	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-95D	11/03/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-2 Compliance Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-158A	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-158A	10/27/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-158B	10/22/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-158B	10/27/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-158D	10/22/2010	0.20 U	0.20 U	**0.13 J**	0.20 U	0.20 U	0.20 U
MW-158D	10/27/2010	0.40 U	**0.036 J**	**0.13 J**	0.40 U	0.40 U	0.40 U
MW-20B	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-61A	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-61B	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-61D	10/21/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-62A	10/20/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-62B	10/20/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-62D	10/20/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-2 Compliance Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-158A	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158A	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158B	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158B	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158D	10/22/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158D	10/27/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-20A	10/20/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-20B	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-20C	10/21/2010	1.0 U	1.0 U	1.0 U	**0.71 J**	1.0 U	1.0 U
MW-61A	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-61B	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-61D	10/21/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-62A	10/20/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-62B	10/20/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-62D	10/20/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-3 LL2 and LL3 Interior Plume Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-143B	11/10/2010	0.40 U	**0.32 J**	**2.6**	**13.3**	0.40 U	0.40 U
MW-148B	11/10/2010	0.40 U	**0.061 J**	**5.4**	**50.1**	0.40 U	0.40 U
MW-149A	11/10/2010	0.41 U	**0.051 J**	**0.60**	**11.7**	0.41 U	**0.19 J**
MW-150A	11/10/2010	0.40 U	**0.16 J**	**1.4**	**12.3**	0.40 U	0.40 U
MW-150B	11/10/2010	0.40 U	**0.076 J**	**0.88**	**8.7**	0.40 U	0.40 U
MW-144A	11/10/2010	0.40 U	**0.12 J**	**0.22 J**	**29.5**	0.40 U	0.40 U
MW-144E	11/10/2010	0.40 U	**3.2**	**1.3 J**	**60.9**	0.40 U	0.40 U
MW-145A	11/10/2010	0.41 U	0.41 U	**0.68**	**80.6**	0.41 U	0.41 U
MW-145E	11/10/2010	0.40 U	0.40 U	**1.6**	**105**	0.40 U	0.40 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-3 LL2 and LL3 Interior Plume Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-143B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-148B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-149A	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-150A	11/10/2010	1.0 U	1.0 U	1.0 U	**0.32 J**	1.0 U	1.0 U
MW-150B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-144A	11/10/2010	1.0 U	1.0 U	1.0 U	**0.31 J**	1.0 U	1.0 U
MW-144E	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-145A	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-145E	11/10/2010	1.0 U	1.0 U	1.0 U	**0.33 J**	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL1 and AMA Interior Plume Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-141A	11/11/2010	0.40 U	0.40 U	**0.11 J**	**2.9**	0.40 U	0.40 U
MW-141B	11/11/2010	0.40 U	**2.7 J**	**9.0**	**67.3**	**0.42 J**	0.40 U
MW-141E	11/11/2010	0.41 U	**0.35 J**	**4.7**	**29.0**	**0.14 J**	0.41 U
MW-142A	11/11/2010	0.41 U	**0.031 J**	0.41 U	**0.58 J**	0.41 U	0.41 U
MW-142E	11/11/2010	**0.085 J**	0.40 U	0.40 U	**2.3**	0.40 U	0.40 U
MW-151A	11/11/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-151B	11/11/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-153A	11/10/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-153A	11/11/2010	0.20 U	0.20 U	0.20 U	**0.068 J**	0.20 U	0.20 U
MW-153B	11/10/2010	0.41 U	0.41 U	0.41 U	**0.38 J**	0.41 U	0.41 U
MW-155A	11/10/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-155E	11/10/2010	0.42 U	0.42 U	0.42 U	**0.40 J**	0.42 U	0.42 U
MW-152B	11/11/2010	0.40 U	0.40 U	0.40 U	**0.31 J**	0.40 U	0.40 U
MW-154A	11/10/2010	0.41 U	**0.063 J**	**0.25 J**	**6.9**	0.41 U	0.41 U
MW-154B	11/10/2010	0.41 U	0.41 U	**0.13 J**	**3.1**	0.41 U	0.41 U
MW-156A	11/10/2010	0.40 U	**0.16 J**	**0.95**	**8.9**	0.40 U	0.40 U
MW-156B	11/10/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-157A	11/10/2010	4.0 U	4.0 U	4.0 U	**6.5**	4.0 U	4.0 U
MW-157B	11/10/2010	0.40 U	0.40 U	0.40 U	**0.15 J**	0.40 U	0.40 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL1 and AMA Interior Plume Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-141A	11/11/2010	12.0 U	**13.0**	12.0 U	**5700**	12.0 U	12.0 U
MW-141B	11/11/2010	20.0 U	**9.8 J**	20.0 U	**8700**	20.0 U	20.0 U
MW-141E	11/11/2010	22.0 U	**18.0 J**	22.0 U	**10000**	**3.9 J**	22.0 U
MW-142A	11/11/2010	2.0 U	**1.2 J**	2.0 U	**830**	2.0 U	2.0 U
MW-142E	11/11/2010	4.0 U	**1.8 J**	4.0 U	**1500**	4.0 U	4.0 U
MW-151A	11/11/2010	1.0 U	**1.4**	1.0 U	**53.0**	1.0 U	1.0 U
MW-151B	11/11/2010	2.6 U	**6.8**	2.6 U	**1100**	2.6 U	2.6 U
MW-153A	11/10/2010	2.5 U	**4.4**	2.5 U	**1100**	2.5 U	2.5 U
MW-153A	11/11/2010	2.0 U	**4.4**	2.0 U	**980**	2.0 U	2.0 U
MW-153B	11/10/2010	5.0 U	**2.8 J**	5.0 U	**480**	5.0 U	5.0 U
MW-155A	11/10/2010	2.0 U	**3.4**	2.0 U	**790**	2.0 U	2.0 U
MW-155E	11/10/2010	5.0 U	**2.8 J**	5.0 U	**490**	0.74 U	5.0 U
MW-152B	11/11/2010	1.0 U	**1.4**	1.0 U	**17.0**	1.0 U	1.0 U
MW-154A	11/10/2010	1.0 U	**1.2**	1.0 U	**28.0**	1.0 U	1.0 U
MW-154B	11/10/2010	1.0 U	**0.71 J**	1.0 U	**18.0**	1.0 U	1.0 U
MW-156A	11/10/2010	1.0 U	**0.25 J**	1.0 U	**4.4**	1.0 U	1.0 U
MW-156B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-157A	11/10/2010	1.0 U	**0.23 J**	1.0 U	**22.0**	1.0 U	1.0 U
MW-157B	11/10/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-5 Focused Extraction Monitoring Wells at the FEW-11, FEW-14 and FEW-15 Sites

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-133A	11/08/2010	1.0 U	**0.21 J**	1.0 U	**25.0**	1.0 U	1.0 U
MW-133B	11/08/2010	1.0 U	1.0 U	1.0 U	**3.0**	1.0 U	1.0 U
MW-133D	11/08/2010	2.0 U	**1.2 J**	2.0 U	**150**	2.0 U	2.0 U
MW-134A	11/09/2010	1.0 U	**1.8**	1.0 U	**44.0**	1.0 U	1.0 U
MW-134B	11/09/2010	2.2 U	**11.0**	2.2 U	**200**	2.2 U	2.2 U
MW-134D	11/09/2010	1.0 U	**0.29 J**	1.0 U	**50.0**	1.0 U	1.0 U
MW-135A	11/09/2010	1.0 U	**1.5**	1.0 U	**70.0**	1.0 U	1.0 U
MW-135B	11/09/2010	2.9 U	**20.0**	2.9 U	**250**	2.9 U	2.9 U
MW-135D	11/09/2010	5.0 U	**3.6 J**	5.0 U	**360**	5.0 U	5.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

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Table 2-6 Upgradient, Downgradient, and Sidegradient Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-146A	11/11/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-146B	11/11/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-89E	11/11/2010	0.40 U	0.40 U	0.40 U	**0.18 J**	0.40 U	0.40 U
MW-94A	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-94B	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-94D	11/03/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-6 Upgradient, Downgradient, and Sidegradient Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-146A	11/11/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-146B	11/11/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-89E	11/11/2010	2.0 U	2.0 U	2.0 U	**140**	2.0 U	2.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-7 Non-Program Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-06-18D	11/08/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-06-18S	11/08/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-06-31A	11/08/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-06-31B	11/08/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-7 Non-Program Monitoring Wells

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-06-18D	11/08/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-06-18S	11/08/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-06-31A	11/08/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-06-31B	11/08/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives							
	Sampling Date	**2,4-DNT**	**2A-DNT**	**4A-DNT**	**RDX**	**TNB**	**TNT**
WSW-55	12/09/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
WSW-55	12/09/2010	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-2
December 2010 Laboratory Performanace Testing Results
Former Nebraska Ordnance Plant, Mead, Nebraska

	Certified Value	Lab Result	QC Performance Acceptance Limits
EXPLOSIVES - 8330			
RDX	1.86	1.82	1.17-2.23
TNB	8.7	8.36	5.29-10.2
TNT	17.5	17.2	11.6-21.0
2,4-DNT	6.61	6.92	4.7-8.59
2A-DNT	14.3	14.1	10.5-18.3
4A-DNT	11	10.6	7.8-14.0
VOCs - 8260			
TCE	13.7	13	10.2-16.3
1,2-DCP	19.1	19	14.8-23.5
Methylene Chloride	12.9	13	8.97-16.5
Vinyl Chloride	14	12	8.27-20.6
CIS-1,2-DCE	43.3	41	32.4-53.3
TRANS-1,2-DCE	4.63	4.7	3.44-5.79
VOCs - 524.2			
TCE	13.7	13	10.2-16.3
1,2-DCP	19.1	19	14.8-23.5
Methylene Chloride	12.9	13	8.97-16.5
Vinyl Chloride	14	15	8.27-20.6
CIS-1,2-DCE	43.3	45	32.4-53.3
TRANS-1,2-DCE	4.63	4.7	3.44-5.79

All results in micrograms per liter (µg/L)
Explosive and VOC methods 8330 and 8260 respectively were performed by TestAmerica of South Burlington, Vermont
VOC method 524.2 was performed by TestAmerica of Savannah, Georgia

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Table 4-1 Surface Water

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
ARTESIAN	10/26/2010	0.20 U	0.20 U	**0.064 J**	**2.4**	0.20 U	0.20 U
SCW-04	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SCW-05	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SCW-06	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SKI-001	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SW-05	10/26/2010	0.20 U	0.20 U	0.048 U	0.20 U	0.20 U	0.20 U
SW-06	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	**0.057 J**	0.20 U
SW-08	10/26/2010	0.20 U	0.20 U	**0.16 J**	**1.4**	0.20 U	0.20 U
SW-09	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SW-10	10/26/2010	0.20 U	0.20 U	**0.094 J**	**1.2**	0.20 U	0.20 U
SW-11	10/26/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SW-12	10/26/2010	0.20 U	0.20 U	0.20 U	**0.48**	0.20 U	0.20 U
SW-13	10/26/2010	0.20 U	0.20 U	0.20 U	**0.49**	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 4-1 Surface Water

Results for Fourth Quarter 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**Methylene Chloride**	**TRANS-1,2-DCE**	**Vinyl Chloride**	**CIS-1,2-DCE**	**TCE**
ARTESIAN	10/26/2010	2.0 U	2.0 U	2.0 U	2.0 U	**0.63 J**	**130**
SCW-04	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SCW-05	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SCW-06	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SKI-001	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SW-05	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SW-06	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.21 J**
SW-08	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	**0.49 J**	**25.0**
SW-09	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SW-10	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	**0.34 J**	**17.0**
SW-11	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SW-12	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.9**
SW-13	10/26/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.6**

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Fourth Quarter 2010 Sampling Event

Operations and Maintenance Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
AOP-EFF	10/04/2010	0.20 U	0.20 U	0.20 U	**3.2**	**0.029 J**	**0.13 J**
AOP-EFF	11/01/2010	0.20 U	0.20 U	0.20 U	**2.8**	**0.039 J**	0.20 U
AOP-EFF	12/01/2010	0.20 U	0.20 U	0.20 U	**3.1**	**0.068 J**	0.20 U
AOP-INF	10/04/2010	0.20 U	**0.026 J**	**1.1**	**3.8**	**0.018 J**	0.20 U
AOP-INF	12/01/2010	0.20 U	**0.023 J**	**1.1 J**	**3.6**	0.20 U	0.20 U
EW-01	11/01/2010	0.20 U	0.20 U	0.20 U	**0.072 J**	0.20 U	0.20 U
EW-03	11/01/2010	0.20 U	0.20 U	**0.062 J**	**1.2**	0.20 U	0.20 U
EW-04	11/01/2010	0.20 U	0.20 U	**0.58**	**3.8**	0.20 U	0.20 U
EW-06	11/01/2010	0.20 U	0.20 U	**0.25**	**1.1**	0.20 U	0.20 U
EW-07	11/01/2010	0.20 U	0.20 U	**0.040 J**	**5.3**	0.20 U	0.20 U
EW-09	11/01/2010	0.20 U	0.20 U	**0.12 J**	**16.9**	0.20 U	0.20 U
LL1-EFF	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
LL1-INF	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
LL4-EFF	12/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
LL4-INF	12/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-310	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-320	10/04/2010	0.20 U	0.20 U	0.20 U	**0.084 J**	0.20 U	0.20 U
WTP-320	11/01/2010	0.20 U	0.20 U	0.20 U	**0.10 J**	0.20 U	0.20 U
WTP-320	12/01/2010	0.20 U	0.20 U	0.20 U	**0.29**	0.20 U	0.20 U
WTP-330	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-340	10/04/2010	0.20 U	0.20 U	0.20 U	**0.089 J**	0.20 U	0.20 U
WTP-340	11/01/2010	0.20 U	0.20 U	0.20 U	**0.11 J**	0.20 U	0.20 U
WTP-340	12/01/2010	0.20 U	0.20 U	0.20 U	**0.35**	0.20 U	0.20 U
WTP-350	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-360	10/04/2010	0.20 U	0.20 U	0.20 U	**0.14 J**	0.20 U	0.20 U
WTP-360	11/01/2010	0.20 U	0.20 U	0.20 U	**0.15 J**	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Fourth Quarter 2010 Sampling Event

Operations and Maintenance Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
WTP-360	12/01/2010	0.20 U	0.20 U	0.20 U	**0.37**	0.20 U	0.20 U
WTP-370	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-370	12/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-380	10/04/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-380	11/01/2010	0.20 U	0.20 U	0.20 U	**0.096 J**	0.20 U	0.20 U
WTP-380	12/01/2010	0.20 U	0.20 U	0.20 U	**0.061 J**	0.20 U	0.20 U
WTP-EFF	10/04/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-EFF	11/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-EFF	12/01/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
WTP-INF	10/04/2010	0.20 U	0.20 U	**0.14 J**	**4.2**	0.20 U	0.20 U
WTP-INF	11/01/2010	0.20 U	0.20 U	**0.13 J**	**3.2**	0.20 U	0.20 U
WTP-INF	12/01/2010	0.20 U	0.20 U	**0.13 J**	**3.6**	0.20 U	0.20 U
EW-16	11/01/2010	0.20 U	0.20 U	**0.19 J**	**1.5**	0.20 U	0.20 U
FEW-11	11/01/2010	0.20 U	**0.025 J**	**1.1 J**	**3.4**	0.20 U	0.20 U
FEW-14	11/01/2010	0.20 U	**0.047 J**	**0.71**	**5.4**	0.20 U	0.20 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Fourth Quarter 2010 Sampling Event

Operations and Maintenance Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	1,2-DCP	CIS-1,2-DCE	Methylene Chloride	TCE	TRANS-1,2-DCE	Vinyl Chloride
AOP-EFF	10/04/2010	1.0 U	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U
AOP-EFF	11/01/2010	1.0 U	1.0 U	1.0 U	**2.0**	1.0 U	1.0 U
AOP-EFF	12/01/2010	1.0 U	1.0 U	1.0 U	**0.84 J**	1.0 U	1.0 U
AOP-INF	10/04/2010	4.1 U	**4.7**	4.1 U	**1900**	4.1 U	4.1 U
AOP-INF	12/01/2010	5.0 U	**4.5 J**	5.0 U	**1800**	5.0 U	5.0 U
EW-01	11/01/2010	1.0 U	**0.28 J**	1.0 U	**4.9**	1.0 U	1.0 U
EW-03	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
EW-04	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
EW-06	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
EW-07	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
EW-09	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
GCW1-EFF	12/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
GCW1-INF	12/01/2010	1.3 U	**3.1**	1.3 U	**480**	1.3 U	1.3 U
LL1_AIR_EF (Air)	11/01/2010	-	-	-	1.1 U	-	-
LL1-EFF	10/04/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
LL1-EFF	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
LL1-EFF	12/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
LL1-INF	10/04/2010	1.0 U	1.0 U	1.0 U	**35.0**	1.0 U	1.0 U
LL1-INF	11/01/2010	1.0 U	1.0 U	1.0 U	**40.0**	1.0 U	1.0 U
LL1-INF	12/01/2010	1.0 U	1.0 U	1.0 U	**43.0**	1.0 U	1.0 U
LL4_AIR_EF (Air)	12/01/2010	-	-	-	**110**	-	-
LL4-EFF	10/28/2010	1.0 U	1.0 U	1.0 U	**0.72 J**	1.0 U	1.0 U
LL4-EFF	12/01/2010	1.0 U	1.0 U	1.0 U	**1.2**	1.0 U	1.0 U
LL4-INF	10/28/2010	5.0 U	**2.9 J**	5.0 U	**600**	5.0 U	5.0 U
LL4-INF	12/01/2010	1.3 U	**2.7**	1.3 U	**550**	1.3 U	1.3 U
WTP-310	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Fourth Quarter 2010 Sampling Event

Operations and Maintenance Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	1,2-DCP	CIS-1,2-DCE	Methylene Chloride	TCE	TRANS-1,2-DCE	Vinyl Chloride
WTP-320	10/04/2010	1.0 U	1.0 U	1.0 U	**0.35 J**	1.0 U	1.0 U
WTP-320	11/01/2010	1.0 U	1.0 U	1.0 U	**0.40 J**	1.0 U	1.0 U
WTP-320	12/01/2010	1.0 U	1.0 U	1.0 U	**0.52 J**	1.0 U	1.0 U
WTP-330	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-340	10/04/2010	1.0 U	1.0 U	1.0 U	**0.44 J**	1.0 U	1.0 U
WTP-340	11/01/2010	1.0 U	1.0 U	1.0 U	**0.51 J**	1.0 U	1.0 U
WTP-340	12/01/2010	1.0 U	1.0 U	1.0 U	**0.60 J**	1.0 U	1.0 U
WTP-350	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-360	10/04/2010	1.0 U	1.0 U	1.0 U	**0.63 J**	1.0 U	1.0 U
WTP-360	11/01/2010	1.0 U	1.0 U	1.0 U	**0.69 J**	1.0 U	1.0 U
WTP-360	12/01/2010	1.0 U	1.0 U	1.0 U	**0.78 J**	1.0 U	1.0 U
WTP-370	11/01/2010	1.0 U	1.0 U	1.0 U	**0.89 J**	1.0 U	1.0 U
WTP-370	12/01/2010	1.0 U	1.0 U	1.0 U	**0.88 J**	1.0 U	1.0 U
WTP-380	10/04/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-380	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-380	12/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-EFF	10/04/2010	1.0 U	1.0 U	1.0 U	**0.19 J**	1.0 U	1.0 U
WTP-EFF	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-EFF	12/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
WTP-INF	10/04/2010	1.0 U	1.0 U	1.0 U	**0.77 J**	1.0 U	1.0 U
WTP-INF	11/01/2010	1.0 U	1.0 U	1.0 U	**1.0 J**	1.0 U	1.0 U
WTP-INF	12/01/2010	1.0 U	1.0 U	1.0 U	**0.82 J**	1.0 U	1.0 U
EW-16	11/01/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
FEW-11	11/01/2010	5.0 U	**4.6 J**	5.0 U	**1900**	5.0 U	5.0 U
FEW-14	11/01/2010	1.0 U	1.0 U	1.0 U	**0.66 J**	1.0 U	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Fourth Quarter 2010 Sampling Event

Operations and Maintenance Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Wet Chemistry

	Sampling Date	Total Organic Carbon
FEW-11	11/01/2010	**0.95 J**
LL1-INF	11/01/2010	**0.91 J**
LL4-INF	10/28/2010	1.0 U
WTP-INF	11/01/2010	1.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

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FIGURES

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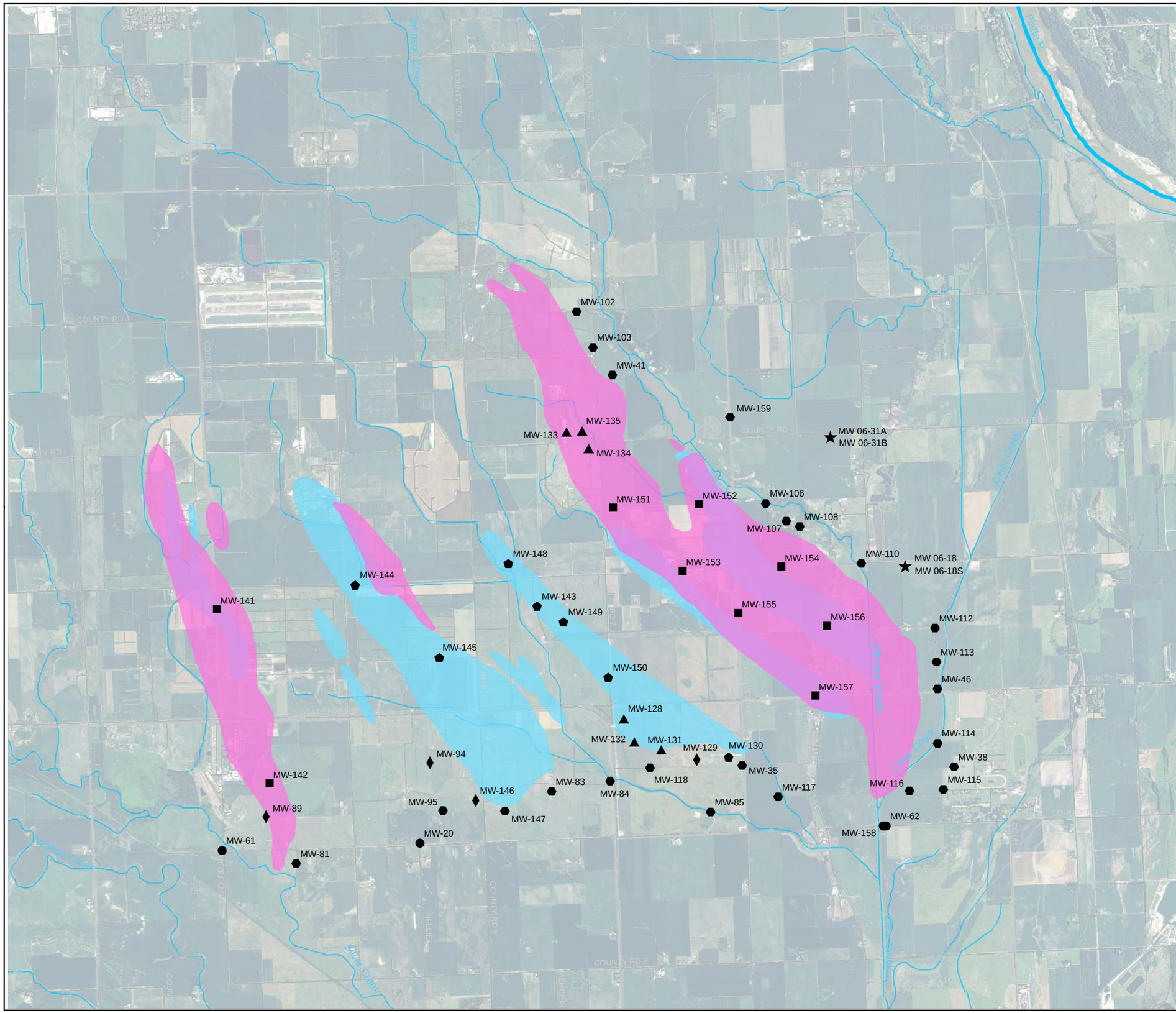

EXPLANATION

- Compliance Well
- Load Line 1 and Atlas Missile Area Interior Plume Monitoring Well
- Load Line 2 and Load Line 3 Interior Plume Monitoring Well
- Focused Extraction Monitoring Well
- Perimeter Monitoring Well
- Upgradient/Sidegradient/Downgradient Monitoring Well
- Non-Program Monitoring Well

- Approximate Area of TCE at a concentration of 5 ug/L or greater (2008)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2008)
- Approximate Area of both TCE at a concentration of 5 ug/L or greater and RDX at a concentration of 2 ug/L or greater (2008)

NOTE:

TCE and RDX plume delineations are based on Groundwater Monitoring Program data, direct-push data, and other data. The plume delineations represent a combination of the shallow zone data and the intermediate zone data.

TCE - trichloroethene

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

ug/L - micrograms per liter

N

0 1,500 3,000 6,000 9,000 12,000 Feet

US Army Corps of Engineers ®
Kansas City District

Figure 2-1
Monitoring Well
4th Quarter 2010 Sampling Locations

Drawn By:	M Johanson	Sheet No:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date:	January 26, 2011		
Dwg No:	Rev 0		

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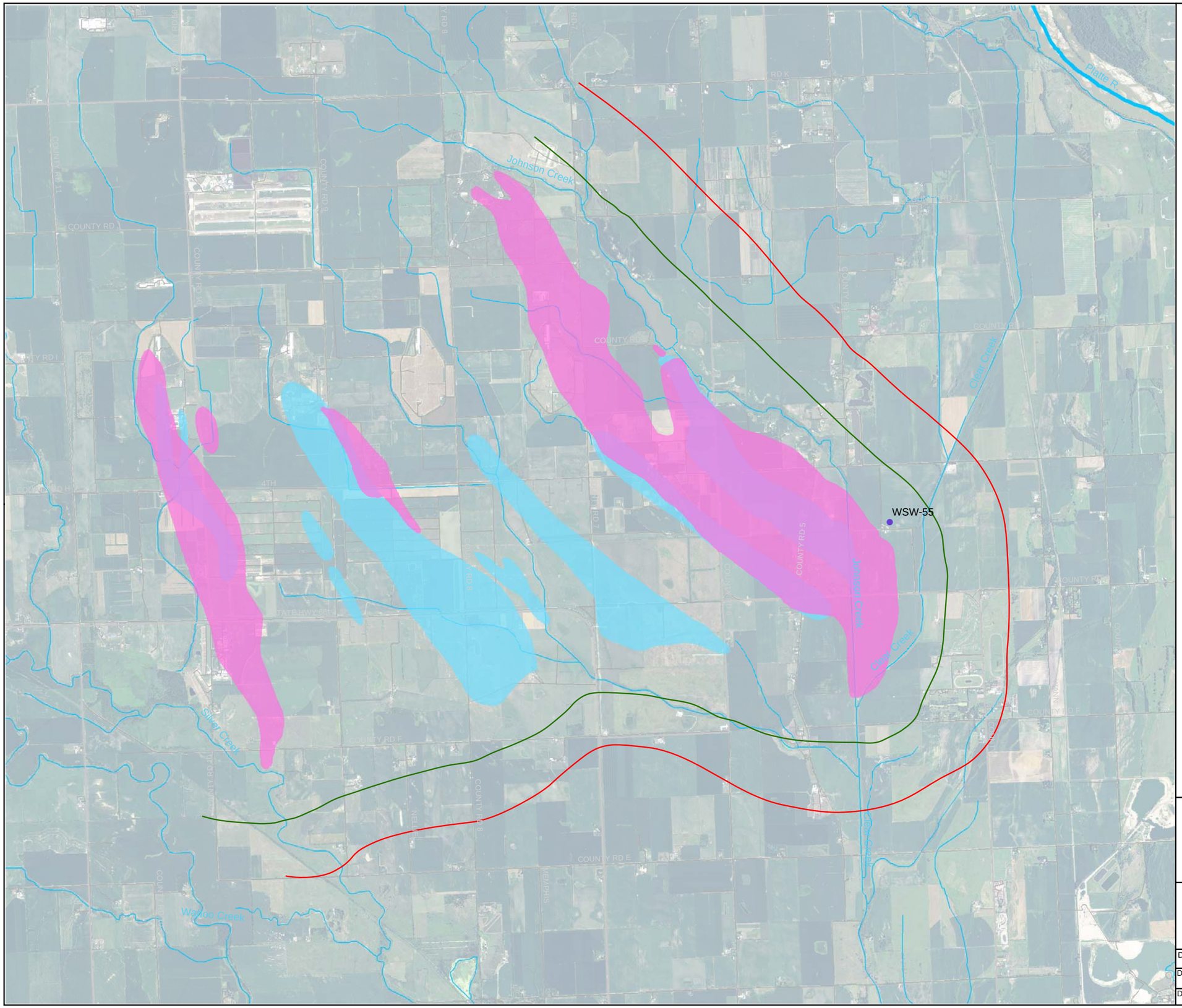

EXPLANATION

- Water Supply Well
- Alternate Water Supply Well
- Half-Mile Buffer Zone
- One-Mile Buffer Zone
- Approximate Area of TCE at a concentration of 5 ug/L or greater (2008)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2008)
- Approximate Area of both TCE at a concentration of 5 ug/L or greater and RDX at a concentration of 2 ug/L or greater (2008)

NOTE:

TCE and RDX plume delineations are based on Groundwater Monitoring Program data, direct-push data, and other data. The plume delineations represent a combination of the shallow zone data and the intermediate zone data.

TCE - trichloroethene

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

ug/L - micrograms per liter

N

0 1,500 3,000 6,000 9,000 12,000 Feet

US Army Corps of Engineers
Kansas City District

Figure 3-1
Water Supply Well
4th Quarter 2010 Sampling Locations

Drawn By:	M Johanson	Sheet No:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date:	January 25, 2011		
Dwg No:	Rev 0		

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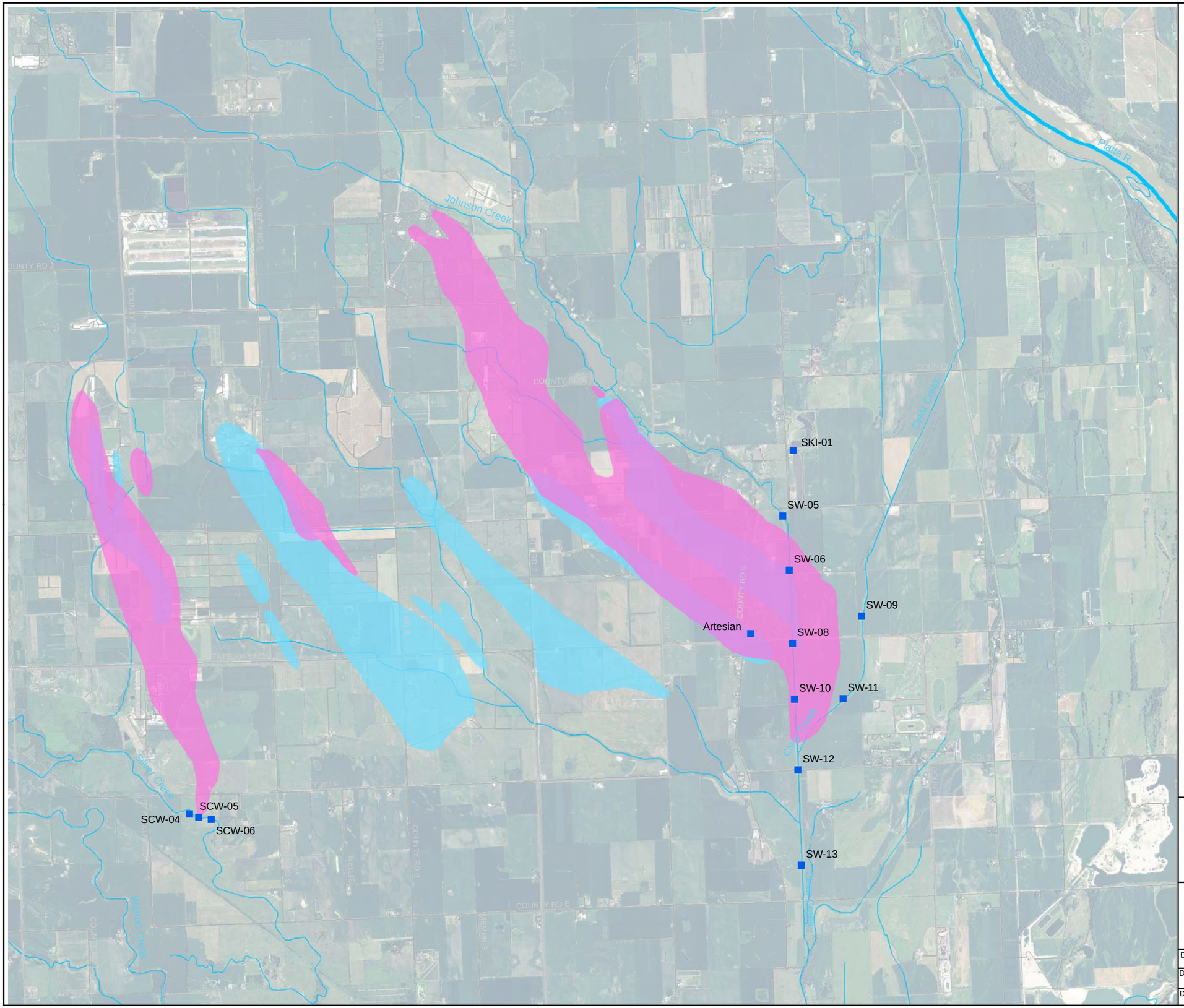

EXPLANATION

- Surface Water Sample Location
- Approximate Area of TCE at a Concentration of 5 ug/L or Greater (2008)
- Approximate Area of RDX at a Concentration of 2 ug/L or Greater (2008)
- Approximate Area of Both TCE at a Concentration of 5 ug/L or Greater and RDX at a Concentration of 2 ug/L or Greater (2008)

NOTE:

TCE and RDX plume delineations are based on Groundwater Monitoring Program data, direct-push data, and other data. The plume delineations represent a combination of the shallow zone data and the intermediate zone data.

TCE - trichloroethene

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

ug/L - micrograms per liter

N

0 1,500 3,000 6,000 9,000 12,000 Feet

ECC

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Kansas City District

Figure 4-1
Surface Water
4th Quarter 2010 Sampling Locations

Drawn By:	M Johanson	Sheet No:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date:	January 25, 2011		
Dwg No:	Rev 0		

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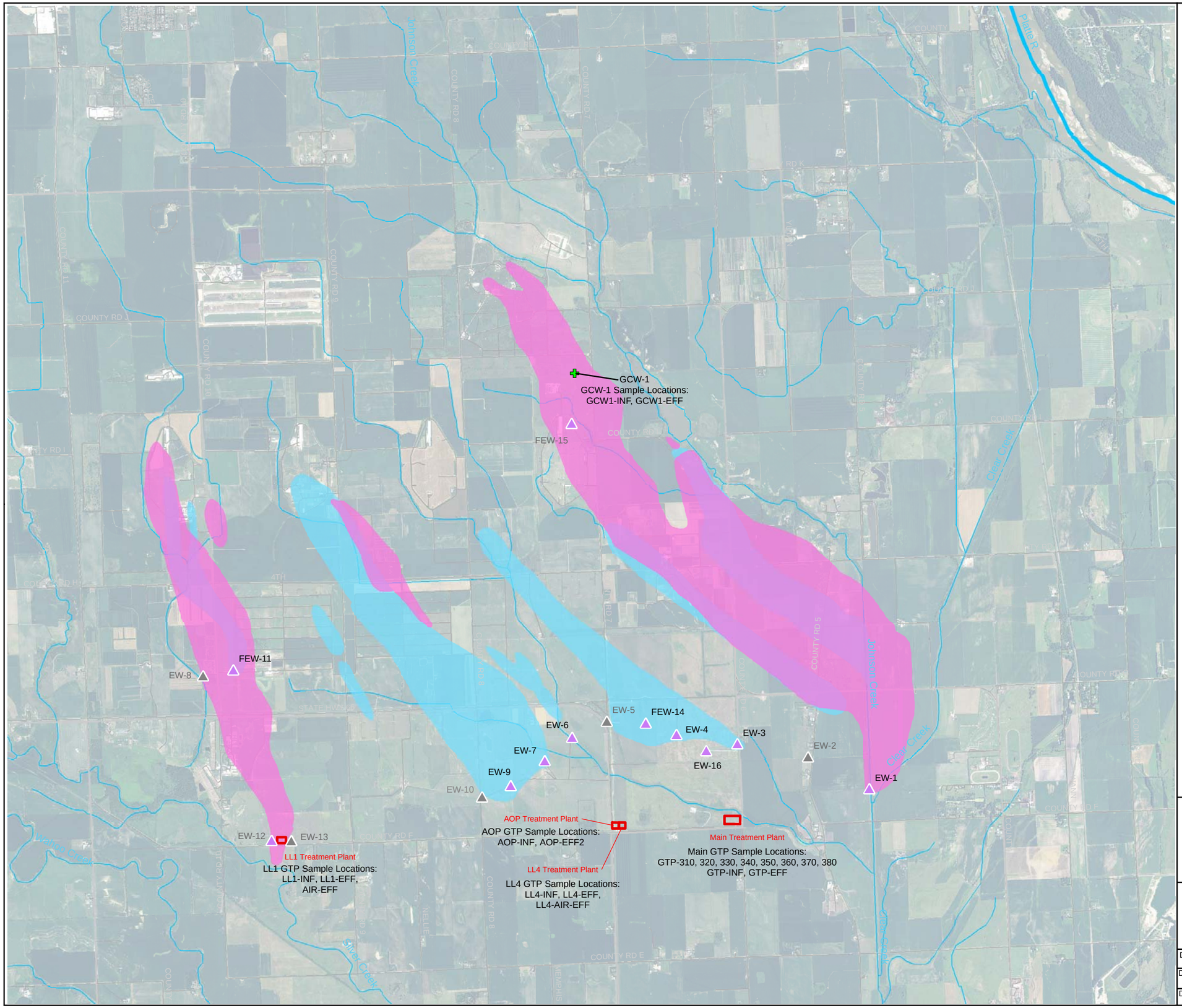

EXPLANATION

- Groundwater Circulation Well
- Active Groundwater Extraction Well
- Inactive Groundwater Extraction Well
- Water Treatment Plant
- Approximate Area of TCE at a concentration of 5 ug/L or greater (2008)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2008)
- Approximate Area of both TCE at a concentration of 5 ug/L or greater and RDX at a concentration of 2 ug/L or greater (2008)

NOTES:

TCE and RDX plume delineations are based on Groundwater Monitoring Program data, direct-push data, and other data. The plume delineations represent a combination of the shallow zone data and the intermediate zone data.

AOP - Advanced Oxidation Process
EFF - Effluent
EW - Extraction Well
FEW - Focused Extraction Well
GCW - Groundwater Circulation Well
GTP - Groundwater Treatment Plant
INF - Influent
LL1 - Load Line 1
LL4 - Load Line 4
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
TCE - trichloroethene
ug/L - micrograms per liter

N

0 1,500 3,000 6,000 9,000 12,000 Feet

ECC

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Figure 5-1
Operations and Maintenance
4th Quarter 2010 Sampling Locations

Drawn By:	M Johanson	Sheet No:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date:	January 25, 2011		
Dwg No:	Rev 0		

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Appendix A
Concentration Trend Charts for Select Monitoring Wells

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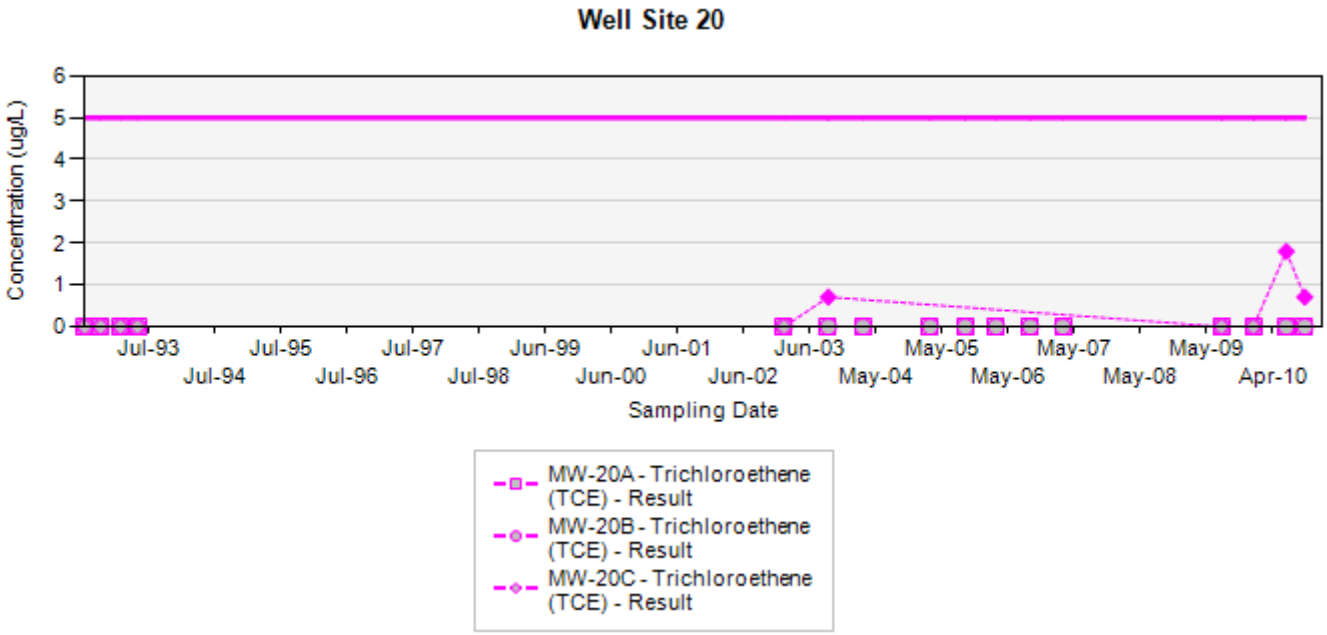
Appendix A
Concentration Trend Charts for Select Monitoring Wells

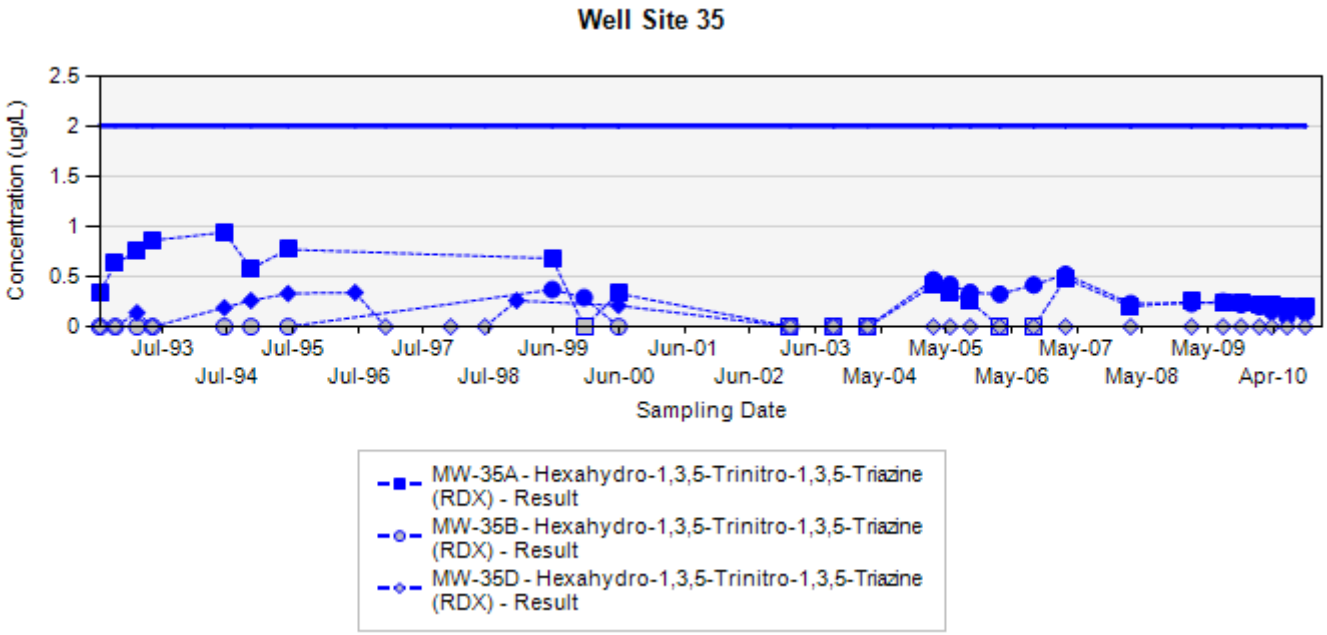


Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Select Monitoring Wells



Final Target Groundwater Cleanup Goals for RDX is 2 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

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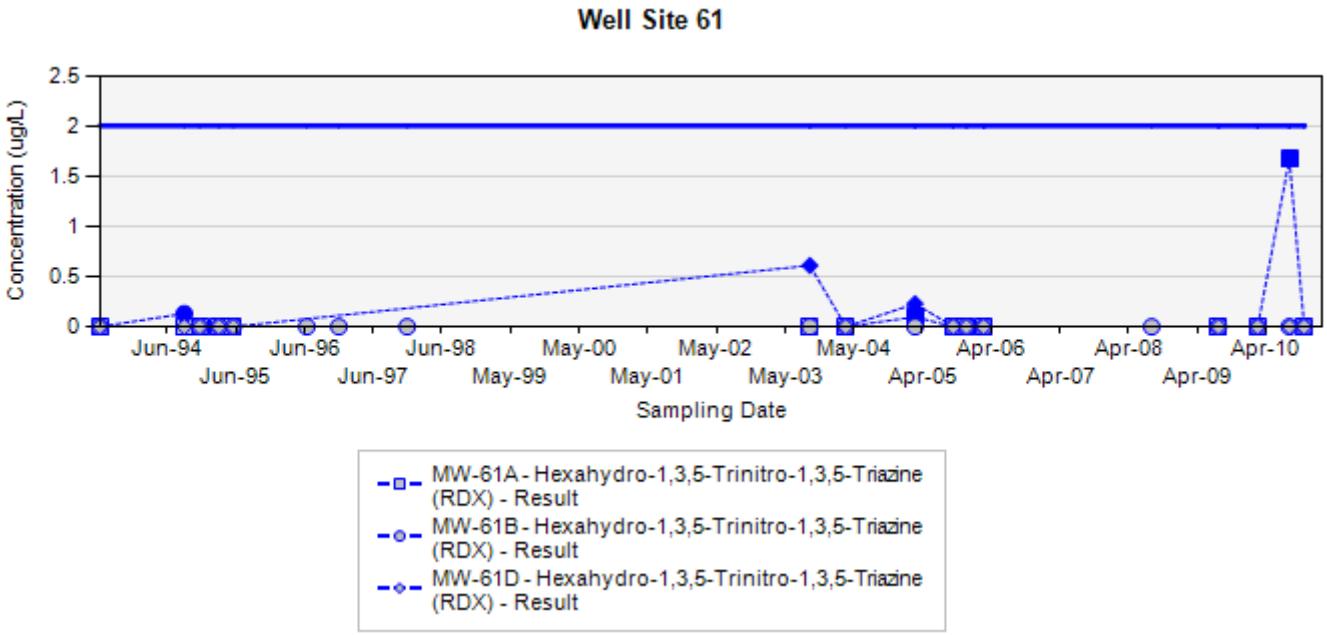
Appendix A
Concentration Trend Charts for Select Monitoring Wells



Final Target Groundwater Cleanup Goals for RDX is 2 UG/L

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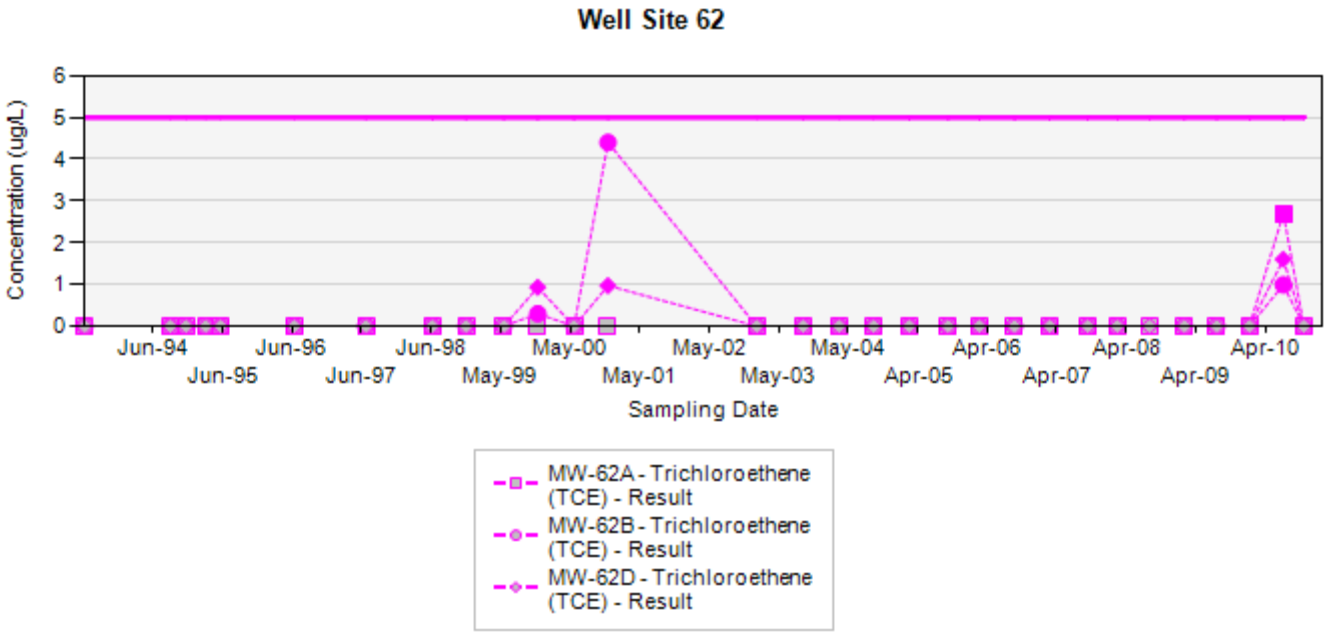

Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

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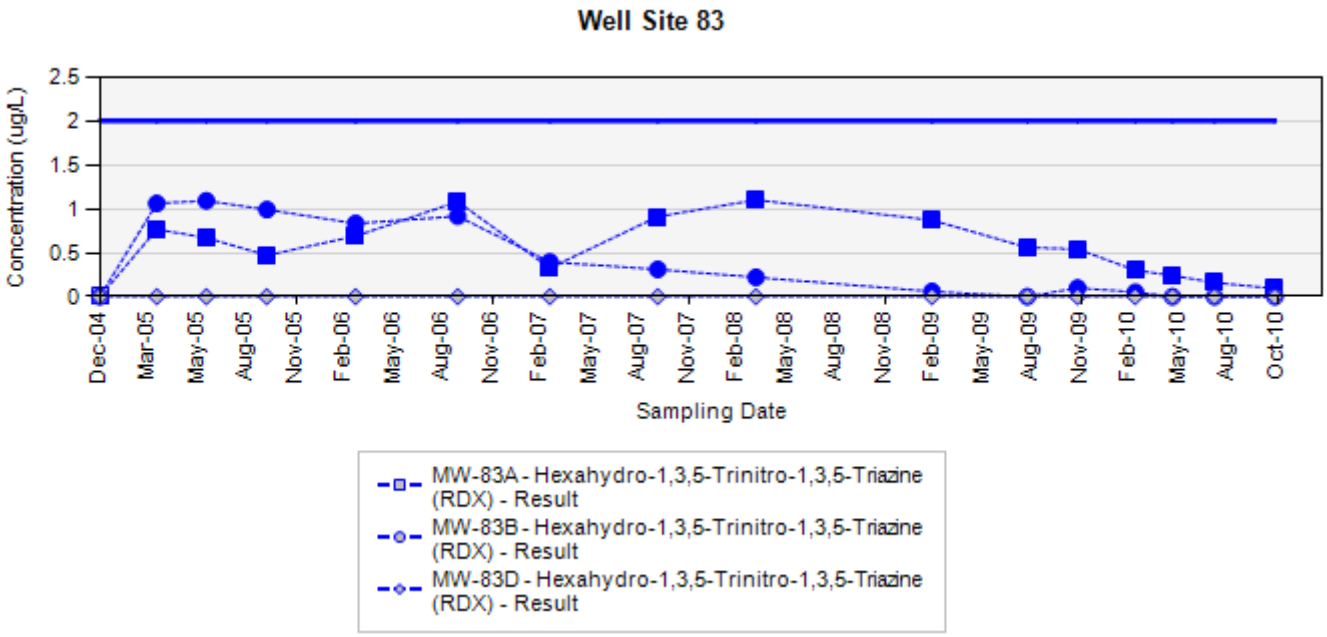

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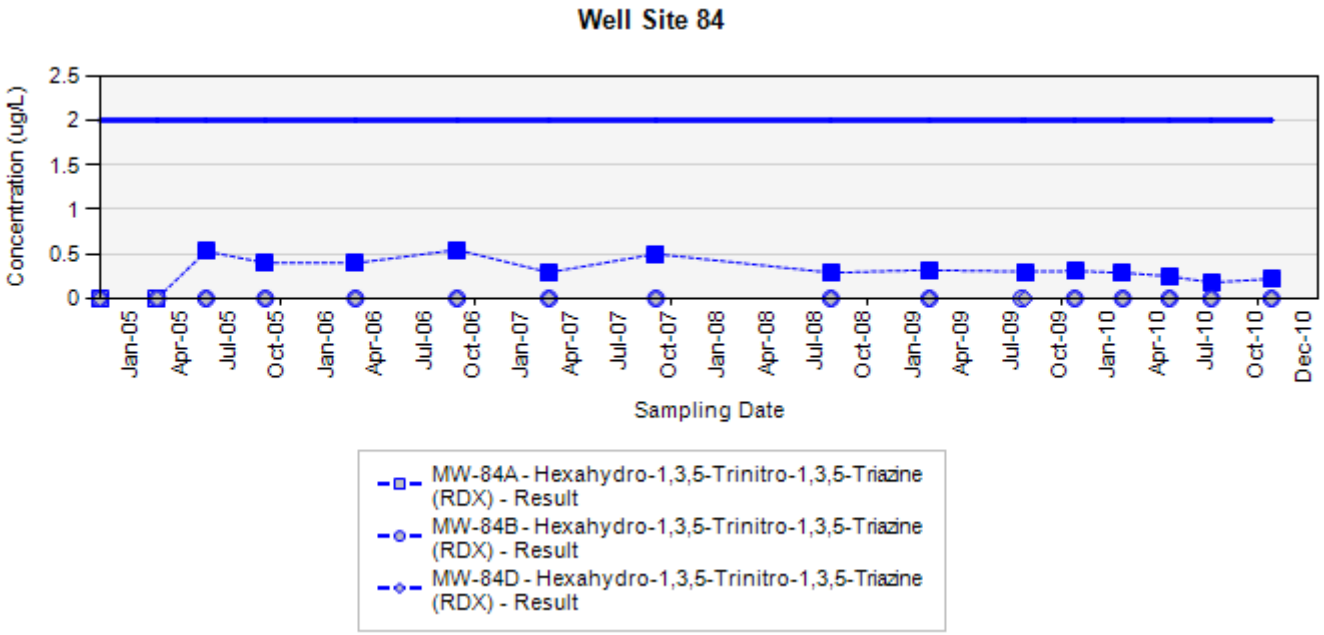

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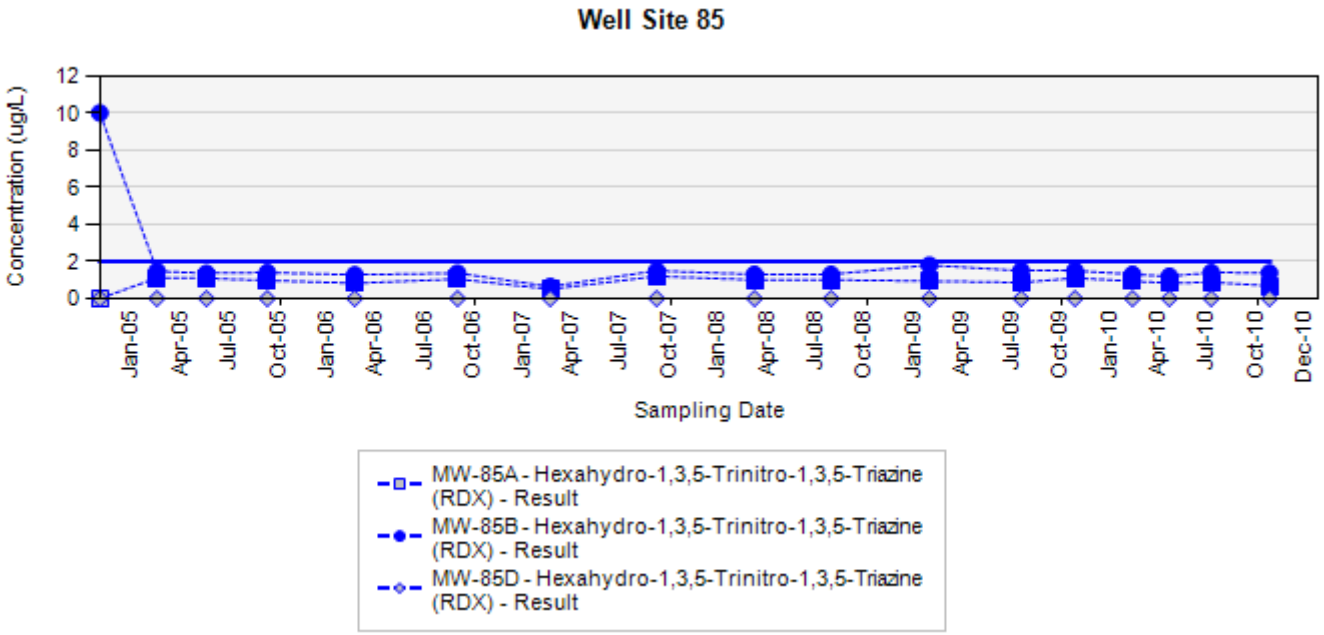

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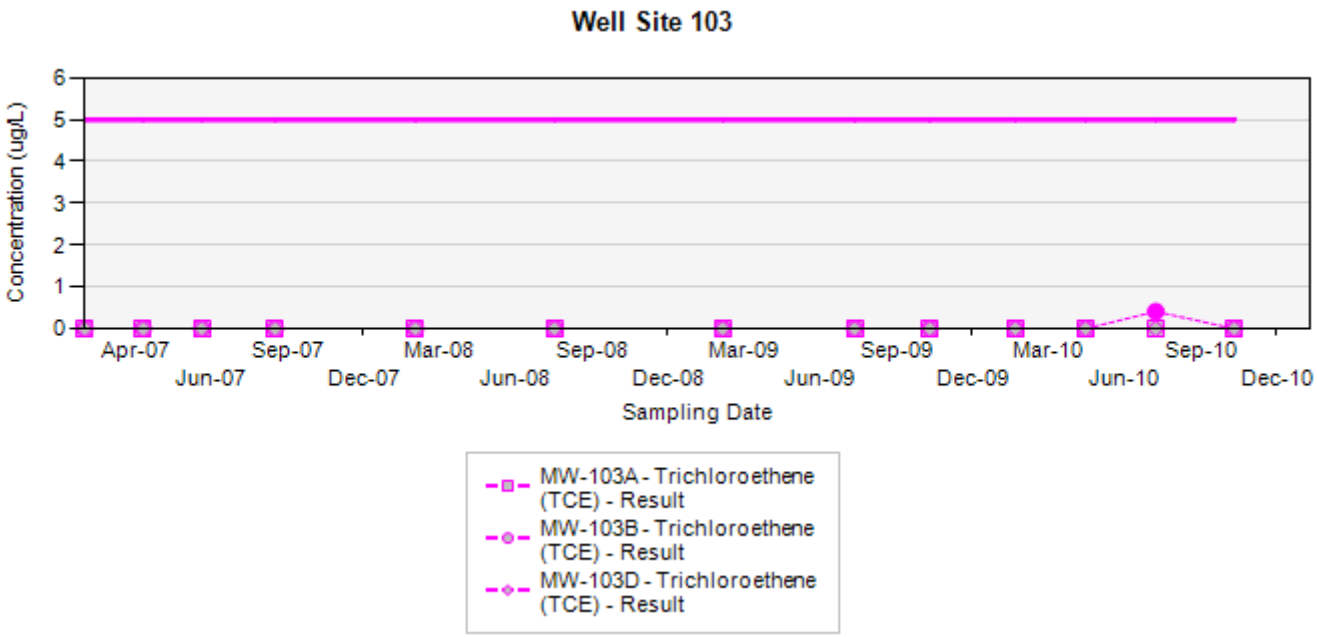

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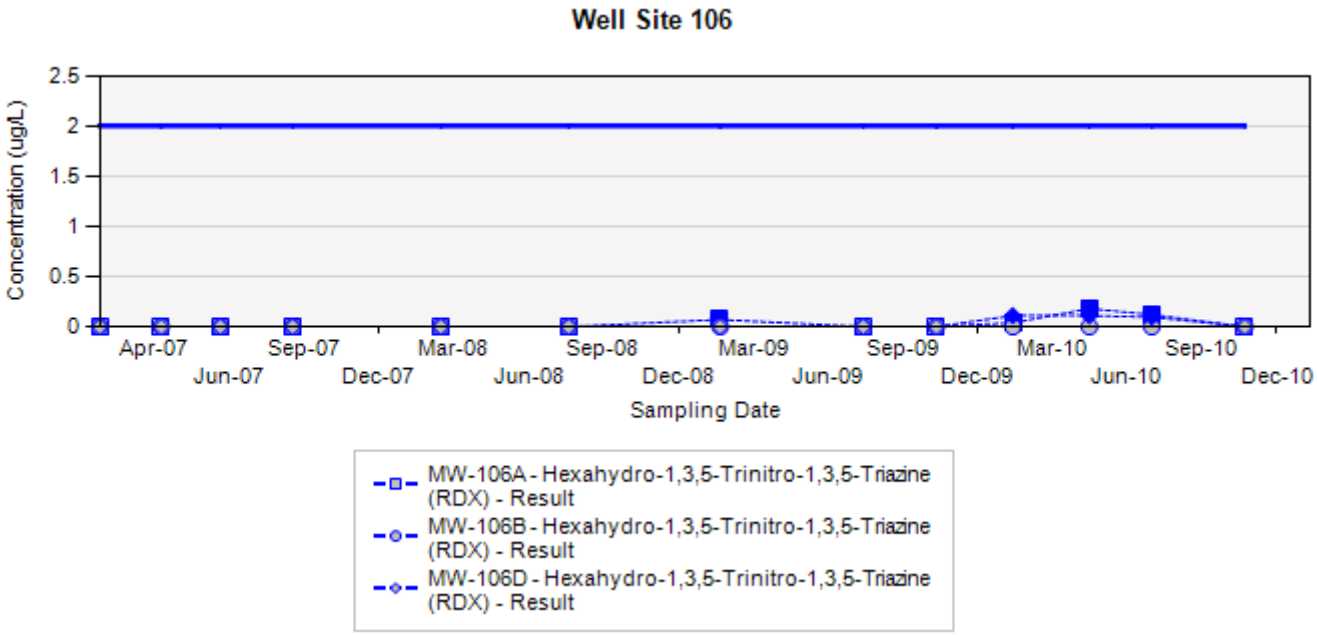

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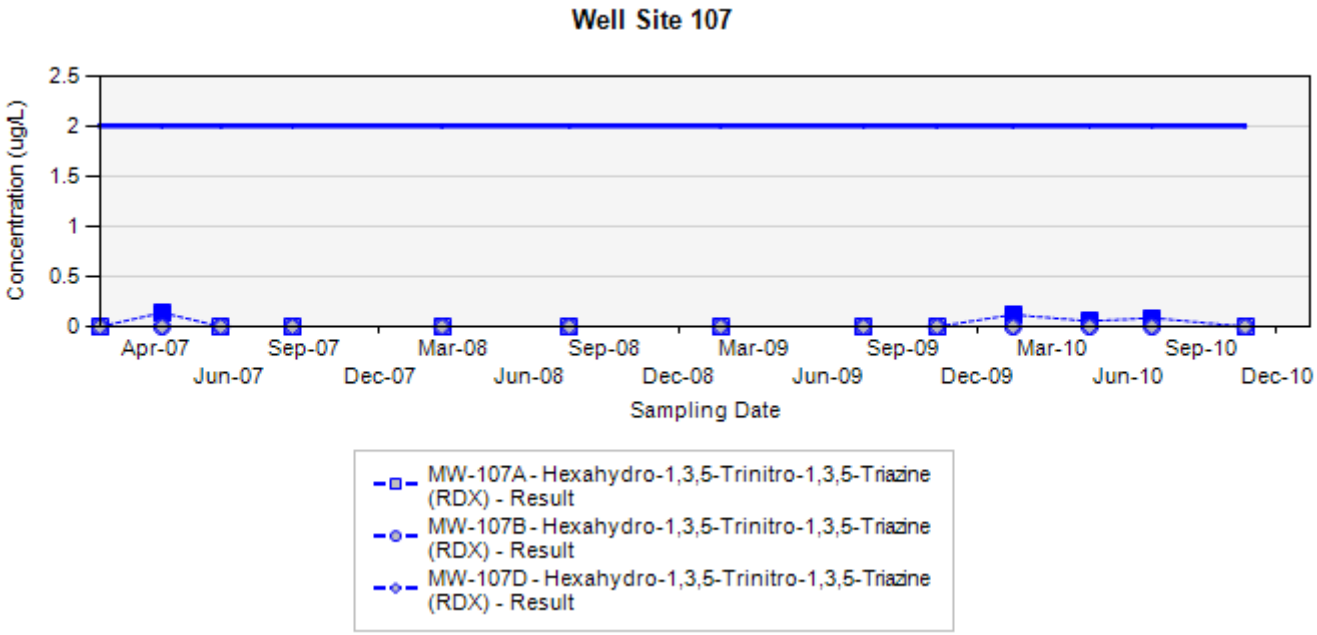

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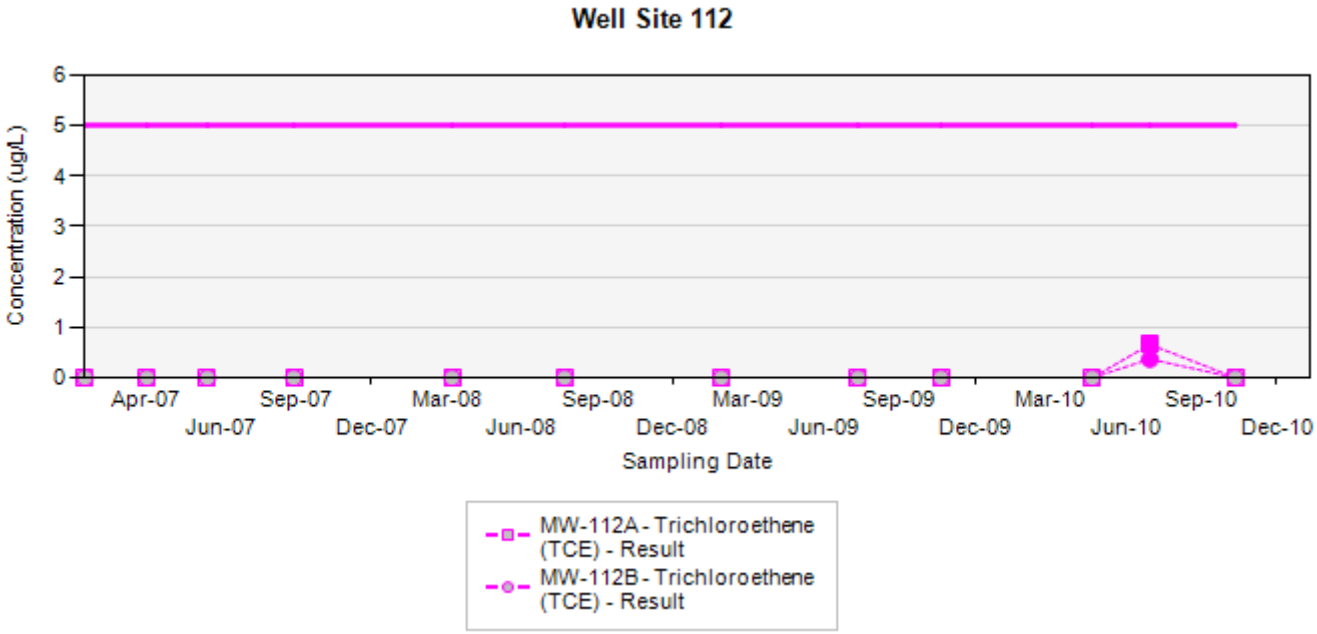
Concentration Trend Charts for Select Monitoring Wells



Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

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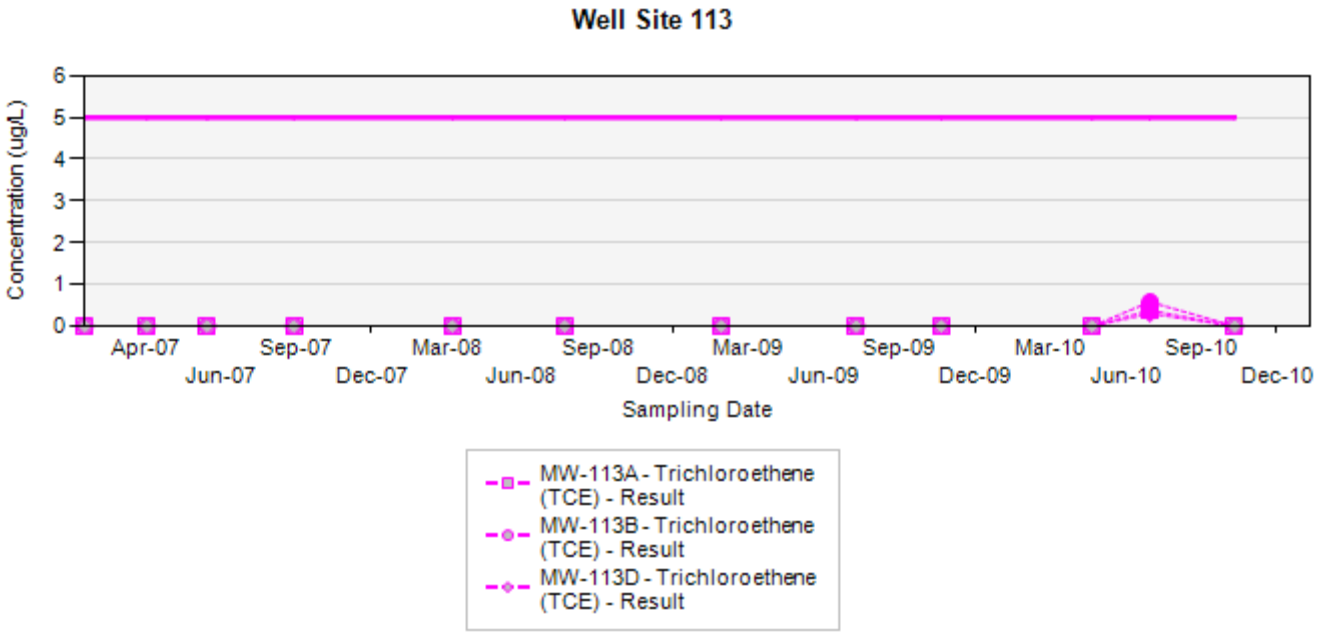
Concentration Trend Charts for Select Monitoring Wells



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In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

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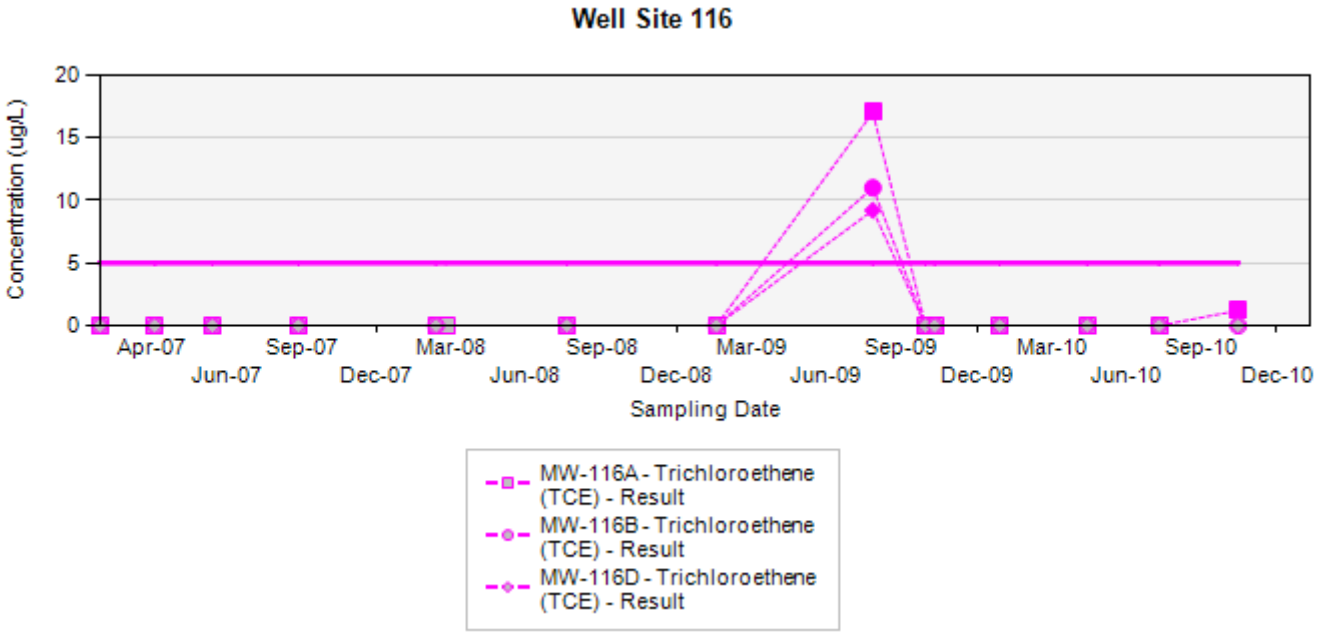
Concentration Trend Charts for Select Monitoring Wells

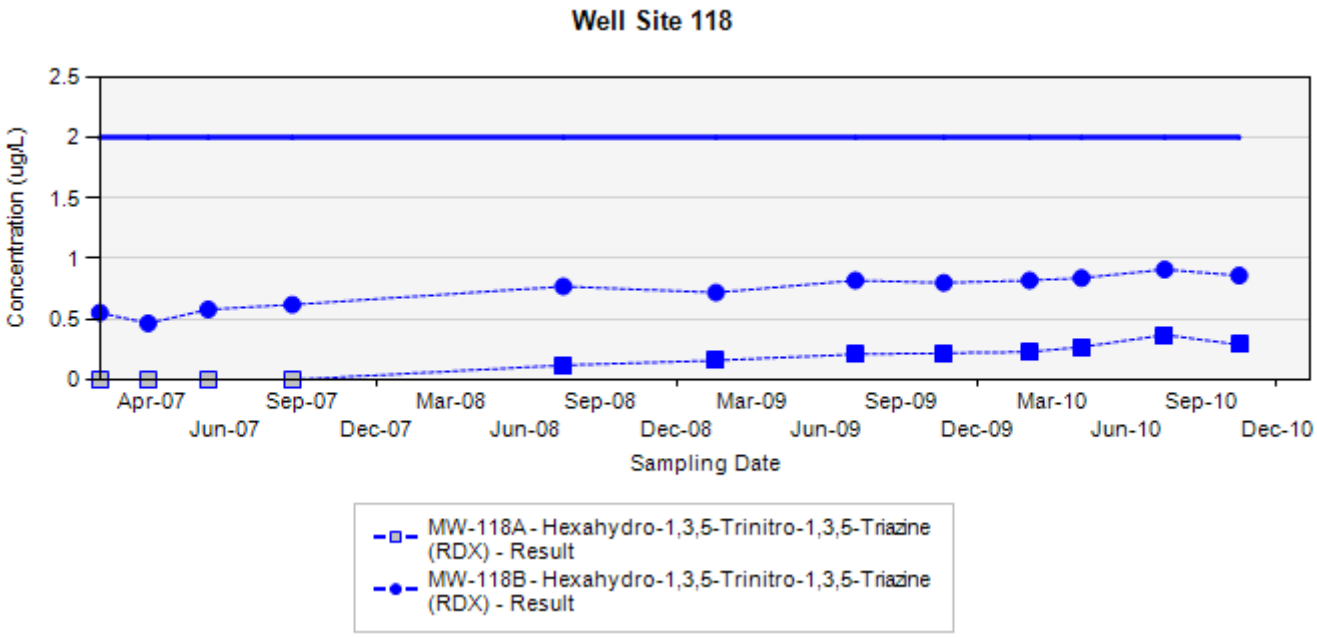


Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Select Monitoring Wells

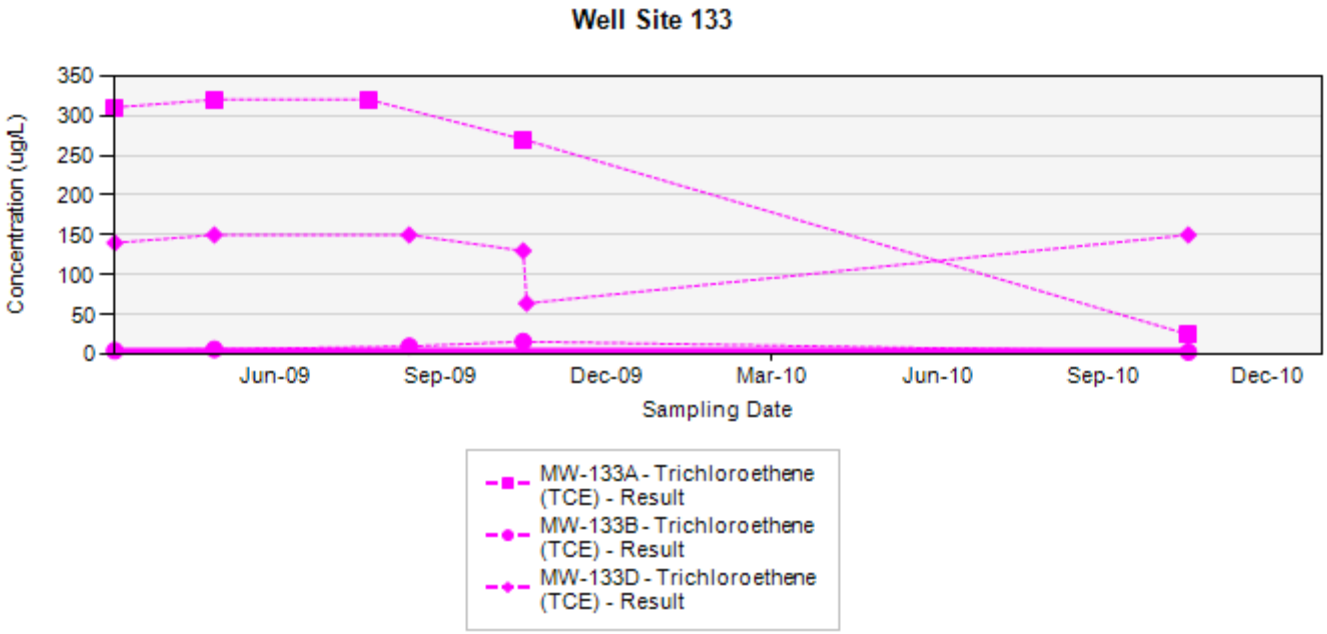


Final Target Groundwater Cleanup Goals for RDX is 2 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Select Monitoring Wells

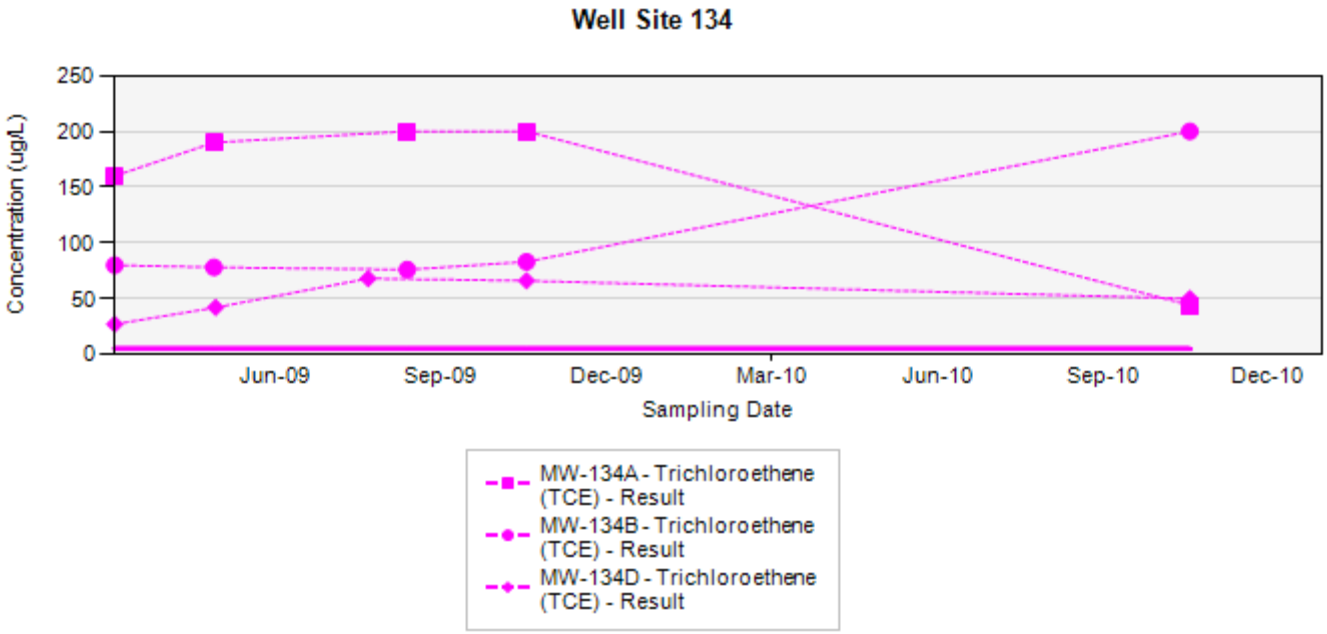


Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Select Monitoring Wells

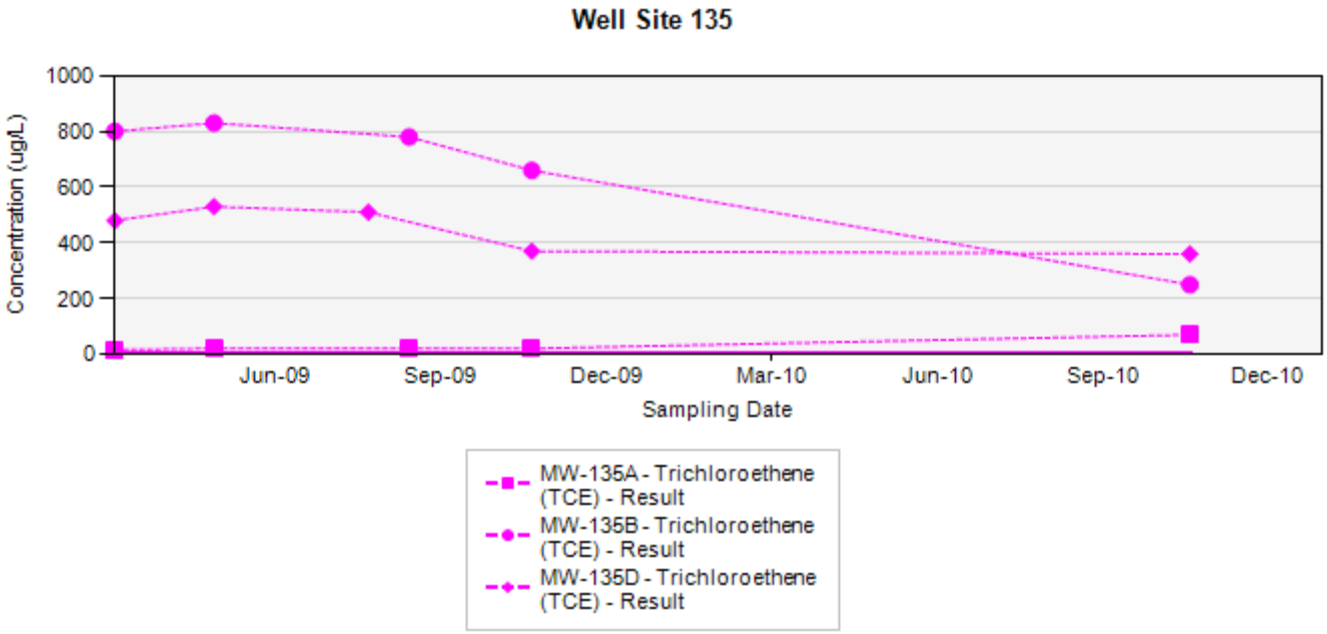


Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Select Monitoring Wells



Final Target Groundwater Cleanup Goals for TCE is 5 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

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Appendix B
Concentration Trend Charts for Select Water Supply Wells

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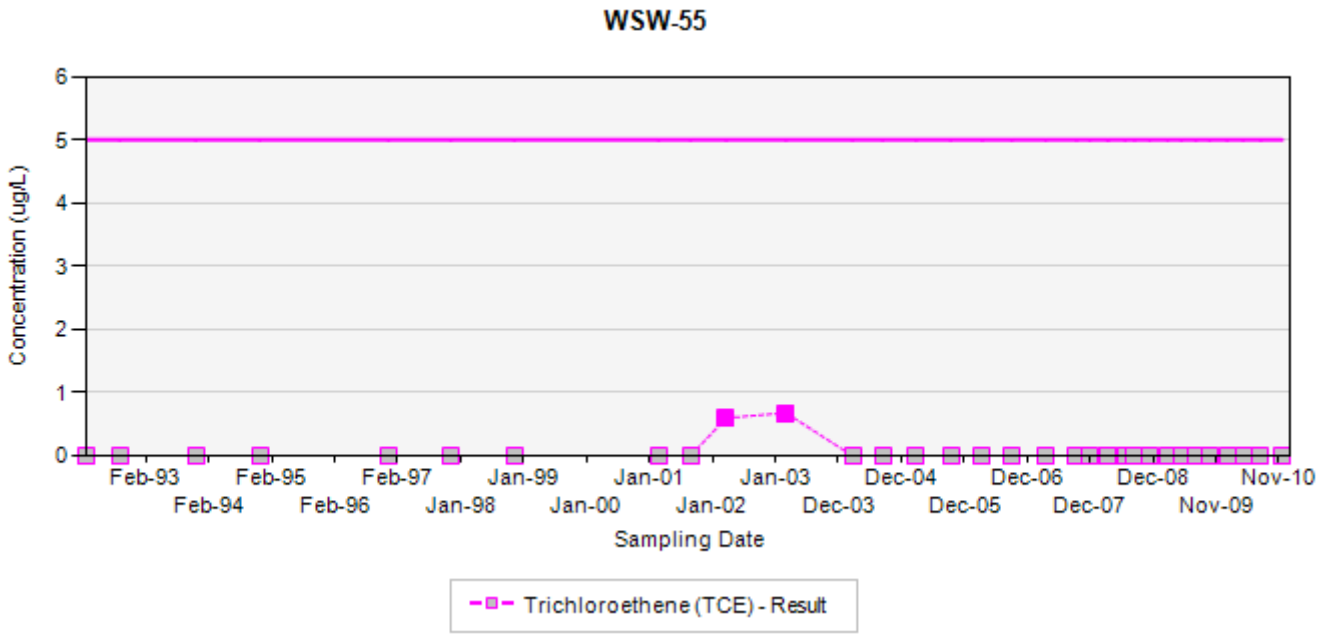
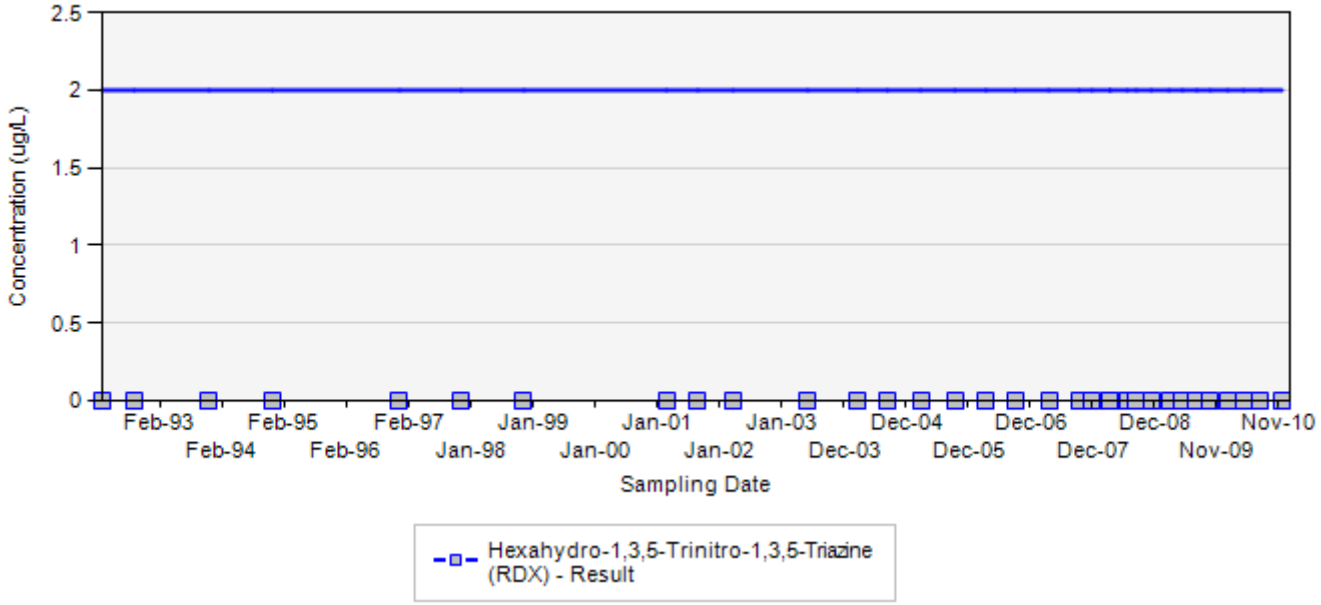
Appendix B
Concentration Trend Charts for Water Supply Well 55





Final Target Groundwater Cleanup Goals for TCE is 5 UG/L
Final Target Groundwater Cleanup Goals for RDX is 2 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

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Appendix C
Concentration Trend Charts for Select Surface Water Locations

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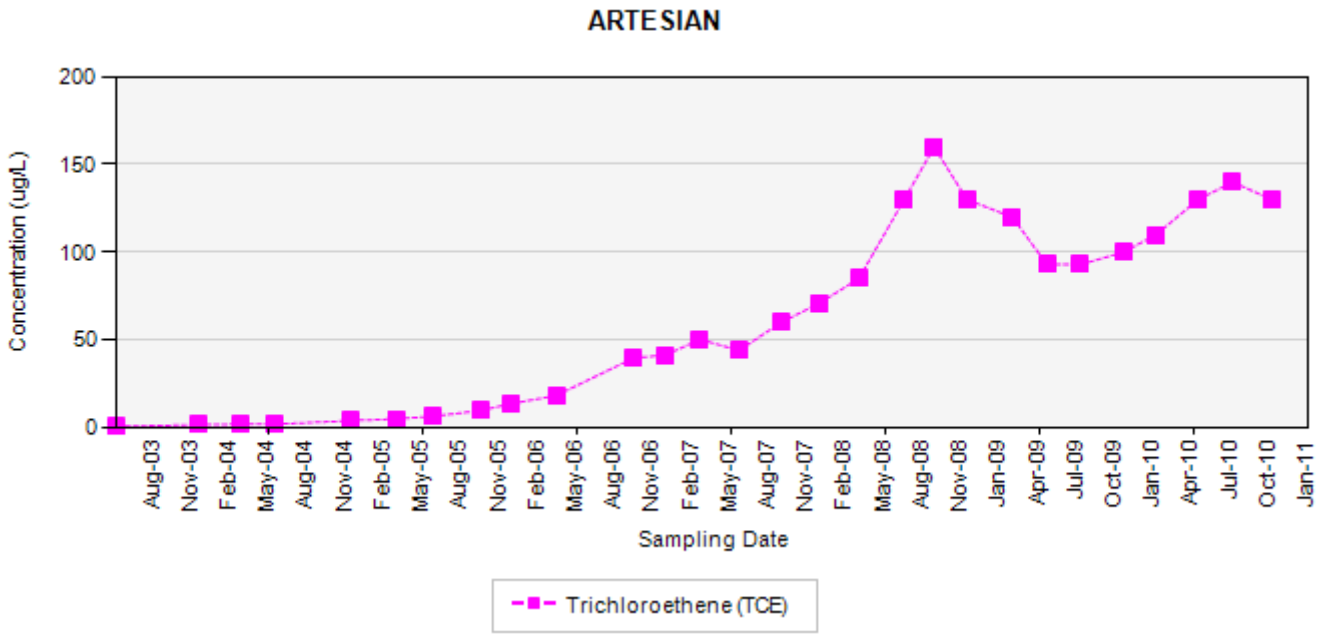
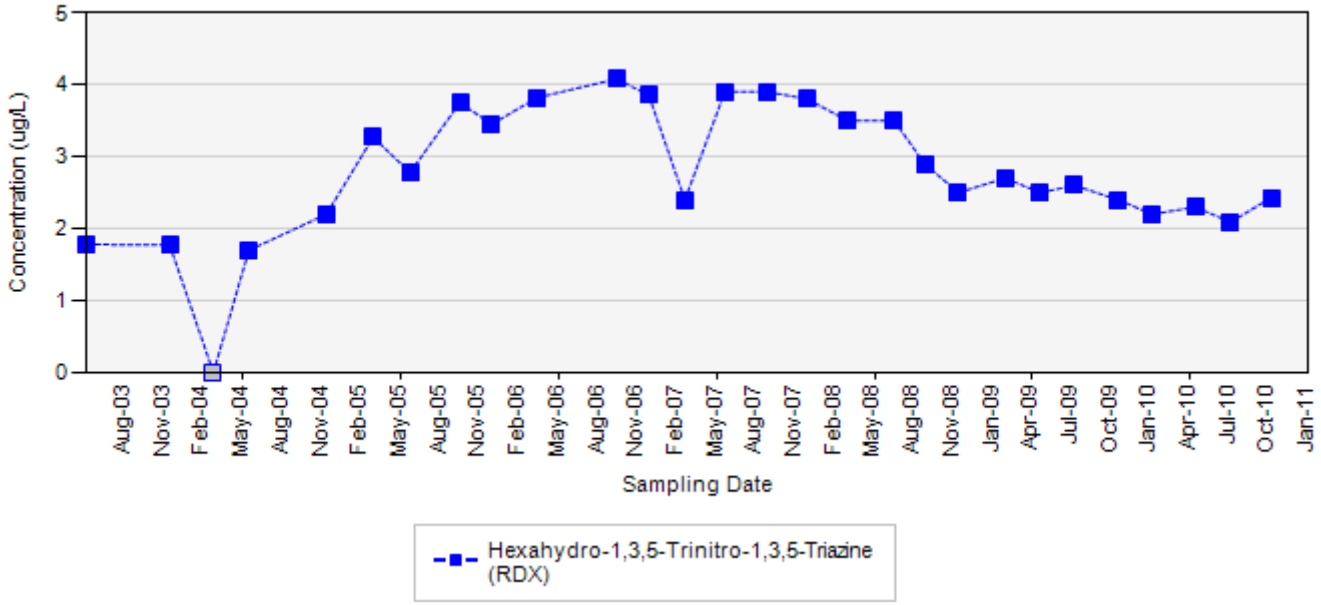


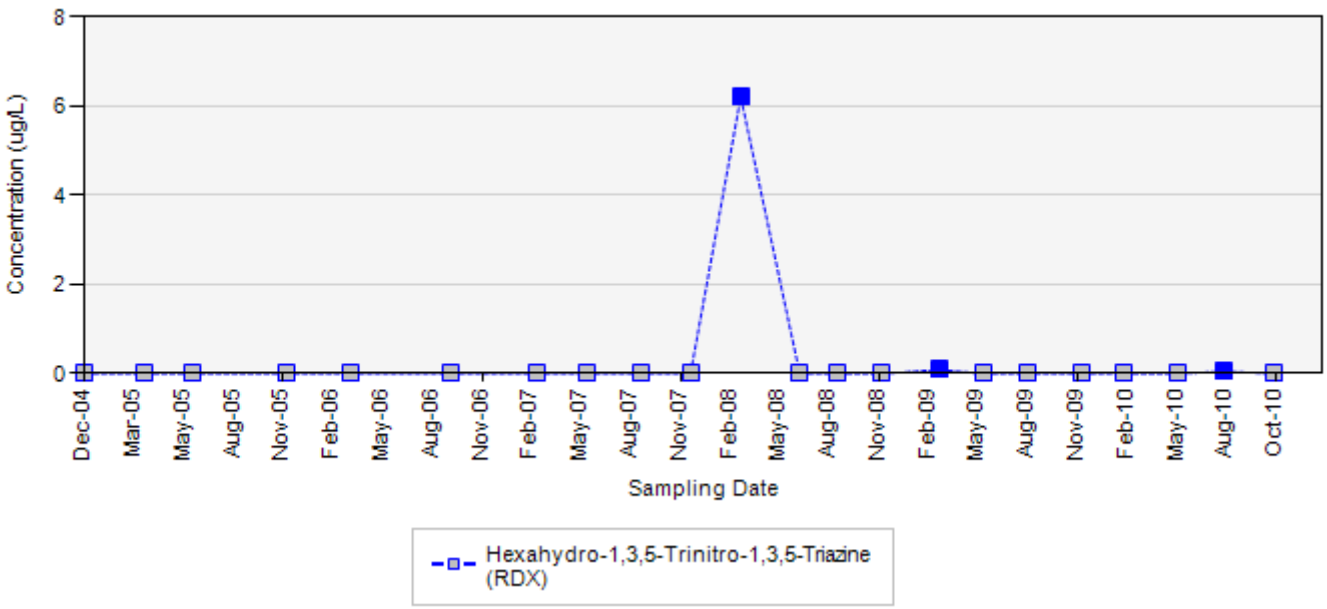


Final Target Groundwater Cleanup Goals for TCE is 810 UG/L
Final Target Groundwater Cleanup Goals for RDX is 100 UG/L

