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

August 28, 2012

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, Second Quarter 2012 Sampling Events for Operable Unit No. 2 (Groundwater) at the former Nebraska Ordnance Plant. Two hard copies of this report along with 1 compact disc (CD) are provided to the Nebraska Department of Environmental Quality. Two CDs of this report are provided to the Environmental Protection Agency. The electronic copies also include the Second Quarter Quality Control Summary Reports for 2012 and the raw data on CD. Results letters containing Second 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: August 29, 2012

TRANSMITTAL NO. 2012-056

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, Second Quarter 2012		1 electronic					

REMARKS

Ken Rapplean (EPA) - 2 CDs
Stacey Stricker (NDEQ) - 2 hard copies, 1 CD
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.
Susan Carter, Denver Science & Engineering Group

Susan Carter

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
SECOND QUARTER 2012 SAMPLING EVENTS

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

Prepared for

United States Army Corps of Engineers
Northwestern Division, Kansas City District

August 2012

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FINAL
QUARTERLY SUMMARY REPORT
SECOND QUARTER 2012 SAMPLING EVENTS

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

August 2012

I hereby certify that the enclosed *Quarterly Summary Report Second Quarter 2012 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:

ECC Project Manager 8/23/12 Date

Accepted as a submittal:

USACE Contracting Officer Date

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Appendix B Concentration Trend Charts for Select Water Supply Wells

Appendix C Concentration Trend Charts for Select Surface Water Locations

Appendix D Quality Control Summary Report Second Quarter 2012 Groundwater Monitoring Program Sampling Events, Former Nebraska Ordnance Plant (on CD)

Appendix E Quality Control Summary Report Second Quarter 2012 Water Supply Well Sampling Event, Former Nebraska Ordnance Plant (on CD)

Appendix F Quality Control Summary Report Second Quarter 2012 Operations and Maintenance Sampling Events, Former Nebraska Ordnance Plant (on CD)

Appendix G Historical Detections spreadsheet of TCE and RDX for Monitoring Wells, Water Supply Wells and Surface Water Locations (on CD)

LIST OF ACRONYMS AND ABBREVIATIONS

AOP	Advanced Oxidation Process
CD	compact disc
COC	contaminant of concern
EW	extraction well
FEW	focused extraction well
GAC	granular activated carbon
GMP	Groundwater Monitoring Program
GTP	Groundwater Treatment Plant
LL	Load Line
µg/L	micrograms per liter
MS/MSD	matrix spike/matrix spike duplicate
MW	monitoirng well
NDEQ	Nebraska Department of Environmental Quality
NOP	Nebraska Ordnance Plant
O&M	operations and maintenance
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
TCE	trichloroethene
VOC	volatile organic compound
WSW	water supply well

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1.0 INTRODUCTION

This report summarizes and discusses the results of the groundwater monitoring wells, water supply wells, surface water locations, and operations and maintenance (O&M) locations sampled during the Second Quarter 2012 at the former Nebraska Ordnance Plant (NOP). Historical data and information prior to 2012 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 O&M Annual Reports from 2000 through 2011.

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 Second Quarter 2012 Groundwater Monitoring Program Sampling Events (on compact disk [CD]);
- Appendix E contains the Quality Control Summary Report Second Quarter 2012 Water Supply Well Sampling Event (on CD);
- Appendix F contains the Quality Control Summary Report Second Quarter 2012 Operations and Maintenance Sampling Events (on CD); and
- 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 (on CD).

The following sections 2.0, 3.0, and 4.0 contain a summary of results for the Second Quarter 2012 sampling event for the Operable Unit 2 Record of Decision contaminants of concern (COCs) and other site specific compounds.

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 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 SECOND QUARTER 2012 GROUNDWATER MONITORING WELL SAMPLING EVENT

The following sections are a summary of the groundwater monitoring well sampling event.

2.1 Field Sampling

Samples from 182 groundwater monitoring wells were collected during the Second Quarter 2012 monitoring well sampling event and are summarized below:

- One hundred forty-four groundwater monitoring wells were sampled for volatile organic compounds (VOCs);
- One hundred thirty-eight groundwater monitoring wells were sampled for explosives;
- Seventeen field duplicate samples were collected;
- Eleven matrix spike (MS)/matrix spike duplicate (MSD) pairs were collected;
- Seven trip blanks were included with the volatile shipments.

2.2 Analytical Results

The Second Quarter 2012 groundwater monitoring well validated analytical results for all site specific compounds are presented in Tables 2-1 through 2-6. Figure 2-1 illustrates all groundwater monitoring wells sampled during this sampling event. Groundwater monitoring well results are presented based on the following well categories defined in the 2012 GMP Plan included in the *Site-Wide Work Plan, Support Services, Former Nebraska Ordnance Plant, Mead, Nebraska Attachment 1 Field Sampling Plan, Appendix L* (ECC, 2009):

- Perimeter groundwater monitoring wells;
- Compliance groundwater monitoring wells;
- Interior Plume groundwater monitoring wells in the Load Line (LL)1 contaminant plume;
- Interior Plume groundwater monitoring wells in the LL2 and LL3 contaminant plumes;
- Interior Plume groundwater monitoring wells in LL4 contaminant plume, which includes the landfill and Atlas Missile Area (AMA) areas;
- Focused Extraction groundwater monitoring wells at the focused extraction well (FEW)-11, FEW-14, and FEW-15 sites; and
- Upgradient, Sidegradient and Downgradient groundwater monitoring wells.

The following is a summary of the former NOP groundwater monitoring well categories sampled during the Second Quarter 2012 sampling event:

- Three Perimeter groundwater monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-1);
- Twenty-four LL1 Interior Plume groundwater monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-2);
- Twenty-four LL2 and LL3 Interior Plume groundwater monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-3);
- Sixty-six LL4/ landfill/ AMA Interior Plume groundwater monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-4);
- Thirty-one Focused Extraction groundwater monitoring wells at FEW-11, FEW-14, and FEW-15 sites were sampled (detected results for site-specific compounds are presented in Table 2-5);
- Thirty-four Upgradient, Sidegradient and Downgradient groundwater monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-6).

No Compliance groundwater monitoring wells were sampled during the Second Quarter 2012 sampling event.

During a review of Second Quarter 2012 sampling data, results from monitoring well (MW)-120D and MW-120E were identified as inconsistent with historical results representative from these locations. The inconsistent Second Quarter 2012 results from these locations indicate that it is likely the samples from these two locations were inadvertently switched during either sampling or analysis. All Second Quarter 2012 results from MW-120D and MW-120E have been rejected based on professional judgment.

2.3 Groundwater Monitoring Well Summary

The following is a summary of the groundwater monitoring well results for the Second Quarter 2012 sampling event:

- TCE was detected in MW-116A below the Final Target Groundwater Cleanup Goals. No additional VOCs were detected in the three Perimeter groundwater monitoring wells sampled. Results for all Perimeter groundwater monitoring wells are presented in Table 2-1.
- RDX,1,3,5- trinitrobenzene (TNB), 2,4,6-trinitrotoluene (TNT), and TCE exceeded the Final Target Groundwater Cleanup Goals in the LL1 Interior Plume monitoring well locations. Additional site specific compounds were detected including COCs detected below the Final Target Groundwater Cleanup Goals in the LL1 Interior Plume monitoring wells. Results for all LL1 Interior Plume monitoring wells are presented in Table 2-2.
-

- RDX exceeded the Final Target Groundwater Cleanup Goals in the LL2 and LL3 Interior Plume monitoring well locations. Additional site specific compounds were detected including COCs 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 Table 2-3.
- RDX and TCE exceeded the Final Target Groundwater Cleanup Goals in the LL4, AMA and landfill Interior Plume monitoring well locations. Additional site specific compounds were detected including COCs detected below the Final Target Groundwater Cleanup Goals in the LL4 and AMA Interior Plume monitoring wells. Results for all LL4 and AMA Interior Plume monitoring wells are presented in Table 2-4.
- RDX and TCE exceeded the Final Target Groundwater Cleanup Goals in the Focused Extraction monitoring well locations. Additional site specific compounds were detected including COCs detected below the Final Target Groundwater Cleanup Goals in the Focused Extraction monitoring well location. Results for all Focused Extraction monitoring well locations are presented in Table 2-5.
- TCE was detected above the Final Target Cleanup Goals in three of the Upgradient, Sidegradient and Downgradient monitoring wells sampled during the Second Quarter 2012 sampling event. All explosives detections were below the Final Target Groundwater Cleanup Goals. Results for all Upgradient, Sidegradient and Downgradient monitoring wells are presented in Table 2-6.

Historical results are presented for all sampling locations in Appendix G. Appendix A contains trending charts for groundwater monitoring wells sampled during the Second Quarter 2012 sampling event. All trending charts require four or more data points to be included in this report.

3.0 SUMMARY OF SECOND QUARTER 2012 WATER SUPPLY WELL SAMPLING EVENT

The following sections are a summary of the water supply wells sampling event.

3.1 Field Sampling

During the water supply well sampling event, four water supply well locations were sampled. In addition, the following samples were collected:

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

3.2 Analytical Results

The water supply well validated analytical results for site-specific compounds are presented in Table 3-1. Figure 3-1 illustrates the water supply wells sampled during the Second Quarter 2012 sampling event.

3.3 Water Supply Well Summary

WSW-51 had a detection of methylene chloride during the First Quarter 2012 above the Final Target Groundwater Cleanup Goal of 5 µg/L. A confirmation sample from WSW-51 was collected during the Second Quarter 2012 sampling event. Methylene chloride was detected at 1.0 µg/L, in the confirmation sample, which is below the Final Target Groundwater Cleanup Goals. WSW-50B had a RDX detection exceeding the Final Target Groundwater Cleanup Goal during the First Quarter of 2012. RDX was detected at 1.8 µg/L in a confirmation sample collected from WSW-50B during the Second Quarter 2012 sampling event. This detection is below the Final Target Groundwater Cleanup Goal of 2.0 µg/L for RDX. Results for all water supply wells sampled during the Second Quarter 2011 sampling event are presented in Table 3-1. Historical results are presented for all sampling locations in Appendix G. Appendix B contains trending charts for water supply wells sampled during the Second Quarter 2012 sampling event. All trending charts require four or more data points to be included in this report.

4.0 SUMMARY OF SECOND QUARTER 2012 SURFACE WATER SAMPLING EVENT

The following sections are a summary of the surface water sampling event.

4.1 Field Sampling

During the 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 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 Second Quarter 2012 sampling event.

4.3 Surface Water Summary

During the 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 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 Second Quarter 2012 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 Second Quarter 2012. All trending charts require four or more data points to be included in this report.

5.0 SUMMARY OF SECOND QUARTER 2012 OPERATIONS AND MAINTENANCE SAMPLING EVENTS

The following sections are a summary of the O&M sampling events.

5.1 Field Sampling

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

- Water samples were collected from extraction wells (EW) and focused extraction wells during the Second Quarter 2012 O&M sampling event: EW-1R, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.
- During April 2012, one water sample was collected from each of the following granular activated carbon (GAC) units: 310, 330, and 350.
- During May 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- During June 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- One influent water sample and one effluent water sample were collected from the Main Groundwater Treatment Plant (GTP) during each month of this quarter as well as two field duplicate samples (one influent sample and one effluent sample) during May 2012.
- One influent water sample and one effluent water 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 May 2012.
- One effluent 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 each month of this quarter.
- One effluent air sample was collected at the LL4 GTP during April 2012.
- One influent water sample and one effluent water sample were collected from the Advanced Oxidation Process (AOP) GTP during each month of this quarter with the exception of the May sampling event. Only the effluent water sample was collected in May 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 samples (field duplicate and MS/MSD) is one per quarter. At least one quality control field duplicate sample and one MS/MSD for each parameter were collected for the Main GTP and LL1 GTP sampling events. Field duplicates and MS/MSD samples were not collected for the AOP GTP or LL4 GTP sampling events.

5.2 Analytical Results

The 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 Second Quarter 2012.

5.3 Operations and Maintenance Summary

All extracted groundwater was treated on-site using GAC adsorption, AOP, or air stripping during the O&M sampling events. Treated groundwater was properly disposed of through surface discharge or beneficial re-use. During the Second Quarter 2012 O&M sampling events, there were no detections of TCE or RDX that exceeded the National Pollutant Discharge Elimination System limits in any treatment plant effluent water sample. The TCE air sample results are compared to anticipated TCE concentrations in the influent of the treatment system. Effluent air standards are monitored to ensure the amount of TCE emitted per year remains below the NDEQ permitted threshold of 5 tons/year. All air effluent sampling results are presented in Table 5-1.

6.0 DATA VALIDATION RESULTS

Data from the Second Quarter 2012 GMP, O&M and water supply well 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 quality control measurements reported by the laboratory.

The *Quality Control Summary Report Second Quarter 2012 Groundwater Monitoring Program Sampling Events* is included as Appendix D, *Quality Control Summary Report Second Quarter 2012 Water Supply Well Sampling Event*, is included as Appendix E, and the *Quality Control Summary Report Second Quarter 2012 Operations and Maintenance Sampling Events*, is included as Appendix F. All of these reports are included on CD. These Quality Control Summary Reports 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 Quality Control Summary Reports 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 SECOND QUARTER 2012 SAMPLING EVENTS SUMMARY.

Based on the results of the Second Quarter 2012 GMP and O&M sampling events, the 2012 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* (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.

MW-120D and MW-120E will be added to the Third Quarter 2012 sampling event due to data from these locations being rejected during the second quarter 2012 sampling event. The O&M sampling program will continue as planned for the remaining 2012 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*. October.

NDEQ, 1998. Final Effluent Limitations Monitoring Requirements. October.

NDEQ, 2009. Nebraska Administrative Code, Title 117 - Nebraska Department of Environmental Quality, Chapter 4 – Standards for Water Quality, Section 003 – Aquatic Life, Part 003.01 – General Criteria for Aquatic Life, Subpart 003.01C – Toxic Substances. March.

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 extraction 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
SCW	Silver Creek water
SKI	Ski Lake
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 detection
UJ	qualified as estimated and not detected at laboratory limit of detection
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

Contaminant of Concern (COC)	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

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Table 2-1 Perimeter Monitoring Wells

Results for Second Quarter 2012 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-116A	05/29/2012	0.25 U	0.25 U	0.25 U	**4.1**	0.25 U	0.25 U
MW-116B	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-116D	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

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Table 2-2 LL1 Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-02A	05/24/2012	0.098 U	0.098 U	**0.057 J**	0.049 U	0.049 U	0.098 U
MW-02B	05/24/2012	**0.16 J**	**4.0**	**5.2**	**2.3**	**0.83**	**5.1**
MW-03A	05/24/2012	0.098 U	0.098 U	0.049 U	**4.6**	0.049 U	0.098 U
MW-03B	05/24/2012	0.096 U	**0.085 J**	**0.24 J**	**1.4**	0.048 U	0.096 U
MW-124A	05/30/2012	0.10 U	0.10 U	**0.045 J**	**0.65**	0.050 U	0.10 U
MW-124B	05/30/2012	0.10 U	0.098 U	**3.1 J**	**57.0**	**0.12 J**	0.098 U
MW-124D	05/30/2012	0.10 U	0.10 U	**0.077 J**	0.050 U	0.050 U	0.10 U
MW-125A	06/04/2012	0.098 U	0.098 U	**0.075 J**	0.049 U	0.049 U	0.098 U
MW-125B	06/04/2012	0.098 U	0.098 U	**3.4 J**	**7.9**	**0.081 J**	0.098 U
MW-125D	06/04/2012	0.098 U	0.098 U	**0.10 J**	0.049 U	0.049 U	0.098 U
MW-126A	06/04/2012	0.10 U	0.10 U	**0.051 J**	0.050 U	0.050 U	0.10 U
MW-126B	06/04/2012	**0.53 J**	**0.17 J**	**11.0 J**	**14.0**	**0.62 J**	**0.78**
MW-126D	06/04/2012	0.10 U	0.10 U	**0.063 J**	0.050 U	0.050 U	0.10 U
MW-127A	05/24/2012	0.098 U	0.098 U	0.049 U	**0.10 J**	0.049 U	0.098 U
MW-127B	05/24/2012	**0.079 J**	**0.58**	**0.54**	**0.27 J**	**0.27 J**	**3.2**
MW-127E	05/24/2012	**0.20 J**	**3.3 J**	**2.2 J**	**10.0 J**	**190 J**	**100 J**
MW-141A	06/04/2012	0.098 U	0.098 U	**0.066 J**	**0.43**	0.049 U	0.098 U
MW-141B	06/04/2012	0.10 U	**4.2**	**6.1 J**	**41.0**	**0.064 J**	0.10 U
MW-141E	06/04/2012	0.10 U	**0.21 J**	**3.0 J**	**15.0**	0.051 U	0.10 U
MW-21A	05/24/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-21B	05/24/2012	0.11 U	**0.47**	**6.6**	**9.7**	0.053 U	0.11 U
MW-21D	05/24/2012	0.098 U	0.098 U	**0.048 J**	0.049 U	0.049 U	0.098 U
MW-24A	05/30/2012	0.10 U	0.10 U	**0.047 J**	0.050 U	0.050 U	0.10 U
MW-24B	05/30/2012	0.10 U	**0.18 J**	**3.5**	**16.0**	**0.026 J**	0.10 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-2 LL1 Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-02A	05/24/2012	0.50 U	**40.0**	0.50 U	**79.0**	**4.1**	0.50 U
MW-02B	05/24/2012	0.25 U	0.25 U	0.25 U	**25.0**	0.25 U	0.25 U
MW-03A	05/24/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-03B	05/24/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-124A	05/30/2012	5.5 U	**23.0**	5.5 U	**6500**	5.5 U	5.5 U
MW-124B	05/30/2012	11.0 U	**25.0 J**	11.0 U	**14000**	11.0 U	11.0 U
MW-124D	05/30/2012	1.3 U	**5.1**	1.3 U	**880**	1.3 U	1.3 U
MW-125A	06/04/2012	1.3 U	**3.0 J**	1.3 U	**440**	1.3 U	1.3 U
MW-125B	06/04/2012	1.8 U	**4.5 J**	1.8 U	**2600**	1.8 U	1.8 U
MW-125D	06/04/2012	0.85 U	**0.93 J**	0.85 U	**140**	0.85 U	0.85 U
MW-126A	06/04/2012	4.8 U	**31.0**	4.8 U	**7300**	**11.0 J**	4.8 U
MW-126B	06/04/2012	5.8 U	**11.0 J**	5.8 U	**8900**	5.8 U	5.8 U
MW-126D	06/04/2012	1.5 U	**120**	1.5 U	**1900**	**1.5 J**	1.5 U
MW-127A	05/24/2012	0.25 U	**0.83 J**	0.25 U	**9.1**	**0.92 J**	0.25 U
MW-127B	05/24/2012	0.50 U	**9.4**	0.50 U	**80.0**	**11.0**	0.50 U
MW-127E	05/24/2012	0.25 U	0.25 U	0.25 U	**8.8**	0.25 U	0.25 U
MW-141A	06/04/2012	5.5 U	**160**	5.5 U	**9100**	5.5 U	5.5 U
MW-141B	06/04/2012	5.5 U	**8.9 J**	5.5 U	**8900**	5.5 U	5.5 U
MW-141E	06/04/2012	5.5 U	**16.0 J**	5.5 U	**8700**	5.5 U	5.5 U
MW-21A	05/24/2012	0.25 U	**1.3 J**	0.25 U	**12.0**	**1.9**	0.25 U
MW-21B	05/24/2012	0.50 U	0.50 U	0.50 U	**73.0**	0.50 U	0.50 U
MW-21D	05/24/2012	0.25 U	**42.0**	0.25 U	**11.0**	**32.0**	0.25 U
MW-24A	05/30/2012	1.3 U	**340**	1.3 U	**500**	**5.6**	1.3 U
MW-24B	05/30/2012	0.25 U	0.25 U	0.25 U	**22.0**	0.25 U	0.25 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 Second Quarter 2012 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
BAZE-MW-01	06/08/2012	0.098 U	**0.84**	**1.4**	**79.0**	0.049 U	0.098 U
MW-05A	06/08/2012	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.10 U
MW-05B	06/08/2012	0.10 U	0.10 U	0.050 U	**0.097 J**	**0.063 J**	**0.31 J**
MW-130A	05/22/2012	0.096 U	0.096 U	**0.11 J**	**0.79**	0.048 U	0.096 U
MW-130B	05/22/2012	0.096 U	0.096 U	0.048 U	**0.77**	0.048 U	0.096 U
MW-130D	05/22/2012	0.098 U	0.098 U	**0.094 J**	0.049 U	0.049 U	0.098 U
MW-143B	06/08/2012	0.098 U	**0.32 J**	**1.6**	**6.9**	0.049 U	0.098 U
MW-144A	06/07/2012	0.10 U	**0.26 J**	0.050 U	**44.0**	0.050 U	0.10 U
MW-144E	06/07/2012	0.098 U	**1.6**	**0.85**	**57.0**	0.049 U	0.098 U
MW-145A	06/07/2012	0.098 U	0.098 U	0.049 U	**4.9**	0.049 U	0.098 U
MW-145E	06/07/2012	0.098 U	**0.071 J**	**1.3**	**110**	0.049 U	0.098 U
MW-148B	06/08/2012	0.096 U	**0.083 J**	**3.1**	**31.0**	0.048 U	0.096 U
MW-149A	06/08/2012	0.098 U	0.098 U	**0.62**	**17.0**	0.049 U	0.098 U
MW-150A	06/05/2012	0.10 U	0.10 U	**0.24 J**	**2.1**	0.050 U	0.10 U
MW-150B	06/05/2012	0.098 U	**0.12 J**	**0.65**	**7.2**	0.049 U	0.098 U
MW-29A	05/23/2012	0.098 U	0.098 U	0.049 U	**2.6**	0.049 U	0.098 U
MW-29B	05/23/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-32A	05/24/2012	0.098 U	0.098 U	**0.20 J**	**7.1**	0.049 U	0.098 U
MW-32B	05/24/2012	0.098 U	0.098 U	**0.16 J**	**7.6**	0.049 U	0.098 U
MW-32D	05/24/2012	0.098 U	0.098 U	0.049 U	**6.1**	0.049 U	0.098 U
MW-65B	06/08/2012	**0.50**	**0.70**	0.049 U	**19.0**	0.049 U	0.098 U
MW-99A	06/07/2012	0.098 U	0.098 U	0.049 U	**0.68**	0.049 U	0.098 U
MW-99B	06/07/2012	0.098 U	0.098 U	0.049 U	**1.4**	0.049 U	0.098 U
MW-99D	06/07/2012	0.098 U	0.098 U	0.049 U	**2.7**	0.049 U	0.098 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 Second Quarter 2012 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-05A	06/08/2012	0.25 U	0.25 U	0.25 U	**0.37 J**	0.25 U	0.25 U
MW-05B	06/08/2012	0.25 U	0.25 U	0.25 U	**1.1**	0.25 U	0.25 U
MW-143B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-148B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-149A	06/08/2012	0.25 U	0.25 U	0.25 U	**0.18 J**	0.25 U	0.25 U
MW-150A	06/05/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-150B	06/05/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-99B	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-104A	05/29/2012	0.10 U	0.10 U	**0.083 J**	**4.0**	0.051 U	0.10 U
MW-104B	05/29/2012	0.10 U	0.10 U	**0.057 J**	**3.6**	0.050 U	0.10 U
MW-104D	05/29/2012	0.10 U	0.10 U	0.052 U	0.052 U	0.052 U	0.10 U
MW-104O	05/29/2012	0.096 U	0.096 U	0.048 U	**0.072 J**	0.048 U	0.096 U
MW-105A	05/29/2012	0.098 U	0.098 U	**0.049 J**	0.049 U	0.049 U	0.098 U
MW-105B	05/29/2012	0.11 U	0.11 U	0.055 U	0.055 U	0.055 U	0.11 U
MW-105O	05/29/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-109A	05/30/2012	0.10 U	0.10 U	**0.096 J**	**2.5**	0.050 U	0.10 U
MW-109B	05/30/2012	0.11 U	0.11 U	0.055 U	**2.0**	0.055 U	0.11 U
MW-109O	05/30/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-11	06/08/2012	0.098 U	**0.19 J**	**1.3**	**21.0**	0.049 U	0.098 U
MW-111A	05/29/2012	0.096 U	0.096 U	**0.044 J**	0.048 U	0.048 U	0.096 U
MW-111B	05/29/2012	0.098 U	0.098 U	0.049 U	**0.047 J**	0.049 U	0.098 U
MW-111O	05/29/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-151A	06/05/2012	0.10 U	0.10 U	**0.046 J**	0.050 U	0.050 U	0.10 U
MW-151B	06/05/2012	0.098 U	0.098 U	**0.042 J**	0.049 U	0.049 U	0.098 U
MW-152B	06/05/2012	0.10 U	0.10 U	**0.065 J**	**1.1**	0.050 U	0.10 U
MW-153A	06/05/2012	0.098 U	**0.059 J**	**0.082 J**	0.049 U	0.049 U	0.098 U
MW-153B	06/05/2012	0.098 U	0.098 U	**0.048 J**	**0.36 J**	0.049 U	0.098 U
MW-154A	06/05/2012	0.098 U	0.098 U	**0.20 J**	**5.9**	0.049 U	0.098 U
MW-154B	06/05/2012	0.10 U	0.10 U	**0.072 J**	**2.8**	0.050 U	0.10 U
MW-155A	06/05/2012	0.10 U	0.10 U	**0.043 J**	**0.12 J**	0.050 U	0.10 U
MW-155E	06/05/2012	0.10 U	0.10 U	**0.043 J**	**0.17 J**	0.050 U	0.10 U
MW-156A	06/05/2012	0.10 U	**0.10 J**	**0.48**	**3.8**	0.050 U	0.10 U
MW-156B	06/05/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-157A	06/05/2012	0.10 U	0.10 U	**0.060 J**	**1.6**	0.050 U	0.10 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-157B	06/05/2012	0.098 U	0.098 U	0.049 U	**0.12 J**	0.049 U	0.098 U
MW-18A	06/04/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-18B	06/04/2012	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.10 U
MW-18C	06/04/2012	0.098 U	0.098 U	**0.065 J**	**2.7**	0.049 U	0.098 U
MW-42A	06/05/2012	0.096 U	**0.053 J**	**0.11 J**	**2.3**	0.048 U	0.096 U
MW-42B	06/05/2012	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.10 U
MW-42D	06/05/2012	0.098 U	**0.071 J**	**0.11 J**	**3.3**	0.049 U	0.098 U
MW-43A	06/05/2012	0.10 U	0.10 U	**0.065 J**	0.050 U	0.050 U	0.10 U
MW-43B	06/05/2012	0.098 U	**0.18 J**	**0.13 J**	**1.4**	0.049 U	0.098 U
MW-43D	06/05/2012	0.10 U	0.10 U	**0.062 J**	0.050 U	0.050 U	0.10 U
MW-44A	06/05/2012	0.098 U	0.098 U	**0.077 J**	0.049 U	0.049 U	0.098 U
MW-44B	06/05/2012	0.10 U	0.10 U	**0.053 J**	0.050 U	0.050 U	0.10 U
MW-44D	06/05/2012	0.098 U	0.098 U	**0.044 J**	0.049 U	0.049 U	0.098 U
MW-54A	06/08/2012	0.098 U	0.098 U	0.049 U	**0.47**	0.049 U	0.098 U
MW-54B	06/08/2012	0.098 U	0.098 U	0.049 U	**0.25 J**	0.049 U	0.098 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-09A	06/08/2012	1.3 U	**1.3 J**	1.3 U	**360**	1.3 U	1.3 U
MW-09B	06/08/2012	0.25 U	0.25 U	0.25 U	**38.0**	0.25 U	0.25 U
MW-09D	06/08/2012	1.3 U	**2.2 J**	1.3 U	**680**	1.3 U	1.3 U
MW-104A	05/29/2012	1.3 U	**2.1 J**	1.3 U	**350**	1.3 U	1.3 U
MW-104B	05/29/2012	1.3 U	**1.8 J**	1.3 U	**340**	1.3 U	1.3 U
MW-104D	05/29/2012	0.25 U	0.25 U	0.25 U	**2.2**	0.25 U	0.25 U
MW-104O	05/29/2012	0.25 U	**0.91 J**	0.25 U	0.25 U	0.25 U	0.25 U
MW-105A	05/29/2012	0.25 U	**0.90 J**	0.25 U	**20.0**	0.25 U	0.25 U
MW-105B	05/29/2012	0.25 U	**1.1**	0.25 U	**22.0 J**	0.25 U	0.25 U
MW-105O	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-109A	05/30/2012	0.25 U	**0.42 J**	0.25 U	**9.4**	0.25 U	0.25 U
MW-109B	05/30/2012	0.25 U	0.25 U	0.25 U	**8.2**	0.25 U	0.25 U
MW-109O	05/30/2012	0.25 U	0.25 U	0.25 U	**0.25 J**	0.25 U	0.25 U
MW-111A	05/29/2012	0.25 U	0.25 U	0.25 U	**4.1**	0.25 U	0.25 U
MW-111B	05/29/2012	0.25 U	0.25 U	0.25 U	**8.1**	0.25 U	0.25 U
MW-111O	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-136A	05/23/2012	0.25 U	0.25 U	0.25 U	**12.0**	0.25 U	0.25 U
MW-136B	05/23/2012	0.25 U	**1.6**	0.25 U	**58.0**	0.25 U	0.25 U
MW-136D	05/23/2012	1.0 U	**1.3 J**	1.0 U	**240**	1.0 U	1.0 U
MW-136E	05/23/2012	1.2 U	**4.5 J**	1.2 U	**280**	1.2 U	1.2 U
MW-137A	05/23/2012	0.25 U	0.25 U	0.25 U	**7.8**	0.25 U	0.25 U
MW-137B	05/23/2012	0.50 U	0.50 U	0.50 U	**61.0**	0.50 U	0.50 U
MW-137D	05/23/2012	0.25 U	0.25 U	0.25 U	**0.77 J**	0.25 U	0.25 U
MW-137E	05/23/2012	3.7 U	**13.0 J**	3.7 U	**3500**	3.7 U	3.7 U
MW-138A	05/23/2012	0.25 U	0.25 U	0.25 U	**1.6**	0.25 U	0.25 U
MW-138B	05/23/2012	3.7 U	**16.0**	3.7 U	**3600**	3.7 U	3.7 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-139A	05/23/2012	0.25 U	0.25 U	0.25 U	**0.68 J**	0.25 U	0.25 U
MW-139B	05/23/2012	1.3 U	**2.1 J**	1.3 U	**250**	1.3 U	1.3 U
MW-140A	05/29/2012	0.25 U	0.25 U	0.25 U	**1.6**	0.25 U	0.25 U
MW-140B	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-140D	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-140O	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-151A	06/05/2012	0.25 U	**1.2**	0.25 U	**53.0**	0.25 U	0.25 U
MW-151B	06/05/2012	0.93 U	**1.6 J**	0.93 U	**250**	0.93 U	0.93 U
MW-152B	06/05/2012	0.25 U	**1.1**	0.25 U	**15.0**	0.25 U	0.25 U
MW-153A	06/05/2012	1.3 U	**2.9 J**	1.3 U	**630**	1.3 U	1.3 U
MW-153B	06/05/2012	1.3 U	**2.1 J**	1.3 U	**410**	1.3 U	1.3 U
MW-154A	06/05/2012	0.25 U	**1.7**	0.25 U	**68.0**	0.25 U	0.25 U
MW-154B	06/05/2012	0.25 U	**0.65 J**	0.25 U	**18.0**	0.25 U	0.25 U
MW-155A	06/05/2012	1.3 U	**4.5 J**	1.3 U	**930**	1.3 U	1.3 U
MW-155E	06/05/2012	1.3 U	**2.0 J**	1.3 U	**430**	1.3 U	1.3 U
MW-156A	06/05/2012	0.25 U	0.25 U	0.25 U	**0.98 J**	0.25 U	0.25 U
MW-156B	06/05/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-157A	06/05/2012	0.25 U	0.25 U	0.25 U	**24.0**	0.25 U	0.25 U
MW-157B	06/05/2012	0.25 U	0.25 U	0.25 U	**0.92 J**	0.25 U	0.25 U
MW-18A	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-18B	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-18C	06/04/2012	0.25 U	**0.37 J**	0.25 U	**13.0**	0.25 U	0.25 U
MW-40A	06/08/2012	0.25 U	0.25 U	0.25 U	**2.6**	0.25 U	0.25 U
MW-40B	06/08/2012	0.25 U	**0.88 J**	0.25 U	**81.0**	0.25 U	0.25 U
MW-42A	06/05/2012	0.50 U	**0.49 J**	0.50 U	**130**	0.50 U	0.50 U
MW-42B	06/05/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells

Results for Second Quarter 2012 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-42D	06/05/2012	0.65 U	**0.96 J**	0.65 U	**130**	0.65 U	0.65 U
MW-43A	06/05/2012	0.25 U	0.25 U	0.25 U	**12.0**	0.25 U	0.25 U
MW-43B	06/05/2012	0.25 U	0.25 U	0.25 U	**1.8**	0.25 U	0.25 U
MW-43D	06/05/2012	0.25 U	0.25 U	0.25 U	**15.0**	0.25 U	0.25 U
MW-44A	06/05/2012	0.93 U	**3.1 J**	0.93 U	**190**	0.93 U	0.93 U
MW-44B	06/05/2012	0.25 U	0.25 U	0.25 U	**6.2**	0.25 U	0.25 U
MW-44D	06/05/2012	0.25 U	**0.25 J**	0.25 U	**13.0**	0.25 U	0.25 U
MW-54A	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-54B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-72A	06/08/2012	0.25 U	0.25 U	0.25 U	**3.6**	0.25 U	0.25 U
MW-72B	06/08/2012	1.3 U	**7.8**	1.3 U	**1100 J**	1.3 U	1.3 U
MW-78A	06/08/2012	0.25 U	0.25 U	0.25 U	**0.47 J**	0.25 U	0.25 U
MW-78B	06/08/2012	0.25 U	**3.9**	0.25 U	**46.0 J**	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

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

Results for Second Quarter 2012 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-119A	06/04/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-119B	06/04/2012	0.098 U	**0.087 J**	**0.13 J**	**0.12 J**	0.049 U	0.098 U
MW-120A	06/04/2012	0.098 U	0.098 U	**0.049 J**	0.049 U	0.049 U	0.098 U
MW-120B	06/04/2012	0.098 U	0.098 U	**1.5 J**	**8.6**	0.049 U	0.098 U
MW-121A	05/30/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-121B	05/30/2012	0.10 U	0.10 U	**0.13 J**	0.050 U	0.050 U	0.10 U
MW-121E	05/30/2012	0.10 U	0.10 U	0.051 U	0.051 U	0.051 U	0.10 U
MW-122A	06/04/2012	0.098 U	0.098 U	**0.082 J**	0.049 U	0.049 U	0.098 U
MW-122B	06/04/2012	0.10 U	0.10 U	**0.27 J**	**0.92**	0.051 U	0.10 U
MW-123A	06/04/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-123B	06/04/2012	0.098 U	0.098 U	**0.31 J**	**0.30 J**	0.049 U	0.098 U
MW-128A	05/22/2012	0.098 U	0.098 U	**0.33 J**	**0.52 J**	0.049 U	0.098 U
MW-128B	05/22/2012	0.10 U	0.10 U	**0.71**	**1.8 J**	0.050 U	0.10 U
MW-128D	05/22/2012	0.098 U	0.098 U	0.049 U	**0.34 J**	0.049 U	0.098 U
MW-131A	05/22/2012	0.098 U	0.098 U	**0.64**	**3.6**	0.049 U	0.098 U
MW-131B	05/22/2012	0.096 U	0.096 U	**0.10 J**	**0.64**	0.048 U	0.096 U
MW-131D	05/22/2012	0.098 U	0.098 U	**0.069 J**	0.049 U	0.049 U	0.098 U
MW-132A	05/22/2012	0.098 U	0.098 U	**0.52**	**1.8**	0.049 U	0.098 U
MW-132B	05/22/2012	0.098 U	0.098 U	**0.70**	**3.4**	0.049 U	0.098 U
MW-132D	05/22/2012	0.098 U	0.098 U	**0.34 J**	**1.5**	0.049 U	0.098 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 Second Quarter 2012 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-119A	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-119B	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-120A	06/04/2012	0.93 U	**110**	0.93 U	**200**	**1.1 J**	0.93 U
MW-120B	06/04/2012	5.8 U	**9.5 J**	5.8 U	**9300**	5.8 U	5.8 U
MW-121A	05/30/2012	0.25 U	0.25 U	0.25 U	**0.56 J**	0.25 U	0.25 U
MW-121B	05/30/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-121E	05/30/2012	0.25 U	0.25 U	0.25 U	**0.51 J**	0.25 U	0.25 U
MW-122A	06/04/2012	0.50 U	**0.50 J**	0.50 U	**82.0**	0.50 U	0.50 U
MW-122B	06/04/2012	1.3 U	**3.9 J**	1.3 U	**930**	1.3 U	1.3 U
MW-123A	06/04/2012	0.25 U	**0.56 J**	0.25 U	**2.2**	0.25 U	0.25 U
MW-123B	06/04/2012	0.25 U	0.25 U	0.25 U	**4.2**	0.25 U	0.25 U
MW-133A	05/22/2012	0.25 U	0.25 U	0.25 U	**18.0**	0.25 U	0.25 U
MW-133B	05/22/2012	0.55 U	**1.4 J**	0.55 U	**160**	0.55 U	0.55 U
MW-133D	05/22/2012	0.25 U	0.25 U	0.25 U	**14.0**	0.25 U	0.25 U
MW-134A	05/22/2012	1.1 U	**1.9 J**	1.1 U	**59.0**	1.1 U	1.1 U
MW-134B	05/22/2012	0.93 U	**16.0**	0.93 U	**260**	0.93 U	0.93 U
MW-134D	05/22/2012	0.25 U	**0.36 J**	0.25 U	**79.0 J**	0.25 U	0.25 U
MW-135A	05/23/2012	0.73 U	**6.3**	0.73 U	**130**	0.73 U	0.73 U
MW-135B	05/23/2012	0.78 U	**7.3**	0.78 U	**160**	0.78 U	0.78 U
MW-135D	05/23/2012	1.3 U	**4.1 J**	1.3 U	**780**	1.3 U	1.3 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 Second Quarter 2012 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-08A	06/08/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-08B	06/08/2012	0.098 U	0.098 U	0.049 U	**0.44**	0.049 U	0.098 U
MW-10A	06/08/2012	0.098 U	0.098 U	**0.36 J**	**0.071 J**	0.049 U	0.098 U
MW-10B	06/08/2012	0.096 U	0.096 U	**0.14 J**	0.048 U	0.048 U	0.096 U
MW-129A	05/22/2012	0.098 U	0.098 U	0.049 U	**0.22 J**	0.049 U	0.098 U
MW-129B	05/22/2012	0.10 U	0.10 U	0.050 U	**0.27 J**	0.050 U	0.10 U
MW-129D	05/22/2012	0.098 U	0.098 U	**0.054 J**	0.049 U	0.049 U	0.098 U
MW-146A	06/07/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-146B	06/07/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-25A	05/24/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-25B	05/24/2012	0.098 U	0.098 U	**0.044 J**	0.049 U	0.049 U	0.098 U
MW-25D	05/24/2012	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.10 U
MW-28A	05/23/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-28B	05/23/2012	0.098 U	0.098 U	0.049 U	**1.4**	0.049 U	0.098 U
MW-28D	05/23/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-33A	05/24/2012	0.10 U	0.10 U	0.050 U	**0.31 J**	0.050 U	0.10 U
MW-33B	05/24/2012	0.098 U	0.098 U	0.049 U	**0.14 J**	0.049 U	0.098 U
MW-33D	05/24/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-55A	06/08/2012	0.098 U	0.098 U	0.049 U	**0.14 J**	0.049 U	0.098 U
MW-55B	06/08/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 U
MW-87A	05/29/2012	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.10 U
MW-87B	05/29/2012	0.098 U	0.098 U	0.049 U	**0.18 J**	0.049 U	0.098 U
MW-87D	05/29/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-89E	06/07/2012	0.098 U	0.098 U	0.049 U	**0.16 J**	0.049 U	0.098 U
MW-94A	06/07/2012	0.096 U	0.096 U	0.048 U	0.048 U	0.048 U	0.096 U
MW-94B	06/07/2012	0.10 U	0.10 U	**0.068 J**	0.050 U	0.050 U	0.10 U
MW-94D	06/07/2012	0.098 U	0.098 U	0.049 U	0.049 U	0.049 U	0.098 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 Second Quarter 2012 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-08A	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-08B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-10A	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-10B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-146A	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-146B	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-25A	05/24/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-25B	05/24/2012	0.25 U	0.25 U	0.25 U	**23.0**	0.25 U	0.25 U
MW-25D	05/24/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-55A	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-55B	06/08/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-79A	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-79B	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-87A	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-87B	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-87D	05/29/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-89A	06/07/2012	0.25 U	0.25 U	0.25 U	**9.9**	0.25 U	0.25 U
MW-89B	06/07/2012	0.25 U	0.25 U	0.25 U	**4.1**	0.25 U	0.25 U
MW-89D	06/07/2012	0.25 U	0.25 U	0.25 U	**2.3**	0.25 U	0.25 U
MW-89E	06/07/2012	1.0 U	1.0 U	1.0 U	**230**	1.0 U	1.0 U
MW-92A	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MW-92B	06/07/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Second Quarter 2012 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-50B	06/19/2012	0.048 U	0.048 U	0.024 U	**1.8**	**0.026 J**	0.048 U
WSW-51	04/23/2012	0.048 U	0.048 U	0.024 U	**0.29**	0.024 U	0.048 U
WSW-51A	04/23/2012	0.048 U	0.048 U	0.024 U	**1.1**	0.024 U	0.048 U
WSW-55	06/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Second Quarter 2012 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-50B	06/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-51	04/23/2012	0.45 U	0.37 U	**1.0**	0.37 U	0.24 U	0.33 U
WSW-51A	04/23/2012	0.45 U	0.37 U	0.36 U	**2.5**	0.24 U	0.33 U
WSW-55	06/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 4-1 Surface Water

Results for Second Quarter 2012 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	05/31/2012	0.048 U	0.048 U	**0.041 J**	**1.7**	0.024 U	0.048 U
SCW-04	05/31/2012	0.048 U	0.048 U	0.024 U	**0.025 J**	0.024 U	0.048 U
SCW-05	05/31/2012	0.048 U	0.048 U	0.024 U	**0.069 J**	0.024 U	0.048 U
SCW-06	05/31/2012	0.048 U	0.048 U	0.024 U	**0.032 J**	0.024 U	0.048 U
SKI-001	05/31/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
SW-05	05/31/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
SW-06	05/31/2012	0.048 U	0.048 U	0.024 U	**0.045 J**	0.024 U	0.048 U
SW-08	05/31/2012	0.048 U	0.048 U	**0.071 J**	**1.5**	0.024 U	0.048 U
SW-09	05/31/2012	**0.062 J**	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
SW-10	05/31/2012	0.048 U	0.048 U	**0.050 J**	**1.4**	0.024 U	0.048 U
SW-11	05/31/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
SW-12	05/31/2012	0.048 U	0.048 U	0.024 U	**0.57**	0.024 U	0.048 U
SW-13	05/31/2012	0.048 U	0.048 U	0.024 U	**0.17 J**	0.024 U	0.048 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 4-1 Surface Water

Results for Second Quarter 2012 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	05/31/2012	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	**160**
SCW-04	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SCW-05	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SCW-06	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SKI-001	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SW-05	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SW-06	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.29 J**
SW-08	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	**2.2**	**48.0**
SW-09	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SW-10	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	**0.75 J**	**20.0**
SW-11	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SW-12	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**4.9**
SW-13	05/31/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Second Quarter 2012 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	04/02/2012	0.048 U	0.048 U	0.024 U	**2.4**	0.024 U	**0.10 J**
AOP-EFF	05/01/2012	0.048 U	0.048 U	0.024 U	**2.6**	**0.017 J**	0.048 U
AOP-EFF	06/04/2012	0.048 U	0.048 U	0.024 U	**2.8**	**0.027 J**	0.048 U
AOP-INF	04/02/2012	0.048 U	**0.035 J**	**0.83**	**2.9**	0.024 U	0.048 U
AOP-INF	06/04/2012	0.048 U	**0.033 J**	**0.88 J**	**3.5**	0.024 U	0.048 U
EW-1R	05/01/2012	0.048 U	0.048 U	0.024 U	**0.080 J**	0.024 U	0.048 U
GTP-310	04/02/2012	0.048 U	0.048 U	0.024 U	**1.5**	0.024 U	0.048 U
GTP-320	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-320	06/04/2012	0.048 U	0.048 U	0.024 U	**0.021 J**	0.024 U	0.048 U
GTP-330	04/02/2012	0.048 U	0.048 U	0.024 U	**1.3**	0.024 U	0.048 U
GTP-340	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-340	06/04/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-350	04/02/2012	0.048 U	0.048 U	0.024 U	**1.4**	0.024 U	0.048 U
GTP-360	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-360	06/04/2012	0.048 U	0.048 U	0.024 U	**0.057 J**	0.024 U	0.048 U
GTP-EFF	04/02/2012	0.048 U	0.048 U	0.024 U	**1.4**	0.024 U	0.048 U
GTP-EFF	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-EFF	06/04/2012	0.048 U	0.048 U	0.024 U	**0.022 J**	0.024 U	0.048 U
GTP-INF	04/02/2012	0.048 U	0.048 U	**0.16 J**	**4.5**	0.024 U	0.048 U
GTP-INF	05/01/2012	0.048 U	0.048 U	**0.15 J**	**3.0**	0.024 U	0.048 U
GTP-INF	06/04/2012	0.048 U	0.048 U	**0.14 J**	**3.5**	0.024 U	0.048 U
LL1-EFF	05/01/2012	0.048 U	0.048 U	0.024 U	**0.046 J**	0.024 U	0.048 U
LL1-INF	05/01/2012	0.048 U	0.048 U	**0.026 J**	**0.056 J**	0.024 U	0.048 U
LL4-EFF	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
LL4-INF	05/01/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Second Quarter 2012 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	04/02/2012	0.25 U	0.25 U	0.25 U	**0.35 J**	0.25 U	0.25 U
AOP-EFF	05/01/2012	0.25 U	0.25 U	0.25 U	**0.27 J**	0.25 U	0.25 U
AOP-EFF	06/04/2012	0.25 U	0.25 U	0.25 U	**0.30 J**	0.25 U	0.25 U
AOP-INF	04/02/2012	1.3 U	**4.9 J**	1.3 U	**1700**	1.3 U	1.3 U
AOP-INF	06/04/2012	1.3 U	**4.8 J**	1.3 U	**1700**	1.3 U	1.3 U
EW-1R	04/02/2012	0.25 U	0.25 U	0.25 U	**4.0**	0.25 U	0.25 U
EW-1R	05/01/2012	0.25 U	0.25 U	0.25 U	**3.9**	0.25 U	0.25 U
GCW1-EFF	04/02/2012	0.25 U	0.25 U	0.25 U	**0.55 J**	0.25 U	0.25 U
GCW1-EFF	06/04/2012	0.25 U	0.25 U	0.25 U	**0.27 J**	0.25 U	0.25 U
GCW1-INF	04/02/2012	1.3 U	**3.3 J**	1.3 U	**530**	1.3 U	1.3 U
GCW1-INF	06/04/2012	1.3 U	**2.7 J**	1.3 U	**420**	1.3 U	1.3 U
GTP-310	04/02/2012	0.25 U	0.25 U	0.25 U	**0.58 J**	0.25 U	0.25 U
GTP-320	05/01/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-320	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-330	04/02/2012	0.25 U	0.25 U	0.25 U	**0.55 J**	0.25 U	0.25 U
GTP-340	05/01/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-340	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-350	04/02/2012	0.25 U	0.25 U	0.25 U	**0.58 J**	0.25 U	0.25 U
GTP-360	05/01/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-360	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-EFF	04/02/2012	0.25 U	0.25 U	0.25 U	**0.56 J**	0.25 U	0.25 U
GTP-EFF	05/01/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-EFF	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-INF	04/02/2012	0.25 U	0.25 U	0.25 U	**0.53 J**	0.25 U	0.25 U
GTP-INF	05/01/2012	0.25 U	0.25 U	0.25 U	**0.59 J**	0.25 U	0.25 U
GTP-INF	06/04/2012	0.25 U	0.25 U	0.25 U	**0.58 J**	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Second Quarter 2012 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
LL1_AIR_EF	05/01/2012	-	-	-	**36.0**	-	-
LL1-EFF	04/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
LL1-EFF	05/01/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
LL1-EFF	06/04/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
LL1-INF	04/02/2012	0.45 U	0.45 U	0.45 U	**96.0**	0.45 U	0.45 U
LL1-INF	05/01/2012	0.45 U	0.45 U	**0.39 J**	**95.0**	0.45 U	0.45 U
LL1-INF	06/04/2012	0.50 U	0.50 U	0.50 U	**100**	0.50 U	0.50 U
LL4_AIR_EF	04/02/2012	-	-	-	**720**	-	-
LL4-EFF	04/02/2012	0.25 U	0.25 U	0.25 U	**1.1**	0.25 U	0.25 U
LL4-EFF	05/01/2012	0.25 U	0.25 U	0.25 U	**0.78 J**	0.25 U	0.25 U
LL4-EFF	06/04/2012	0.25 U	0.25 U	0.25 U	**0.72 J**	0.25 U	0.25 U
LL4-INF	04/02/2012	1.3 U	**2.3 J**	1.3 U	**410**	1.3 U	1.3 U
LL4-INF	05/01/2012	1.3 U	**2.7 J**	1.3 U	**380**	1.3 U	1.3 U
LL4-INF	06/04/2012	1.3 U	**2.2 J**	1.3 U	**410**	1.3 U	1.3 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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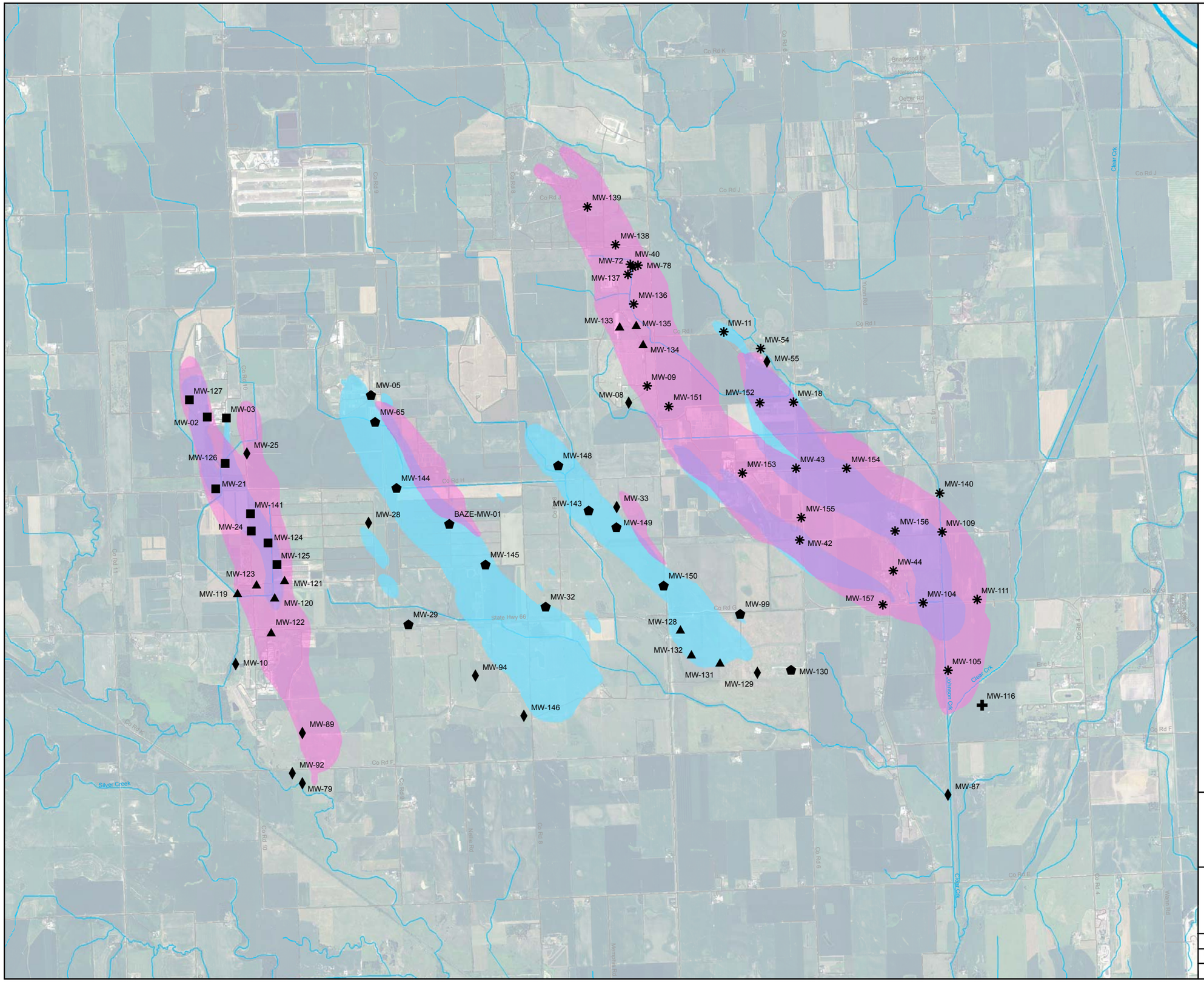

EXPLANATION

- ● Compliance Well
- ■ Load Line 1 Interior Plume Monitoring Well
- ⬟ Load Line 2 and Load Line 3 Interior Plume Monitoring Well
- ✱ Load Line 4, Atlas Missile Area, and Landfill Interior Plume Monitoring Well
- ▲ Focused Extraction Monitoring Well
- ✚ Perimeter Monitoring Well
- ♦ Upgradient/Sidegradient/Downgradient Monitoring Well
- Approximate Area of TCE at a concentration of 5 ug/L or greater (2012)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2012)
- 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 (2012)

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 1,250 2,500 5,000 7,500 10,000 Feet

US Army Corps of Engineers ®
Kansas City District

Figure 2-1
Monitoring Wells
Second Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by: S Carter	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 7/26/2012	Date: 7/27/2012	
Version:	Revision Date / Initials: 7/27/2012 MGJ	

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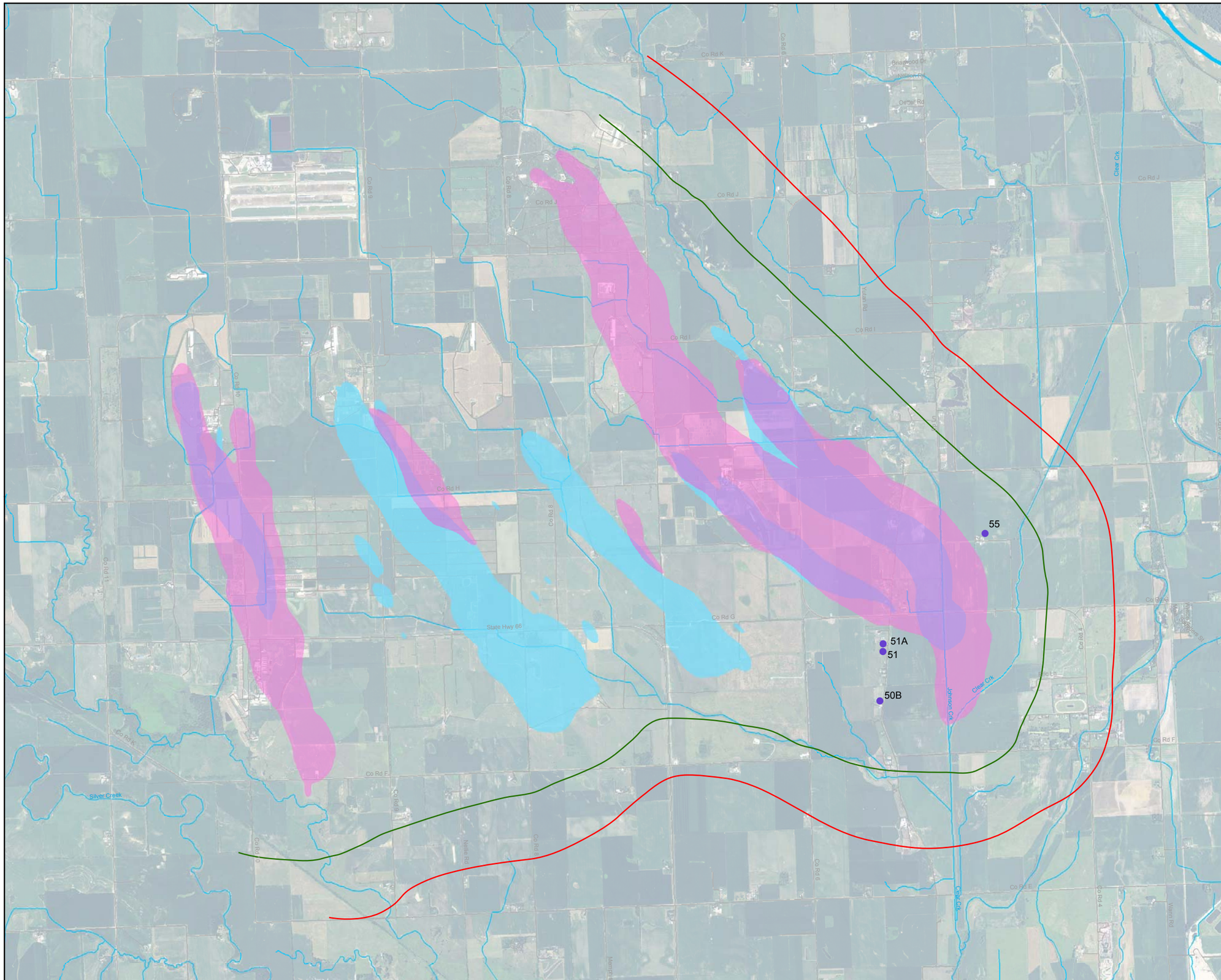

EXPLANATION

- Water Supply Well
- Half-Mile Buffer Zone
- One-Mile Buffer Zone
- Approximate Area of TCE at a concentration of 5 ug/L or greater (2012)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2012)
- 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 (2012)

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.