In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

ug/L: micrograms per liter
Silver markers indicate non-detected results

Appendix C
Concentration Trend Charts for Select Surface Water Locations



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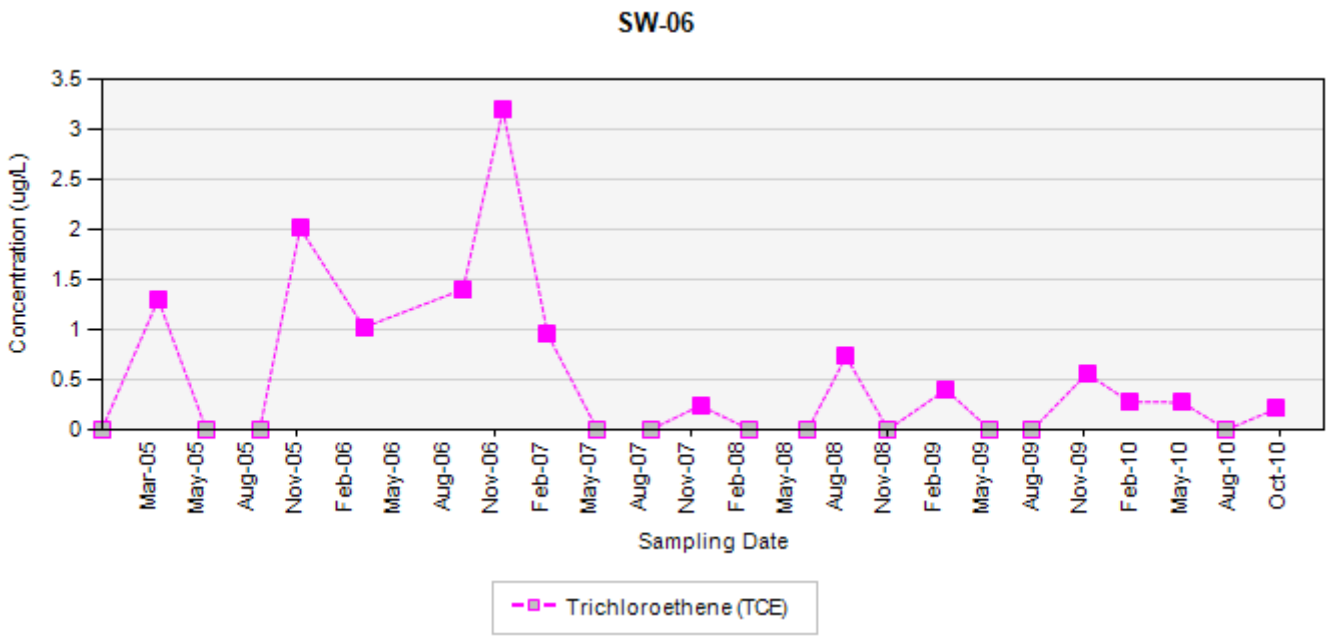

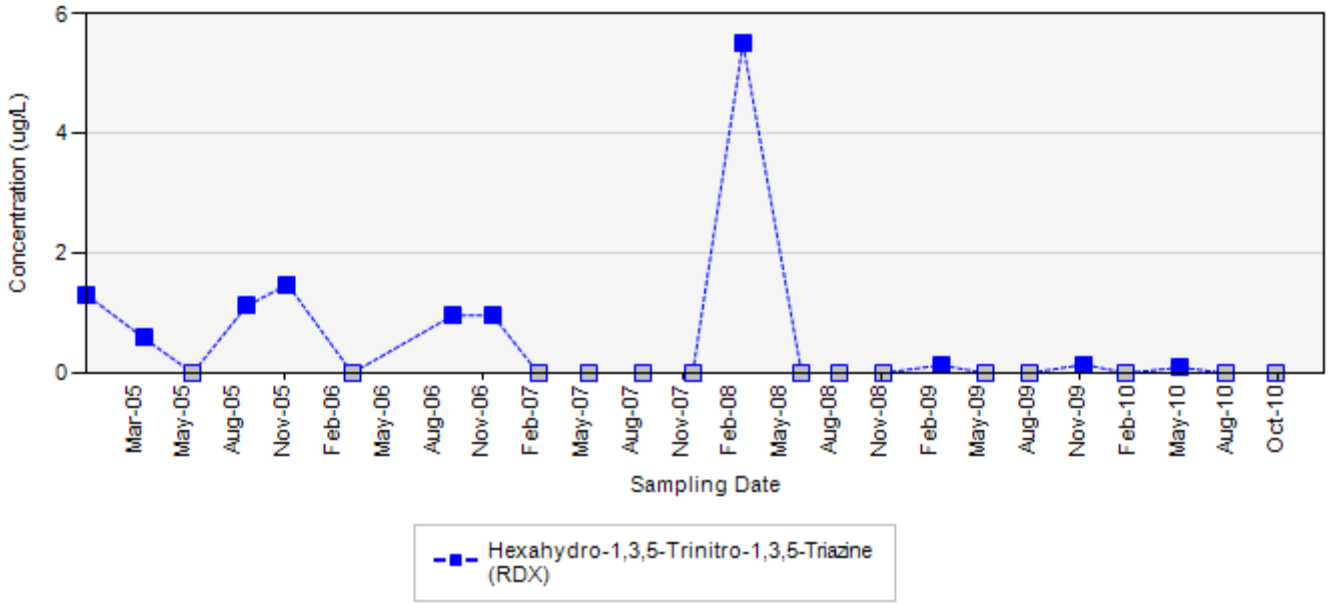

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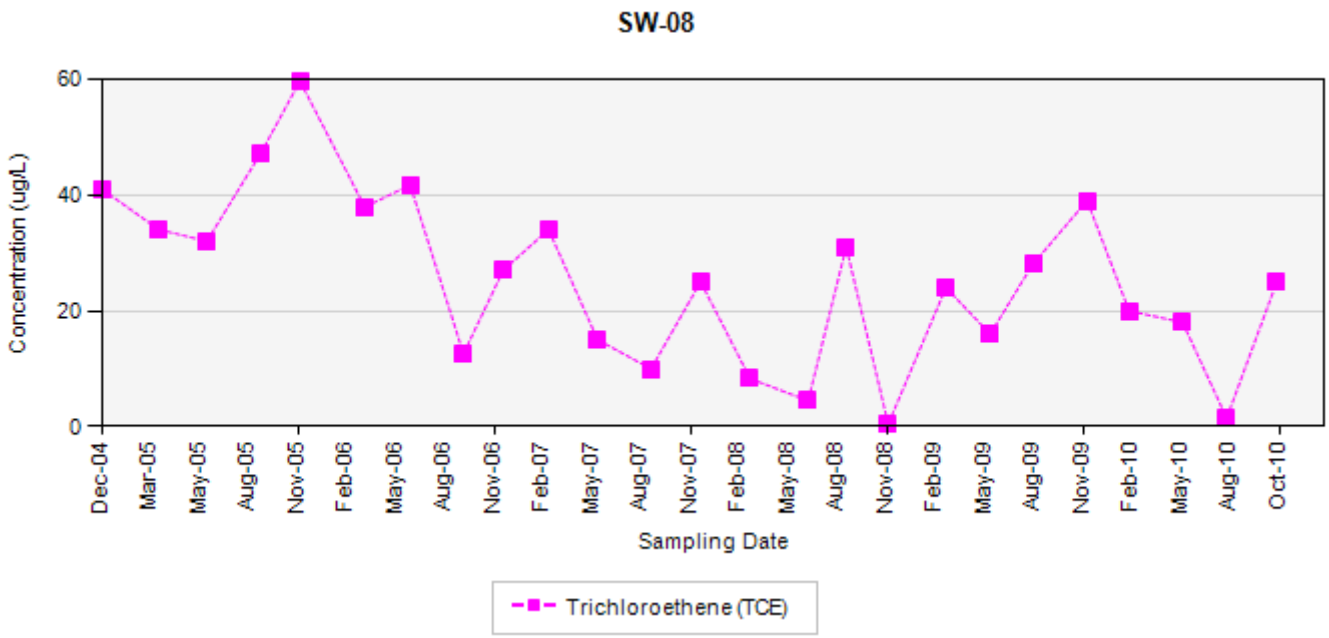

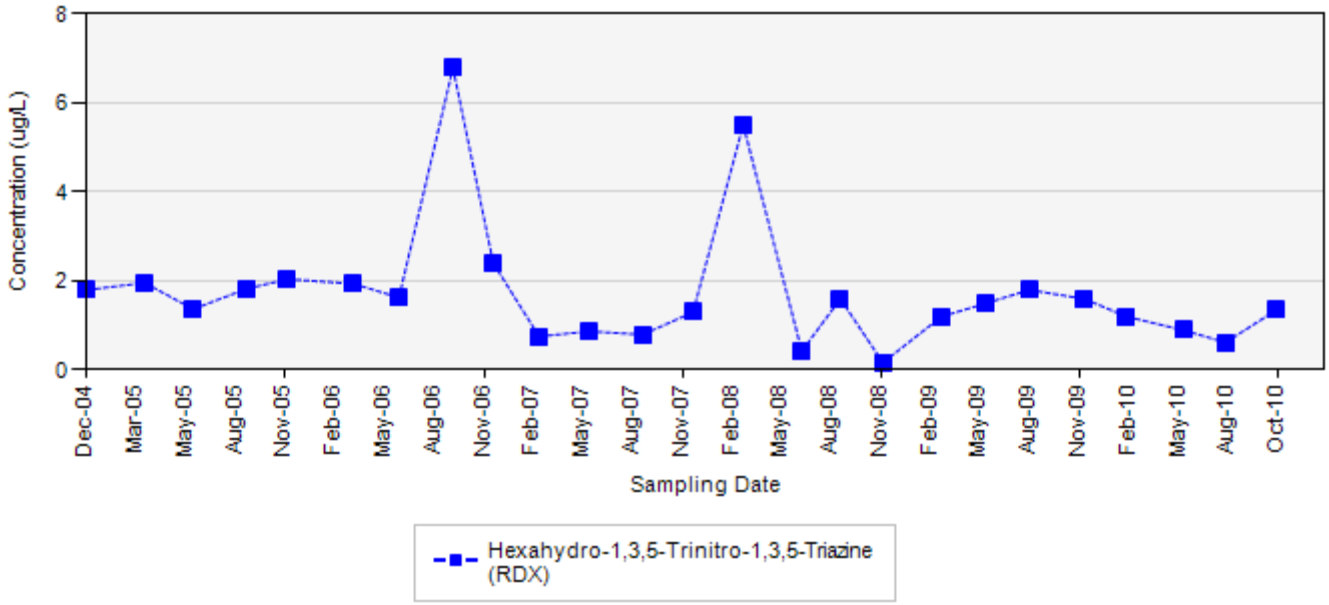

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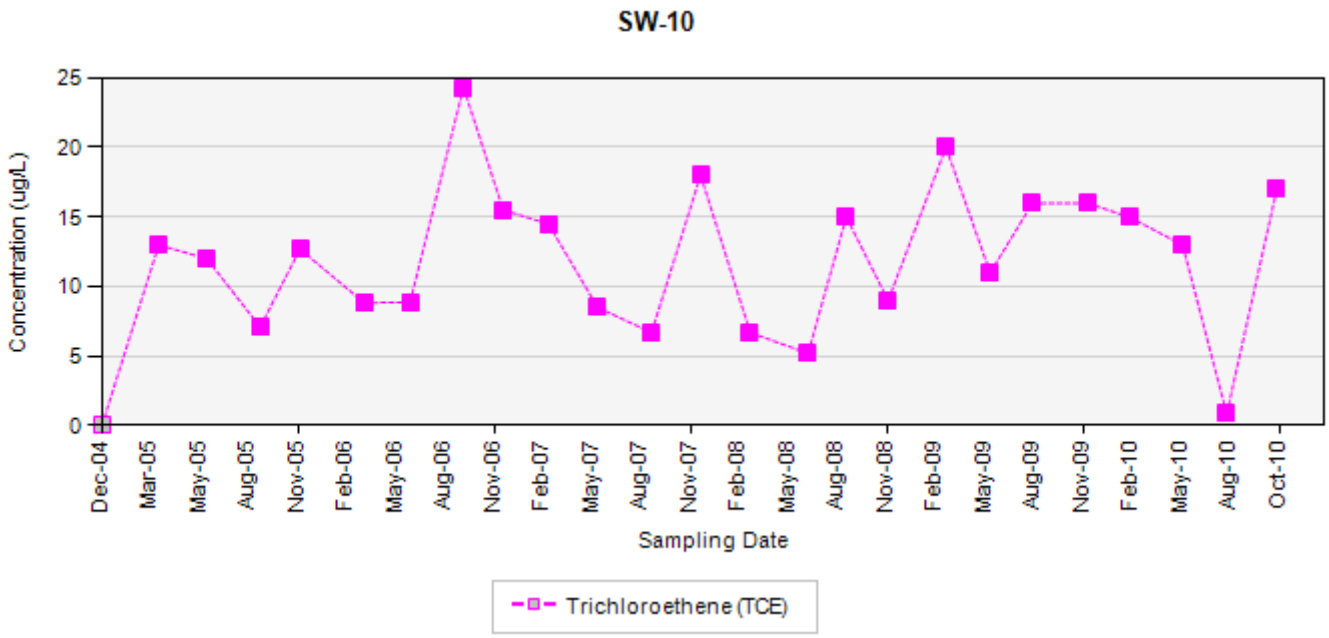

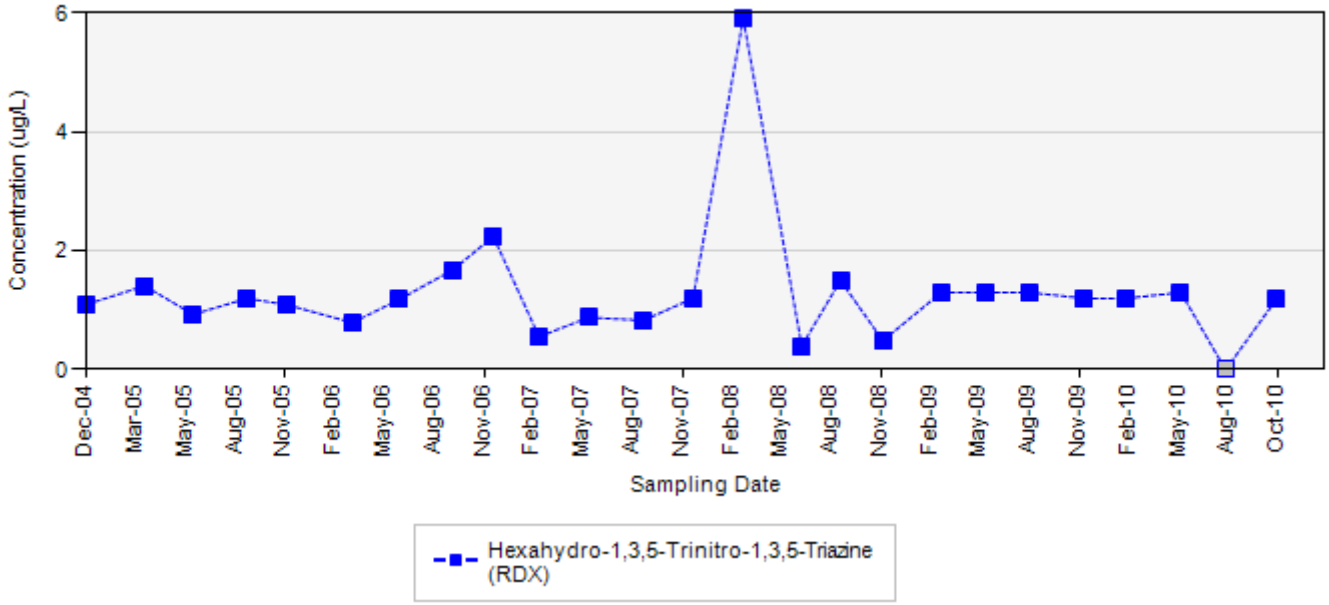

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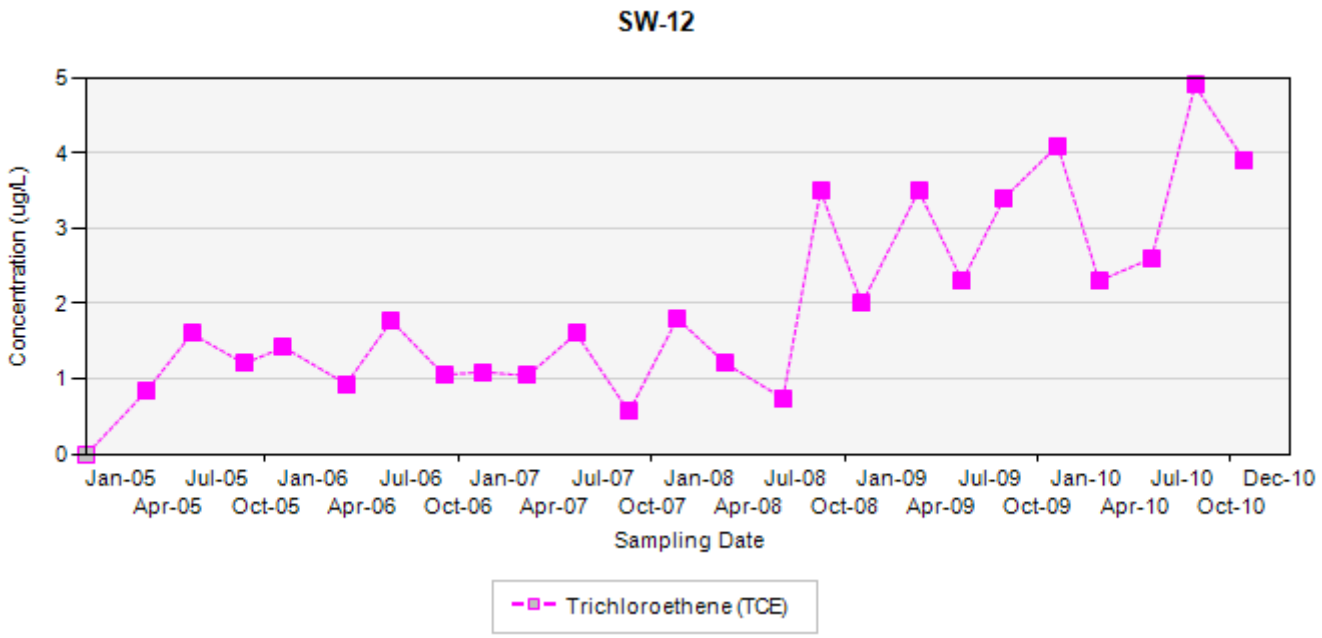

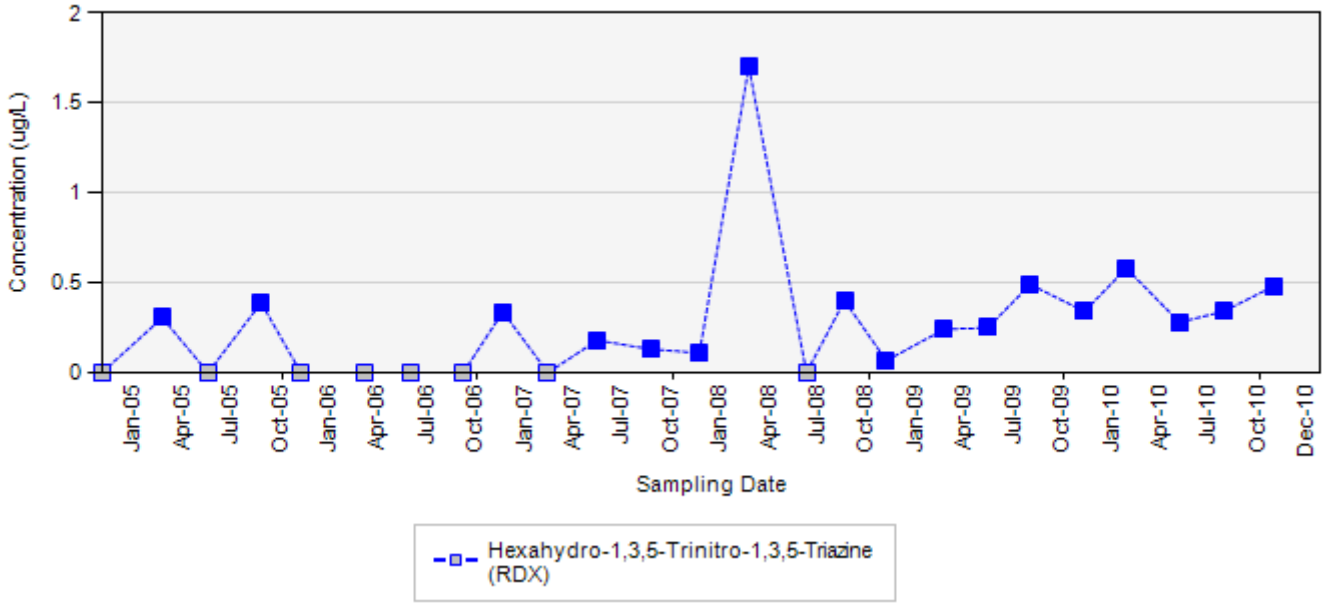

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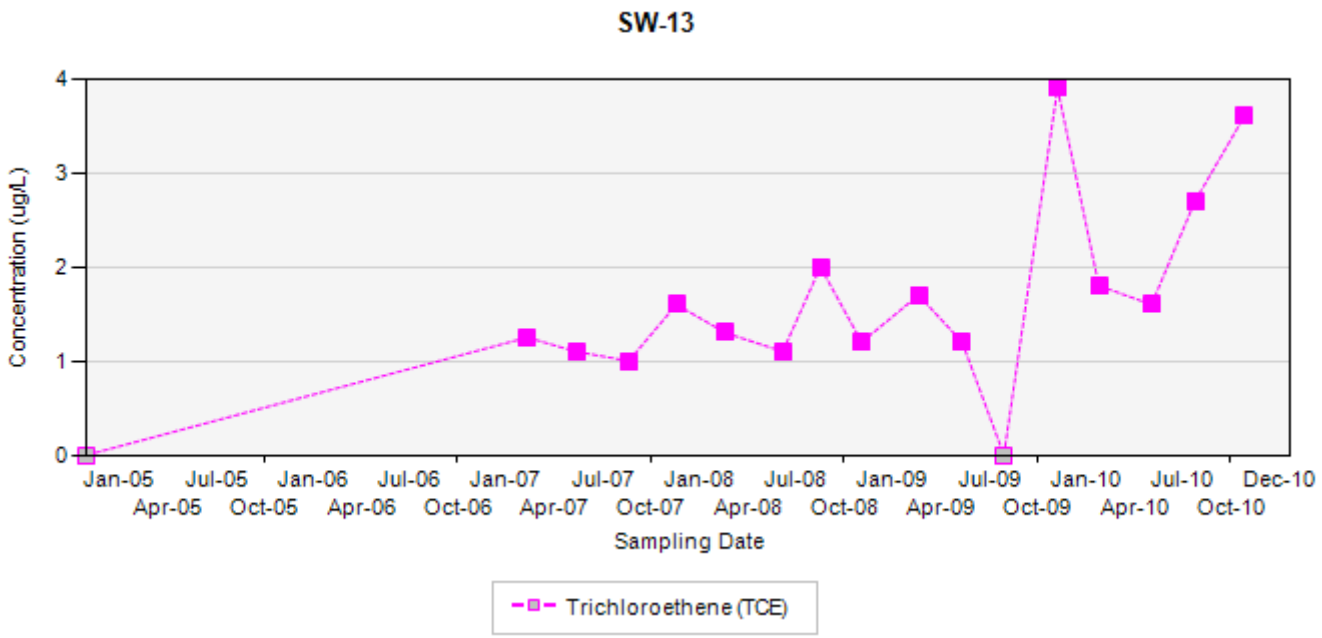

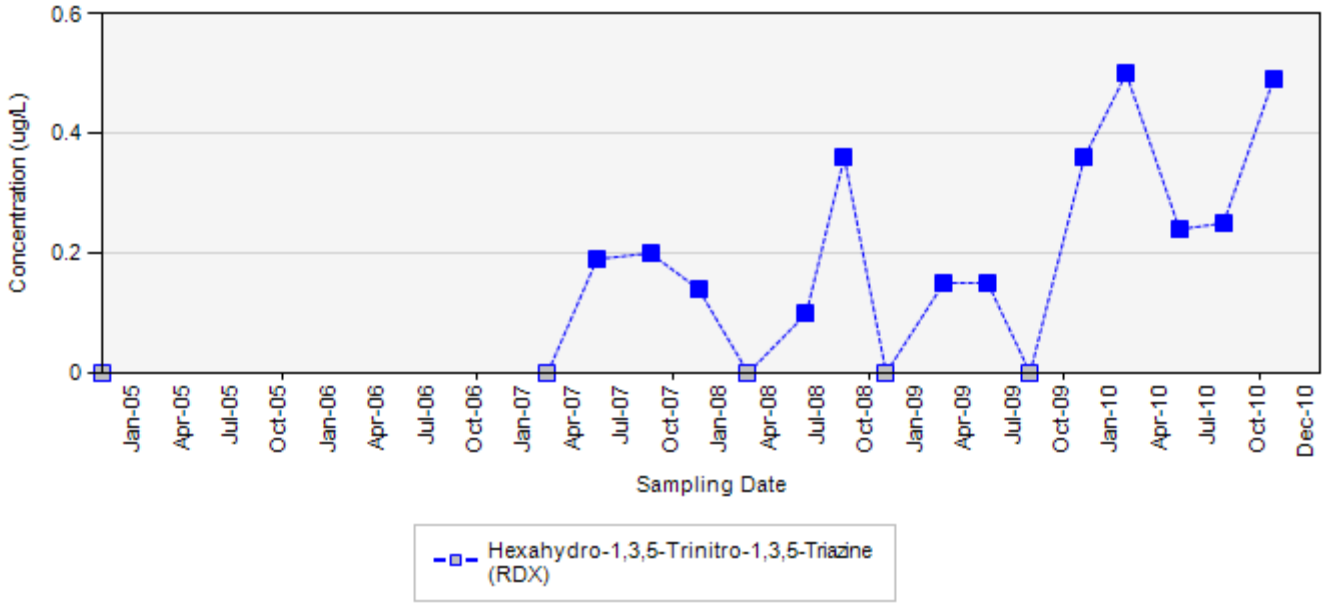

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Silver markers indicate non-detected results

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Appendix D

Quality Control Summary Report Fourth Quarter 2010 Groundwater Monitoring Program Sampling Events, Former Nebraska Ordnance Plant

(on CD)

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Regional Office

1746 Cole Boulevard
Building 21, Suite 350
Lakewood, CO 80401

Phone: 303.298.7607
Fax: 303.298.7837

March 4, 2011

U.S. Army Corps of Engineers, Kansas City District
Attn: Jerry Montgomery
601 East 12th Street
Kansas City, MO 64106-2896

Re: Transmittal of Final Quality Control Summary Report
Fourth Quarter 2010 Groundwater Monitoring Program Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska
Contract No. W912DQ-08-D-0001, Task Order No. 0002

Dear Mr. Montgomery:

ECC is hereby transmitting one electronic copy of the Final Quality Control Summary Report for the Fourth Quarter 2010 Groundwater Monitoring Program Sampling Events at the former Nebraska Ordnance Plant, Mead, Nebraska.

Please contact Mr. Brady Bigelow or me if you require additional information.

Sincerely,

John Ryder
Project Chemist
ECC

Enclosures
Cc: Ms. Kristine Stein (USACE)
Mr. Jason L'Ecuyer (USACE)
Mr. Bradley Brink (USACE)
Mr. Kirk Boese (USACE)
Mr. Brady Bigelow (ECC)

Corporate Office

1240 Bayshore Highway
Burlingame, CA 94010

Phone: 650.347.1555
Fax: 650.347.8789
www.ecc.net

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE: March 4, 2011	TRANSMITTAL NO. 2011-021

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by contractor)

Attn: Jerry Montgomery USACE, Kansas City District 601 E. 12th St. Kansas City, MO 64106-2896	FROM: John Ryder ECC 1746 Cole Blvd, Bldg 21, Lakewood, CO 80401	CONTRACT NO. W912DQ-08-D-0001, Task Order 0002	CHECK ONE: __X__ THIS IS A NEW TRANSMITTAL ____ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SECTION NO. (cover only one section with each transmittal)	PROJECT TITLE AND LOCATION: Groundwater Monitoring Program, Former Nebraska Ordnance Plant, Mead, Nebraska		CHECK ONE: ___ FIO __X__ For Govt. Approval

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type, size, model number, etc.)* *b.*	MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction No. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruc. no. 6)* *h.*	FOR C E USE CODE *i.*
1	Quality Control Summary Report - Final		1					
	Fourth Quarter 2010 Goundwater Monitoring Program Sampling Events							

REMARKS
Kristine Stein (USACE)
Jason L'Ecuyer (USACE)
Bradley Brink (USACE)
Kirk Boese (USACE)
Mead Library

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
John Ryder, Denver Operations Group

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

FINAL
QUALITY CONTROL SUMMARY REPORT
FOURTH QUARTER 2010

GROUNDWATER MONITORING PROGRAM
SAMPLING EVENTS

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

March 2011

ECC
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, Colorado 80401

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1.0 INTRODUCTION

Monitoring well and surface water sampling were conducted between October 20 and November 11, 2010 at the former Nebraska Ordnance Plant, near Mead, Nebraska. All sampling activities were performed in accordance with the *Site Wide Work Plan* (ECC, 2009). This Quality Control Summary Report presents a summary of the chemical data quality review for the Fourth Quarter 2010 monitoring well and surface water sampling event.

Samples were analyzed for one or both of the following constituents:

- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260B
- Explosives by EPA Method 8330

All analyses were performed by TestAmerica of South Burlington, Vermont.

Table 1-1 presents a complete list of the monitoring wells planned for sample collection, the corresponding sample identifications (IDs), and the requested analyses for the Fourth Quarter 2010 monitoring well sampling event. Table 1-2 presents the surface water locations planned for sample collection, the corresponding sample IDs, and the requested analyses for the Fourth Quarter 2010 surface water sampling event.

The chain-of-custody (COC) and field notes are included as Appendices A and B, respectively. Appendix C presents an explanation of data validation qualifiers and drinking water standards. Appendix D contains a compact disc (CD) with all analytical data.

2.0 FIELD SAMPLING ACTIVITIES

Samples from 141 wells were collected during the Fourth Quarter 2010 monitoring well sampling event. Six of these sample locations were sampled using both low-flow and passive methods. VOCs were sampled in 123 of the wells and 130 wells were sampled for explosives. Twenty two field duplicate samples, six matrix spike (MS)/matrix spike duplicate (MSD) pairs, and five rinsate blanks were also collected with the monitoring well samples. Additionally, nine trip blanks were included with the volatile shipments.

Two wells MW-20A and MW-20C were scheduled for explosives and VOCs; however, only the volatile sample was collected from these locations because there was insufficient sample to collect the explosive analysis.

During the Fourth Quarter 2010 surface water sampling event, thirteen surface water locations were sampled. In addition, two field duplicate samples and one MS/MSD sample were collected. One trip blank was included with the volatile shipment.

Table 2-1 and Table 2-2 provide the following sample collection information for monitoring well and surface water sampling events, respectively:

- Quality Control (QC) sample information (field duplicates);
- MS/MSD sample information;
- A cross-reference between laboratory sample IDs and field sample IDs;
- Sample delivery group (SDG) numbers;
- COC numbers;
- Dates of sample collection and sample receipt by the laboratory; and
- Requested analyses.

3.0 DATA QUALITY EVALUATION PROCEDURES

The following subsections present results of the data quality evaluation. This evaluation was performed in accordance with the *Mead Validation Guidelines*, (ECC, 2007, approved by United States Army Corps of Engineers [USACE] 2007). Qualifiers were assigned based on laboratory QC criteria. Data quality evaluation results are presented in Table 3-1 for the monitoring wells and in Table 3-2 for the surface water samples according to field sample ID. The QC outliers for the VOC and explosives analyses are presented in Table 3-3 and Table 3-4, respectively, for the monitoring wells. The QC outliers for the explosives analyses are presented in Table 3-5 for the surface water samples. QC outliers were not assigned to the VOC analyses for the surface water samples.

3.1 Sample Receipt at the Laboratory

The samples were received in good condition and the sample coolers were received within the recommended temperature range of 4 ± 2° C or just below 2° C, but not frozen.

According to the sample receipt notes, one VOC sample vial and one explosive sample bottle were received broken. Sufficient sample was collected to complete the analysis.

3.2 Holding Times

All samples were prepared and analyzed within the required holding times.

Note: According to the VOC sample preparation records, the pH for sample SMW-018M-102010 was seven. This sample was analyzes within seven days of collection and no action was taken.

3.3 Tuning and Calibration

According to the *Mead Validation Guidelines* (ECC, 2007), assessment of tune and calibration information is assessed using the laboratory case-narrative or summary forms. No deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case

narratives and evaluation of the calibration summary forms indicated that all project criteria were met.

3.4 Laboratory Method Blanks

A laboratory method blank is an analyte-free matrix that is carried through the entire preparation and analysis sequence for the purpose of identifying potential contamination introduced during preparation and analysis. Method blanks were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections are qualified as non-detect (U) if the concentration in the sample is less than 5 times the concentration in the associated blank. For common laboratory contaminants, detections are qualified as non-detect (U) if the concentration in the sample is less than 10 times the concentration in the associated blank. Sample results that are either non-detect (U), or greater than 5 or 10 times the blank result do not require qualification.

Trichloroethene (TCE) was detected in a method blank, below the laboratory limit of quantitation (LOQ), that resulted in qualifying three TCE results (two samples and one trip blank) as non-detect in monitoring well samples. Refer to Table 3-1 for data quality evaluation results for the monitoring well sampling event and qualified samples. Table 3-3 presents the VOC QC outliers and associated samples for all assigned qualifiers for the monitoring well sampling event.

3.5 Trip Blanks

A trip blank is an analyte-free matrix that accompanies samples through the sample collection and transportation process to identify potential VOC contamination. In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections are qualified as non-detect (U) if the concentration in the sample is less than 5 times the concentration in the associated blank (10 times for common laboratory contaminants). Sample results that are either non-detect (U), or greater than 5 or 10 times the blank result do not require qualification.

TCE was detected in a trip blank; however, because TCE was also detected in the associated method blank, this result was qualified as not detected due to laboratory method blank detection.

3.6 Rinsate Blanks

A rinsate blank is a sample of analyte-free rinse water that is poured over decontaminated field sampling equipment prior to further sample collection. Rinsate blanks identify potential contamination introduced during the sample collection process. In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections are qualified as non-detect (U) if the concentration in the sample is less than 5 times the concentration in the associated blank (10 times for common laboratory contaminants). Sample results that are either non-detect (U), or greater than 5 or 10 times the blank result do not require qualification.

TCE was detected in a rinsate blank; however, no qualification was necessary because the associated sample results were greater than five times the blank value.

3.7 Surrogates

Surrogates are compounds not normally found in the environment that are added (spiked) into samples prior to extraction (for extractable methods) or prior to analysis (for non-extractable methods). The percent recovery (% REC) of each surrogate is used to assess the success of the sample preparation process for an individual sample.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for associated analytes in the affected samples are J-coded for detects and UJ-coded for non-detects if the surrogate % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for associated analytes in the affected samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects.

The % REC for 1,2-dinitrobenzene on the confirmation column in the explosive analysis of numerous samples exceeded the laboratory QC limits. However, no qualification was required because all associated results were reported from the primary column, which met all % REC criteria for these samples.

3.8 Laboratory Control Sample / Laboratory Control Sample Duplicate

A laboratory control sample (LCS) consists of a matrix, similar to that of the field sample, which is spiked with known concentrations of analytes. The LCS % REC is a measure of the accuracy of the preparation and analytical methods. The laboratory control sample duplicate (LCSD) is a duplicate preparation and analysis of the LCS. The differences between the LCS and LCSD recoveries are used to calculate the relative percent differences (RPD), which is a measure of the precision of the preparation and analytical methods. LCS samples were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the LCS % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if the % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds 30%.

The % REC for 2,4-dinitrotoluene in two LCS analyses exceeded QC limits of 70-115%; however, no qualification was necessary because this compound was not detected in the associated samples. All other LCS/LCSD % RECs were within laboratory QC limits and all RPDs were less than 30%.

3.9 Matrix Spike / Matrix Spike Duplicate

MS and MSD samples were analyzed for both volatile organic analyses and explosives. A field sample is split into three portions (original, MS, and MSD) and known amounts of analytes are added (spiked) into the MS and MSD portions of the sample. The analytical results of these two portions are compared to each other for reproducibility using the RPD. These results are also compared against the un-spiked portion of the sample for % REC of the spiked analytes. MS/MSD analyses were performed on the appropriate samples collected, see Table 2- 1. Several additional explosive MS/MSD analyses were performed by the laboratory.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects and UJ-coded for non-detects if the MS/MSD % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects if the MS/MSD % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated parent samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds QC limits.

The % RECs for TCE in one of the MS/MSD analyses for the monitoring well sampling event were considered unusable because the sample concentration was over ten times greater than the spike concentration. Additionally, the % REC for hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) in the MS analysis of the surface water sampling event exceeded criteria. No qualification was necessary, because the associated result for RDX in the parent sample was not detected.

All remaining % RECs and all RPDs were within QC limits.

3.10 Field Duplicates

Field duplicates provide information regarding the reproducibility of analytical results and account for error introduced from handling, shipping, preparing, and analyzing field samples.

The following field duplicate pairs were collected during the Fourth Quarter 2010 monitoring well sampling event:

- SMW-018M-102010 / SMW-218M-102010 (VOCs)
- DMW-035-102010 / DMW-235-102010 (VOCs and Explosives)
- DMW-038-102010 / DMW-238-102010 (VOCs and Explosives)
- AMW-041-102010 / AMW-241-102010 (VOCs and Explosives)
- BMW-041-102010 / BMW-241-102010 (VOCs and Explosives)
- BMW-046-102010 / BMW-246-102010 (VOCs and Explosives)
- BMW-062-102010 / BMW-262-102010 (VOCs and Explosives)
- BMW-0102-102010 / BMW-2102-102010 (VOCs and Explosives)
- BMW-0106-102010 / BMW-2106-102010 (VOCs and Explosives)
- BMW-0118-102010 / BMW-2118-102010 (VOCs and Explosives)
- BMW-0128-102010 / BMW-2128-102010 (Explosives)

- BMW-0129-102010 / BMW-2129-102010 (Explosives)
- AMW-0130-102010 / AMW-2130-102010 (Explosives)
- BMW-0130-102010 / BMW-2130-102010 (Explosives)
- DMW-0132-102010 / DMW-2132-102010 (Explosives)
- DMW-0133-102010 / DMW-2133-102010 (VOCs)
- DMW-0134-102010 / DMW-2134-102010 (VOCs)
- EMW-0144-102010 / EMW-2144-102010 (VOCs and Explosives)
- BMW-0148-102010 / DMW-2148-102010 (VOCs and Explosives
- AMW-0153-102010LF / AMW-2153-102010LF (VOCs and Explosives)
- BMW-0154-102010 / BMW-2154-102010 (VOCs and Explosives)
- EMW-0155-102010 / EMW-2155-102010 (VOCs and Explosives)

The following field duplicate pairs were collected during the Fourth Quarter 2010 surface water sampling event:

- SW-005-102010 / SW-205-102010 (VOCs and Explosives)
- SCW-006-102010 / SCW-206-102010 (VOCs and Explosives)

All field duplicate precision was met, with the exception of RDX in two field duplicate pairs, 4-amino-2,6-dinitrotoluene in one field duplicate pair, 2-amino-4,6-dinitrotoluene in one field duplicate pair, and trans-1,2-dichloroethene in one field duplicate pair for the monitoring well sampling event. In accordance with the *Mead Validation Guidelines* (ECC, 2007), data are not qualified based on field duplicate sample results. Field duplicate results are considered acceptable when one result is not detected and the other result is detected below the LOQ.

3.11 Dilutions and Re-analyses

Qualifiers assigned as a result of calibration range exceedance are not used in the calculation of analytical data completeness percentages if there are acceptable results from diluted sample analyses.

Ten sample results for TCE and six sample results for RDX from the monitoring well sampling event were reported from diluted analyses because the initial results exceeded the calibration range. According to the *Mead Validation Guidelines* (ECC, 2007), results exceeding the calibrations range are not used for reporting or project decisions when acceptable results from dilutions are available. Therefore, the secondary diluted concentrations should be used for these compounds and the initial least dilute analysis should be used for all other results for these samples. The diluted results other than for the results listed above are not used. Refer to Table 3-1 for data quality evaluation results and qualified samples for the monitoring well sampling event. Table 3-3 and Table 3-4 present a detailed list of samples and compounds exceeding the calibration range and the associated diluted results for monitoring wells. Qualifiers were not assigned as a result of calibration range exceedance for the surface water sampling event.

3.12 Other Quality Control Parameters

All detected explosive results were confirmed on a second column. A column comparison between the detected explosive results was made using explosive identification summary forms. The validator confirmed all reported explosive detections for both columns and the intercolumn RPDs.

Detected results with the intercolumn RPDs exceeding 40% are qualified as estimated (J). Refer to Table 3-1 and Table 3-2 for data quality evaluation results and qualified samples monitoring well and surface water sampling events, respectively. Table 3-4 and Table 3-5 present the explosive QC outliers and associated samples for all assigned qualifiers monitoring well and surface water sampling events, respectively. These qualifiers were not used to determine analytical completeness or project completeness.

3.13 Laboratory Qualifiers

Analytes detected below the LOQ, but above the limit of detection (LOD) were quantified and results were assigned an estimated (J) qualifier by the laboratory. These qualifiers were carried over by the validator and were not used to determine analytical completeness or project completeness (Section 4.0).

4.0 OVERALL ASSESSMENT

The following subsections present the field completeness, analytical completeness, and project completeness determinations for the Fourth Quarter 2010 monitoring well and surface water sampling events.

4.1 Field Completeness

Field completeness for sample collection is assessed by comparing the number of samples collected to the number of samples planned for collection. Field completeness for the monitoring well sampling event was 100% for VOCs and 98.7% for explosives. Field completeness for the surface water sampling events was 100% for both VOCs and explosives. The overall field completeness percentage was 99.3% for the monitoring well and 100% for the surface water Fourth Quarter 2010 sampling events. All field completeness percentages exceed the field completeness goal of 95%. Section 2.0 presents the field sampling activities, including any deviations from planned sampling if applicable. Table 4-1 and Table 4-2 present field completeness values for the monitoring well and surface water sampling events, respectively.

4.2 Analytical Completeness

Analytical completeness is calculated as both acceptable data completeness and quality data completeness.

Acceptable data is a measure of laboratory contract compliance. Acceptable data includes data

that have not been rejected or qualified as estimated (J). Qualified data are considered acceptable if appropriate corrective actions were taken by the laboratory. Acceptable data completeness percentages for VOCs (100%) and explosives (100%) met the acceptable data completeness goals for each analytical method of 90% for the monitoring well sampling event. Acceptable data completeness percentages for VOCs (100%) and explosives (100%) met the acceptable data completeness goals for each analytical method of 90% for the surface water sampling event. The overall acceptable data completeness at 100% for the monitoring well sampling event and 100% for the surface water sampling event both meet the goal of 95%.

Quality data is a measure of the percentage of usable data points. Usable data points include all non-rejected data. Rejected data points with replacement data do not count against the quality data completeness. No data were rejected for the fourth quarter 2010 monitoring well and surface water sampling events. The quality data completeness percentage for VOCs and explosives, considered separately, is 100%. Overall quality data completeness is therefore 100%, which exceeds the quality data completeness goal of 80% for the monitoring well and surface water sampling events. Table 4-3 and Table 4-4 present analytical data completeness values for monitoring well and surface water sampling events, respectively.

4.3 Project Completeness

Project completeness combines sampling and analytical protocols to assess the project as a whole. Project completeness is assessed by comparing the percentage of samples/measurements that are determined to be usable to the total number of samples/measurements planned. Project completeness is calculated using field completeness and analytical completeness (quality data) percentages. Analytical completeness for both sampling events was 100%. Field completeness was 99.3% and 100% for the monitoring well and surface water sampling events respectively. The monitoring well project completeness percentage of 99.7% and the surface water project completeness percentage of 100% exceeded the project completeness goal of 90%. Table 4-5 and Table 4-6 present project completeness values for monitoring well and surface water sampling events, respectively.

5.0 CONCLUSIONS

No data points were qualified as rejected (R). Data are valid for use, as qualified. Overall field completeness is 99.3%, acceptable data completeness is 100%, quality data completeness is 100%, and the overall project completeness is 99.7% for the fourth quarter monitoring well sampling event. Overall field completeness is 100%, acceptable data completeness is 100%, quality data completeness is 100%, and the overall project completeness is 100% for the fourth quarter surface water sampling event. Two sample results detected below the laboratory LOQ for TCE were qualified non-detect due to method blank detections. Analytical and project completeness are not effected. Six sample results for RDX and ten sample results for TCE were reported from a dilution due to calibration range exceedance, but do not effect analytical or project completeness. Detected results qualified as estimated for intercolumn RPDs exceedances do not effect analytical or project completeness.

6.0 REFERENCES

ECC, 2009, *Site Wide Work Plan* (ECC, 2009).

ECC, 2007 *Mead Validation Guidelines*， (approved by USACE 2007).

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Tables

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Table 1-1
Sample Locations, Sample IDs, and Analyses
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Monitoring Wells	Sample Identifications	Analyses[1]
MW-06-018	DMW-018M-102010	Explosives, Volatiles
MW-06-018	SMW-018M-102010	Explosives, Volatiles
MW-20A[2]	AMW-020-102010	Volatiles
MW-20B	BMW-020-102010	Explosives, Volatiles
MW-20C[2]	CMW-020-102010	Volatiles
MW-06-31A	AMW-031M-102010	Explosives, Volatiles
MW-06-31B	BMW-031M-102010	Explosives, Volatiles
MW-35A	AMW-035-102010	Explosives, Volatiles
MW-35B	BMW-035-102010	Explosives, Volatiles
MW-35D	DMW-035-102010	Explosives, Volatiles
MW-38A	AMW-038-102010	Explosives, Volatiles
MW-38D	DMW-038-102010	Explosives, Volatiles
MW-41A	AMW-041-102010	Explosives, Volatiles
MW-41B	BMW-041-102010	Explosives, Volatiles
MW-41D	DMW-041-102010	Explosives, Volatiles
MW-46A	AMW-046-102010	Explosives, Volatiles
MW-46B	BMW-046-102010	Explosives, Volatiles
MW-46D	DMW-046-102010	Explosives, Volatiles
MW-61A	AMW-061-102010	Explosives, Volatiles
MW-61B	BMW-061-102010	Explosives, Volatiles
MW-61D	DMW-061-102010	Explosives, Volatiles
MW-62A	AMW-062-102010	Explosives, Volatiles
MW-62B	BMW-062-102010	Explosives, Volatiles
MW-62D	DMW-062-102010	Explosives, Volatiles
MW-81A	AMW-081-102010	Explosives, Volatiles
MW-81B	BMW-081-102010	Explosives, Volatiles
MW-81D	DMW-081-102010	Explosives, Volatiles
MW-83A	AMW-083-102010	Explosives, Volatiles
MW-83B	BMW-083-102010	Explosives, Volatiles
MW-83D	DMW-083-102010	Explosives, Volatiles
MW-84A	AMW-084-102010	Explosives, Volatiles
MW-84B	BMW-084-102010	Explosives, Volatiles
MW-84D	DMW-084-102010	Explosives, Volatiles
MW-85A	AMW-085-102010	Explosives, Volatiles
MW-85B	BMW-085-102010	Explosives, Volatiles
MW-85D	DMW-085-102010	Explosives, Volatiles
MW-89E	EMW-089-102010	Explosives, Volatiles
MW-94A	AMW-094-102010	Explosives
MW-94B	BMW-094-102010	Explosives
MW-94D	DMW-094-102010	Explosives
MW-95A	AMW-095-102010	Explosives, Volatiles
MW-95B	BMW-095-102010	Explosives, Volatiles
MW-95D	DMW-095-102010	Explosives, Volatiles
MW-102A	AMW-0102-102010	Explosives, Volatiles
MW-102B	BMW-0102-102010	Explosives, Volatiles
MW-102D	DMW-0102-102010	Explosives, Volatiles
MW-103A	AMW-0103-102010	Explosives, Volatiles
MW-103B	BMW-0103-102010	Explosives, Volatiles
MW-103D	DMW-0103-102010	Explosives, Volatiles
MW-106A	AMW-0106-102010	Explosives, Volatiles

Table 1-1
Sample Locations, Sample IDs, and Analyses
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Monitoring Wells	Sample Identifications	Analyses[1]
MW-106B	BMW-0106-102010	Explosives, Volatiles
MW-106D	DMW-0106-102010	Explosives, Volatiles
MW-107A	AMW-0107-102010	Explosives, Volatiles
MW-107B	BMW-0107-102010	Explosives, Volatiles
MW-107D	DMW-0107-102010	Explosives, Volatiles
MW-108A	AMW-0108-102010	Explosives, Volatiles
MW-108B	BMW-0108-102010	Explosives, Volatiles
MW-108D	DMW-0108-102010	Explosives, Volatiles
MW-110A	AMW-0110-102010	Explosives, Volatiles
MW-110B	BMW-0110-102010	Explosives, Volatiles
MW-110D	DMW-0110-102010	Explosives, Volatiles
MW-112A	AMW-0112-102010	Explosives, Volatiles
MW-112B	BMW-0112-102010	Explosives, Volatiles
MW-113A	AMW-0113-102010	Explosives, Volatiles
MW-113B	BMW-0113-102010	Explosives, Volatiles
MW-113D	DMW-0113-102010	Explosives, Volatiles
MW-114A	AMW-0114-102010	Explosives, Volatiles
MW-114B	BMW-0114-102010	Explosives, Volatiles
MW-114D	DMW-0114-102010	Explosives, Volatiles
MW-115A	AMW-0115-102010	Explosives, Volatiles
MW-115B	BMW-0115-102010	Explosives, Volatiles
MW-115D	DMW-0115-102010	Explosives, Volatiles
MW-116A	AMW-0116-102010	Explosives, Volatiles
MW-116B	BMW-0116-102010	Explosives, Volatiles
MW-116D	DMW-0116-102010	Explosives, Volatiles
MW-117A	AMW-0117-102010	Explosives, Volatiles
MW-117B	BMW-0117-102010	Explosives, Volatiles
MW-117D	DMW-0117-102010	Explosives, Volatiles
MW-118A	AMW-0118-102010	Explosives, Volatiles
MW-118B	BMW-0118-102010	Explosives, Volatiles
MW-128A	AMW-0128-102010	Explosives
MW-128B	BMW-0128-102010	Explosives
MW-128D	DMW-0128-102010	Explosives
MW-129A	AMW-0129-102010	Explosives
MW-129B	BMW-0129-102010	Explosives
MW-129D	DMW-0129-102010	Explosives
MW-130A	AMW-0130-102010	Explosives
MW-130B	BMW-0130-102010	Explosives
MW-130D	DMW-0130-102010	Explosives
MW-131A	AMW-0131-102010	Explosives
MW-131B	BMW-0131-102010	Explosives
MW-131D	DMW-0131-102010	Explosives
MW-132A	AMW-0132-102010	Explosives
MW-132B	BMW-0132-102010	Explosives
MW-132D	DMW-0132-102010	Explosives
MW-133A	AMW-0133-102010	Volatiles
MW-133B	BMW-0133-102010	Volatiles
MW-133D	DMW-0133-102010	Volatiles
MW-134A	AMW-0134-102010	Volatiles
MW-134B	BMW-0134-102010	Volatiles
MW-134D	DMW-0134-102010	Volatiles

Table 1-1
Sample Locations, Sample IDs, and Analyses
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Monitoring Wells	Sample Identifications	Analyses[1]
MW-135A	AMW-0135-102010	Volatiles
MW-135B	BMW-0135-102010	Volatiles
MW-135D	DMW-0135-102010	Volatiles
MW-141A	AMW-0141-102010	Explosives, Volatiles
MW-141B	BMW-0141-102010	Explosives, Volatiles
MW-141E	EMW-0141-102010	Explosives, Volatiles
MW-142A	AMW-0142-102010	Explosives, Volatiles
MW-142B	BMW-0142-102010	Explosives, Volatiles
MW-143B	BMW-0143-102010	Explosives, Volatiles
MW-144A	AMW-0144-102010	Explosives, Volatiles
MW-144E	EMW-0144-102010	Explosives, Volatiles
MW-145A	AMW-0145-102010	Explosives, Volatiles
MW-145E	EMW-0145-102010	Explosives, Volatiles
MW-146A	AMW-0146-102010	Explosives, Volatiles
MW-146B	BMW-0146-102010	Explosives, Volatiles
MW-147A	AMW-0147-102010	Explosives, Volatiles
MW-147B	BMW-0147-102010	Explosives, Volatiles
MW-147D	DMW-0147-102010	Explosives, Volatiles
MW-148B	BMW-0148-102010	Explosives, Volatiles
MW-149A	AMW-0149-102010	Explosives, Volatiles
MW-150A	AMW-0150-102010	Explosives, Volatiles
MW-150B	BMW-0150-102010	Explosives, Volatiles
MW-151A	AMW-0151-102010	Explosives, Volatiles
MW-151B	BMW-0151-102010	Explosives, Volatiles
MW-152B	BMW-0152-102010	Explosives, Volatiles
MW-153A[3]	AMW-0153-102010	Explosives, Volatiles
MW-153B	BMW-0153-102010	Explosives, Volatiles
MW-154A[3]	AMW-0154-102010	Explosives, Volatiles
MW-154B[3]	BMW-0154-102010	Explosives, Volatiles
MW-155A	AMW-0155-102010	Explosives, Volatiles
MW-155E	EMW-0155-102010	Explosives, Volatiles
MW-156A	AMW-0156-102010	Explosives, Volatiles
MW-156B	BMW-0156-102010	Explosives, Volatiles
MW-157A	AMW-0157-102010	Explosives, Volatiles
MW-157B	BMW-0157-102010	Explosives, Volatiles
MW-158A[3]	AMW-0158-102010	Explosives, Volatiles
MW-158B[3]	BMW-0158-102010	Explosives, Volatiles
MW-158D[3]	DMW-0158-102010	Explosives, Volatiles
MW-159A	AMW-0159-102010	Explosives, Volatiles
MW-159B	BMW-0159-102010	Explosives, Volatiles

Notes:

[1] = Explosives by EPA Method 8330 and Volatiles by EPA Method 8260

[2] =Only the volatile sample was collected from these locations. There was insufficient sample volume for the explosive samples.

[3] = These locations were sampled using both lowflow and passive methods.

MW = monitoring well

EPA = Environmental Protection Agency

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Table 1-2
Sample Locations, Sample IDs, and Analyses
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Surface Water Locations	Sample IDs	Analyses[1]
ARTESIAN	OART-102010	Explosives, Volatiles
SCW-04	SCW-004-102010	Explosives, Volatiles
SCW-05	SCW-005-102010	Explosives, Volatiles
SCW-06	SCW-006-102010	Explosives, Volatiles
SKI-01	SKI-001-102010	Explosives, Volatiles
SW-05	SW-005-102010	Explosives, Volatiles
SW-06	SW-006-102010	Explosives, Volatiles
SW-08	SW-008-102010	Explosives, Volatiles
SW-09	SW-009-102010	Explosives, Volatiles
SW-10	SW-010-102010	Explosives, Volatiles
SW-11	SW-011-102010	Explosives, Volatiles
SW-12	SW-012-102010	Explosives, Volatiles
SW-13	SW-013-102010	Explosives, Volatiles

Notes:

[1] = VOCs by Environmental Protection Agency (EPA) SW-846 Method 8260B and Explosives by EPA SW-846 Method 8330.

IDs = Identifications

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Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
Field Samples								
DMW-018M-102010			11/8/2010	11/10/2010	200-2418-4	2418	●	●
SMW-018M-102010			11/8/2010	11/10/2010	200-2418-5	2418	●	●
	SMW-218M-102010		11/8/2010	11/10/2010	200-2418-6	2418	●	
AMW-020-102010			10/20/2010	10/22/2010	200-2115-17	2115	●	
BMW-020-102010			10/20/2010	10/22/2010	200-2115-18	2115	●	●
CMW-020-102010			10/21/2010	10/22/2010	200-2115-1	2115	●	
AMW-031M-102010			11/8/2010	11/10/2010	200-2418-1	2418	●	●
BMW-031M-102010			11/8/2010	11/10/2010	200-2418-3	2418	●	●
AMW-035-102010			10/22/2010	10/23/2010	200-2142-6	2142	●	●
BMW-035-102010			10/22/2010	10/23/2010	200-2142-7	2142	●	●
DMW-035-102010			10/22/2010	10/23/2010	200-2142-8	2142	●	●
	DMW-235-102010		10/22/2010	10/23/2010	200-2142-9	2142	●	●
AMW-038-102010			10/25/2010	10/27/2010	200-2189-10	2189	●	●
DMW-038-102010			10/25/2010	10/27/2010	200-2189-11	2189	●	●
	DMW-238-102010		10/25/2010	10/27/2010	200-2189-12	2189	●	●
AMW-041-102010			10/28/2010	10/29/2010	200-2238-15	2238	●	●
	AMW-241-102010		10/28/2010	10/29/2010	200-2238-16	2238	●	●
BMW-041-102010			10/28/2010	10/29/2010	200-2238-17	2238	●	●
	BMW-241-102010		10/28/2010	10/29/2010	200-2238-18	2238	●	●
DMW-041-102010			10/28/2010	10/29/2010	200-2238-19	2238	●	●
AMW-046-102010			10/27/2010	10/29/2010	200-2238-7	2238	●	●
BMW-046-102010			10/27/2010	10/29/2010	200-2238-8	2238	●	●
		BMW-046-102010MS	10/27/2010	10/29/2010	200-2238-8MS	2238	●	●
		BMW-046-102010MSD	10/27/2010	10/29/2010	200-2238-8MSD	2238	●	●
	BMW-246-102010		10/27/2010	10/29/2010	200-2238-9	2238	●	●
DMW-046-102010			10/27/2010	10/29/2010	200-2238-10	2238	●	●
AMW-061-102010			10/21/2010	10/22/2010	200-2115-2	2115	●	●
BMW-061-102010			10/21/2010	10/22/2010	200-2115-3	2115	●	●
DMW-061-102010			10/21/2010	10/22/2010	200-2115-4	2115	●	●

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
AMW-062-102010			10/20/2010	10/22/2010	200-2115-11	2115	•	•
BMW-062-102010			10/20/2010	10/22/2010	200-2115-12	2115	•	•
		BMW-062-102010MS	10/20/2010	10/22/2010	200-2115-12MS	2115	•	•
		BMW-062-102010MSD	10/20/2010	10/22/2010	200-2115-12MSD	2115	•	•
	BMW-262-102010		10/20/2010	10/22/2010	200-2115-13	2115	•	•
DMW-062-102010			10/20/2010	10/22/2010	200-2115-16	2115	•	•
AMW-081-102010			10/26/2010	10/27/2010	200-2189-20	2189	•	•
BMW-081-102010			10/26/2010	10/27/2010	200-2189-21	2189	•	•
DMW-081-102010			10/26/2010	10/27/2010	200-2189-22	2189	•	•
AMW-083-102010			10/26/2010	10/27/2010	200-2189-17	2189	•	•
BMW-083-102010			10/26/2010	10/27/2010	200-2189-18	2189	•	•
DMW-083-102010			10/26/2010	10/27/2010	200-2189-19	2189	•	•
AMW-084-102010			10/26/2010	10/27/2010	200-2189-14	2189	•	•
BMW-084-102010			10/26/2010	10/27/2010	200-2189-15	2189	•	•
DMW-084-102010			10/26/2010	10/27/2010	200-2189-16	2189	•	•
AMW-085-102010			10/22/2010	10/23/2010	200-2142-10	2142	•	•
BMW-085-102010			10/22/2010	10/23/2010	200-2142-11	2142	•	•
DMW-085-102010			10/22/2010	10/23/2010	200-2142-12	2142	•	•
EMW-089-102010			11/11/2010	11/12/2010	200-2477-35	2477-2	•	•
		EMW-089-102010MS	11/11/2010	11/12/2010	200-2477-35MS	2477-2	•	•
		EMW-089-102010MSD	11/11/2010	11/12/2010	200-2477-35MSD	2477-2	•	•
AMW-094-102010			11/3/2010	11/4/2010	200-2340-8	2340		•
BMW-094-102010			11/3/2010	11/4/2010	200-2340-9	2340		•
DMW-094-102010			11/3/2010	11/4/2010	200-2340-10	2340		•
AMW-095-102010			11/3/2010	11/4/2010	200-2340-1	2340	•	•
BMW-095-102010			11/3/2010	11/4/2010	200-2340-2	2340	•	•
DMW-095-102010			11/3/2010	11/4/2010	200-2340-3	2340	•	•
AMW-0102-102010			11/3/2010	11/4/2010	200-2340-4	2340	•	•
BMW-0102-102010			11/3/2010	11/4/2010	200-2340-5	2340	•	•
	BMW-2102-102010		11/3/2010	11/4/2010	200-2340-6	2340	•	•

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
DMW-0102-102010			11/3/2010	11/4/2010	200-2340-7	2340	•	•
AMW-0103-102010			10/21/2010	10/22/2010	200-2115-5	2115	•	•
BMW-0103-102010			10/21/2010	10/22/2010	200-2115-6	2115	•	•
DMW-0103-102010			10/21/2010	10/22/2010	200-2115-7	2115	•	•
AMW-0106-102010			11/2/2010	11/4/2010	200-2340-11	2340	•	•
BMW-0106-102010			11/2/2010	11/4/2010	200-2340-12	2340	•	•
	BMW-2106-102010		11/2/2010	11/4/2010	200-2340-13	2340	•	•
DMW-0106-102010			11/2/2010	11/4/2010	200-2340-14	2340	•	•
AMW-0107-102010			11/2/2010	11/4/2010	200-2340-15	2340	•	•
BMW-0107-102010			11/2/2010	11/4/2010	200-2340-16	2340	•	•
DMW-0107-102010			11/2/2010	11/4/2010	200-2340-17	2340	•	•
AMW-0108-102010			11/2/2010	11/4/2010	200-2340-18	2340	•	•
BMW-0108-102010			11/2/2010	11/4/2010	200-2340-19	2340	•	•
DMW-0108-102010			11/2/2010	11/4/2010	200-2340-20	2340	•	•
AMW-0110-102010			10/27/2010	10/29/2010	200-2238-4	2238	•	•
BMW-0110-102010			10/27/2010	10/29/2010	200-2238-5	2238	•	•
DMW-0110-102010			10/27/2010	10/29/2010	200-2238-6	2238	•	•
AMW-0112-102010			10/22/2010	10/23/2010	200-2142-1	2142	•	•
BMW-0112-102010			10/22/2010	10/23/2010	200-2142-2	2142	•	•
AMW-0113-102010			10/21/2010	10/22/2010	200-2115-9	2115	•	•
BMW-0113-102010			10/21/2010	10/22/2010	200-2115-8	2115	•	•
DMW-0113-102010			10/21/2010	10/22/2010	200-2115-10	2115	•	•
AMW-0114-102010			10/25/2010	10/27/2010	200-2189-7	2189	•	•
BMW-0114-102010			10/25/2010	10/27/2010	200-2189-8	2189	•	•
DMW-0114-102010			10/25/2010	10/27/2010	200-2189-9	2189	•	•
AMW-0115-102010			10/25/2010	10/27/2010	200-2189-4	2189	•	•
BMW-0115-102010			10/25/2010	10/27/2010	200-2189-5	2189	•	•
DMW-0115-102010			10/25/2010	10/27/2010	200-2189-6	2189	•	•
AMW-0116-102010			10/25/2010	10/27/2010	200-2189-1	2189	•	•
BMW-0116-102010			10/25/2010	10/27/2010	200-2189-2	2189	•	•

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
DMW-0116-102010			10/25/2010	10/27/2010	200-2189-3	2189	•	•
AMW-0117-102010			10/27/2010	10/29/2010	200-2238-1	2238	•	•
BMW-0117-102010			10/27/2010	10/29/2010	200-2238-2	2238	•	•
DMW-0117-102010			10/27/2010	10/29/2010	200-2238-3	2238	•	•
AMW-0118-102010			10/26/2010	10/27/2010	200-2189-23	2189	•	•
BMW-0118-102010			10/26/2010	10/27/2010	200-2189-24	2189	•	•
		BMW-0118-102010MS	10/26/2010	10/27/2010	200-2189-24MS	2189	•	•
		BMW-0118-102010MSD	10/26/2010	10/27/2010	200-2189-24MSD	2189	•	•
	BMW-2118-102010		10/26/2010	10/27/2010	200-2189-25	2189	•	•
AMW-0128-102010			11/4/2010	11/6/2010	200-2388-1	2388		•
BMW-0128-102010			11/4/2010	11/6/2010	200-2388-2	2388		•
	BMW-2128-102010		11/4/2010	11/6/2010	200-2388-3	2388		•
DMW-0128-102010			11/4/2010	11/6/2010	200-2388-4	2388		•
AMW-0129-102010			11/4/2010	11/6/2010	200-2388-8	2388		•
BMW-0129-102010			11/4/2010	11/6/2010	200-2388-9	2388		•
	BMW-2129-102010		11/4/2010	11/6/2010	200-2388-10	2388		•
DMW-0129-102010			11/4/2010	11/6/2010	200-2388-11	2388		•
AMW-0130-102010			11/4/2010	11/6/2010	200-2388-12	2388		•
	AMW-2130-102010		11/4/2010	11/6/2010	200-2388-13	2388		•
BMW-0130-102010			11/4/2010	11/6/2010	200-2388-14	2388		•
	BMW-2130-102010		11/4/2010	11/6/2010	200-2388-15	2388		•
DMW-0130-102010			11/4/2010	11/6/2010	200-2388-16	2388		•
AMW-0131-102010			11/4/2010	11/6/2010	200-2388-5	2388		•
BMW-0131-102010			11/4/2010	11/6/2010	200-2388-6	2388		•
DMW-0131-102010			11/4/2010	11/6/2010	200-2388-7	2388		•
AMW-0132-102010			11/5/2010	11/6/2010	200-2388-18	2388		•
BMW-0132-102010			11/5/2010	11/6/2010	200-2388-20	2388		•
DMW-0132-102010			11/5/2010	11/6/2010	200-2388-21	2388		•
	DMW-2132-102010		11/5/2010	11/6/2010	200-2388-22	2388		•
AMW-0133-102010			11/8/2010	11/10/2010	200-2418-7	2418	•	

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
BMW-0133-102010			11/8/2010	11/10/2010	200-2418-8	2418	•	
DMW-0133-102010			11/8/2010	11/10/2010	200-2418-9	2418	•	
	DMW-2133-102010		11/8/2010	11/10/2010	200-2418-10	2418	•	
AMW-0134-102010			11/9/2010	11/12/2010	200-2477-44	2477-2	•	
BMW-0134-102010			11/9/2010	11/12/2010	200-2477-46	2477-2	•	
DMW-0134-102010			11/9/2010	11/12/2010	200-2477-47	2477-2	•	
		DMW-0134-102010MS	11/9/2010	11/12/2010	200-2477-47MS	2477-2	•	
		DMW-0134-102010MSD	11/9/2010	11/12/2010	200-2477-47MSD	2477-2	•	
	DMW-2134-102010		11/9/2010	11/12/2010	200-2477-48	2477-2	•	
AMW-0135-102010			11/9/2010	11/12/2010	200-2477-49	2477-2	•	
BMW-0135-102010			11/9/2010	11/12/2010	200-2477-50	2477-2	•	
DMW-0135-102010			11/9/2010	11/12/2010	200-2477-51	2477-2	•	
AMW-0141-102010			11/11/2010	11/12/2010	200-2477-30	2477-2	•	•
BMW-0141-102010			11/11/2010	11/12/2010	200-2477-31	2477-2	•	•
EMW-0141-102010			11/11/2010	11/12/2010	200-2477-32	2477-2	•	•
AMW-0142-102010			11/11/2010	11/12/2010	200-2477-33	2477-2	•	•
BMW-0142-102010			11/11/2010	11/12/2010	200-2477-34	2477-2	•	•
BMW-0143-102010			11/10/2010	11/12/2010	200-2477-17	2477-1	•	•
AMW-0144-102010			11/10/2010	11/12/2010	200-2477-21	2477-2	•	•
EMW-0144-102010			11/10/2010	11/12/2010	200-2477-23	2477-2	•	•
	EMW-2144-102010		11/10/2010	11/12/2010	200-2477-24	2477-2	•	•
AMW-0145-102010			11/10/2010	11/12/2010	200-2477-25	2477-2	•	•
EMW-0145-102010			11/10/2010	11/12/2010	200-2477-26	2477-2	•	•
AMW-0146-102010			11/11/2010	11/12/2010	200-2477-39	2477-2	•	•
BMW-0146-102010			11/11/2010	11/12/2010	200-2477-40	2477-2	•	•
AMW-0147-102010			11/11/2010	11/12/2010	200-2477-36	2477-2	•	•
BMW-0147-102010			11/11/2010	11/12/2010	200-2477-37	2477-2	•	•
DMW-0147-102010			11/11/2010	11/12/2010	200-2477-38	2477-2	•	•
BMW-0148-102010			11/10/2010	11/12/2010	200-2477-19	2477-1	•	•
	BMW-2148-102010		11/10/2010	11/12/2010	200-2477-20	2477-1	•	•

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
AMW-0149-102010			11/10/2010	11/12/2010	200-2477-18	2477-1	•	•
AMW-0150-102010			11/10/2010	11/12/2010	200-2477-15	2477-1	•	•
BMW-0150-102010			11/10/2010	11/12/2010	200-2477-16	2477-1	•	•
AMW-0151-102010			11/11/2010	11/12/2010	200-2477-28	2477-2	•	•
BMW-0151-102010			11/11/2010	11/12/2010	200-2477-29	2477-2	•	•
BMW-0152-102010			11/11/2010	11/12/2010	200-2477-27	2477-2	•	•
AMW-0153-102010			11/11/2010	11/12/2010	200-2477-41	2477-2	•	•
			11/10/2010	11/12/2010	200-2477-13	2477-1	•	•
	AMW-2153-102010		11/11/2010	11/12/2010	200-2477-42	2477-2	•	•
BMW-0153-102010			11/10/2010	11/12/2010	200-2477-14	2477-1	•	•
AMW-0154-102010			11/5/2010	11/6/2010	200-2388-23	2388	•	•
			11/10/2010	11/12/2010	200-2477-5	2477-1	•	•
BMW-0154-102010			11/5/2010	11/6/2010	200-2388-24	2388	•	•
			11/10/2010	11/12/2010	200-2477-6	2477-1	•	•
	BMW-2154-102010		11/10/2010	11/12/2010	200-2477-7	2477-1	•	•
AMW-0155-102010			11/10/2010	11/12/2010	200-2477-10	2477-1	•	•
		AMW-0155-102010MS	11/10/2010	11/12/2010	200-2477-10MS	2477-1	•	•
		AMW-0155-102010MSD	11/10/2010	11/12/2010	200-2477-10MSD	2477-1	•	•
EMW-0155-102010			11/10/2010	11/12/2010	200-2477-11	2477-1	•	•
	EMW-2155-102010		11/10/2010	11/12/2010	200-2477-12	2477-1	•	•
AMW-0156-102010			11/10/2010	11/12/2010	200-2477-3	2477-1	•	•
BMW-0156-102010			11/10/2010	11/12/2010	200-2477-4	2477-1	•	•
AMW-0157-102010			11/10/2010	11/12/2010	200-2477-1	2477-1	•	•
BMW-0157-102010			11/10/2010	11/12/2010	200-2477-2	2477-1	•	•

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
AMW-0158-102010			10/22/2010	10/23/2010	200-2142-4	2142	•	•
			10/27/2010	10/29/2010	200-2238-12	2238	•	•
BMW-0158-102010			10/22/2010	10/23/2010	200-2142-3	2142	•	•
			10/27/2010	10/29/2010	200-2238-13	2238	•	•
DMW-0158-102010			10/22/2010	10/23/2010	200-2142-5	2142	•	•
			10/27/2010	10/29/2010	200-2238-14	2238	•	•
AMW-0159-102010			11/10/2010	11/12/2010	200-2477-8	2477-1	•	•
BMW-0159-102010			11/10/2010	11/12/2010	200-2477-9	2477-1	•	•
Rinsate Blanks								
RIN-220-102010			10/21/2010	10/22/2010	200-2115-20	2115	•	•
RIN-2158-102010			10/22/2010	10/23/2010	200-2142-14	2142	•	•
RIN-2154-102010			11/5/2010	11/6/2010	200-2388-17	2388	•	•
RIN-218M-102010			11/8/2010	11/10/2010	200-2418-11	2418	•	•
RIN-2153-102010			11/11/2010	11/12/2010	200-2477-43	2477-2	•	•
Trip Blanks								
TRB-262-102010			10/20/2010	10/22/2010	200-2115-19	2115	•	
TRB-2112-102010			10/22/2010	10/23/2010	200-2142-13	2142	•	
TRB-2116-102010			10/26/2010	10/27/2010	200-2189-13	2189	•	
TRB-2117-102010			10/27/2010	10/29/2010	200-2238-11	2238	•	
TRB-2106-102010			11/2/2010	11/4/2010	200-2340-21	2340	•	
TRB-0132-102010			11/5/2010	11/6/2010	200-2388-19	2388	•	
TRB-231M-102010			11/8/2010	11/10/2010	200-2418-2	2418	•	
TRB-2134-102010			11/9/2010	11/12/2010	200-2477-45	2477-2	•	
TRB-2157-102010			11/10/2010	11/12/2010	200-2477-22	2477-2	•	

Notes:

• = Requested for the indicated analyses.
COC = Chain of Custody Record
ID = Identification
Lab = Laboratory
MS/MSD = Matrix Spike / Matrix Spike Duplicate
SDG = Sample Delivery Group
VOCs = Volatile Organic Compounds

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Table 2-2
Sample Collection Summary
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Analyses	
							VOCs	Explosives
Field Samples								
OART-102010			10/26/2010	10/27/2010	200-2185-13	2185	●	●
SCW-004-102010			10/26/2010	10/27/2010	200-2185-2	2185	●	●
SCW-005-102010			10/26/2010	10/27/2010	200-2185-3	2185	●	●
SCW-006-102010			10/26/2010	10/27/2010	200-2185-5	2185	●	●
	SCW-206-102010		10/26/2010	10/27/2010	200-2185-4	2185	●	●
SKI-001-102010			10/26/2010	10/27/2010	200-2185-16	2185	●	●
SW-005-102010			10/26/2010	10/27/2010	200-2185-14	2185	●	●
		SW-005-102010MS	10/26/2010	10/27/2010	200-2185-14MS	2185	●	●
		SW-005-102010MSD	10/26/2010	10/27/2010	200-2185-14MSD	2185	●	●
	SW-205-102010		10/26/2010	10/27/2010	200-2185-15	2185	●	●
SW-006-102010			10/26/2010	10/27/2010	200-2185-10	2185	●	●
SW-008-102010			10/26/2010	10/27/2010	200-2185-11	2185	●	●
SW-009-102010			10/26/2010	10/27/2010	200-2185-9	2185	●	●
SW-010-102010			10/26/2010	10/27/2010	200-2185-12	2185	●	●
SW-011-102010			10/26/2010	10/27/2010	200-2185-8	2185	●	●
SW-012-102010			10/26/2010	10/27/2010	200-2185-6	2185	●	●
SW-013-102010			10/26/2010	10/27/2010	200-2185-7	2185	●	●
Trip Blanks								
TRB-204-102010			10/26/2010	10/27/2010	200-2185-1	2185	●	

Notes:

● = Requested for the indicated analyses.
COC = Chain of Custody Record
ID = Identification
Lab = Laboratory
MS/MSD = Matrix Spike / Matrix Spike Duplicate
SDG = Sample Delivery Group
VOCs = Volatile Organic Compounds

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Table 3-1
Data Quality Evaluation Results
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for Qualification			Comments	Final Result
										CR	BLANK	RPD		
BMW-035-102010	10/22/2010	2142	200-2142-7	Explosives	RDX	µg/L	0.14	J	J			x	Intercolumn RPD > 40%	0.14 J
BMW-085-102010	10/22/2010	2142	200-2142-11	Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.11	J	J			x	Intercolumn RPD > 40%	0.11 J
EMW-089-102010	11/11/2010	2477-2	200-2477-35	Explosives	RDX	µg/L	0.18	J	J			x	Intercolumn RPD > 40%	0.18 J
AMW-0118-102010	10/26/2010	2189	200-2189-23	Explosives	RDX	µg/L	0.29		J			x	Intercolumn RPD > 40%	0.29 J
BMW-0128-102010	11/4/2010	2388	200-2388-2	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.020	J	J			x	Intercolumn RPD > 40%	0.02 J
BMW-2128-102010	11/4/2010	2388	200-2388-3	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.025	J	J			x	Intercolumn RPD > 40%	0.025 J
DMW-0128-102010	11/4/2010	2388	200-2388-4	Explosives	RDX	µg/L	0.27		J			x	Intercolumn RPD > 40%	0.27 J
BMW-0129-102010	11/4/2010	2388	200-2388-9	Explosives	RDX	µg/L	0.060	J	J			x	Intercolumn RPD > 40%	0.06 J
BMW-2129-102010	11/4/2010	2388	200-2388-10	Explosives	RDX	µg/L	0.087	J	J			x	Intercolumn RPD > 40%	0.087 J
AMW-0141-102010	11/11/2010	2477-2	200-2477-30	VOCs	TCE	µg/L	5700	D		x			Calibration Range Exceeded TCE Reported from Dilution	5700 D
				Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.11	J	J			x	Intercolumn RPD > 40%	0.11 J
BMW-0141-102010	11/11/2010	2477-2	200-2477-31	VOCs	TCE	µg/L	8700	D		x			Calibration Range Exceeded TCE Reported from Dilution	8700 D
				Explosives	RDX	µg/L	67.3	D		x			Calibration Range Exceeded RDX Reported from Dilution	67.3 D
					1,3,5-Trinitrobenzene	µg/L	0.42		J			x	Intercolumn RPD > 40%	0.42 J
					2-Amino-4,6-dinitrotoluene	µg/L	2.7		J			x	Intercolumn RPD > 40%	2.7 J
EMW-0141-102010	11/11/2010	2477-2	200-2477-32	VOCs	TCE	µg/L	10000	D		x			Calibration Range Exceeded TCE Reported from Dilution	10000 D
				Explosives	1,3,5-Trinitrobenzene	µg/L	0.14	J	J			x	Intercolumn RPD > 40%	0.14 J
					2-Amino-4,6-dinitrotoluene	µg/L	0.35	J	J			x	Intercolumn RPD > 40%	0.35 J
AMW-0142-102010	11/11/2010	2477-2	200-2477-33	VOCs	TCE	µg/L	830	D		x			Calibration Range Exceeded TCE Reported from Dilution	830 D
				Explosives	RDX	µg/L	0.58		J			x	Intercolumn RPD > 40%	0.58 J
					2-Amino-4,6-dinitrotoluene	µg/L	0.031	J	J			x	Intercolumn RPD > 40%	0.031 J
BMW-0142-102010	11/11/2010	2477-2	200-2477-34	VOCs	TCE	µg/L	1500	D		x			Calibration Range Exceeded TCE Reported from Dilution	1500 D
EMW-2144-102010	11/10/2010	2477-2	200-2477-24	Explosives	RDX	µg/L	60.9	D		x			Calibration Range Exceeded RDX Reported from Dilution	60.9 D
AMW-0145-102010	11/10/2010	2477-2	200-2477-25	Explosives	RDX	µg/L	80.6	D		x			Calibration Range Exceeded RDX Reported from Dilution	80.6 D

Table 3-1
Data Quality Evaluation Results
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for Qualification			Comments	Final Result
										CR	BLANK	RPD		
EMW-0145-102010	11/10/2010	2477-2	200-2477-26	Explosives	RDX	µg/L	105	D		x			Calibration Range Exceeded RDX Reported from Dilution	105 D
AMW-0147-102010	11/11/2010	2447-2	200-2477-36	VOCs	TCE	µg/L	0.67	JB	U		x		Method blank	1.0 U
BMW-0147-102010	11/11/2010	2447-2	200-2477-37	VOCs	TCE	µg/L	0.47	JB	U		x		Method blank	1.0 U
BMW-0148-102010	11/10/2010	2477-1	200-2477-19	Explosives	RDX	µg/L	43.7	D		x			Calibration Range Exceeded RDX Reported from Dilution	43.7 D
					2-Amino-4,6-dinitrotoluene	µg/L	0.061	J	J			x	Intercolumn RPD > 40%	0.061 J
BMW-2148-102010	11/10/2010	2477-1	200-2477-20	Explosives	RDX	µg/L	50.1	D		x			Calibration Range Exceeded RDX Reported from Dilution	50.1 D
					2-Amino-4,6-dinitrotoluene	µg/L	0.033	J	J			x	Intercolumn RPD > 40%	0.033 J
AMW-0149-102010	11/10/2010	2477-1	200-2477-18	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.051	J	J			x	Intercolumn RPD > 40%	0.051 J
BMW-0150-102010	11/10/2010	2477-1	200-2477-16	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.076	J	J			x	Intercolumn RPD > 40%	0.076 J
BMW-0151-102010	11/11/2010	2477-2	200-2477-29	VOCs	TCE	µg/L	1100	D		x			Calibration Range Exceeded TCE Reported from Dilution	1100 D
AMW-0153-102010	11/10/2010	2477-1	200-2477-13	VOCs	TCE	µg/L	1100	D		x			Calibration Range Exceeded TCE Reported from Dilution	1100 D
AMW-0153-102010LF	11/11/2010	2477-2	200-2477-41	VOCs	TCE	µg/L	930	D		x			Calibration Range Exceeded TCE Reported from Dilution	930 D
AMW-2153-1020LF	11/11/2010	2477-2	200-2477-42	VOCs	TCE	µg/L	980	D		x			Calibration Range Exceeded TCE Reported from Dilution	980 D
BMW-0154-102010	11/10/2010	2477-1	200-2477-6	Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.13	J	J			x	Intercolumn RPD > 40%	0.13 J
AMW-0155-102010	11/10/2010	2477-1	200-2477-10	VOCs	TCE	µg/L	790	D		x			Calibration Range Exceeded TCE Reported from Dilution	790 D
DMW-0158-102010	10/27/2010	2238	200-2238-14	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.036	J	J			x	Intercolumn RPD > 40%	0.036 J
					4-Amino-2,6-dinitrotoluene	µg/L	0.13	J	J			x	Intercolumn RPD > 40%	0.13 J
TRB-2134-102010	11/9/2010	2447-2	200-2477-45	VOCs	TCE	µg/L	0.37	JB	U		x		Method blank	1.0 U

Notes:

CR = Calibration Range
D = Result from dilution
DL/D1 = Dilution
E = Laboratory qualifier indicating a calibration range exceedance
J = Qualified as estimated
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group
SUR = Surrogate
TCE = Trichloroethene
U = Qualified as non-detect
µg/L = micrograms per liter
VOCs = Volatile organic compounds

Table 3-2
Data Quality Evaluation Results
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for Qualification		Comments	Final Result
										CR	RPD		
SW-205-102010	10/26/2010	2185	200-2185-15	Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.048	J	J		x	Intercolumn RPD > 40%	0.048 J
SW-006-102010	10/26/2010	2185	200-2185-10	Explosives	1,3,5-Trinitrobenzene	µg/L	0.057	J	J		x	Intercolumn RPD > 40%	0.057 J
OART-102010	10/26/2010	2185	200-2185-13	Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.064	J	J		x	Intercolumn RPD > 40%	0.064 J

Notes:

J = Qualified as estimated
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group
ug/L = micrograms per liter
CR = Calibration Range

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Table 3-3
VOC Quality Control Outliers
Fourth Quarter 2010 Monitering Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Dilutions and Reanalyses (E flags are not used in completeness percentage when dilution available)					
AMW-0141-102010	Various	TCE	Calibration Range Exceedance	Linear Calibration Range	5700 D
BMW-0141-102010					8700 D
EMW-0141-102010					10000 D
AMW-0142-102010					830 D
BMW-0142-102010					1500 D
BMW-0151-102010					1100 D
AMW-0153-102010					1100 D
AMW-0153-102010LF					930 D
AMW-2153-102010LF					980 D
AMW-0155-102010					790 D
Blanks (flags are not used in completenes percentage)					
AMW-0147-102010	2477-2	TCE	Method Blank	ND	0.54 ug/L
BMW-0147-072010					
TRB-2134-102010					

Notes:

D = Result from dilution
E = Exceeds Calibration Range
ID = Identification
QC = Quality Control
RPD = Relative Percent Difference
SDG = Sample Delivery Group
TCE = Trichloroethene

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Table 3-4
Explosives Quality Control Outliers
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Dilutions and Reanalyses (E flags are not used in completeness percentage when dilution available)					
BMW-0141-102010 EMW-2144-102010 AMW-0145-102010 EMW-0145-102010 BMW-0148-102010 BMW-2148-102010	Various	RDX	Calibration Range Exceedance	Linear Calibration Range	67.3 D 60.9 D 80.6 D 105 D 43.7 D 50.1 D
Other QC (not used to determine analytical completeness or project completeness)					
BMW-035-102010 EMW-089-102010 AMW-0118-102010 DMW-0128-102010 BMW-0129-102010 BMW-2129-102010 AMW-0142-102010	Various	RDX	RPD Between Column Results	< 40%	44.4% 119% 47.4% 59.7% 129% 93.6% 61.9%
BMW-085-102010 AMW-0141-102010 BMW-0154-102010 DMW-0158-102010		4-Amino-2,6-dinitrotoluene			54.3% 189% 40.7% 194%
BMW-0128-102010 BMW-2128-102010 BMW-0141-102010 EMW-0141-102010 AMW-0142-102010 BMW-0148-102010 BMW-2148-102010 AMW-0149-102010 BMW-0150-102010 DMW-0158-102010		2-Amino-4,6-dinitrotoluene			114% 106% 57.7% 123% 157% 110% 166% 47.8% 59.3% 200%
BMW-0141-102010 EMW-0141-102010		1,3,5-Trinitrobenzene			100% 126%

Notes:

D = Result from dilution
E = Exceeds Calibration Range
ID = Identification
QC = Quality Control
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group

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Table 3-5
Explosives Quality Control Outliers
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Other QC (not used to determine analytical completeness or project completeness)					
OART-102010 SW-205-102010	2185	4-Amino-2,6-dinitrotoluene	RPD Between Column Results	< 40%	60.9% 108%
SW-006-102010	2185	1,3,5-Trinitrobenzene	RPD Between Column Results	< 40%	71.2%

Notes:

ID = Identification
% REC = Percent Recovery
QC = Quality Control
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group

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Table 4-1
Field Completeness
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned[1]	Number of Samples Collected	Field Completeness
Volatile Organic Compounds	146	146	100%
Explosives	155	153	98.7%
Totals =	301	299	99.3%
Goal =			95%

Notes:

[1] = Number of samples includes field samples and field duplicate samples.
Nine sample locations were not sampled for volatile organic compounds because the associated extraction well was not yet operating full time. Additionally, four locations had insufficient sample volume for explosives.

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Table 4-2
Field Completeness
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned[1]	Number of Samples Collected	Field Completeness
Volatile Organic Compounds	15	15	100%
Explosives	15	15	100%
Totals =	30	30	100%
Goal =			95%

Notes:

[1] = Number of samples includes field samples and duplicate samples.

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Table 4-3
Analytical Completeness
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters[1]	Acceptable Data[2]	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data[3]	Quality Data Completeness	Quality Data Completeness Goals
Volatile Organic Compounds (6)	876	876	100.0%	90%	876	100%	80%
Explosives (6)	930	930	100.0%	90%	930	100%	80%
Totals =	1806	1806	100%	95%	1806	100%	80%

Notes:

[1] = Total number of parameters includes field samples and field duplicates.

[2] = Acceptable data is defined as data that passed all quality control (QC) criteria, or data that did not pass QC criteria but had appropriate corrective actions taken. Acceptable data completeness is a measure of laboratory contract compliance. R qualified data with acceptable replacement data are not counted.

[3] = Quality data is a measure of the percentage of usable data points (all non-rejected data).

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Table 4-4
Analytical Completeness
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters[1]	Acceptable Data[2]	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data[3]	Quality Data Completeness	Quality Data Completeness Goals
Volatile Organic Compounds (6)	90	90	100%	90%	90	100%	80%
Explosives (6)	90	90	100%	90%	90	100%	80%
Totals =	180	180	100%	95%	180	100%	80%

Notes:

[1] = Total number of parameters includes field samples and field duplicates.

[2] = Acceptable data is defined as data that passed all quality control (QC) criteria, or data that did not pass QC criteria but had appropriate corrective actions taken. Acceptable data completeness is a measure of laboratory contract compliance. R qualified data with acceptable replacement data are not counted.

[3] = Quality data is a measure of the percentage of usable data points (all non-rejected data).

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Table 4-5
Project Completeness
Fourth Quarter 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical[1]	Project Completeness[2]
99.3%	100%	99.7%
Project Completeness Goal =		90%

Notes:
[1] = Analytical completeness is the percentage of usable data (i.e. quality data completeness).
[2] = Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples / measurements that are determined to be usable to the total number of samples / measurements planned.

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Table 4-6
Project Completeness
Fourth Quarter 2010 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical[1]	Project Completeness[2]
100%	100%	100.0%
Project Completeness Goal =		90%

Notes:
[1] = Analytical completeness is the percentage of usable data (i.e. quality data completeness).
[2] = Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples / measurements that are determined to be usable to the total number of samples / measurements planned.

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Appendix A
Chain of Custody Records

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TestAmerica Burlington
0 Community Drive
uite 11
outh Burlington, VT 5403
hone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/21/10	COC No: 102110
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 1 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
akewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
03) 298-7607 Phone	TAT if different from Below			SDG No.
03) 298-7837 FAX	☐ 3 weeks			
roject Name: FNOP 5447.002	☐ 2 weeks			
ite: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
CMW-020-102010	10/21/10	0940	G	W	3	X										5 Day TAT (VOCS)
AMW-061-102010	10/21/10	1050	G	W	5	X	X									5 Day TAT (EXPS)
BMW-061-102010	10/21/10	1125	G	W	5	X	X									
DMW-061-102010	10/21/10	1210	G	W	5	X	X									
AMW-0103-102010	10/21/10	1330	G	W	5	X	X									
BMW-0103-102010	10/21/10	1405	G	W	5	X	X									5 Day TAT (VOC'S)
DMW-0103-102010	10/21/10	1435	G	W	5	X	X									
BMW-0113-102010	10/21/10	1540	G	W	5	X	X									
AMW-0113-102010	10/21/10	1615	G	W	5	X	X									5 Day TAT (VOC'S)
DMW-0113-102010	10/21/10	1650	G	W	5	X	X									5 Day TAT (VOC'S)
~~TRB 261 102010~~	~~10/21/10~~	~~0730~~	~~G~~	~~W~~	~~2~~	~~X~~										5 Day TAT (VOC'S)

Page 5 of 5

reservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

pecial Instructions/QC Requirements & Comments:

	Company:	Date/Time:	Received by:	Company:	Date/Time:
elinquished by: Perry Tim Cole	ICR	10/21/10 1800	Fed-Ex 8730 0092 8428		
elinquished by:				TA	10/22/10 1020
elinquished by:					

TestAmerica Burlington
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outh Burlington, VT 5403
hone 802.660.1990 fax 802.660.1919

Groundwater samples

4TH QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/20/10	COC No: 102110
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W)			
303) 298-7607 Phone	TAT if different from Below			SDG No.
303) 298-7837 FAX	☐ 3 weeks			
roject Name: FNOP 5447.002	☐ 2 weeks			
ite: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW3-062-102010	10/20/10	1200	G	W	5	X	X									5 Day TAT (VOC'S)
BMW-062-102010	10/20/10	1250	G	W	5	X	X									5 Day TAT (VOC'S)
BMW-262-102010	10/20/10	1250	G	W	5	X	X									~~5 Day TAT (VOC'S)~~
BMW-062-102010 MS	10/20/10	1250	G	W	5	X	X									~~5 Day TAT (VOC'S)~~
BMW-062-102010 MSD	10/20/10	1250	G	W	5	X	X									~~5 Day TAT (VOC'S)~~
DMW-062-102010	10/20/10	1355	G	W	5	X	X									5 Day TAT (VOC'S)
AMW3-020-102010 ~~Only able to collect 3-40mL because flow~~	10/20/10	1635	G	W	3	X	~~X~~									
BMW-020-102010	10/20/10	1720	G	W	5	X	X									
TRB-262-102010	10/20/10	0730	G	W	2	X										
RIN-220-102010	10/21/10	0900	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ICR	10/20/10 1800	Fed Ex 8730	0092 8428	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 10/22/10 1020
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4/TH QTR SE

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/22/10	COC No: 10 2 2 10
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			SDG No.
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0112-102010	10/22/10	0830	G	W	5	X	X									5 Day TAT (VOC's)
BMW-0112-102010	10/22/10	0900	G	W	5	X	X									5 Day TAT (VOC's)
BMW-0158-102010	10/22/10	1010	G	W	5	X	X									
AMW-0158-102010	10/22/10	1045	G	W	5	X	X									
DMW-0158-102010	10/22/10	1115	G	W	5	X	X									
AMW-035-102010	10/22/10	1215	G	W	5	X	X									
BMW-035-102010	10/22/10	1245	G	W	4	X	X									
DMW-035-102010	10/22/10	1335	G	W	5	X	X									
DMW-235-102010	10/22/10	1335	G	W	5	X	X									
AMW-085-102010	10/22/10	1440	G	W	5	X	X									
BMW-085-102010	10/22/10	1510	G	W	5	X	X									
DMW-085-102010	10/22/10	1540	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Tony Zu Ma	ICR	10/22/10 1800	FedEx 8730 0092	39 8492	
				TA	10/23/10 0925

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ıth Burlington, VT 5403
one 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/22/10	COC No: 102210
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 2 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			SDG No.
03) 298-7837 FAX	☐ 3 weeks			
oject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-2112-102010	10/22/10	0730	G	W	2	X										
RIN-2158-102010	10/22/10	1230	G	W	5	X	X									

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reservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

pecial Instructions/QC Requirements & Comments:

	Company:	Date/Time:	Received by:	Company:	Date/Time:
elinquished by: Pay Lu Ell	ICR	10/22/10 1600	Fedex 8730	0092 8439	
elinquished by:			Received by:	Company: TA	Date/Time: 10/23/10 0925
elinquished by:			Received by:		

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Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/25/10	COC No: 102610-1
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 1 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W)			SDG No.
303) 298-7607 Phone	TAT if different from Below			
303) 298-7837 FAX	☐ 3 weeks			
roject Name: FNOP 5447.002	☐ 2 weeks			
ite: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
Amw-0116-102010	10/25/10	0835	G	W	5	X	X									
Bmw-0116-102010	10/25/10	0905	G	W	5	X	X									
Dmw-0116-102010	10/25/10	0935	G	W	5	X	X									
Amw-0115-102010	10/25/10	1020	G	W	5	X	X									
Bmw-0115-102010	10/25/10	1050	G	W	5	X	X									
Dmw-0115-102010	10/25/10	1120	G	W	5	X	X									
Amw-0114-102010	10/25/10	1210	G	W	5	X	X									
Bmw-0114-102010	10/25/10	1240	G	W	5	X	X									
Dmw-0114-102010	10/25/10	1320	G	W	5	X	X									
Amw-038-102010	10/25/10	1420	G	W	5	X	X									
Dmw-038-102010	10/25/10	1455	G	W	5	X	X									
Dmw-238-102010	10/25/10	1455	G	W	5	X	X									

reservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

pecial Instructions/QC Requirements & Comments:

	Company:	Date/Time:	Received by:	Company:	Date/Time:
elinquished by: Perry Lane Elle	FCX	10/26/10 1800	Fed-Ex 8730	0092 8450	
elinquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 10/27/10 1010
elinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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hone 802.660.1990 fax 802.660.1919

Groundwater samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/25/10	COC No: 10261O-1
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
Lakewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
DMW-038-102010 MS	10/25/10	1455	G	W	5	X	X									
DMW-038-102010 MSD	10/25/10	1455	G	W	5	X	X									
TB-2116-102010	10/25/10	0730	G	W	2	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Perry Lane Hill	ICR	10/26/10 1800	FCd-CX 8730	0092 8450	
Relinquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 10/27/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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Suite 11
South Burlington, VT 5403
Phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/26/10	COC No: 10 2610-1
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 7 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
Lakewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-084-102010	10/26/10	0840	G	W	5	X	X									
BMW-084-102010	10/26/10	0910	G	W	5	X	X									
DMW-084-102010	10/26/10	0940	G	W	5	X	X									
AMW-083-102010	10/26/10	1040	G	W	5	X	X									
BMW-083-102010	10/26/10	1110	G	W	5	X	X									
DMW-083-102010	10/26/10	1145	G	W	5	X	X									
AMW-081-102010	10/26/10	1255	G	W	5	X	X									
BMW-081-102010	10/26/10	1325	G	W	5	X	X									
DMW-081-102010	10/26/10	1355	G	W	5	X	X									
AMW-118-102010	10/26/10	1520	G	W	5	X	X									
BMW-118-102010	10/26/10	1550	G	W	5	X	X									
BMW-2118-102010	10/26/10	1605	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Perry Lue	ICR	10/26/10 1800	Fed-Ex 8730	0092 845	0
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA	10/27/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

4th QTR SE 2010

stAmerica Burlington
Community Drive
e 11
th Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

Groundwater samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/26/10	COC No: 102610-1
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W) _____			
3) 298-7607 Phone	TAT if different from Below _____			SDG No. ø
3) 298-7837 FAX	☐ 3 weeks			
oject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
D #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
3mw-0118-102010MS	10/26/10	1605	G	W	5	X	X									
3MW-0118-102010MSD	10/26/10	1605	G	W	5	X	X									

Page 663 of 664

eservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

ecial Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Tony Lane	ICE	10/26/10 1645	Fed-ex 8730	0092 8450	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA	10/27/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

stAmerica Burlington
ommunity Drive
: 11
h Burlington, VT 5403
e 802.660.1990 fax 802.660.1919