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

ug/L - micrograms per liter

N

0 1,250 2,500 5,000 7,500 10,000 Feet

US Army Corps of Engineers ®
Kansas City District

Figure 3-1
Water Supply Well
Second Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 7/26/2012	Date:	
Version:	Revision Date / Initials:	

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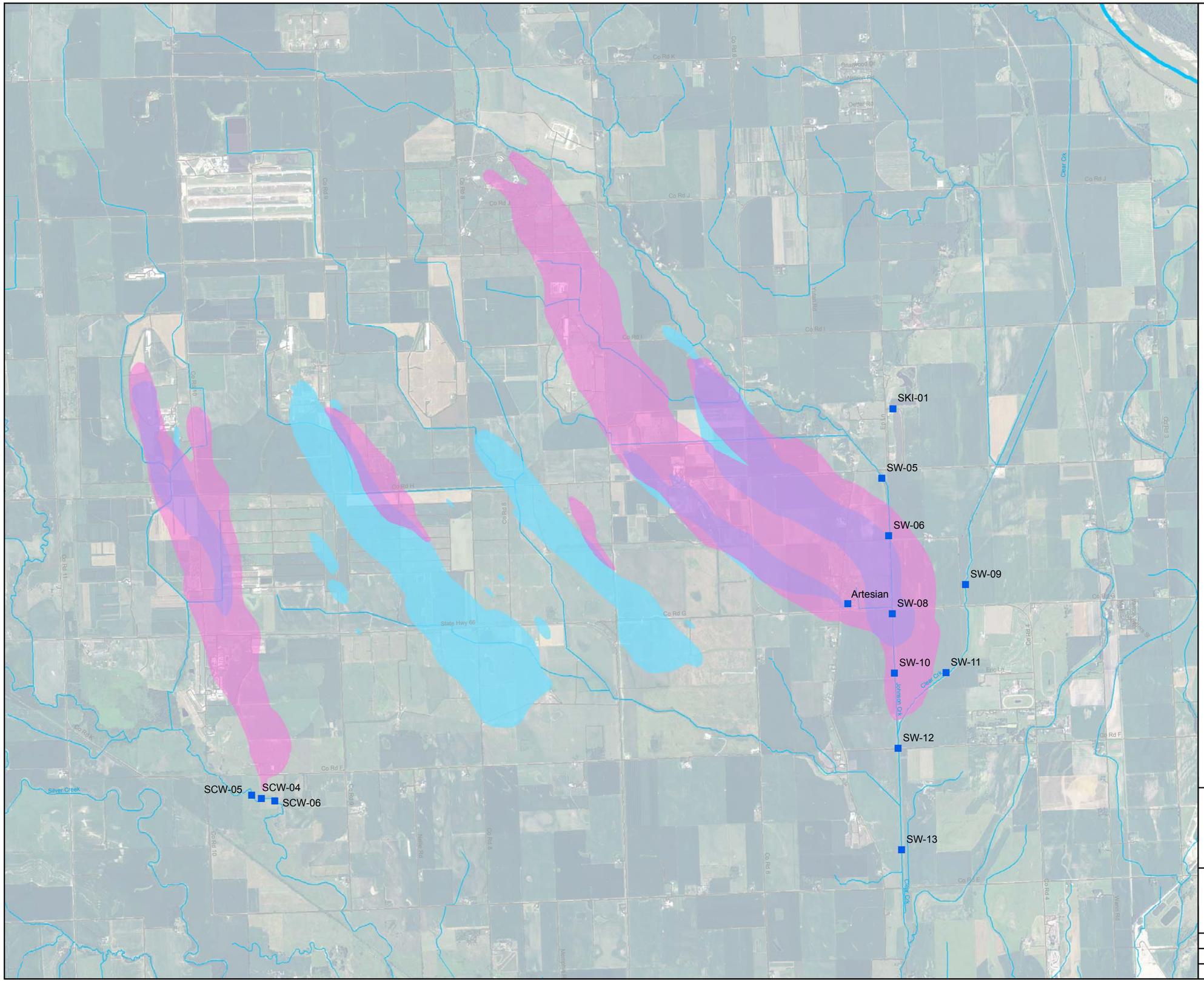

EXPLANATION

- Surface Water Sample Location
- Approximate Area of TCE at a Concentration of 5 ug/L or Greater (2012)
- Approximate Area of RDX at a Concentration of 2 ug/L or Greater (2012)
- 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 (2012)

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 1,250 2,500 5,000 7,500 10,000 Feet

US Army Corps of Engineers ®
Kansas City District

Figure 4-1
Surface Water
Second Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 7/26/2012	Date:	
Version:	Revision Date / Initials:	

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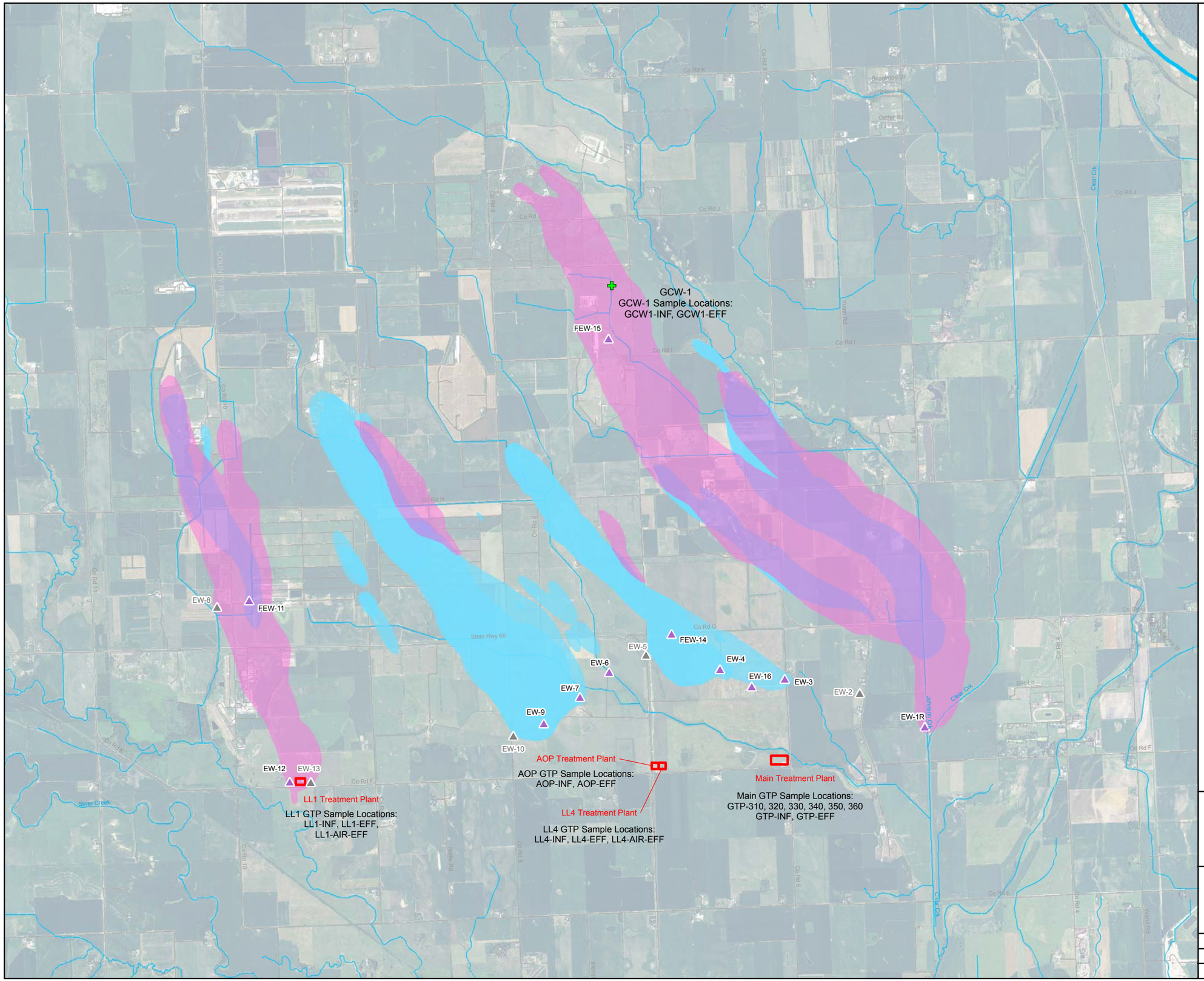

EXPLANATION

- Groundwater Circulation Well
- Active Groundwater Extraction Well (Sampled)
- Inactive Groundwater Extraction Well (Not Sampled)
- Water Treatment Plant
- Approximate Area of TCE at a concentration of 5 ug/L or greater (2012)
- Approximate Area of RDX at a concentration of 2 ug/L or greater (2012)
- 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 (2012)

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 1,250 2,500 5,000 7,500 10,000 Feet

US Army Corps of Engineers ®
Kansas City District

Figure 5-1
Operations and Maintenance
Second Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 7/26/2012	Date:	
Version:	Revision Date / Initials:	

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Appendix A
Concentration Trend Charts for Select Monitoring Wells

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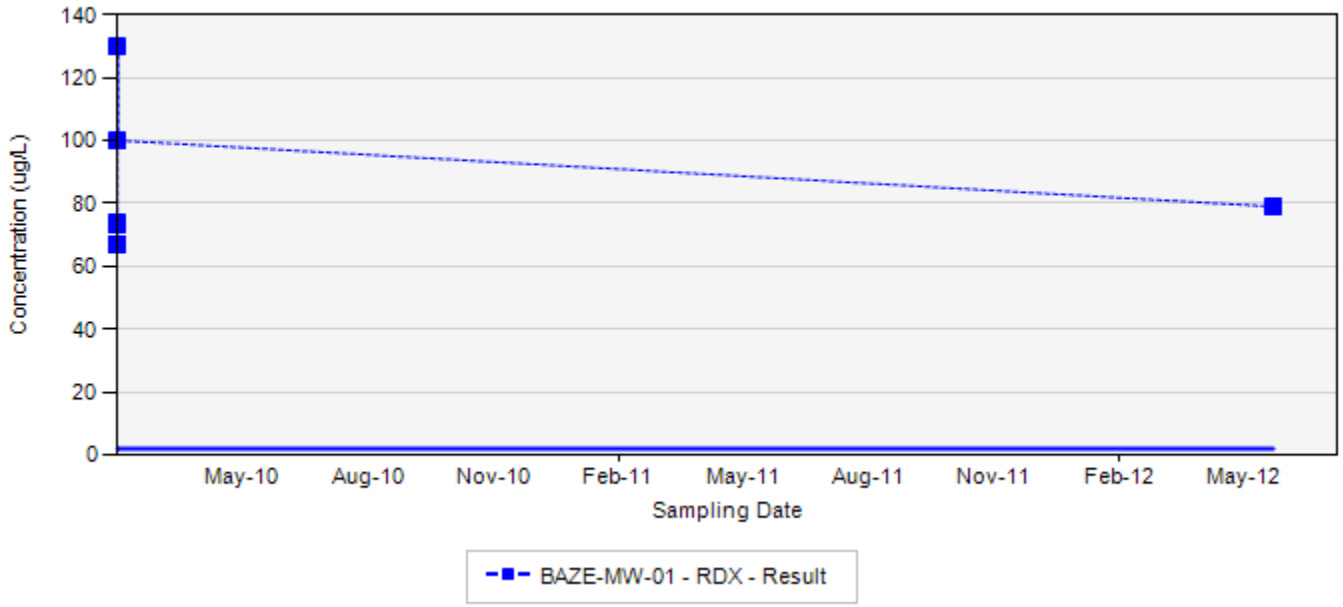
Appendix A
Concentration Trend Charts for Monitoring Wells

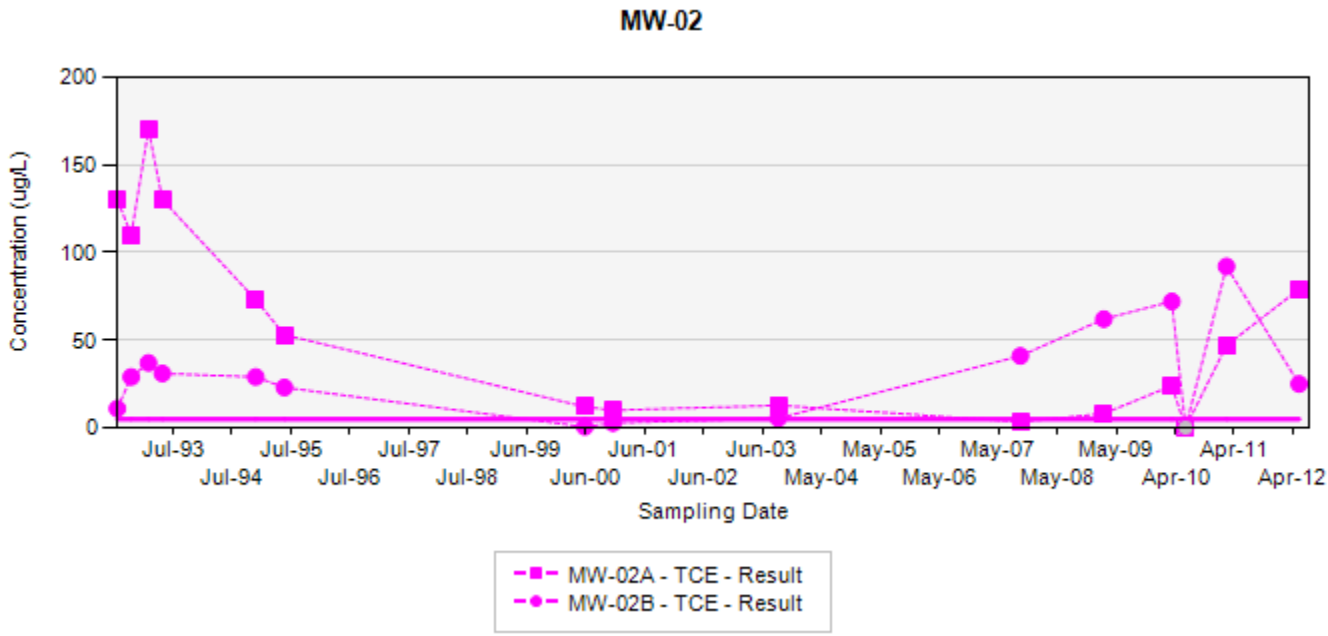


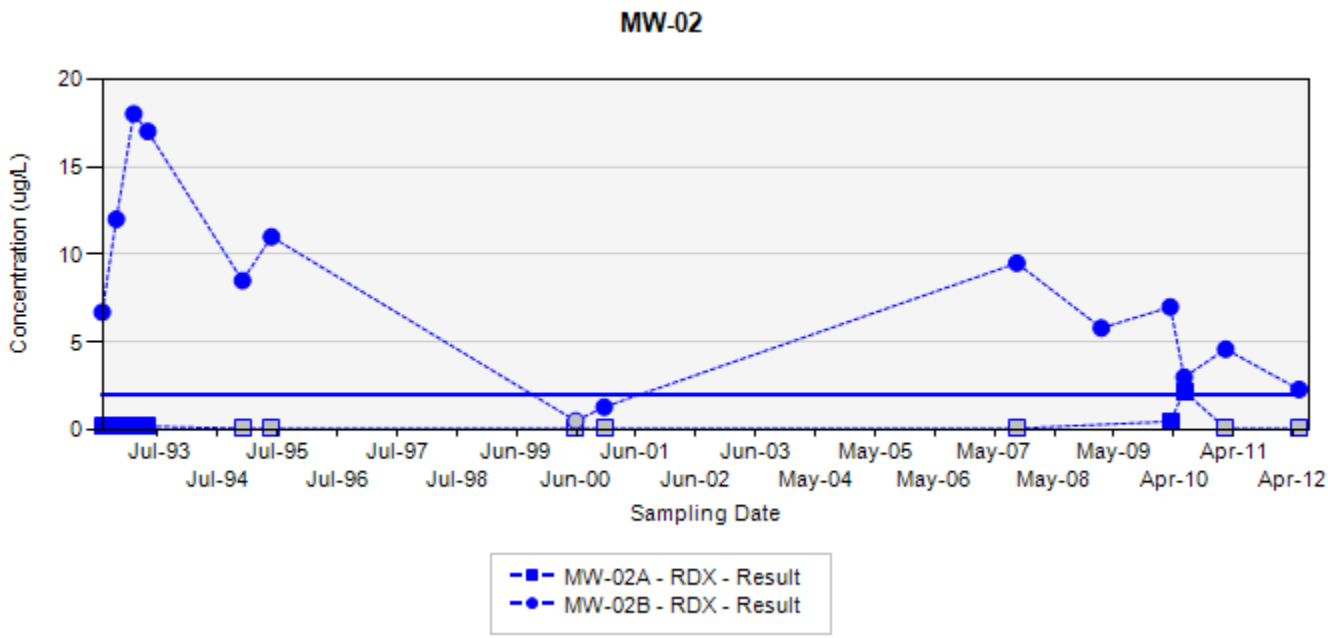
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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 Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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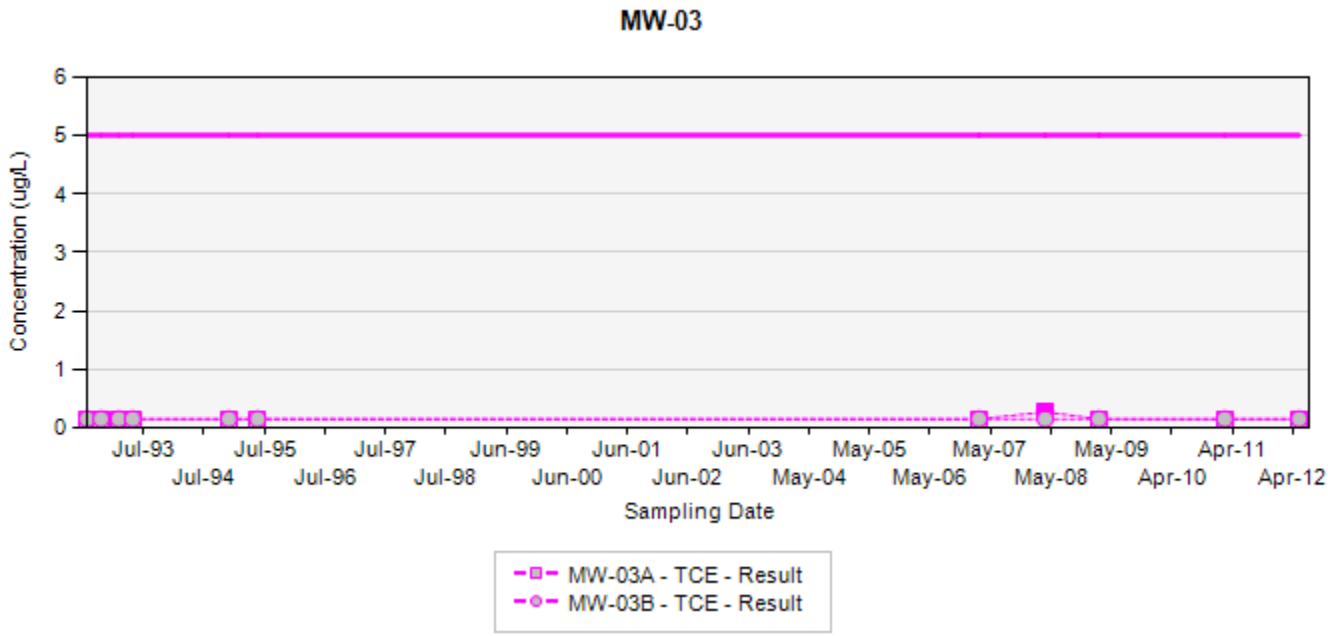

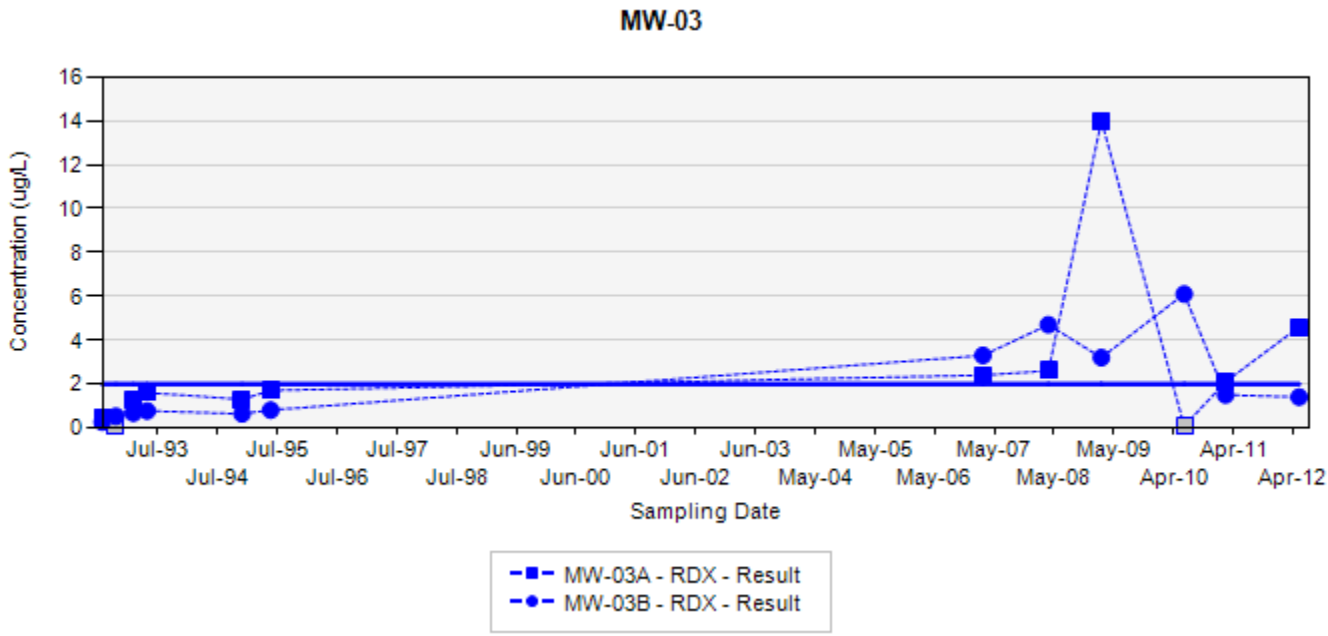

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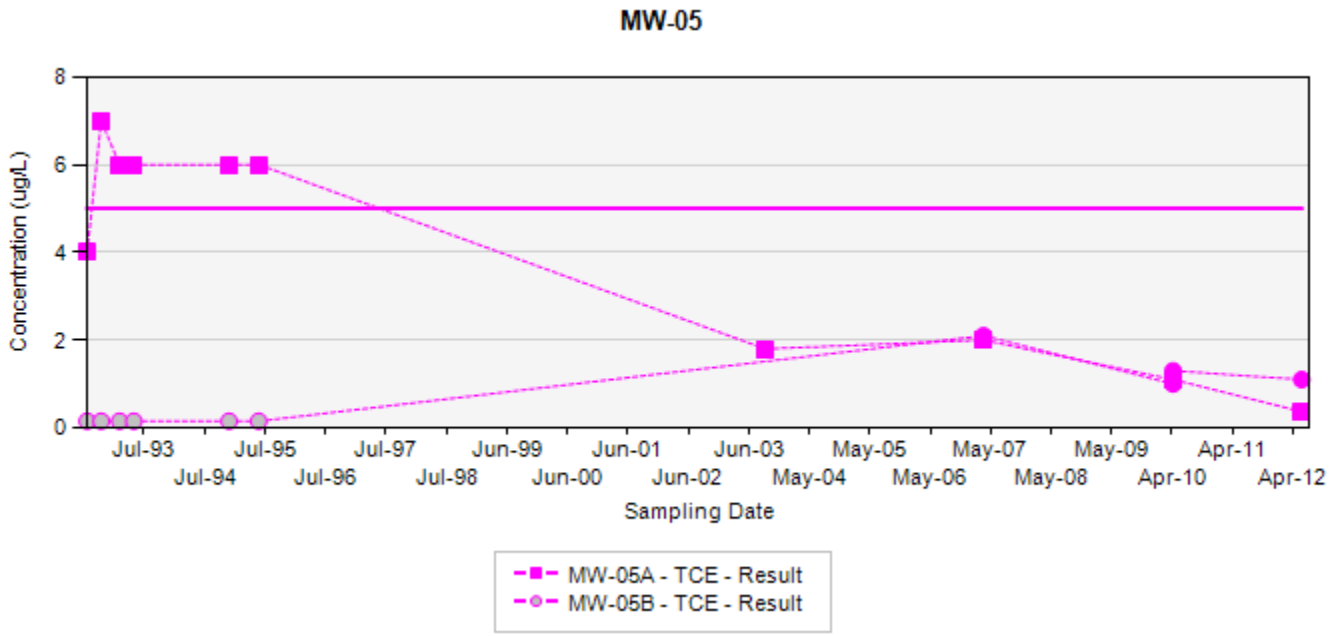

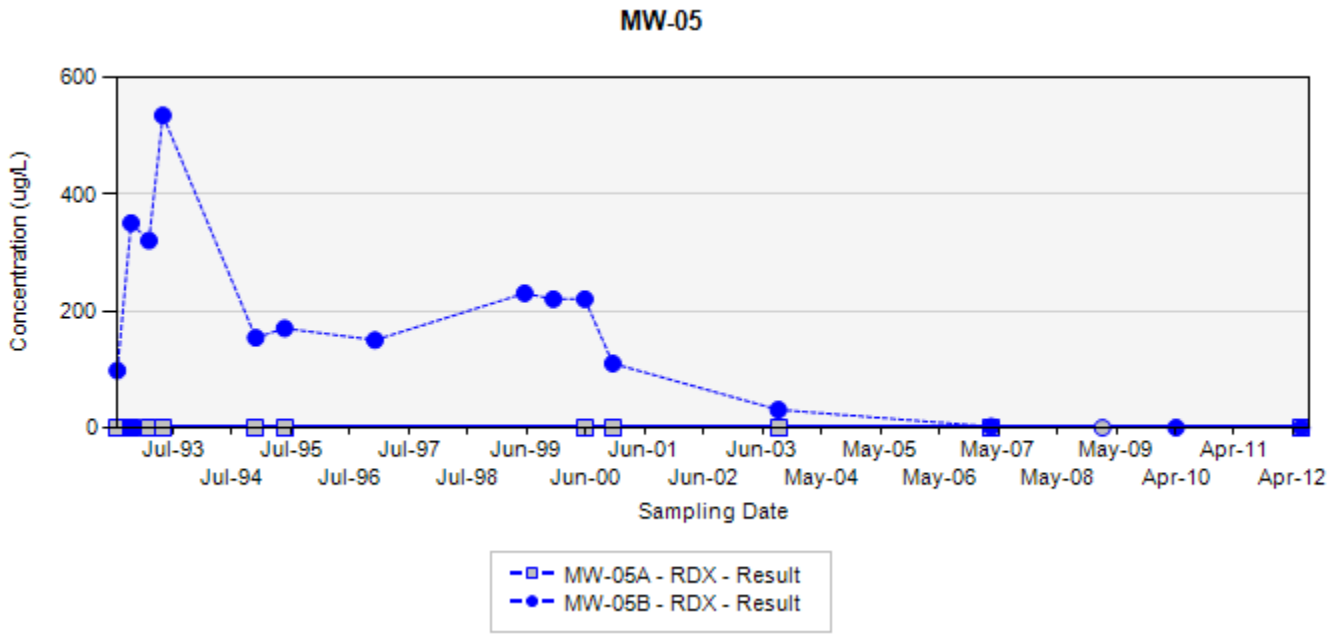

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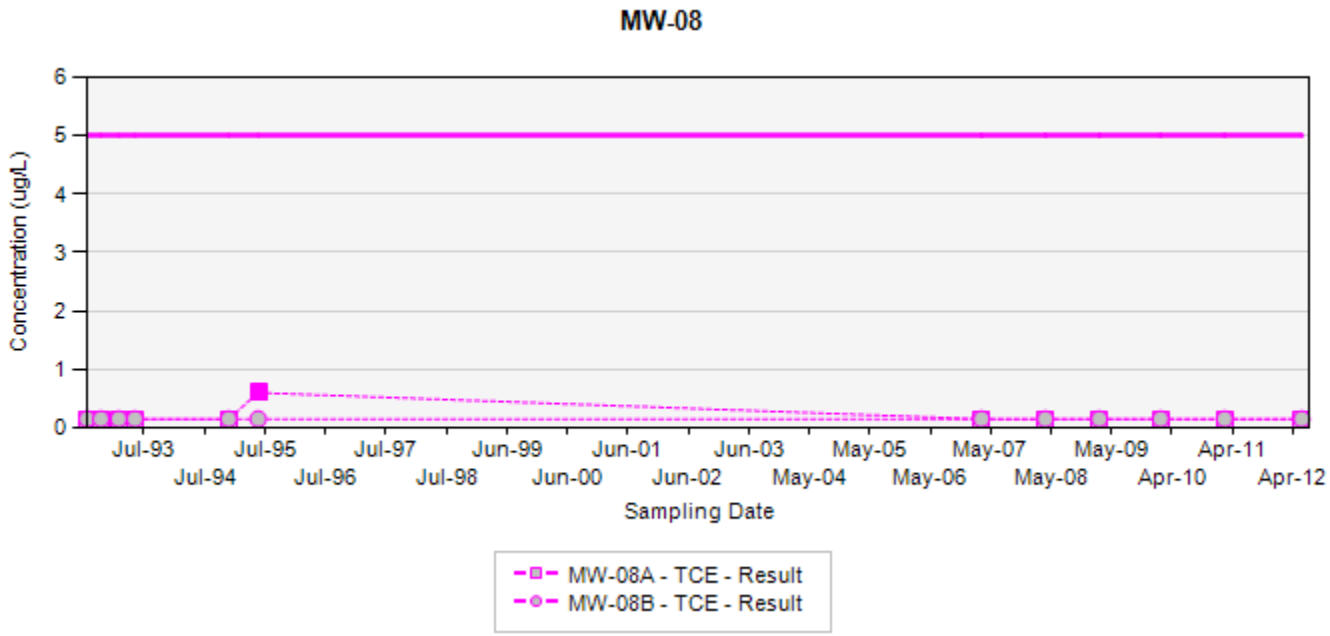

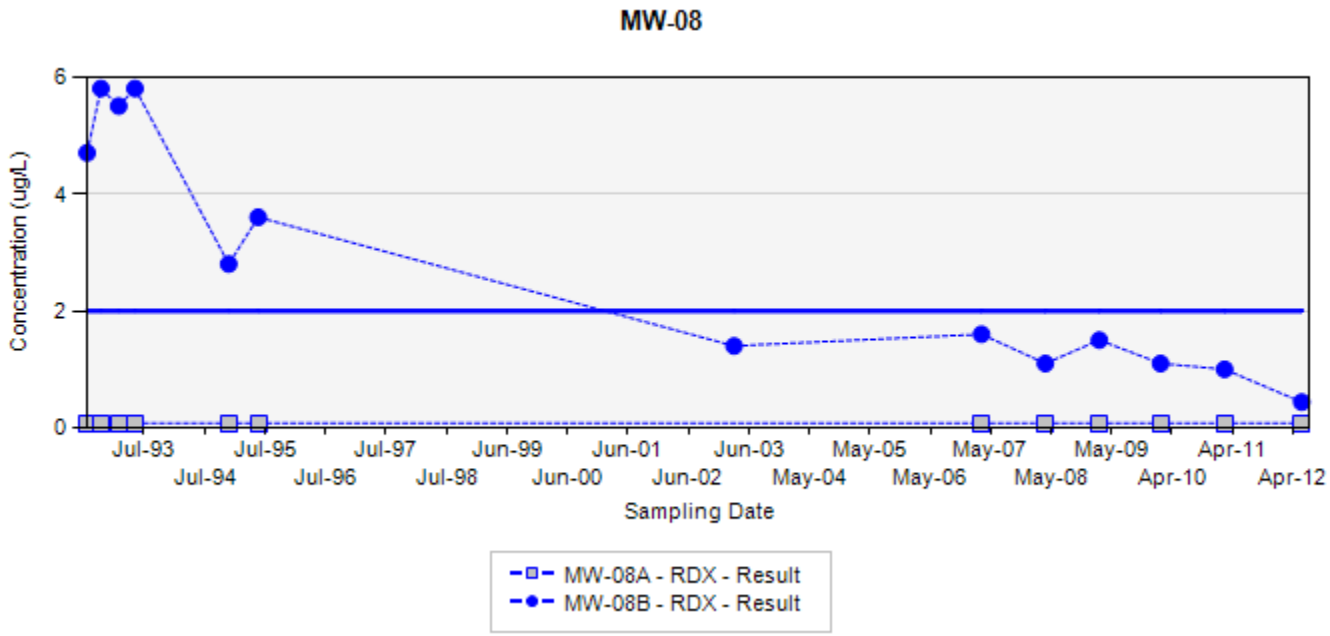

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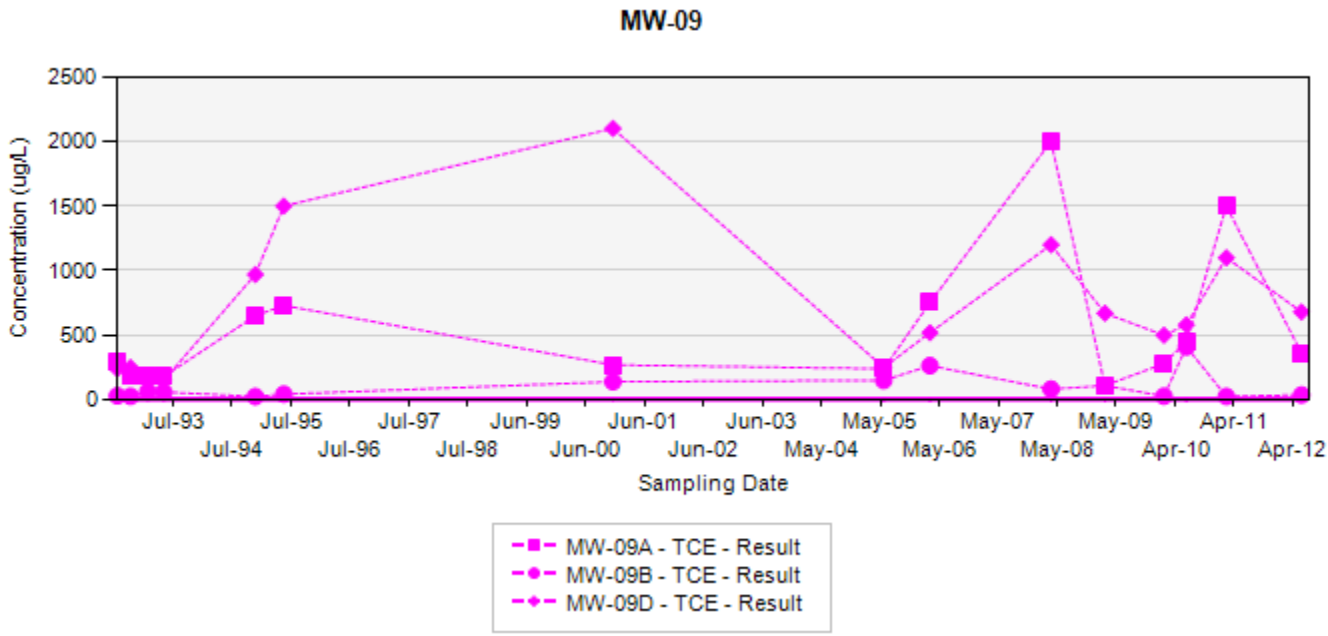

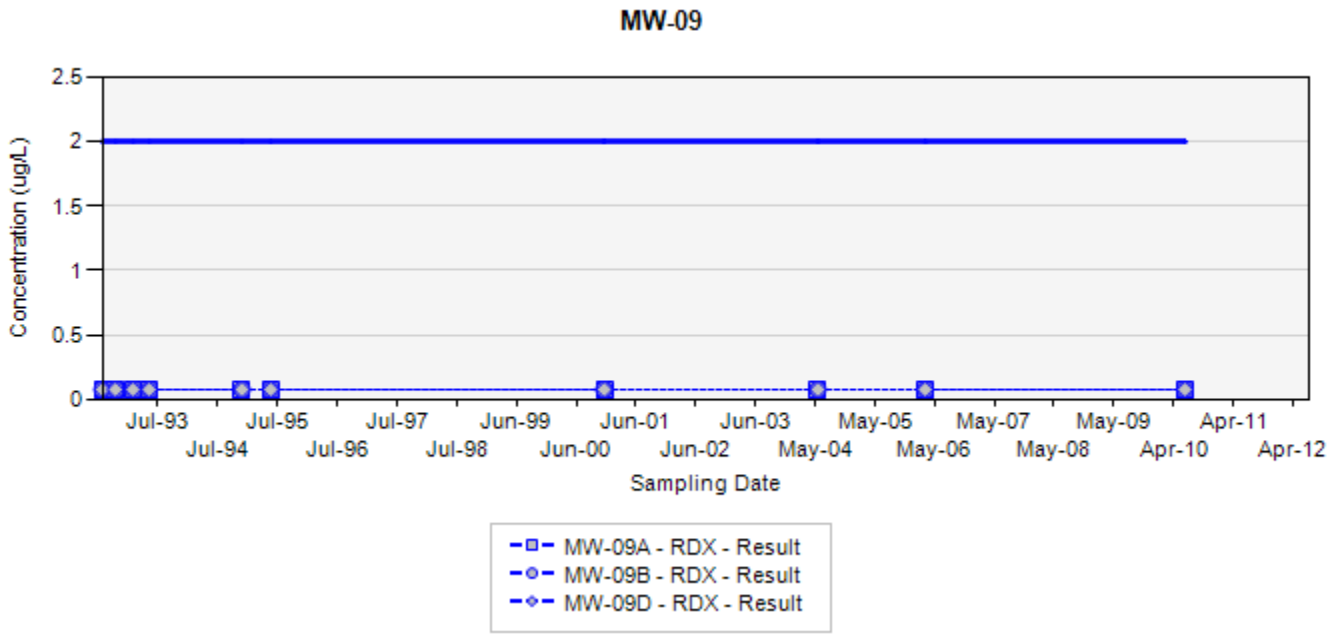

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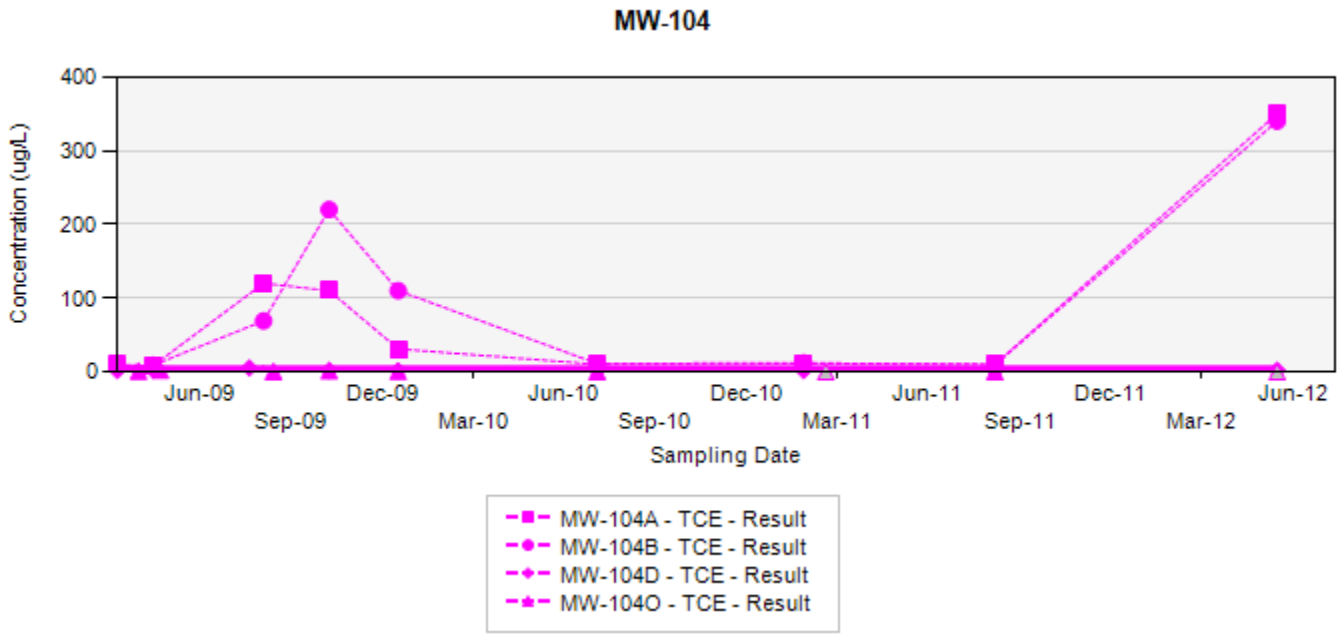

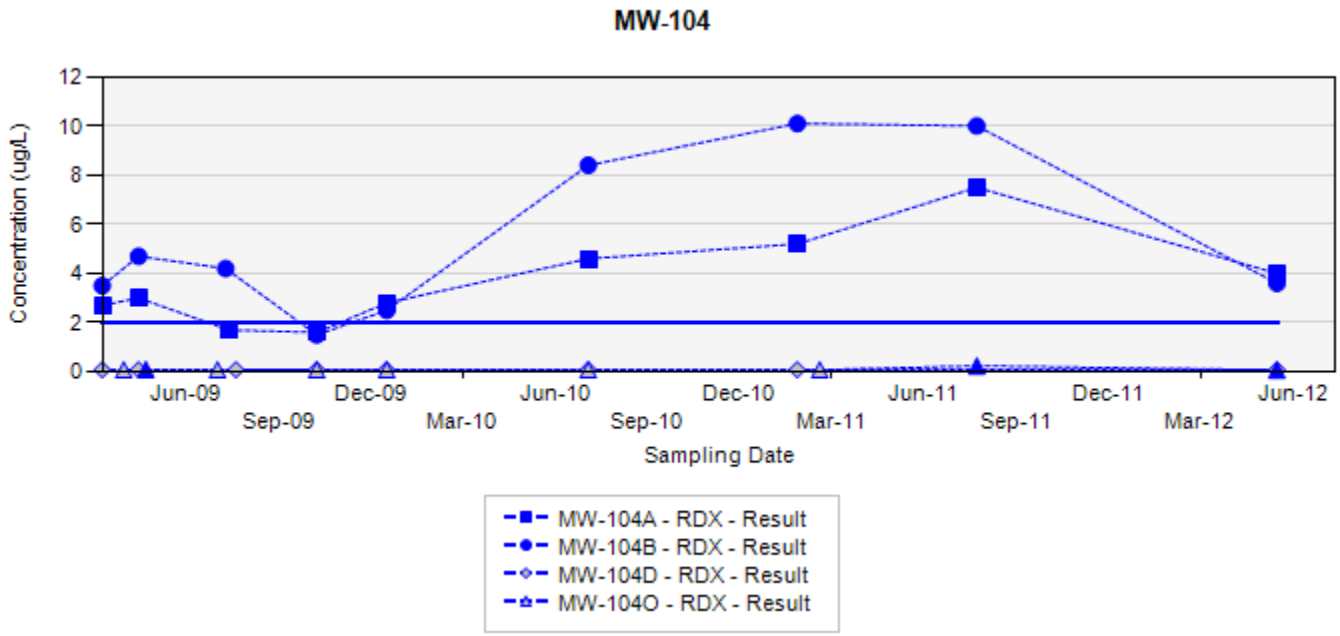

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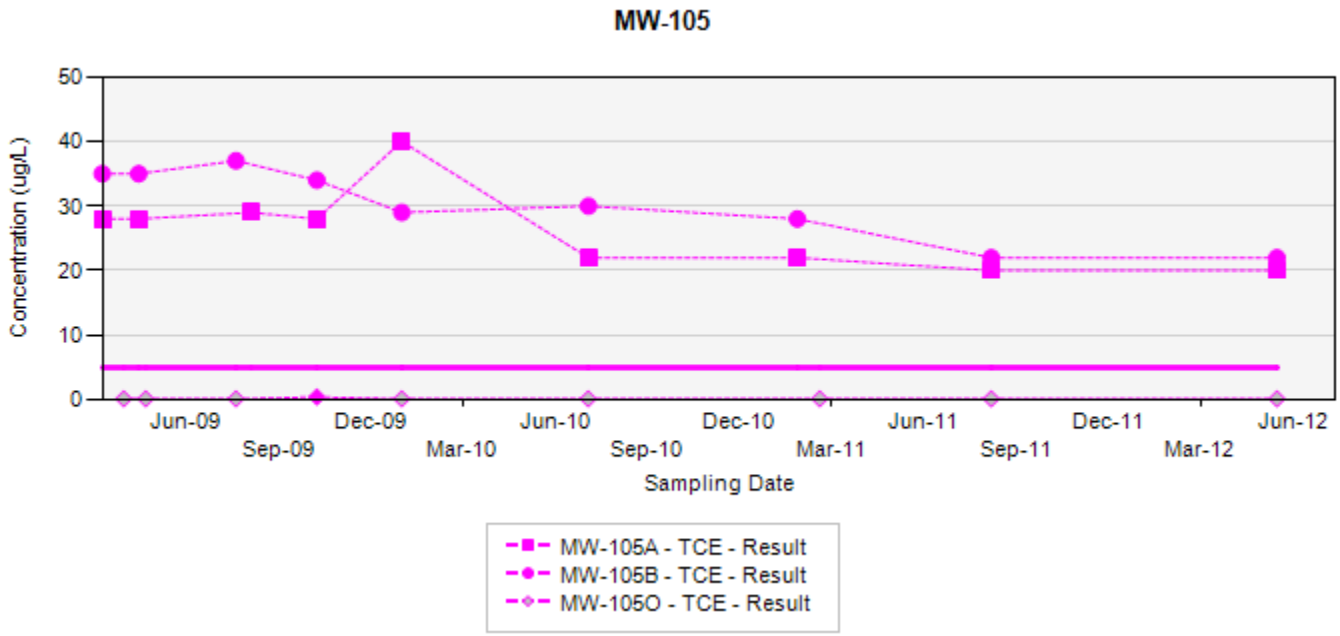