Surface ~~Groundwater~~ samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10-26-10	COC No: 102610
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 2 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
ewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
3) 298-7607 Phone	TAT if different from Below			SDG No.
3) 298-7837 FAX	☐ 3 weeks			
ect Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-204-102010	10-26-10	0745	G	W	5	X	X									
SW-004-102010	10-26-10	0815	G	W	5	X	X									
SW-005-102010	10-26-10	0830	G	W	5	X	X									
SW-206-102010	10-26-10	0835	G	W	5	X	X									
SW-006-102010	10-26-10	0835	G	W	5	X	X									
SW-012-102010	10-26-10	0845	G	W	5	X	X									
SW-013-102010	10-26-10	0900	G	W	5	X	X									
SW-011-102010	10-26-10	0910	G	W	5	X	X									
SW-009-102010	10-26-10	0925	G	W	5	X	X									
SW-006-102010	10-26-10	0940	G	W	5	X	X									
SW-008-102010	10-26-10	0950	G	W	5	X	X									
SW-010-102010	10-26-10	1005	G	W	5	X	X									

servation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

sible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* [X] *Disposal By Lab* ☐ *Archive For* _____ *Months*

cial Instructions/QC Requirements & Comments:

nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	1800 10-26-10	Fed-ex 8720	0092 8440	
nquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 10/27/10 1010
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

stAmerica Burlington
Community Drive
e 11
th Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

~~Groundwater~~ Surface samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10-26-10	COC No: 102610
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			SDG No.
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			
ject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
OAKT - 102010	10-26-10	1015	G	W	5	X	X									
SW - 005 - 102010	10-26-10	1040	G	W	5	X	X									
SW - 205 - 102010	10-26-10	1040	G	W	5	X	X									
SW - 005 - 102010 MS	10-26-10	1040	G	W	5	X	X									
SW - 005 - 102010 MSD	10-26-10	1040	G	W	5	X	X									
~~SKi - 102010 SKi - 001 - 2010~~ 102010	10-26-10	1055	G	W	5	X	X									
SKi - 001 - 102010																

Page 613 of 614

servation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

sible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

cial Instructions/QC Requirements & Comments:

nquished by: Toby D. Hinz	Company: ECC	Date/Time: 1805 10-26-10	Received by: Fed-Ex 8730	Company: 0092 8440	Date/Time:
nquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 10/27/10 1010
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
0 Community Drive
Suite 11
South Burlington, VT 5403
Phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/27/10	COC No: 102710
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 3 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
Lakewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
Amw-0117-102010	10/27/10	0835	G	W	5	X	X									
Bmw-0117-102010	10/27/10	0905	G	W	5	X	X									
Dmw-0117-102010	10/27/10	0935	G	W	5	X	X									
Amw-0110-102010	10/27/10	1035	G	W	5	X	X									
Bmw-0110-102010	10/27/10	1105	G	W	5	X	X									
Dmw-0110-102010	10/27/10	1135	G	W	5	X	X									
Amw-046-102010	10/27/10	1235	G	W	5	X	X									
Bmw-046-102010	10/27/10	1305	G	W	5	X	X									
Bmw-246-102010	10/27/10	1305	G	W	5	X	X									
Bmw-046-102010 MS	10/27/10	1305	G	W	5	X	X									
Bmw-046-102010 MSD	10/27/10	1305	G	W	5	X	X									
Dmw-046-102010	10/27/10	1405	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Perry Lane Ellis	ECC	10/28/10 1500	FedEx 2730	0092 8416	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA	10/29/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/27/10	COC No: 102710
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-AMW-2117-102010	10/27/10	0730	G	W	2	X										
AMW-0158-102010	10/27/10	0915	G	W	5	X	X									
BMW-0158-102010	10/27/10	0925	G	W	5	X	X									
DMW-0158-102010	10/27/10	0945	G	W	5	X	X									

Page 520 of 522

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Perry Lane Elk	ICR	10/28/10 1500	Fed-Ex 8730	0092 8461	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Chuck Kalb	TA	10/29/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
0 Community Drive
uite 11
outh Burlington, VT 5403
hone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 10/28/10	COC No: 102710
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 3 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-041-102010	10/28/10	0850	G	W	5	X	X									
AMW-241-102010	10/28/10	0850	G	W	5	X	X									
BMW-041-102010	10/28/10	0925	G	W	5	X	X									
BMW-241-102010	10/28/10	0925	G	W	5	X	X									
DMW-041-102010	10/28/10	1000	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	10-28-10	Fed-ex 8730 0092 8461		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Chris Keller	TA	10/29/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

MW

4th QTR SE 2010

Chain of Custody Record

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-2-10	COC No: 110310
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			SDG No.
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0106-102010	11/2/10	0925	G	W	5	X	X									
BMW-0106-102010	11/2/10	0955	G	W	5	X	X									
BMW-2106-102010	11/2/10	0955	G	W	5	X	X									
DMW-0106-102010	11/2/10	1030	G	W	5	X	X									
AMW-0107-102010	11/2/10	1120	G	W	5	X	X									
BMW-0107-102010	11/2/10	1150	G	W	5	X	X									
DMW-0107-102010	11/2/10	1220	G	W	5	X	X									
AMW-0108-102010	11/2/10	1315	G	W	5	X	X									
BMW-0108-102010	11/2/10	1345	G	W	5	X	X									
DMW-0108-102010	11/2/10	1415	G	W	5	X	X									
TRB-2106-102010	11/2/10	0730	G	W	2	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Perry Lane Cole	JCC	11/3/10 1600	Fed-ex 8730	0092 8472	
Relinquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 11/4/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th QTR MW sampling 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11/3/10	COC No: 110310
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-095-102010	11/3/10	0850	G	W	5	X	X									
BMW-095-102010	11/3/10	0920	G	W	5	X	X									
DMW-095-102010	11/3/10	0950	G	W	5	X	X									
AMW-0102-102010	11/3/10	1100	G	W	5	X	X									
BMW-0102-102010	11/3/10	1130	G	W	5	X	X									
DMW-2102-102010	11/3/10	1130	G	W	5	X	X									
DMW-0102-102010	11/3/10	1210	G	W	5	X	X									
AMW-094-102010	11/3/10	1325	G	W	2		X									
BMW-094-102010	11/3/10	1350	G	W	2		X									
DMW-094-102010	11/3/10	1420	G	W	2		X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Percy Lone Elk	ICR	11/3/10 1600	Fed-ex 8730	0092 8472	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				11/4/10 1010	TA
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th Qtr mw sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11/4/10	COC No: 110510
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 3 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0128-102010	11/4/10	0850	G	W	2		X									
BMW-0128-102010	11/4/10	0950	G	W	2		X									
BMW-2128-102010	11/4/10	0950	G	W	2		X									
BMW-0128-102010 MS	11/4/10	0950	G	W	2		X									
BMW-0128-102010 MSD	11/4/10	0950	G	W	2		X									
DMW-0128-102010	11/4/10	0920	G	W	2		X									
AMW-0131-102010	11/4/10	1110	G	W	2		X									
BMW-0131-102010	11/4/10	1135	G	W	2		X									
DMW-0131-102010	11/4/10	1205	G	W	2		X									
AMW-0129-102010	11/4/10	1300	G	W	2		X									
BMW-0129-102010	11/4/10	1330	G	W	2		X									
BMW-2129-102010	11/4/10	1330	G	W	2		X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Percy Lane Sill	ICR	11/5/10 1500	Fed-ex 8730	0092 8483	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA	11/6/10 910
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

stAmerica Burlington
Community Drive
e 11
th Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

Groundwater samples 4th Qtr mw sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11/4/10	COC No: 11 0510
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 3 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			SDG No.
03) 298-7837 FAX	☐ 3 weeks			
oject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
D #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
BMW-0129-102010 MS	11/4/10	1330	G	W	2		X									
BMW-0129-102010 MSD	11/4/10	1330	G	W	2		X									
DMW-0129-102010	11/4/10	1420	G	W	2		X									
AMW-0130-102010	11/4/10	1510	G	W	2		X									
AMW-2130-102010	11/4/10	1510	G	W	2		X									
BMW-0130-102010	11/4/10	1545	G	W	2		X									
BMW-2130-102010	11/4/10	1545	G	W	2		X									
BMW-0130-102010 MS	11/4/10	1545	G	W	2		X									
BMW-0130-102010 MSD	11/4/10	1545	G	W	2		X									
DMW-0130-102010	11/4/10	1630	G	W	2		X									
RIN-2154-102010	11/5/10	1305	G	W	5	X	X									

reservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

pecial Instructions/QC Requirements & Comments:

	Company:	Date/Time:	Received by:	Company:	Date/Time:
elinquished by: Perry Lee Ellis	ICR	11/5/10 1500	Fed-ex 8730 0092 8483		
elinquished by:	Company:	Date/Time:	Received by: Chen Kalu	Company: TA	Date/Time: 11/6/10 910
linquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-5-10	COC No: 110510
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 3 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0132-102010	11-5-10	0915	G	W	2		X									
TRB-0132-102010	11-5-10	0915	G	W	2	X										
BMW-0132-102010	11-5-10	0950	G	W	2		X									
DMW-0132-102010	11-5-10	1015	G	W	2		X									
DMW-2132-102010	11-5-10	1015	G	W	2		X									
AMW-0154-102010	11-5-10	1150	G	W	2		X									
AMW-0154-102010	11-5-10	1150	G	W	3	X										
BMW-0154-102010	11-5-10	1235	G	W	2		X									
BMW-0154-102010	11-5-10	1235	G	W	3	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	11-5-10	Fed-ex 8730	0092 8483	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/6/10 910
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

estAmerica Burlington
Community Drive
ite 11
uth Burlington, VT 5403
one 802.660.1990 fax 802.660.1919

Groundwater samples 4th Quarter MW Sampling 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-8-10	COC No: 110810
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 2 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			SDG No.
03) 298-7837 FAX	☐ 3 weeks			
roject Name: FNOP 5447.002	☐ 2 weeks			
te: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-031M-102010	11-8-10	0845	G	W	5	X	X									
TRB-231M-102010	11-8-10	0845	G	W	2	X										
BMW-031M-102010	11-8-10	0935	G	W	5	X	X									
DMW-018M-102010	11-8-10	1030	G	W	5	X	X									
SMW-08M-102010	11-8-10	1110	G	W	5	X	X									
SMW-218M-102010	11-8-10	1110	G	W	3	X										
AMW-0133-102010	11-8-10	1205	G	W	3	X										
BMW-0133-102010	11-8-10	1230	G	W	3	X										
DMW-0133-102010	11-8-10	1300	G	W	3	X										
DMW-2133-102010	11-8-10	1300	G	W	3	X										
DMW-0133-102010MS	11-8-10	1300	G	W	3	X										
DMW-0133-102010 MSD	11-8-10	1300	G	W	3	X										

reservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

ossible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

pecial Instructions/QC Requirements & Comments:

elinquished by:	Company: ECC	Date/Time: 11-8-10	Received by: FedEx 8730	Company: 0092 8494	Date/Time:
elinquished by:	Company:	Date/Time:	Received by:	Company: TA	Date/Time: 11/10/10
elinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

4th Quarter MW Sampling 2010

Groundwater samples

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-8-10	COC No: 110810
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
RIN-218M-102010	11-8-10	1310	G	W	5	X	X									

Page 369 of 370

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	11-8-10	Fed-x 8730 0092 8494		
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/17/10
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 11110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0157-102010	11-10-10	1255	G	W	5	X	X									
BMW-0157-102010	11-10-10	1300	G	W	5	X	X									
AMW-0156-102010	11-10-10	1315	G	W	5	X	X									
BMW-0156-102010	11-10-10	1320	G	W	5	X	X									
AMW-0154-102010	11-10-10	1335	G	W	5	X	X									
BMW-0154-102010	11-10-10	1340	G	W	5	X	X									
BMW-2154-102010	11-10-10	1340	G	W	5	X	X									
AMW-0159-102010	11-10-10	1405	G	W	5	X	X									
BMW-0159-102010	11-10-10	1410	G	W	5	X	X									
AMW-0155-102010	11-10-10	1430	G	W	5	X	X									
AMW-0155-102010MS	11-10-10	1430	G	W	4	X	X									
AMW-0155-102010MSD	11-10-10	1430	G	W	4	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	FedEx 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
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Groundwater samples 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 11110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-0155-102010	11-10-10	1445	G	W	5	X	X									
EMW-2155-102010	11-10-10	1445	G	W	5	X	X									
AMW-0153-102010	11-10-10	1510	G	W	5	X	X									
BMW-0153-102010	11-10-10	1520	G	W	5	X	X									
AMW-0150-102010	11-10-10	1535	G	W	5	X	X									
BMW-0150-102010	11-10-10	1545	G	W	5	X	X									
BMW-0143-102010	11-10-10	1600	G	W	5	X	X									
AMW-0149-102010	11-10-10	1610	G	W	5	X	X									
BMW-0148-102010	11-10-10	1625	G	W	5	X	X									
BMW-2148-102010	11-10-10	1625	G	W	5	X	X									
AMW-0144-102010	11-10-10	1640	G	W	5	X	X									
TRB-2157-102010	11-10-10	1230	G	W	2	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	Fed-Ex 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater sample 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 111110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-0144-102010	11-10-10	1645	G	W	5	X	X									
EMW-2144-102010	11-10-10	1645	G	W	5	X	X									
AMW-0145-102010	11-10-10	1705	G	W	5	X	X									
EMW-0145-102010	11-10-10	1710	G	W	5	X	X									
BMW-0152-102010	11-11-10	1005	G	W	5	X	X									
AMW-0151-102010	11-11-10	1020	G	W	5	X	X									
BMW-0151-102010	11-11-10	1025	G	W	5	X	X									
AMW-0141-102010	11-11-10	1045	G	W	5	X	X									
BMW-0141-102010	11-11-10	1050	G	W	5	X	X									
EMW-0141-102010	11-11-10	1055	G	W	5	X	X									
AMW-0142-102010	11-11-10	1110	G	W	5	X	X									
BMW-0142-102010	11-11-10	1115	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	ECC	11-11-10	Fed-ex 8730 0092 8509		
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-11-10	COC No: 111110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			SDG No.
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-089-102010	11-11-10	1130	G	W	5	X	X									
EMW-089-102010 MS	11-11-10	1130	G	W	4	X	X									
EMW-089-102010 MSD	11-11-10	1130	G	W	4	X	X									
AMW-0147-102010	11-11-10	1155	G	W	5	X	X									
BMW-0147-102010	11-11-10	1200	G	W	5	X	X									
DMW-0147-102010	11-11-10	1205	G	W	5	X	X									
AMW-0146-102010	11-11-10	1220	G	W	5	X	X									
BMW-0146-102010	11-11-10	1225	G	W	5	X	X									
AMW-0153-102010 LF	11-11-10	1340	G	W	5	X	X									
AMW-2153-102010 LF	11-11-10	1340	G	W	5	X	X									
RIN-2153-102010	11-11-10	1430	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	Fed-ex 8730	0092	8509
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-9-10	COC No: 111110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0134-102010	11-9-10	0835	G	W	3	X										
TRB-2134-102010	11-9-10	0835	G	W	2	X										
BMW-0134-102010	11-9-10	0905	G	W	3	X										
DMW-0134-102010	11-9-10	0935	G	W	3	X										
DMW-2134-102010	11-9-10	0935	G	W	3	X										
DMW-0134-102010 MS	11-9-10	0935	G	W	3	X										
DMW-0134-102010 MSD	11-9-10	0935	G	W	3	X										
AMW-0135-102010	11-9-10	1015	G	W	3	X										
BMW-0135-102010	11-9-10	1035	G	W	3	X										
DMW-0135-102010	11-9-10	1115	G	W	3	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

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[signature]	ECC	1600 11-11-10	Fed-ex 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]		

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phone 802.660.1990 fax 802.660.1919

Groundwater samples 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-9-10	COC No: 111110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0134-102010	11-9-10	0835	G	W	3	X										
TRB-2134-102010	11-9-10	0835	G	W	2	X										
BMW-0134-102010	11-9-10	0905	G	W	3	X										
DMW-0134-102010	11-9-10	0935	G	W	3	X										
DMW-2134-102010	11-9-10	0935	G	W	3	X										
DMW-0134-102010 MS	11-9-10	0935	G	W	3	X										
DMW-0134-102010 MSD	11-9-10	0935	G	W	3	X										
AMW-0135-102010	11-9-10	1015	G	W	3	X										
BMW-0135-102010	11-9-10	1035	G	W	3	X										
DMW-0135-102010	11-9-10	1115	G	W	3	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	Fed-ex 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]		

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Groundwater samples

4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 11110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0157-102010	11-10-10	1255	G	W	5	X	X									
BMW-0157-102010	11-10-10	1300	G	W	5	X	X									
AMW-0156-102010	11-10-10	1315	G	W	5	X	X									
BMW-0156-102010	11-10-10	1320	G	W	5	X	X									
AMW-0154-102010	11-10-10	1335	G	W	5	X	X									
BMW-0154-102010	11-10-10	1340	G	W	5	X	X									
BMW-2154-102010	11-10-10	1340	G	W	5	X	X									
AMW-0159-102010	11-10-10	1405	G	W	5	X	X									
BMW-0159-102010	11-10-10	1410	G	W	5	X	X									
AMW-0155-102010	11-10-10	1430	G	W	5	X	X									
AMW-0155-102010MS	11-10-10	1430	G	W	4	X	X									
AMW-0155-102010MSD	11-10-10	1430	G	W	4	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	FedEx 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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4th Quarter MW Sampling

Groundwater samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 11110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-0155-102010	11-10-10	1445	G	W	5	X	X									
EMW-2155-102010	11-10-10	1445	G	W	5	X	X									
AMW-0153-102010	11-10-10	1510	G	W	5	X	X									
BMW-0153-102010	11-10-10	1520	G	W	5	X	X									
AMW-0150-102010	11-10-10	1535	G	W	5	X	X									
BMW-0150-102010	11-10-10	1545	G	W	5	X	X									
BMW-0143-102010	11-10-10	1600	G	W	5	X	X									
AMW-0149-102010	11-10-10	1610	G	W	5	X	X									
BMW-0148-102010	11-10-10	1625	G	W	5	X	X									
BMW-2148-102010	11-10-10	1625	G	W	5	X	X									
AMW-0144-102010	11-10-10	1640	G	W	5	X	X									
TRB-2157-102010	11-10-10	1230	G	W	2	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	Fed-Ex 8730	0092 8509	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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South Burlington, VT 5403
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Groundwater sample 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-10-10	COC No: 111110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-0144-102010	11-10-10	1645	G	W	5	X	X									
EMW-2144-102010	11-10-10	1645	G	W	5	X	X									
AMW-0145-102010	11-10-10	1705	G	W	5	X	X									
EMW-0145-102010	11-10-10	1710	G	W	5	X	X									
BMW-0152-102010	11-11-10	1005	G	W	5	X	X									
AMW-0151-102010	11-11-10	1020	G	W	5	X	X									
BMW-0151-102010	11-11-10	1025	G	W	5	X	X									
AMW-0141-102010	11-11-10	1045	G	W	5	X	X									
BMW-0141-102010	11-11-10	1050	G	W	5	X	X									
EMW-0141-102010	11-11-10	1055	G	W	5	X	X									
AMW-0142-102010	11-11-10	1110	G	W	5	X	X									
BMW-0142-102010	11-11-10	1115	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	11-11-10	Fed-ex 8730 0092 8509		
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company:	Date/Time:

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Groundwater samples 4th Quarter MW Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 11-11-10	COC No: 11110
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 5 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			SDG No.
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
EMW-089-102010	11-11-10	1130	G	W	5	X	X									
EMW-089-102010 MS	11-11-10	1130	G	W	4	X	X									
EMW-089-102010 MSD	11-11-10	1130	G	W	4	X	X									
AMW-0147-102010	11-11-10	1155	G	W	5	X	X									
BMW-0147-102010	11-11-10	1200	G	W	5	X	X									
DMW-0147-102010	11-11-10	1205	G	W	5	X	X									
AMW-0146-102010	11-11-10	1220	G	W	5	X	X									
BMW-0146-102010	11-11-10	1225	G	W	5	X	X									
AMW-0153-102010 LF	11-11-10	1340	G	W	5	X	X									
AMW-2153-102010 LF	11-11-10	1340	G	W	5	X	X									
RIN-2153-102010	11-11-10	1430	G	W	5	X	X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	1600 11-11-10	Fed-ex 8730	0092	8509
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	11/12/10 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Appendix B
Field Forms

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Location FNOP-mead Date 10/8/10

Project / Client 5447.002 / ECC (continued)

60° F sunny windy 10-15 mph

AQuifer Characterization

Slug testing

1335 Take Down slug test Equipment

1338 set up on [mw-126B]

WL = 41.00 TD = 92.18 2" dedicated well

1340 Lower Transducer into water

1345 start slug test [mw-126B]

1346 Apply 8" H20 pressure

1348 Finish 8" H20 test

1348 start slug test [mw-126B]

1348 Apply 16" H20 pressure

1352 Finish 16" H20 test

1352 start slug test [mw-126B]

1352 Apply 24" H20 pressure

1356 Finish 24" H20 test

1400 Take Down slug test Equipment

1405 Put pumps Back in mw.

close Lid's

1410 mob back to main plant

1420 At main plant, unload slug test Equipment.

1425 Finalize paper work

1430 End of Day

PLE

Location FNOP-mead Date 10/20/10

Project / Client 5447.002 / ECC

30° F sunny

AQuifer Characterization

Perry Lone Elk - JER

0730 At main Plant, safety meeting

Job prep, and supplies

calibrate ysi meter

0815 mob to [mw-62A, B & D]

0830 At [mw-62, A, B, & D] Establish

water Level's

0845 set up on [mw-62A]

~~Initiate purge ID Tw - 4.15~~

~~Final Readings sample Time~~

~~DTW PH Temp cond Turb ORP DO~~

~~2" dedicated well~~

~~Collect Sample's~~

~~Amw 062-102010 (2-Liters) RDX~~

~~Amw 062 102010 (3-voc's) 3-40 ml~~

0915 Air Hose Leaking, wrong coupler

Leaking between coupler & micro purge

Controller, Called Toby Informed

Him of problem

0925 mob back to main plant to get

correct coupler's & hose.

PLE

Location FNOP mead Date 10/20/10

Project / Client 5447.002/ECC (continued)

45°F sunny

Aquifer Characterization

0940 At main plant. Toby said to swap out micro purge controllers. Picking micro purge controller & power pack.

0955 mob back to mw-62A, B, & D

1010 set up on mw-62A

Initiate purge 1055 IDTW - 4.15

Final Readings Sample Time ____

DTW	PH	Temp	Cond	Turb	orp	DO

2" dedicated well

Collect samples

Amw-062-102010 (3-VOCs)

Amw-062-102010 (2-Liters) RDX

Take Down Equipment

Set up on mw-62B

10.18 * YSI meter Quit working. Called Toby informed Him of problem Taking Back to main plant. Will pick up other YSI meter.

10.20 mob back to main plant.

1030 At plant. Switch out YSI meters.

1035 mob back to mw-62A

Location FNOP mead Date 10/20/10

Project / Client 5447.002/ECC (continued)

45°F sunny

Aquifer characterization

1045 At mw-62A

1050 Set Back up on mw-62A

1055 Turbidmeter Quit working. Called Toby Informed Him of Problem. said to bring back to main plant.

1105 Stop Field parameters test.

1105 mob back to main plant to get different Turbidmeter.

1115 At plant. switched out Turbidmeters

1120 mob back to mw-62A

1130 At mw-62A

1135 Set back up on mw-62A

1145 Initiate purge IDTW - 4.15

1200 Final Readings Sample Time 1200

DTW	PH	Temp	Cond	Turb	orp	DO
4.15	6.90	12.76	0.649	0.95	-7.0	2.63

2" dedicated well

1200 collect samples

Amw-062-102010 (3-VOCs)

Amw-062-102010 (2-Liters) RDX

1215 Take Down Equipment

Location FNOP-mead Date 10/20/10

Project / Client 5947.002/ECC (Continued)

55°F Sunny / windy 10 mph

Aquifer Characterization

1220 set up on [MW-62B]

1230 Initiate purge IDTW - 4.05

1245 Final Readings Sample Time 1250

DTW	pH	Temp	Cond	Turb	orp	DO
4.05	6.95	12.64	0.431	1.81	-27.9	1.53

2" dedicated well

1250 collect samples

BMW-062-102010 (3-VOCs)

BMW-062-102010 (2-liters) RDX

BMW-062-102010 (3-VOCs)

BMW-062-102010 (2-liters) RDX

BMW-062-102010MS (3-VOCs)

BMW-062-102010 MS (2-liters) RDX

BMW-062-102010MSD (3-VOCs)

BMW-062-102010 MSD (2-liters) RDX

1320 Take Down Equipment

1325 set up on [MW-62D]

1335 Initiat purge IDTW - 4.35

1350 Final Readings Sample Time

DTW	pH	Temp	Cond	Turb	orp	DO
4.35	6.95	12.61	1.418	2.13	35	1.96

2" dedicated well

1355 Collect samples

Location FNOP-mead Date 10/20/10

Project / Client 5947.002/ECC (Continued)

55°F Sunny / windy 10-15 mph

Aquifer Characterization

DMW-062-102010 (3-VOCs)

DMW-062-102010 (2-liters) RDX

1405 Take Down Equipment

1410 mob to [MW-020]

1425 at [MW-020A, B, & C]

1435 Establish water Levels

1440 set up on [AMW-020A ~~102010~~]

1445 Initiate purge IDTW - 59.80

~~Final Readings Sample Time~~

~~DTW pH Temp Cond Turb orp DO~~

~~2" dedicated well~~

~~Collect samples~~

~~AMW-020-102010 (3-VOCs)~~

~~AMW-020-102010 (2-liters)~~

1510 ~~Con~~ well will not purge. Called Toby Informed him of problem.

1510 Take Down Equipment.

1510 Set up on [MW-20B]

1520 Toby on site.

1520 set back up on [MW-20A]

Toby said very slow well. Continue on [MW-20A]

Location Fnol-mead Date 10/20/20

Project / Client 5447.002/ECC (confirmed)

75°F Sunny/windy 15 mph

AQuiFer characterization

1630 Insufficient Flow only able to collect 3-40 ml vials voc's samples. not able to collect 34 oz Amber samples. could not do Field parameters

1635 Collect samples
Amw-020-102010 (3-vocs)

1640 Take Down Equipment.

1640 set up on [mw-20B]

1645 Initiate Purge

1720 Insufficient Flow unable to perform Ground water Field parameters only able to Collect water samples.

1720 Collect samples
Bmw-020-102010 (3-vocs)
Bmw-020-102010 (2-Litvis) RDX

1730 mob back to main plant.

1740 At main plant, unload Equipment & supplies. Load in Gator.

1750 Finalize paperwork

1800 End of Day

RVC

Location Date

Project / Client

Location [redacted]ead Date 10/20/10 (continued)

Project / Client 5497.002/ECC

75°F Sunny / windy 15 mph

AQuifer characterization

1630 Insufficient Flow only able to collect 3-40 mL vial's voc's sample's. not able to collect 34 oz Amber sample's. could not do Field parameters

1635 Collect sample's
AMW-020-102010 (3-vocs)

1640 Take Down Equipment.

1640 Set up on [MW-20B]

1645 Initiate Purge IDTW-59.70

1720 Insufficient Flow unable to perform Ground water Field parameters only able to Collect water sample's.

1720 Collect sample's
BMW-020-102010 (3-vocs)
BMW-020-102010 (2-Liter's) RDX

1730 mob back to main plant.

1740 At main plant, unload Equipment & supplies. Load in Gator.

1750 Finalize paper work

1800 End of Day

RVC

Location FNOP-mead Date 10/21/10

Project / Client 5497.002/ECC

~~50~~ 40°F Sunny

AQuifer characterization

0730 Percy Lone ECK - ICR

0730 At main plant, safety meeting Job prep, and supplies
Go over paper work with Toby
Calibrate YSI meter

0830 mob to [CMW-020]

0845 At [MW-20C] Establish water Levels.

0900 Set up on [MW-20C]

0905 Initiate purge IDTW-58.00

0920 Toby on site to over see sampling

0940 Insufficient Flow only able to collect 3-40 mL vial's voc's samples.
Toby said well no producing, and To move on to the next well.

0940 collect sample's
CMW-020-102010 (3-vocs)

0950 Take Down Equipment Load in Gator

1000 mob to [MW-61A, B, & D] Establish water Level's & Depth's

1010 Set up on [MW-61A]

1025 Initiat purge IDTW-6.10 TD 88'
Final Reading Sample Time 1050

Location FNOP-mead Date 10/21/10
Project / Client 5447.002/ECC (continued)
50°F sunny

Aquifer Characterization

DTW	PH	Temp	cond	TURB	ORP	DO
6.10	6.50	13.76	0.599	8.58	90.1	2.41

2" non-dedicated well

1050 collect samples
AMW-061-102010 (3-voc's)
AMW-061-102010 (2-liter's) RDK
1100 Take Down Equipment
1105 set up on MW-61B
1110 Initiate purge IDTW-6.10 TD 38'
Final Reading sample Time 1125

DTW	PH	Temp	cond	TURB	ORP	DO
6.10	4.58	13.49	0.413	280	170.9	3.95

2" non-dedicated well

1125 Collect samples
BMW-061-102010 (3-voc's)
BMW-061-102010 (2-liter's) RDK
1135 Take Down Equipment
1140 set up on MW-61D
1150 Initiate purge IDTW-5.82 TD-109'
Final Reading sample Time 1210

DTW	PH	Temp	Cond	TURB	ORP	DO
5.82	5.34	15.07	1.079	N/A	-69.6	2.80

2" non-dedicated well
DIF

Location FNOP-mead Date 10/21/10
Project / Client 5447.002/ECC (continued)
60°F sunny windy 10 mph

Aquifer Characterization

1210 Collect samples
DMW-061-102010 (3-voc's)
DMW-061-102010 (2-liter's)
1220 Take Down Equipment & Load in Gator
1230 mob to MW-103A, B, & D
1255 At MW-103A, B, & D Establish
1305 Depth's & water Level's
1310 set up on MW-103A
1315 Initiate purge IDTW-40.75 TD 126.2
Final Reading Sample Time 1330

DTW	PH	Temp	Cond	TURB	ORP	DO
40.75	6.95	13.60	0.645	4.47	-125.3	1.46

2" dedicated well

1330 collect samples
BMW-0103-102010 (3-voc's)
AMW-0103-102010 (2-liter's)
1335 Take Down Equipment
1340 set up on MW-103B
1345 Initiate purge IDTW-40.55 TD-60.00
1400 Final Reading Sample Time 1405

DTW	PH	Temp	Cond	TURB	ORP	DO
40.55	6.59	16.86	0.436	3.07	486	5.26

2" dedicated well

Location ENOP-mead Date 10/21/10

Project / Client 5447.002/ECC (continued)

65°F sunny / windy 10mph

AQuifer Characterization

1405 collect samples

BMW-0103-102010 (3-vocs)

BMW-0103-102010 (2-Liters)

1410 Take Down Equipment

1415 Set up on [MW-103D]

1420 Initiate purge IDTW-40.40 TD-135.70

1435 Final Reading Sample time 1435

DTW	PH	Temp	Cond	Turb	ORP	DO
40.40	6.95	14.12	0.843	3.39	-96.1	0.72

2" dedicated well

1435 collect samples

DMW-0103-102010 (3-vocs)

DMW-0103-102010 (2-Liters)

1440 Take Down Equipment

Load Equipment on Cruiser

1450 mob to [MW-113A, B, & D]

1510 At [MW-113A, B, & D] Establish Depths & water Levels

1520 Set up on [MW-113B]

1525 Initiate purge IDTW .57

1540 Final Reading Sample Time 15.40

DTW	PH	Temp	Cond	Turb	ORP	DO
.57	5.78	16.95	0.492	5.64	161.5	3.05

DIE

Location ENOP-mead Date 10/21/10

Project / Client 5447.002/ECC (continued)

70° F sunny windy 10mph

AQuifer Characterization

2" non-dedicated well

1540 Collect samples

BMW-0113-102010 (3-vocs)

BMW-0113-102010 (2-Liters)

1540 Take Down Equipment

1555 Set up on [MW-113A]

Initiate purge IDTW-.57

1615 Final Reading Sample Time 1615

DTW	PH	Temp	Cond	Turb	ORP	DO
.57	6.22	18.45	0.500	14.0	139.6	3.33

2" non-dedicated well

1615 collect samples

AMW-0113-102010 (3-vocs)

AMW-0113-102010 (2-Liters)

1620 Take Down Equipment

1625 Set up on [MW-113D]

1635 Initiate purge IDTW-.57

1650 Final Reading Sample Time 1650

DTW	PH	Temp	Cond	Turb	ORP	DO
.57	5.90	14.81	0.433	49.8	131.8	3.30

2" non-dedicated well

1650 collect samples

DMW-0113-102010 (3-vocs)

DIE

Location FNOP-mead Date 10/21/10

Project / Client 5447.002 / ECC (continued)

20°F sunny / windy 10mph

Aquifer Characterization

1700 DMW-0113-102010 (2-liters)

1700 Take Down Equipment Load in Gator

1710 mob back to main plant

1720 At main plant, unload samples

1725 Finalize paperwork

1730 End of Day

Location Date

Project / Client

Location FNOP-mead Date 10/21/10

Project / Client 5947.002 / ECC (continued)

20°F sunny / windy 10mph

4th QTR SE

~~Aquifer Characterization~~

1700 DMW-0113-102010 (2-Liters)

1700 Take Down Equipment Load in Gator

1710 mob back to main plant

1720 At main plant, unload samples

1725 Finalize paperwork

1730 End of Day

Location FNOP-mead Date 10/22/10

Project / Client 5947.002 / ECC

45°F sunny

4th QTR SE

~~Aquifer Characterization~~

Percy Lane ECC - ICR

0730 At main plant, safety meeting

Job prep and supplies. Toby

Calibrated YSI meter

0745 mob to MW-112A & B

0755 At MW-112A & B Establish Depths

& water Levels

0805 set up on MW-112A

0815 Initiate purge IDTW - .75

0830 Final Reading, Sample Time 0830

DTW	PH	Temp	Cond	TURB	ORP	DO
.75	5.66	12.00	0.401	49.2	177.2	4.53

2" non-dedicated well

0830 Collect samples

AMW-0112-102010 (3-Vols)

AMW-0112-102010 (2-Liters)

0835 Take Down Equipment

0840 Set up on MW-112B

0845 Initiate purge IDTW - .75

Final Reading Sample Time 0900

DTW	PH	Temp	cond	TURB	ORP	DO
.57	5.32	12.86	0.434	19.8	210.7	4.08

2" non-dedicated well

DIE

Location FNOR-Mead Date 10/22/10

Project / Client 5447.002/ECC (continued)

45°F sunny

4th QTR SE

~~Aquifer Characterization~~

0900 collect sample's

Bmw-0112-102010 (3-vocs)

Bmw-0112-102010 (2-Liters)

0910 Take Down Equipment Load in Gator

0920 mob to [mw-158A, B, & D]

0930 At [mw-158A, B, & D] Establish Depth's & water Level's

0945 set up on [mw-158B]

0950 Initiate purge IDTW - 1.85

1010 Final Reading Sample Time 1010

DTW	PH	Temp	Cond	TURB	ORP	DO
1.85	5.65	12.28	0.736	103	-19.9	1.69

2" non-dedicated well

1010 collect sample's

Bmw-0158-102010 (3-vocs)

Bmw-0158-102010 (2-Liters)

1020 Take Down Equipment

1025 set up on [mw-158A]

1030 Initiate purge IDTW - 2.18

1045 Final Reading Sample Time 1045

DTW	PH	Temp	Cond	TURB	ORP	DO
2.18	5.62	12.14	1.167	38.1	-18.2	2.94

2" non-dedicated well

DIF

Location FNOR-Mead Date 10/22/10

Project / Client 5447.002/ECC (continued)

50°F sunny

4th QTR SE

~~Aquifer Characterization~~

1045 Collect sample's

Amw-0158-102010 (3-vocs)

Amw-0158-102010 (2-Liters)

1050 Take Down Equipment

1055 Set up on [mw-158D]

1100 Initiate purge IDTW - ~~2.18~~ 2.14

1115 Final Reading Sample Time 1115

DTW	PH	Temp	Cond	TURB	ORP	DO
2.14	5.06	12.58	1.315	45.4	-108.3	1.73

2" non-dedicated well

1015 Collect sample's

Dmw-0158-102010 3(-vocs)

Dmw-0158-102010 (2 Liters)

1125 Take Down Equipment Load in Gator

1135 mob to mw-[35A, B, & D]

1145 At [mw-35A, B, & D] Establish Depth's & water Level's no-padlock on mw 35B

1155 Set up on [mw-35A]

1200 Initiate purge IDTW - 54.10

1215 Final Reading Sample Time 1215

DTW	PH	Temp	Cond	TURB	ORP	DO
54.10	6.77	14.01	0.415	12.0	68.1	4.75

2" dedicated well

DIF

Location FNOP-mead Date 10/22/10

Project / Client 5447.002/ECC (continued)

60°F sunny windy 10 mph

4½ QTR SE

~~A Qufer Characterization~~

1215 Collect samples

AMW-035-102010 (3-voc's)

AMW-035-102010 (2-Liter's)

1220 ~~Take~~ Down Equipment

1225 Set up on [MW-35B]

1230 Initiate purge IDTW - 53.90

1245 ~~1230~~ Final Reading sample Time 1245

DTW	PH	Temp	Cond	TURB	ORP	DO
53.90	6.93	21.05	0.484	4.43	855	5.03

2" dedicated well

1245 Collect samples

BMW-035-102010 (3-voc's)

BMW-035-102010 (2-Liter's) RDX

~~BMW-235-102010 (3-voc's)~~

~~BMW-235-102010 (2-Liter's)~~

note* well started pumping slow only able to collect 1 Amber RDX sample. Toby on site, said to collect the 1 sample (RDX) and move on to next well.

1310 Take Down Equipment.

1315 Set up on [MW-35D]

1320 Initiate purge IDTW - 53.90

DIE

Location FNOP-mead Date 10/22/10

Project / Client 5447.002/ECC (continued)

65°F sunny windy 10-15 mph

4½ QTR SE

~~A Qufer Characterization~~

Final Reading sample Time

DTW	PH	Temp	Cond	Turb	ORP	DO
53.90	6.73	14.13	0.636	2.29	-10.4	1.25

2" dedicated well

1335 Collect samples

DMW-035-102010 (3-voc's)

DMW-035-102010 (2-Liter's) RDX

DMW-235-102010 (3-voc's)

DMW-235-102010 (2-Liter's) RDX

1345 Take Down Equipment Load in Gator

1355 mob to [MW-85A, B, & D]

1405 At MW-[85A, B, & D] Establish Depths & Water Level's

1415 Set up on [MW-85A]

1425 Initiate purge IDTW - 44.50

1440 Final Reading sample Time 1440

DTW	PH	Temp	Cond	TURB	ORP	DO
44.50	6.66	13.79	0.280	2.84	108.9	4.26

2" dedicated well

1440 Collect samples

AMW-085-102010 (3-voc's)

AMW-085-102010 (2-Liter's)

1445 Take Down Equipment

DIE

Location INOP-Mead Date 10/22/00

Project / Client 5447.002 / ECC (continued)

65°F Cloudy windy 15 mph

~~Aquifer Characterization~~ 4th QTR SE

1450 set up on MW-85B

1455 Initiate purge IDTW - 44.28

1510 Final Reading sample Time 1510

DTW	PH	Temp	Cond	TURB	ORP	DO
44.28	6.55	13.33	0.282	2.08	123.4	5.39

2" dedicated well

1510 collect samples

BMW-085-102010 (3-VOCs)

BMW-085-102010 (2-Liters) RDX

1515 Take Down Equipment

1520 set up on MW-85D

1525 Initiate purge IDTW - 44.5

1540 Final Reading sample Time 1540

DTW	PH	Temp	Cond	TURB	ORP	DO
44.50	6.76	13.20	0.304	3.36	117.6	3.97

2" dedicated well

1540 collect sample's

DMW-085-102010 (3-VOCs)

DMW-085-102010 (2-Liters) RDX

1545 Take Down Equipment Load in Truck

1550 mob back to main plant

1555 At main plant, unload samples

1555 Finalize paperwork

1600 End of Day

Location Date

Project / Client

Location FNOP-Mead Date 10/22/10

Project / Client 5447.002 / ECC (continued)

65°F Cloudy windy 15 mph

4th QTR SE

~~Aquifer characterization~~

1450 Set up on [MW-85B]

1455 Initiate purge IDTW - 44.28

1510 Final Reading sample Time 1510

DTW	PH	Temp	Cond	TURB	ORP	DO
44.28	6.55	13.33	0.282	2.08	123.4	5.39

2" dedicated well

1510 collect samples

BMW-085-102010 (3-vocs)

BMW-085-102010 (2-Liters) RDX

1515 Take Down Equipment

1520 Set up on [MW-85D]

1525 Initiate purge IDTW - 44.5

1540 Final Reading sample Time 1540

DTW	PH	Temp	Cond	TURB	ORP	DO
44.50	6.76	13.20	0.304	3.36	117.6	3.97

2" dedicated well

1540 collect sample's

DMW-085-102010 (3-vocs)

DMW-085-102010 (2-Liters) RDX

1545 Take Down Equipment Load in Gator

1550 mob back to main plant

1555 At main plant, unload sample's

1555 Finalize paperwork

1600 End of Day

Location FNOP-Mead Date 10/25/10

Project / Client 5447.002 / ECC

50°F Cloudy 10 mph - wind

4th QTR monitor well sampling

Perry Lone Elk - JCR

0730 At main plant, safety meeting

Job prep and Supplies

0745 mob to [MW-116A, B, & D]

0805 Establish Depths & water Levels

0815 Set up on [MW-116A]

0820 Initiate purge IDTW - 5.20

0835 Final Reading sample Time 0835

DTW	PH	Temp	Cond	TURB	ORP	DO
5.20	6.69	12.20	0.373	4.92	-7.9	1.57

2" dedicated well

0835 Collect samples

AMW-0116-102010 (3-vocs)

AMW-0116-102010 (2-Liters)

0840 Take Down Equipment

0845 Set up on [MW-116B]

0850 Initiate purge IDTW - 5.15

Final Reading sample Time 0905

DTW	PH	Temp	Cond	TURB	ORP	DO
5.15	6.62	12.23	0.336	4.46	5.1	1.55

2" dedicated well

0905 Collect samples

BMW-0116-102010 (3-Vocs)

Location FNOP-mead Date 10/25/10

Project / Client 5447.002/ECC (continued)

50°F cloudy, windy 10mph

4th Qtr monitor well sampling

BMW-0116-102010 (2-Liters)

0910 Take Down Equipment

0915 set up on [MW-116D]

0920 Initiate purge IDTW-5.20

0935 Final Reading sample Time 0935

DTW	PH	Temp	Cond	TURB	ORP	DO
5.20	6.86	12.44	0.563	8.80	-73.2	0.97

2" dedicated well

0935 collect samples

DMW-0116-102010 (3-VOCs)

DMW-0116-102010 (2-Liters)

0940 Take Down Equipment Load in Gator

0950 mob to [MW-115A, B, & D] NO Pad Lock

on [MW-115A well] Establish Depths

& water Levels

1000 Set up on [MW-115A]

1005 Initiate purge IDTW-6.00

1020 Final Reading sample Time 1020

DTW	PH	Temp	Cond	TURB	ORP	DO
6.0	6.71	13.00	0.498	3.54	82.8	1.17

2" dedicated well

1020 collect samples

AMW-0115-102010 (3-VOCs)

DIF

Location FNOP-mead Date 10/25/10

Project / Client 5447.002/ECC (continued)

50°F cloudy, windy 10mph

4th Qtr monitor well sampling

AMW-0115-102010 (2-Liters) RDX

1025 Take Down Equipment

1030 set up on [MW-115B]

1035 Initiate purge IDTW-6.15

1050 Final Reading sample Time 1050

DTW	PH	Temp	Cond	TURB	ORP	DO
6.15	6.72	13.66	0.460	2.25	87.3	0.87

2" dedicated well

1050 collect samples

BMW-0115-102010 (3-VOCs)

BMW-0115-102010 (2-Liters)

1055 Take Down Equipment

1100 set up on [MW-115D]

1105 Initiate purge IDTW-6.0

1120 Final Reading sample Time 1120

DTW	PH	Temp	Cond	TURB	ORP	DO
6.0	6.75	13.58	0.462	7.10	-70.0	0.75

2" dedicated well

1120 collect samples

DMW-0115-102010 (3-VOCs)

DMW-0115-102010 (2-Liters) RDX

1130 Take Down Equipment Load in Gator

1135 mob to [MW-114A, B, & D]

Location FNOP-mead Date 10/25/10

Project / Client 5447.002 / ECC (continued)

60°F cloudy windy 10 mph

4th Qtr monitor well sampling

1140 At [MW-114A, B, & D] Establish Depths & water Levels.

1145 set up on [MW-114A]

1155 Initiate purge IDTW - 3.66

1210 Final Reading sample Time 1210

DTW	PH	Temp	cond	Turb	ORP	DO
3.66	6.67	13.67	0.414	2.82	68.4	0.88

2" dedicated well

1210 collect samples

AMW-0114-102010 (3-VOCs)

AMW-0114-102010 (2-Liters)

1215 ~~1220~~ Take Down Equipment

1220 ~~1220~~ set up on [MW-114B]

1225 Initiate purge IDTW - 3.82

1240 Final Reading sample Time 1240

DTW	PH	Temp	cond	Turb	ORP	DO
3.82	6.63	13.79	0.422	2.21	88.9	0.60

2" dedicated well

1240 collect samples

BMW-0114-102010 (3-VOCs)

BMW-0114-102010 (2-Liters) RDX

1250 Take Down Equipment

1255 set up on [MW-114D]

DIF

Location FNOP-mead Date 10/25/10

Project / Client 5447.002 / ECC (continued)

60°F cloudy windy 15 mph

4th Qtr monitor well sampling

1305 Initiate purge IDTW - 3.55

1320 Final Reading sample Time 1320

DTW	PH	Temp	cond	Turb	ORP	DO
3.55	6.74	14.16	0.398	5.93	-87.8	0.68

2" dedicated well

1320 collect samples

DMW-0114-102010 (3-VOCs)

DMW-0114-102010 (2-Liters)

1330 Take Down Equipment Load in Gator

1330 Toby on site to pick up samples Brought another cooler.

1340 mob to [MW-38A & D]

1345 At [MW-38A, & D] Establish Depths & water Levels.

1355 set up on [MW-38A]

1405 Initiate purge IDTW - 6.28

1420 Final Reading sample Time 1420

DTW	PH	Temp	cond	Turb	ORP	DO
6.28	6.75	14.12	0.607	2.90	-37.2	0.69

2" dedicated well

1420 collect samples

AMW-038-102010 (3-VOCs)

AMW-038-102010 (2-Liters) RDX

D/F

Location FNOP – Mead

Date 10/25/10

Project / Client 5447.002/ECC (continued)

70°F Cloudy windy 15 mph

4th Qtr monitor well sampling

1425 Take Down Equipment

1430 Set up on MW-38D

1440 Initiate purge IDTW – 5.85

1455 Final Reading Sample Time 1455

DTW	pH	Temp	cond	Turb	ORP	DO
5.85	6.71	13.94	0.480	3.67	-73.2	0.45

2" dedicated well

1455 Collect samples

DMW-038-102010 (3-VOCs)

DMW-038-102010 (2-Liters) RDX

DMW-238-102010 (3-VOCs)

DMW-238-102010 (2-Liters) RDX

DMW-038-102010 MS (3-VOCs)

DMW-038-102010 MS (2-Liters) RDX

DMW-038-102010 MSD (3-VOCs)

DMW-038-102010 MSD (2-Liters) RDX

1530 Take Down Equipment Load in Gator

1535 mob back to main plant

1545 at main plant, unload samples

1550 Finalize paperwork

1600 End of Day

Location

Date

Project / Client

Location FNOP - mead Date 10/25/10

Project / Client 5447.002/ECC (continued)

70°F Cloudy windy 15 mph

4th Qtr monitor well sampling

1425 Take Down Equipment

1430 Set up on MW-38D

1440 Initiate purge IDTW - 5.85

1455 Final Reading Sample Time 1455

DTW	PH	Temp	cond	TURB	ORP	DO
5.85	6.71	13.94	0.480	3.67	-73.2	0.45

2" dedicated well

1455 Collect samples

DMW-038-102010 (3-VOCs)

DMW-038-102010 (2-Liters) RDX

DMW-238-102010 (3-VOCs)

DMW-238-102010 (2-Liters) RDX

DMW-038-102010 MS (3-VOCs)

DMW-038-102010 MS (2-Liters) RDX

DMW-038-102010 MSD (3-VOCs)

DMW-038-102010 MSD (2-Liters) RDX

1530 Take Down Equipment Load in Gator

1535 mob back to main plant

1545 At main plant, unload samples

1550 Finalize paperwork

1600 End of Day

Location FNOP-mead Date 10/26/10

Project / Client 5447.002 / ECC

50°F Cloudy windy 15 mph

4th Qtr monitor well sampling

Percy Lone Elk - ICR

0730 At main plant, safety meeting

Job prep and supplies

0750 mob to MW-84A, B, ED

0805 Establish Depths & water Levels

0815 Setup on MW-84A

0825 Initiate purge IDTW - 51.20

0840 Final Reading Sample Time

DTW	PH	Temp	Cond	TURB	ORP	DO
51.20	6.90	11.24	0.268	3.38	220.8	6.10

2" dedicated well

0840 Collect samples

AMW-084-102010 (3-VOCs)

AMW-084-102010 (2-Liters) RDX

0845 Take Down Equipment

0850 Set up on MW-84B

0855 Initiate purge IDTW - 51.05

0910 Final Reading Sample Time 0910

DTW	PH	Temp	Cond	TURB	ORP	DO
51.05	5.94	9.69	0.428	3.45	221.9	7.10

2" dedicated well

0910 Collect sample's

BMW-084-102010 (3-VOCs)

Location FNOR-mead Date 10/26/10

Project / Client 5447.002/ECC (continued)

50°F cloudy windy 15 mph

4th Qtr Monitor well sampling

~~09~~ Bmw-084-102010 (2-Liters) RDX

0915 Take Down Equipment

0920 Set up on [MW-84D]

0925 Initiate purge IDTW - 51.40

0940 Final Reading Sample Time 0940

DTW	DH	Temp	cond	TURB	ORP	DO
51.40	6.72	11.33	0.263	3.07	204.2	5.06

2" dedicated well

0940 Collect samples

Dmw-084-102010 (3-vocs)

Dmw-084-102010 (2-Liters)

0950 Take Down Equipment Load in Gator

0955 mob to [MW-83A,B,&D]

1015 Establish Depths & water Levels

1020 Set up on [MW-83A]

1025 Initiate purge IDTW - 57.05

1040 Final Reading sample Time 1040

DTW	DH	Temp	cond	TURB	ORP	DO
57.05	6.90	11.82	0.378	4.55	190.9	3.28

2" dedicated well

1040 Collect samples

Amw-083-102010 (3-vocs)

Amw-083-102010 (2-Liters) RDX

DLE

Location FNOR-mead Date 10/26/10

Project / Client 5447.002/ECC (continued)

50°F cloudy windy 15 mph

4th Qtr Monitor well sampling

1045 Take Down Equipment

1050 Set up on [MW-83B]

1055 Initiate purge IDTW - 57.00

1110 Final Reading Sample Time 1110

DTW	DH	Temp	cond	TURB	ORP	DO
57.00	6.36	11.87	0.250	3.06	187.7	6.73

2" dedicated well

1110 Collect samples

Bmw-083-102010 (3-vocs)

Bmw-083-102010 (2-Liters) RDX

1120 Take Down Equipment

1125 Set up on [MW-83D]

1130 Initiate purge IDTW - 57.00

1145 Final Reading sample Time 1145

DTW	DH	Temp	Cond	TURB	ORP	DO
57.00	6.81	11.78	0.507	4.90	23.9	1.52

2" dedicated well

1145 Collect samples

Dmw-083-102010 (3-vocs)

Dmw-083-102010 (2-Liters) RDX

1155 Take Down Equipment Load in Gator

1205 mob to [MW-81A,B,&D]

1220 At [MW-81A,B,&D]

DTE

Location FNOP - mead Date 10/26/10

Project / Client 5447.002 / ECC (continued)

50°f cloudy windy 15 mph

4th QTR monitor well sampling

1230 Establish Depths & water Levels

1235 set up on [MW-81A]

1240 Initiate purge IDTW - 8.00

1255 Final Reading Sample Time 1255

DTW	PH	Temp	Cond	Turb	ORP	DO
8.00	6.85	12.30	0.323	3.91	114.8	4.54

2" dedicated well

1255 collect samples

AMW-081-102010 (3-VOCs)

AMW-081-102010 (2-Liters)

1300 Take Down Equipment

1305 set up on [MW-81B]

1310 Initiate purge IDTW - 8.08

1325 Final Reading Sample Time 1325

DTW	PH	Temp	Cond	Turb	ORP	DO
8.08	6.53	12.55	0.291	3.00	133.9	6.99

2" dedicated well

1325 collect samples

BMW-081-102010 (3-VOCs)

BMW-081-102010 (2-Liters) RDX

1330 Take Down Equipment

1335 set up on [MW-81D]

1340 Initiate purge IDTW - 7.95

PIF

Location FNOP - mead Date 10/26/10

Project / Client 5447.002 / ECC (continued)

50°F cloudy windy 15-20 mph

4th QTR monitor well sampling

1355 Final Reading Sample Time 1355

DTW	PH	Temp	Cond	Turb	ORP	DO
7.95	6.78	12.89	0.346	2.81	124.6	1.61

2" dedicated well

1355 collect samples

DMW-081-102010 (3-VOCs)

DMW-081-102010 (2-Liters) RDX

1405 Take Down Equipment Load in Gator

1415 mob to ~~MW~~ main plant to Drop off samples And pick up Labels for Next well.