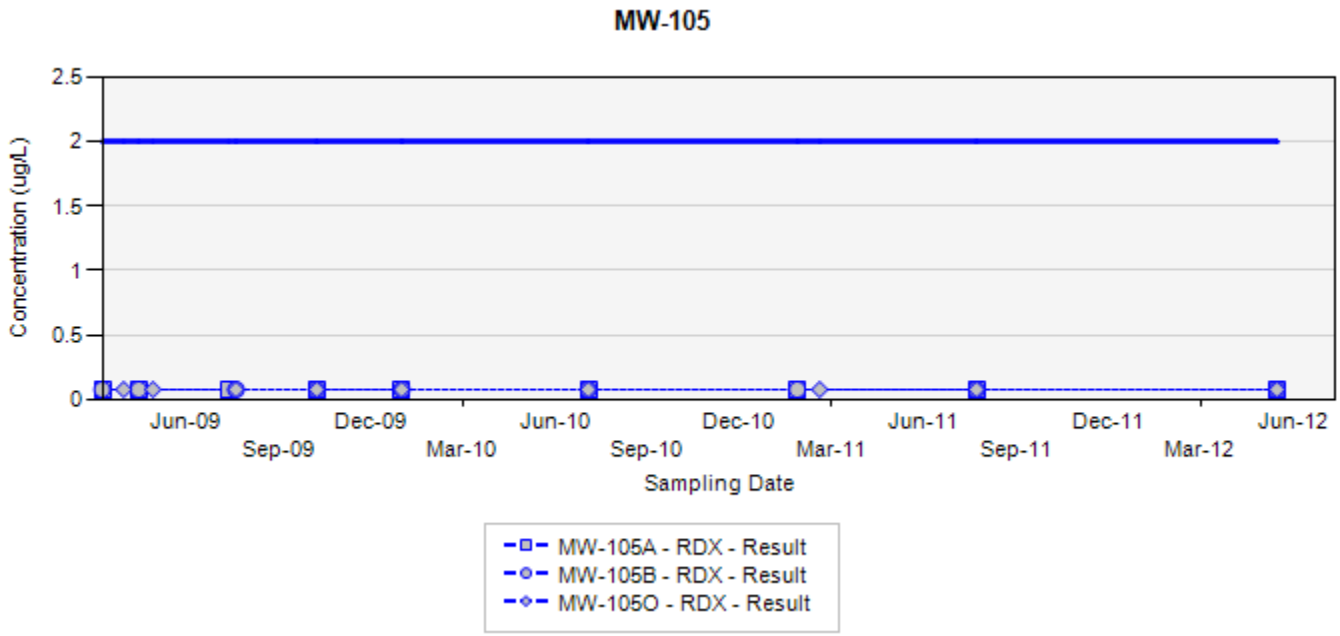

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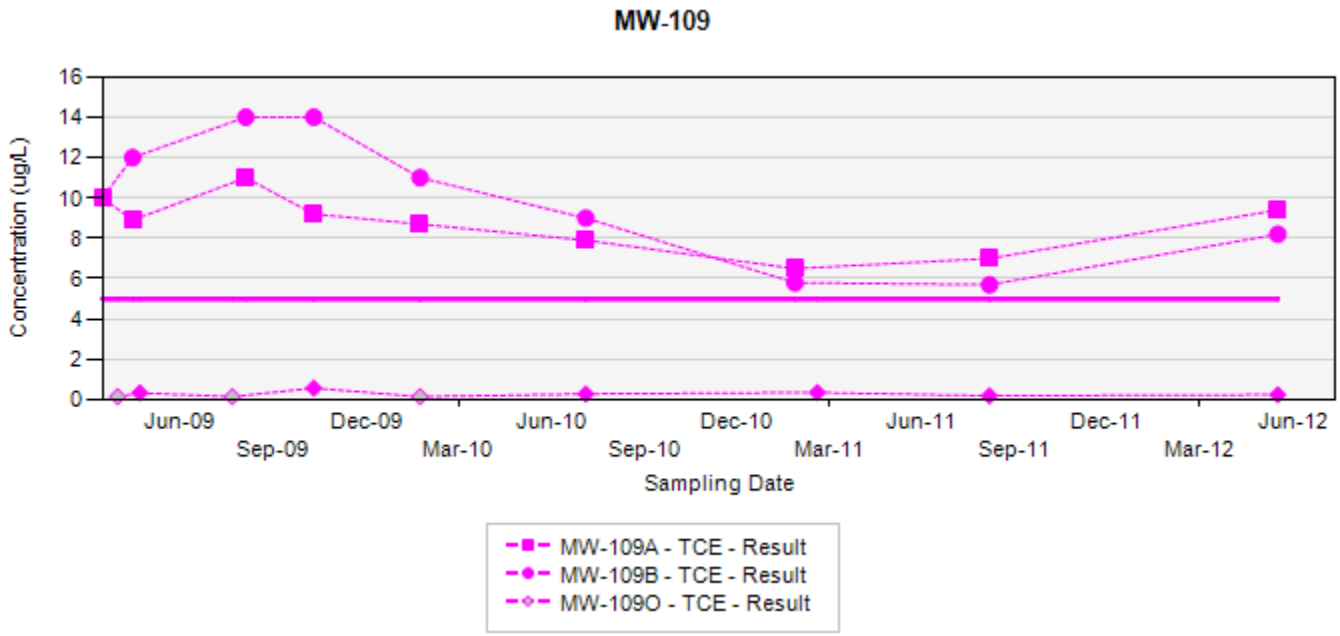

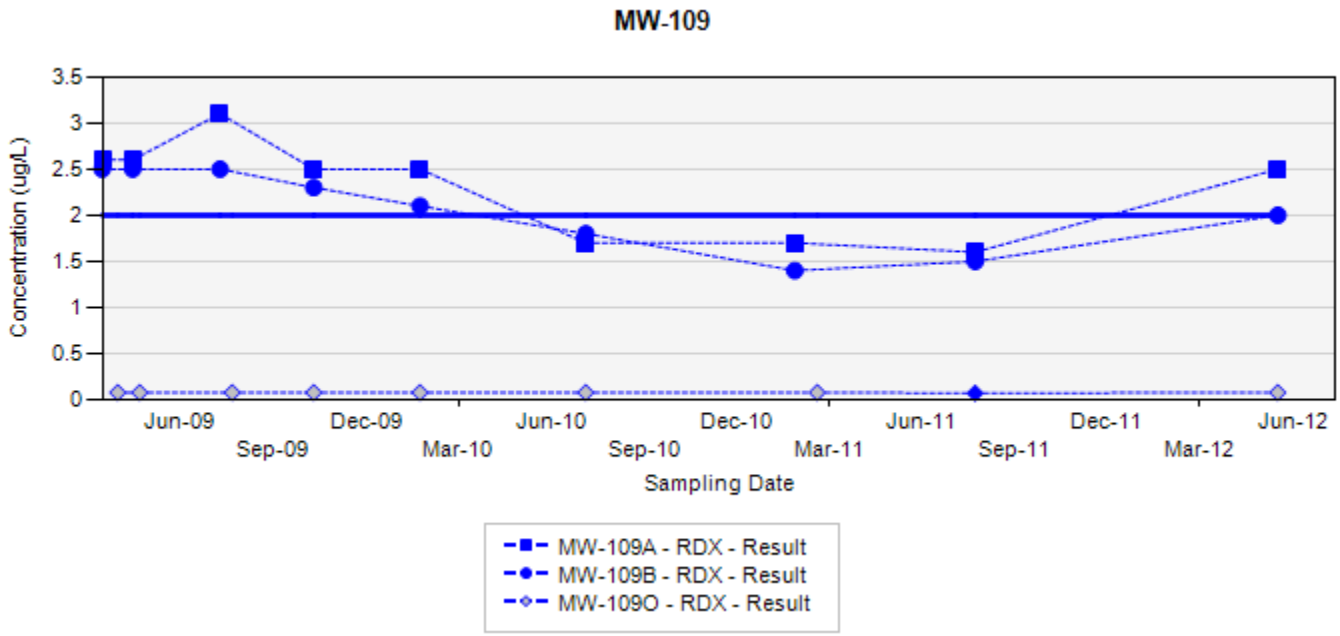

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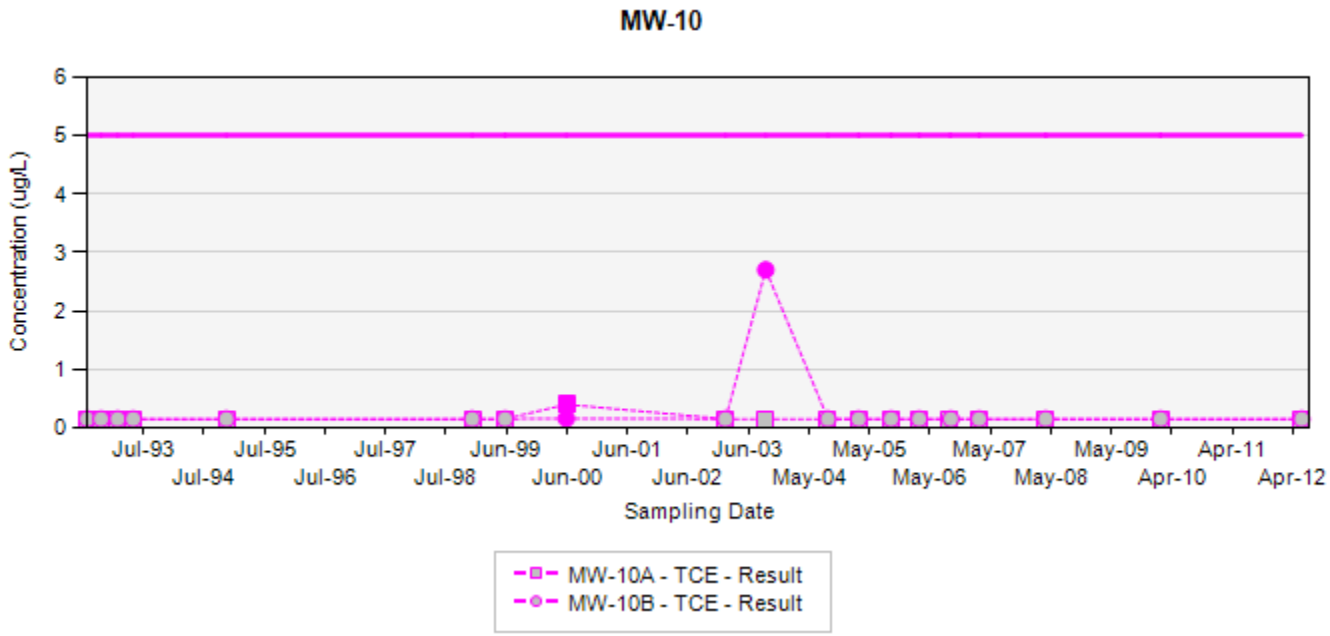

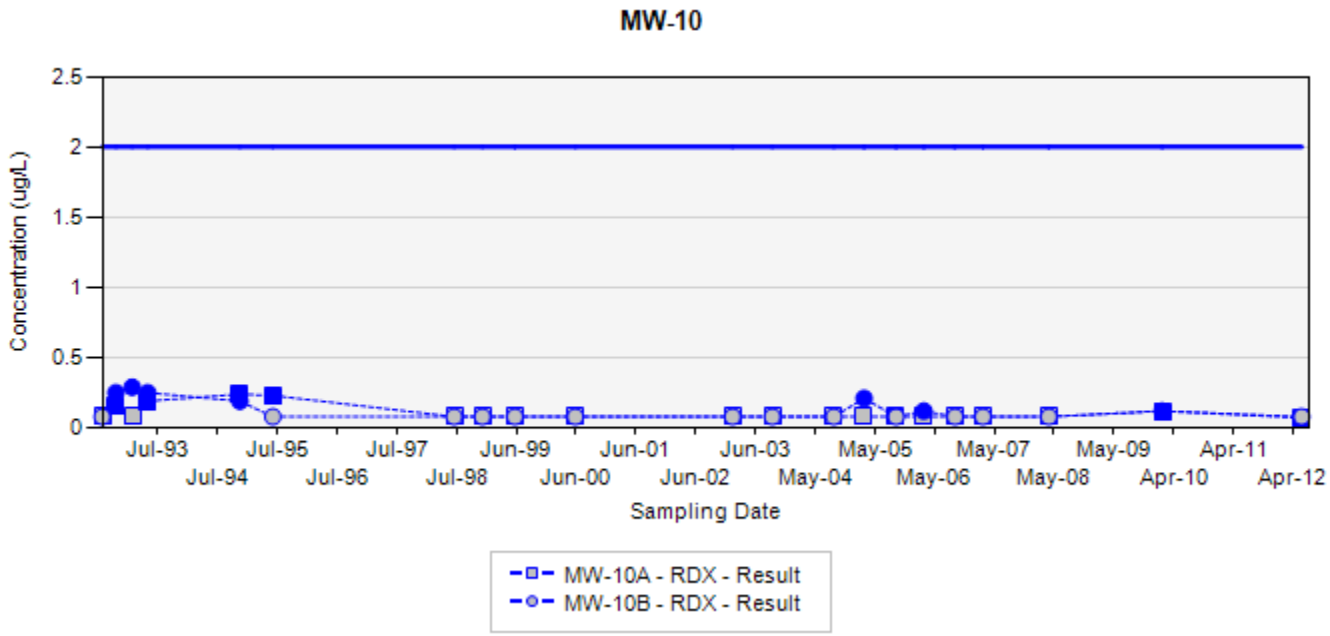

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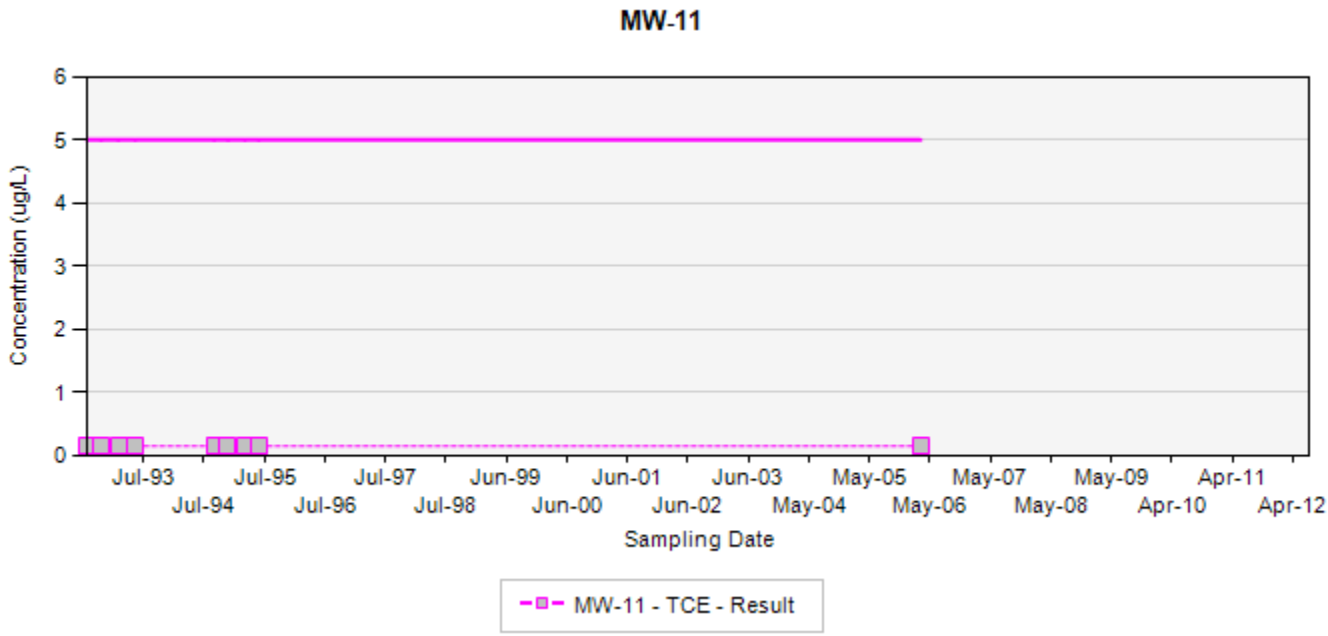

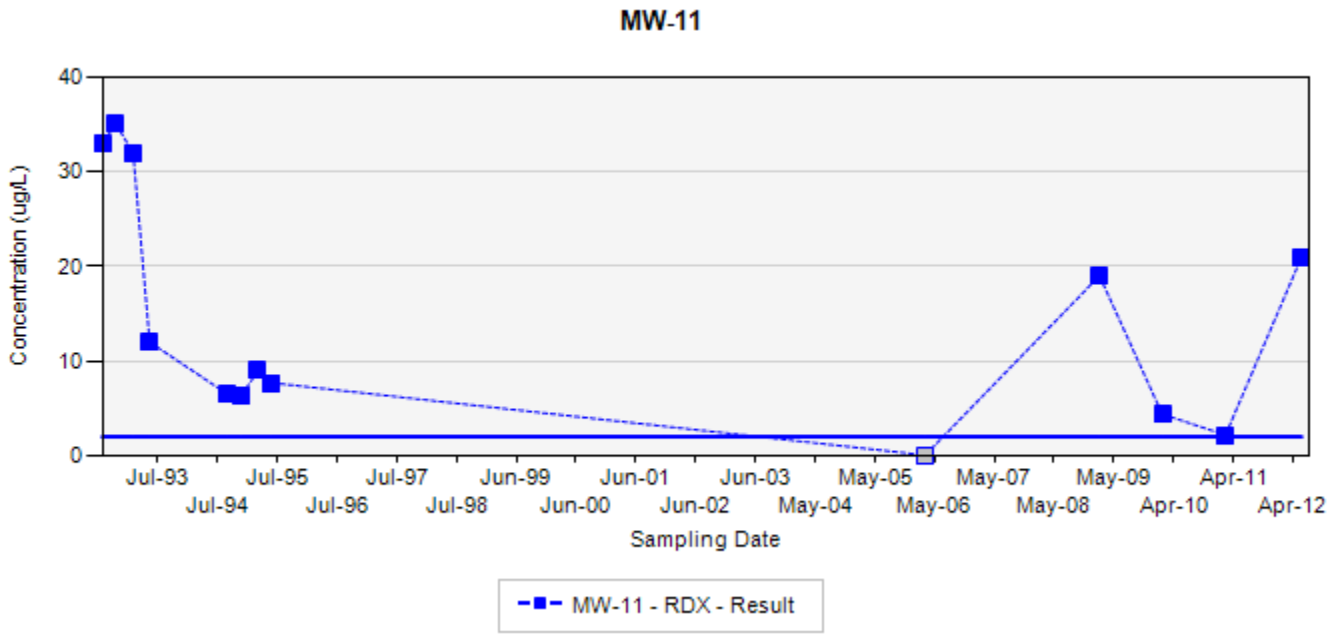

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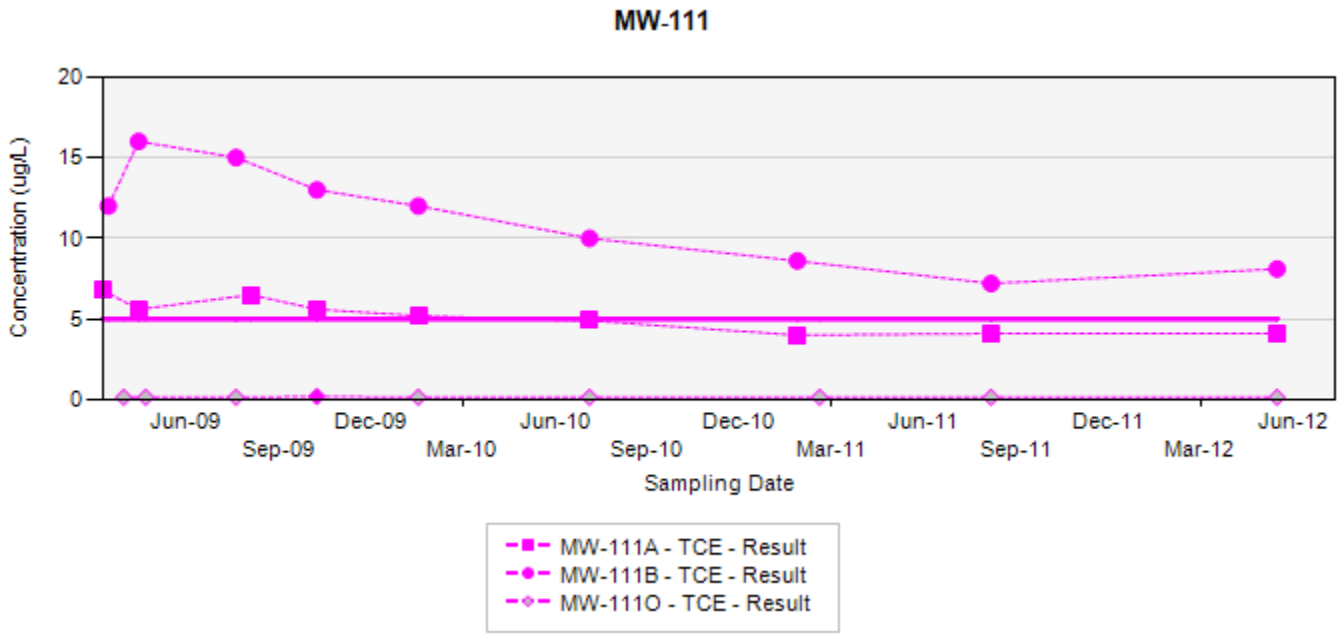
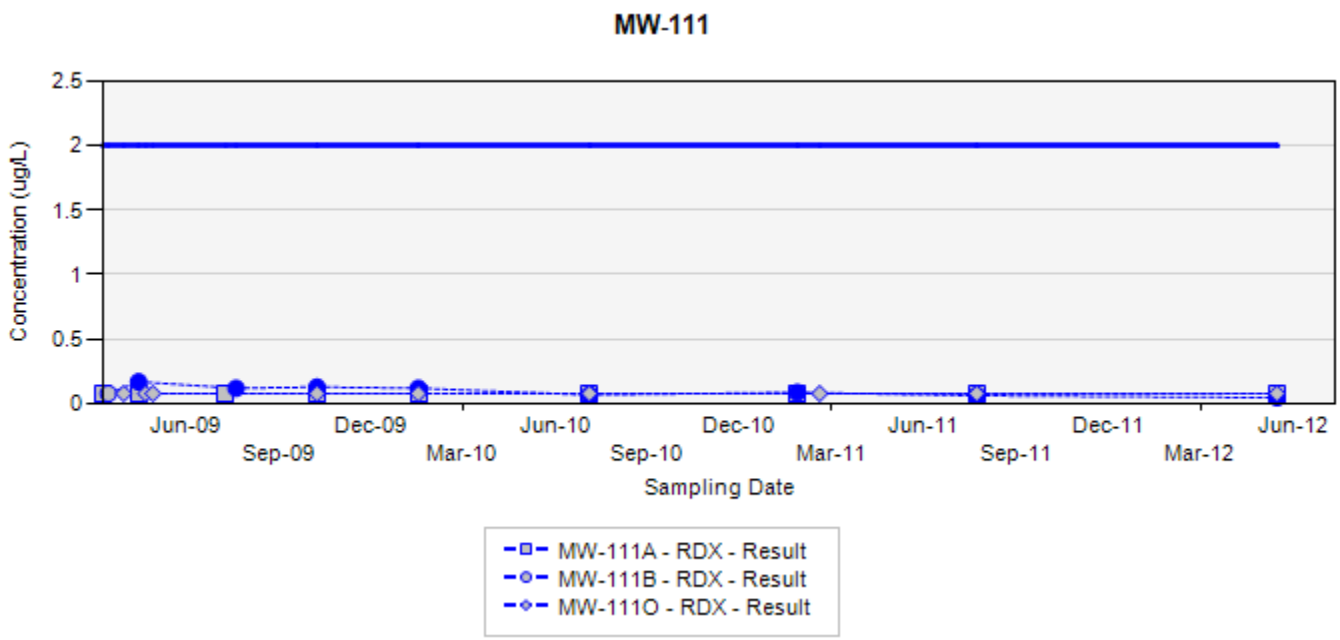
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
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Final Target Groundwater Cleanup Goals for TCE is 5 ug/L
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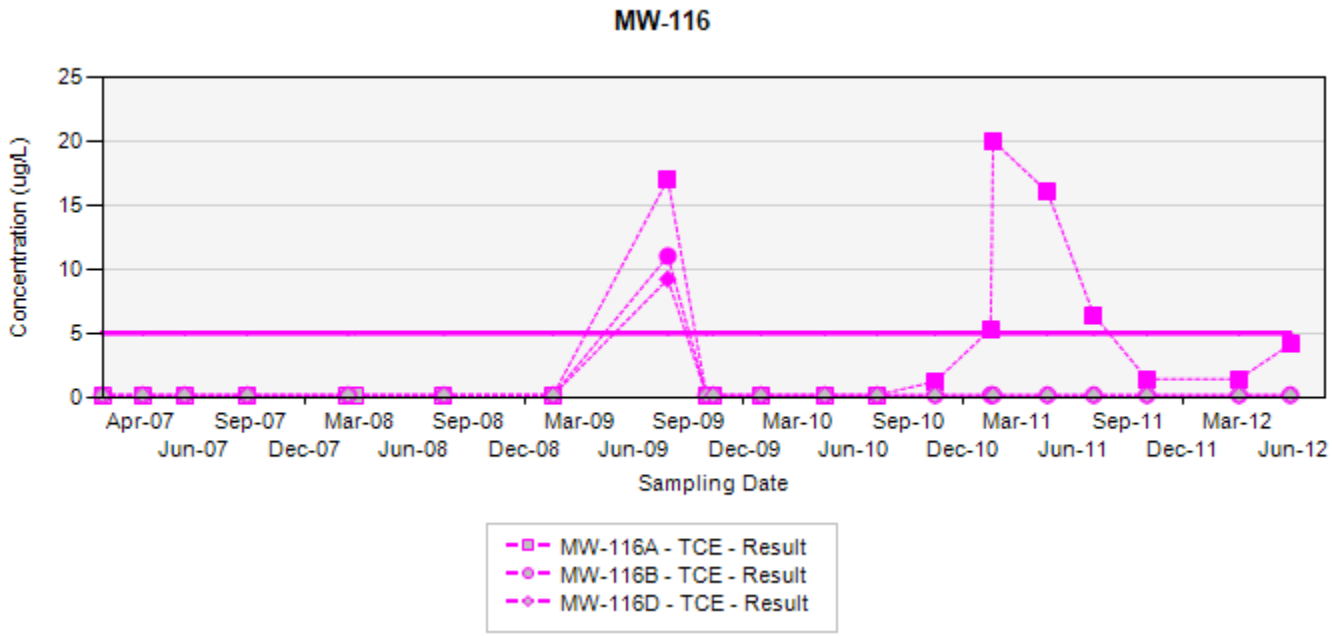

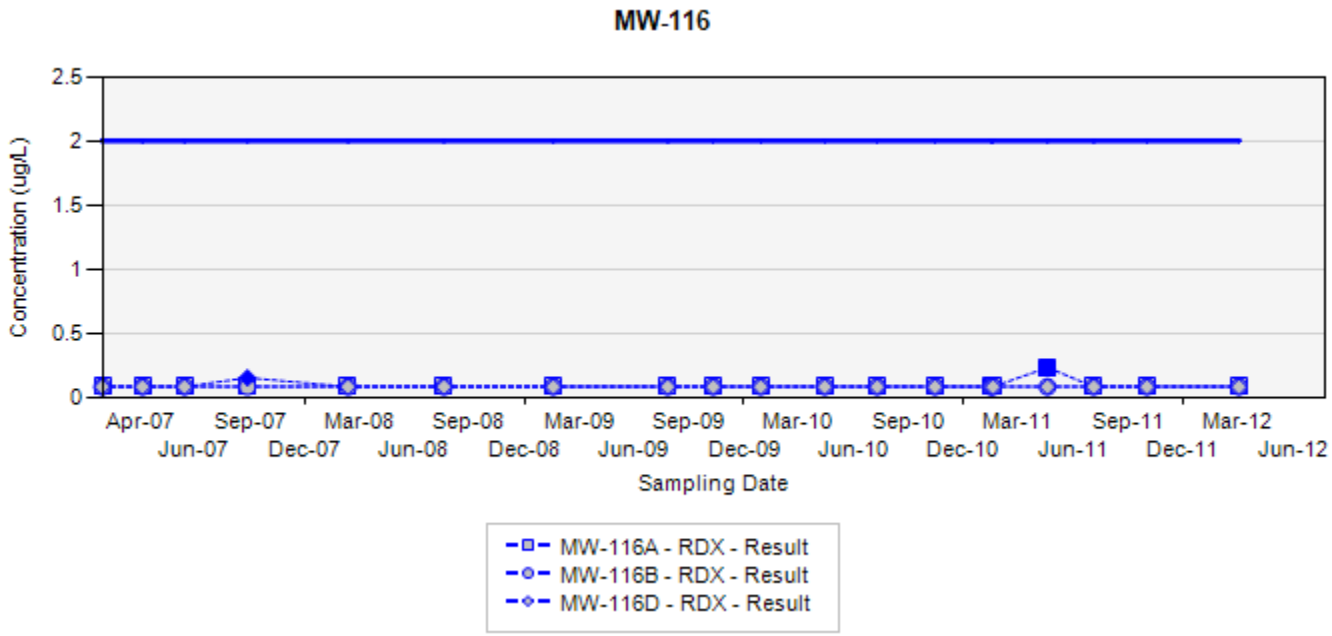

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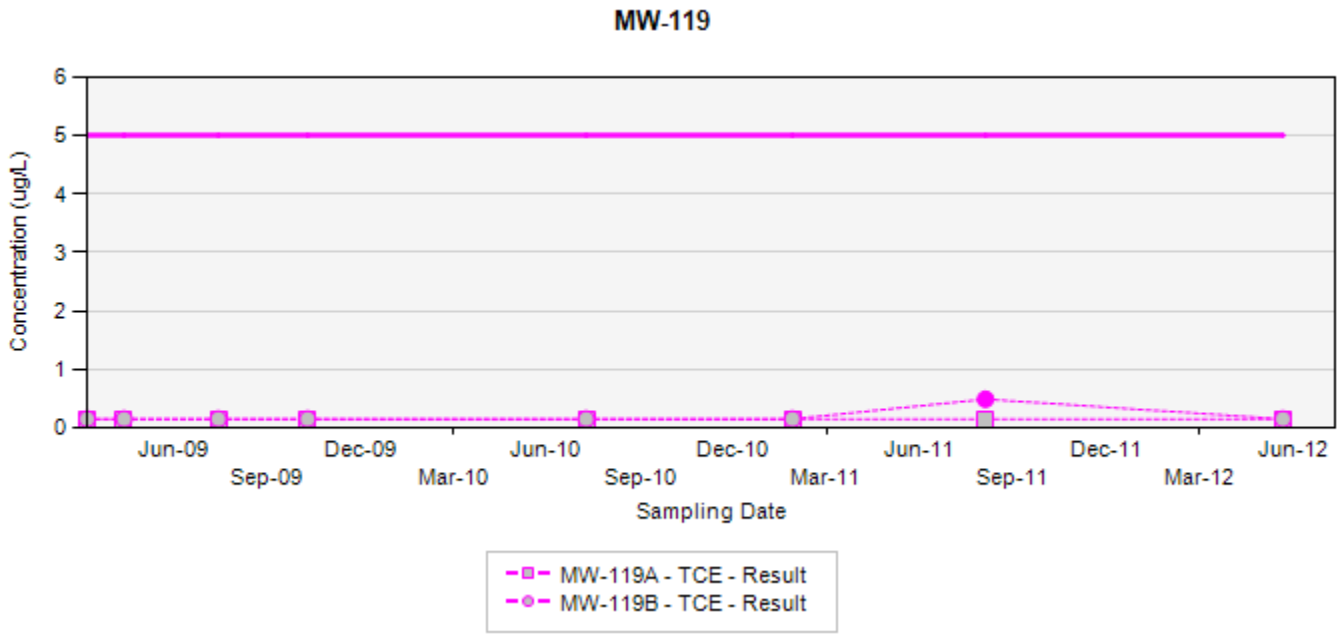

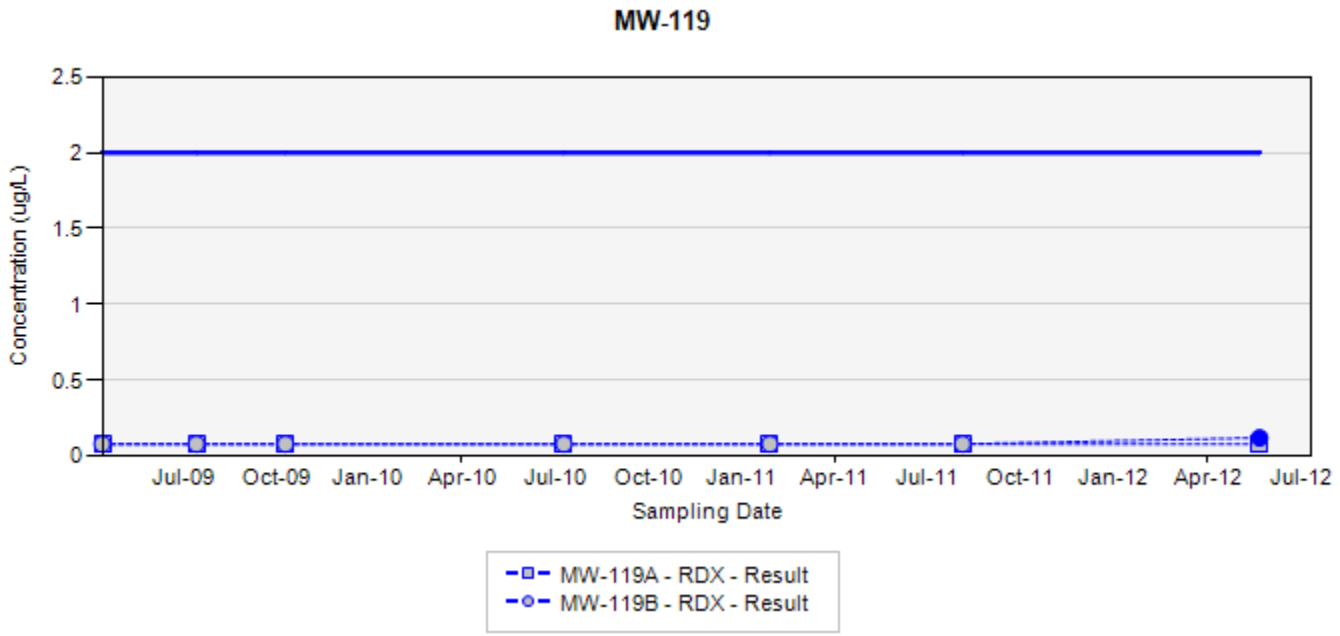

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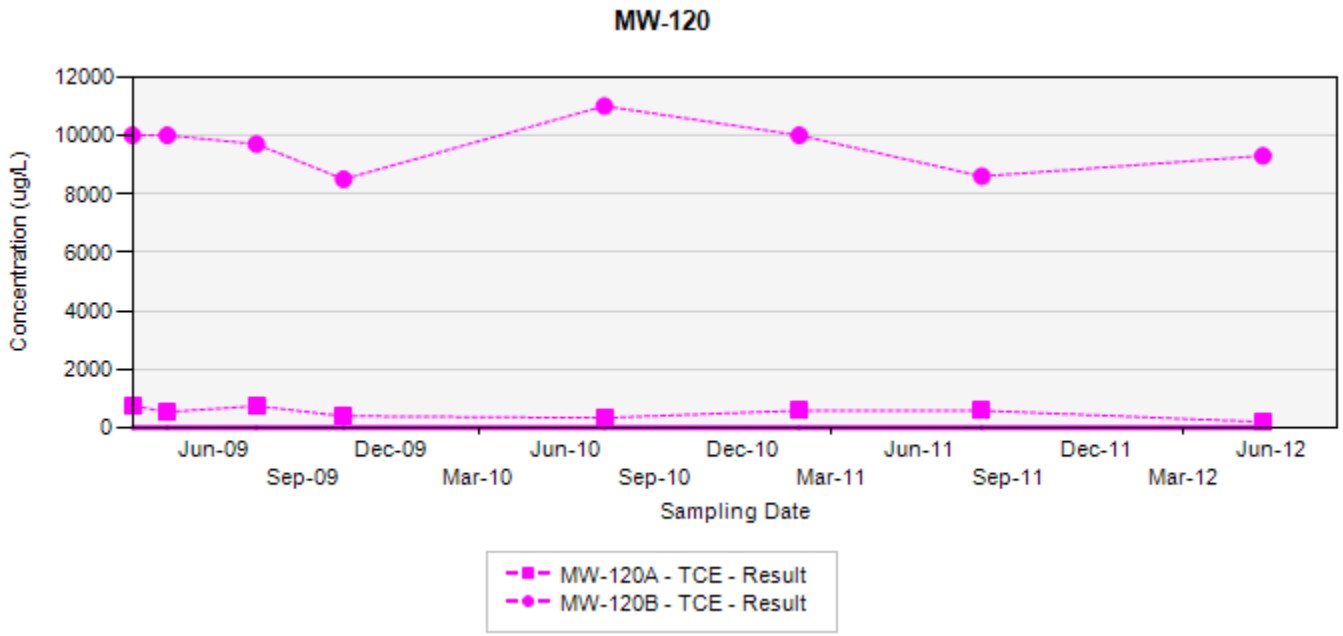

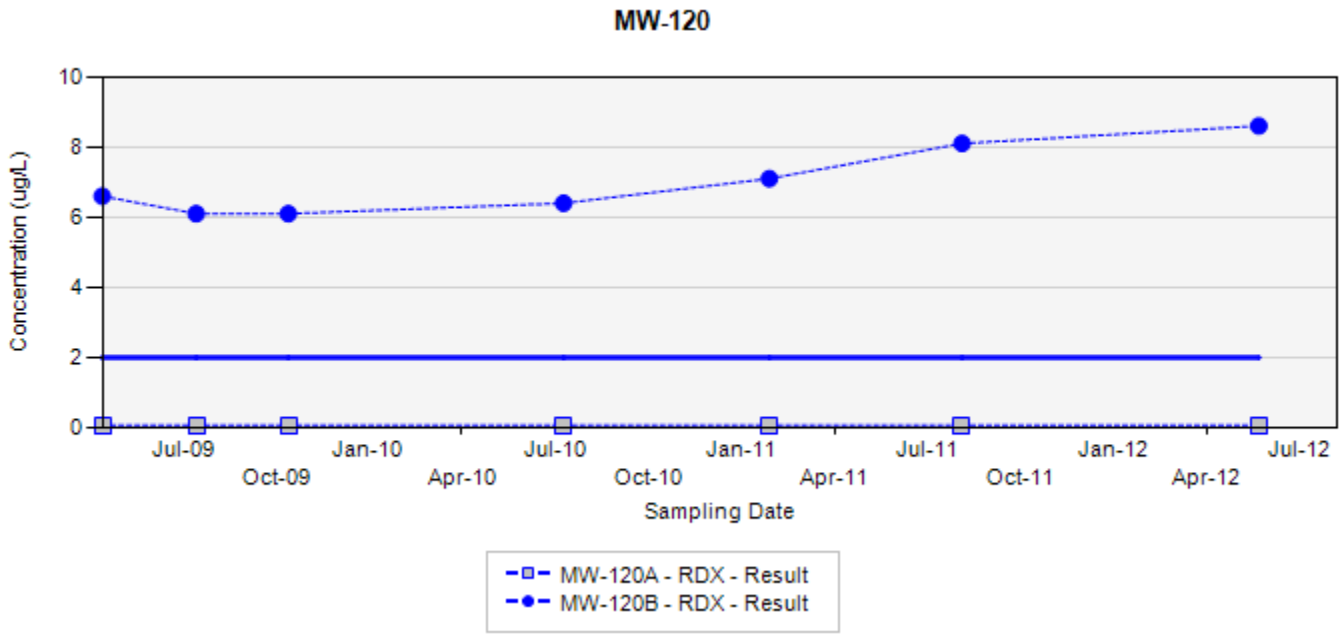

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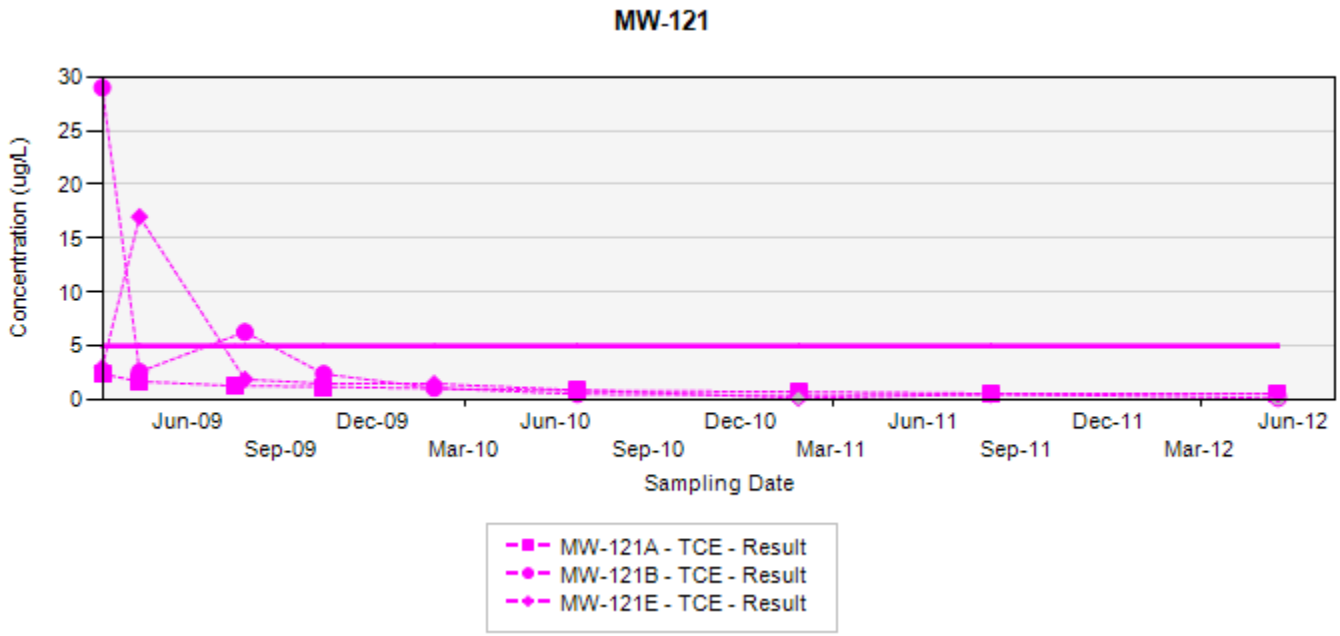

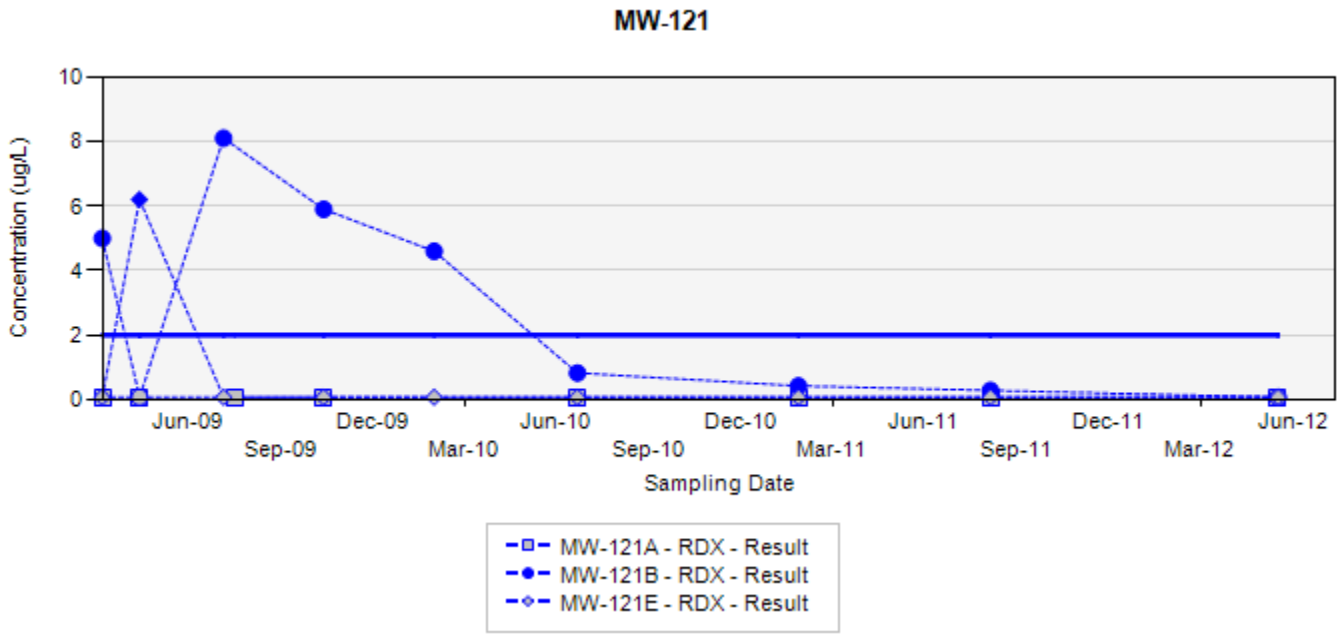

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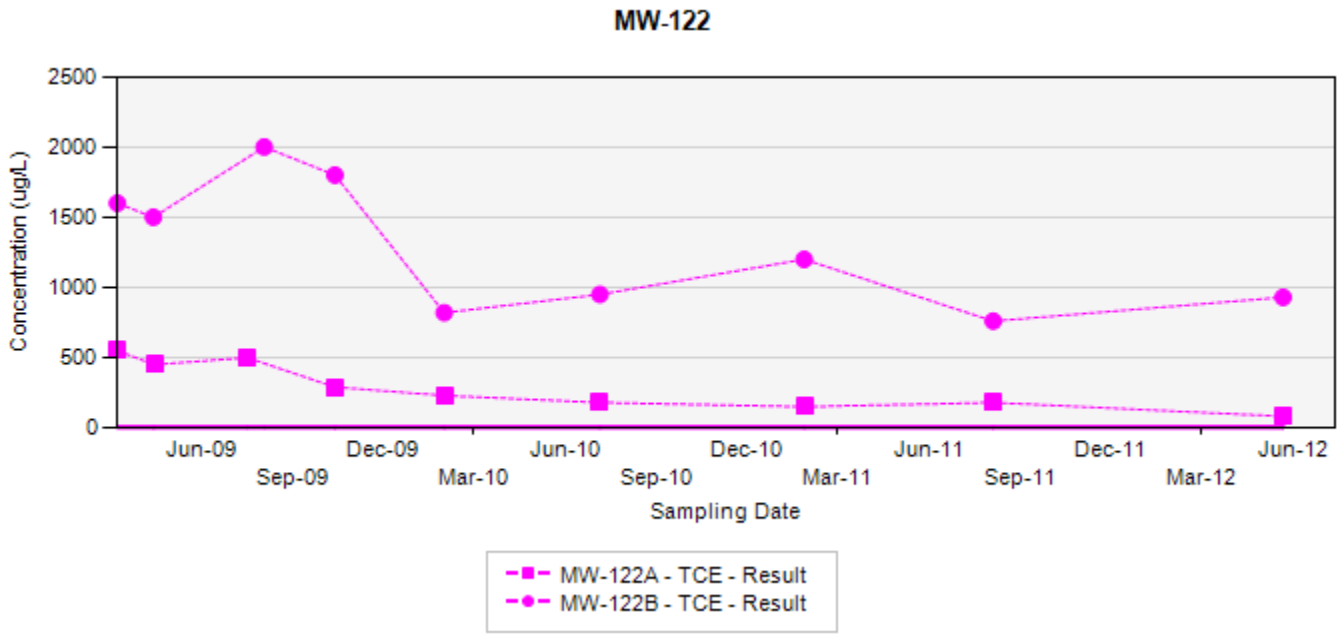

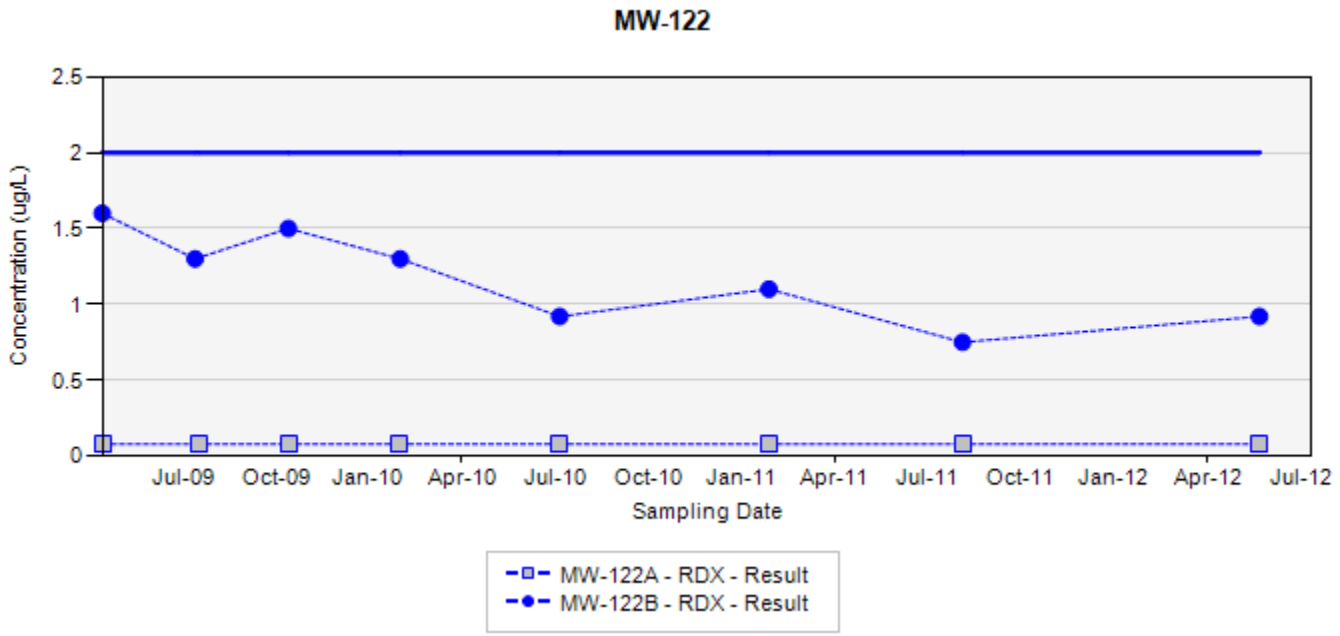

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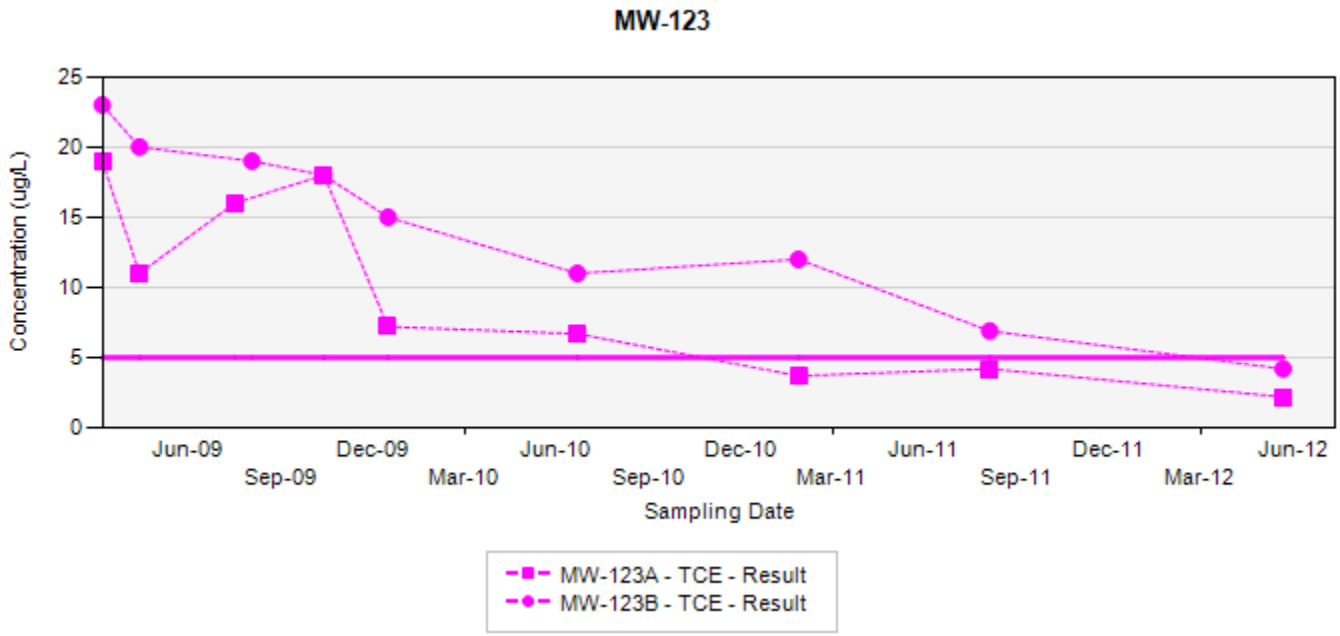