1435 At main plant, unload samples Pickup Labels for next monitor well From Toby.

1445 mob to [MW-118A, & B]

1450 At [MW-118A, & B] Establish Depths & water Levels.

1500 set up on [MW-118A]

1505 Initiate purge IDTW - 51.62

1520 Final Reading Sample Time 1520

DTW	PH	Temp	Cond	Turb	ORP	DO
51.62	7.05	12.21	0.325	3.84	113.3	3.78

2" dedicated well

PIF

Location ENOP-meade Date 10/26/10

Project / Client 5447.002/ECC (continued)

60°F Cloudy windy 20 mph

4th Qtr monitor well sampling

1520 Collect samples

AMW-0118-102010 (3-VOCs)

AMW-0118-102010 (2-Liters) RDX

1525 ~~Collect~~ TAKE Down Equipment

1530 set up on MW-118B

1535 Initiate purge IDTW-51.68

1550 Final Reading Sample Time 1550

DTW	PH	Temp	Cond	TURB	ORP	DO
51.68	6.81	12.85	0.310	4.83	117.9	4.20

2" dedicated well

1550 Collect samples

BMW-0118-102010 (3-VOCs)

BMW-0118-102010 (2-Liters) RDX

1600 Air Tank Empty. switching Air Tank's

1600 start sampling procedure

1605 Collect samples

BMW-2118-102010 (3-VOCs)

BMW-2118-102010 (2-Liters) RDX

BMW-0118-102010 MS (3-VOCs)

BMW-0118-102010 MSD (2-Liters) RDX

BMW-0118-102010 MSD (3-VOCs)

BMW-0118-102010 MSD (2-Liters) RDX

VLF

Location ENOP-meade Date 10/26/10

Project / Client 5447.002/ECC (continued)

65°F Cloudy windy 15 mph

4th Qtr monitor well sampling

1625 TAKE Down Equipment Load in Gator

1630 mob back to main plant

1640 At main Plant unload samples

1650 Finalize paper work

1700 End of Day

VLF

Location FNOP-mead Date 10/27/10

Project / Client 5447.002/ECC

45°F sunny windy 15mph

4th Qtr monitor well sampling

Percy Lone Elk - ICR

0730 At main plant, Job prep supplies

0750 mob to [mw-117A, B, & D]

0800 Establish Depths & water Levels

0810 set up on [mw-117A]

0820 Initiate purge IDTW - 38.25

0835 Final Reading Sample Time 0835

DTW	PH	Temp	Cond	TURB	ORP	DO
38.25	6.85	10.60	0.159	3.70	205.9	11.0

2" dedicated well

0835 collect samples

Amw-0117-102010 (3-voc's)

Amw-0117-102010 (2-Liters) RDX

0840 Take Down Equipment

0845 set up on [mw-117B]

0850 Initiate purge IDTW-38.05

0905 Final Reading Sample Time 0905

DTW	PH	Temp	Cond	TURB	ORP	DO
38.05	6.54	10.77	0.252	3.82	206.9	8.64

2" dedicated well

0905 collect samples

Bmw-0117-102010 (3-voc's)

Bmw-0117-102010 (2-Liters) RDX

Location FNOP-mead Date 10/27/10.

Project / Client 5447.002/ECC (continued)

45°F sunny windy 15mph

4th Qtr monitor well sampling

0910 Take Down Equipment

0915 Set up on [mw-117D]

0920 Initiate purge IDTW-38.40

0935 Final Reading Sample Time 0935

DTW	PH	Temp	Cond	TURB	ORP	DO
38.40	6.85	10.85	0.319	4.67	197.2	3.89

2" dedicated well

0935 collect samples

Dmw-0117-102010 (3-voc's)

Dmw-0117-102010 (2-Liters) RDX

0940 Take Down Equipment Load in Gator

0950 mob to [mw-110A, B, & D]

1005 At [mw-110, A, B, & D]

1010 Establish Depths & water Levels

1015 Set up on [mw-110A]

1020 Initiate purge IDTW-5.43

1035 Final Reading Sample Time 1035

DTW	PH	Temp	Cond	TURB	ORP	DO
5.43	6.59	12.38	0.340	4.11	58.8	1.23

2" dedicated well

1035 collect samples

Amw-0110-102010 (3-voc's)

Amw-0110-102010 (2-Liters) RDX

Location FNOP-mead Date 10/27/10

Project / Client 5447.002/ECC (continued)

50°F sunny windy 15 mph

4th Qtr monitor well sampling

1040 Take Down Equipment

1045 Set up on [MW-110B]

1050 Initiate purge IDTW-5.78

1105 Final Reading Sample Time 1105

DTW	PH	Temp	cond	TURB	ORP	DO
5.78	6.57	12.75	0.313	3.60	102.3	0.78

2" dedicated well

1105 Collect samples

BMW-0110-102010 (3-VOCs)

BMW-0110-102010 (2-Liters) RDX

1110 Take Down Equipment

1115 Set up on [MW-110D]

1120 Initiate purge IDTW-5.68

1135 Final Reading Sample Time 1135

DTW	PH	Temp	Cond	TURB	ORP	DO
5.68	6.62	12.77	0.336	6.60	124.6	1.56

2" dedicated well

1135 Collect Samples

DMW-0110-102010 (3-VOCs)

DMW-0110-102010 (2-Liters) RDX

1140 Take Down Equipment Load in Gator

1150 mob to [MW-46A,B,&D]

1200 At [MW-46A,B,&D]

Location FNOP-mead Date 10/27/10

Project / Client 5447.002/ECC (continued)

50°F sunny windy 15 mph

4th Qtr monitor well sampling

1205 Establish Depths & water Levels

1215 Set up on [MW-46A]

1220 Initiate purge IDTW-4.20

1235 Final Reading Sample Time 1235

DTW	PH	Temp	Cond	TURB	ORP	DO
4.20						

2" dedicated well

1235 Collect samples

AMW-046-102010 (3-VOCs)

AMW-046-102010 (2-Liters) RDX

1240 Take Down Equipment

1245 Set up on [MW-46B]

1250 Initiate purge IDTW-4.32

1305 Final Reading Sample Time 1305

DTW	PH	Temp	Cond	TURB	ORP	DO
4.32	6.59	12.57	0.367	3.45	132.6	2.13

2" dedicated well

1305 Collect samples

BMW-046-102010 (3-VOCs)

BMW-046-102010 (2-Liters) RDX

BMW-246-102010 (3-VOCs)

BMW-246-102010 (2-Liters) RDX

BMW-046-102010 MS (3-VOCs)

Location FNOP-mead Date 10/22/08

Project / Client 5447.002/ECC (continued)

50°F sunny windy 20 mph

4th Qtr monitor well sampling

BMW-046-102010 MSD (2-liters) RDX

1340 Take Down Equipment

1345 Set up on mw-46D

1350 Initiate purge IDTW-4.15

1405 Final Reading Sample Time 1405

DTW	DH	temp	cond	TURB	ORP	DO
4.15	6.72	12.75	0.324	4.88	36	2.40

2" dedicated well

1405 Collect samples

DMW-046-102010 (3-voc's)

DMW-046-102010 (2-liters) RDX

1415 Take Down Equipment Load in Gator

1425 mob back to main plant to unload samples and pick up labels for from Toby for next well.

1435 At main plant unload samples

1440 Toby said we were calling it a day.

1445 Finalize paper work

1500 End of Day

Location FNOP-mead Date

Project / Client 5447.002/ECC

4th Qtr monitor well sampling

Location Mead FUOP Date 10-27-10

Project / Client ECC

MW - 4th QTR SE Hydrasleeve

Toby Hinz / Vince Stallgumm
630F / Sunny

0915 MW-158 A WL 2.25
AMW-0158-102010
3 vol's / 2 Exp's
8260B / 8330
2" well / Hydrasleeve

0925 MW-158B WL - 1.95
BMW-0158-102010
3 vol's / 2 Exp's
8260B / 8330
2" well / Hydrasleeve

0945 MW-158D WL - 2.24
DMW-0158-102010
3 vol's / 2 Exp's
8260B / 8330
2" well / Hydrasleeve
TH

Location Date

Project / Client

Location FNOP-mead Date 11/2/10

Project / Client 5447.002/ECC

30°F sunny

4th Qtr monitor well sampling

Percy Lono ELF - JCR

0730 at main plant, safety meeting. Job prep & supplies. Calibrate YSI meter. Refue Gator

0825 mob to [mw-106A, B, & D]

0840 At [mw-106A, B, & D] Establish Depths & water Levels

0900 set up on [MW-106A]

0910 Initiate purge IDTW - 16.54

0925 Final Reading sample Time 0925

DTW	pH	Temp	cond	TURB	ORP	DO
16.54	6.57	10.73	0.360	3.69	216.6	1.99

2" dedicated well

0925 collect samples

AMW-0106-102010 (3-vocs)

AMW-0106-102010 (2-Liters) RDX

0930 take Down Equipment

0935 set up on [MW-106B]

0940 Initiate purge IDTW - 16.15

0955 Final Reading sample Time 0955

DTW	pH	Temp	cond	TURB	ORP	DO
16.15	6.48	11.47	0.339	4.38	196.6	1.29

2" dedicated well

ELF

Location FNOP-mead Date 11/2/10

Project / Client 5447.002/ECC

30°F sunny

4th Qtr monitor well sampling

0955 Collect samples

BMW-0106-102010 (3-vocs)

BMW-0106-102010 (2-Liters) RDX

BMW-2106-102010 (3-vocs)

BMW-2106-102010 (2-Liters) RDX

1005 Take Down Equipment

1010 Set up on [MW-106D]

1015 Initiate purge IDTW - 16.80

1030 Final Reading sample Time 1030

DTW	pH	Temp	cond	TURB	ORP	DO
16.80	6.58	12.00	0.411	3.68	185.4	1.71

2" dedicated well

1030 collect samples

DMW-0106-102010 (3 vocs)

DMW-0106-102010 (2-Liters) RDX

1035 take Down Equipment Load in Gator

1045 mob to [MW-107A, B, & D]

1050 At [MW-107A, B, & D] Establish Depths & water Levels

1100 Set up on [MW-107A]

1105 Initiate purge IDTW - 38.12

1120 Final Reading sample Time 1120

DTW	pH	Temp	cond	TURB	ORP	DO

ELF

Location FNOP-moad Date 11/2/10

Project / Client 5447.002 / ECC (continued)

35° F sunny

4th Qtr monitor well sampling

38.12 6.60 11.31 0.388 11.0 175.6 1.45

2" dedicated well.

1120 Collect samples

AMW-0107-102010 (3-VOCs)

AMW-0107-102010 (2-Liters) RDX

1125 Take Down Equipment

1130 Set up on MW-107B

1135 Initiate purge IDTW - 38.65

1150 Final Reading Sample Time 1150

DTW	PH	Temp	Cond	Turb	ORP	DO
38.65	6.45	11.33	0.357	4.02	179.4	5.65

2" dedicated well

1150 Collect samples

BMW-0107-102010 (3-VOCs)

BMW-0107-102010 (2-Liters) RDX

1155 Take Down Equipment

1200 Set up on MW-107D

1205 Initiate purge IDTW - 38.68

1220 Final Reading Sample Time 1220

DTW	PH	Temp	Cond	Turb	ORP	DO
38.68	6.73	11.71	0.396	5.61	168.3	1.86

2" dedicated well

1220 Collect samples

DLE

Location FNOP-moad Date 11/2/10

Project / Client 5447.002 / ECC (continued)

35° F sunny

4th Qtr monitor well sampling

DMW-0107-102010 (3-VOCs)

DMW-0107-102010 (2-Liters) RDX

1225 Take Down Equipment Load in Gator

1235 Mob to MW-108A, B, & D

1245 At MW-108A, B, & D Establish Depths & water Levels.

1255 Set up on MW-108A

1300 Initiate purge IDTW - 30.18

1315 Final Reading Sample Time 1315

DTW	PH	Temp	Cond	Turb	ORP	DO
30.18	6.74	12.59	0.374	5.80	159.1	2.38

2" dedicated well

1315 Collect samples

AMW-0108-102010 (3-VOCs)

AMW-0108-102010 (2-Liters) RDX

1320 Take Down Equipment

1325 Set up on MW-108B

1330 Initiate purge IDTW - 29.90

1345 Final Reading Sample Time 1345

DTW	PH	Temp	Cond	Turb	ORP	DO
29.90	6.50	12.87	0.843	9.86	147.9	6.28

2" dedicated well

1345 Collect samples

DLE

Location FNOP-mead Date 11/2/10

Project / Client 5447.002/ECC (continued)

40°F sunny

4th Qtr monitor well sampling

Bmw-0108-102010 (3-vocs)

Bmw-0108-102010 (2-liters) RDX

1350 Take Down Equipment

1355 set up on MW-108D

1400 Initiate purge IDTW - 30.34

1415 Final Reading Sample Time 1415

DTW	pH	Temp	Cond	Turb	orp	DO
30.34	6.80	13.07	0.431	3.83	136.1	3.21

2" dedicated well

1415 Collect samples

Dmw-0108-102010 (3-vocs)

Dmw-0108-102010 (2-liters) RDX

1425 Take Down Equipment Load in Gator

1435 Mob back to main plant

1445 At main plant, unload sample shuttles. Store in Refrigerator

1455 Finalize paper work

1500 End of Day

Location FNOP-mead Date 11/3/10

Project / Client 5447.002/ECC (continued)

50°F sunny

4th Qtr monitor well sampling

Location FNOP-mead Date 11/2/10

Project / Client 5447.002 / ECC (continued)

40°F sunny

4th Qtr monitor well sampling

BMW-0108-102010 (3-VOCs)

BMW-0108-102010 (2-Liters) RDX

1350 Take Down Equipment

1355 set up on MW-108D

1400 Initiate purge IDTW - 30.34

1415 Final Reading Sample Time 1415

DTW	pH	Temp	Cond	Turb	orp	DO
30.34	6.80	13.07	0.431	3.83	136.1	3.21

2" dedicated well

1415 Collect samples

DMW-0108-102010 (3-VOCs)

DMW-0108-102010 (2-Liters) RDX

1425 Take Down Equipment Load in Gator

1435 Mob back to main plant

1445 At main plant, unload sample shuttles. Store in Refrigerator

1455 Finalize paper work

1500 End of Day

PK

Location FNOP-mead Date 11/3/10

Project / Client 5447.002 / ECC (continued)

45~~50~~°F sunny windy 10 mph

4th Qtr Monitor well sampling

~~4th~~ Perry Lane Elk - ICR

0730 At main plant, safety meeting, Job prep. Toby Calibrated YSI meter ~~to~~

0745 mob to MW-95A, B, & D

0810 At MW-95A, B, & D Establish Depths & water Levels.

0830 set up on MW-95A

0835 Initiate purge IDTW - 55.00

0850 Final Reading Sample Time 0850

DTW	pH	Temp	Cond	Turb	orp	DO
55.00	6.81	10.84	0.299	5.45	227.7	5.75

2" dedicated well

0850 Collect samples

AMW-095-102010 (3-VOCs)

AMW-095-102010 (2-Liters) RDX

0855 Take Down Equipment

0900 Set up on MW-95B

0905 Initiate purge IDTW - 54.62

0920 Final Reading Sample Time 0920

DTW	pH	Temp	Cond	Turb	orp	DO
54.62	6.76	11.30	0.291	2.97	218.6	5.39

2" dedicated well

PK

Location FNOP-mead Date 11/3/10

Project / Client 5447.002/ECC (continued)

45°F sunny windy 10 mph

4th Qtr monitor well sampling

0920 collect samples

BMW-095-102010 (3-VOCs)

BMW-095-102010 (2-Liters) RDX

0925 Take Down Equipment

0930 Set up on [MW-95D]

0935 Initiate purge IDTW - 55.92

0950 Final Reading Sample Time 0950

DTW	pH	Temp	Cond	Turb	ORP	DO
55.92	6.93	11.62	0.300	3.73	210.1	3.72

2" dedicated well

0950 collect samples

DMW-095-102010 (3-VOCs)

DMW-095-102010 (2-Liters) RDX

0955 Take Down Equipment Loading Gator

1005 mob to [MW-102A, B, & D]

1025 At [MW-102A, B, & D] Establish Depths & water Levels

1035 Set up on [MW-102A]

1045 Initiate purge IDTW - 34.62

1100 Final Reading Sample Time 1100

DTW	pH	Temp	Cond	Turb	ORP	DO
34.62	6.95	12.49	0.437	4.70	-97.1	0.77

2" dedicated well

DLE

Location FNOP-mead Date 11/3/10

Project / Client 5447.002/ECC (continued)

45°F sunny windy 10 mph

4th Qtr monitor well sampling

1100 collect samples

AMW-0102-102010 (3-VOCs)

AMW-0102-102010 (2-Liters) RDX

1105 Take Down Equipment

1110 Set up on [MW-102B]

1115 Initiate purge IDTW - 35.48

1130 Final Reading Sample Time 1130

DTW	pH	Temp	Cond	Turb	ORP	DO
35.48	6.65	14.09	0.355	3.34	-28.4	3.42

2" dedicated well

1130 Collect samples

BMW-0102-102010 (3-VOCs)

BMW-0102-102010 (2-Liters) RDX

BMW-2102-102010 (3-VOCs)

BMW-2102-102010 (2-Liters) RDX

1145 Take Down Equipment

1150 Set up on [MW-102D]

1155 Initiate purge IDTW - 34.62

1210 Final Reading Sample Time 1210

DTW	pH	Temp	Cond	Turb	ORP	DO
34.62	6.88	13.51	0.436	4.92	-140.9	0.95

2" dedicated well

1210 Collect Samples

DLE

Location FNOP-mead Date 11/3/10

Project / Client 5447.002/ECC (continued)

55°F sunny windy 10-15 mph

4th QTR monitor well sampling

DMW-0102-102010 (3-VOCs)

DMW-0102-102010 (2-Liters) RDX

1220 Take Down Equipment Load in Gator

1225 mob to [MW-94A, B, & D]

1250 At [MW-94A, B, & D] Establish Depth's & water Level's

1305 Set up on [MW-94A]

1310 Initiate purge IDTW- 49.10

1325 Final Reading Sample Time 1325

DTW	PH	Temp	cond	TURB	ORP	DO
49.10	6.87	14.26	0.561	8.87	51.0	3.38

2" dedicated well

1325 Collect samples

AMW-094-102010 (2-Liters) RDX only

1330 Take Down Equipment

1332 Set up on [MW-94B]

1335 Initiate purge IDTW- 49.05

1350 Final Reading Sample Time 1350

DTW	PH	Temp	cond	TURB	ORP	DO
49.05	6.69	15.21	0.334	3.50	84.6	6.92

2" dedicated well

1350 Collect Samples

BMW-094-102010 (2-Liters) RDX only

DIE

Location FNOP-mead Date 11/3/10

Project / Client 5447.002/ECC (continued)

55°F sunny windy 10-15 mph

4th QTR monitor well sampling

1355 Take Down Equipment

1400 Set up on [MW-94D]

1405 Initiate purge IDTW-49.65

1420 Final Reading Sample Time 1420

DTW	PH	Temp	cond	TURB	ORP	DO
49.65	6.69	14.52	0.747	3.39	77.0	1.86

2" dedicated well

1420 Collect samples

DMW-094-102010 (2-Liters) RDX only

1425 Take Down Equipment Load in Gator

1430 mob back to main plant

1445 At main plant, unload sample shuttles. Store in refrigerator

1455 Finalize paper work

1500 End of Day

PIE

Location FNOP-mead Date 11/4/00

Project / Client 5447.002 / ECC

40°F sun Just Coming up wind 10mph

4th Qtr monitor well sampling

Percy Lone Elk - ICR

0730 At main plant, safety meeting

Job prep. Toby calibrated YSI meter. Fuel Gator

0800 Mob to [mw-128A, B, & D]

0810 At [mw-128A, B, & D] Establish Depths & water Levels

0825 set up on [mw-128A]

0835 Initiate purge IDTW-61.69

0850 Final Reading Sample Time 0850

DTW	PH	Temp	cond	Turb	ORP	DO
61.69	6.87	9.64	0.317	4.10	213.0	4.34

2" dedicated well

0850 Collect samples

Amw-0128-102010 (2-Liters) RDX only

0855 Take Down Equipment

0900 set up on [mw-128D]

0905 Initiate purge IDTW - 61.50

0920 Final Reading Sample Time 0920

DTW	PH	Temp	cond	Turb	ORP	DO
61.50	6.89	10.26	0.352	6.40	18.1	1.42

2" dedicated well

0920 Collect samples

Location FNOP-mead Date 11/4/00

Project / Client 5447.002 / ECC (continued)

40°F sunny windy 10 mph

4th QTR mw sampling

Dmw-0128-102010 (2-Liters) RDX only

0925 Take Down Equipment

0930 set up on [mw-128B]

0935 Initiate purge IDTW-61.69

0950 Final Reading Sample Time 0950

DTW	PH	Temp	Cond	Turb	ORP	DO
61.69	6.80	10.39	0.312	7.21	98.5	5.10

2" dedicated well

0950 Collect samples

Bmw-0128-102010 (2-Liters) RDX only

Bmw-0128-102010 (2-Liters) RDX only

Bmw-0128-102010 MS (2-Liters) RDX only

Bmw-0128-102010 MSD (2-Liters) RDX only

1025 Take Down Equipment Load in Gator

1030 mob to [mw-131A, B, & D]

1035 At [mw-131A, B, & D] Establish water Levels

1050 set up on [mw-131A]

1055 Initiate purge IDTW-56.48

1110 Final Reading Sample Time 1110

DTW	PH	Temp	Cond	Turb	ORP	DO
56.48	5.79	11.88	0.327	4.47	181.1	4.77

2" dedicated well

Location ENOP - Mead Date 11/4/10

Project / Client 5447.002/ECC (continued)

45° F sunny windy 10-15 mph

4th QTR monitor well sampling

1110 Collect samples

AMW - ~~0135~~ 0131 - 102010 (2 Liters) RDX only

1115 Take Down Equipment

1118 Set up on [MW-131B]

1120 Initiate purge IDTW - 56.30

1135 Final Reading Sample Time 1135

DTW	pH	Temp	Cond	Turb	ORP	DO
56.30	6.74	12.36	0.330	3.45	178.9	6.13

2" dedicated well

1135 Collect samples

BMW - 0131 - 102010 (2 Liters) RDX only

1140 Take Down Equipment

1145 Set up on [MW-131D]

1150 Initiate purge IDTW - 56.44

1205 Final Reading Sample Time 1205

DTW	pH	Temp	Cond	Turb	ORP	DO
56.44	6.91	12.83	0.496	3.94	105.1	1.50

2" dedicated well

1205 Collect Samples

DMW - 0131 - 102010 (2 Liters) RDX only

1210 Take Down Equipment Load in Gator

1220 mob to [MW-129A, B, & D]

1230 At [MW-129A, B, & D] Establish

O.E.

Location ENOP - Mead Date 11/4/10

Project / Client 5447.002/ECC (continued)

45° F sunny windy 10-15 mph

4th QTR monitor well sampling

Water Levels. Air Tank Empty change Tank

1240 Set up on [MW-129A]

1245 Initiate purge IDTW - 61.09

1300 Final Reading Sample Time 1300

DTW	pH	Temp	Cond	Turb	ORP	DO
61.09	6.97	13.20	0.458	12.1	64.4	1.52

2" dedicated well

1300 Collect samples

BMW - 0129 - 102010 (2 Liters) RDX only

1305 Take Down Equipment

1310 Set up on [MW-129B]

1315 Initiate purge IDTW - 61.03

1330 Final Reading Sample Time 1330

DTW	pH	Temp	Cond	Turb	ORP	DO
61.03	6.64	13.30	0.375	5.46	105.0	6.34

2" dedicated well

1330 Collect Samples

BMW - 0129 - 102010 (2 Liters) RDX only

BMW - 2129 - 102010 (2 Liters) RDX only

BMW - 0129 - 102010 MS (2 Liters) RDX only

BMW - 0129 - 102010 MSD (2 Liters) RDX only

1355 Take Down Equipment

1400 Set up on [MW-129D]

O.E.

Location FNOP-mead Date 11/4/10

Project / Client 5447.002/ECC (continued)

55°F sunny windy 15 mph

4th Q+R monitor well sampling

1405 Initiate purge IDTW - 60.55

1420 Final Reading Sample Time 1420

DTW	PH	Temp	cond	TURB	ORP	DO
60.55	6.94	13.15	0.518	4.57	-93.7	0.80

2" dedicated well

1420 collect samples

DMW-0129-102010 (2-Liters) RDX only

1425 Take Down Equipment Load in Gator

1430 mob to [MW-130A,B]

1440 At [MW-130A,B] Establish Water Levels

1450 Set up on [MW-130A]

1440 Toby Brought out a case of Amber Bottles (34 oz) Picked up sample shuttles.

1455 Initiate purge IDTW - 59.00

1510 Final Reading Sample time 1510

DTW	PH	Temp	Cond	TURB	ORP	DO
59.00	6.79	12.81	0.431	4.93	86.6	2.10

2" dedicated well

1510 collect samples

AMW-0130A-102010 (2-Liters) RDX only

AMW-2130-102010 (2-Liters) RDX only

DIF

Location FNOP-mead Date 11/4/10

Project / Client 5447.002/ECC (continued)

55°F sunny windy 15 mph

4th Q+R monitor well sampling

1520 Take Down Equipment

1525 Set up on [MW-130B]

1530 Initiate purge IDTW - 59.41

1545 Final Reading Sample Time 1545

DTW	PH	Temp	Cond	TURB	ORP	DO
59.41	6.39	12.06	0.398	2.90	169.6	6.83

2" dedicated well

1545 Collect samples

BMW-0130-102010 (2-Liters) RDX only

BMW-2130-102010 (2-Liters) RDX only

BMW-0130-102010 MS (2-Liters) RDX only

BMW-0130-102010 MSD (2-Liters) RDX only

1605 ~~1400~~ Take Down Equipment

1610 ~~1410~~ Set up on [MW-130D]

1615 ~~1415~~ Initiate purge IDTW - 58.64

1630 Final Reading Sample Time 1630

DTW	PH	Temp	Cond	TURB	ORP	DO
58.64	6.77	11.80	0.333	7.64	-101.2	0.82

2" dedicated well

1630 collect samples

1630 DMW-0130-102010 (2-Liters) RDX only

1635 Take Down Equipment Load in Gator

1640 mob back to main plant

DIF

Location FNOP-Meard Date 11/4/10

Project / Client 5447.002/ECL (continued)

60°F sunny windy 15 mph

4th Qtr monitor well sampling

1645 At main plant unload sample shuttles. store in refrigerator

1650 finalize paperwork

1700 End of DAY

PLC

Location Date

Project / Client

Location FNOP-mead Date 11/4/10

Project / Client 5447.002/ECC (continued)

60°F sunny windy 15 mph

4th Qtr monitor well sampling

1645 At main plant unload sample shuttles. store in refrigerator

1650 finalize paperwork

1700 End of DAY

PLC

Location FNOP-Mead Date 11/5/10

Project / Client 5447.002/ECC

clear, sunny, cold 27°F, calm

4th Quarter MW sampling

0745 At Main Plant, job prep, safety brief

0830 Mob to jobsite location

0845 Set up at MW-132A

0900 Initiate purge activities

IDTW 66.38'

Final Readings Sample Time 0915

DTW	PH	TEMP	COND	TURB	ORP	DO
66.39	6.87	10.01	0.301	17.5	200.1	2.63

2" dedicated well, purge discharged to ground

0915 Collect samples

AMW-0132A-102010 Explosives/8330

TRB-0132-102010 VOC/8260

0930 Set up at MW-132B

0930 Initiate purge IDTW 66.10'

Final Readings Sample Time 0950

DTW	PH	TEMP	COND	TURB	ORP	DO
66.10	6.76	10.45	0.292	5.38	203.7	2.37

2" dedicated well, purge discharged to ground

0950 Collect water samples

BMW-0132-102010 Explosives/8330

1000 Set up at MW-132D

1000 Initiate purge IDTW 66.75'

Location FNOP-Mead Date 11-5-10

Project / Client 5447.002 / ECC (continued)

clear, sunny, cold 32°F

4th Quarter MW Sampling

Final Readings Sample Time 1015

DTW	PH	TEMP	COND	TURB	ORP	DO
67.12	6.87	11.06	0.312	13.3	197.1	2.49

1015 Collect water samples

DMW-0132-102010 Explosives/8330

DMW-2132-102010 Explosives/8330

1030 Mob to next location

1130 Set up at MW-154A

1130 Initiate purge IDTW 45.72

Final Readings Sample Time 1150

DTW	PH	TEMP	COND	TURB	ORP	DO
44.85	5.22	11.86	0.348	6.87	224.0	3.99

2" non-dedicated, purge discharged to ground

1150 Collect water samples

AMW-0154-102010 Explosives/8330

AMW-0154-102010 VOC/8260

1200 Set up at MW-154B

1210 Initiate purge IDTW 45.10

Final Readings Sample Time 1235

DTW	PH	TEMP	COND	TURB	ORP	DO
44.95	5.03	13.08	0.440	49.8	262.9	1.80

2" non-dedicated pump, purge discharged to ground

Location FNOP-Mead Date 11-5-10

Project / Client 5447.002 / ECC (continued)

clear, sunny, 45°F, 4th Quarter MW Sampling

1235 Collect water samples

BMW-0154-102010 Explosives/8330

BMW-0154-102010 VOC/8260

1310 Mob back to Main Plant

1320 At Main Plant

Collect ~~water sam~~ rinsate samples @ 1305 hours

RIN-2154-102010 VOC & Explos. from Fee/TRLG 250

Offload samples & supplies

1345 End of Day

Location FNOP-Mead Date 11-8-10

Project / Client 5447.002/Ecc

clear, sunny, cool 42°F

4th Quarter MW Sampling

0730 At Main Plant, job prep, safety brief calibrate YSI 556 MPS to standard parameters.

0745 mob to jobsite location

0800 Set up at MW-06-31A

0812 Initiate purge IDTW 49.93

Final Reading Sample Time 0845

DTW	PH	TEMP	COND	TURB	ORP	DO
49.93	6.96	11.85	0.683	21.4	-140.4	6.19

2" dedicated pump, purge water discharged to ground, extremely flow rate for discharge

0845 Collect water samples

AMW-031M-102010 Explosives & VOC

TRB-231M-102010 VOC

Note: extremely slow discharge flow rate during sample collection

0910 Set up at MW-06-31B

0915 Initiate purge IDTW 49.60'

Final Readings Sample Time 0935

DTW	PH	TEMP	COND	TURB	ORP	DO

2" dedicated pump, purge water discharged to ground

Location FNOP-Mead Date 11-8-10 (continued)

Project / Client 5447.002/ECC

clear, sunny, 45°F, breezy from south

4th Quarter MW Sampling

0935 Collect water samples

BMW-031M-102010 Explosive/VOC

0945 Mob to next location

0955 Set up at ~~MW~~ DMW-06-18

1005 Initiate purge IDTW 2.85'

Final Readings Sample Time 1030

DTW	PH	TEMP	COND	TURB	ORP	DO
2.85'	5.37	15.19	0.401	38.4	204.9	2.55

2" non-dedicated pump, purge water discharged to ground

1030 Collect water samples

DMW-018M-102010 Explosives & VOC

1045 Set up at SMW-06-18

1050 Initiate purge IDTW 2.85'

Final Reading Sample Time

DTW	PH	TEMP	COND	TURB	ORP	DO
2.85'	6.21	15.87	0.407	7.02	161.7	2.69

2" non-dedicated pump, purge water discharged to ground

1110 Collect water samples

SMW-018M-102010 Explosive/VOC

SMW-218M-102010 VOC

1125 Mob to next location

Location FNOP-Mead Date 11-8-10 (continued)

Project / Client 5447.002/Ecc

4th Quarter MW Sampling

1140 Set up at MW-133A

1150 Initiate purge IDTW 43.20'

Final Readings Sample Time 1205

DTW	PH	TEMP	COND	TURB	ORP	DO
43.2	7.12	13.78	0.596	11.7	77.8	0.95

2" dedicated pump, purge water discharged to ground

1205 Collect water samples.

~~Se~~ AMW-0133-102010 VOC/8260

1210 Set up at MW-133B

121 Initiate purge IDTW 43.2'

Final Readings Sample Time 1230

DTW	PH	TEMP	COND	TURB	ORP	DO

2" dedicated pump, purge water discharged to ground

1230 Collect water samples

BMW-0133-102010 VOC/8260

1235 Set up at MW-133D

1240 Initiate Purge IDTW 43.2'

Final Readings Sample Time 1300

DTW	PH	TEMP	COND	TURB	ORP	DO
43.2	7.10	13.82	0.541	20.1	-45.7	0.65

2" dedicated pump, purge H_2O to ground

Location FNOP-Mead Date 11-8-10 (continued)

Project / Client 5447.002/Ecc

clear, sunny 60°F

4th Quarter MW Sampling

1300 Collect water samples

DMW-0133-102010 VOC

DMW-2133-102010 VOC

DMW-0133-102010 MS VOC

DMW-0133-102010 MSD VOC

~~Mob to next location~~

~~Set up at~~

~~Initiate purge IDTW~~

~~Final Readings Sample Time~~

~~DTW PH TEMP COND TURB ORP DO~~

~~2" dedicated pump, purge H_2O to ground~~

~~Collect water samples~~

1320 Mob back to Main Plant

1345 At Main Plant offload samples re-supply, RIN-218M-102010

1400 End of Day Reel TRLG 250

Location Mead FNOP Date 10-27-10

Project / Client ECC

MW - 4th QTR SE Hydrasleeve

T Osy Hiz / Vince Stallguma
630F / Sunny

0915 MW-158 A WL-2.25
AMW-0158-102010
3 VOC'S / 2 EXT'S
8260B / 8330
2" well / Hydra sleeve

0925 MW-158B WL-1.95
BMW-0158-102010
3 VOC'S / 2 EXT'S
8260B / 8330
2" well / Hydra sleeve

0945 MW-158D WL-2.24
DMW-0158-102010
3 VOC'S / 2 EXT'S
8260B / 8330
2" well / Hydrasleeve

T 11

Location FNOP-Mead Date 11-9-10

Project / Client 5447.002 / ECC

Clear, sunny 50°F

0730 At Main Plant, job prep, safety brief. Calibrate YSI 556 MPS to standard parameters

4th Quarter MW Sampling

0745 Mob to jobsite location

0810 Set up at MW-134A

0820 Initiate purge IDTW 45.52'

Final Readings Sample Time 0835

DTW	PH	TEMP	COND	TURB	ORP	DO
45.51	6.85	11.68	0.421	11.5	130.9	0.89

2" dedicated pump, purge H_2O to ground

0835 Collect water samples
AMW-0134-102010 VOC/8260
TRB-2134-102010 VOC/8260

0845 Set up at MW-134B

0850 Initiate probe IDTW 45.55'

Final Readings Sample Time 0905

DTW	PH	TEMP	COND	TURB	ORP	DO
45.57'	6.76	11.74	0.382	4.44	130.5	1.07

2" dedicated pump, purge H_2O to ground

0905 Collect water samples
BMW-0134-102010 VOC/8260

LA

Location FNOP-Mead Date 11-9-10 (continued)

Project / Client 5447.002/ECC

Clear, sunny, 50°F, breezy

4th Quarter MW Sampling

0910 Set up at MW-134D

0915 Initiate purge IDTW 45.40'

Final Readings Sample Time 0935

DTW	PH	TEMP	COND	TURB	ORP	DO
45.53	6.96	12.17	0.564	3.78	-137.6	0.33

2" dedicated pump, purge H_2O to ground

0935 Collect water samples

DMW-0134-102010 VOC/8260

DMW-2134-102010 VOC/8260

DMW-0134-102010 MS VOC/8260

DMW-0134-102010 MSD VOC/8260

0950 Mob to next location

0955 Set up at MW-135A

1000 Initiate purge IDTW 42.45'

Final Readings Sample Time 1015

DTW	PH	TEMP	COND	TURB	ORP	DO
42.45	6.87	12.15	0.431	13.4	27.9	0.59

2" dedicated pump, purge H_2O to ground

1015 Collect water samples

AMW-0135-102010 VOC/8260

1020 Set up at MW-135B

1025 Initiate purge IDTW 42.40'

Extremely low discharge flow

Location FNOP-Mead Date 11-9-10 (continued)

Project / Client 5447.002/ECC

Clear, sunny, 55°F

4th Quarter MW Sampling

Final Readings Sample Time 1035

DTW	PH	TEMP	COND	TURB	ORP	DO
42.40'	6.73	13.11	0.334	12.7	73.5	0.23

2" dedicated pump, purge H_2O to ground

1035 Collect water samples

BMW-0135-102010 VOC/8260

Note: extremely low discharge flow

1050 Set up at MW-135D

1055 Initiate purge IDTW 41.55'

Final Readings Sample Time 1115

DTW	PH	TEMP	COND	TURB	ORP	DO
41.70'	7.01	12.46	0.439	4.90	-106.4	0.34

2" dedicated pump, purge H_2O to ground

1115 Collect water samples

DMW-0135-102010 VOC/8260

1125 Mob back to Main Plant

1140 At Main Plant, off load samples and supplies

1235 Mob to jobsite location

1240 Set up at MW-157A and MW-157B to install hydra-sleeves

MW-157A DTW @ 18.50'

MW-157B DTW @ 17.81'

Location FNOP-Mead Date 11-9-10

Project / Client 5447.002/Ecc (continued)

Clear, sunny 65°F

1255 Mob to next location

1300 Set up at MW-156A & MW-156B to install hydra-sleeves

MW-156A DTW @ 4.82'

MW-156B DTW @ 5.03'

1305 Mob to next location

1310 Set up at MW-154A & MW-154B to install hydra-sleeves

MW-154A DTW @ 45.62'

MW-154B DTW @ 44.91'

1315 Mob to next location

Set up at MW-159A & MW-159B to install hydra-sleeves

MW-159A DTW @ 46.9'

MW-159B DTW @ 47.01'

1325 Mob to next location

1330 Set up @ MW-155A & MW-155~~B~~E to install hydra-sleeves

MW-155A DTW @ 45.35'

MW-155~~B~~E DTW @ 45.22'

1340 Mob to next location

1345 Set up at MW-153A & MW-153B to install hydra-sleeves

Location FNOP-Mead Date 11-9-10

Project / Client 5447.002/Ecc (continued)

MW-153A DTW @ 43.40'

MW-153B DTW @ 43.51'

1355 Mob to next location

1400 Set up @ MW-150A & MW-150B

MW-150A DTW @ 48.48'

MW-150B DTW @ 48.34'

1405 Mob to next location

1410 Set up @ MW-143B to install hydra-sleeve

MW-143B DTW @ 45.90'

1415 Mob to next location

1420 Set up @ MW-149A to install hydra-sleeve

MW-149A DTW @ 45.60'

1425 Mob to next location

1430 Set up @ MW-148B to install hydra-sleeve

MW-148B DTW @ 43.09'

1435 Mob to next location

1440 Set up @ MW-145A & MW-145E to install hydra-sleeve

MW-145A DTW @ 48.45'

MW-145E DTW @ 48.60'

1445 Mob to next location

Location FNOP - Reed Date 11-9-10

Project / Client 5447.002 / Eco

clear, 65°F, breezy

1450 Set up @ MW-144A & MW-144E to install hydra-sleeves

MW-144A DTW @ 40.20

MW-144E DTW @ 40.45

1455 Mob back to Main Plant

1580 At Main Plant, off-load supplies

End of Day

Location Date

Project / Client

Location FNOP - Mead Date 11-9-10

Project / Client 5447.002 / Ecc

clear, 65°F, breezy

1450 Set up @ MW-144A & MW-144E to install hydra-sleeves
MW-144A DTW @ 40.20'
MW-144E DTW @ 40.45'

1455 Mob back to Main Plant

1500 At Main Plant, off-load supplies
End of Day

Location FNOP - Mead Date 11-10-11

Project / Client 5447.002 / Ecc

overcast, 50°F, rainy / misty

1000 At Main Plant, job prep
Safety brief

1010 Mob to jobsite location

1015 Set up at MW-152B to install hydra-sleeve
MW-152B DTW @ 39.15'

1020 Set up @ MW-151A & MW-~~151~~ 151B to install hydra-sleeve
MW-151A DTW @ 42.52'
MW-151B DTW @ 42.60'

1030 Set up @ MW-141A, -141B, 141E
MW-141A DTW @ 37.5'
-141B DTW @ 37.5'
-141E DTW @ 37.45'

1045 Set up @ MW-142A to ~~set~~ install hydra-sleeve
MW-142A DTW @ 46.6'

1055 Set up @ MW-89E to install hydra-sleeve
MW-89E DTW @ 52.30'

1110 Set up @ MW-147A, -147B -147D
MW-147A DTW @ 51.25'
MW-147B DTW @ 51.1'
MW-147D DTW @ 50.82'

Location FNOP-Mead Date 11-10-11

Project / Client 5447.002 / Ecc (continued)

4th Quarter MW Sampling

overcast, cold, NW wind

1125 Set up @ MW-146A, -146B to install hydra sleeves

MW-146A DTW @ 48.70'

MW-146B DTW @ 48.50'

1130 Mob back to Main Plant, re-supply

prep for sample collection

1235 mob to jobsite location

Set up @ MW-157A, -157B

1255 Collect water samples

AMW-0157-102010 VOC & Explosive

1300 Collect water samples

BMW-0157-102010 VOC & Explosive

1315 Set up @ MW-156A, -156B

1315 Collect water samples

AMW-0156-102010 VOC & Explosive

DTW @ 4.94'

1320 Collect water samples

BMW-0156-102010 VOC & Explosive

DTW @ 5.11'

1330 Set up @ MW-154A, -154B

1335 Collect water samples

AMW-0154-102010 VOC & Explosive

DTW @ 45.74'

Location FNOP-Mead Date 11-10-10

Project / Client 5447.002/Ecc (continued)

4th Quarter MW Sampling

overcast, cold 45°F windy

1340 Collect water samples

BMW-0154-102010 VOC & Explosive

DTW @ 45.0'

BMW-2154-102010 VOC & Explosive

1400 Set up @ MW-159A, -159B

1405 Collect water samples

AMW-0159-102010 VOC & Explosive

DTW @ 47.0'

1410 Collect water samples

BMW-0159-102010 VOC & Explosive

DTW @ 47.12'

1420 Set up @ MW-155A, -155E

1430 Collect water samples

AMW-0155-102010 VOC & Explosive

DTW @ 45.50'

~~1440~~ Collect water samples

1445 EMW-0155-102010 VOC/Explosive

DTW @ 45.32'

AMW-0155-102010 MS VOC/Expl

AMW-0155-102010 MSD VOC/Expl

EMW-2155-102010 VOC/Explosive

1500 Set up @ MW-153A, -153B

1510 Collect water samples

AMW-0153-102010 VOC/Explosive

Location FNOP-Mead Date 11-10-10

Project / Client 5447.002 / ECC (continued)

overcast, 40°F, breezy

DTW @ 43.50'

1520 Collect water samples

BMW-0153-102010 VOC/Explosive

DTW @ 43.61'

1530 Set up @ MW-150A, -150B

1535 Collect water samples

AMW-0150-102010 VOC/Explosive

DTW @ 48.55'

1545 Collect water sample

BMW-0150-102010 VOC/Explosive

DTW @ 48.39'

1555 Set up @ MW-143B

1600 Collect water samples

BMW-0143-102010 VOC/Explosives

DTW @ 45.97'

1605 Set up @ MW-149A

1610 Collect water samples

AMW-0149-102010 VOC/Explosives

DTW @ 45.68'

1620 Set up @ MW-148B

1625 Collect water samples

BMW-0148-102010 VOC/Explosive

BMW-2148-102010 VOC/Explosive

DTW @ 43.14'

Location FNOP-Mead Date 11-10-10

Project / Client 5447.002 / ECC (continued)

overcast 45°F, calm

1635 Set up @ MW-144A, -144E

Collect water samples

1640 AMW-0144-102010 VOC/Explosive

DTW @ 40.29'

1645 Collect water samples

EMW-0144-102010 VOC/Explosives

EMW-2144-102010 VOC/Explosive

DTW @ 40.58'

1700 Set up @ MW-145A, -145E

1705 Collect water samples

AMW-0145A-102010 VOC/Explosive

DTW @ 48.57'

1710 Collect water samples

EMW-0145-102010 VOC/Explosive

DTW @ 48.68'

1715 Mob back to Main Plant

1720 At Main Plant, offload samples and supplies

1730 End of Day

LAD

Location TNOP-Mead Date 11-11-10

Project / Client 5447.002/Ecc

clear, sunny, 40°F calm

4th Quarter MW Sampling

0945 At main plant, job prep, safety brief

0955 Mob to jobsite location

1000 Set up @ MW-152B

1005 Collect water samples
BMW-0152-102010 VOC/Explosive
DTW @ 39.25'

1015 Set up @ MW-151A, -151B

1020 Collect water samples
AMW-0151-102010 VOC/Explosive
DTW @ 42.64'

1025 Collect water samples
BMW-0151-102010 VOC/Explosive
DTW @ 42.68'

1040 Set up @ MW-141A, -141B, -141E

1045 Collect water samples
AMW-0141-102010 VOC/Explosive
DTW @ 37.55' noticeable odor

1050 Collect water samples
BMW-0141-102010 VOC/Explosive
DTW @ 37.51'

1055 Collect water samples
EMW-0141-102010 VOC/Explosive

Location TNOP-Mead Date 11-11-10 (continued)

Project / Client 5447.002

clear, sunny 50°F, calm

DTW @ 37.51'

1105 Set up @ MW-142A, -142B

1110 Collect water samples
AMW-0142-102010 VOC/Explosive
DTW @ 46.68'

1115 Collect water samples
BMW-0142-102010 VOC/Explosive
DTW @ 46.31'

1125 Set up @ MW-89E

1130 Collect water samples
EMW-089-102010 VOC/Explosive
EMW-089-102010 MS VOC/Explosive
EMW-089-102010 MSD VOC/Explosive
DTW @ 52.28'

1150 Set up @ MW-147A, -147B, -147E

1155 Collect water samples
AMW-0147-102010 VOC/Explosive
DTW @ 51.30'

1200 Collect water samples
BMW-0147-102010 VOC/Explosive
DTW @ 51.14'

1205 Collect water samples
DMW-0147-102010 VOC/Explosive
DTW @ 50.88'

A 48.53 B

Location FNOP-Mead Date 11-11-10

Project / Client 5447.002/Ecc (continued)

4th Quarter MW Sampling

1215 Set up @ MW-146A, -146B

1220 Collect water samples
AMW-0146-102010 VOC/Explosive
DTW @ 48.74'

1225 Collect water samples
BMW-0146-102010 VOC/Explosive
DTW @ 48.53'

1230 Mob back to Main Plant

1240 At Main Plant off-load samples & supplies, re-supply

1300 ~~1330~~ Mob to jobsite location

1305 Set up at MW-153A

1320 Initiate purge IDTW 43.50'
Final Readings Sample Time 1340

DTW	PH	TEMP	COND	TURB	ORP	DO
43.51	5.63	12.53	0.512	173	177.1	0.28

2 ~~of~~ non-dedicated pump, purge H_2O discharged to ground

1340 Collect water samples
AMW-0153-102010LF VOC/Explosive
AMW-2153-102010LF VOC/Explosive

1400 Mob back to Main Plant
RIN-2153-102010 TRLG 250
rinsate sample Reel

Location FNOP-Mead Date 11-11-10

Project / Client 5447.002/Ecc (continued)

partly cloudy, 50°F, light breeze

4th Quarter MW Sampling

1410 At Main Plant, off load samples, off-load and shelve sampling supplies/equipment

1445 End of Day

LAO

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Appendix C
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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Data Qualifiers and Drinking Water Standards Reference Sheet
Former Nebraska Ordnance Plant, Mead, Nebraska

Any qualifiers (i.e., U, J, or R) listed after a result are assigned during the data validation process. Data validation is a procedure which involves the review of quality control data provided by the laboratory. This review is followed by the assignment of data qualifiers (if necessary) which indicate the reliability of a result to the reader. Data validation is performed by a chemist employed outside of the laboratory or associated government installations to ensure accuracy in data reporting. A description of qualifiers is provided below.

No qualifier

- If a result has no assigned qualifier, the contaminant was detected, and the reader can be confident that the concentration is exact.

"U"

- A result followed by a "U" qualifier means that the contaminant was undetected, or not detected by the instrument.

"UJ"

- A result followed by a "UJ" qualifier means that the contaminant was not detected, but the associated detection level is not certain (estimated). For example, if a value is followed by a "UJ", the contaminant was not detected, but the associated detection level is in question. The detection level is in question because one or more of the laboratory quality control indicators do not meet acceptance criteria. The amount that the indicator fell outside of the criteria may be used as a rough estimate of how much the actual detection level differs from the stated one. Typically, this is a 10-30% difference.

"UR"

- A result followed by a "UR" qualifier means that the contaminant was not detected, but there is strong doubt that the associated detection level is accurate. For example, if a value is followed by a "UR", the contaminant was not detected, but the associated detection level is in strong doubt. The detection level is in doubt because results are unacceptable for a quality control indicator. In this case, the detection level cannot be estimated.

"J"

- A result followed by only a "J" qualifier means that the contaminant was detected, but there is some question that the stated concentration is exact. For example, if a result is "0.5 J", the contaminant was detected, but there is some question that the concentration is exactly 0.5. A "J" qualifier may be applied for two reasons: (1) the contaminant was detected below the reporting limit; or (2) the contaminant was detected, but one or more quality control indicators did not meet acceptance criteria. The reporting limit is equal to the concentration of the lowest standard used by the laboratory to calibrate the instrument. The reporting limit is the minimum concentration that can be stated with complete confidence.

“R”

- A result followed by only an “R” qualifier means that the contaminant was detected, but there is strong doubt that the concentration is exact. For example, if a result is “0.5 R”, the contaminant was detected, but there is strong doubt that the concentration is exactly 0.5. The concentration is in doubt because results are unacceptable for a quality control indicator. In this case, the detected concentration cannot be estimated. For comparison purposes, detected results are reported in the results letters with available Environmental Protection Agency drinking water standards. These standards include the maximum contaminant level (MCL) and various health advisories (HA). A description of the drinking water standards is provided below.

“MCL”

- The maximum contaminant level is the highest concentration of a contaminant that is allowed in drinking water. Maximum contaminant levels are enforceable Federal standards.

“HA”

- Health advisories provide estimates of acceptable drinking water concentrations for a chemical substance based on health effects information. Health advisories are not enforceable Federal standards, but serve as a technical guidance to assist Federal, State, and local officials.

Appendix D
Analytical Results on Compact Disc Summary Forms and Raw Data

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Appendix E

Quality Control Summary Report Fourth Quarter 2010 Water Supply Well Sampling Event, Former Nebraska Ordnance Plant (on CD)

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Regional Office

1746 Cole Boulevard
Building 21, Suite 350
Lakewood, CO 80401

Phone: 303.298.7607
Fax: 303.298.7837

January 31, 2011

U.S. Army Corps of Engineers, Kansas City District
Attn: Jerry Montgomery
601 East 12th Street
Kansas City, MO 64106-2896

Re: Transmittal of Final Quality Control Summary Report
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska
Contract No. W912DQ-08-D-0001, Task Order No. 0002

Dear Mr. Montgomery:

ECC is hereby transmitting one electronic copy of the Final Quality Control Summary Report for the Fourth Quarter 2010 Water Supply Well Sampling Event at the former Nebraska Ordnance Plant, Mead, Nebraska.

Please contact Mr. Brady Bigelow or me if you require additional information.

Sincerely,

John Ryder
Project Chemist
ECC

Enclosures
Cc: Ms. Kristine Stein (USACE)
Mr. Jason L'Ecuyer (USACE)
Mr. Bradley Brink (USACE)
Mr. Kirk Boese (USACE)
Mr. Brady Bigelow (ECC)

Corporate Office

1240 Bayshore Highway
Burlingame, CA 94010

Phone: 650.347.1555
Fax: 650.347.8789
www.ecc.net

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE: January 31, 2011	TRANSMITTAL NO. 2011-013

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by contractor)

Attn: Jerry Montgomery USACE, Kansas City District 601 E. 12th St. Kansas City, MO 64106-2896	FROM: John Ryder ECC 1746 Cole Blvd, Bldg 21, Lakewood, CO 80401	CONTRACT NO. W912DQ-08-D-0001, Task Order 0002	CHECK ONE: __X__ THIS IS A NEW TRANSMITTAL ____ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SECTION NO. (cover only one section with each transmittal)	PROJECT TITLE AND LOCATION: Groundwater Monitoring Program, Former Nebraska Ordnance Plant, Mead, Nebraska		CHECK ONE: ___ FIO __X__ For Govt. Approval

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type, size, model number, etc.)* *b.*	MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction No. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruc. no. 6)* *h.*	FOR C E USE CODE *i.*
1	Quality Control Summary Report - Final		1					
	Fourth Quarter 2010 Water Supply Well Sampling Event							

REMARKS
Kristine Stein (USACE)
Jason L'Ecuyer (USACE)
Bradley Brink (USACE)
Kirk Boese (USACE)
Mead Library

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
John Ryder, Denver Operations Group

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

FINAL
QUALITY CONTROL SUMMARY REPORT
FOURTH QUARTER 2010

WATER SUPPLY WELL SAMPLING EVENT

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

January 2011

ECC
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, Colorado 80401

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Quality Control Summary Report
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant
Mead, Nebraska

1.0 INTRODUCTION

Water supply well (WSW) sampling was conducted on December 9, 2010 at the former Nebraska Ordnance Plant, Mead, Nebraska. All sampling activities were performed in accordance with the Site Wide Work Plan (ECC, 2009). This Quality Control Summary Report presents a summary of the chemical data quality review for the Fourth Quarter 2010 WSW sampling event.

Samples were analyzed for one or all of the following constituents:

- Selected volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Drinking Water Method 524.2
- Selected explosives by EPA Method 8330

The VOC analyses were performed by TestAmerica of Savannah, Georgia, and the explosive analyses were performed by TestAmerica of South Burlington, Vermont. A complete list of the water supply wells planned for sample collection, the corresponding sample identification (ID) numbers, and the requested analyses for each sampled well are presented in Table 1-1. Associated Chain of Custody (COC) Records are included as Appendix A. Appendix B presents an explanation of data validation qualifiers and drinking water standards and Appendix C contains a CD with all analytical data, including summary forms and raw data, for the Fourth Quarter 2010 WSW sampling event.

2.0 SAMPLING ACTIVITIES

One sample location was sampled for chemical analyses during the Fourth Quarter 2010 WSW sampling event. A field duplicate sample, a matrix spike (MS) / matrix spike duplicate (MSD) sample pair, and one trip blank were also collected with this sampling location. In addition, a Proficiency Testing (PT) sample was submitted with the Fourth Quarter 2010 WSW sampling event. The PT sample results were not used to determine field, analytical completeness, or project completeness (Section 4.0).

Table 2-1 provides the following information listed by date sampled and laboratory sample ID for ease of comparison to laboratory data packages and field notes:

- A cross-reference between laboratory sample IDs and field sample IDs;
- QC (Quality Control) split sample information;
- MS/MSD sample information;
- Dates of sample collection and sample receipt by the laboratory;

- COC numbers;
- Sample delivery group (SDG) numbers; and
- Requested analyses

3.0 DATA QUALITY EVALUATION PROCEDURES

The following subsections present the data quality evaluation procedures performed in accordance with the *Mead Validation Guidelines*, (ECC, 2007), approved by USACE 2007. Both project specified limits and laboratory control limits were used to assess data quality. No data required qualification from the Fourth Quarter 2010 WSW sampling event.

3.1 Sample Receipt at the Laboratory

All sample transfer requirements were met for samples received at the laboratory. No data required qualification based on sample condition. The samples coolers were received within the recommended temperature range of 4 ± 2 °C, or just below 2 °C but not frozen. Sample preservation was not indicated on the COC.

3.2 Holding Times

All extractions and analyses were performed within method-specific holding times.

3.3 Tuning and Calibration

According to the *Mead Validation Guidelines* (ECC, 2007), assessment of tune and calibration information is assessed using the laboratory case-narrative or summary forms. No deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case narrative and evaluation of the calibration summary forms indicated that all project criteria were met.

3.4 Laboratory Method Blanks

A laboratory method blank is an analyte-free matrix that is carried through the entire preparation and analysis sequence for the purpose of identifying potential contamination introduced during preparation and analysis. Method blanks were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections are qualified as non-detect (U) if the concentration in the sample is less than 5 times the concentration in the associated blank. For common laboratory contaminants, detections are qualified as non-detect (U) if the concentration in the sample is less than 10 times the concentration in the associated blank. Sample results that are either non-detect (U), or greater than 5 or 10 times the blank result do not require qualification.

There were no detections of target analytes in the laboratory method blanks.

3.5 Trip Blanks

A trip blank is an analyte-free matrix that accompanies samples through the sample collection and transportation process to identify potential VOC contamination. In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections are qualified as non-detect (U) if the concentration in the sample is less than 5 times the concentration in the associated blank (10 times for common laboratory contaminants). Sample results that are either non-detect (U), or greater than 5 times the blank result do not require qualification.

There were no detections of target analytes in the volatile trip blank.

3.6 Surrogates

Surrogates are compounds not normally found in the environment that are added (spiked) into samples prior to extraction (for extractable methods) or prior to analysis (for non-extractable methods). The percent recovery (% REC) of each surrogate is used to assess the success of the sample preparation process for an individual sample. Surrogates were analyzed for each sample batch for VOCs and explosives.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for associated analytes in the affected samples are J-coded for detects and UJ-coded for non-detects if the surrogate % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines*(ECC, 2007), results for associated analytes in the affected samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects.

All surrogate percent recoveries were within the laboratory QC limits.

3.7 Laboratory Control Samples and Laboratory Control Sample Duplicates

A laboratory control sample (LCS) consists of a matrix, similar to that of the field sample, which is spiked with known concentrations of analytes. The LCS % REC is a measure of the accuracy of the preparation and analytical methods. The laboratory control sample duplicate (LCSD) is a duplicate preparation and analysis of the LCS. The differences between the LCS and LCSD recoveries are used to calculate the relative percent difference (RPD), which is a measure of the precision of the preparation and analytical methods. LCS samples were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the LCS % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for

the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the LCS/LCSD RPD exceeds 30%.

All LCS/LCSD % RECs were within laboratory QC limits and all RPDs were less than 30%.

3.8 Matrix Spikes and Matrix Spike Duplicates

MS/MSD analyses measure method accuracy and precision for a project-specific matrix. A field sample is split into three portions (original, MS, and MSD) and known amounts of analytes are added (spiked) into the MS and MSD portions of the sample. The analytical results of these two portions are compared to each other for reproducibility using the RPD. These results are also compared against the unspiked portion of the sample for % REC of the spiked analytes. MS/MSD samples were analyzed for each SDG for all analyses. MS/MSD results were provided for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects and UJ-coded for non-detects if the MS/MSD % RECs are below the laboratory QC limits but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects if the MS/MSD % RECs are greater than the QC limits. No action is required for non-detects.

All % RECs were within laboratory QC limits and all RPDs were less than 30%.

3.9 Field Duplicates

Field duplicate analytical results provide information on the ability to reproduce field results and account for error introduced from handling, shipping, preparing, and analyzing field samples. The field duplicate pair collected this quarter is listed below:

- 055-102010 / 255-102010 (VOC and explosives)

The field duplicate data were acceptable. [Note: No detected results were reported for either sample.]

3.10 Dilutions and Reanalyses

No dilutions or reanalyses were required for this sampling event.

3.11 Other QC Parameters

All detected explosive results were confirmed on a second column. A column comparison between the detected explosive results was made using explosive identification summary forms. The validator confirmed all reported explosives detections and column RPDs.

No qualifiers were added to the data as all intercolumn RPDs were less than 40%.

3.12 Laboratory Qualifiers

Analytes detected below the limit of quantitation (LOQ), but above the limit of detection (LOD) were quantified and results were assigned an estimated (J) qualifier by the laboratory. These qualifiers were carried over by the validator and were not used to determine analytical completeness or project completeness (Section 4.0).

No laboratory qualifiers were added to the data because all results were not detected or greater than the LOQ.

4.0 OVERALL ASSESSMENT

The following subsections present the field completeness, analytical completeness, and project completeness determinations for the Fourth Quarter 2010 WSW sampling event.

4.1 Field Completeness

Field completeness for sample collection was assessed by comparing the number of samples properly collected to the number of samples planned for collection. Only one sample location (WSW-055) was scheduled for VOC and explosive analysis sampling this quarter. This sample location, along with the appropriate QC samples, was collected as requested. Therefore, the field completeness for the VOCs and the field completeness for the explosives is 100%. The overall field completeness percentage is 100%, which meets the field completeness goal of 95%.

Section 2.0 presents the field sampling activities. Table 4-1 presents the field completeness.

4.2 Analytical Completeness

Acceptable data is a measure of laboratory contract compliance. Acceptable data includes data that has not been rejected or qualified as estimated (J). Qualified data is considered acceptable if appropriate corrective actions were taken by the laboratory. The acceptable data completeness percentage for VOCs was 100% and the acceptable data completeness percentage for the explosives was 100%. These both exceed the acceptable data completeness goals of 90% for each analytical method. Overall acceptable data completeness is 100%, which meets the overall acceptable data completeness goal of 95%.

Quality data is a measure of the percentage of usable data. Quality data includes all data except rejected data points, and does not include analyses for which replacement data points are available. Quality data completeness percentages for the VOCs and explosives are 100%, as no sample results were rejected. These exceed the quality data completeness goals of 80% for each analytical method. Overall quality data completeness is also 100%, which exceeds the overall quality data completeness goal of 80%.

Table 4-2 presents acceptable and quality data completeness.

4.3 Project Completeness

Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples/measurements that are determined to be usable to the total number of samples/ measurements planned. Project completeness is calculated using the field completeness and analytical completeness (quality data) completeness percentages. Overall project completeness is 100%. The overall project completeness exceeds the project completeness goal of 90%.

Table 4-3 presents the project completeness percentages.

5.0 CONCLUSIONS

The data are acceptable and no qualifiers effecting data completeness were added to the data. Overall quality data completeness is 100%. Overall acceptable data completeness is 100% and over all field completeness is 100%, both of which meet project goals. The overall project completeness at 100% meets the project goal of 90%.

6.0 REFERENCES

ECC, 2009, *Site Wide Work Plan* (ECC, 2009).

ECC, 2007 *Mead Validation Guidelines*, (approved by USACE 2007).

Tables

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Table 1-1
Sample Locations, Sample IDs, and Analyses
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Well IDs	Sample IDs	Analyses[1]
WSW-055	055-102010	Volatiles, Explosives

Notes:

IDs = Identifications

[1] = Volatiles by Environmental Protection Agency (EPA) Drinking Water Method 524.2 and Explosives by EPA SW-846 Method 8330.

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Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Analyses	
							VOCs	Explosives
Field Samples								
055-102010			12/9/2010	12/10/2010	200-2874-2	2874	●	●
		055-102010MS	12/9/2010	12/10/2010	200-2874-2MS	2874	●	●
		055-102010MSD	12/9/2010	12/10/2010	200-2874-2MSD	2874	●	●
	255-102010		12/9/2010	12/10/2010	200-2874-3	2874	●	●
Proficiency Testing[1]								
070-102010			12/9/2010	12/10/2010	200-2874-4	2874	●	●
Trip Blanks								
TRB-255-102010			12/9/2010	12/10/2010	200-2874-1	2874	●	

Notes:

[1] The Proficiency Testing (PT) sample results were not used to determine field, analytical completeness, or project completeness.

● = Requested for the indicated analyses.

ID = Identification

Lab = Laboratory

MS/MSD = Matrix Spike / Matrix Spike Duplicate

SDG = Sample Delivery Group

VOCs = Volatile Organic Compounds

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Table 4-1
Field Completeness
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned[1]	Number of Samples Collected	Field Completeness
Volatile Organic Compounds	2	2	100%
Explosives	2	2	100%
Totals =	4	4	100%
Goal =			95%

Notes:

[1] = Number of samples includes field samples and duplicate samples.

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Table 4-2
Analytical Completeness
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters[1]	Acceptable Data[2]	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data[3]	Quality Data Completeness	Quality Data Completeness Goals
Volatile Organic Compounds (6)	12	12	100%	90%	12	100%	80%
Explosives (6)	12	12	100%	90%	12	100%	80%
Totals =	24	24	100%	95%	24	100%	80%

Notes:

[1] = Total number of parameters includes field samples (including data points from dilutions and/or reanalyses to be used in place of original data) and field duplicates.

[2] = Acceptable data is defined as data that passed all quality control (QC) criteria, or data that did not pass QC criteria but had appropriate corrective actions taken. Acceptable data completeness is a measure of laboratory contract compliance. R qualified data with acceptable replacement data are not counted.

[3] = Quality data is a measure of the percentage of usable data points. Quality data includes all data except rejected data points.

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Table 4-3
Project Completeness
Fourth Quarter 2010 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field[1]	Analytical[2]	Project Completeness[3]
100%	100%	100%
Project Completeness Goal =		90%

Notes:
[1] = Field completeness for sample collection was assessed by comparing the number of samples properly collected to the number of samples planned for collection.
[2] = Analytical completeness is the percentage of usable data (i.e. quality data completeness).
[3] = Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples / measurements that are determined to be usable to the total number of samples / measurements planned.

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Appendix A
Chain of Custody Records

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estAmerica Burlington
Community Drive
ite 11
uth Burlington, VT 5403
one 802.660.1990 fax 802.660.1919

Groundwater samples

w sw SE 2010

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 12-9-10	COC No: 120910
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 1 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W) _____			
03) 298-7607 Phone	TAT if different from Below _____			SDG No.
03) 298-7837 FAX	☐ 3 weeks			
roject Name: FNOP 5447.002	☐ 2 weeks			
ite: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
055-10 2010	12-9-10	1030	G	W	2		X									
255-10 2010	12-9-10	1030	G	W	2		X									
055-10 2010 MS	12-9-10	1030	G	W	2		X									
055-10 2010 MSD	12-9-10	1030	G	W	2		X									
070-10 2010	12-9-10	1050	G	W	2		X									

Page 305 of 308

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby H.	ELC	1600 12-9-10	Fed-Ex 8730	0092 8510	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time: JK 12/10/10
				TA	~~12/9~~ 12/10/10 1100
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Savannah
5102 LaRoche Ave.
Savannah, GA 31404

Phone (912) 354 7858

Groundwater samples

WSW SE 2010

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 12-9-10	COC No: 120910
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Abbie Yant	Carrier: FedEx	1 of 1 COC's
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			SDG No.
(303) 298-7607 Phone	TAT if different from Below			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	524.2 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-255-102010	12-9-10	1030	G	W	2	X										
055-102010	12-9-10	1030	G	W	3	X										
055-102010 MS	12-9-10	1030	G	W	3	X										
055-102010 MSD	12-9-10	1030	G	W	3	X										
255-102010	12-9-10	1030	G	W	3	X										
070-102010	12-9-10	1050	G	W	3	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby A. K	ECC	1100 12-9-10	FedEx 8675	3615 2670	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Appendix B
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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Data Qualifiers and Drinking Water Standards Reference Sheet
Former Nebraska Ordnance Plant, Mead, Nebraska

Any qualifiers (i.e. U, J, or R) listed after a result are assigned during the data validation process. Data validation is a procedure which involves the review of quality control data provided by the laboratory. This review is followed by the assignment of data qualifiers (if necessary) which indicate the reliability of a result to the reader. Data validation is performed by a chemist employed outside of the laboratory or associated government installations to ensure accuracy in data reporting. A description of qualifiers is provided below.

No qualifier

- If a result has no assigned qualifier, the contaminant was detected, and the reader can be confident that the concentration is exact.

"U"

- A result followed by a "U" qualifier means that the contaminant was undetected, or not detected by the instrument.

"UJ"

- A result followed by a "UJ" qualifier means that the contaminant was not detected, but the associated detection level is not certain (estimated). For example, if a value is followed by a "UJ", the contaminant was not detected, but the associated detection level is in question. The detection level is in question because one or more of the laboratory quality control indicators do not meet acceptance criteria. The amount that the indicator fell outside of the criteria may be used as a rough estimate of how much the actual detection level differs from the stated one. Typically, this is a 10-30% difference.

"UR"

- A result followed by a "UR" qualifier means that the contaminant was not detected, but there is strong doubt that the associated detection level is accurate. For example, if a value is followed by a "UR", the contaminant was not detected, but the associated detection level is in strong doubt. The detection level is in doubt because results are unacceptable for a quality control indicator. In this case, the detection level cannot be estimated.

"J"

- A result followed by only a "J" qualifier means that the contaminant was detected, but there is some question that the stated concentration is exact. For example, if a result is "0.5 J", the contaminant was detected, but there is some question that the concentration is exactly 0.5. A "J" qualifier may be applied for two reasons: (1) the contaminant was detected below the reporting limit; or (2) the contaminant was detected, but one or more quality control indicators did not meet acceptance criteria. The reporting limit is equal to the concentration of the lowest standard used by the laboratory to calibrate the instrument. The reporting limit is the minimum concentration that can be stated with complete confidence.

“R”

- A result followed by only an “R” qualifier means that the contaminant was detected, but there is strong doubt that the concentration is exact. For example, if a result is “0.5 R”, the contaminant was detected, but there is strong doubt that the concentration is exactly 0.5. The concentration is in doubt because results are unacceptable for a quality control indicator. In this case, the detected concentration cannot be estimated. For comparison purposes, detected results are reported in the results letters with available Environmental Protection Agency drinking water standards. These standards include the maximum contaminant level (MCL) and various health advisories (HA). A description of the drinking water standards is provided below.

“MCL”

- The maximum contaminant level is the highest concentration of a contaminant that is allowed in drinking water. Maximum contaminant levels are enforceable Federal standards.

“HA”

- Health advisories provide estimates of acceptable drinking water concentrations for a chemical substance based on health effects information. Health advisories are not enforceable Federal standards, but serve as a technical guidance to assist Federal, State, and local officials.

Appendix C
Analytical Results on Compact Disc Summary Forms and Raw Data

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Appendix F

Quality Control Summary Report Fourth Quarter 2010 Operations and Maintenance Sampling Events, Former Nebraska Ordnance Plant (on CD)

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Regional Office

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March 4, 2011

U.S. Army Corps of Engineers, Kansas City District
Attn: Jerry Montgomery
601 East 12th Street
Kansas City, MO 64106-2896

Re: Transmittal of Final Quality Control Summary Report
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska
Contract No. W912DQ-08-D-0001, Task Order No. 0002

Dear Mr. Montgomery:

ECC is hereby transmitting one electronic copy of the Final Quality Control Summary Report for the Fourth Quarter 2010 Operations and Maintenance Sampling Events at the former Nebraska Ordnance Plant, Mead, Nebraska.

Please contact Mr. Brady Bigelow or me if you require additional information.

Sincerely,

John Ryder
Project Chemist
ECC

Enclosures
Cc: Ms. Kristine Stein (USACE)
Mr. Jason L'Ecuyer (USACE)
Mr. Bradley Brink (USACE)
Mr. Kirk Boese (USACE)
Mr. Brady Bigelow (ECC)

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TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE: March 4, 2011	TRANSMITTAL NO. 2011-022

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by contractor)

Attn: Jerry Montgomery USACE, Kansas City District 601 E. 12th St. Kansas City, MO 64106-2896	FROM: John Ryder ECC 1746 Cole Blvd, Bldg 21, Lakewood, CO 80401	CONTRACT NO. W912DQ-08-D-0001, Task Order 0002	CHECK ONE: __X__ THIS IS A NEW TRANSMITTAL ____ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SECTION NO. (cover only one section with each transmittal)	PROJECT TITLE AND LOCATION: Groundwater Monitoring Program, Former Nebraska Ordnance Plant, Mead, Nebraska		CHECK ONE: ___ FIO __X__ For Govt. Approval

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type, size, model number, etc.)* *b.*	MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction No. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruc. no. 6)* *h.*	FOR C E USE CODE *i.*
1	Quality Control Summary Report - Final		1					
	Fourth Quarter 2010 Operations and Maintenance (O&M) Sampling Events							

REMARKS
Kristine Stein (USACE)
Jason L'Ecuyer (USACE)
Bradley Brink (USACE)
Kirk Boese (USACE)
Mead Library

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
John Ryder, Denver Operations Group

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

FINAL
QUALITY CONTROL SUMMARY REPORT
FOURTH QUARTER 2010

OPERATIONS AND MAINTENANCE PROGRAM
SAMPLING EVENTS

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

March 2011

ECC
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, Colorado 80401

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Quality Control Summary Report
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant
Mead, Nebraska

1.0 INTRODUCTION

Sampling was conducted at the Main Groundwater Treatment Plant (GTP), Groundwater Circulation Well 1 (GCW-1), Load Line (LL) 1 GTP, LL4 GTP, Advanced Oxidation Process (AOP) GTP, and at Extraction Wells (EWs) for the operations and maintenance (O&M) program at the former Nebraska Ordnance Plant, near Mead, Nebraska. Sampling activities were performed in accordance with the *Site Wide Work Plan* (ECC, 2009). This Quality Control Summary Report is a summary of the chemical data quality review for the Fourth Quarter 2010 monthly sampling events.

Samples were analyzed for one or all of the following constituents:

- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) SW-846 Method 8260B
- Trichloroethene (TCE) by air Method TO-15
- Explosives by EPA SW-846 Method 8330
- Metals (Iron [Fe] and Manganese [Mn]) by EPA SW-846 Method 6010B
- Total suspended solids (TSS) by Method SM2540D
- Total organic carbon (TOC) by EPA SW-846 Method 9060
- Nitrate by SW-846 Method 9056

The analyses were performed by TestAmerica of South Burlington, Vermont, with the following exceptions.

- The air samples were analyzed by Air Toxics, Ltd of Folsom, California.
- The nitrate samples were analyzed by TestAmerica of Denver, Colorado.

The chain-of-custody (COC) and field notes are included as Appendices A and B, respectively. Appendix C presents an explanation of data validation qualifiers and drinking water standards. Appendix D contains a compact disk (CD) with all analytical data.

2.0 FIELD SAMPLING ACTIVITIES

During the Fourth Quarter 2010 O&M sampling events the following field samples were collected:

- Water samples were collected from each of the following extraction wells (EW) and focused extraction wells (FEW) during the Fourth Quarter 2010 O&M sampling event: EW-1, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.

- During October 2010, one water sample was collected from each of the following granular activated carbon (GAC) units: 320, 340, 360, and 380.
- During November 2010, one water sample was collected from the following GAC units: 310, 320, 330, 340, 350, 360, 370, and 380.
- During December 2010, one water sample was collected from the following GAC units: 320, 340, 360, 370, and 380.
- One influent water sample and one effluent water sample were collected from the Main GTP during each month of this quarter.
- One influent water sample and one effluent water sample were collected from GCW-1 during December 2010.
- One influent sample and one effluent sample were collected from the LL1 GTP during each month of this quarter as well as two field duplicate samples (one influent sample and one effluent sample) during November 2010.
- One air sample and a field duplicate sample were collected at the LL1 GTP.
- One influent sample and one effluent sample were collected from the LL4 GTP during November and December 2010.
- One influent air sample and one effluent air sample were collected at the LL4 GTP.
- One influent sample and one effluent sample were collected from the AOP GTP during each month of this quarter with the exception of the November sampling event. Only the effluent sample was collected in November because the associated water sample was collected from FEW-11.

A trip blank was included in each shipment that contained field samples scheduled for analysis of VOCs. The required frequency of collection for quality control (QC) samples (field duplicate and matrix spike/matrix spike duplicate [MS/MSD]) is one per quarter. At least one QC field duplicate sample and one MS/MSD for each parameter, except TSS, were collected for the O&M sampling events. Field duplicates and MS/MSD samples were not collected for the AOP or LL4 sampling events.

Table 2-1 provides the sample collection information for the O&M sampling events listed by date sampled and laboratory sample identification (ID) for comparison to laboratory data packages and field notes:

- QC split sample information
- MS/MSD sample information
- A cross-reference between laboratory sample IDs and field sample IDs
- Laboratory sample delivery group (SDG) numbers
- COC numbers
- Dates of sample collection and sample receipt by the laboratory
- Requested analyses

3.0 DATA QUALITY EVALUATION PROCEDURES

The following subsections present results of the data quality evaluation. This evaluation was performed in accordance with *Mead Validation Guidelines* (ECC, 2007, approved by United States Army Corps of Engineers [USACE] 2007). Qualifiers were only assigned based on project QC limits and laboratory QC criteria. The data quality evaluation results are presented in Table 3-1.

3.1 Sample Receipt at the Laboratory

The samples were properly preserved and in good condition, and the sample coolers were received within the recommended temperature range of 4 ± 2° C or just below 2° C, but not frozen.

It appears that samples 5447-1210-AOP-INF-042 and 5447-1210-AOP-EFF-042 were mislabeled for this sampling event. The laboratory narrative indicated that the times on the labels and COC were switched for these two samples. Additionally, the laboratory incorrectly identified these samples as 5447-1210-AOP-INF-118 and 5447-1210-AOP-EFF-118, respectively.

3.2 Holding Times

All samples were prepared and analyzed within the required holding times.

3.3 Tuning and Calibration

According to the *Mead Validation Guidelines* (ECC, 2007), assessment of tune and calibration information is assessed using the laboratory case-narrative or summary forms. No deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case narrative and evaluation of the calibration summary forms indicated that all project criteria were met.

3.4 Laboratory Blanks

A laboratory method blank is an analyte-free matrix that is carried through the entire preparation and analysis sequence for the purpose of identifying potential contamination introduced during preparation and analysis. Method blanks were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections were qualified as non-detect (U) if the concentration in the sample was less than 5 times the concentration in the associated blank. For common laboratory contaminants, results were qualified as described above if the concentration in the sample was less than 10 times the concentration in the associated blank. Sample results that were either non-detect (U), or greater than 5 or 10 times the blank result did not require qualification.

There were no detections of target analytes in the laboratory blanks.

3.5 Trip Blanks

A trip blank is an analyte-free matrix that accompanies samples through the sample collection and transportation process to identify potential VOC contamination. In accordance with the *Mead Validation Guidelines* (ECC, 2007), detections were qualified as non-detect (U) if the concentration in the sample was less than 5 times the concentration in the associated blank. Sample results that were either non-detect (U), or greater than 5 times the blank result did not require qualification.

There were no detections of target analytes in any of the VOC trip blanks.

3.6 Surrogates

Surrogates are compounds not normally found in the environment that are added (spiked) into samples prior to extraction (for extractable methods) and prior to analysis (for non-extractable methods). The percent recovery (% REC) of each surrogate is used to assess the success of the sample preparation process for an individual sample. Samples spiked with surrogate compounds were analyzed for VOCs and explosives.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for associated analytes in the affected samples are J-coded for detects and UJ-coded for non-detects if the surrogate % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for associated analytes in the affected samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects.

The % REC for 1,2-dinitrobenzene on the confirmation column in the explosive analysis of various samples exceeded the laboratory QC limits. However, no action was required because all associated results were reported from the primary column which met all % REC criteria for these samples.

3.7 Laboratory Control Sample / Laboratory Control Sample Duplicate

A laboratory control sample (LCS) consists of a matrix, similar to that of the field sample, which is spiked with known concentrations of analytes. The LCS % REC is a measure of the accuracy of the preparation and analytical methods. The laboratory control sample duplicate (LCSD) is a duplicate preparation and analysis of the LCS. The differences between the LCS and LCSD recoveries are used to calculate the relative percent difference (RPD), which is a measure of the precision of the preparation and analytical methods. LCS samples were analyzed for each sample batch for all analyses. LCSD samples were requested for analysis with each analytical batch that did not contain an MS/MSD.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the LCS % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines*

(ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds 30%.

LCS % RECs were within laboratory QC limits and all RPDs, if applicable, were less than 30%.

3.8 Matrix Spike / Matrix Spike Duplicate Analyses

MS and MSD samples are analyzed for organic and inorganic analyses. A field sample is split into three portions (original, MS, and MSD) and known amounts of analytes are added (spiked) into the MS and MSD portions of the sample. The analytical results of these two portions are compared to each other for reproducibility using the RPD. These results are also compared against the un-spiked portion of the sample for % REC of the spiked analytes. MS/MSD samples were analyzed for VOCs, TOC, explosives, nitrate, and metals.

For organic analyses:
In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects and UJ-coded for non-detects if the MS/MSD % RECs are below the laboratory QC limits, but greater than 10%. Non-detects are R-coded if % RECs are less than 10%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the parent sample are J-coded for detects if the MS/MSD % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated parent samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds the QC limit.

All % RECs and RPDs were within QC limits or did not result in qualification.

For inorganic analyses:
In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the MS/MSD % RECs are below 75%, but greater than 30%. Non-detects are R-coded if % RECs are less than 30%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects if the MS/MSD % RECs are greater than the QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds 20%.

The MSD % REC for iron was outside laboratory QC limits and resulted in the qualification (J/UJ) for this analyte in two samples. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-2 presents the QC outliers and associated samples for all assigned qualifiers.

All remaining % RECs and RPDs were within QC limits.

For wet chemistry analyses:
In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated parent samples are J-coded for detects and UJ-coded for non-detects if the MS/MSD % RECs are below the laboratory limits, but greater than 30%. Non-detects are R-coded if % RECs are less than 30%. Also in accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated parent samples are J-coded for detects if the MS/MSD % RECs are greater than the laboratory QC limits. No action is required for non-detects. Additionally, results for the affected analyte in the associated parent samples are J-coded for detects and UJ-coded for non-detects if the RPD exceeds the laboratory QC limit.

All % RECs and RPDs were within QC limits or did not result in qualification.

3.9 Field Duplicate Results

Field duplicate results provide information on the ability to reproduce field sample results and account for error introduced from handling, shipping, storage, preparation, and analysis of field samples. Five field duplicate pairs were collected during the Fourth Quarter 2010 monthly O&M sampling events. The field duplicate pairs are listed below:

- 5447-1110-EFF-117 / 5447-1110-2EFF-117 (Nitrate)
- 5447-1110-INF-117 / 5447-1110-2INF-117 (VOC, Explosives, TSS, TOC)
- 5447-1110-EW01-117 / 5447-1110-2EW01-117 (Metals)
- 5447-1110-LL1-EFF-061 / 5447-1110-LL1-2EFF-061 (Nitrate)
- 5447-1110-LL1-INF-061 / 5447-1110-LL1-2INF-061 (VOC, Explosives, TSS, TOC, Metals)
- 5447-1110-LL1-AIR-EFF-061 / 5447-1110-LL1-2AIR-EFF-061 (VOC)

All field duplicate precision was met, with the exception of TSS in two duplicate pairs. In accordance with the *Mead Validation Guidelines* (ECC, 2007), data are not qualified based on field duplicate sample results. Field duplicate results are considered acceptable when one result is not detected and the other result is below the limit of quantitation (LOQ).

3.10 Laboratory Duplicate Results

Laboratory duplicate results provide information on the ability of the laboratory to reproduce field sample results and account for error introduced by the laboratory during the preparation and analysis of field samples. Laboratory duplicates were analyzed for the inorganic analyses. Matrix spike duplicates and/or laboratory control sample duplicates were also analyzed for all method analyses.

In accordance with the *Mead Validation Guidelines* (ECC, 2007), results for the affected analyte in the associated samples are J-coded for detects and non-detects due to elevated duplicate RPDs.

All laboratory duplicate RPDs were considered acceptable.

3.11 Serial Dilution

A serial dilution (SD) is a split of the field sample that is diluted by a known dilution factor. The SD is prepared and analyzed by the same method as the field sample. The diluted results from the SD are compared to the results from the original sample to determine the percent difference (%D) between the two values. The SD is used as a matrix-specific QC element performed on metals methods for one or more associated samples. SD samples were analyzed for each sample batch for metals.

All serial dilution %Ds were within applicable limits.

3.12 Dilutions and Reanalyses

Qualifiers assigned as a result of calibration range exceedance are not used in the calculation of analytical data completeness percentages if there are acceptable results from diluted sample analyses.

Six samples required a diluted analysis due to concentrations of TCE above the calibration range. According to the *Mead Validation Guidelines* (ECC, 2007) results exceeding the calibrations range are not used for reporting or project decisions when acceptable results from dilutions are available. Therefore, the secondary diluted concentrations should be used for TCE and the initial analysis should be used for all other sample results. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-2 presents a detailed list of samples and compounds exceeding the calibration range and the associated diluted results. No qualifiers were assigned as a result of exceeded calibration ranges because acceptable results from diluted sample analyses were provided.

3.13 Other QC Parameters

All detected explosive results were confirmed on a second column. A column comparison between the detected explosive results was made using explosive identification summary forms. The validator confirmed all reported explosive detections for both columns and the intercolumn RPDs.

Detected results with the intercolumn RPDs exceeding 40% are qualified as estimated (J). Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-2 presents the explosive QC outliers and associated samples for all assigned qualifiers. These qualifiers were not used to determine analytical completeness or project completeness (Section 4.0).

3.14 Laboratory Qualifiers

Analytes detected below the LOQ, but above the limit of detection (LOD) were quantified and results were assigned an estimated (J) qualifier by the laboratory. Metals results less than the reporting limit were assigned a (B) qualifier by the laboratory. These qualifiers were carried over by the validator or the (B) flags were changed to (J) flags and were not used to determine analytical or project completeness. See Section 4.0.

4.0 OVERALL ASSESSMENT

The following subsections discuss the field completeness, analytical completeness, and project completeness determinations for the Fourth Quarter 2010 O&M sampling events. An evaluation of field, analytical, and project completeness is presented in Table 4-1 through 4-3.

Results qualified as not detected due to method blank detections and qualifiers added to the trip blanks when applicable were not used to determine completeness percentages.

4.1 Field Completeness

Field completeness is assessed by comparing the number of samples properly collected to the number of samples planned for collection. Field completeness is presented Tables 4-1 for the O&M sampling events.

Field completeness for the O&M sampling events were 100% for each method because all scheduled samples were collected. The overall field completeness percentage is therefore 100% for the O&M Fourth Quarter 2010 sampling events. All field completeness percentages exceed the field completeness goal of 95%. Section 2.0 presents the field sampling activities, including any deviations from planned sampling.

4.2 Analytical Completeness

Analytical completeness was calculated as both acceptable data completeness and quality data completeness. Analytical completeness is presented in Tables 4-2. The overall acceptable data completeness percentage goal is 95% (90% for each method), and the overall quality data completeness percentage goal is 80%.

Acceptable data completeness is a measure of laboratory contract compliance. Acceptable data includes data that have not been rejected or qualified as estimated (J). Qualified data are considered acceptable if appropriate corrective actions were taken by the laboratory. Acceptable data completeness percentages are as follows:

- VOCs: 100%
- Explosives: 100%
- TOC: 100%
- TSS: 100%
- Nitrate: 100%
- Metals: 92%

All analyses met the 90% criteria for the individual methods, and all the overall acceptable data completeness met the 95% criteria for the sampling events.

Quality data is a measure of the percentage of usable data points. Usable data points include all non-rejected data. Rejected data points with replacement data do not count against the quality data completeness. No data were rejected for the Fourth Quarter 2010 O&M sampling events. The quality data completeness percentage for VOCs, explosives, wet chemistry, and metals, considered separately, is 100%. Overall quality data completeness is 100% for the O&M sampling events.

4.3 Project Completeness

Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples/measurements that are determined to be usable to the total number of samples/ measurements planned. Project completeness is calculated using the field completeness and analytical completeness (quality data) completeness percentages.

The O&M project completeness percentages are 100%, which exceed the project completeness goal of 90%. Tables 4-3 presents project completeness values.

5.0 CONCLUSIONS

No data points were qualified as rejected (R). Data are valid for use, as qualified. Overall field completeness is 100%. Overall quality data completeness is 100% which is above the quality data completeness goal of 80%. Project completeness exceeded the project completeness goal of 90%.

Two results for iron were qualified as estimated due to an elevated MSD % REC. Six results for TCE were reported from a dilution due to calibration range exceedance and ten explosive results were qualified as estimated for intercolumn RPDs exceedances.

6.0 REFERENCES

ECC, 2009, *Site Wide Work Plan* (ECC, 2009).

ECC, 2007 *Mead Validation Guidelines*, (approved by USACE 2007)

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Tables

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Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample IDs	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Analyses						
							VOCs	Explosives	Total Suspended Solids	Total Organic Carbon	Nitrate as N	Metals (Fe, Mn)	TCE-Air TO15
Field Samples													
5447-1010-320-116			10/4/2010	10/5/2010	200-1821-2	1821-1	●	●					
5447-1010-340-116			10/4/2010	10/5/2010	200-1821-3	1821-1	●	●					
5447-1010-360-116			10/4/2010	10/5/2010	200-1821-4	1821-1	●	●					
5447-1010-380-116			10/4/2010	10/5/2010	200-1821-5	1821-1	●	●					
5447-1010-EFF-116			10/4/2010	10/5/2010	200-1821-6	1821-1	●	●			●		
5447-1010-INF-116			10/4/2010	10/5/2010	200-1821-1	1821-1	●	●					
5447-1110-310-117			11/1/2010	11/2/2010	200-2281-3	2281	●	●					
5447-1110-320-117			11/1/2010	11/2/2010	200-2281-4	2281	●	●					
5447-1110-330-117			11/1/2010	11/2/2010	200-2281-5	2281	●	●					
5447-1110-340-117			11/1/2010	11/2/2010	200-2281-6	2281	●	●					
5447-1110-350-117			11/1/2010	11/2/2010	200-2281-7	2281	●	●					
5447-1110-360-117			11/1/2010	11/2/2010	200-2281-8	2281	●	●					
5447-1110-370-117			11/1/2010	11/2/2010	200-2281-9	2281	●	●					
5447-1110-380-117			11/1/2010	11/2/2010	200-2281-10	2281	●	●					
5447-1110-EFF-117			11/1/2010	11/2/2010	200-2281-11	2281	●	●			●		
		5447-1110-EFF-117MS	11/1/2010	11/2/2010	200-2281-11MS	2281					●		
		5447-1110-EFF-117MSD	11/1/2010	11/2/2010	200-2281-11MSD	2281					●		
	5447-1110-2EFF-117		11/1/2010	11/2/2010	200-2281-26	2281					●		
5447-1110-INF-117			11/1/2010	11/2/2010	200-2281-1	2281	●	●	●	●			
		5447-1110-INF-117MS	11/1/2010	11/2/2010	200-2281-1MS	2281	●	●		●			
		5447-1110-INF-117MSD	11/1/2010	11/2/2010	200-2281-1MSD	2281	●	●		●			
	5447-1110-2INF-117		11/1/2010	11/2/2010	200-2281-2FD	2281	●	●	●	●			
5447-1110-EW01-117			11/1/2010	11/2/2010	200-2281-14	2281	●	●	●			●	
		5447-1110-EW01-117MS	11/1/2010	11/2/2010	200-2281-14MS	2281						●	
		5447-1110-EW01-117MSD	11/1/2010	11/2/2010	200-2281-14MSD	2281						●	
	5447-1110-2EW01-117		11/1/2010	11/2/2010	200-2281-15FD	2281						●	
5447-1110-EW03-117			11/1/2010	11/2/2010	200-2281-16	2281	●	●	●			●	
5447-1110-EW04-117			11/1/2010	11/2/2010	200-2281-17	2281	●	●	●			●	
5447-1110-EW06-117			11/1/2010	11/2/2010	200-2281-18	2281	●	●	●			●	

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample IDs	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Analyses						
							VOCs	Explosives	Total Suspended Solids	Total Organic Carbon	Nitrate as N	Metals (Fe, Mn)	TCE-Air TO15
5447-1110-EW07-117			11/1/2010	11/2/2010	200-2281-19	2281	●	●	●			●	
5447-1110-EW09-117			11/1/2010	11/2/2010	200-2281-20	2281	●	●	●			●	
5447-1110-EW11-117			11/1/2010	11/2/2010	200-2281-21	2281	●	●	●	●		●	
5447-1110-EW14-117			11/1/2010	11/2/2010	200-2281-22	2281	●	●	●			●	
5447-1110-EW16-117			11/1/2010	11/2/2010	200-2281-23	2281	●	●	●			●	
5447-1210-320-118			12/1/2010	12/2/2010	200-2741-2	2741	●	●					
5447-1210-340-118			12/1/2010	12/2/2010	200-2741-3	2741	●	●					
5447-1210-360-118			12/1/2010	12/2/2010	200-2741-4	2741	●	●					
5447-1210-370-118			12/1/2010	12/2/2010	200-2741-5	2741	●	●					
5447-1210-380-118			12/1/2010	12/2/2010	200-2741-6	2741	●	●					
5447-1210-EFF-118			12/1/2010	12/2/2010	200-2741-7	2741	●	●			●		
5447-1210-INF-118			12/1/2010	12/2/2010	200-2741-1	2741	●	●					
GCW1-EFF-122010			12/1/2010	12/2/2010	200-2741-11	2741	●						
GCW1-INF-122010			12/1/2010	12/2/2010	200-2741-10	2741	●						
Trip Blanks													
TRB-2INF-102010			10/4/2010	10/5/2010	200-1821-9	1821-1	●						
TRB-2INF-112010			11/1/2010	11/2/2010	200-2281-13TB	2281	●						
TRB-2INF-122010			12/1/2010	12/2/2010	200-2741-12	2741	●						
Field Samples - LL1													
5447-1010-LL1-EFF-060			10/4/2010	10/5/2010	200-1821-11	1821-2	●				●		
5447-1010-LL1-INF-060			10/4/2010	10/5/2010	200-1821-10	1821-2	●						
5447-1110-LL1-EFF-061			11/1/2010	11/2/2010	200-2282-3	2282	●	●			●		
		5447-1110-LL1-EFF-061MS	11/1/2010	11/2/2010	200-2282-3MS	2282					●		
		5447-1110-LL1-EFF-061MSD	11/1/2010	11/2/2010	200-2282-3MSD	2282					●		
	5447-1110-LL1-2EFF-061		11/1/2010	11/2/2010	200-2282-5	2282					●		
5447-1110-LL1-INF-061			11/1/2010	11/2/2010	200-2282-1	2282	●	●	●	●		●	
		5447-1110-LL1-INF-061MS	11/1/2010	11/2/2010	200-2282-1MS	2282	●	●		●		●	
		5447-1110-LL1-INF-061MSD	11/1/2010	11/2/2010	200-2282-1MSD	2282	●	●		●		●	
	5447-1110-LL1-2INF-061		11/1/2010	11/2/2010	200-2282-2	2282	●	●	●	●		●	
5447-1110-LL1-AIR-EFF-061			11/1/2010	11/2/2010	1011048-01A	1011048							●
	5447-1110-LL1-2AIR-EFF-061		11/1/2010	11/2/2010	1011048-02A	1011048							●

Table 2-1
Sample Collection Summary
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample IDs	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Analyses						
							VOCs	Explosives	Total Suspended Solids	Total Organic Carbon	Nitrate as N	Metals (Fe, Mn)	TCE-Air TO15
5447-1210-LL1-EFF-062			12/1/2010	12/2/2010	200-2746-2	2746	●				●		
5447-1210-LL1-INF-062			12/1/2010	12/2/2010	200-2746-1	2746	●						
Trip Blanks - LL1													
TRB-LL1-2INF-102010			10/4/2010	10/5/2010	200-1821-12	1821-2	●						
TRB-LL1-2INF-112010			11/1/2010	11/2/2010	200-2282-4	2282	●						
TRB-LL1-2INF-122010			12/1/2010	12/2/2010	200-2746-3	2746	●						
Field Samples - LL4													
5447-1110-LL4-EFF			10/28/2010	10/29/2010	200-2237-2	2237	●				●		
5447-1110-LL4-INF			10/28/2010	10/29/2010	200-2237-1	2237	●		●	●			
5447-1210-LL4-EFF			12/1/2010	12/2/2010	200-2738-2	2738	●				●		
5447-1210-LL4-INF			12/1/2010	12/2/2010	200-2738-1	2738	●						
5447-1210-LL4-AIR-EFF			12/1/2010	12/2/2010	1012030-02A	1012030							●
5447-1210-LL4-AIR-INF			12/1/2010	12/2/2010	1012030-01A	1012030							●
Trip Blanks - LL4													
TRB-LL4-2INF-112010			10/28/2010	10/29/2010	200-2237-3	2237	●						
TRB-LL4-2INF-122010			12/1/2010	12/2/2010	200-2738-3	2738	●						
Field Samples - AOP													
5447-1010-AOP-EFF-040			10/4/2010	10/5/2010	200-1821-8	1821-1	●	●					
5447-1010-AOP-INF-040			10/4/2010	10/5/2010	200-1821-7	1821-1	●	●					
5447-1110-AOP-EFF2-041			11/1/2010	11/2/2010	200-2281-12	2281	●	●					
5447-1210-AOP-EFF-042[1]			12/1/2010	12/2/2010	200-2741-9	2741	●	●					
5447-1210-AOP-INF-042[1]			12/1/2010	12/2/2010	200-2741-8	2741	●	●					

[1] It appears that samples 5447-1210-AOP-INF-042 and 5447-1210-AOP-EFF-042 were mislabeled for this sampling event. The laboratory narrative indicated that the times on the labels and COC were switched for these two samples. Additionally, the laboratory incorrectly identified these samples as 5447-1210-AOP-INF-118 and 5447-1210-AOP-EFF-118, respectively.