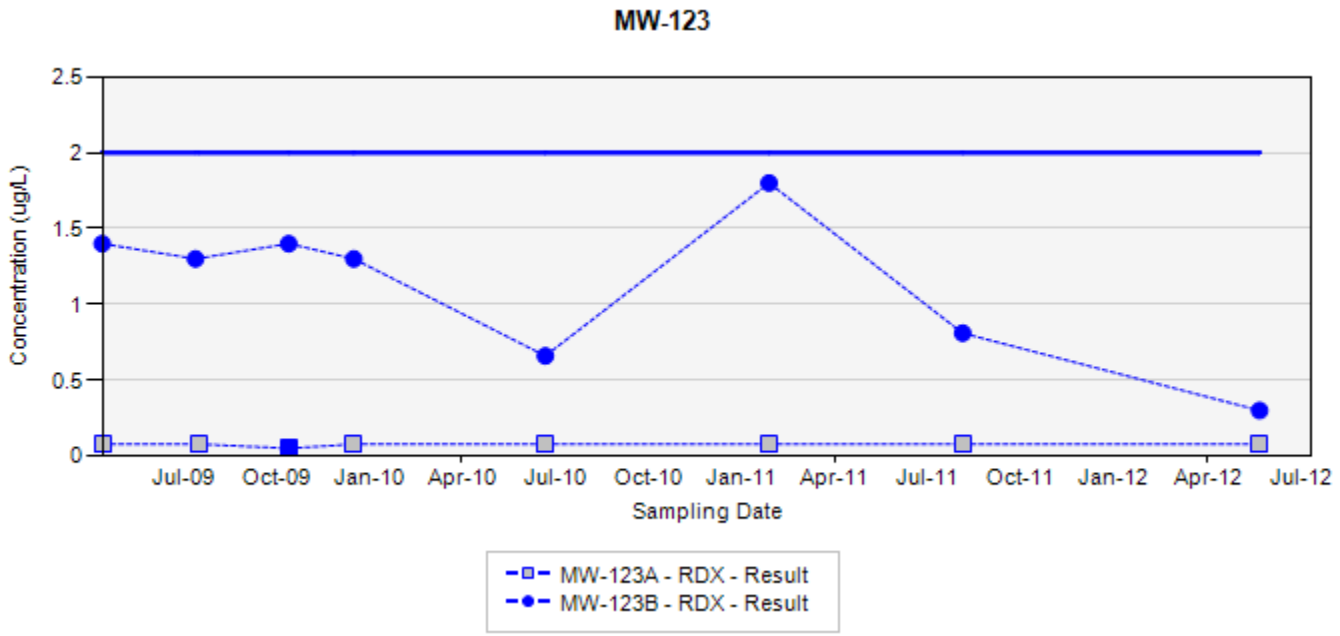

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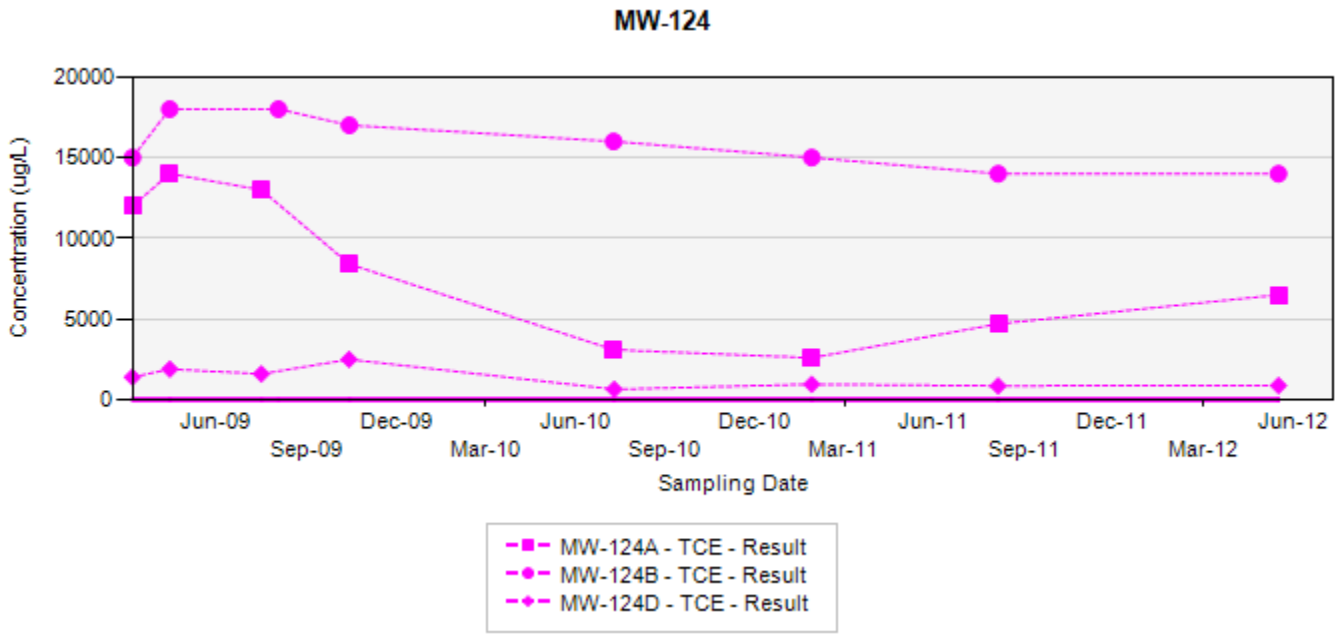

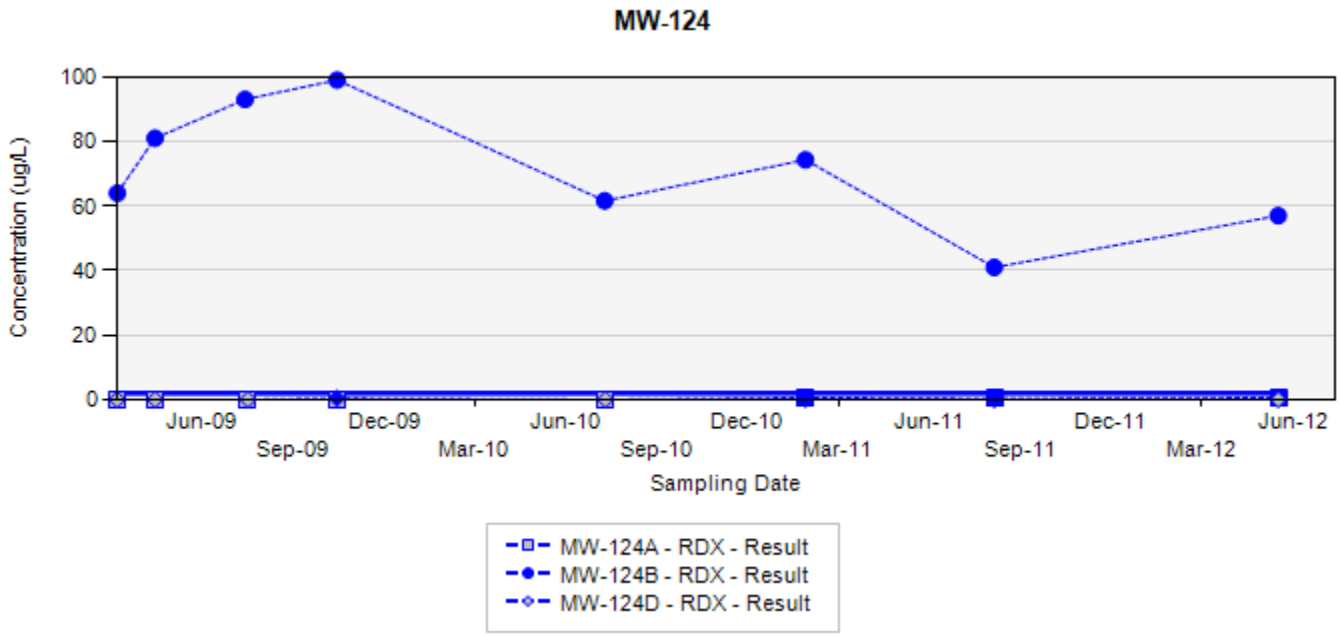

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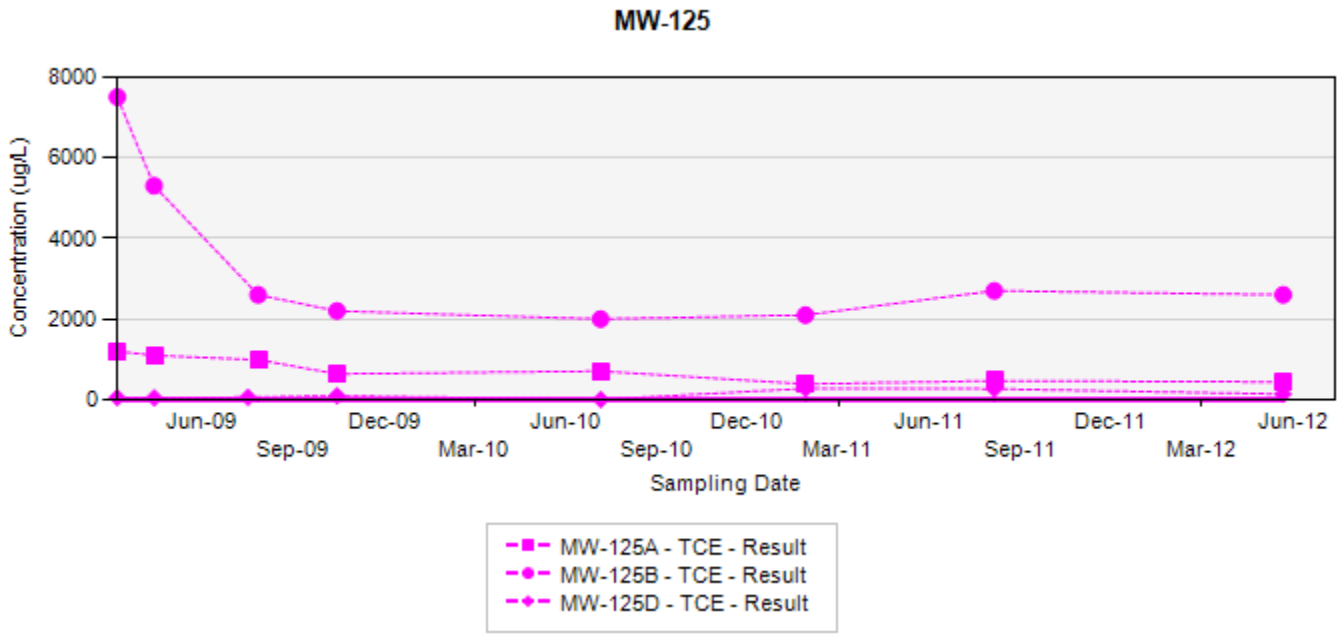

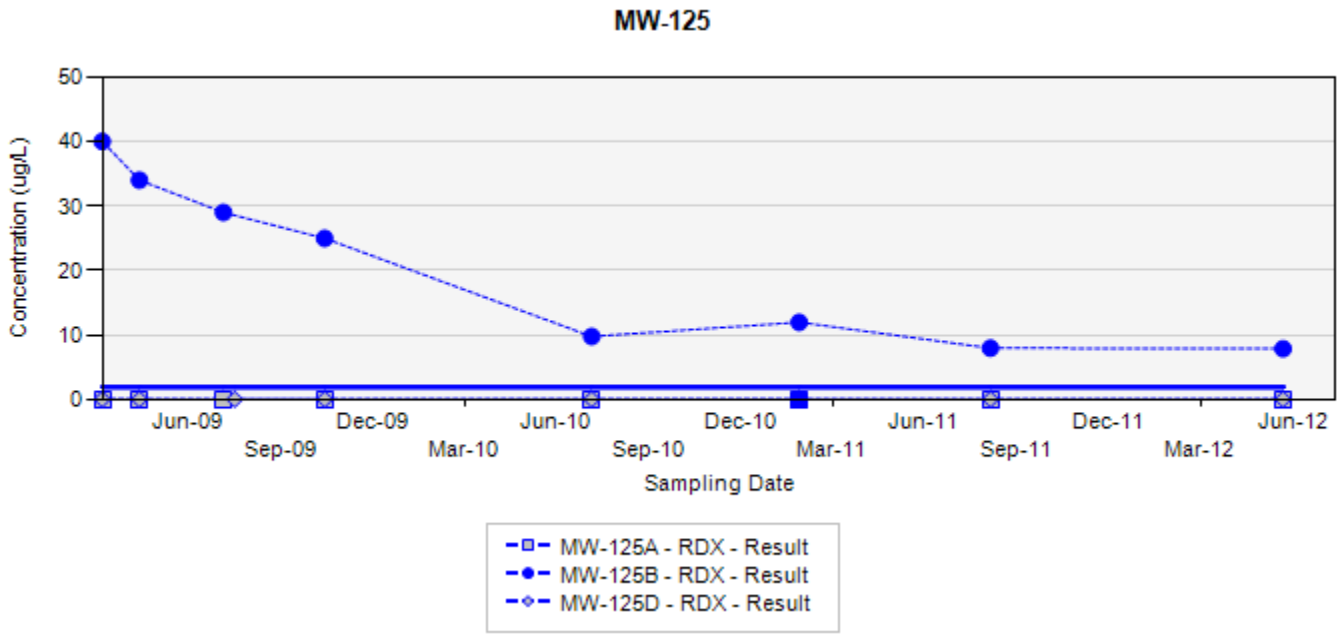

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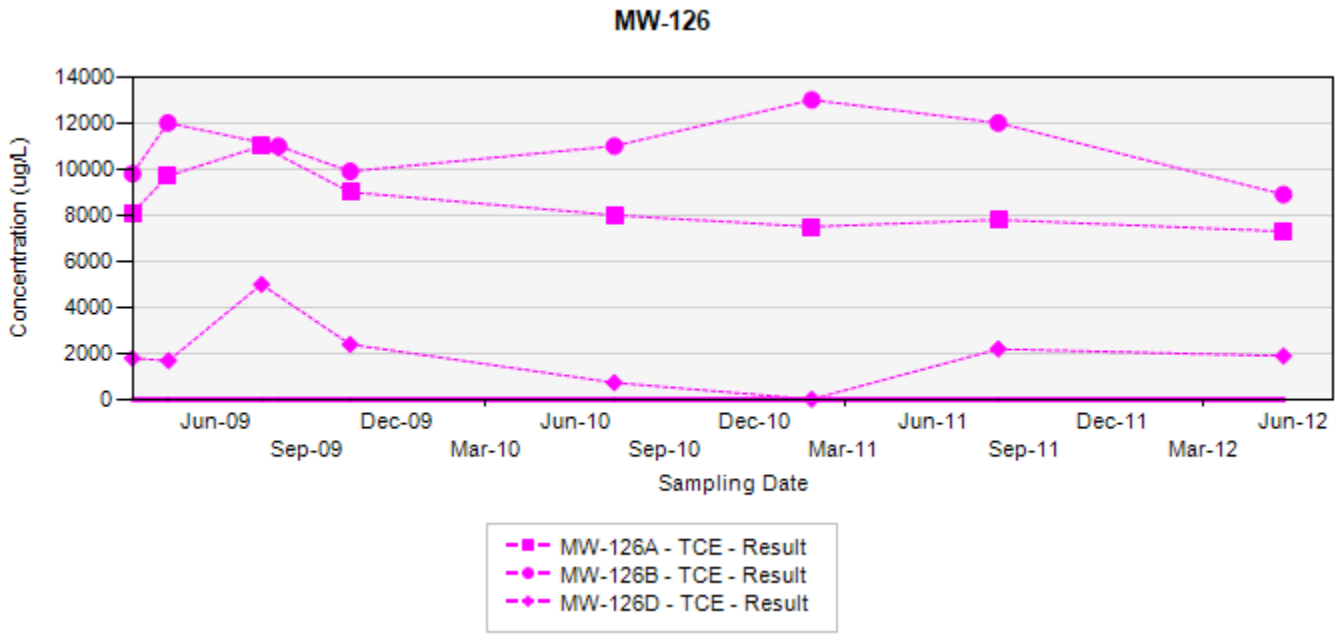

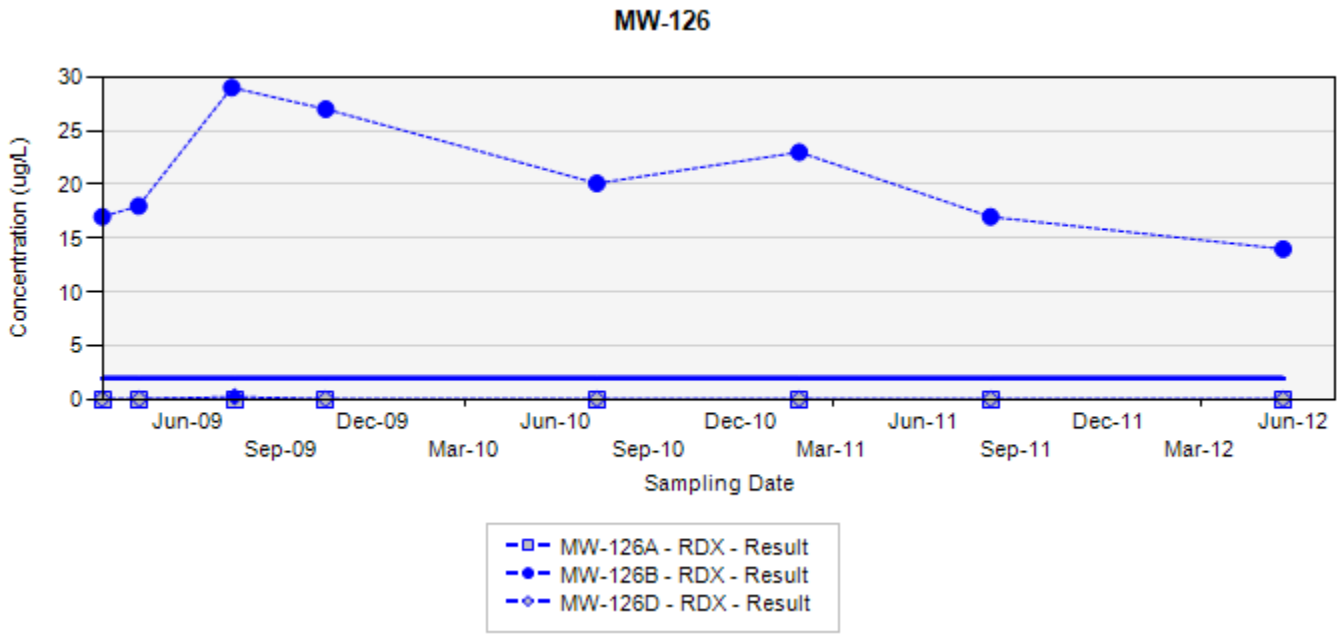

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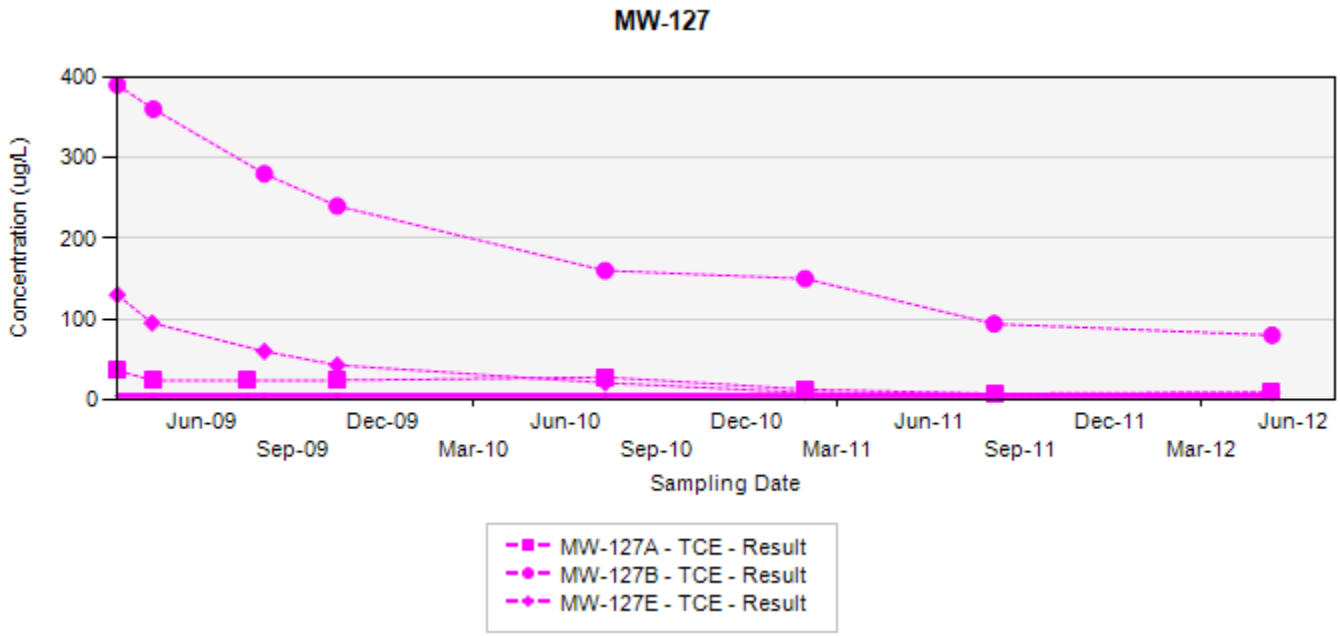

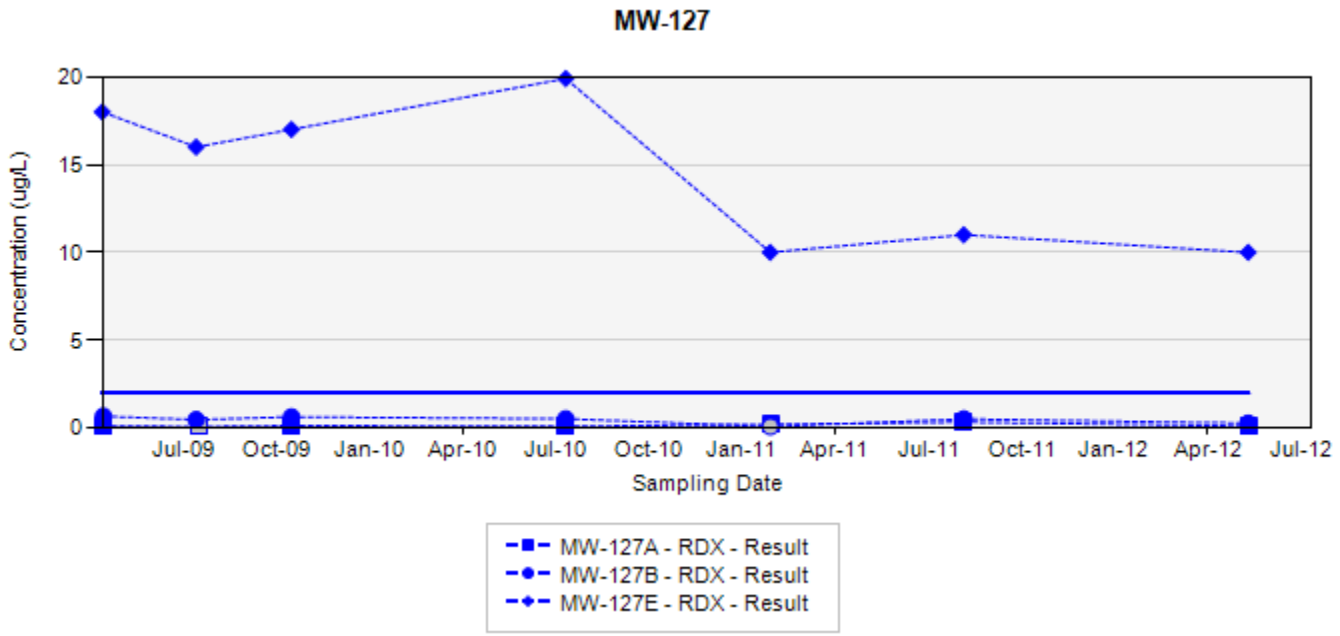

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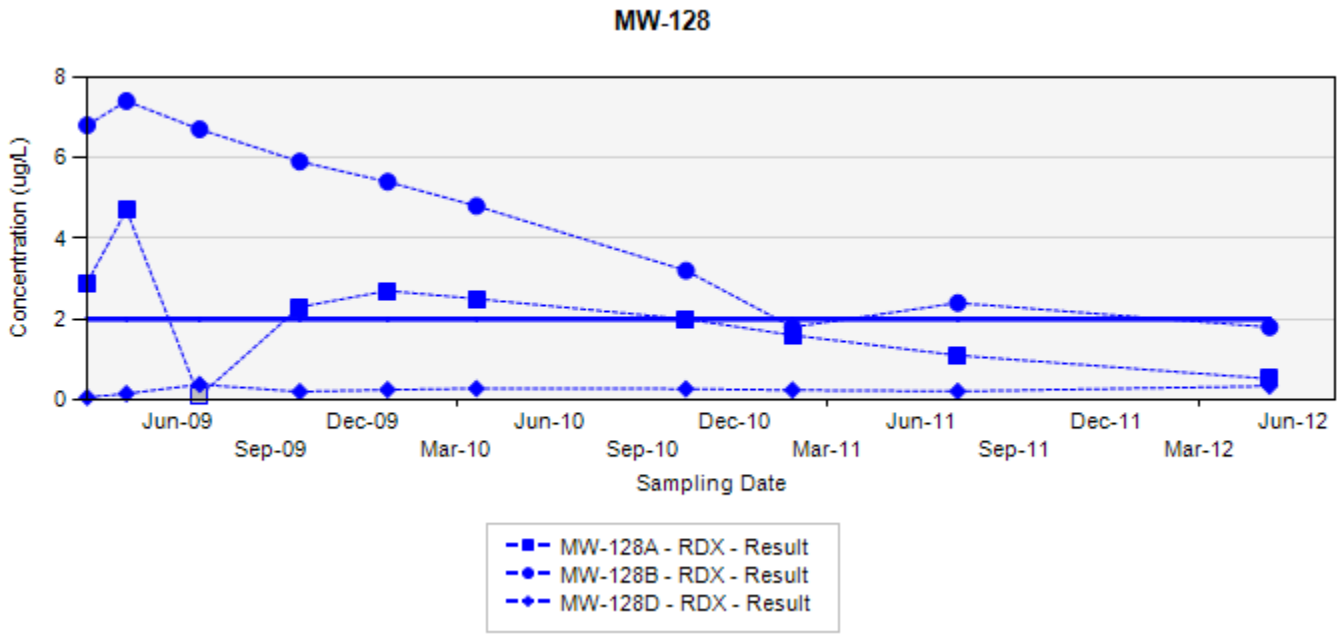

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
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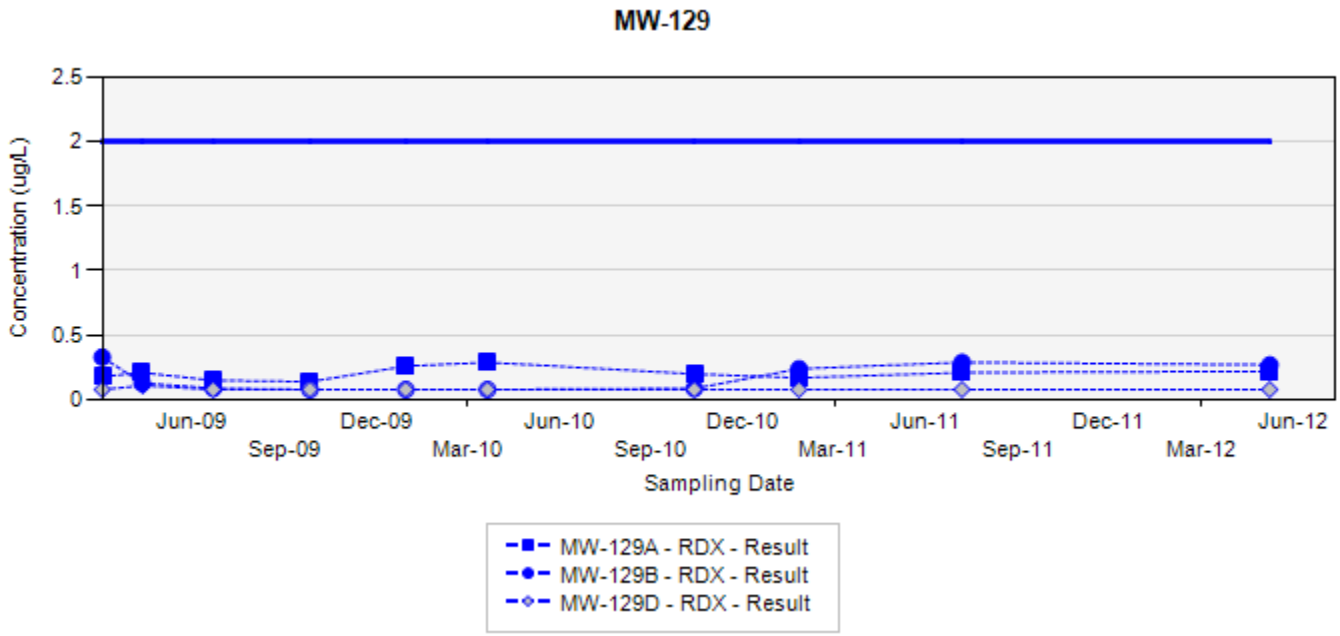

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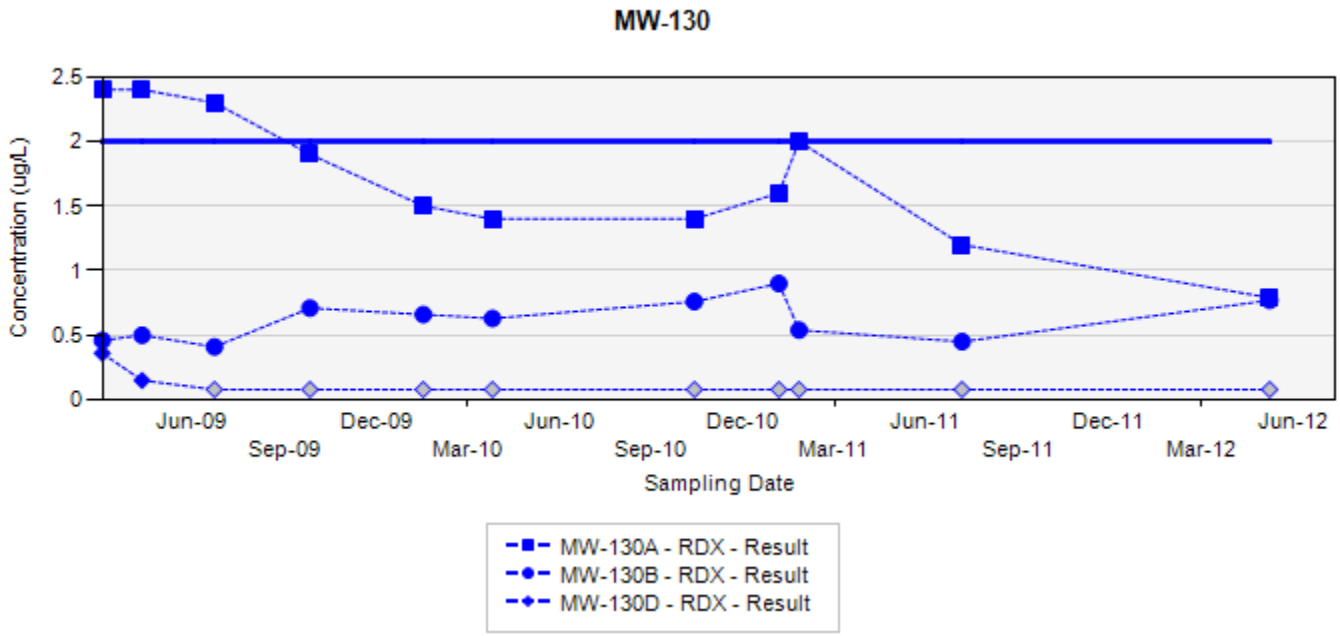

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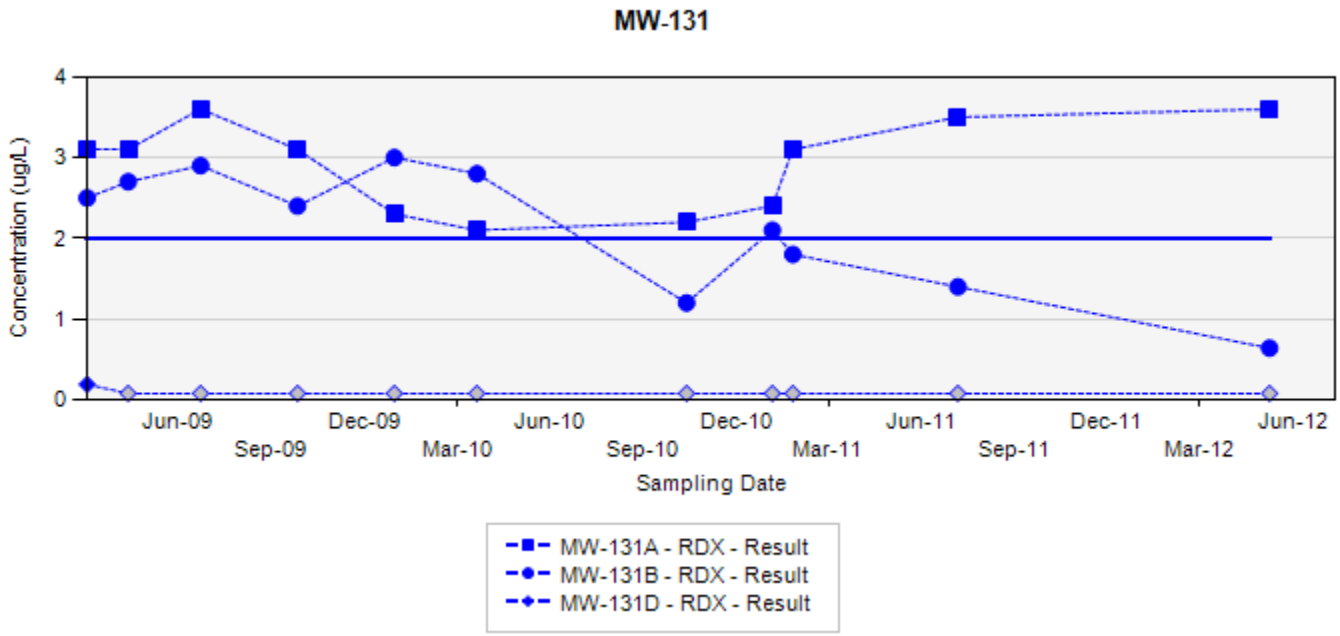

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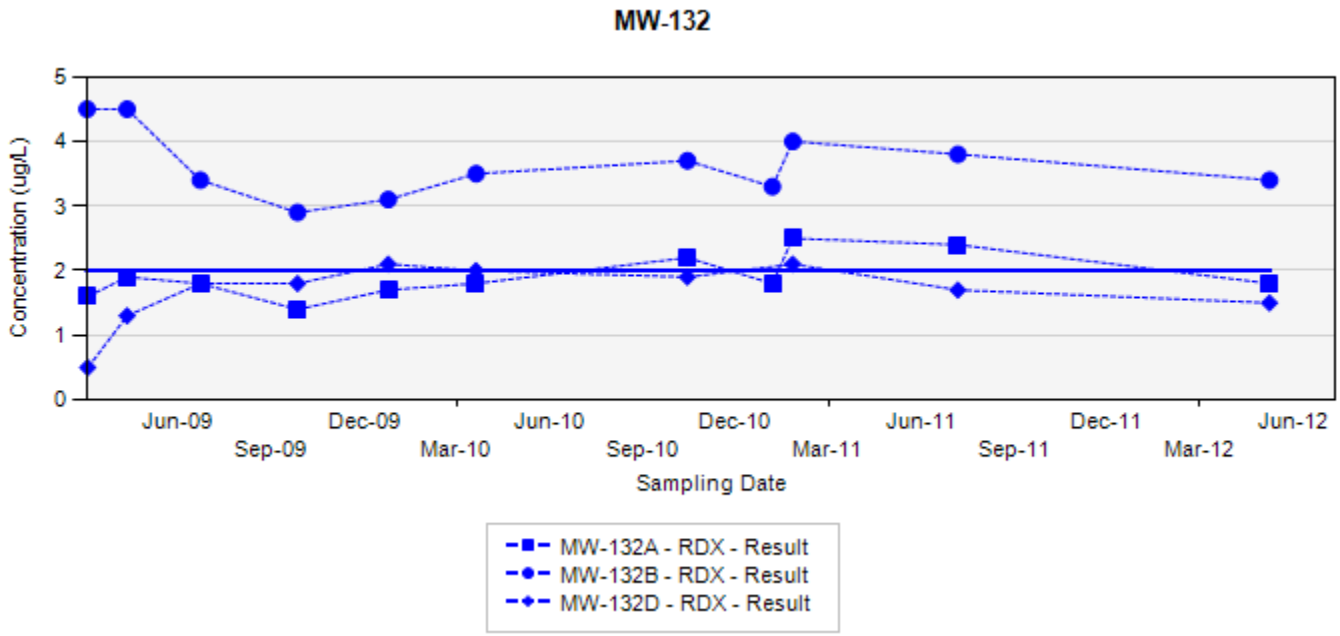

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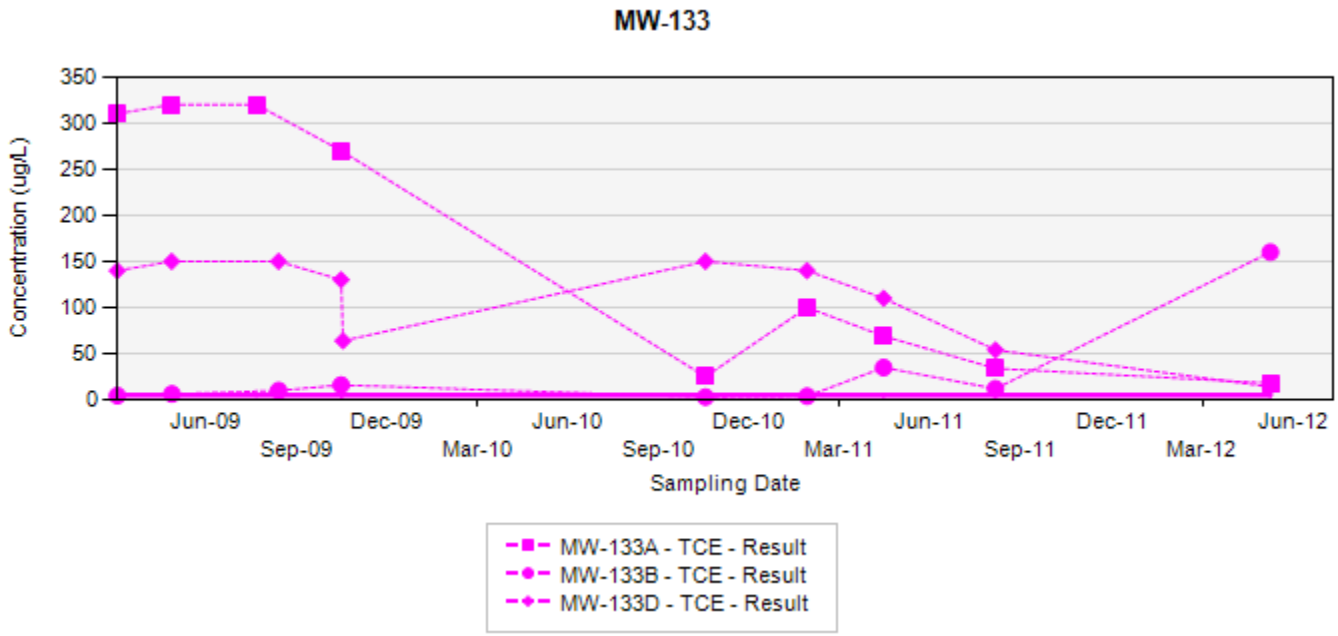

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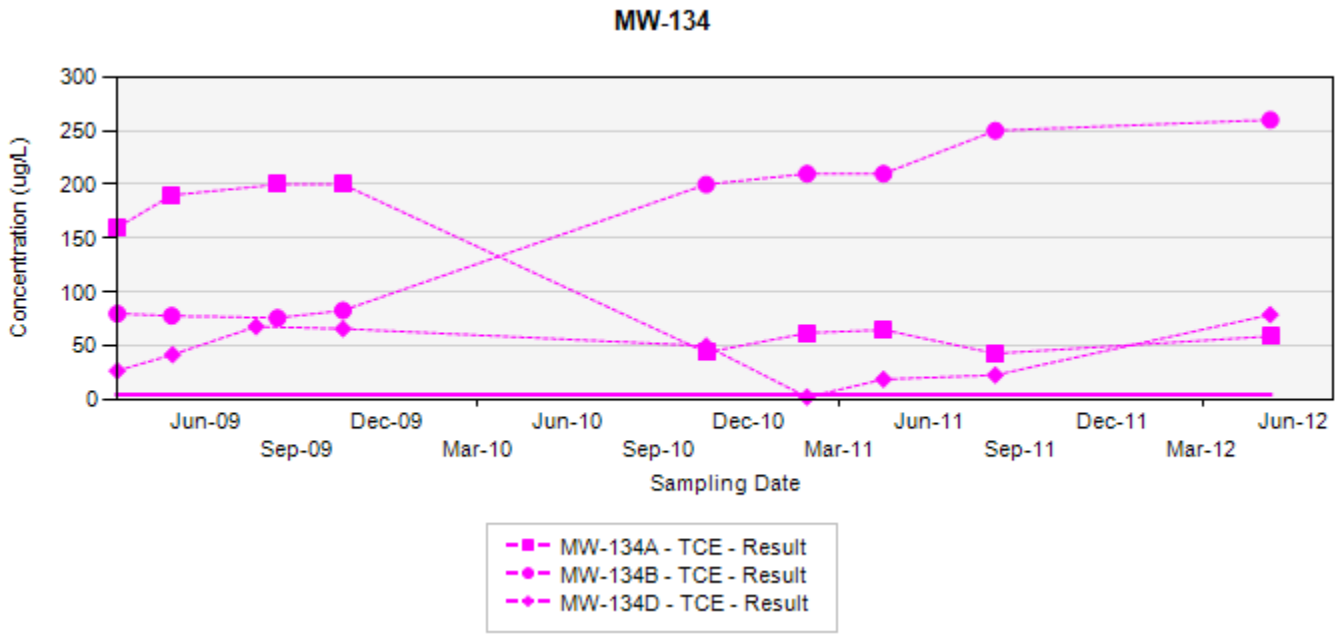

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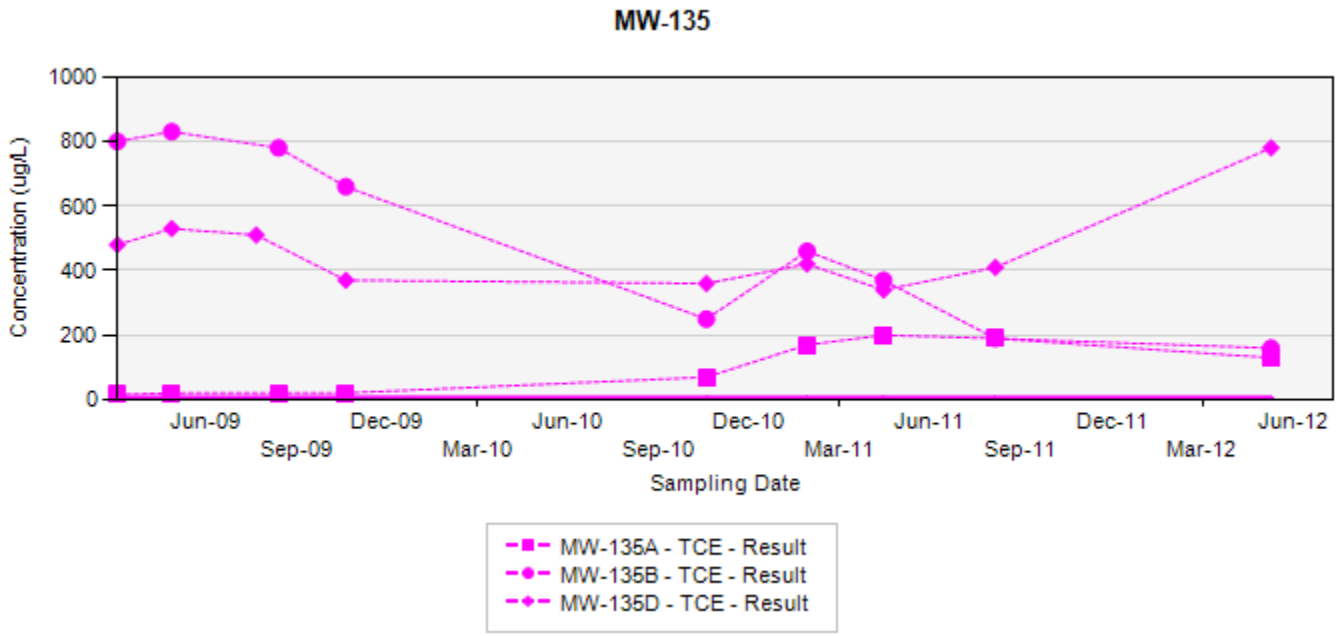

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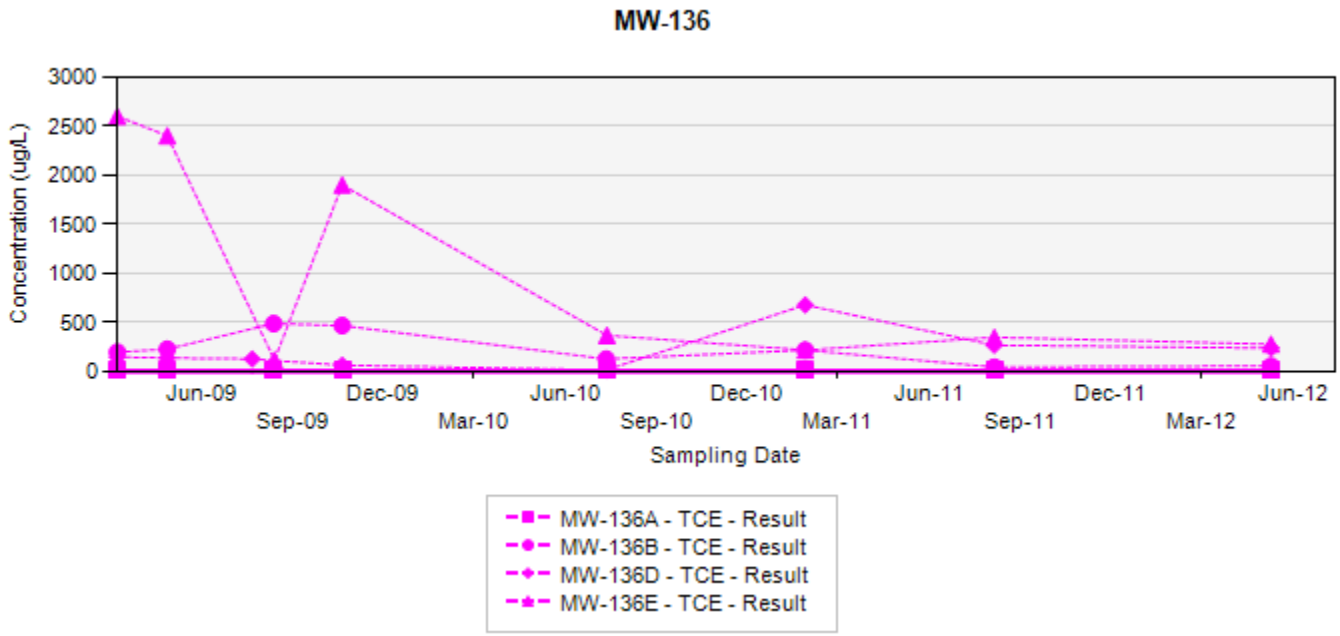

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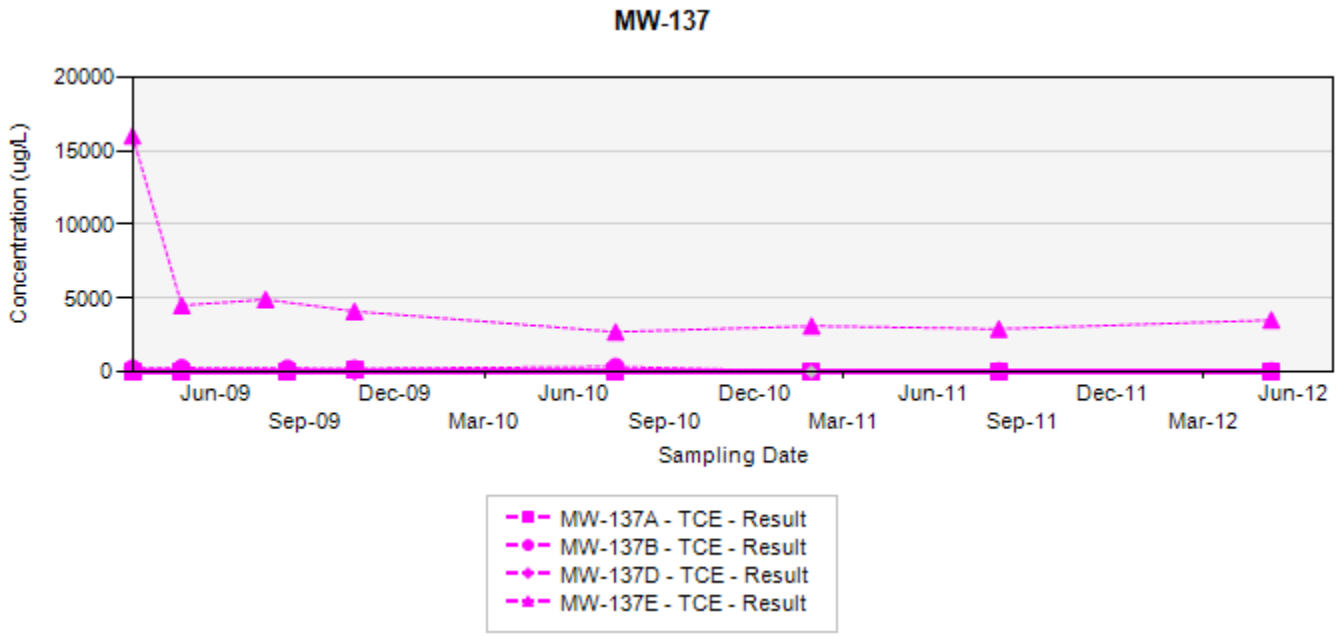

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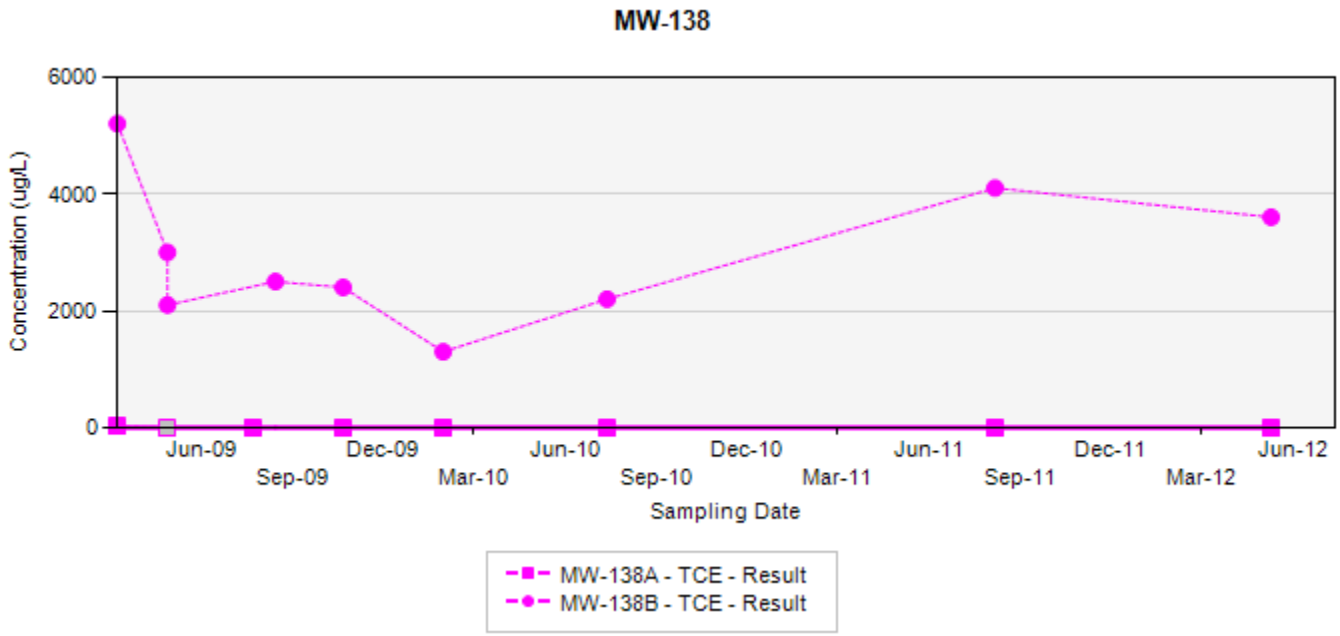

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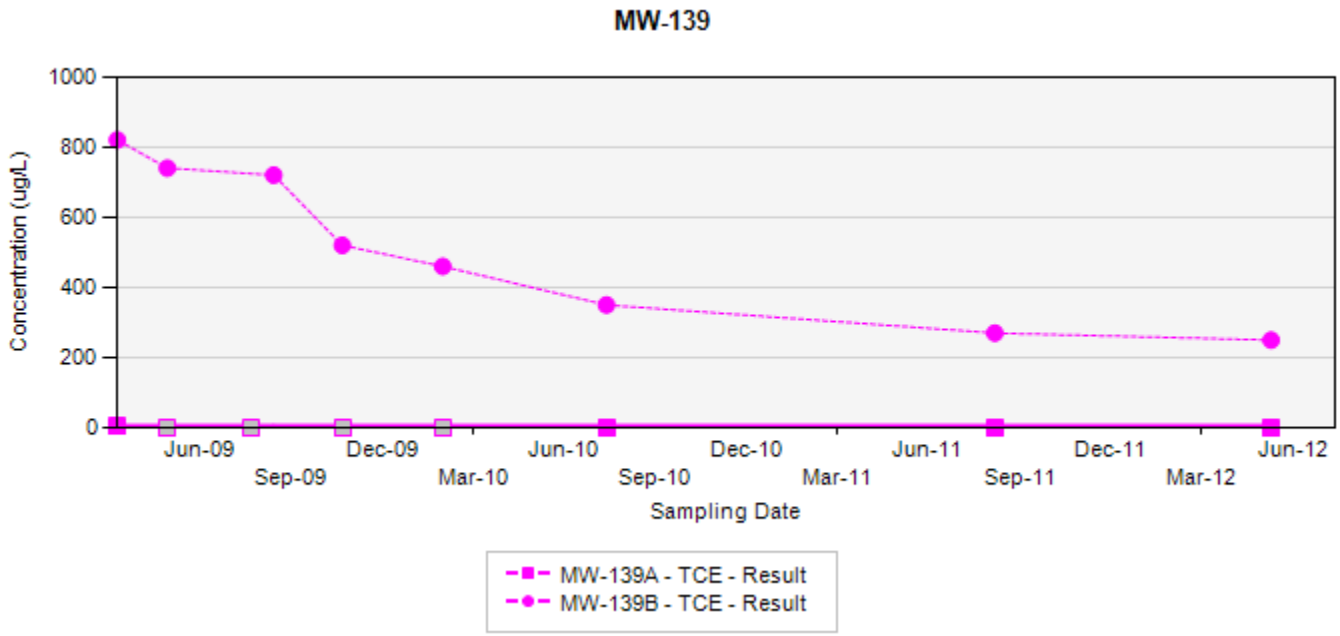

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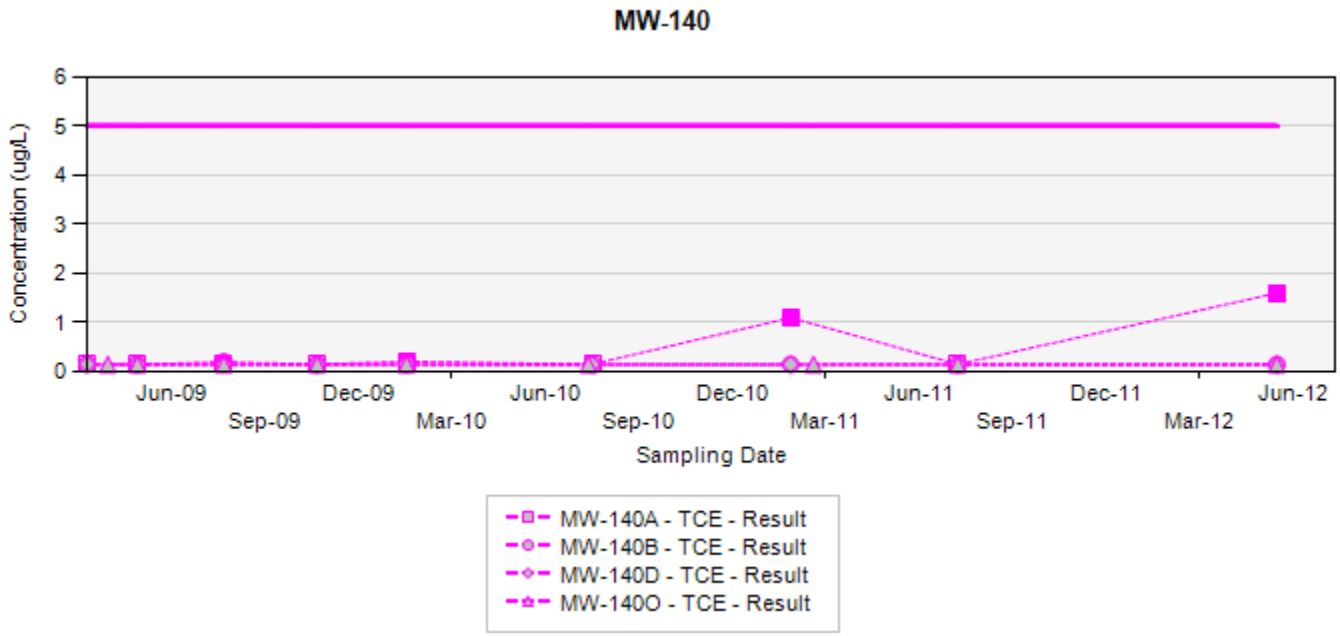

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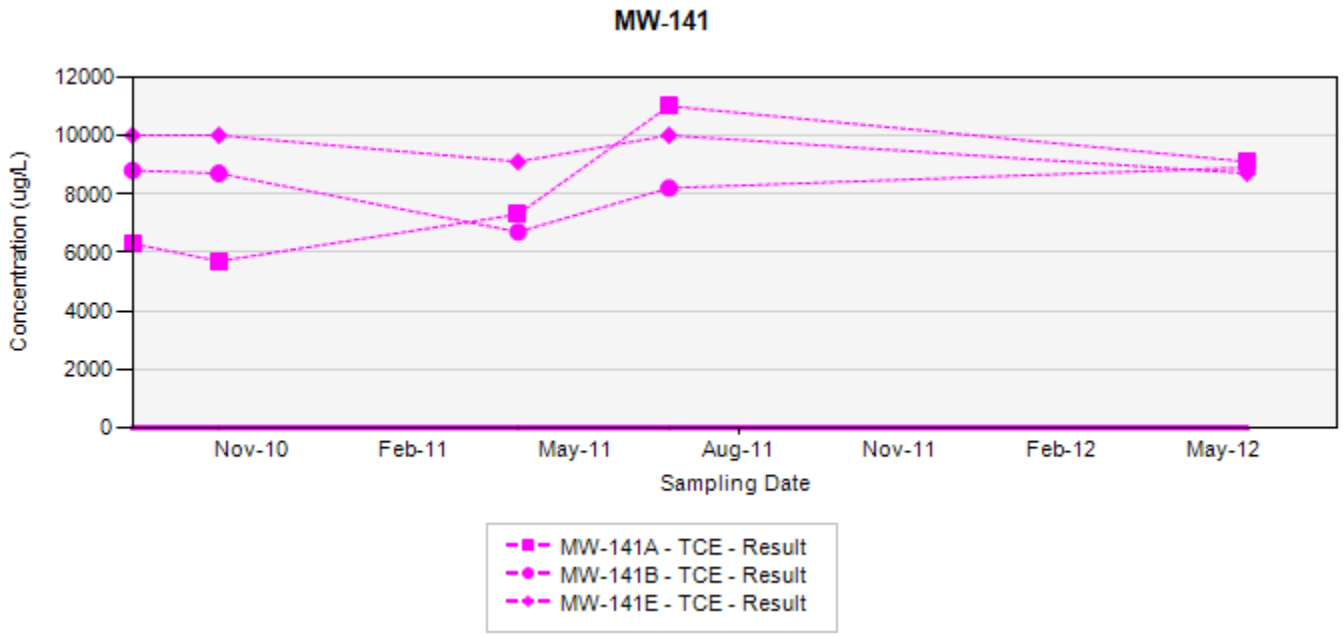

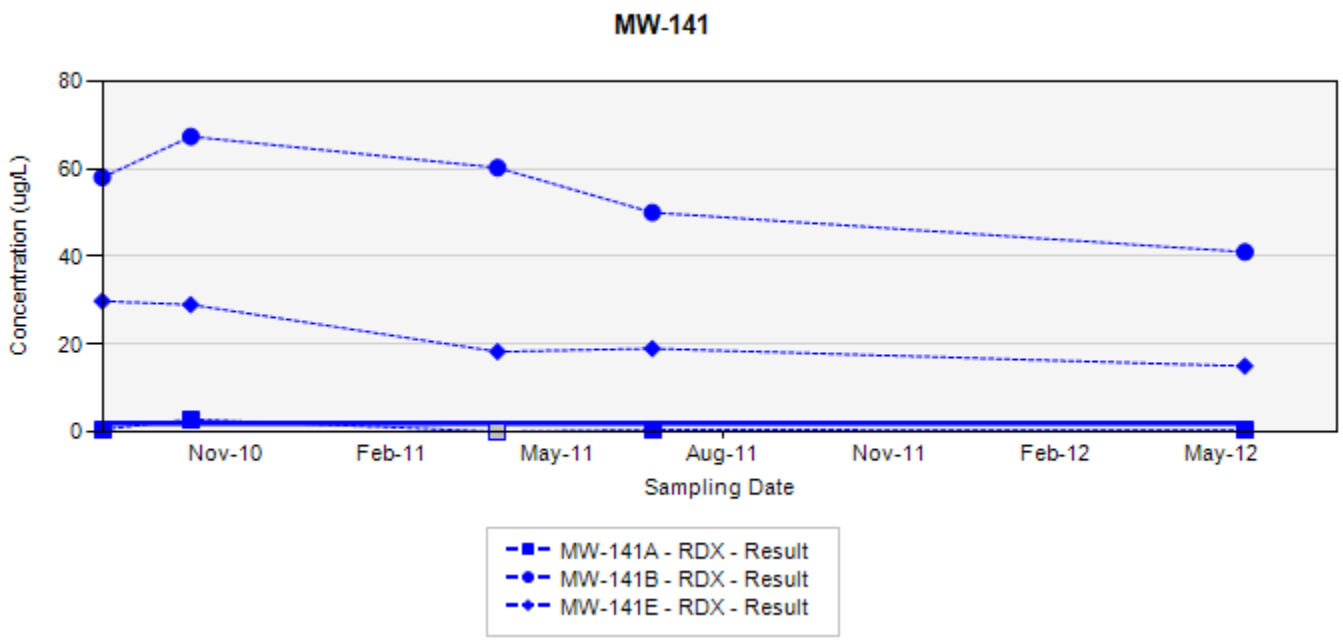

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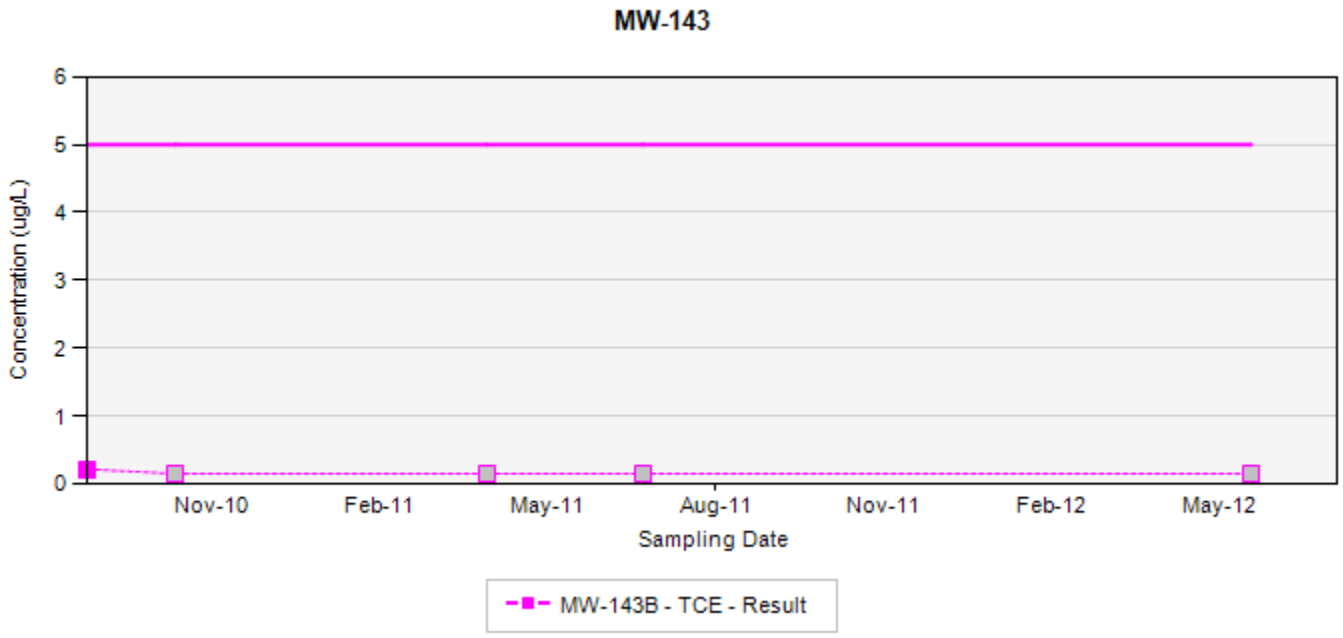

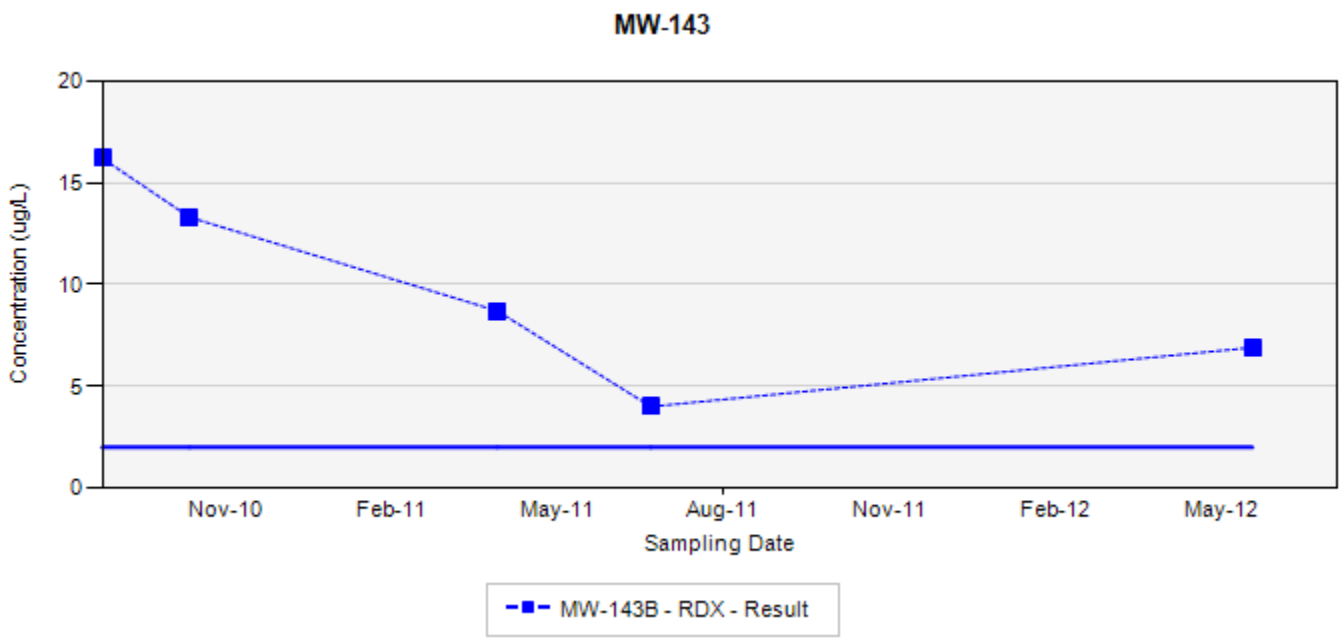

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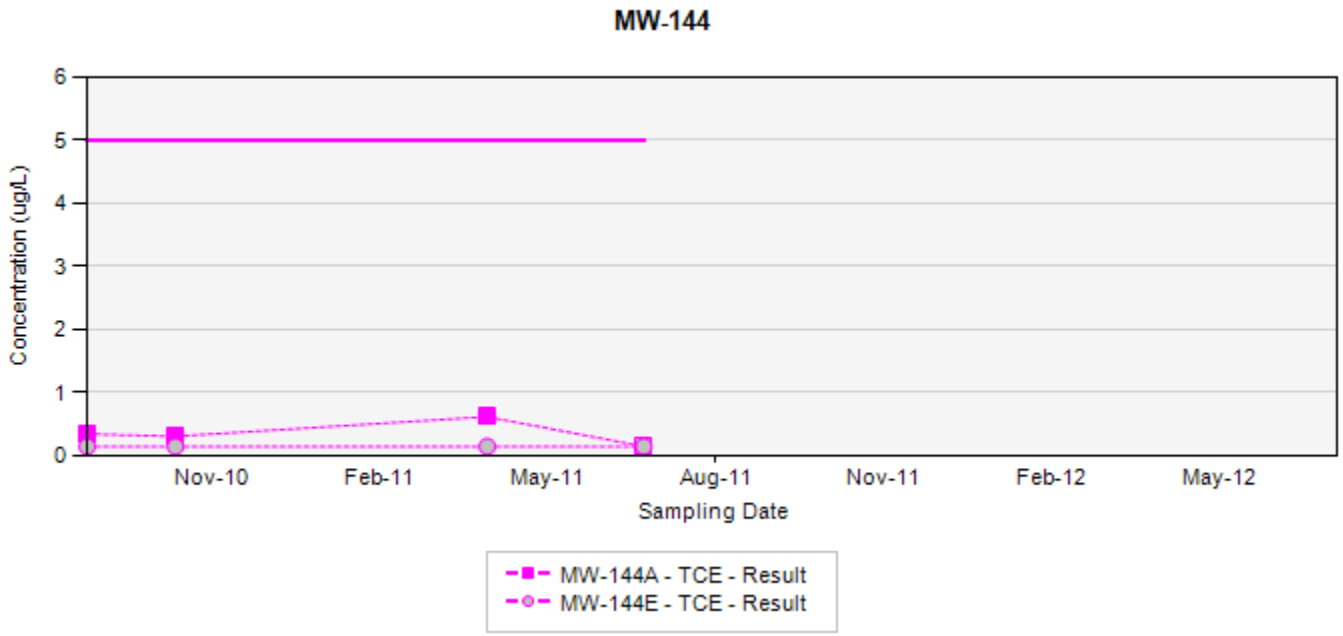

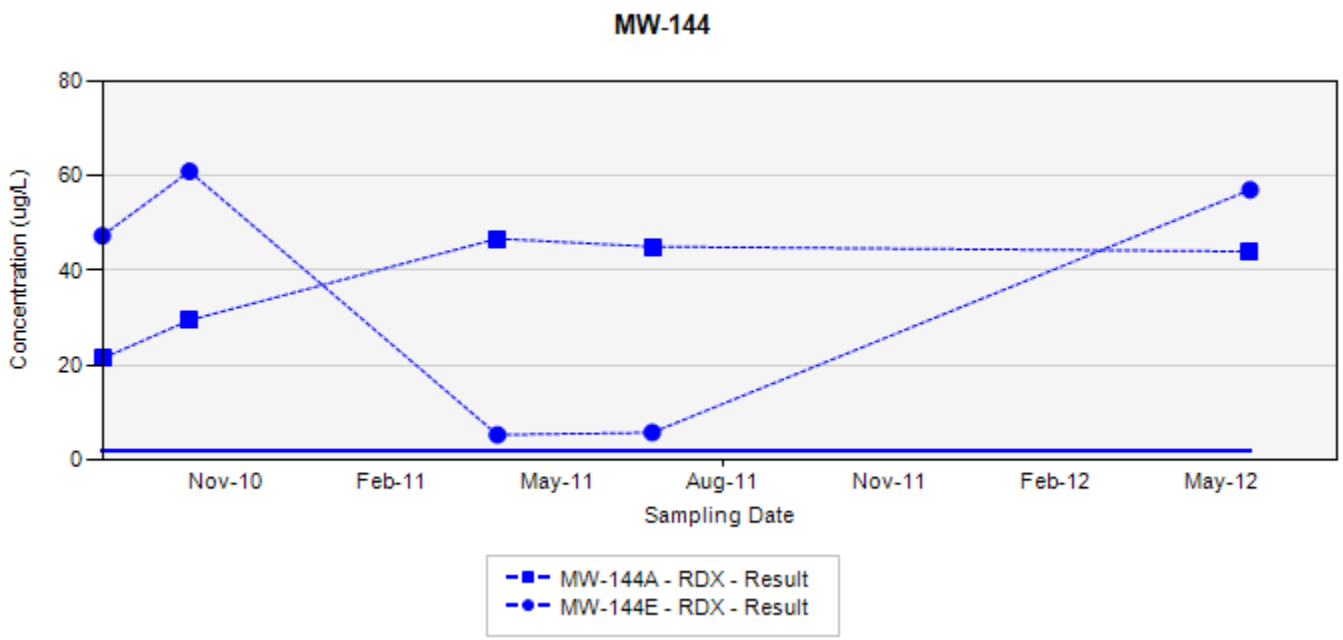

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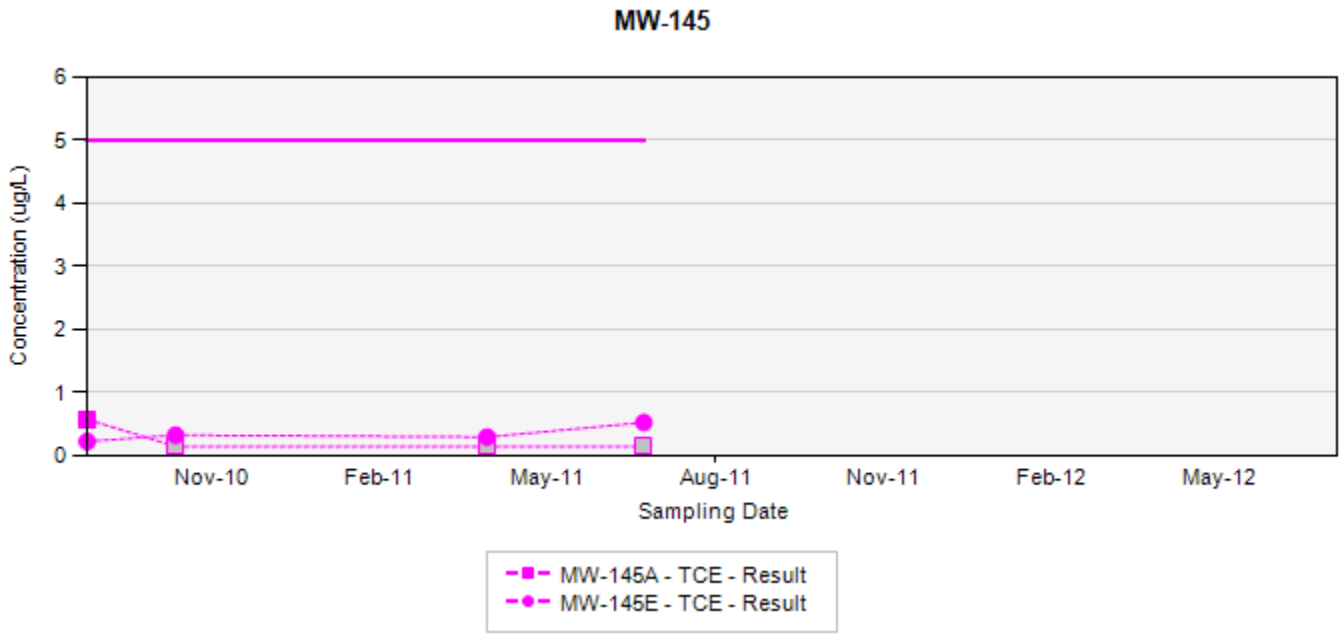

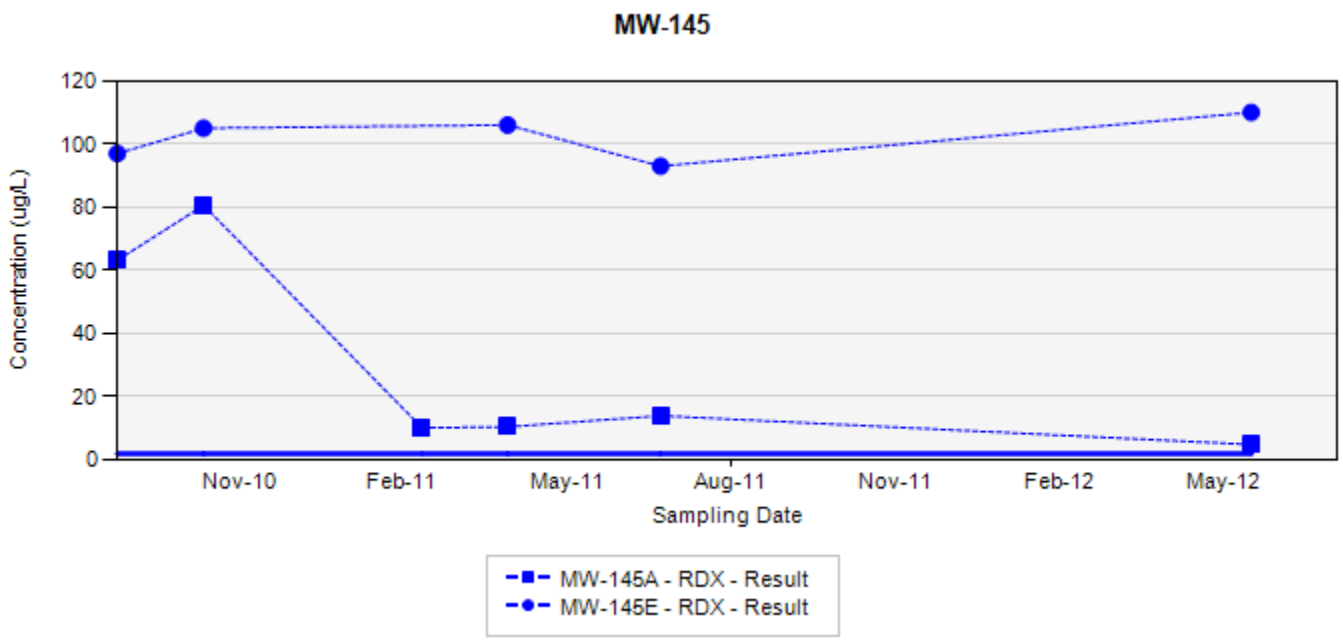

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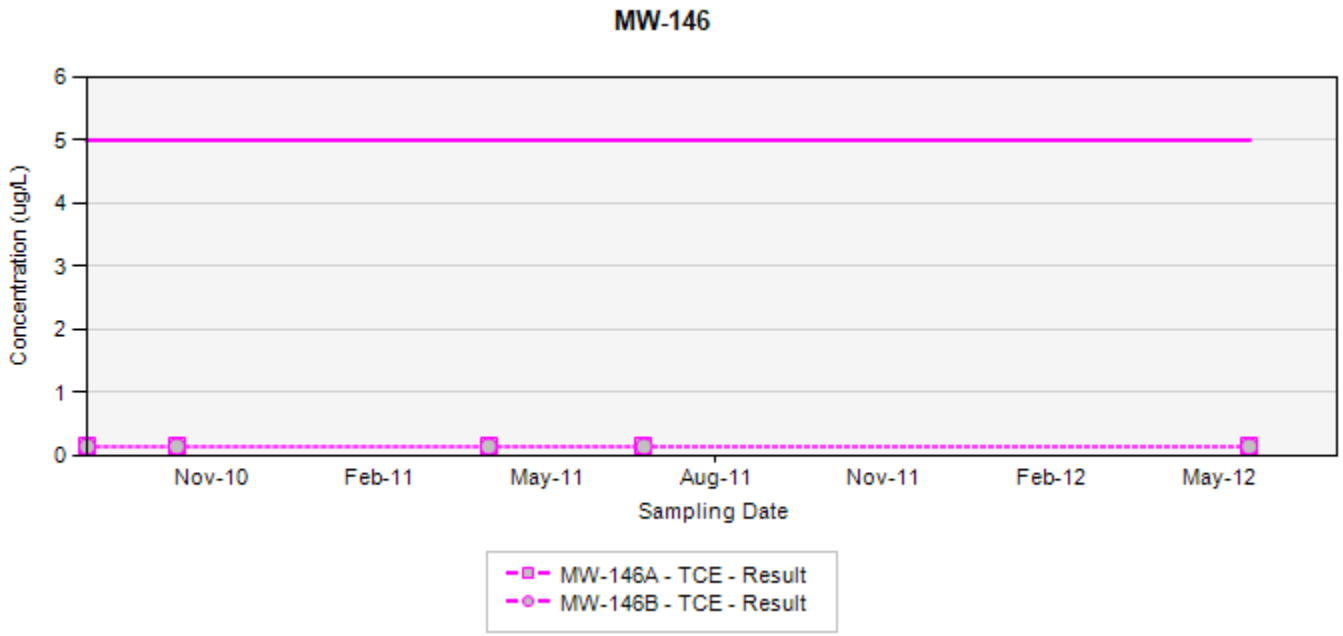

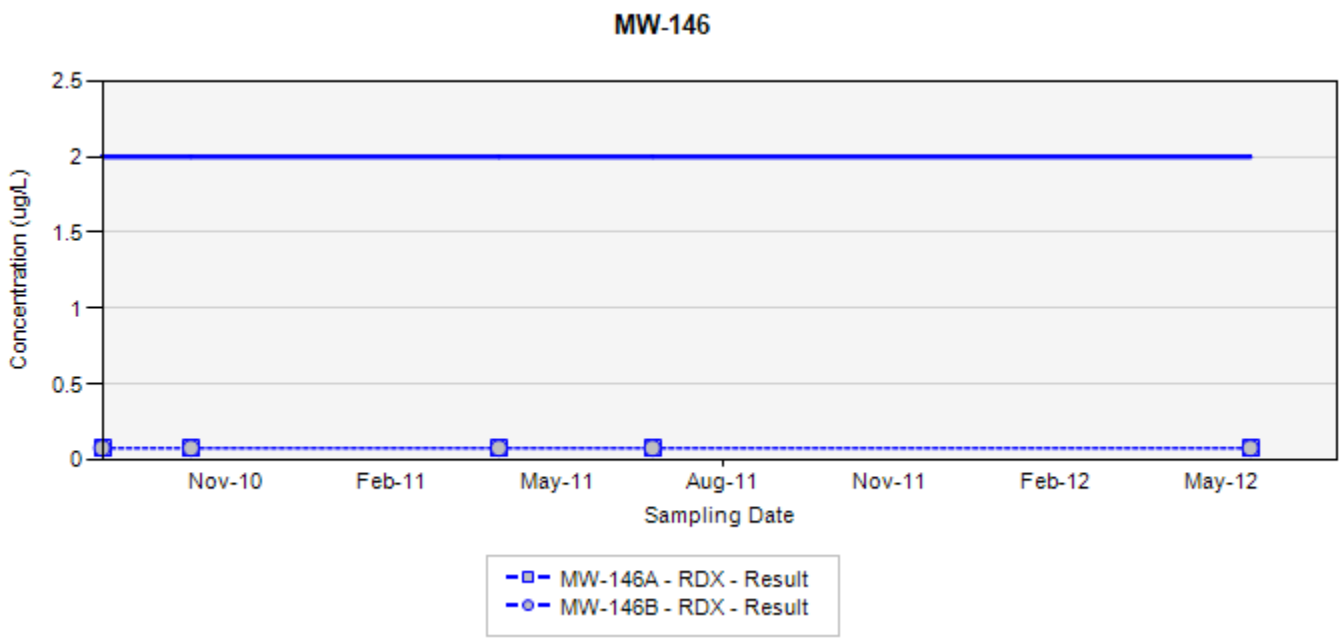

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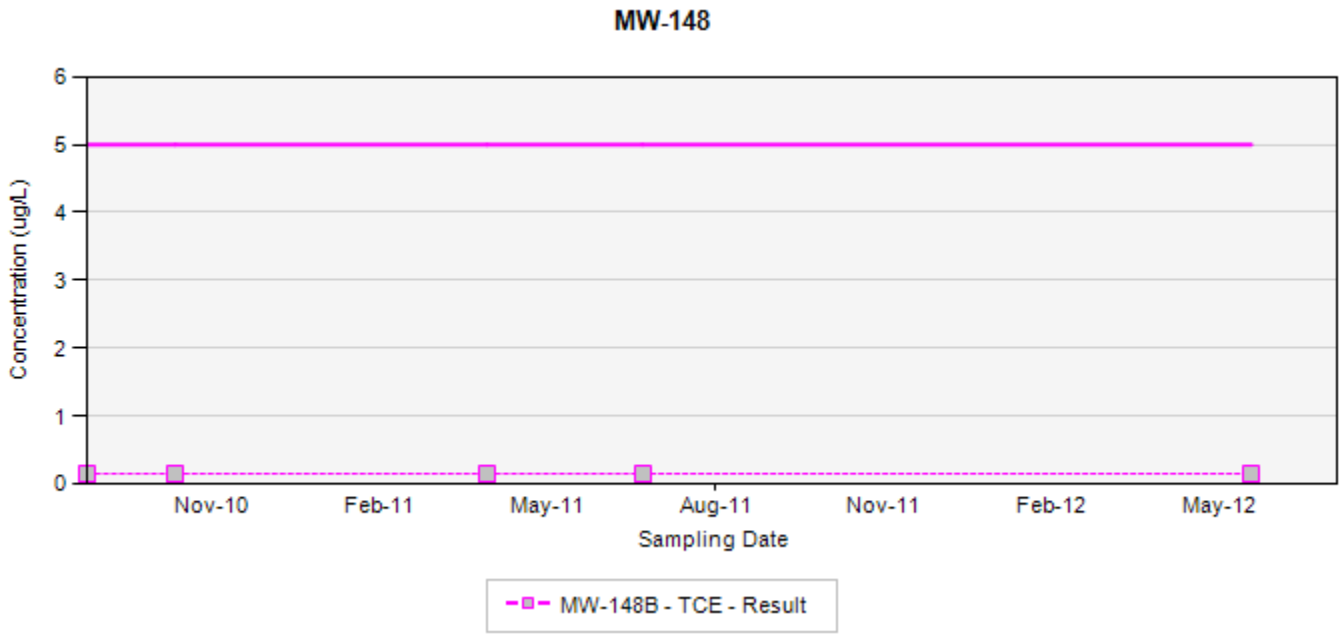

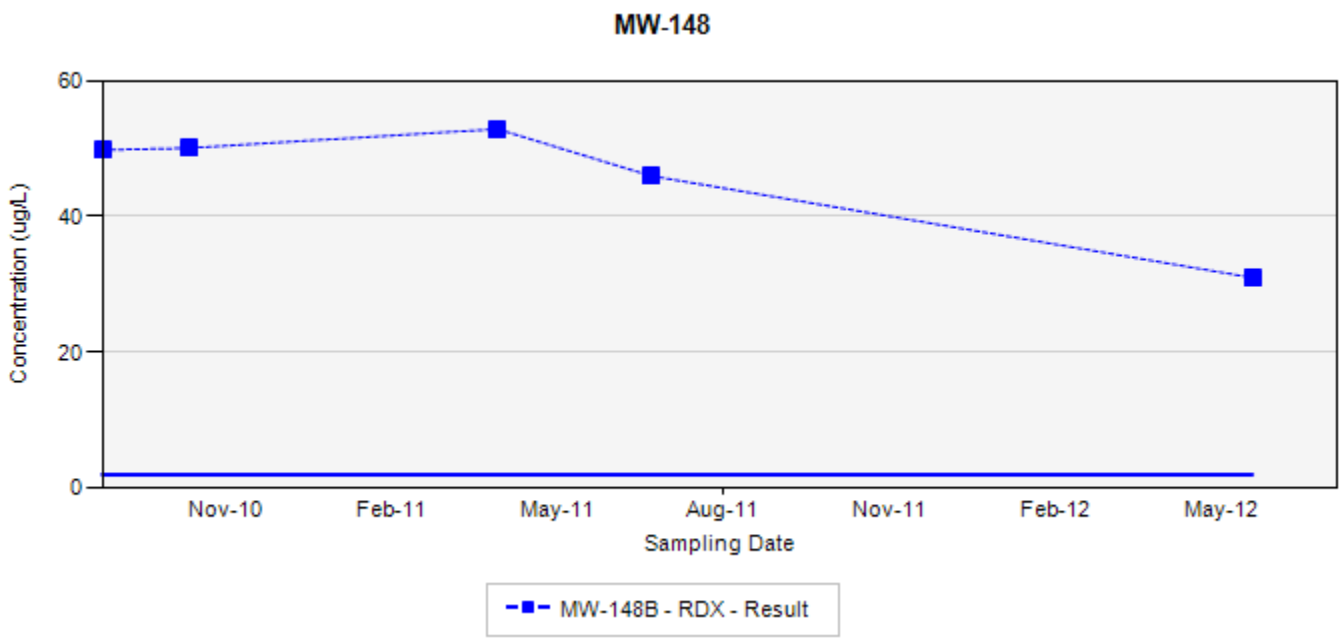

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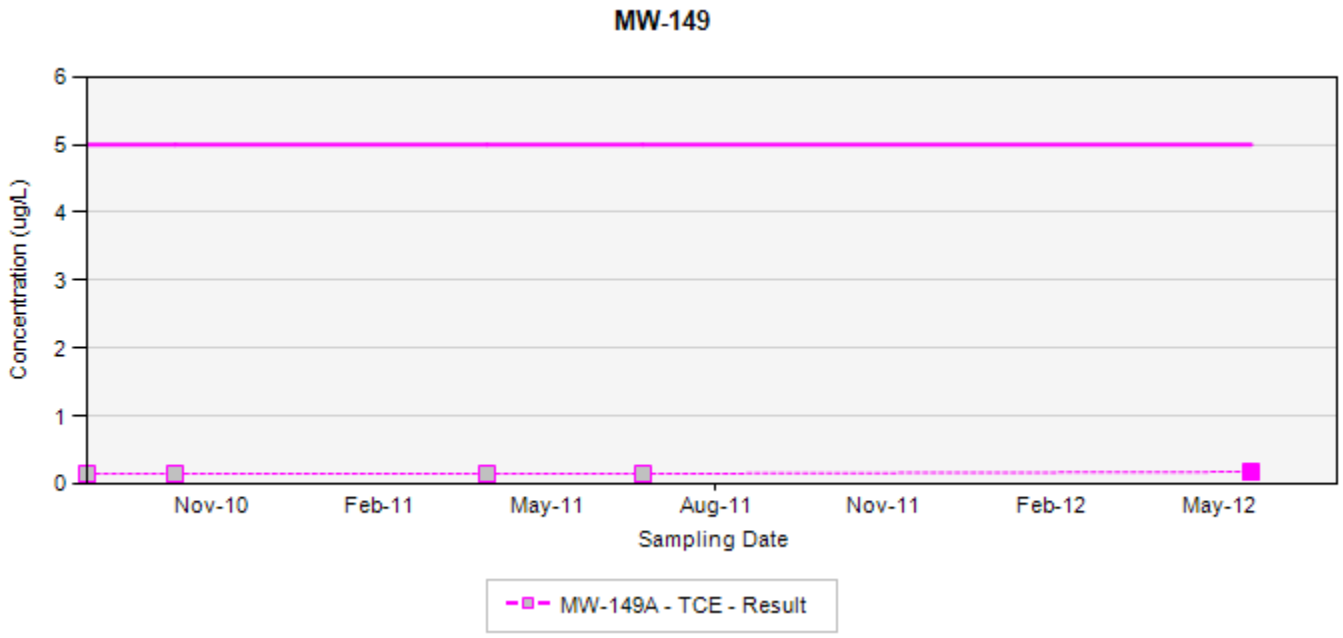

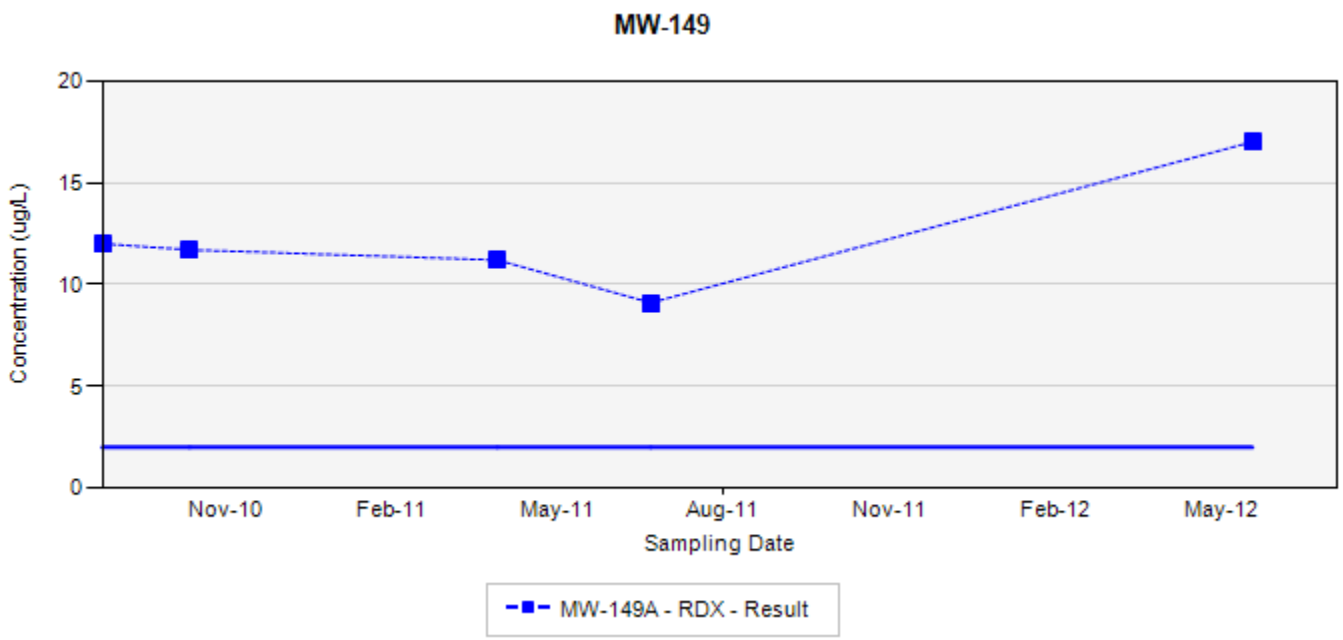

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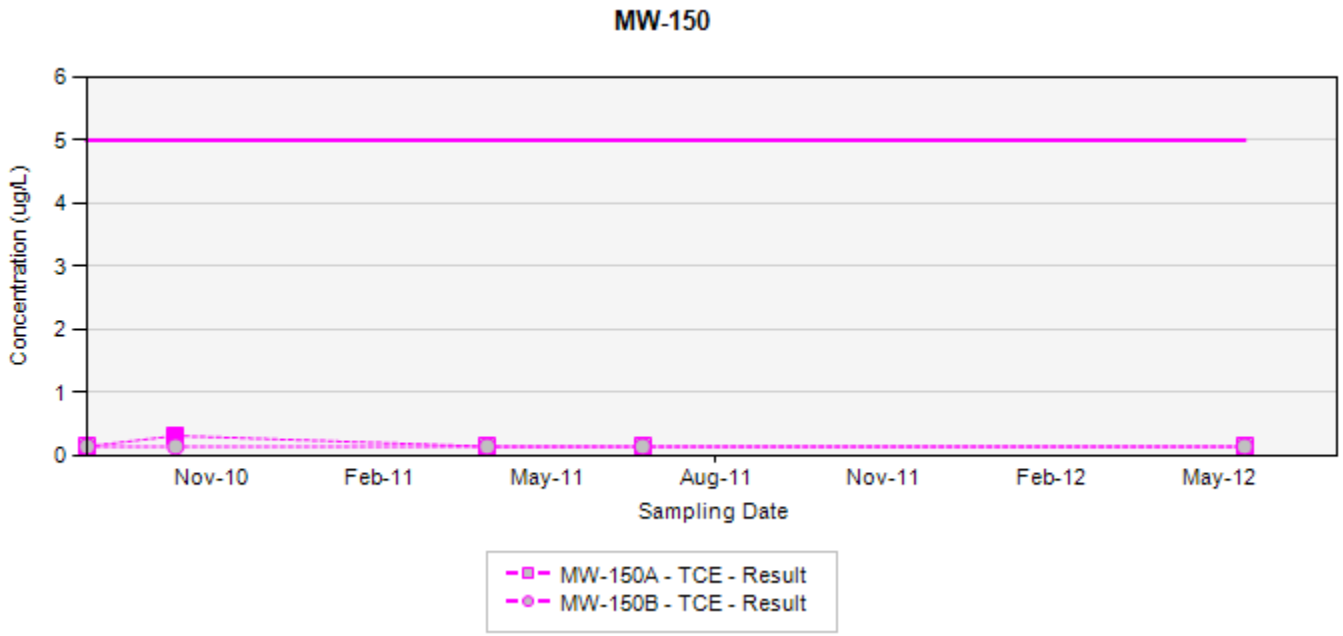

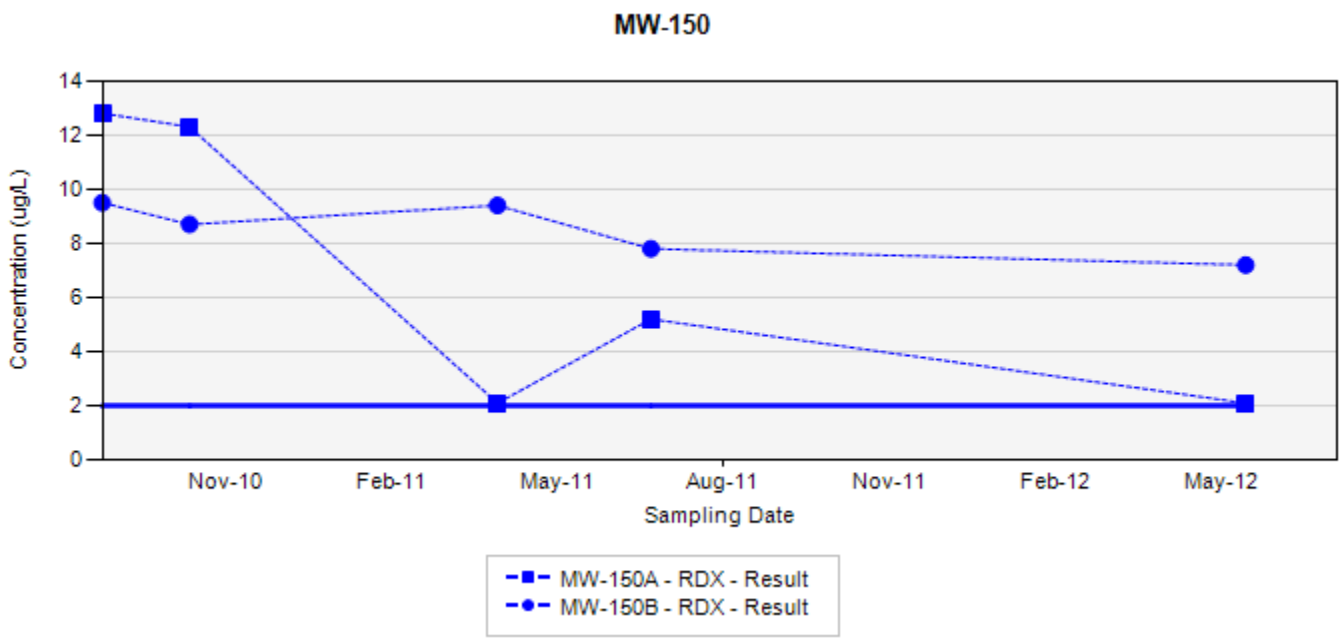

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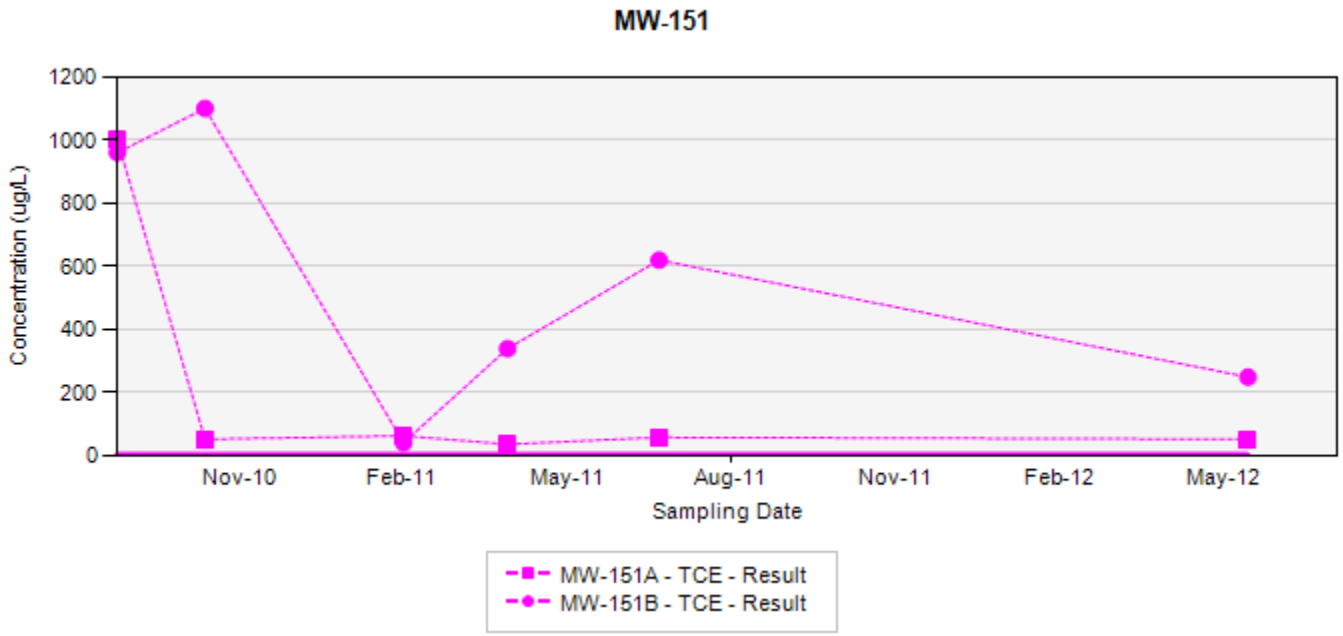