Notes:

● = Sampled for indicated analysis
AOP = Advanced Oxidation Process
COC = Chain of Custody
Fe = Iron
ID = Identification
LL1 = Load Line 1
LL4 = Load Line 4
Mn = Manganese
MS/MSD = Matrix Spike / Matrix Spike Duplicate
N = Nitrogen
SDG = Sample Delivery Group
VOCs = Volatile Organic Compounds

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Table 3-1
Data Evaluation Results
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for qualification						Comments	Final Result
										LCS	MSD	BLK	SUR	CR	RPD		
5447-1110-EW01-117	11/1/2010	2281	200-2281-14	Metals	Iron	µg/L	487		J		x					Elevated MSD Recovery	487 J
5447-1110-2EW01-117	11/1/2010	2281	200-2281-15FD	Metals	Iron	µg/L	369		J		x					Elevated MSD Recovery	369 J
5447-1110-EW11-117	11/1/2010	2281	200-2281-21	VOCs	TCE	µg/L	1900	D						x		Calibration Range Exceeded TCE Reported from Dilution	1900 D
				Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.025	J	J						x	Intercolumn RPD > 40%	0.025 J
					4-amino-2,6-dinitrotoluene	µg/L	1.1		J						x	Intercolumn RPD > 40%	1.1 J
5447-1110-EW14-117	11/1/2010	2281	200-2281-22	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.047	J	J						x	Intercolumn RPD > 40%	0.047 J
5447-1210-380-118	12/1/2010	2741	200-2741-6	Explosives	RDX	µg/L	0.061	J	J						x	Intercolumn RPD > 40%	0.061 J
GCW1-INF-122010	12/1/2010	2741	200-2741-10	VOCs	TCE	µg/L	480	D						x		Calibration Range Exceeded TCE Reported from Dilution	480 D
5447-1110-LL4-INF	10/28/2010	2237	200-2237-1	VOCs	TCE	µg/L	600	D						x		Calibration Range Exceeded TCE Reported from Dilution	600 D
5447-1210-LL4-INF	12/1/2010	2738	200-2738-1	VOCs	TCE	µg/L	550	D						x		Calibration Range Exceeded TCE Reported from Dilution	550 D
5447-1010-AOP-EFF-040	10/4/2010	1821-1	200-1821-8	Explosives	2,4,6-atinitrotoluene	µg/L	0.13	J	J						x	Intercolumn RPD > 40%	0.13 J
5447-1010-AOP-INF-040	10/4/2010	1821-1	200-1821-7	VOCs	TCE	µg/L	1900	D						x		Calibration Range Exceeded TCE Reported from Dilution	1900 D
				Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.026	J	J						x	Intercolumn RPD > 40%	0.026 J
5447-1110-AOP-EFF2-041	11/1/2010	2281	200-2281-12	Explosives	1,3,5-trinitrobenzene	µg/L	0.039	J	J						x	Intercolumn RPD > 40%	0.039 J
5447-1210-AOP-EFF-042[1]	12/1/2010	2741	200-2741-9	VOCs	TCE	µg/L	1800	D						x		Calibration Range Exceeded TCE Reported from Dilution	1800 D
				Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.023	J	J						x	Intercolumn RPD > 40%	0.023 J
					4-amino-2,6-dinitrotoluene	µg/L	1.1		J						x	Intercolumn RPD > 40%	1.1 J
5447-1210-AOP-INF-042[1]	12/1/2010	2741	200-2741-8	Explosives	1,3,5-trinitrobenzene	µg/L	0.068	J	J						x	Intercolumn RPD > 40%	0.068 J

[1] It appears that samples 5447-1210-AOP-INF-042 and 5447-1210-AOP-EFF-042 were mislabeled for this sampling event. The laboratory narrative indicated that the times on the labels and COC were switched for these two samples. Additionally, the laboratory incorrectly identified these samples as 5447-1210-AOP-INF-118 and 5447-1210-AOP-EFF-118, respectively.

Notes:

BLK = Blank
CR = Calibration Range
D = Result from dilution
J = Qualified as estimated
LCS = Laboratory Control Sample
MD/MSD = Matrix Spike/Matrix Spike Duplicate
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group
SUR = Surrogate
TCE = trichloroethene
ug/L = micrograms per liter
VOCs = Volatile Organic Compounds

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Table 3-2
Quality Control Outliers
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Parameter	Laboratory QC Parameter Control Limit	QC Result
MSD					
5447-1110-EW01-117 5447-1110-2EW01-117	2281	Iron	MSD % REC	80-120%	122%
Dilutions and Reanalyses	(E flags are not used in completeness percentage when dilution available)				
5447-1110-EW11-117	2281	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 1900 D
GCW1-INF-122010	2741	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 480 D
Note: The samples above were diluted and reanalyzed. The results for TCE should be reported from the dilutions.					
Other QC Parameters	(Detected results qualified for inter column RPDs are not used in completeness percentage)				
5447-1110-EW11-117 5447-1110-EW14-117	2281	2-amino-4,6-dinitrotoluene	RPD	<40%	173% 45%
5447-1110-EW11-117	2281	4-amino-2,6-dinitrotoluene			41%
5447-1210-380-118	2741	RDX			44%
Dilutions and Reanalyses - LL4	(E flags are not used in completeness percentage when dilution available)				
5447-1110-LL4-INF	2237	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 600 D
5447-1210-LL4-INF	2738	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 550 D
Note: The samples above were diluted and reanalyzed. The results for TCE should be reported from the dilutions.					
Dilutions and Reanalyses - AOP	(E flags are not used in completeness percentage when dilution available)				
5447-1010-AOP-INF-040	1821-1	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 1900 D
5447-1210-AOP-EFF-042[1]	2741	TCE	Calibration Range Exceedance	Linear Calibration Range	Report 1800 D
Note: The samples above were diluted and reanalyzed. The results for TCE should be reported from the dilutions.					

Table 3-2
Quality Control Outliers
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Parameter	Laboratory QC Parameter Control Limit	QC Result
Other QC Parameters - AOP		(Detected results qualified for inter column RPDs are not used in completeness percentage)			
5447-1110-AOP-EFF2-041 5447-1210-AOP-INF-042[1]	2281 2741	1,3,5-trinitrobenzene	Intercolumn RPD	<40%	84% 78%
5447-1010-AOP-INF-040 5447-1210-AOP-EFF-042[1]	1821-1 2741	2-amino-4,6-dinitrotoluene			181% 150%
5447-1010-AOP-EFF-040	1821-1	2,4,6-trinitrotoluene			56%
5447-1210-AOP-EFF-042[1]	2741	4-amino-2,6-dinitrotoluene			57%

[1] It appears that samples 5447-1210-AOP-INF-042 and 5447-1210-AOP-EFF-042 were mislabeled for this sampling event. The laboratory narrative indicated that the times on the labels and COC were switched for these two samples. Additionally, the laboratory incorrectly identified these samples as 5447-1210-AOP-INF-118 and 5447-1210-AOP-EFF-118, respectively.

Notes:

D = Result from diluted analysis
ID = Identification
MSD = Matrix spike duplicate
QC = Quality Control
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine
%REC = Percent Recovery
RPD = Relative Percent Difference
SDG = Sample Delivery Group
TCE = Trichloroethene
ug/L = micrograms per liter

Table 4-1
Field Completeness
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned[1]	Number of Samples Collected	Field Completeness
Volatile Organic Compounds	51	51	100%
TCE-Air	4	4	100%
Explosives	41	41	100%
TOC	6	6	100%
TSS	14	14	100%
Nitrate	10	10	100%
Metals (Fe and Mn)	12	12	100%
Totals =	138	138	100%
Goal =			95%

Notes:

[1] = Number of samples includes field samples and duplicate samples.
TCE = trichloroethene
TOC = total organic carbon
TSS = total suspended solids
Fe = Iron
Mn = Manganese

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Table 4-2
Analytical Completeness
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters[1]	Acceptable Data[2]	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data[3]	Quality Data Completeness	Quality Data Completeness Goals
Volatile Organic Compounds	306	306	100%	90%	306	100%	80%
Explosives	246	246	100%	90%	246	100%	80%
Metals (Fe, Mn)	24	22	92%	90%	24	100%	80%
TOC	6	6	100%	90%	6	100%	80%
TSS	14	14	100%	90%	14	100%	80%
Nitrate	10	10	100%	90%	10	100%	80%
TCE (air)	4	4	100%	90%	4	100%	80%
Totals =	610	608	100%	95%	610	100%	80%

Notes:

[1] = Total number of parameters includes field samples and field duplicates.

[2] = Acceptable data is defined as data that passed all quality control (QC) criteria, or data that did not pass QC criteria but had appropriate corrective actions taken. Acceptable data completeness is a measure of laboratory contract compliance. R qualified data with acceptable replacement data are not counted.

[3] = Quality data is defined as all non-rejected data

TCE =trichloroethene

TOC = total organic carbon

TSS = total suspended solids

Fe = Iron

Mn = Manganese

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Table 4-3
Project Completeness
Fourth Quarter 2010 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical[1]	Project Completeness[2]
100%	100%	100%
Total =		100%
Goal =		90%

Notes:
[1] = Analytical completeness is the percentage of usable data (i.e. quality data completeness).
[2] = Project completeness combines sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is determined by comparing the percentage of samples / measurements that are determined to be usable to the total number of samples / measurements planned. Project completeness is calculated using field completeness and analytical completeness percentages.

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Appendix A
Chain of Custody Records

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Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: John Ryder
Collected by: (Print and Sign) Tim Thares
Company: ECC Email:
Address: 1746 Cole Blvd Bldg 1 Suite 350 City: Lakewood State: Co Zip: 80401
Phone: 303.298.7607 Fax: 303.298.7887

Project Info:
P.O. #:
Project #: 5447.002
Project Name: ENOP Mead

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	5447-1110-LL1-AIR-EFF-061	12375	11-1-10	0917	TCE T.O. 15	29	0		
02A	5447-1110-LL1-2AIR-EFF-061	~~25291~~ 21019	11-1-10	0917	TCE T.O. 15				
		25291 - No Vacuum							

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	11-1-10 1500	Fed Ex 5475-3615-2522	11-1-10 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		[signature]	11/2/10 0910
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
LL1 O+M
November 2010

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		NA	good	Yes No None	1011048

Form 1293 rev.11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1744 Cole Blvd Bld 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303.298.7607
Fax: 303.298.7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Jim Thares
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNOP Mead

ANALYSIS REQUESTED: VOC's 8260B

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	Lab/Sample ID (Lab Use Only)
W	10-4	0821		X	5447-1010-LL1-INF-060	3				X	
W	10-4	0825		X	5447-1010-LL1-EFF-060	3				X	
W	10-4	0821		X	TRB-LL1-2INF-102010	2				X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10-4-10	1500	[signature] 8675-3615-3448	10-4-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 O&M October 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TAL 234(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

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CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 7746 Cole Blvd Bldg 21 Suite 350
Lakewood Co. 80403
Contact: John Ryder
Phone: 303.298.7603
Fax: 303.298.7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

ANALYSIS REQUESTED: Nitrates 9056

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Sampler's Name: Tim Tholes
Sampler's Signature: [signature]

Proj. No.: 5447.002
Project Name: FNOP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Nitrates 9056	Lab/Sample ID (Lab Use Only)
W	10-4	0825		X	5447-1010-LLT-EFF-060		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10-4-10	1500	Fed Ex 8605-3615-3437	10-4-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LLT O+M October 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TA 4(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
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South Burlington, VT 05403 Tel: 802 660 1990

page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1946 Colo Blvd Bld 21 Suite 300
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Tim Thares
Sampler's Signature:

Proj. No.: 5447 002
Project Name: FNOP Mead

ANALYSIS REQUESTED: VOCs 8260B; Explosives 8330; T.S.S. SM 2540D; TOC 9060; Metals 6010B

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOCs 8260B	Explosives 8330	T.S.S. SM 2540D	TOC 9060	Metals 6010B							Lab/Sample ID (Lab Use Only)
W	11-1	0855		X	5447-1110-LL1-INF-061	3	3	2		X	X	X	X	X							
W	11-1	0855		X	5447-1110-LL1-2INF-061	3	3	2		X	X	X	X	X							
W	11-1	0855		X	5447-1110-LL1-INF-MS	3	2	2		X	X		X	X							
W	11-1	0855		X	5447-1110-LL1-INF-MSD	3	2	2		X	X		X	X							
W	11-1	0910		X	5447-1110-LL1-EFF-061	3	2			X	X										
					~~5447-1110-LL1-AIR-EFF-01~~																
W	11-1	0855		X	TRB-LL1-2INF-112010	2				X											

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11-1-10	1500	Fed Ex 8675-3615-3507	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 - O&M November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TAL-8234(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bld 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Analysis Requested: Nitrates, 9056

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Sampler's Name: Tim Thomas
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNOP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Nitrates, 9056	Lab/Sample ID (Lab Use Only)
W	11-1	0910		X	5447-1110-LL1-EFF-061		1	1		X	
W	11-1	0910		X	5447-1110-LL1-2EFF-061		1	1		X	
W	11-1	0910		X	5447-1110-LL1-EFF-MS		1	1		X	
W	11-1	0912		X	5447-1110-LL1-EFF-MSD		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	11-1-10	1500	FedEx 8675-3615 2511	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 OtM
November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other _____

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TAL-8 4(1007)

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: John Ryder
Collected by: (Print and Sign) Tim Thares
Company: ECC Email:
Address: 1746 Cole Blvd Bldg 1 Suite 350 City: Lakewood State: Co Zip: 80401
Phone: 303.298.7607 Fax: 303.298.7887

Project Info:
P.O. #:
Project #: 5447 002
Project Name: ENOP Mead

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	5447-1110-LL1-AIR-EFF-061	12375	11-1-10	0917	TCE T.O. 15	29	0		
	5447-1110-LL1-2AIR-EFF-061	~~25291~~ 21019	11-1-10	0917	TCE T.O. 15				
		25291 - No Vacuum							

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	11-1-10 1500	Fed Ex 5675-3615-2522	11-1-10 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
LL1 - O&M
November 2010

Lab Use Only	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
				Yes No None	

Form 1293 rev.11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Building 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thomas
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNUP Mead

ANALYSIS REQUESTED: VOCs 8260B

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOCs 8260B	Lab/Sample ID (Lab Use Only)
W	12-1	0830		X	5447-1210-LL1-INF-062	3				X	
W	12-1	0830		X	5447-1210-LL1-EFF-062	3				X	
W	12-1	0830		X	TRB-LL1-2INF-122010	2				X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	Fed Ex 8635-3615-2636	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 OtM December 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TAL-8 4(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 1746 Cole Blvd Bld 21 Suite 300 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7607	Phone:
Fax: 303-288-7837	Fax:
Contract/ Quote:	

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNUP Mead

ANALYSIS REQUESTED: Nitrate 9056

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	No/Type of Containers[2] VOA	A/G 1 Lt.	250 ml	P/O	Nitrate 9056	Lab/Sample ID (Lab Use Only)
W	12-1	0830		X	5447-1210-LL7-EFF-062		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	Fed Ex 8625-3615-2605	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 O&M December 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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TAL-8234(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1346 Colo Blvd Bld2 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Tim Thare
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNOP Mead

Analysis Requested: VOC's 8260B; TSS SM2540D; TOC 9060

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	TSS SM2540D	TOC 9060	Lab/Sample ID (Lab Use Only)
W	10.28	1145		X	5447-1110-LL4-INF	3	1	1		X	X	X	
W	10.28	1150		X	5447-1110-LL4-EFF	3				X			
W	10.28	1145		X	TRB-LL4-2INF-112010	2				X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	10.28.10	1500	FedEx 8675-3615-2577	10.28.10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: VOC's - 7 Day TAT
LL4 Nov. 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TA 4(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Lab Blvd Bldg 21 Suite 350
Lakewood CO 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

ANALYSIS REQUESTED: Nitrates 9056

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thars
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNOP Meed

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	No/Type of Containers[2] VOA	A/G 1 Lt.	250 ml	P/O	Nitrates 9056	Lab/Sample ID (Lab Use Only)
W	10-28	1150		X	5447-1110-224-EFF		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	10-28-10	1500	FedEx 8675-3615-2588	10-28-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: 24 Nov. 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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TAL-8234(1007)

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: John Ryder
Collected by: (Print and Sign) Tim Thane
Company: ECC Email:
Address: 1746 Lola Blvd Bld 21 Suite 300 City: Lakewood State: Co Zip: 80401
Phone: 303-298-7607 Fax: 303-298-7539

Project Info:
P.O. #:
Project #: 5447 002
Project Name: FNOP Mead

Turn Around Time:
☐ Normal
☒ Rush 7 DAY specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	5447-1110-LL4-AIR-INF	25208 ~~2085~~	10-28-10	1210	TCE T.O. 15		0		
	5447-1110-LL4-AIR-EGF	2098	10-28-10	1201	TCE T.O. 15	29	0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Tim Thane	10-28-10 1500	Fed Ex 8675-3615-2564	10-28-10 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: LL4 NOV 2010

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
					Yes No None	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1946 Ute Blvd Bld 2 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature: Jim Thares

Proj. No.: 5447-002
Project Name: FNOP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	Explosives 8330	Metals 6010B									Lab/Sample ID (Lab Use Only)
W	12-1	0925			5447-1210-LL4-INF	3	2	1		X	X	X									
W	12-1	0925		X	5447-1210-LL4-EFF	3	2			X	X										
W	12-1	0925		X	FRB-LL4-2INF-122010	2				X											

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	Fedex 8675-3615-2630	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks LL4 December 2010
7 DAY TAT on VOC's

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes. Please Fax written changes to (802) 660-1919

TAL-8 4(1007)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 1746 Cole Blvd Bldg 21 Suite 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7600	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

Sampler's Name: Tim Theres
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNOP Mead

ANALYSIS REQUESTED: Nitrates 9056

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	No/Type of Containers[2] VOA	A/G 1 Lt.	250 ml	P/O	Nitrates 9056	Lab/Sample ID (Lab Use Only)
W	12-1	0925		X	5447-1210-LL4-EFF		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	Fed Ex 8695-3615-2625	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL4 December 2010 Sampling Event

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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TAL-8234(1007)

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: John Ryder
Collected by: (Print and Sign) Tim Thomas
Company: ECC Email:
Address: 1546 Cole Blvd Bldg 1 Suite 350 City: Lakewood State: CO Zip: 80401
Phone: 303.298.7602 Fax: 303.298.7837

Project Info:
P.O. #:
Project #: 5447.002
Project Name: FNCP Mead

Turn Around Time:
☐ Normal
☒ Rush 7 DAY
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	5447-1210-224-AIR-INF	2429	12-1-10	0937	TCE - T.O. 15		0		
	5447-1210-224-AIR-EFF	1354	12-1-10	0931	T.O. 15	30	0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Tim Thomas	12-1-10 1500	Fed Ex 8675-3615-2647	12-1-10 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
LL4 December 2010 Sampling Event

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
				Yes No None	

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Air Toxics LTD.

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Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: John Ryder
Collected by: (Print and Sign) Tim Thomas
Company: ECC Email:
Address: 1346 Cole Blvd Bldg 21 Suite 350 City: Lakewood State: CO Zip: 80401
Phone: 303.298.7600 Fax: 303.298.7837

Project Info:
P.O. #:
Project #: 5447.002
Project Name: FNOP Mead

Turn Around Time:
☐ Normal
☒ Rush 7 DAY specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	5447-1210-LL4-AIR-INF	2429	12-1-10	0937	TCE T.O. 15	29	0		
02A	5447-1210-LL4-AIR-EFF	135H	12-1-10	0931	TCE T.O. 15	30	0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	12-1-10 1500	Fed Ex 8675-3645-2647	12-1-10 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		Anne E Willis AT	12/2/10 0915
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: LL4 December 2010 Sampling Event

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1012030

Form 1293 rev.11

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bld 21 Suite 350
Lakewood CO 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNOP Mead

ANALYSIS REQUESTED: VOC's 8260B; Explosives 8330

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	Explosives 8330	Lab/Sample ID (Lab Use Only)
W	10-4	0728		X	5447-1010-INF-116	3	2			X	X	
W	10-4	0731		X	5447-1010-320-116	3	2			X	X	
W	10-4	0734		X	5447-1010-340-116	3	2			X	X	
W	10-4	0738		X	5447-1010-360-116	3	2			X	X	
W	10-4	0739		X	5447-1010-380-116	3	2			X	X	
W	10-4	0742		X	5447-1010-EFF-116	3	2			X	X	
W	10-4	0833		X	5447-1010-AOP-INF-040	3	2			X	X	
W	10-4	0834		X	5447-1010-AOP-EFF-040	3	2			X	X	
W	10-4	0738		X	TRB-2INF-102010	2				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10-4-10	1500	FedEx 8107-3615-3448	10-4-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M October 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

TestAmerica Cannot accept verbal changes.
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TAL 4(10)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 7746 Cole Blvd Bld 215 Ste 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7607	Phone:
Fax: 303 298-7837	Fax:
Contract/ Quote:	

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature: [signature]

Proj. No.: 5447-002
Project Name: FNOP Meed

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Analysis Requested: Nitrates 9056	Lab/Sample ID (Lab Use Only)
W	10-4	0742		X	5447-1010-EFA-116		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10-4-10	1500	Fed Ex 8675-3615-3437	10-4-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M October 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix: WW - Wastewater, W - Water, S - Soil, L - Liquid, A - Air bag, C - Charcoal Tube, SL - Sludge, O - Oil
[2]Container: VOA - 40 ml vial, A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other

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Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 3

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1946 Cole Blvd Bldg 1 Ste 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Tim Thomas
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNUP Mead

Analysis Requested: VOCs 8260B; Explosives 8330; TSS SM2540D; TOC 9060

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOCs	Explosives	TSS	TOC	Lab/Sample ID (Lab Use Only)
W	11-1	0740		X	5447-1110-INF-117	3	5	1		X	X	X	X	
W	11-1	0740		X	5447-1110-2INF-117	3	3	1		X	X	X	X	
W	11-1	0740			5447-1110-INF-MS	3	2	1		X	X		X	
W	11-1	0740		X	5447-1110-INF-MSD	3	2	1		X	X		X	
W	11-1	0748		X	5447-1110-310-117	3	2			X	X			
W	11-1	0750		X	5447-1110-320-117	3	2			X	X			
W	11-1	0753		X	5447-1110-330-117	3	2			X	X			
W	11-1	0756		X	5447-1110-340-117	3	2				X			
	11-1	0759		X	5447-1110-350-117	3	2			X	X			
W	11-1	0801		X	5447-1110-360-117	3	2			X	X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11-1-10	1500	Fed Ex 8625-3615-2533	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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page 2 of 3

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bld 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature:

Proj. No
Project Name

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOCs 8260B	Explosives 8330	TSS SM2540D	Metals 6010B									Lab/Sample ID (Lab Use Only)
	11-1			X	5447-1110-370-117	3	2			X	X											
	11-1	0800		X	5447-1110-380-117	3	2			X	X											
W	11-1	0810		X	5447-1110-EFF-117	3	2			X	X											
	11-1	0930		X	5447-1110-AOP-EFF2-041	3	2			X	X											
W	11-1	0940		X	TRB 2INF-112010	2				X												
W	11-1	1106		X	~~EWO~~ 5447-1110-EW01-117	3	3	1		X	X	X	X									
W	11-1	1106		X	5447-1110-EW01-117			1					X									
W	11-1	1106		X	5447-1110-EW01-MS			1					X									
	11-1	1106		X	5447-1110-EW01-MSD			1					X									
W	11-1	1238		X	5447-1110-EW03-117	3	3	1		X	X	X	X									

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11-1-10	1500	FedEx 8625-3615-2533	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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South Burlington, VT 05403 Tel: 802 660 1990

Pg 3 of 3

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bldg 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7607
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Tim Thares
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNUP Mead

ANALYSIS REQUESTED: VOCs 8260B; Explosives 8330; TSS SM2540D; Metals 6010B; TOC 9060

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOCs 8260B	Explosives 8330	TSS SM2540D	Metals 6010B	TOC 9060								Lab/Sample ID (Lab Use Only)
W	11-1	1207		X	5447-1110-EW04-117	3	3	1		X	X	X	X									
W	11-1	1148		X	5447-1110-EW06-117	3	3	1		X	X	X	X									
W	11-1	1142		X	5447-1110-EW07-117	3	3	1		X	X	X	X									
W	11-1	1131		X	5447-1110-EW09-117	3	3	1		X	X	X	X									
W	11-1	1208		X	5447-1110-EW11-117	3	3	2		X	X	X	X	X								
W	11-1	1219		X	5447-1110-EW14-117	3	3	1		X	X	X	X									
W	11-1	1232		X	5447-1110-EW16-117	3	3	1		X	X	X	X									

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	11-1-10	1500	8675-3615-2537	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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South Burlington, VT 05403 Tel: 802 660 1990

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: EES
Address: 1746 Cole Blvd Bldg 21 Suite 350
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7600
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Tim Thares
Sampler's Signature:

Proj. No: 5447 002
Project Name: FNOP

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Analysis Requested: Nitrates 9056	Lab/Sample ID (Lab Use Only)
W	11-1	0810		X	5447-1110-EFF-117		1	1		X	
W	11-1	0810		X	5447-1110-2EFF-117		1	1		X	
	11-1	0810		X	5447-1110-EFF-MS		1	1		X	
W	11-1	0810		X	5447-1110-EFF-MSD		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	11-1-10	1500	Fed Ex 8605-3615-2571	11-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M November 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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TAL-8 4(1007)

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THE LEADER IN ENVIRONMENTAL TESTING

Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

page 1 of 2

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bld 2 Suite 350
Lakewood Co 80401
Contact: 303-298-7607
Phone: 303-298-7837
Fax:
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Lab Use Only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Tim Thares
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNUP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	Explosives 8330	Lab/Sample ID (Lab Use Only)
W	12-1	0949		X	5447-1210-INF-118	3	2			X	X	
W	12-1	0951		X	5447-1210-320-118	3	2			X	X	
W	12-1	0954		X	5447-1210-340-118	3	2			X	X	
W	12-1	0956		X	5447-1210-360-118	3	2			X	X	
W	12-1	0856		X	5447-1210-370-118	3	2			X	X	
W	12-1	0802		X	5447-1210-380-118	3	2			X	X	
W	12-1	0805		X	5447-1210-EFF-118	3	2			X	X	
W	12-1	0922		X	5447-1210-AOP-INF-042	3	2			X	X	
W	12-1	0917		X	5447-1210-AOP-EFF-042	3	2			X	X	
W	12-1	1120		X	CW1-INF-122010	3				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	FedEx 8675-3615-2630	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M December 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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Page 2 of 2

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bldg 215 Ste 350
Lakewood Co 80401
Contact: John Ryber
Phone: 303.298.7607
Fax: 303.298.7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Jim Thacis
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNOP Mead

Analysis Requested: VOC's 8260B

Lab Use Only
Due Date:
Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5
Custody Seal N / Y
Intact N / Y
Screened For Radioactivity ☐

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	VOC's 8260B	Lab/Sample ID (Lab Use Only)
W	12-1	1126		X	ECW1-EFF-122010	3				X	
W	12-1	0948		X	TRB-2INF-122010	2				X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	12-1-10	1500	Fed Ex 8675-3615-2636	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant OtM December 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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TAL-8234(1007)

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Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403 Tel: 802 660 1990

Pg 1 of 1

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 1746 Cole Blvd Bldg 21 Suite 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7607	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

Lab Use Only
Due Date:

Temp. of coolers when received (C°):

1	2	3	4	5

Custody Seal N / Y
Intact N / Y

Screened For Radioactivity ☐

Sampler's Name: Jim Thares
Sampler's Signature: [signature]

Proj. No.: 5447002
Project Name: FNUP Mead

ANALYSIS REQUESTED: Nitrates 300.0

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Nitrates 300.0	Lab/Sample ID (Lab Use Only)
X	12-1 ~~Oct~~	0805		X	5447-1210-EFF-118		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12-1-10	1500	Fed Ex 8625-3615-2625	12-1-10	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O+M December 2010

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix WW - Wastewater W - Water S - Soil L - Liquid A - Air bag C - Charcoal Tube SL - Sludge O - Oil
[2]Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

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Appendix B
Field Notes

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10-4-10 Sample Event # 60

Time Calibrate pH + Sound meters

0710 pH 7.0 = 7.0 Sound 1409 = 1368/1409

0821 Sample point Influent 5447-1010-111-INF-060

0825 Sample point Effluent 5447-1010-111-EFF-060

Sampling Summary Bottles Filled

ID	Time	pH	Sound	Temp	VOCs	Nitrates
INF	0821	7.4	582	13.8	3	-
EFF	0825	8.3	571	11.8	3	2

Samples shipped overnight to Test America Burlington Via Fed Ex Air Bill # 8675-3615-3448

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615 3437

41° Sunny

SSE @ 2mph

83% Humidity

11-1-10 Sample Event #61

Time	Calibrate pH + Sound meters
0650	pH 7.0 = 7.0 Sound 1409 = 1068/1409
0855	Sampled plant Influent 5447-1110-221-INF-061
0855	Sampled plant Influent 5447-1110-221-DINF-06
0855	Sampled plant Influent 5447-1110-221-INF-MS
0855	Sampled plant Influent 5447-1110-221-INF-MSD
0910	Sampled plant Effluent 5447-1110-221-EFF-061
0910	Sampled plant Effluent 5447-1110-221-DEFF-061
0910	Sampled plant Effluent 5447-1110-221-EFF-MS
0910	Sampled plant Effluent 5447-1110-221-EFF-MSD
0917	Sampled carbon AIR 5447-1110-221-AIR-EFF-061
0917	Sampled carbon AIR 5447-1110-221-DAIR-EFF-061

39° Partly cloudy
NE @ 4mph
71% Humidity

11-1-10

Sample Event #61

Sampling Summary Bottles Filled

ID	Time	pH	Scan	Temp	VOC's	Explosives	TSS	TOC	Nitrates	AIR (RCG)	Metals
INF	0855	7.0	555	12.7	3	2	1	1	-	-	1
2INF	0855	7.0	555	12.7	3	2	1	1	-	-	1
INFMS	0855	7.0	555	12.7	3	2	-	1	-	-	1
INFMSD	0855	7.0	555	12.7	3	2	-	1	-	-	1
EFF	0910	8.4	544	11.7	3	2	-	-	2	-	-
2EFF	0910	8.4	544	11.7	-	-	-	-	2	-	-
EFFMS	0910	8.4	544	11.7	-	-	-	-	2	-	-
EFFMSD	0910	8.4	544	11.7	-	-	-	-	2	-	-
AIR EFF	0917	-	-	-	-	-	-	-	-	-	1
2AIR EFF	0917	-	-	-	-	-	-	-	-	-	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-3507

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-2511

Air Samples shipped overnight to Air Toxics via Fed Ex Air Bill # 8675-3615-2522

12-1-10 Sample Event #62

Time calibrate pH + Cond meter

0615 pH 7.0 = 6.9/7.0 Cond 1409 = 1368/1409

0835 sampled plant Influent 5447-1210-LL-INF-062

0837 sampled plant Effluent 5447-1210-LL-EFF-062

Sampling Summary Bottles Filled.

ID	Time	pH	Cond	Temp	VOCs	Nitrates
INF	0835	7.5	558	12.2	3	-
EFF	0837	8.3	549	10.8	3	2

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-2636

Nitrate samples shipped to Test America Denver via Fed Ex Air Bill # 8675-3615-2625

16 Clear

w@8 mph

74% Humidity

10-28-10 Sample 224

Time Calibrate pH & Scond meter

1115 pH 7.0 = 7.0 Scond 1409 = 1437/1409

Sampled plant Influent 5447-1010-224-INF

Sampled plant Effluent 5447-1010-224-EFF

Sampled Air Influent 5447-1110-224-INF

Sampled Air Effluent 5447-1110-224-EFF

Sampling Summary Bottles Filled

ID	Time	pH	Scond	Temp	Solids	T.S.S.	Nitrates	TOC	TCE
INF	1145	7.3	555	15.6	3	1	–	1	–
EFF	1150	8.2	554	13.7	3	–	2	–	–
AIR-INF	1210	–	–	–	–	–	–	–	1
AIR-EFF	1201	–	–	–	–	–	–	–	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-2572

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-2588

Air samples shipped overnight to Air Toxic's via Fed Ex Air Bill # 8675-3615-2564

42° Sunny

NW @ 12 mph

45% Humidity

12-1-10 Sample 224

Time Calibrate pH & Scond meters

0615 pH 7.0 = 6.5/7.0 Scond 1409 = 1368/1409

0925 Sampled plant Influent 5447-1210-224-INF

0928 Sampled plant Effluent 5447-1210-224-EFF

0937 Sampled Carbon Air Influent 5447-1210-224-AIR-INF

0931 Sampled Carbon Air Effluent 5447-1210-224-AIR-EFF

ID	Time	pH	Scond	Temp	VOCs	Explosives	Metals	Nitrates	TCE
INF	0925	7.4	545	10.7	3	2	1	-	-
EFF	0928	8.2	549	10.9	3	2	-	2	-
AIR-INF	0937	-	-	-	-	-	-	-	1
AIR-EFF	0931	-	-	-	-	-	-	-	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill 8675-3615-2636

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-2625

Air Samples shipped overnight to Air Toxic's via Fed Ex Air Bill # 8675-3615-2647

16° Clear
W @ 8 MPH
74% Humidity

10-4-10 Sample Event #116

Time	Calibrate pH & Cond meters	
0710	pH 7.0 & 7.0	Cond 1409 = 1368/1409
0728	Sampled plant Influent	5447-1010-INF-116
0731	Sampled GAC 320	5447-1010-320-116
0734	Sampled GAC 340	5447-1010-340-116
0736	Sampled GAC 360	5447-1010-360-116
0739	Sampled GAC 380	5447-1010-380-116
0740	Sampled plant Effluent	5447-1010 EFF-116
0837	Sampled AOP Influent	5447-1010 AOP-INF-040
0834	Sampled AOP Effluent	5447-1010-AOP-EFF-040

71° Sunny
SSE @ 2mph
83% Humidity

10-4-10 #116 Sampling Summary Bu Hb. Filler

ID	Time	pH	Sond	Temp	VOC's	Explosives	Nitrates
INF	0728	7.2	606	14.3	3	2	-
320	0731	7.2	605	13.2	3	2	-
340	0734	7.2	603	12.6	3	2	-
360	0736	7.2	602	12.3	3	2	-
380	0739	7.1	603	12.2	3	2	-
EFF	0742	7.1	603	12.2	3	2	2
AOP INF	0837	7.2	685	12.3	3	2	-
AOP EFF	0834	7.2	692	12.5	3	2	-

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-3448

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-3437

11-1-10 Sample Event # 117

Time	
	Calibrate pH + Scond meters
0650	pH 7.0 = 2.0 Scond 1409 = 1068/1409
0740	sampled plant Influent 5447-1110-INF-117
0740	Sampled plant Influent 5447-1110-2INF-117
0740	Sampled plant Influent 5447-1110-INF-MS
0740	Sampled plant Influent 5447-1110-INF-MSD
0748	Sampled GAC 310 5447-1110-310-117
0750	Sampled GAC 320 5447-1110-320-117
0753	Sampled GAC 330 5447-1110-330-117
0756	Sampled GAC 340 5447-1110-340-117
0759	Sampled GAC 350 5447-1110-350-117
0801	Sampled GAC 360 5447-1110-360-117
0805	Sampled GAC 370 5447-1110-370-117
0807	Sampled GAC 380 5447-1110-380-117
0810	Sampled plant Effluent 5447-1110-EFF 117
0810	Sampled plant Effluent 5447-1110-2EFF-117
0810	Sampled plant Effluent 5447-1110-EFF-MS
0810	Sampled plant Effluent 5447-1110-EFF-MSD
0830	Sampled AOP-Effluent 5447-1110-AOP-EFF2-0

35° Partly Cloudy
NE @ 4 mph
71% Humidity

11-1-10 Sample Event # 117

Sampling Summary Bottles Filled

ID	Time	pH	Scond	Temp	VOC	2-Phosphates	TSS	TOC	Nitrates
INF	0740	7.2	577	13.9	3	2	1	1	-
2INF	0740	7.2	577	13.9	3	2	1	1	-
INF MS	0740	7.2	577	13.9	3	2	-	1	-
INF-MSD	0740	7.2	577	13.9	3	2	-	1	-
310	0748	7.3	565	12.8	3	2	-	-	-
320	0750	7.3	564	12.5	3	2	-	-	-
330	0753	7.2	562	12.2	3	2	-	-	-
340	0754	7.3	562	12.1	3	2	-	-	-
350	0759	7.3	561	12.1	3	2	-	-	-
360	0801	7.3	562	12.1	3	2	-	-	-
370	0805	7.2	563	12.1	3	2	-	-	-
380	0809	7.2	563	12.1	3	2	-	-	-
EFF	0810	7.2	564	12.1	3	2	-	-	2
2EFF	0810	7.2	564	12.1	-	-	-	-	2
EFF MS	0810	7.2	564	12.1	-	-	-	-	2
EFF MSD	0810	7.2	564	12.1	-	-	-	-	2
AOP-EFF2	~~0810~~ 0930	7.2	542	12.6	3	2	-	-	-

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-2533

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-2511

11-1-10 Sample Event H/117 and.

Time	Calibrate pH & Cond meter
0650	pH 7.0 = 7.0 Cond 1409 = 1068/1409
1104	Sampled EW-1 5447-1110-EW01-117
1106	Sampled EW-1 5447-1110-2EW01-117
1106	Sampled EW-1 5447-1110-EW01-MS
1106	Sampled EW-1 5447-1110-EW01-MSD
1238	Sampled EW-3 5447-1110-EW03-117
1227	Sampled EW-4 5447-1110-EW04-117
1148	Sampled EW-6 5447-1110-EW06-117
1142	Sampled EW-7 5447-1110-EW07-117
1131	Sampled EW-9 5447-1110-EW09-117
1208	Sampled EW-11 5447-1110-EW11-117
1217	Sampled EW-14 5447-1110-EW14-117
1232	Sampled EW-16 5447-1110-EW16-117

11-1-10 Sample Event #117

Sampling summary Bottles Filled

ID	Time	pH	cond	Temp	VOC's	Explosives	T.S.S.	Metals
EW1	1106	7.4	758	14.1	3	2	1	1
2EW1	1106	7.4	758	14.1	-	-	-	1
EW1MS	1106	7.4	758	14.1	-	-	-	1
EW1MSD	1106	7.4	758	14.1	-	-	-	1
EW3	1238	7.2	629	11.7	3	2	1	1
EW4	1227	7.2	445	12.2	3	2	1	1
EW 6	1148	7.3	498	12.3	3	2	1	1
EW 7	1142	7.2	500	12.8	3	2	1	1
EW 9	1131	7.3	408	13.6	3	2	1	1
EW 11	1208	7.3	648	13.8	3	2	1	1
EW 14	1219	7.2	474	12.7	3	2	1	1
EW 16	1232	7.2	503	11.9	3	2	1	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8625-3615-2533

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 1 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump ____ dedicated? Yes **No**

# of casing volumes purged 4 Other (describe) ____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1106	7.4	14.1	758
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -10 Total 5 glass 5 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: [signature] Reviewed by ____

Date 11/01/10 Date ____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today _____
Applicable Work Plan dated _____ Initial sampling event? Yes **No**

Well ID EW – 3	Sample extraction through petcock/valve? **Yes** No
Purged prior to sampling? **Yes** No	Bladder pump _____ dedicated? Yes **No**
# of casing volumes purged 4	Other (describe) _____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1238	7.2	11.7	629
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box

Data record continued on back of sheet? Yes No

Other Field Measurements _____

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: [signature] Reviewed by _____

Date 11/01/10 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 4 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump _____ dedicated? Yes **No**

# of casing volumes purged 4 Other (describe) _____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1227	7.2	12.2	455
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 6 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump ____ dedicated? Yes **No**

# of casing volumes purged 4 Other (describe) ____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1148	7.3	12.3	498
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 7 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump ____ dedicated? Yes **No**

# of casing volumes purged 4 Other (describe) ____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1142	7.2	12.8	500
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today _____
Applicable Work Plan dated _____ Initial sampling event? Yes **No**

Well ID EW – 9	Sample extraction through petcock/valve? **Yes** No
Purged prior to sampling? **Yes** No	Bladder pump _____ dedicated? Yes **No**
# of casing volumes purged 4	Other (describe) _____

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1131	7.3	13.6	408
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box

Data record continued on back of sheet? Yes No

Other Field Measurements _____

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: [signature] Reviewed by _____

Date 11/01/10 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 11 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump dedicated? Yes **No**

# of casing volumes purged 4 Other (describe)

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1208	7.3	13.8	648
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes No

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -8 Total 6 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals, TOC
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 14 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump dedicated? Yes **No**

# of casing volumes purged 4 Other (describe)

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1219	7.2	12.7	474
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 11-01-10 ECC Project # 5447-002 Weather 39 & Partly Cloudy
Client/Site Mead NOP Purpose of sampling Test for TCE & RDX
Other activities underway at site today
Applicable Work Plan dated Initial sampling event? Yes **No**

Well ID EW – 16 Sample extraction through petcock/valve? **Yes** No

Purged prior to sampling? **Yes** No Bladder pump dedicated? Yes **No**

# of casing volumes purged 4 Other (describe)

Media Micron size

SAMPLE FILTERING

Media N/A Micron size N/A

WATER QUALITY MEASUREMENTS

TIME 24 hr format	pH	TEMP. °C	TDS conductivity Mmhos/cm
1232	7.2	11.9	503
Instrument ID			
Calibration Date	11/01/10	11/01/10	11/01/10

*Denote conditions at time of sampling by adding an "S" to the time box Data record continued on back of sheet? Yes **No**

Other Field Measurements

Parameter Test Method Results

Fluid collected for laboratory analysis: # & type of containers Raw water -7 Total 5 glass 2 poly
Analytes/parameters requested: -- Voc's, Explosives, T.S.S., Metals,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 11/01/10
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 11/01/10 Date

12-1-10 Sample Event # 118

Time	Calibrate pH + Sond Meters
0615	pH 2.0 = 6.9/7.0 Sond 1409 = 1368/1409
0749	Sampled plant Influent 5447-1210-INF-118
0751	Sampled GAC 320 5447-1210-320-118
0754	Sampled GAC 340 5447-1210-340-118
0756	Sampled GAC 360 5447-1210-360-118
0800	Sampled GAC 370 5447-1210-370-118
0802	Sampled GAC-380 5447-1210-380-118
0805	Sampled plant Effluent 5447-1210-EFF-118
0922	Sampled AOP Influent 5447-1210-AOP-INF-042
0917	Sampled AOP Effluent 5447-1210-AOP-EFF2-042
1120	Sampled GCW-1 Influent GCW-1-INF-122010
1126	Sampled GCW-1-Effluent GCW-1-EFF 122010

16° Clear
W @ 8 mph
74% Humidity

12-1-10 Sample Event #118 cont.

Sampling Summary Bottles Filled

ID	Time	pH	Scond	Temp	Jar	Explosives	Nitrates
INF	0749	7.2	577	15.0	3	2	—
320	0751	7.3	580	13.2	3	2	—
340	0754	7.3	579	12.4	3	2	—
360	0756	7.3	578	11.9	3	2	—
370	0800	7.3	577	11.7	3	2	—
380	0802	7.3	577	11.6	3	2	—
EFF	0805	7.3	578	11.6	3	2	2
AOP-INF	0922	7.4	450	10.7	3	2	—
AOP-EFF2	0917	7.5	646	12.0	3	2	—
GCW1-INF	1120	7.64	449	13.4	3	—	—
GCW1-EFF	1126	7.93	461	13.6	3	—	—

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-2636

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-2625

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Appendix C
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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Data Qualifiers and Drinking Water Standards Reference Sheet
Former Nebraska Ordnance Plant, Mead, Nebraska

Any qualifiers (i.e. U, J, or R) listed after a result are assigned during the data validation process. Data validation is a procedure which involves the review of quality control data provided by the laboratory. This review is followed by the assignment of data qualifiers (if necessary) which indicate the reliability of a result to the reader. Data validation is performed by a chemist employed outside of the laboratory or associated government installations to ensure accuracy in data reporting. A description of qualifiers is provided below.

No qualifier

- If a result has no assigned qualifier, the contaminant was detected, and the reader can be confident that the concentration is exact.

"U"

- A result followed by a "U" qualifier means that the contaminant was undetected, or not detected by the instrument.

"UJ"

- A result followed by a "UJ" qualifier means that the contaminant was not detected, but the associated detection level is not certain (estimated). For example, if a value is followed by a "UJ", the contaminant was not detected, but the associated detection level is in question. The detection level is in question because one or more of the laboratory quality control indicators do not meet acceptance criteria. The amount that the indicator fell outside of the criteria may be used as a rough estimate of how much the actual detection level differs from the stated one. Typically, this is a 10-30% difference.

"UR"

- A result followed by a "UR" qualifier means that the contaminant was not detected, but there is strong doubt that the associated detection level is accurate. For example, if a value is followed by a "UR", the contaminant was not detected, but the associated detection level is in strong doubt. The detection level is in doubt because results are unacceptable for a quality control indicator. In this case, the detection level cannot be estimated.

"J"

- A result followed by only a "J" qualifier means that the contaminant was detected, but there is some question that the stated concentration is exact. For example, if a result is "0.5 J", the contaminant was detected, but there is some question that the concentration is exactly 0.5. A "J" qualifier may be applied for two reasons: (1) the contaminant was detected below the reporting limit; or (2) the contaminant was detected, but one or more quality control indicators did not meet acceptance criteria. The reporting limit is equal to the concentration of the lowest standard used by the laboratory to calibrate the instrument. The reporting limit is the minimum concentration that can be stated with complete confidence.

“R”

- A result followed by only an “R” qualifier means that the contaminant was detected, but there is strong doubt that the concentration is exact. For example, if a result is “0.5 R”, the contaminant was detected, but there is strong doubt that the concentration is exactly 0.5. The concentration is in doubt because results are unacceptable for a quality control indicator. In this case, the detected concentration cannot be estimated. For comparison purposes, detected results are reported in the results letters with available Environmental Protection Agency drinking water standards. These standards include the maximum contaminant level (MCL) and various health advisories (HA). A description of the drinking water standards is provided below.

“MCL”

- The maximum contaminant level is the highest concentration of a contaminant that is allowed in drinking water. Maximum contaminant levels are enforceable Federal standards.

“HA”

- Health advisories provide estimates of acceptable drinking water concentrations for a chemical substance based on health effects information. Health advisories are not enforceable Federal standards, but serve as a technical guidance to assist Federal, State, and local officials.

Appendix D
Analytical Results on Compact Disc Summary Forms and Raw Data

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Appendix G

Historical Detections spreadsheet of TCE and RDX for Monitoring Wells, Water Supply Wells and Surface Water Locations (on CD)

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