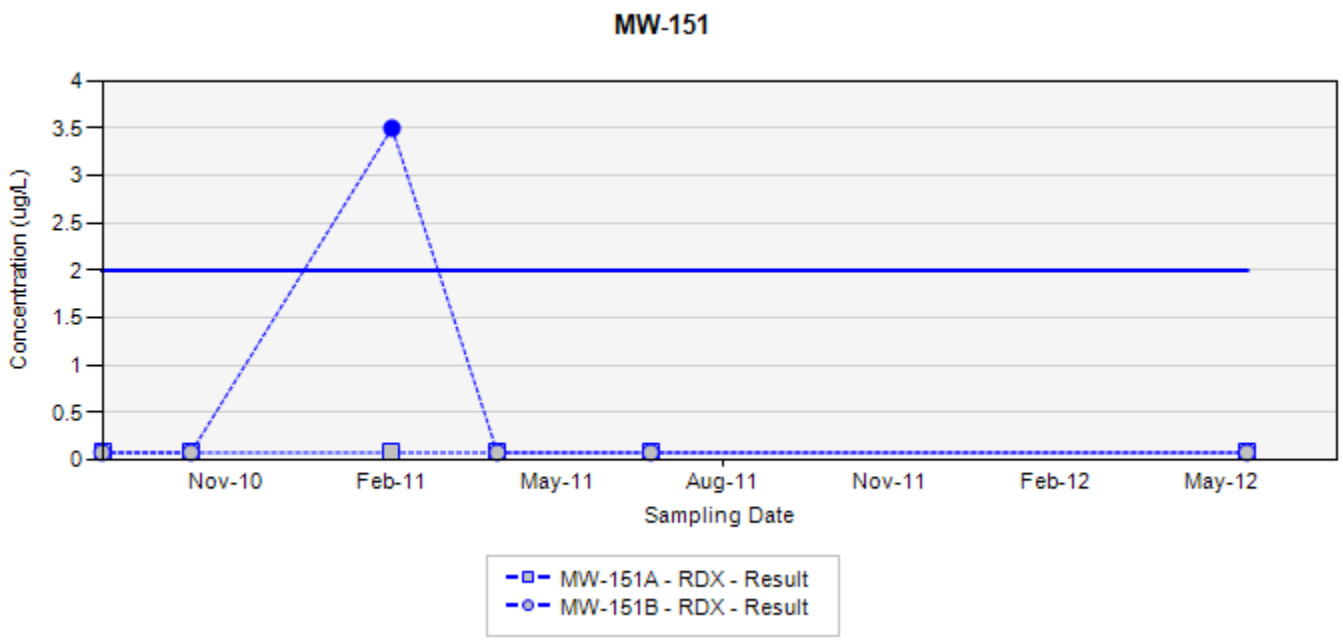

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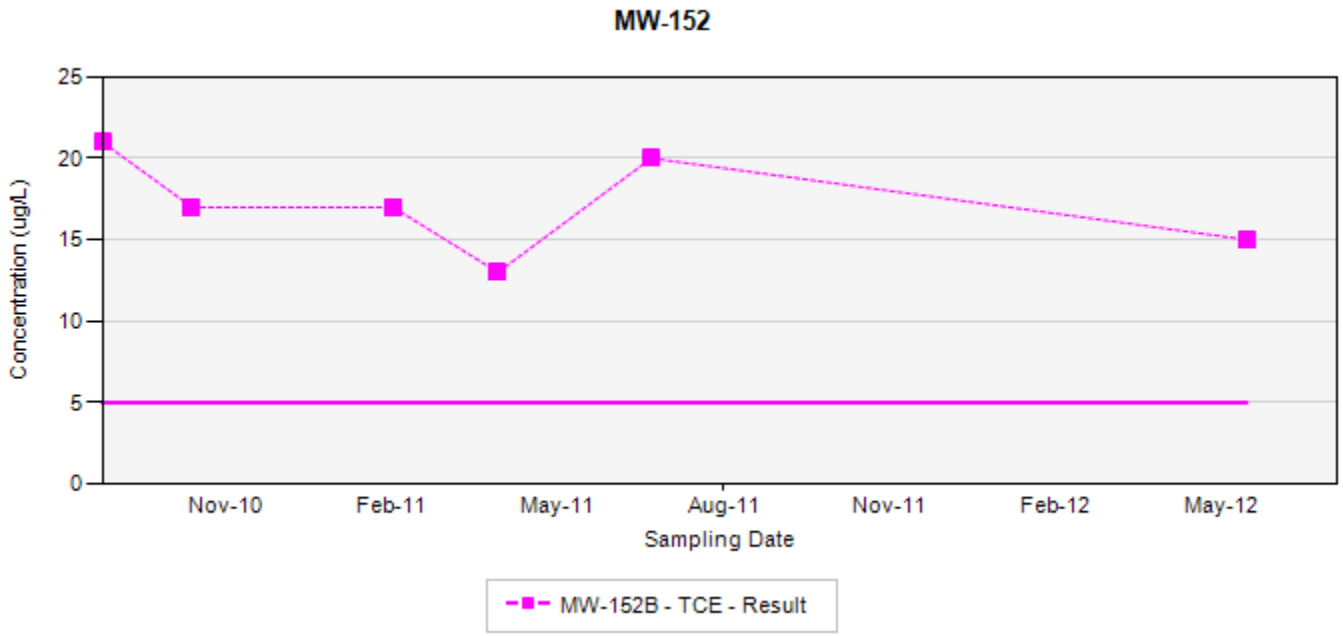

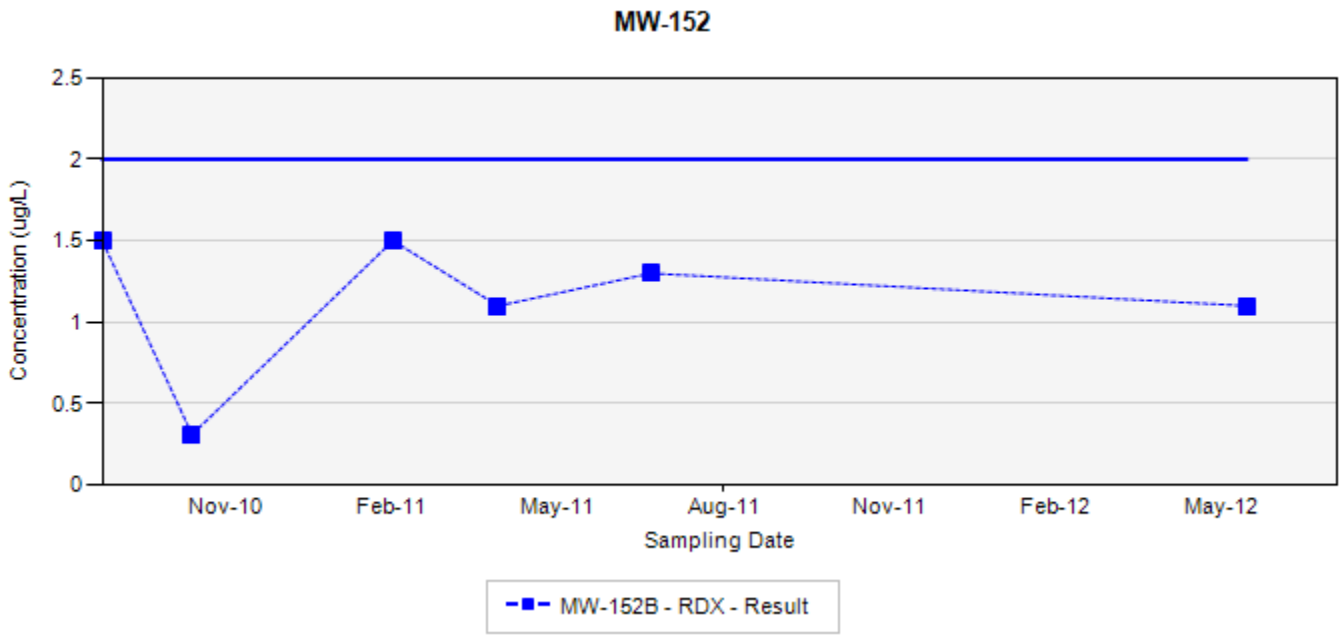

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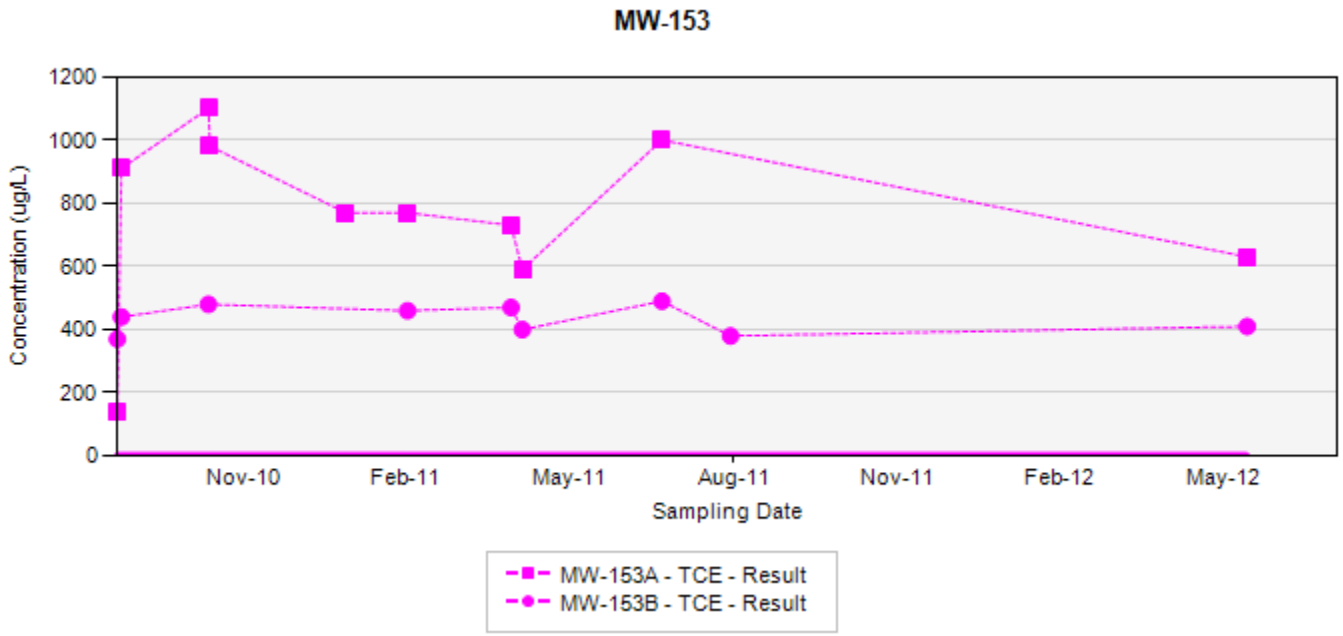

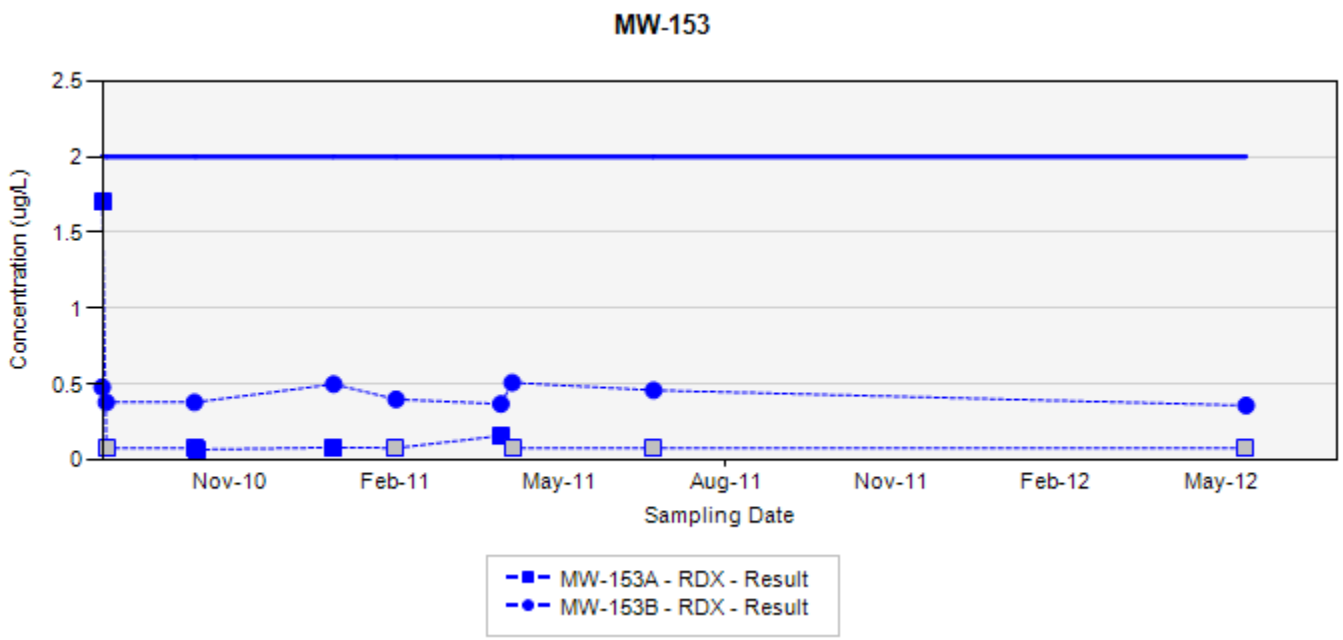

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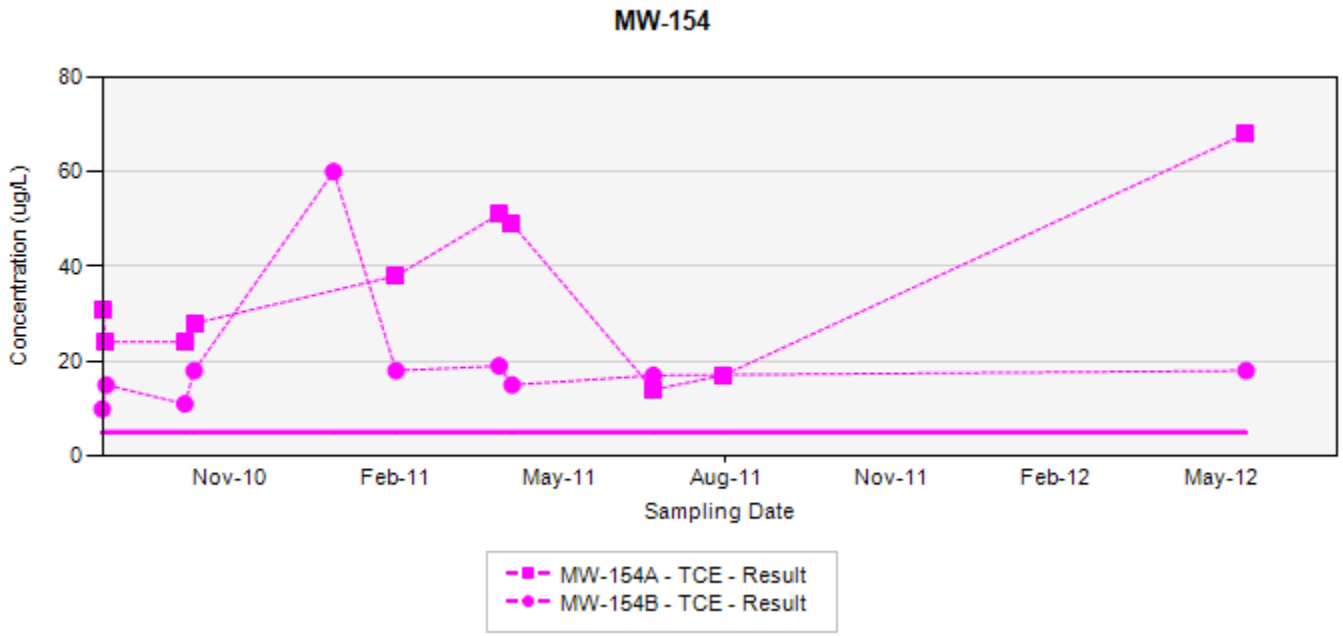

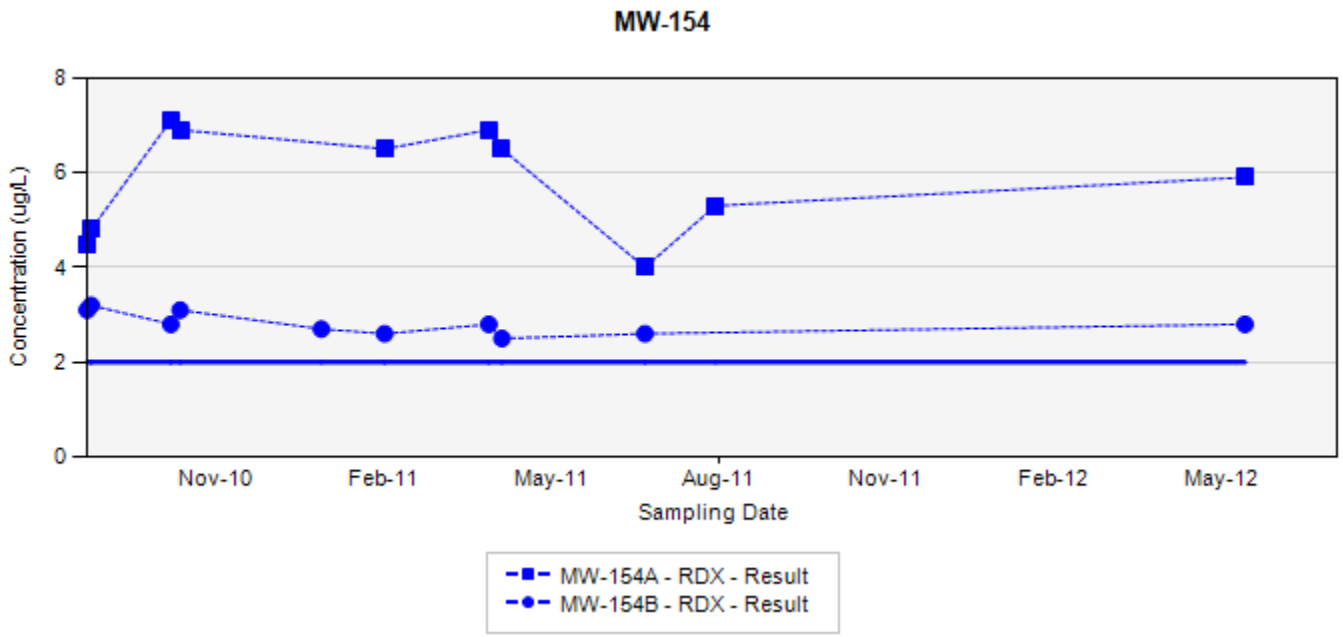

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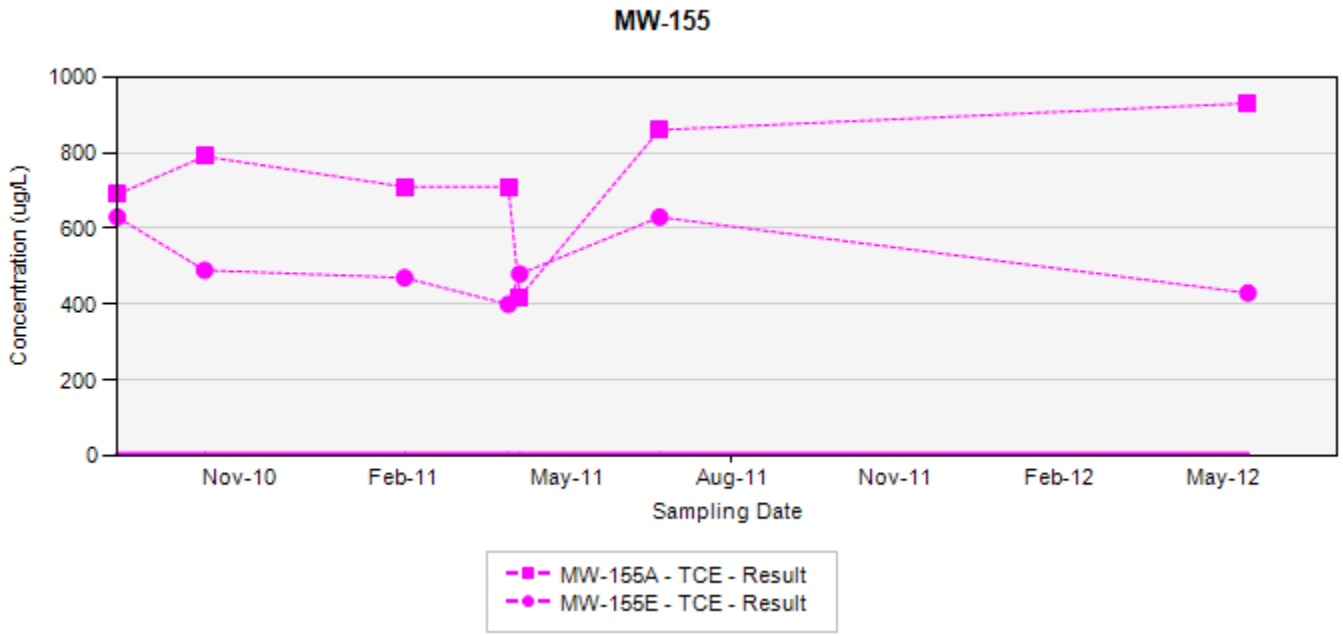

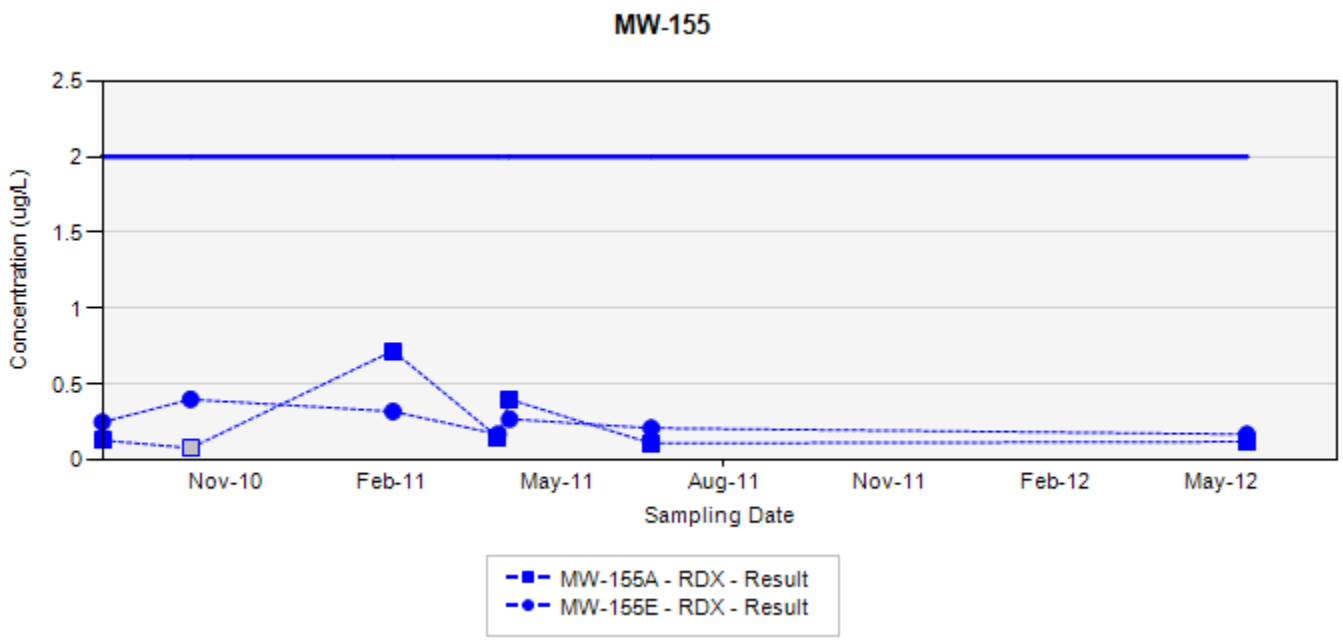

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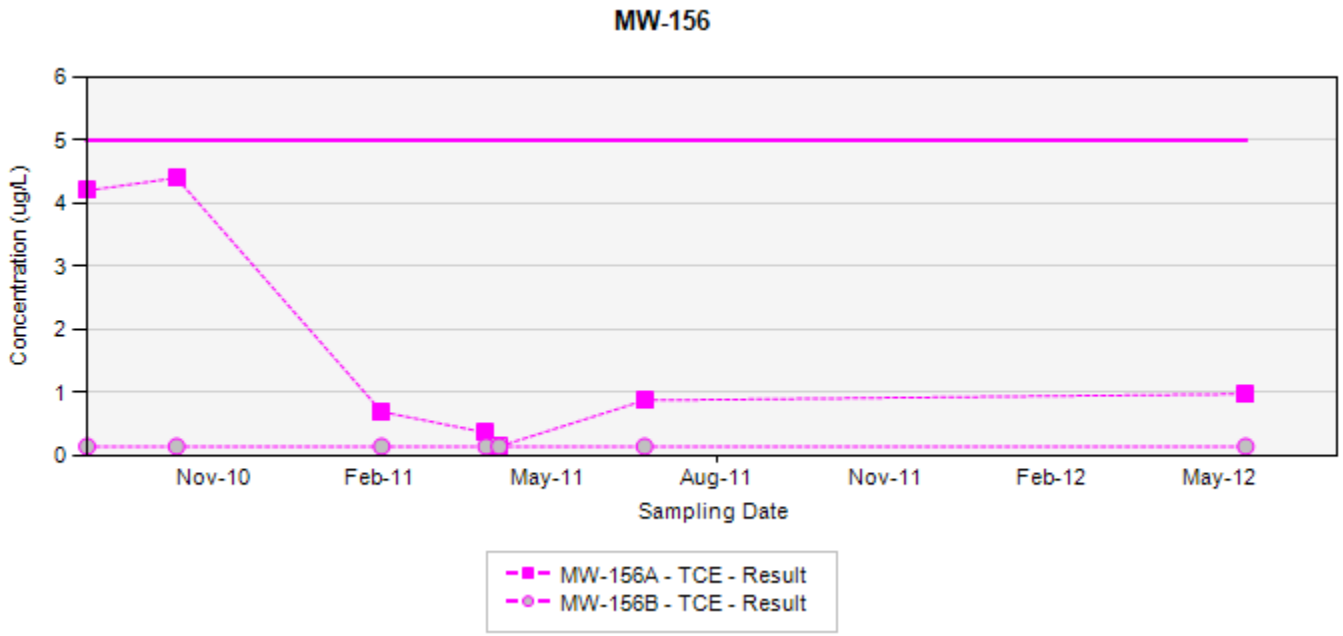

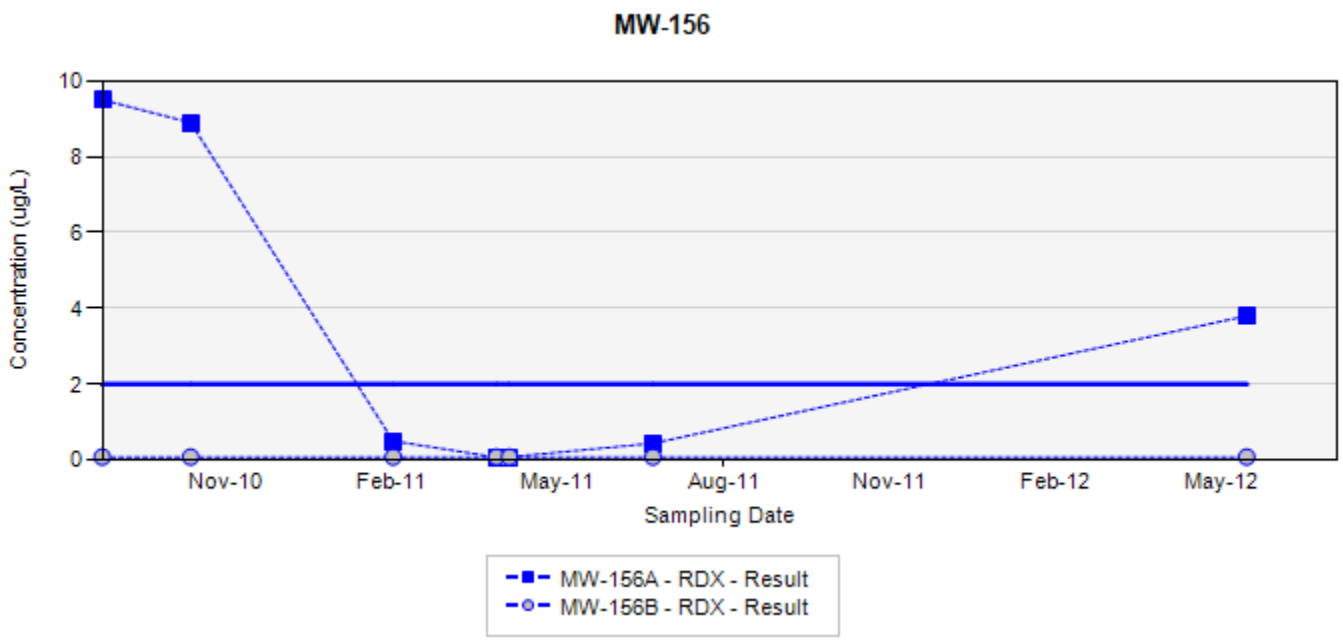

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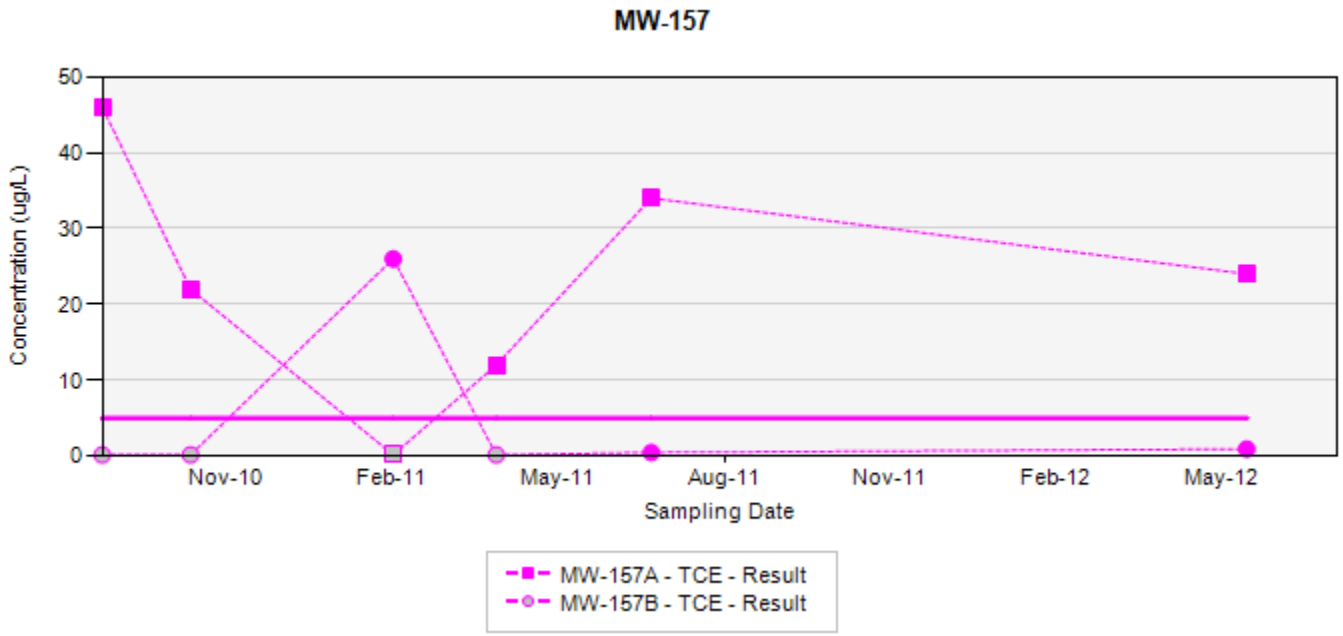

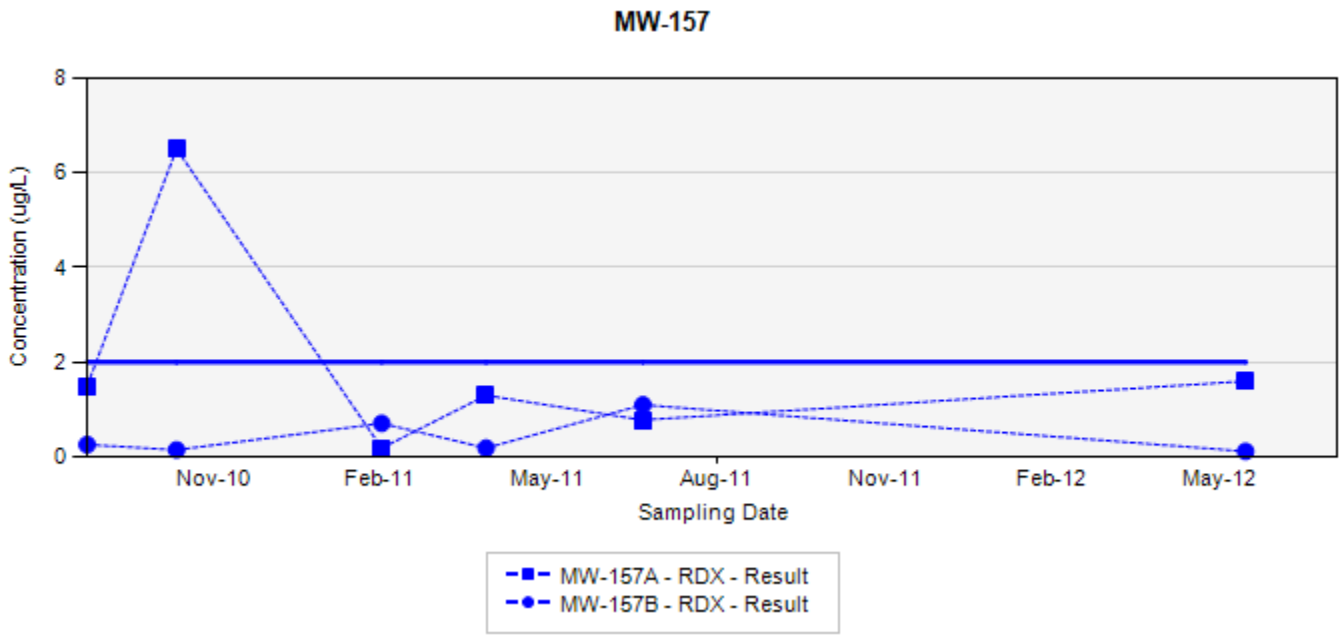

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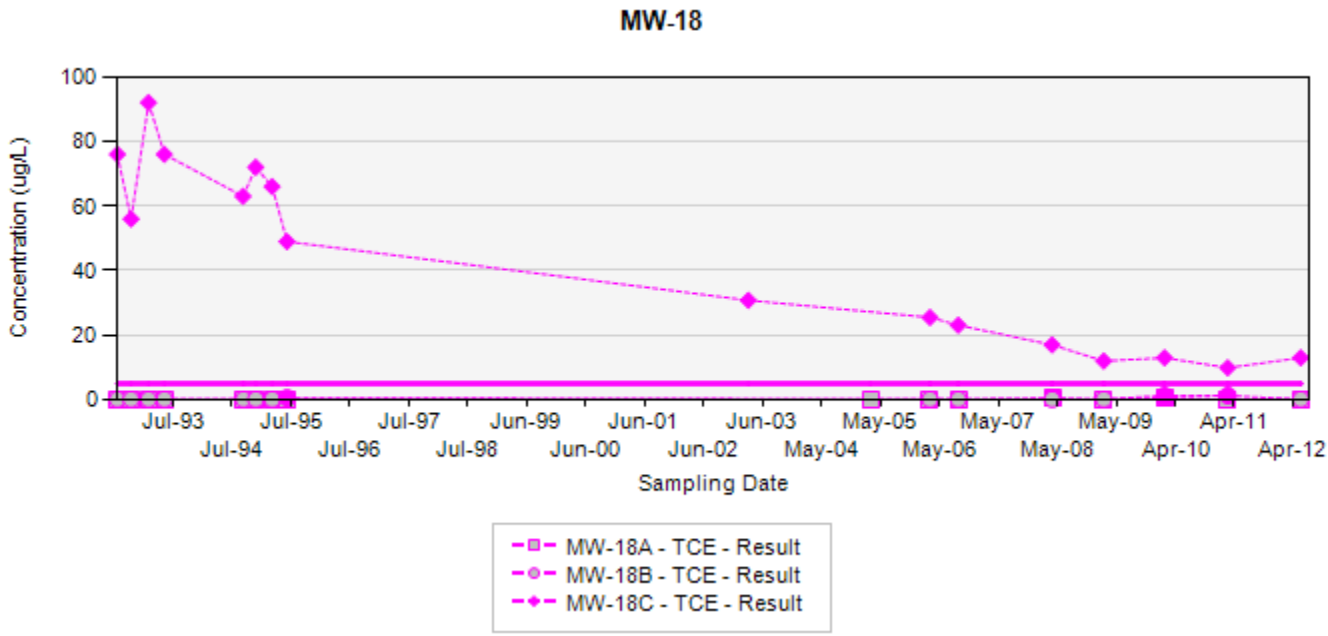

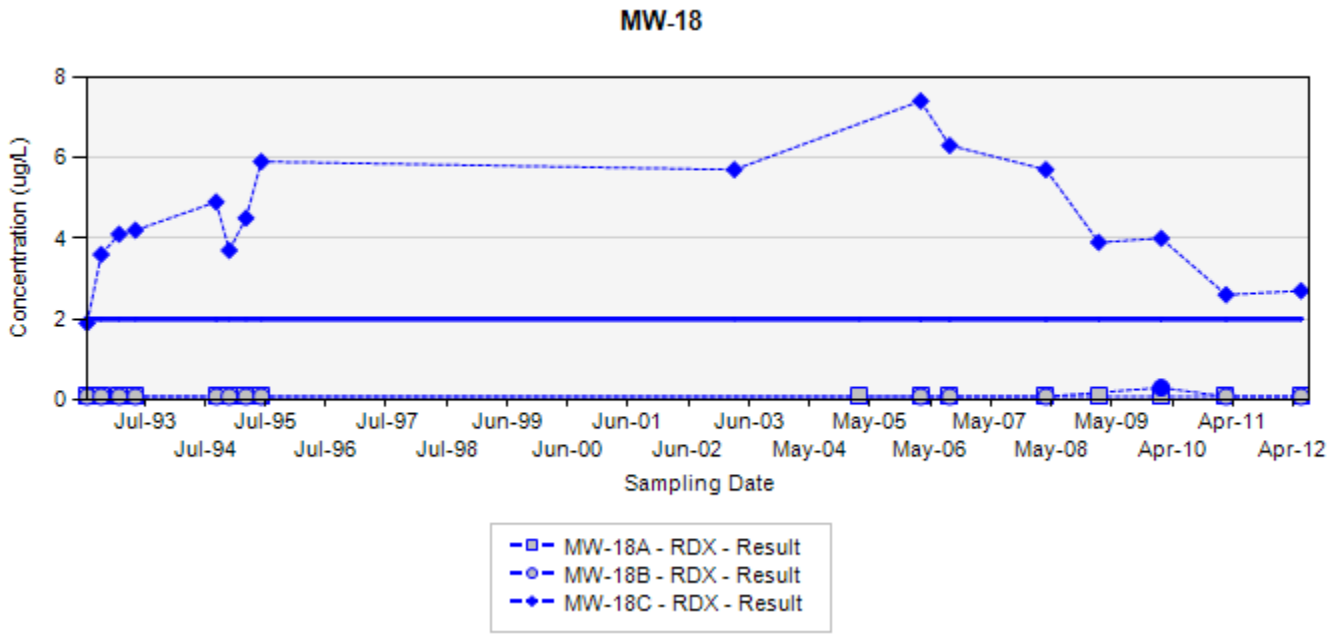

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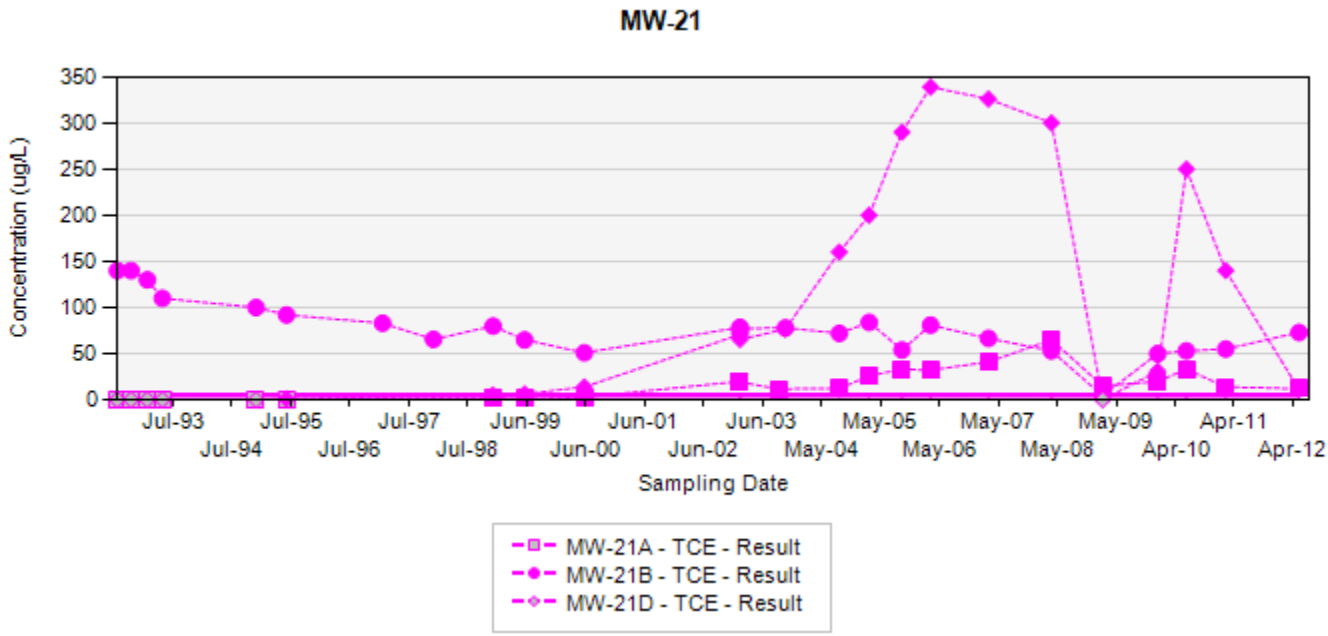

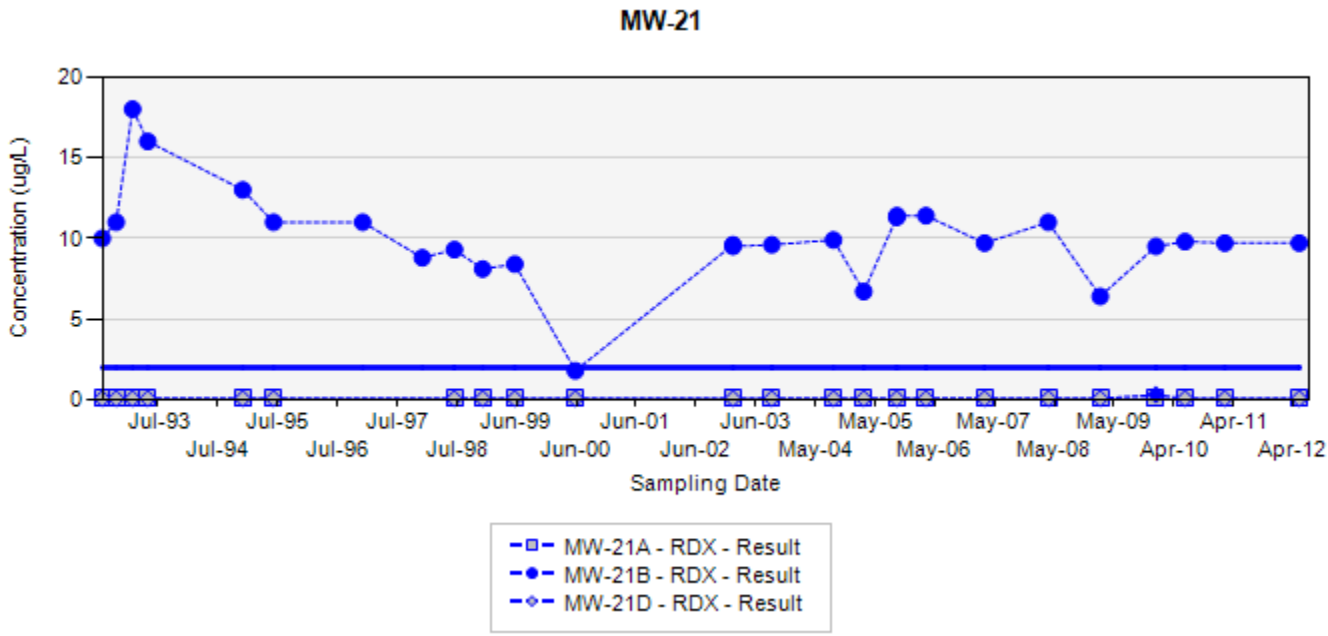

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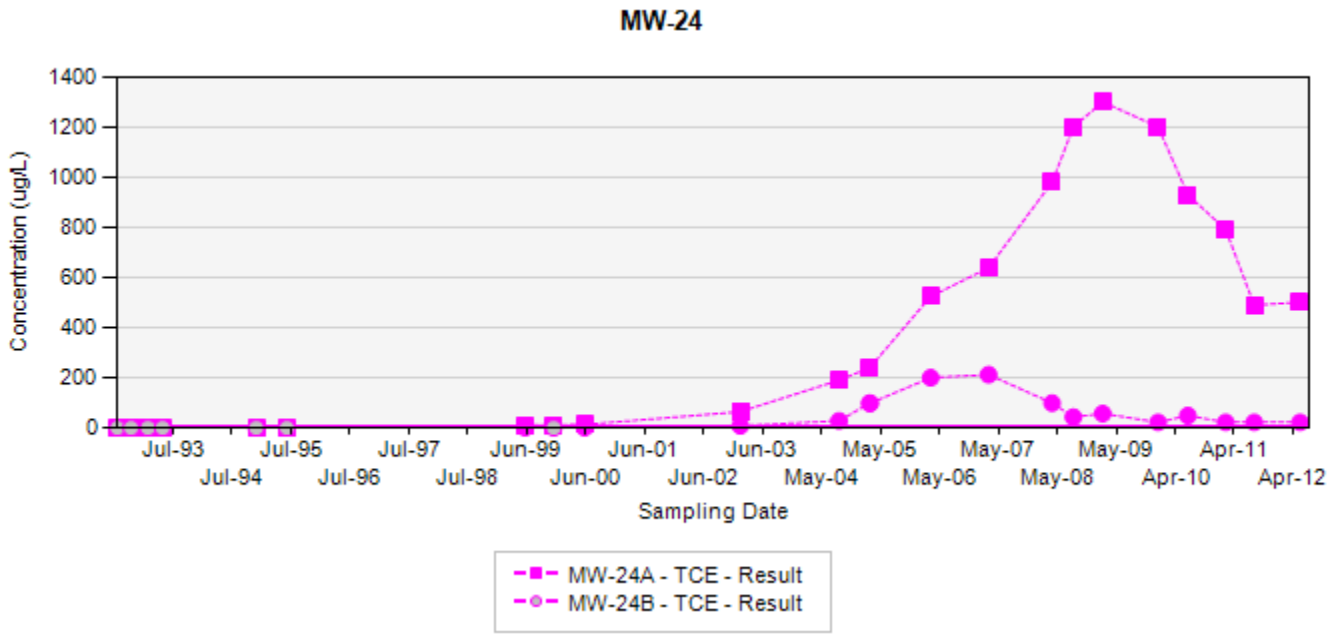

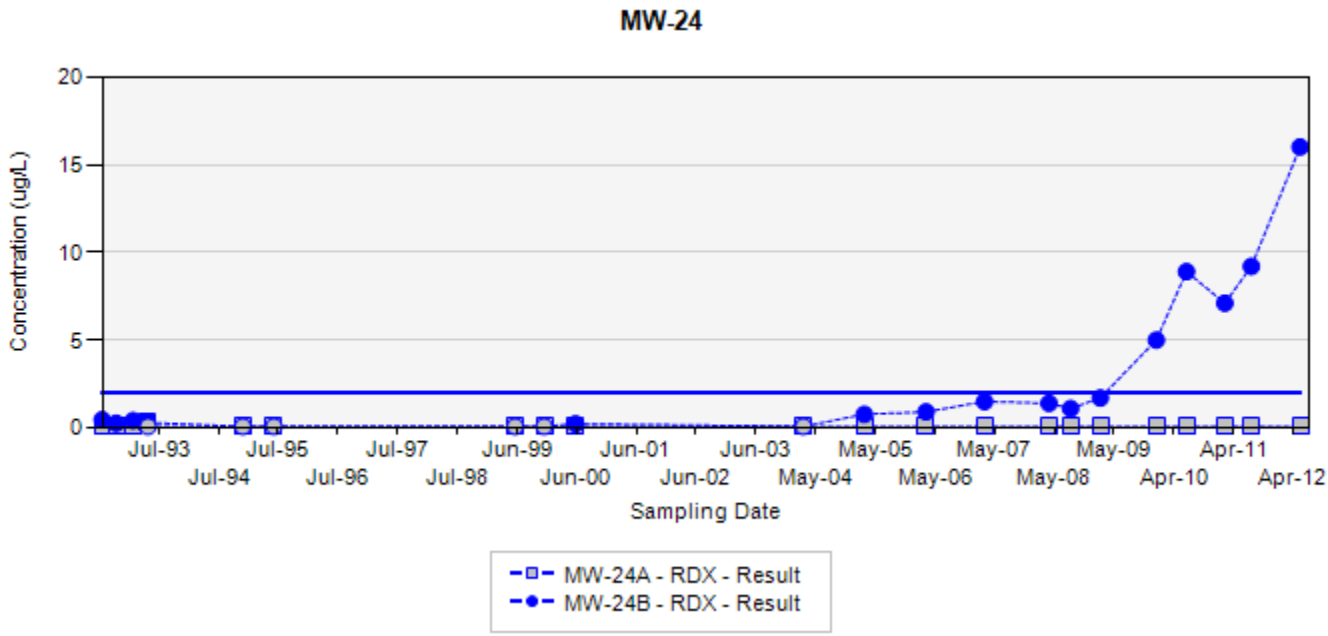

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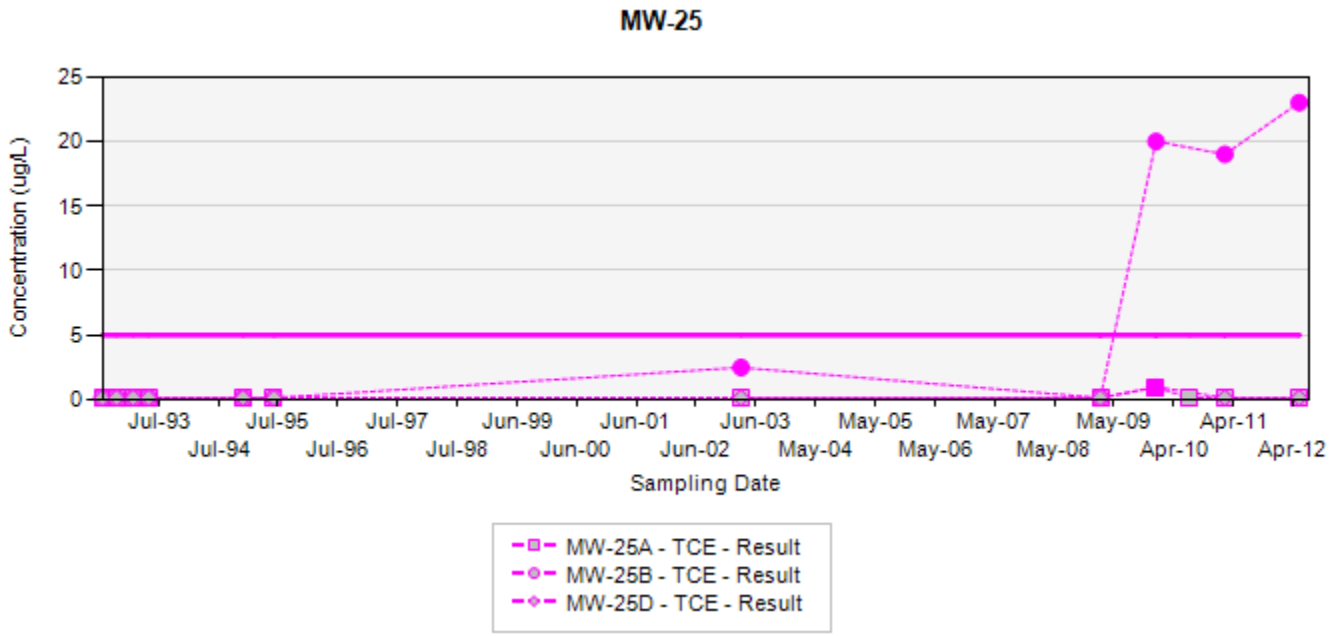

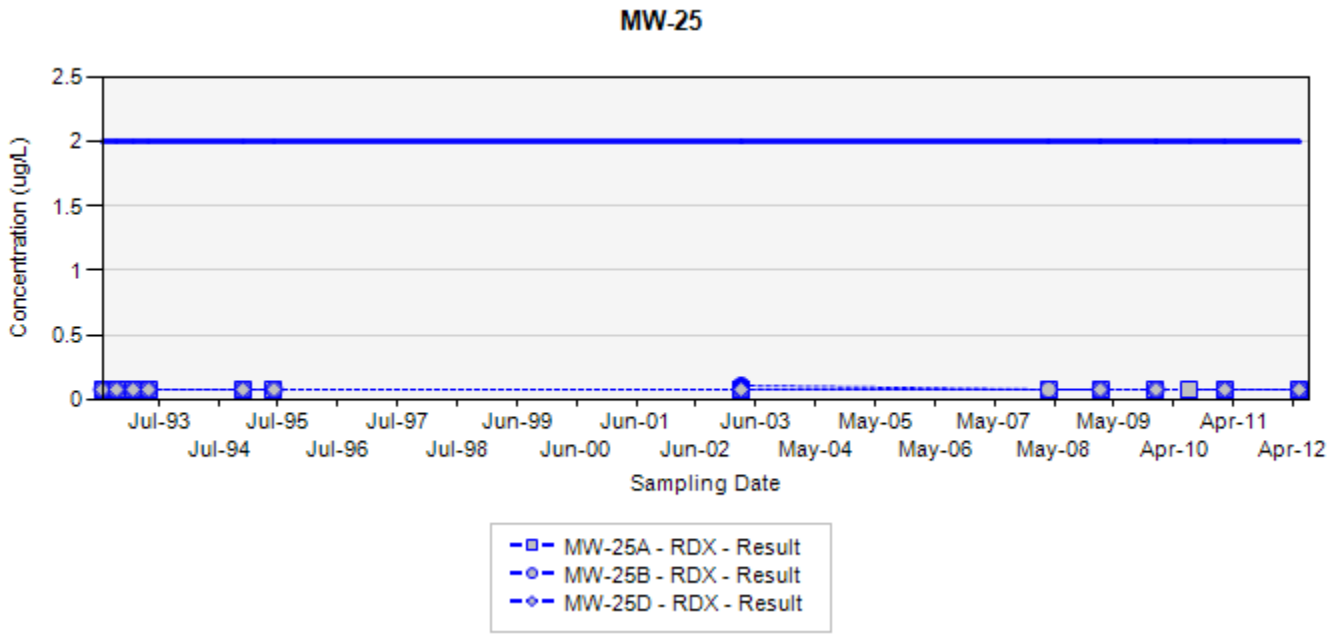

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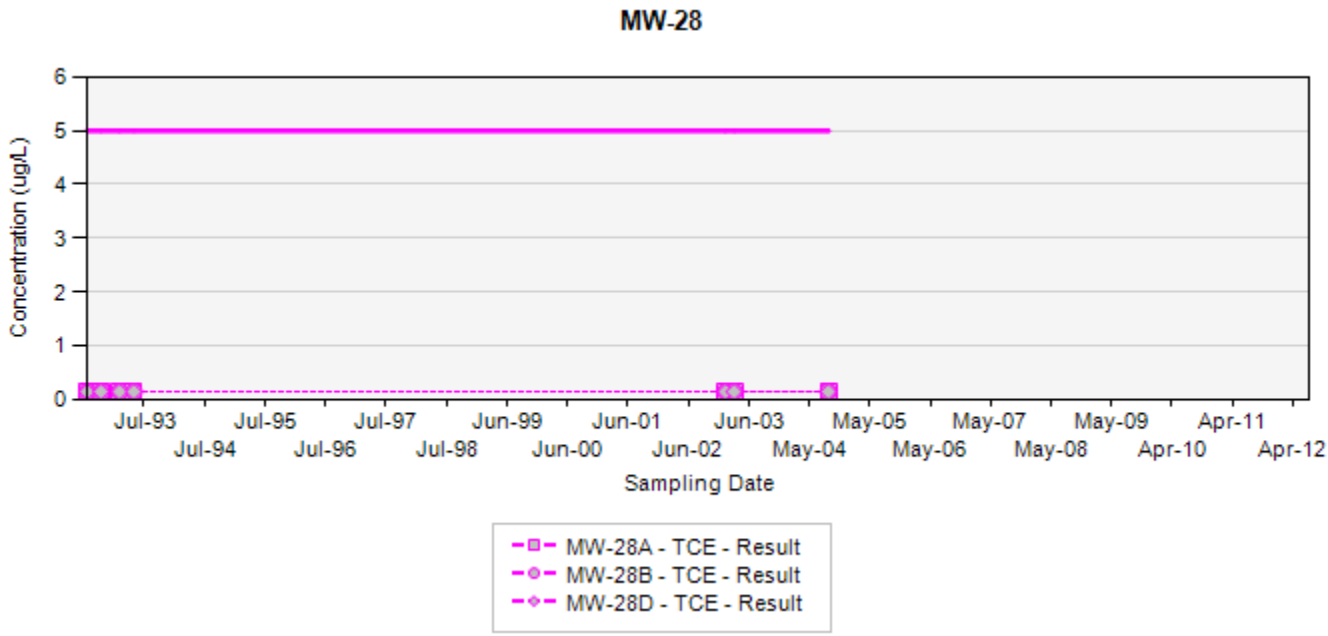

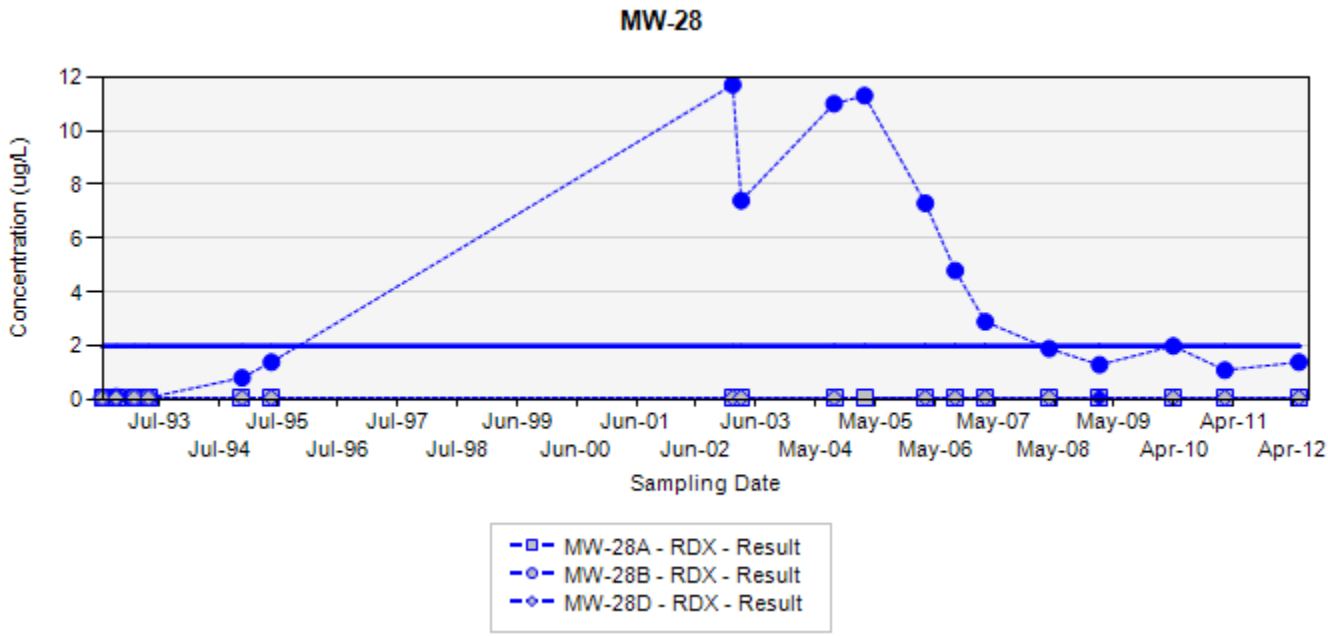

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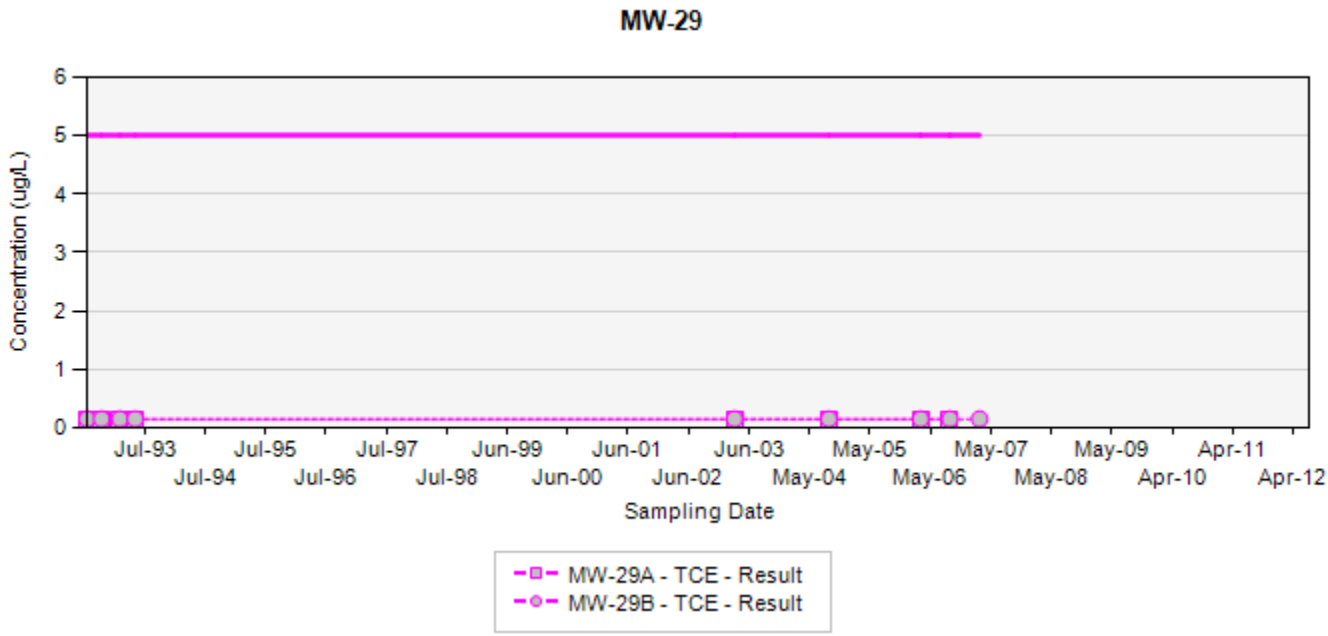

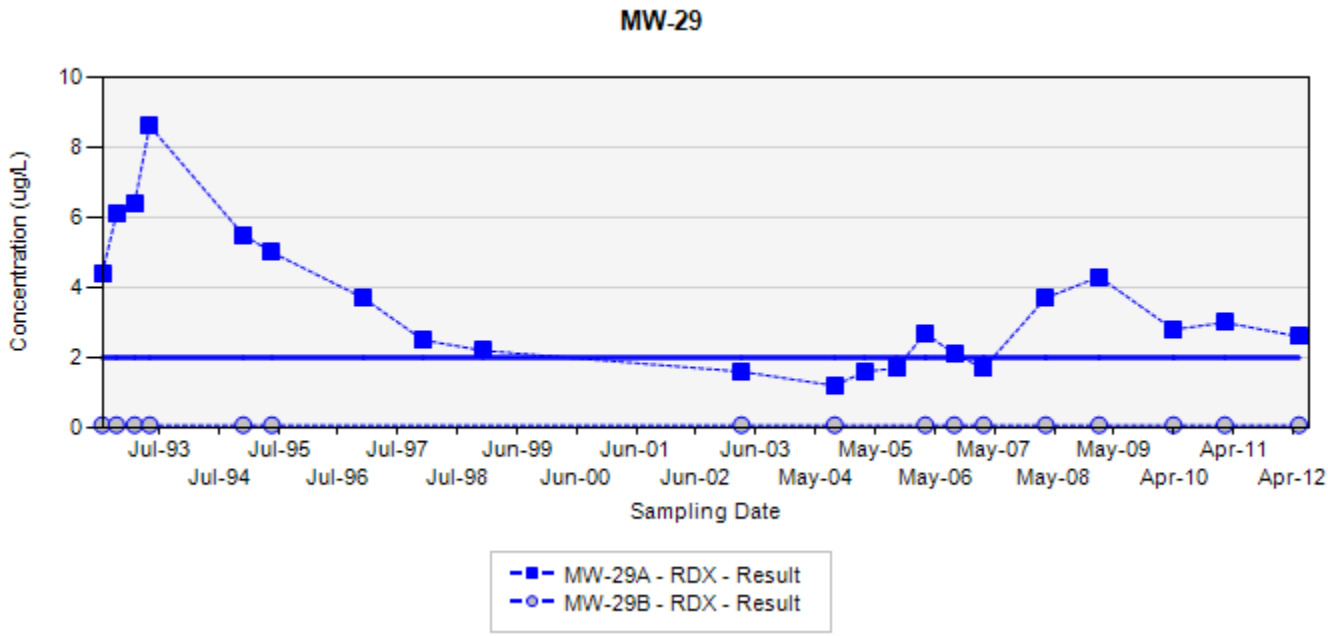

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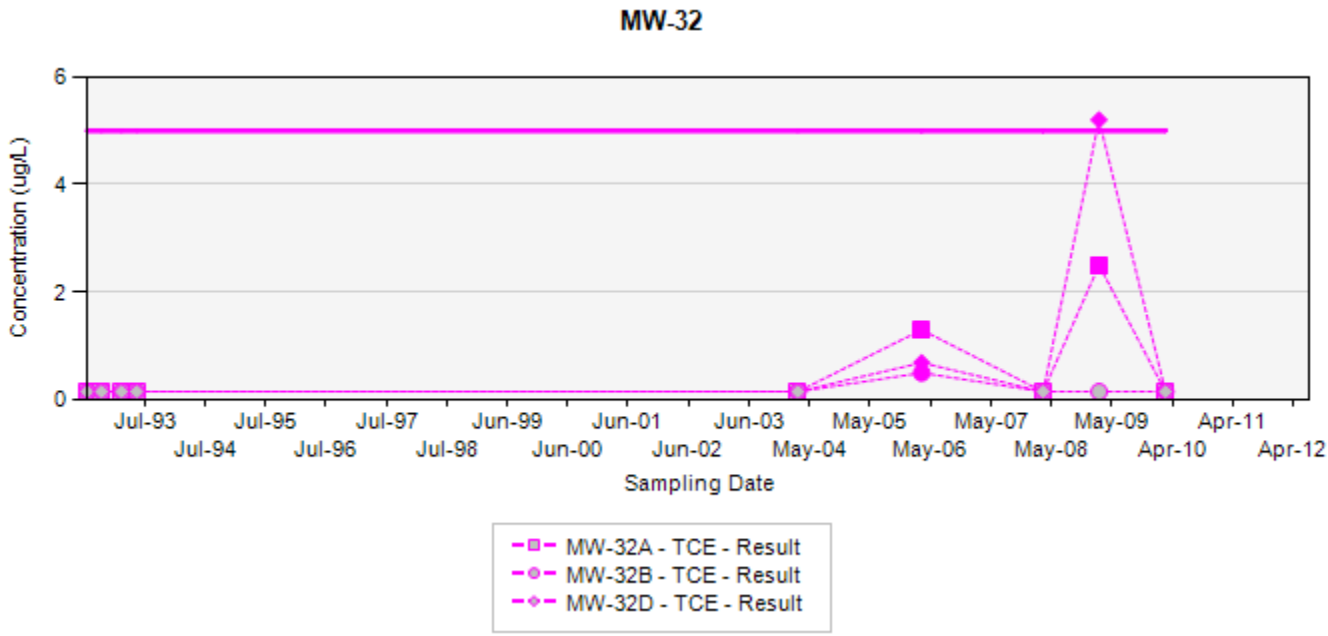

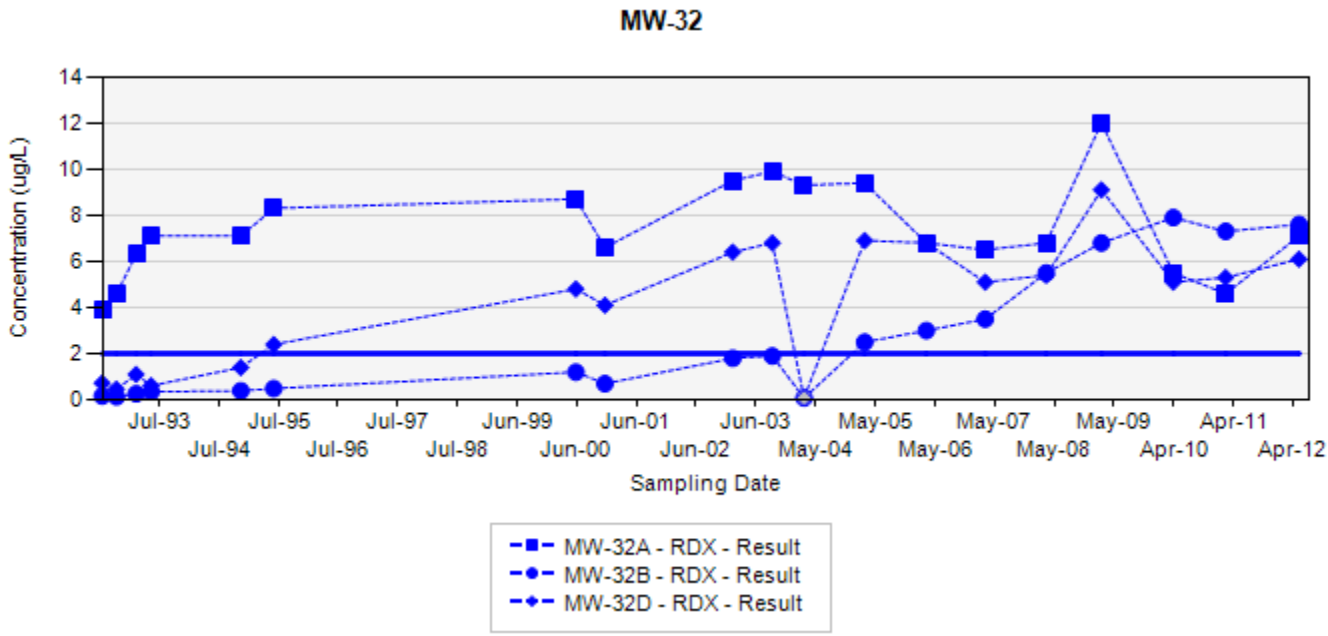

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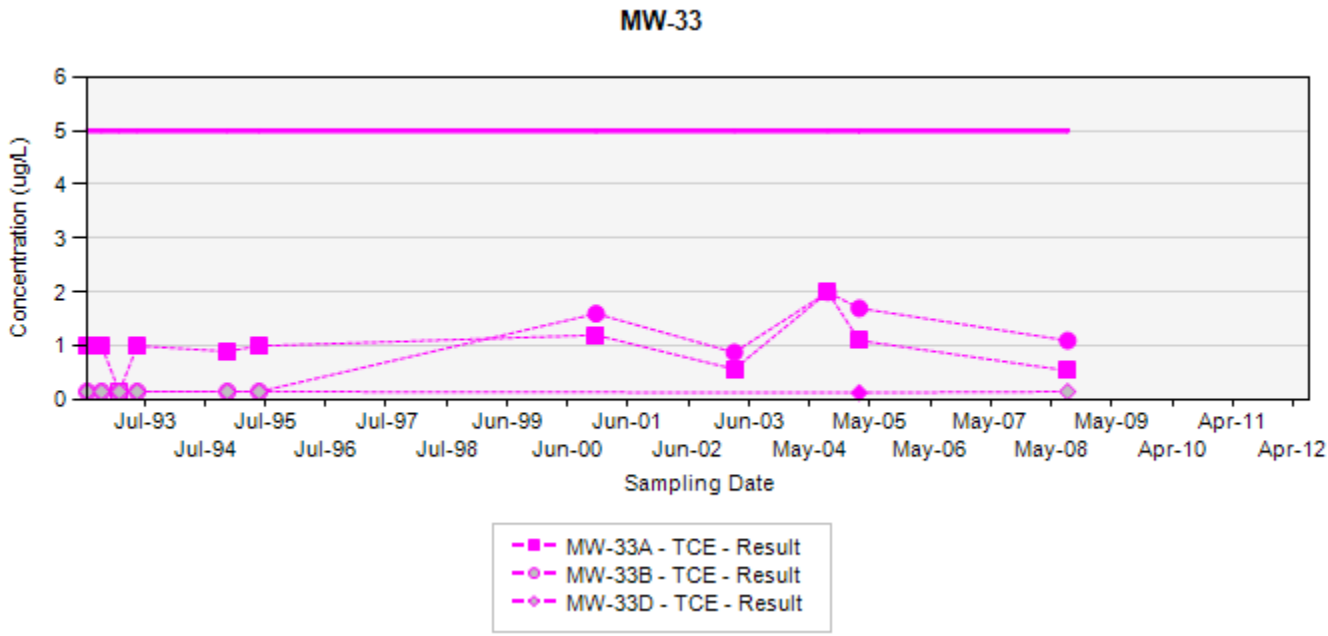
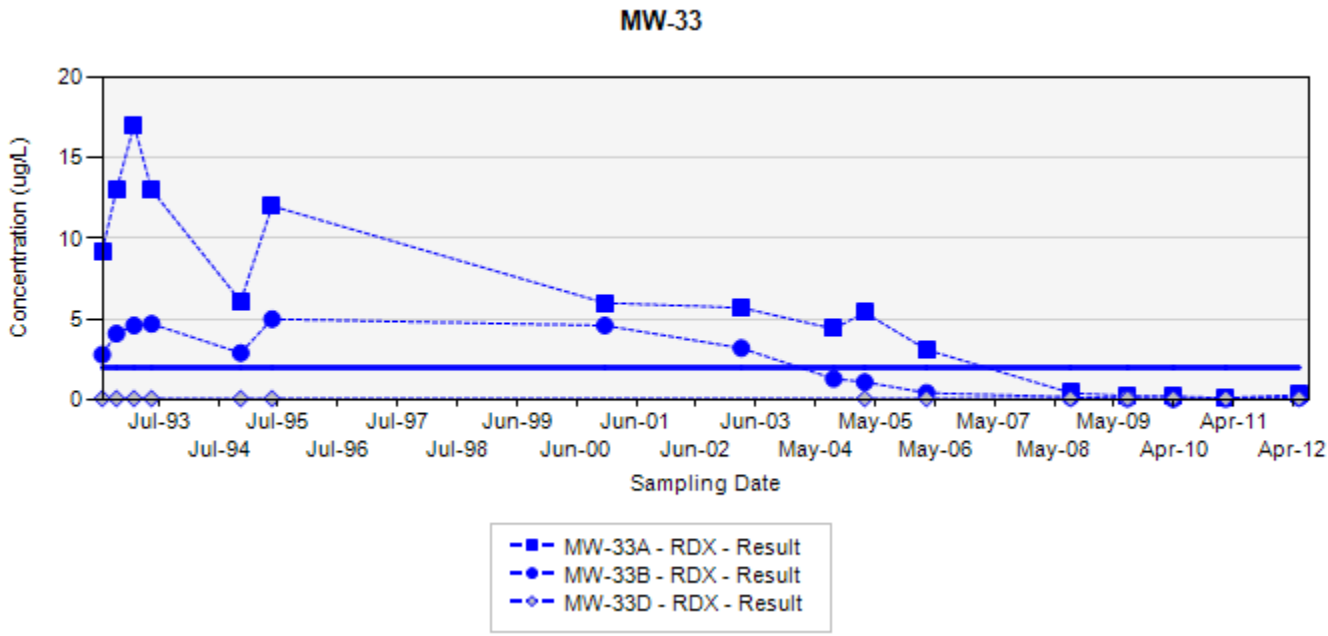


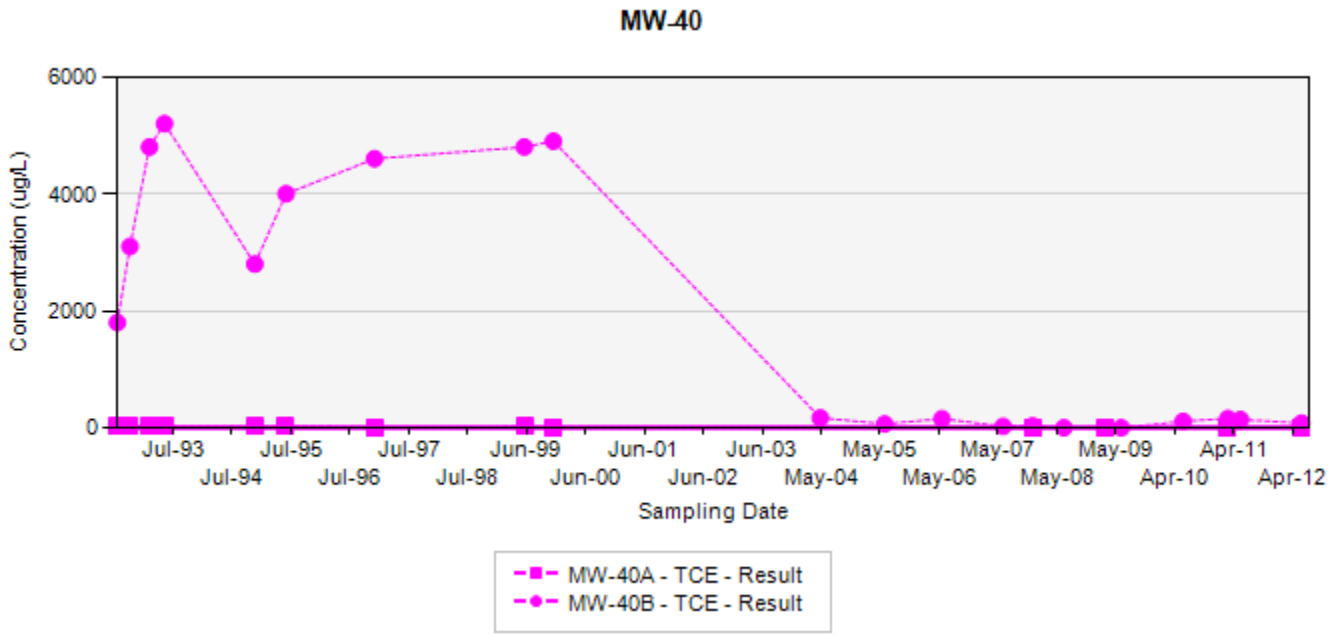


TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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 Monitoring Wells



TCE - trichloroethene

Final Target Groundwater Cleanup Goals for TCE is 5 µg/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
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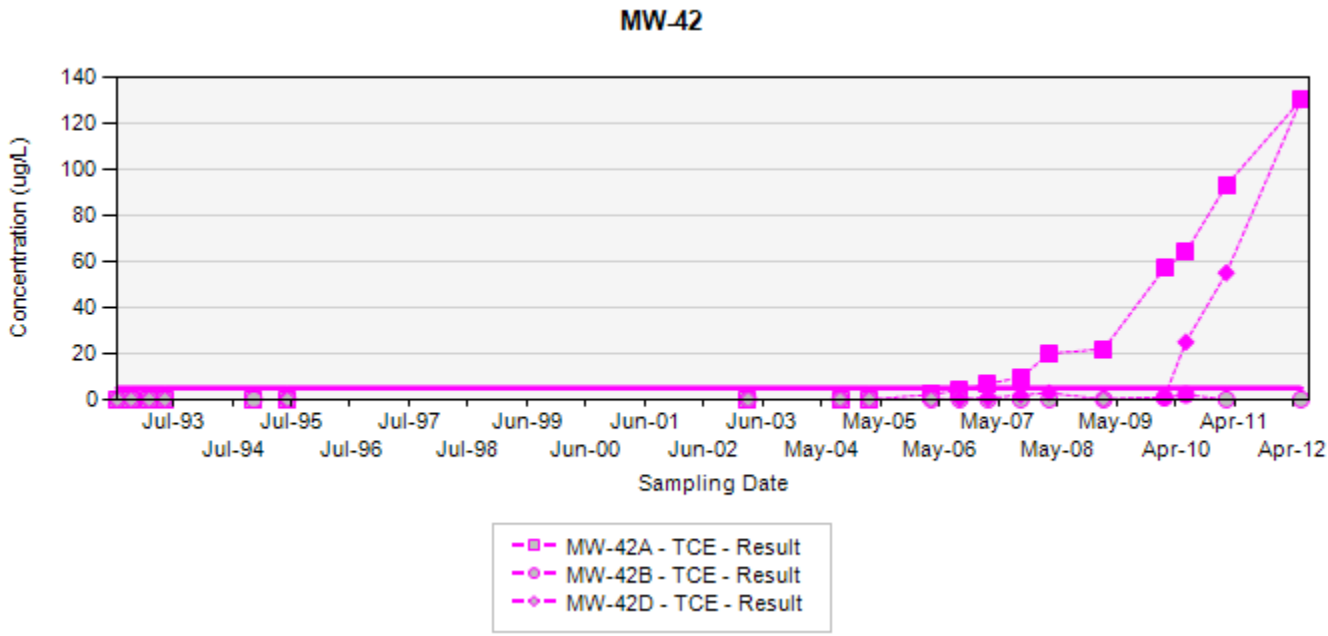
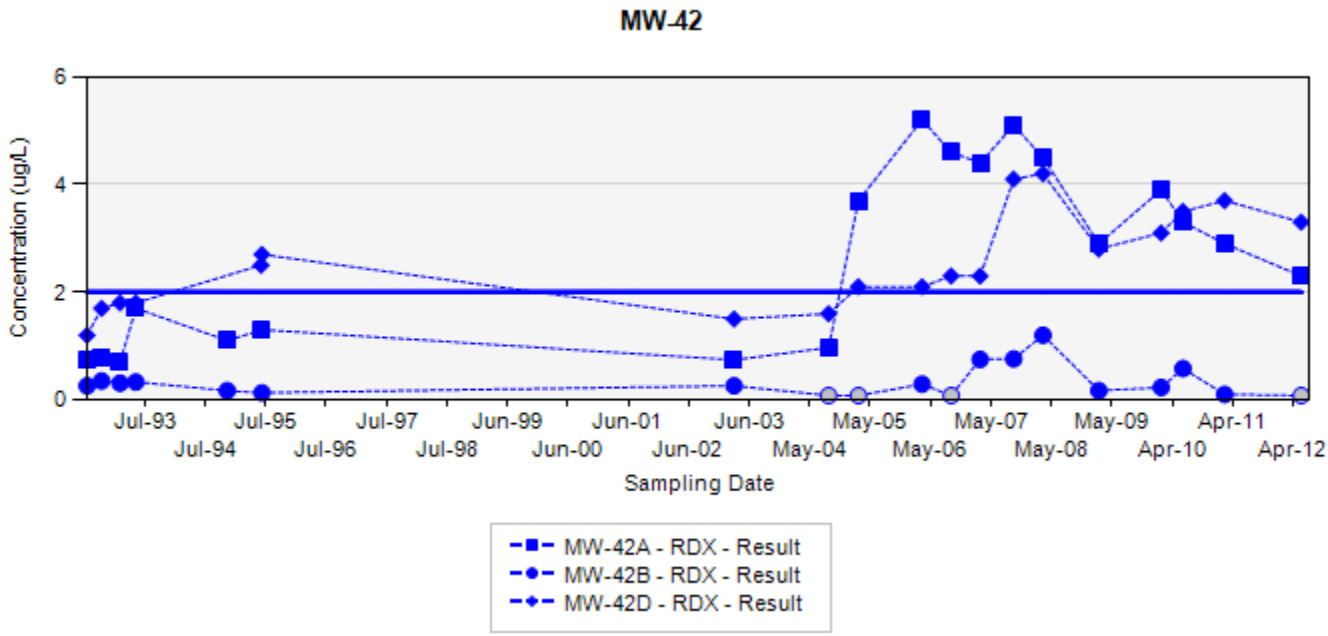
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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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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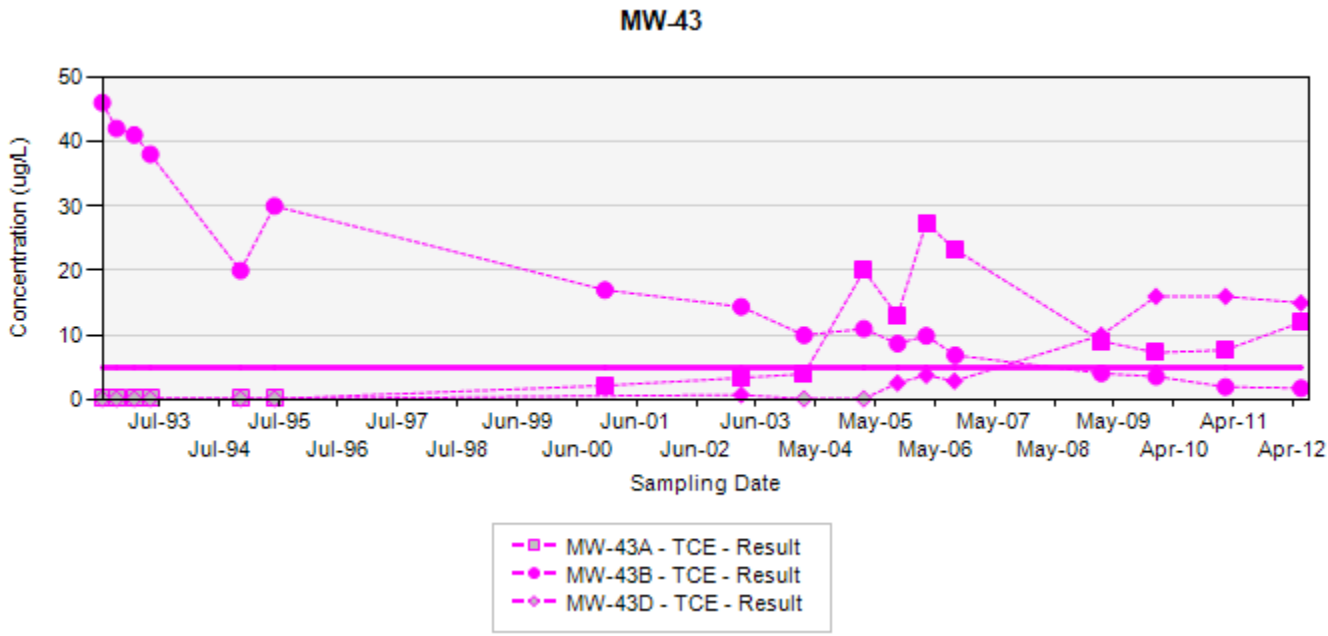
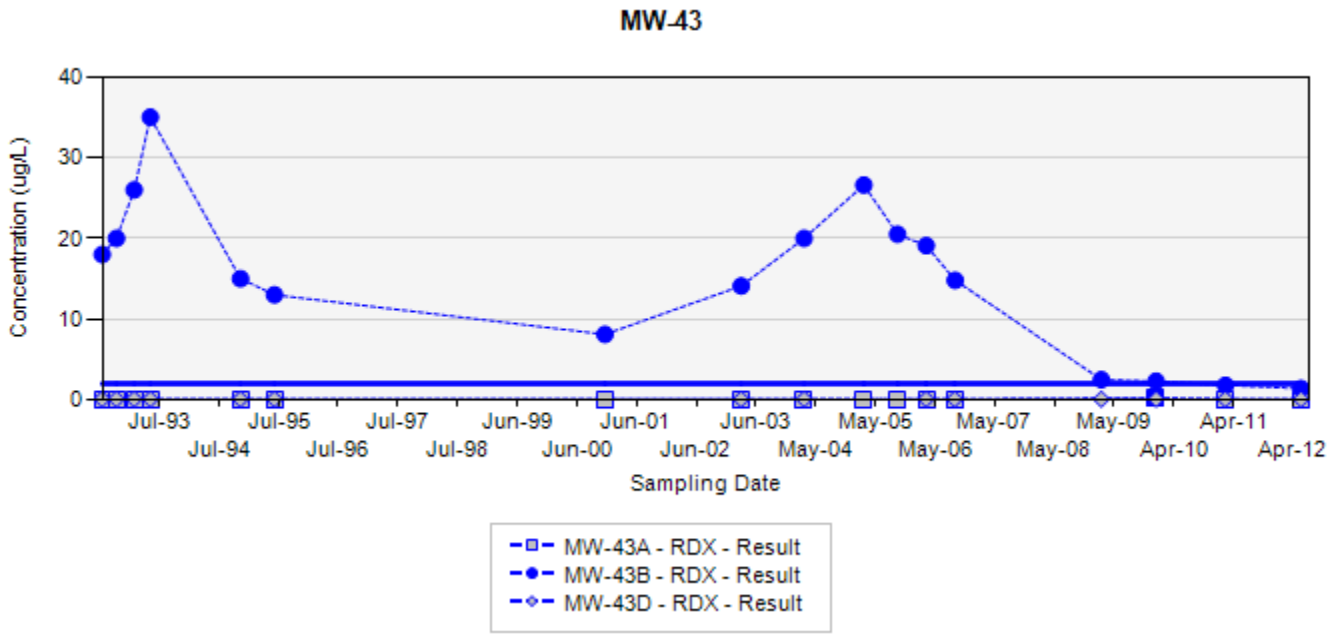
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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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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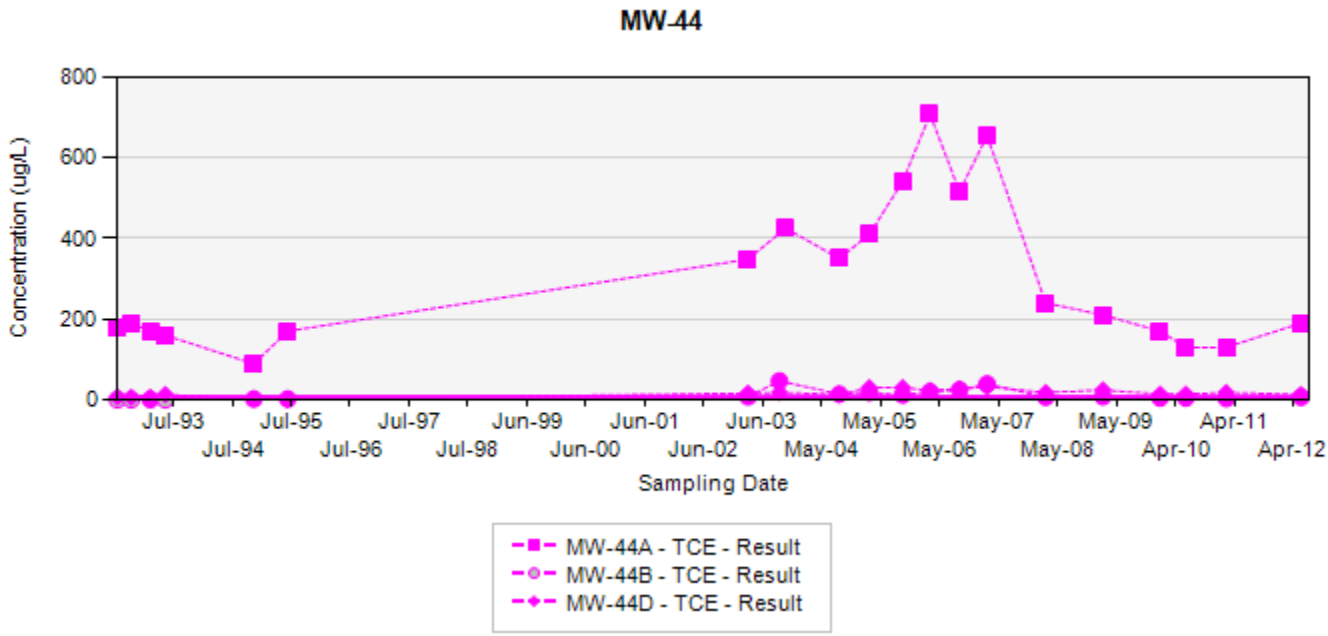
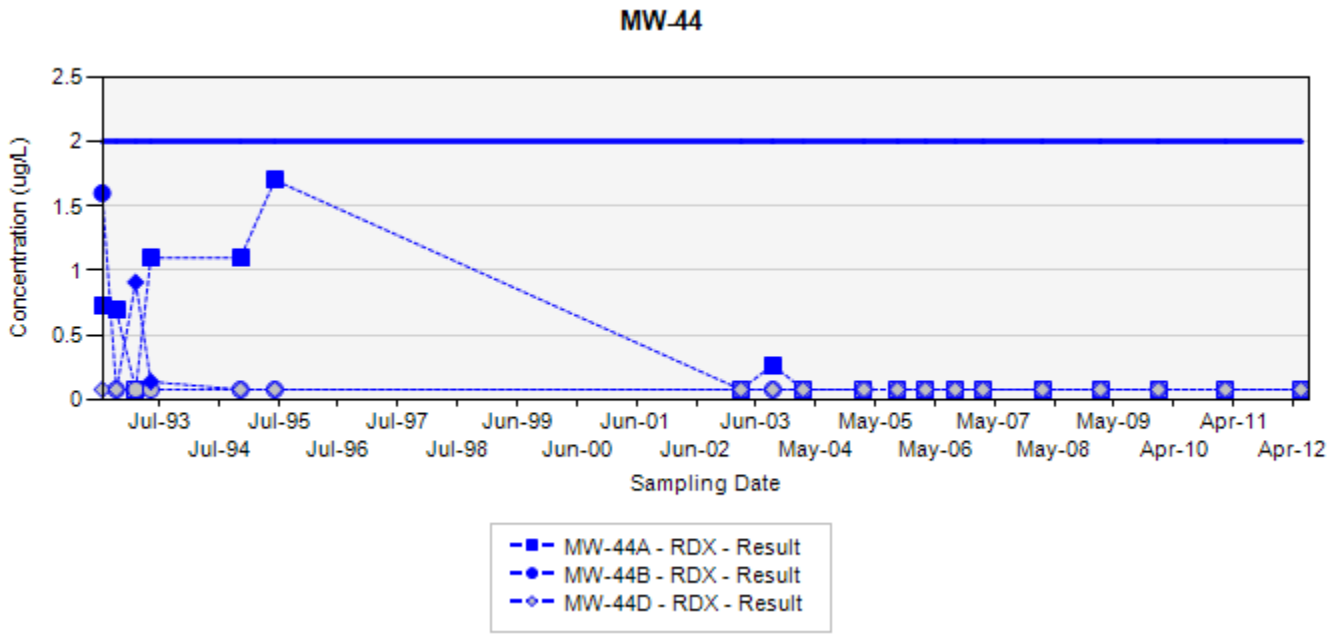
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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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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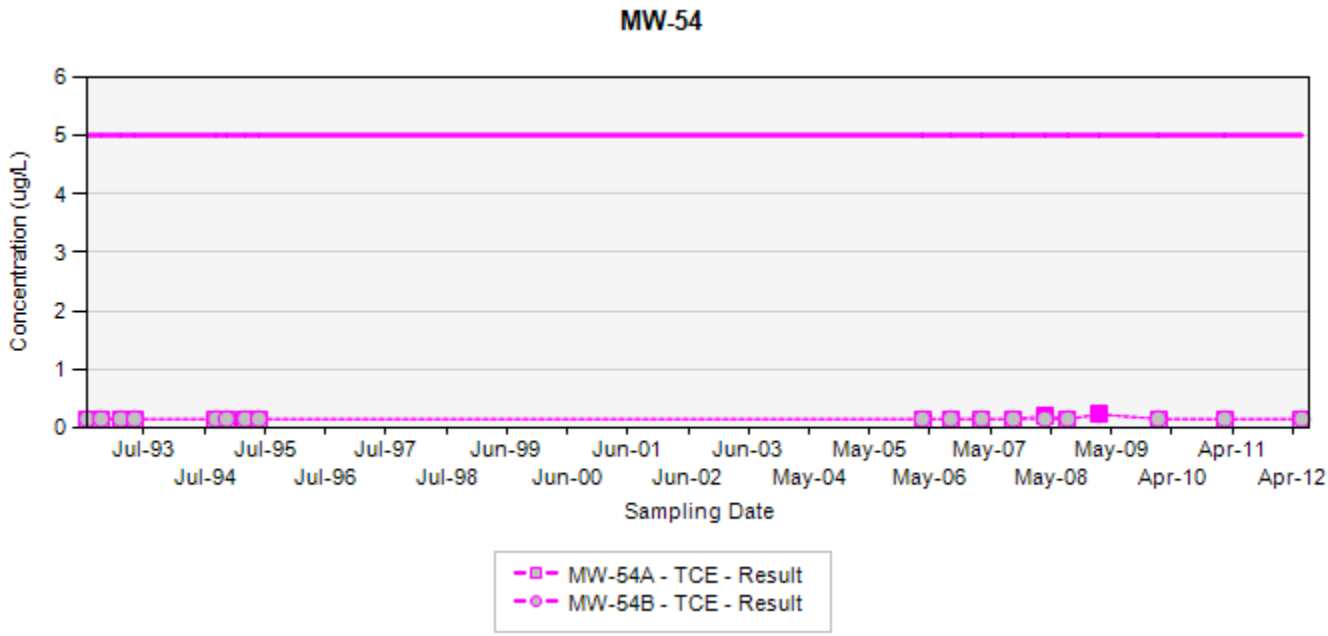
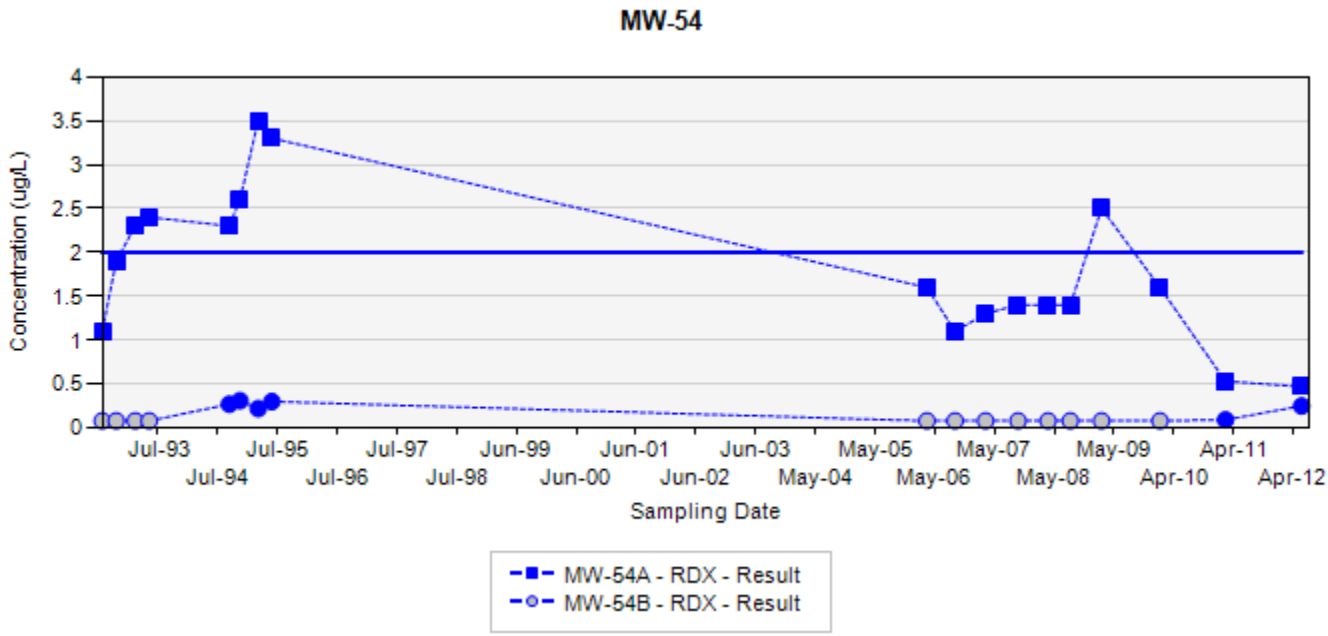
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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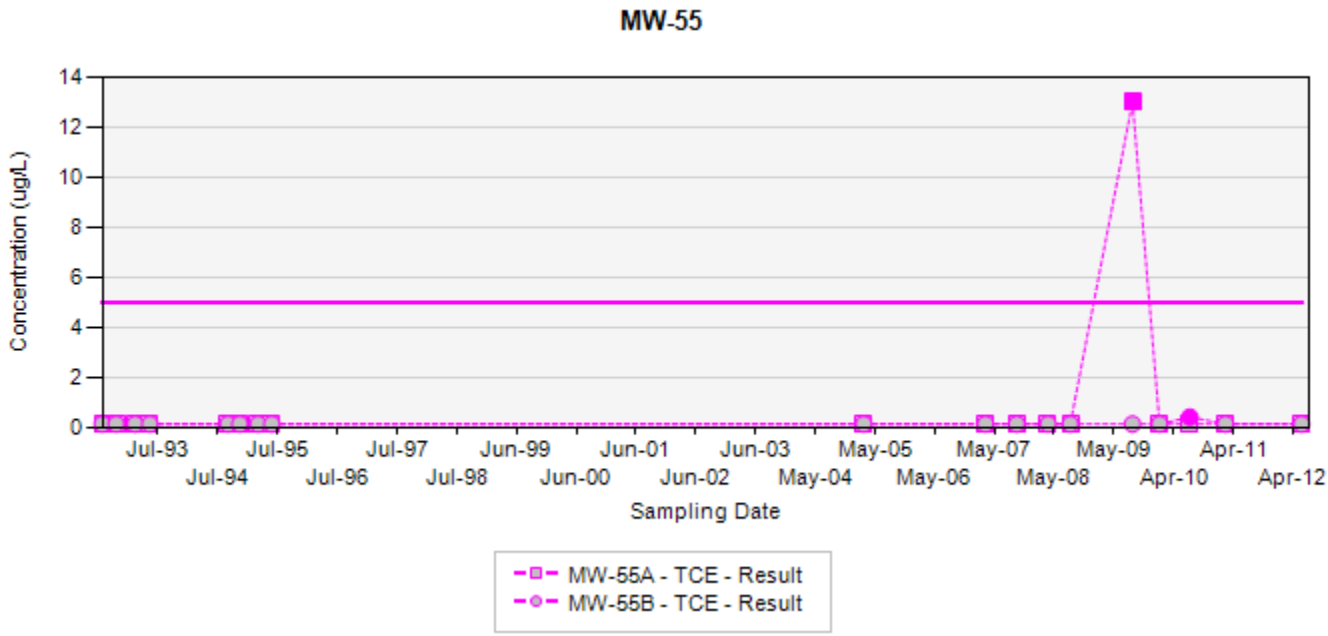
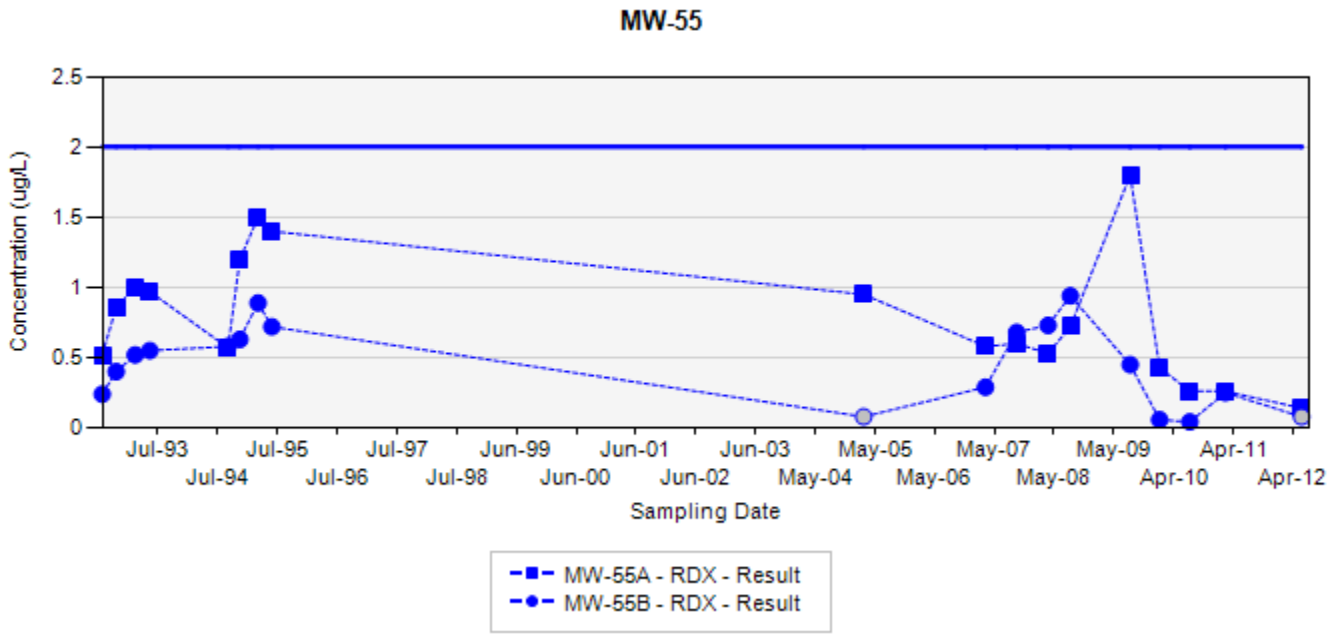
In the event that both a normal sample and a field duplicate were collected, the higher of the two results will be displayed on the chart

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

Appendix A
Concentration Trend Charts for Monitoring Wells



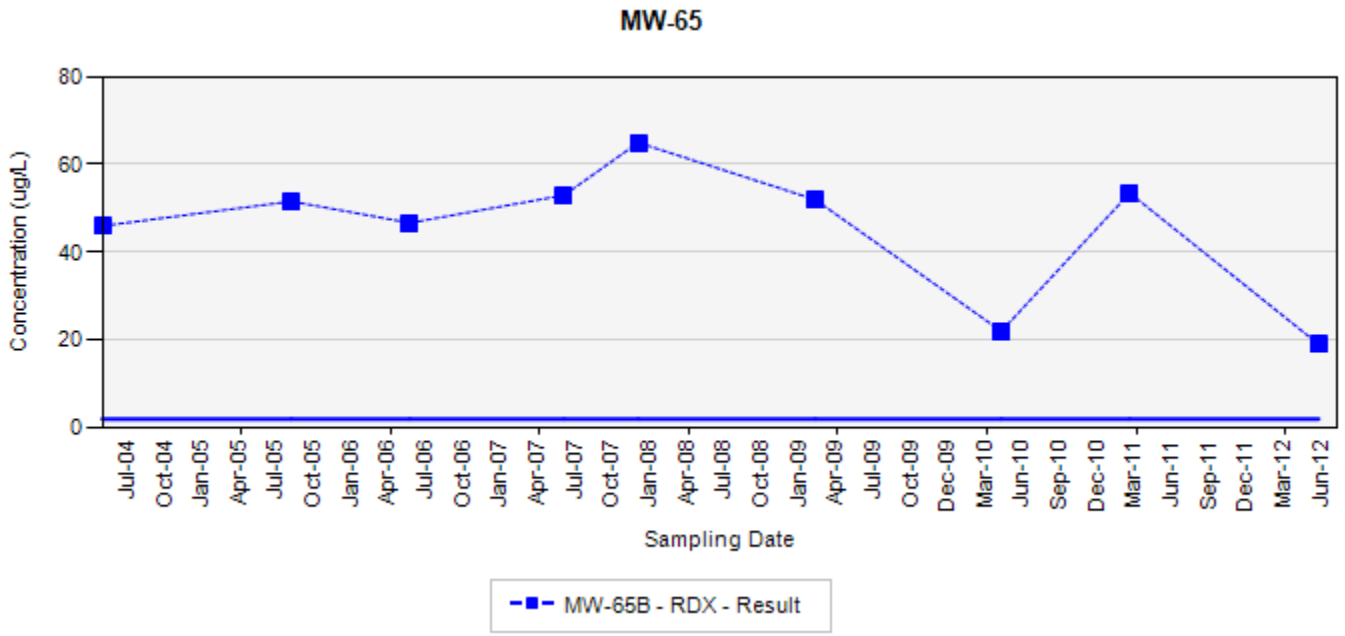


TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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 Monitoring Wells

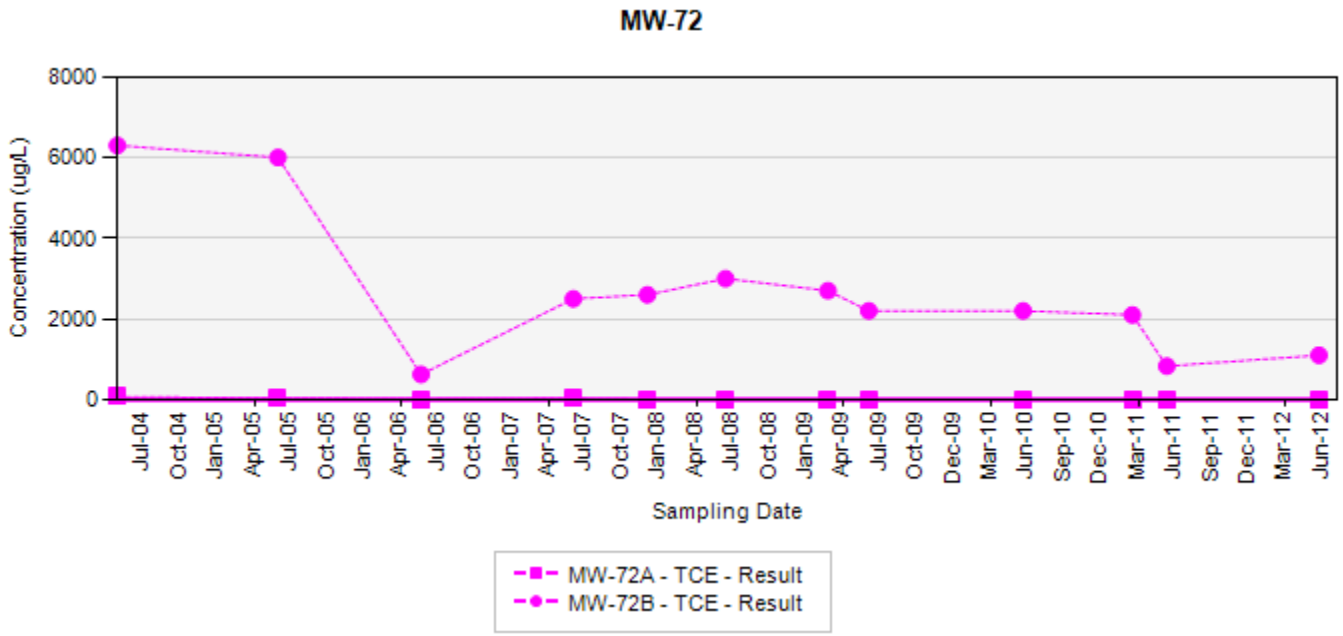


RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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 Monitoring Wells



TCE - trichloroethene

Final Target Groundwater Cleanup Goals for TCE is 5 µg/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
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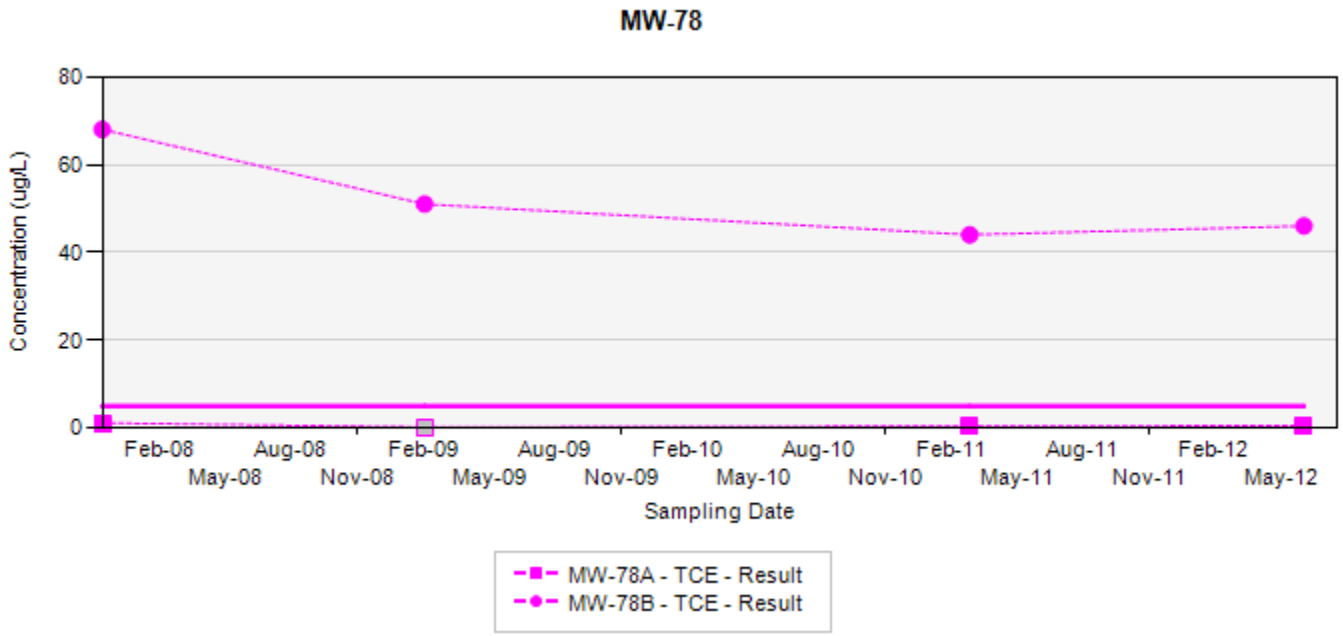
Appendix A
Concentration Trend Charts for Monitoring Wells



TCE - trichloroethene

Final Target Groundwater Cleanup Goals for TCE is 5 µg/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
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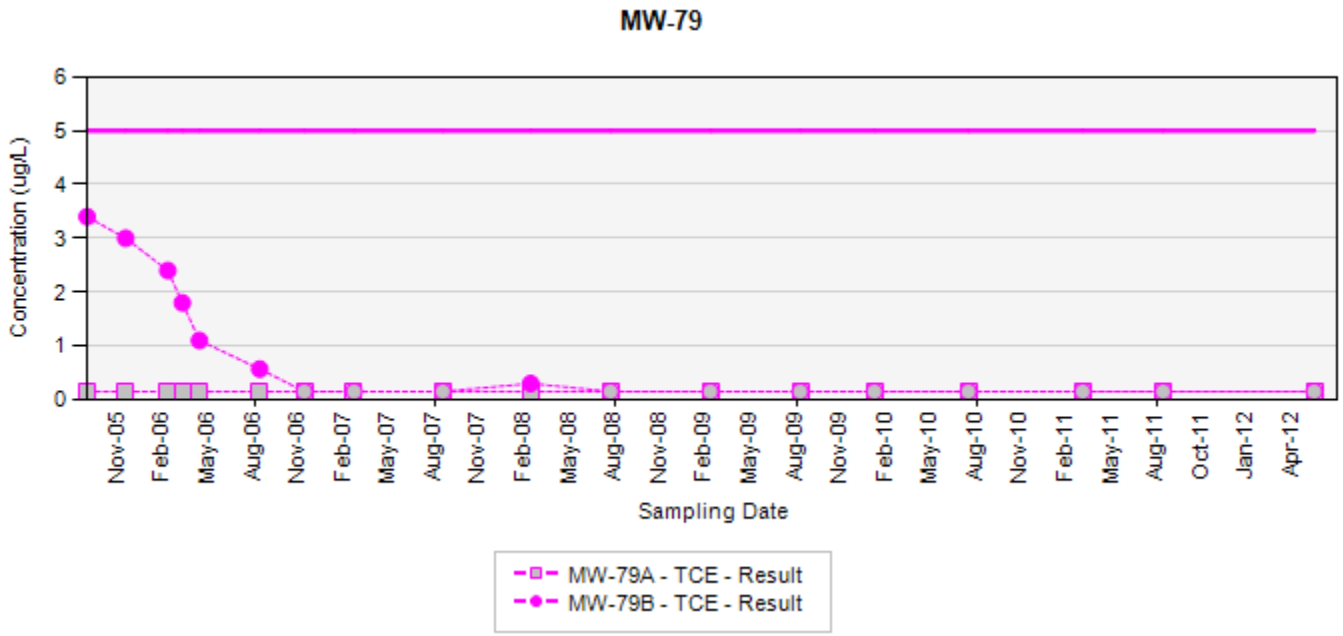
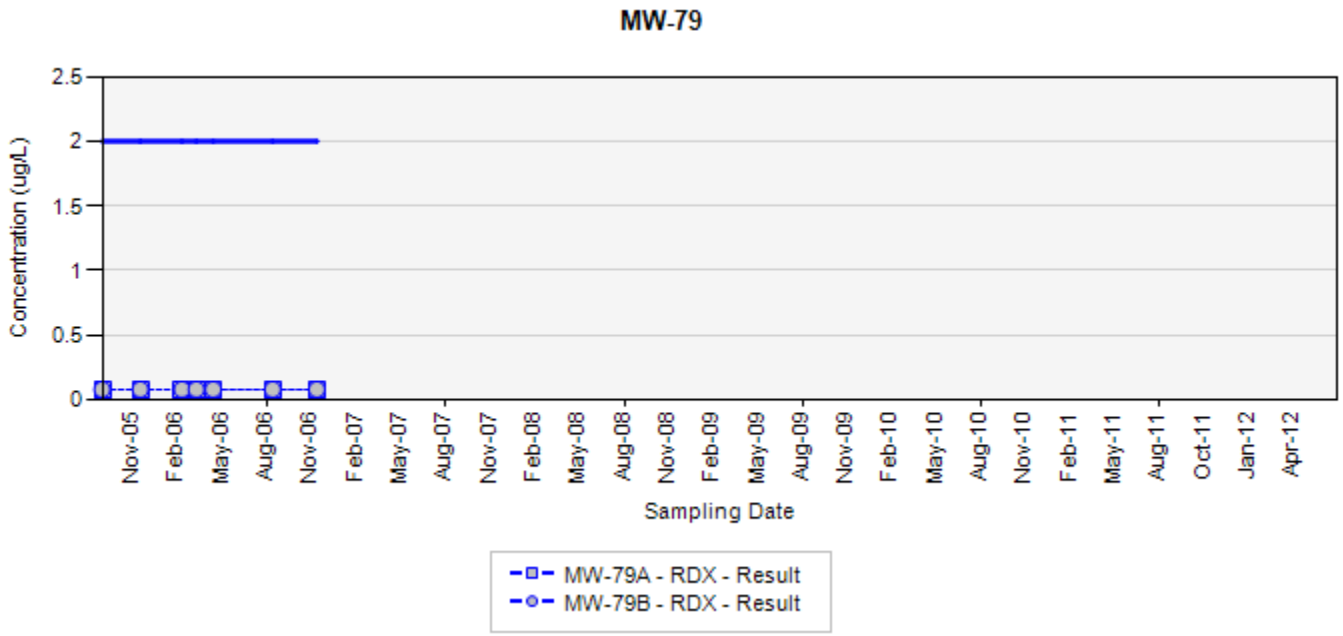
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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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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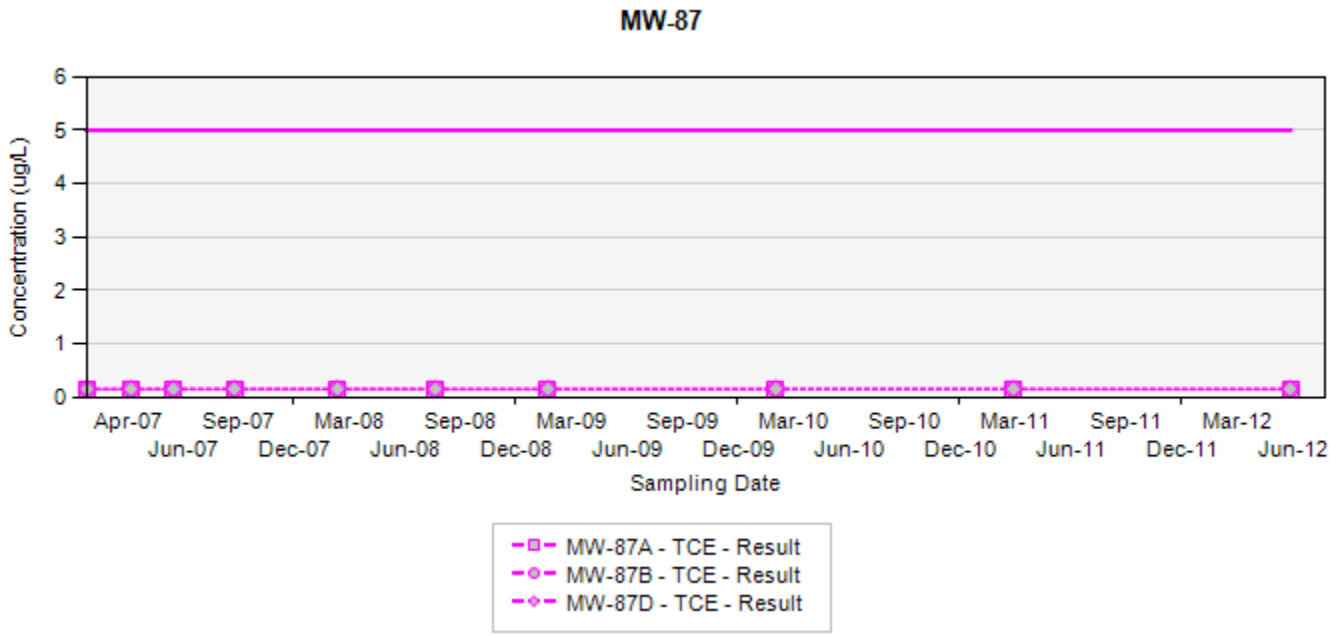
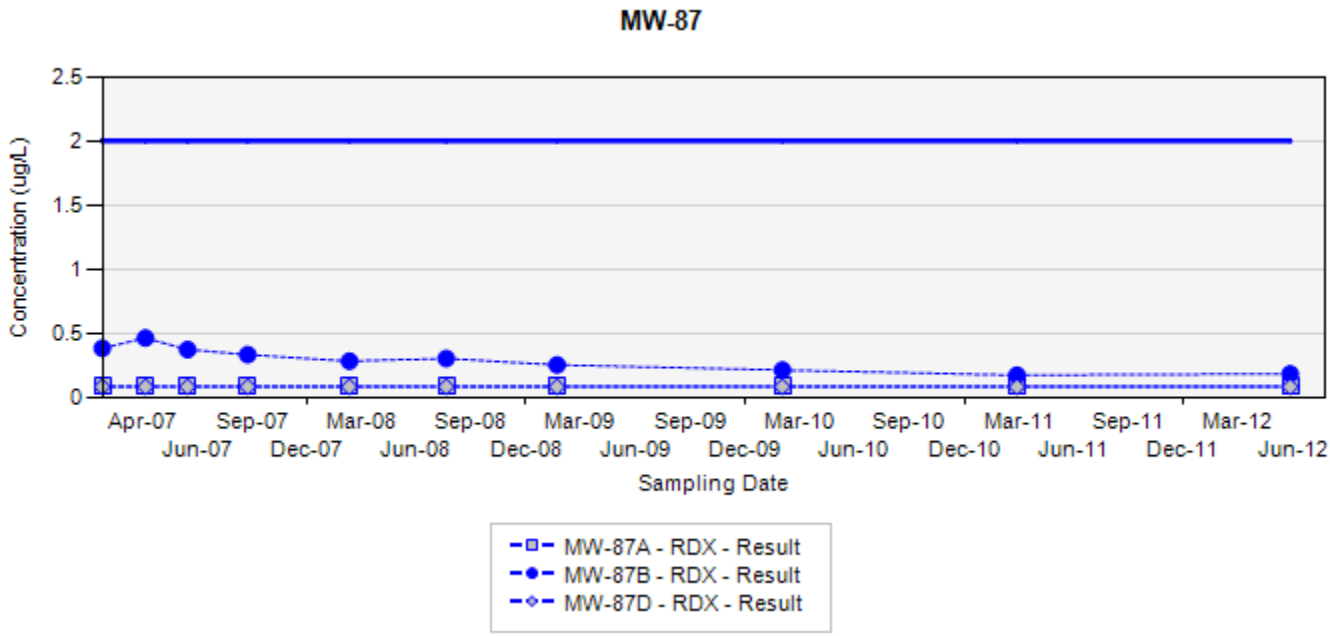
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
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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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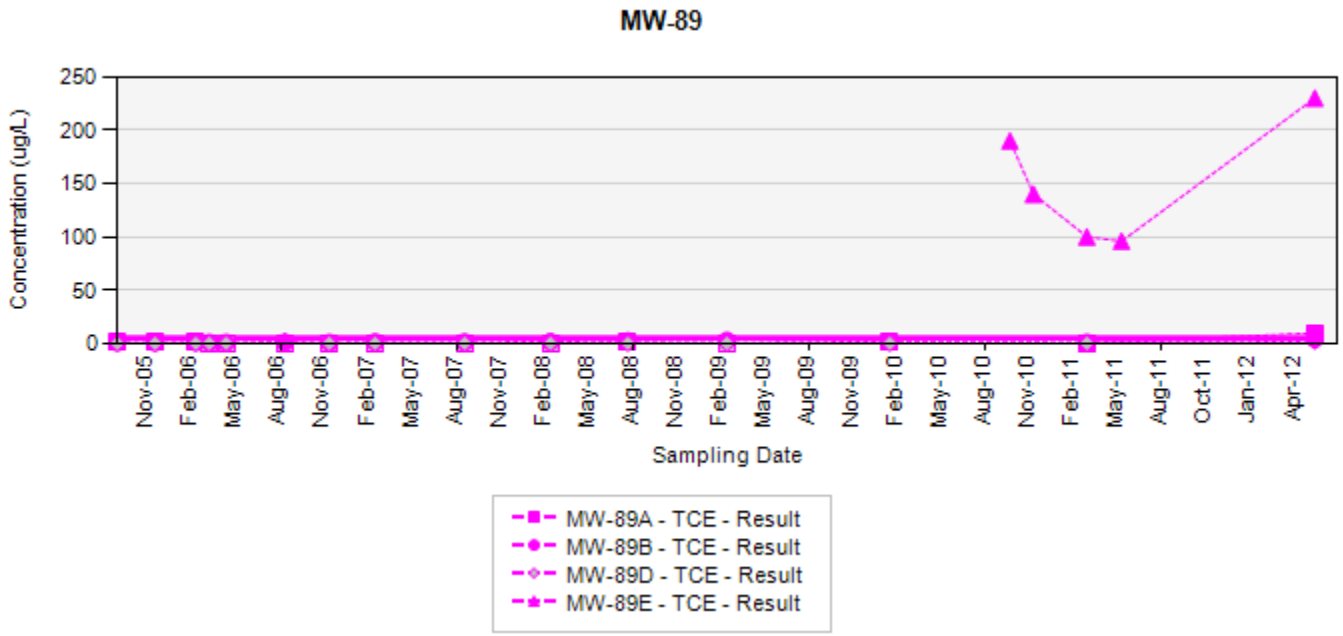
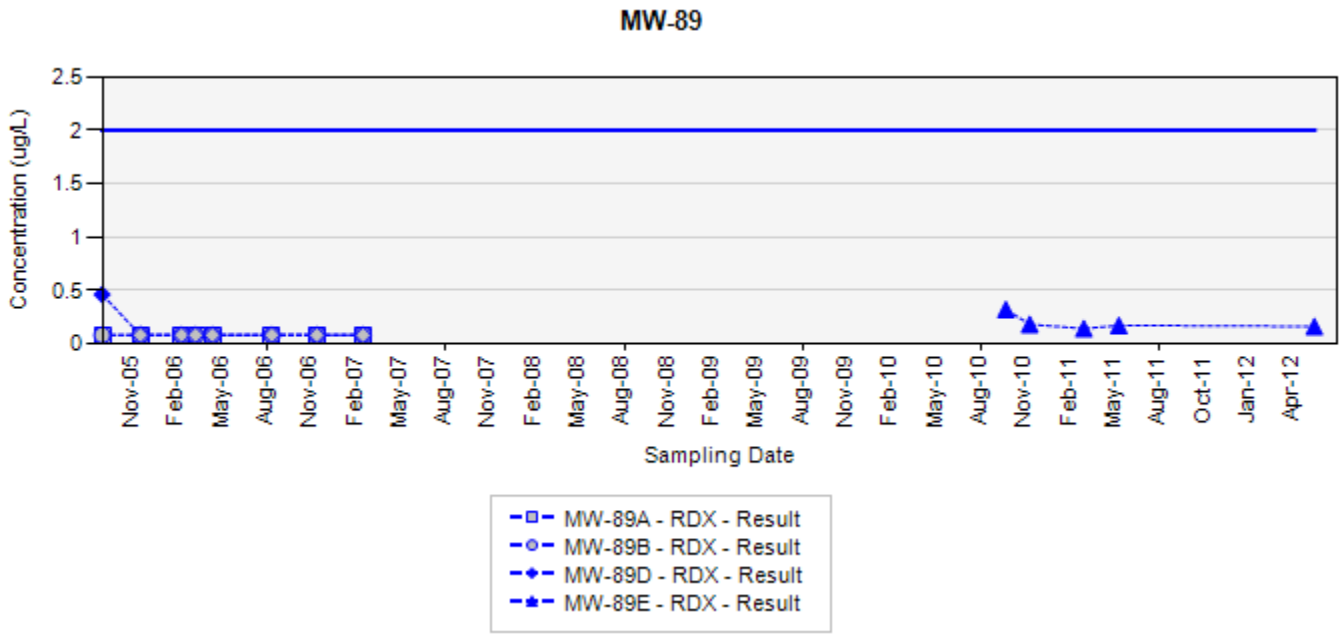
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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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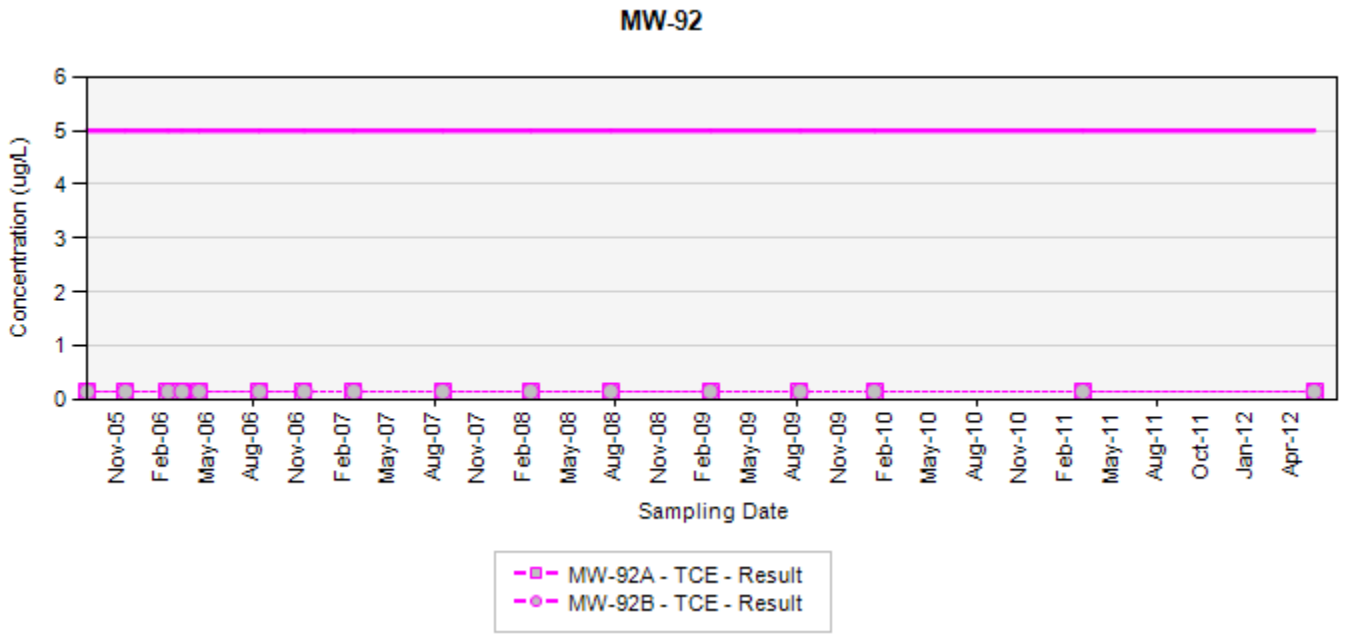
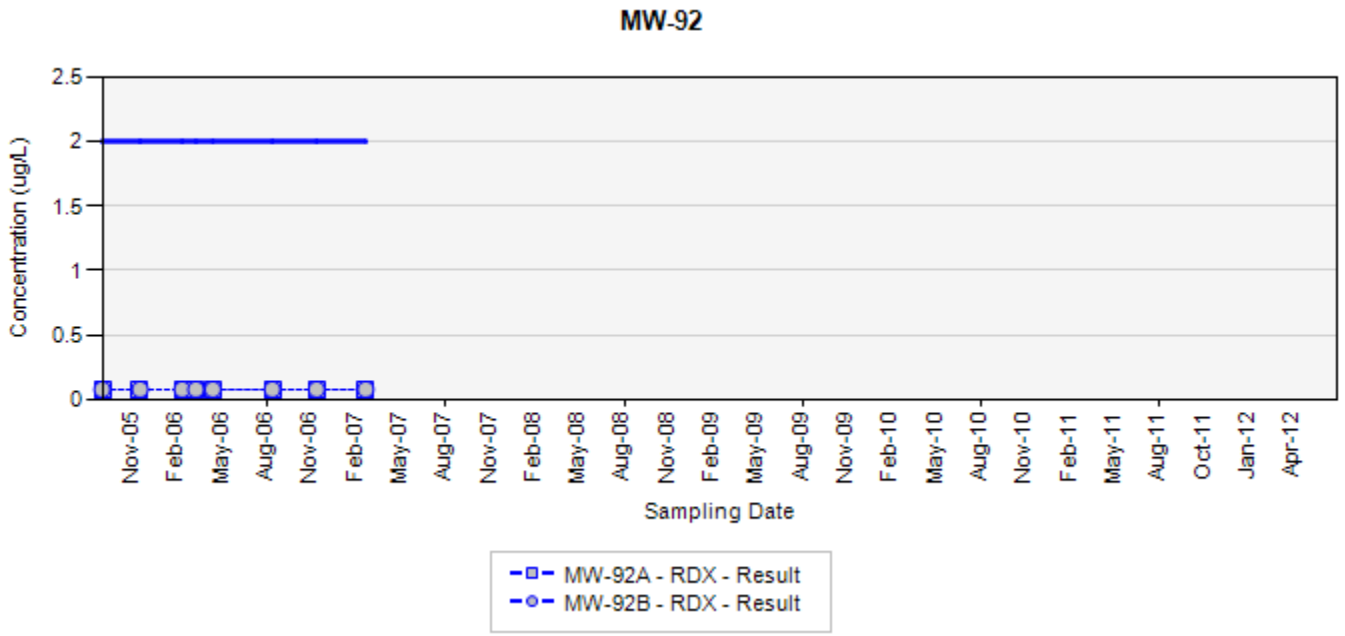
Appendix A
Concentration Trend Charts for Monitoring Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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
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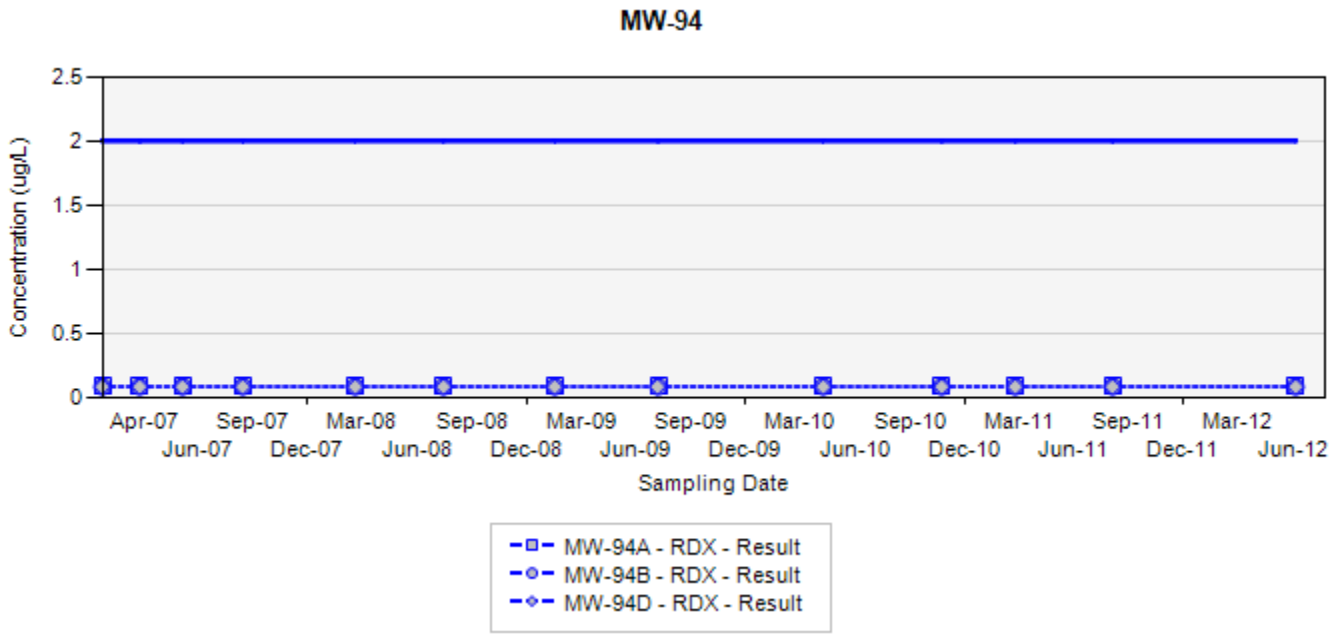
Appendix A
Concentration Trend Charts for Monitoring Wells



RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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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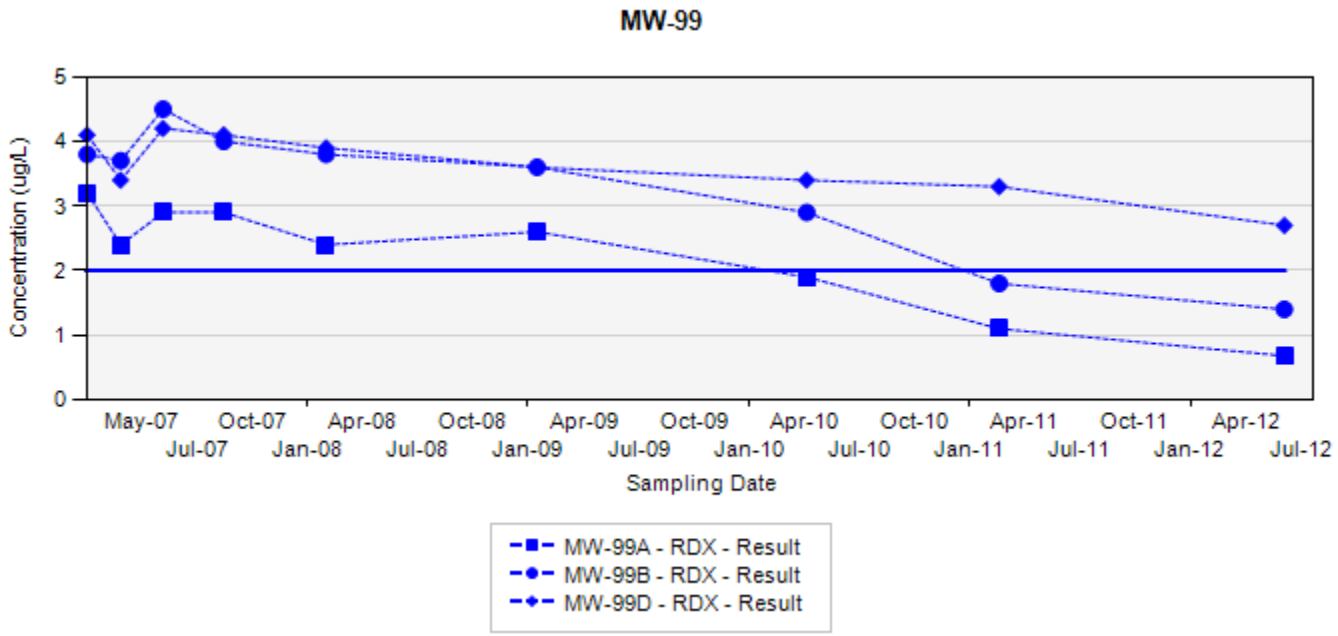
Silver markers indicate non-detected results

Appendix A
Concentration Trend Charts for Monitoring Wells



RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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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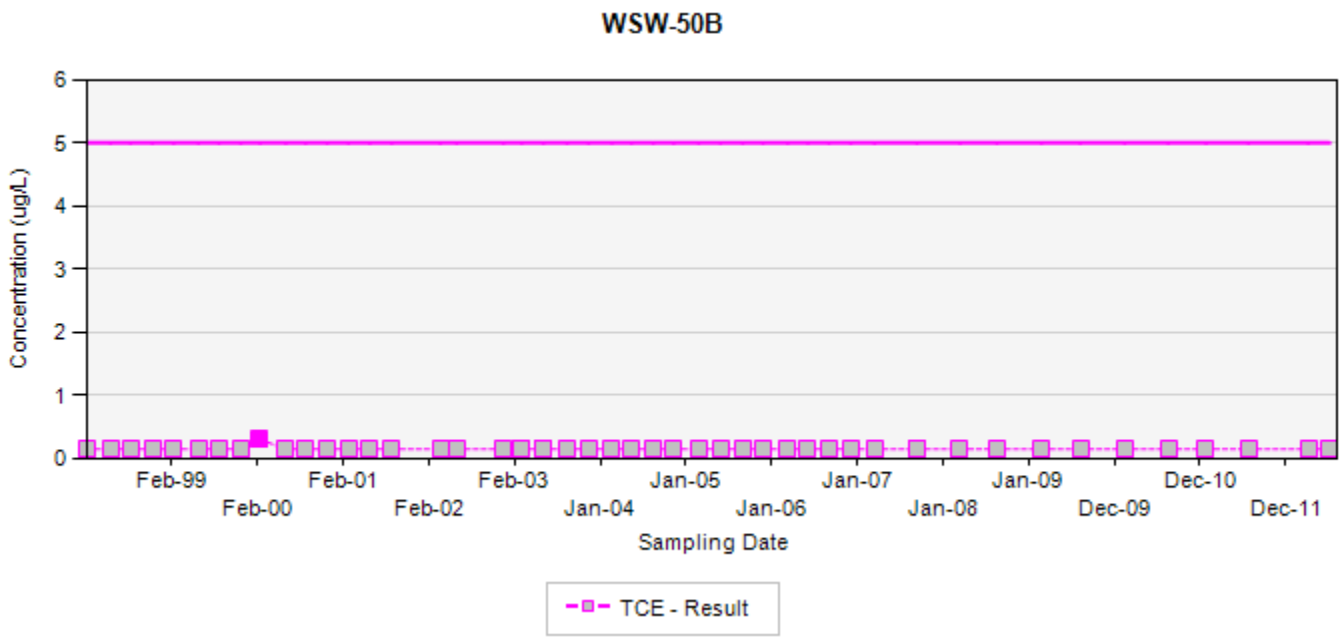
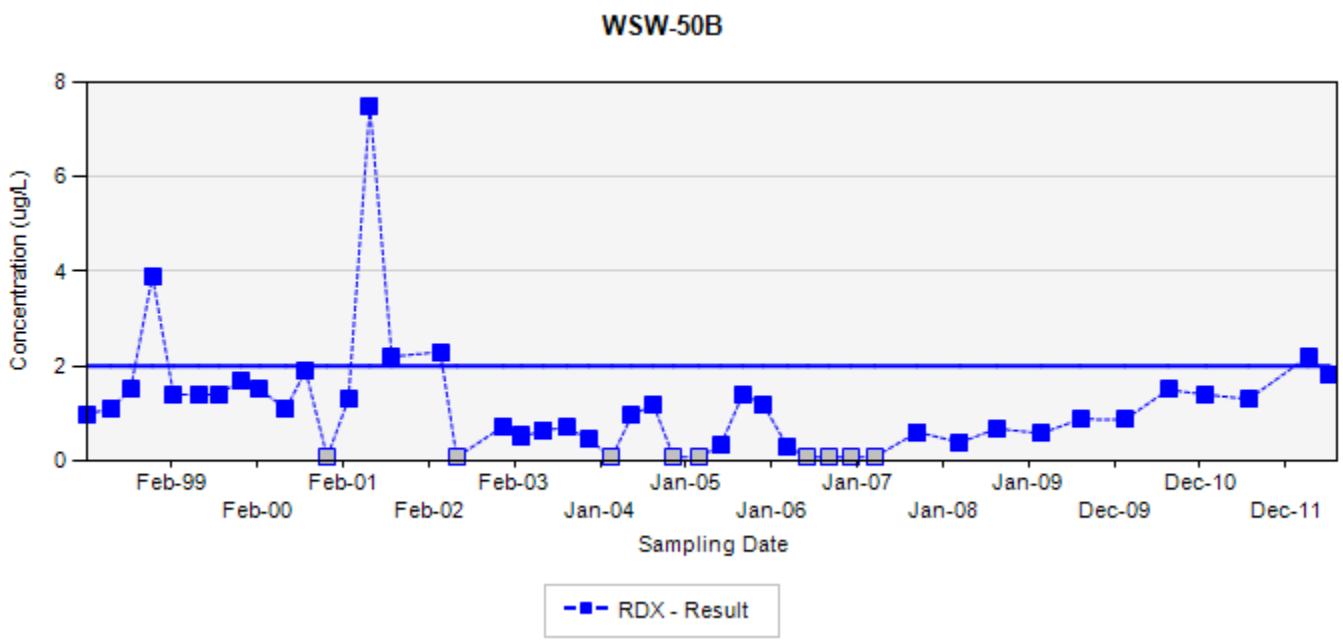
Appendix B
Concentration Trend Charts for Water Supply Wells



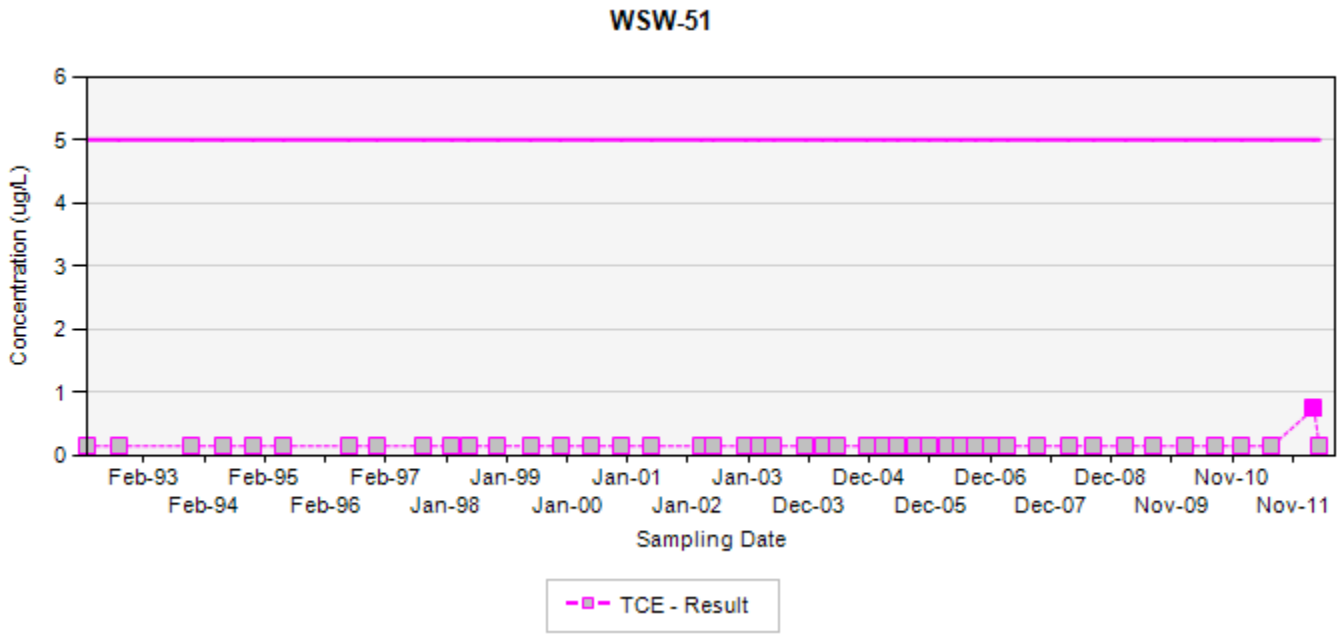


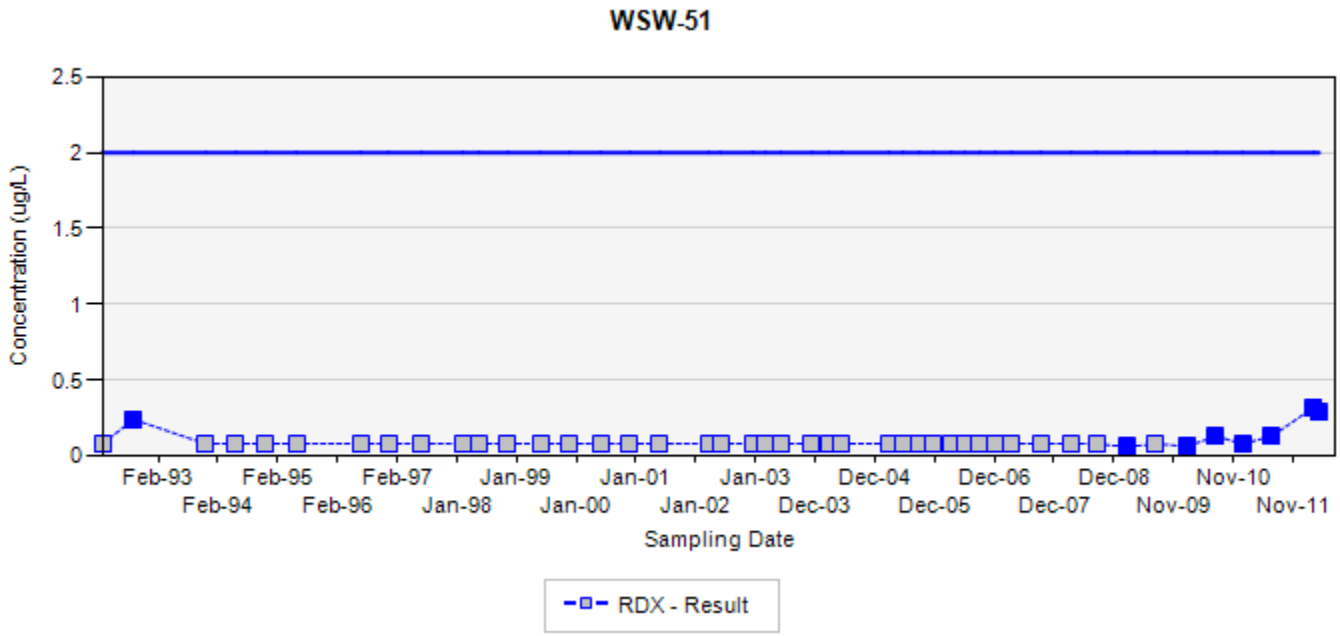
TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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

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

Appendix B
Concentration Trend Charts for Water Supply Wells



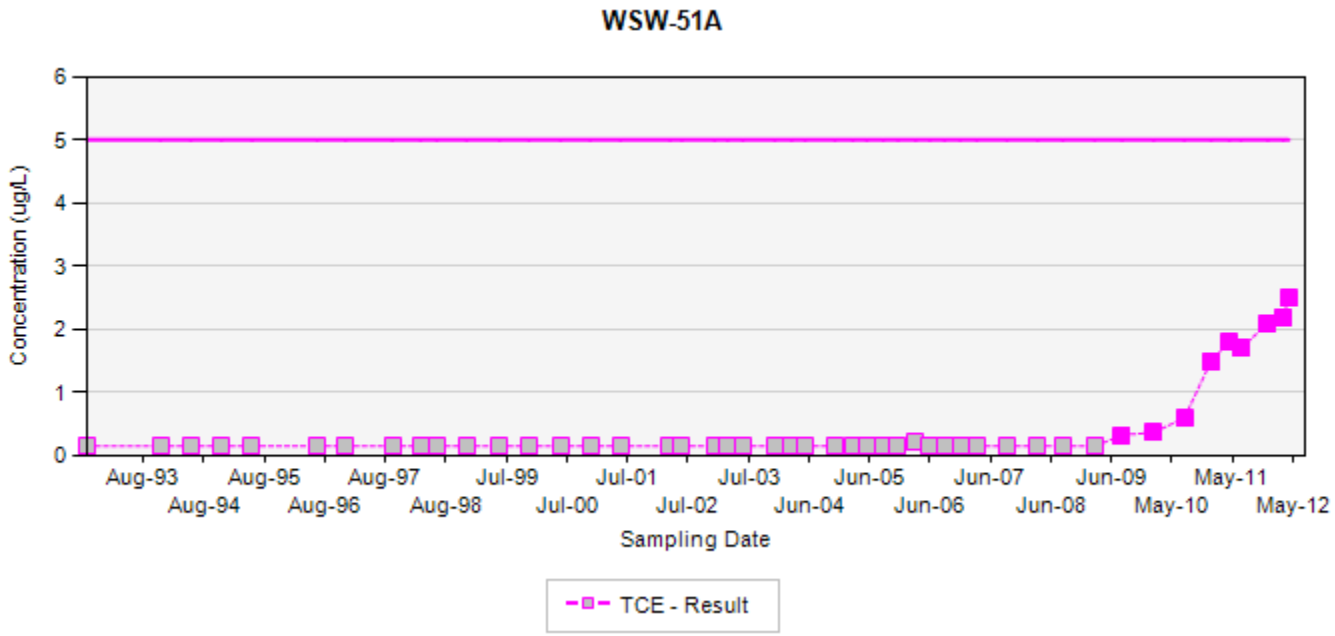


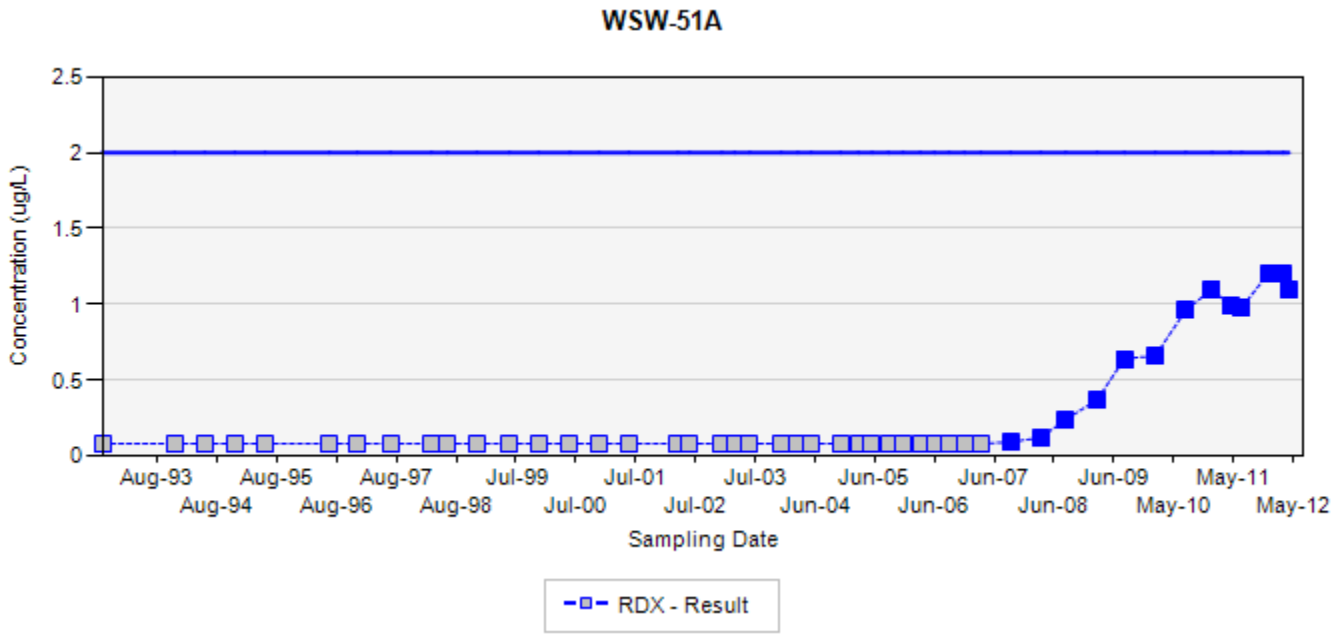
TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/L

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

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

Appendix B
Concentration Trend Charts for Water Supply Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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

µg/L: micrograms per liter
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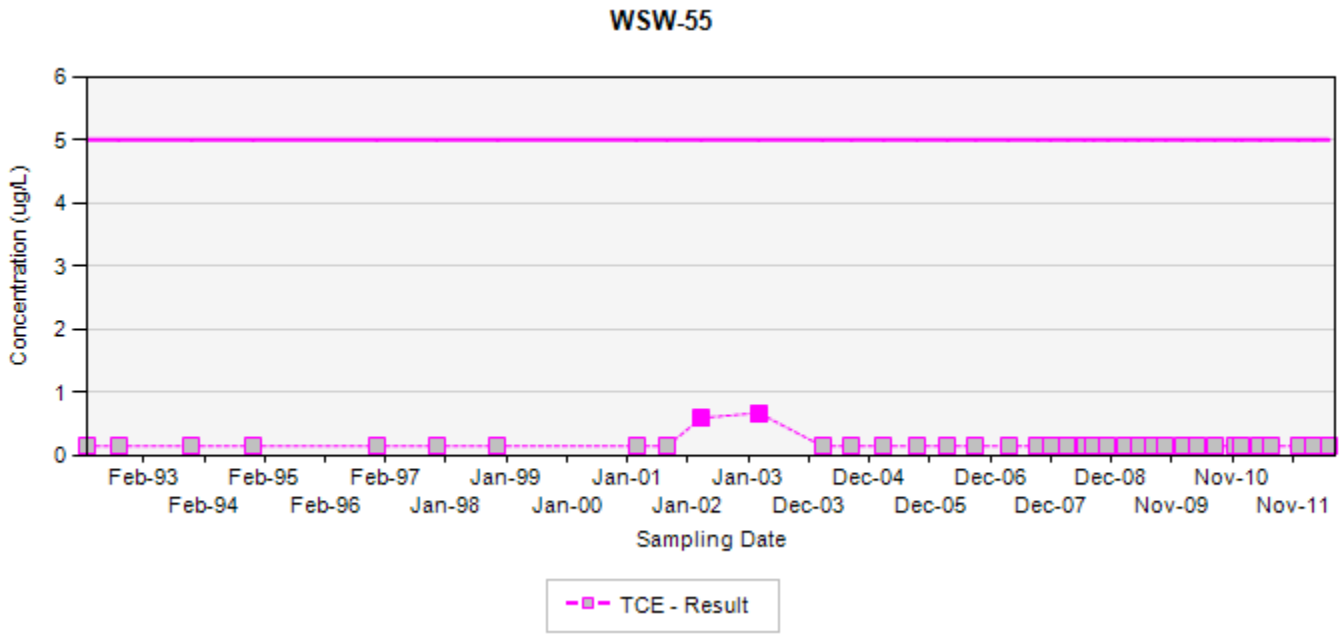
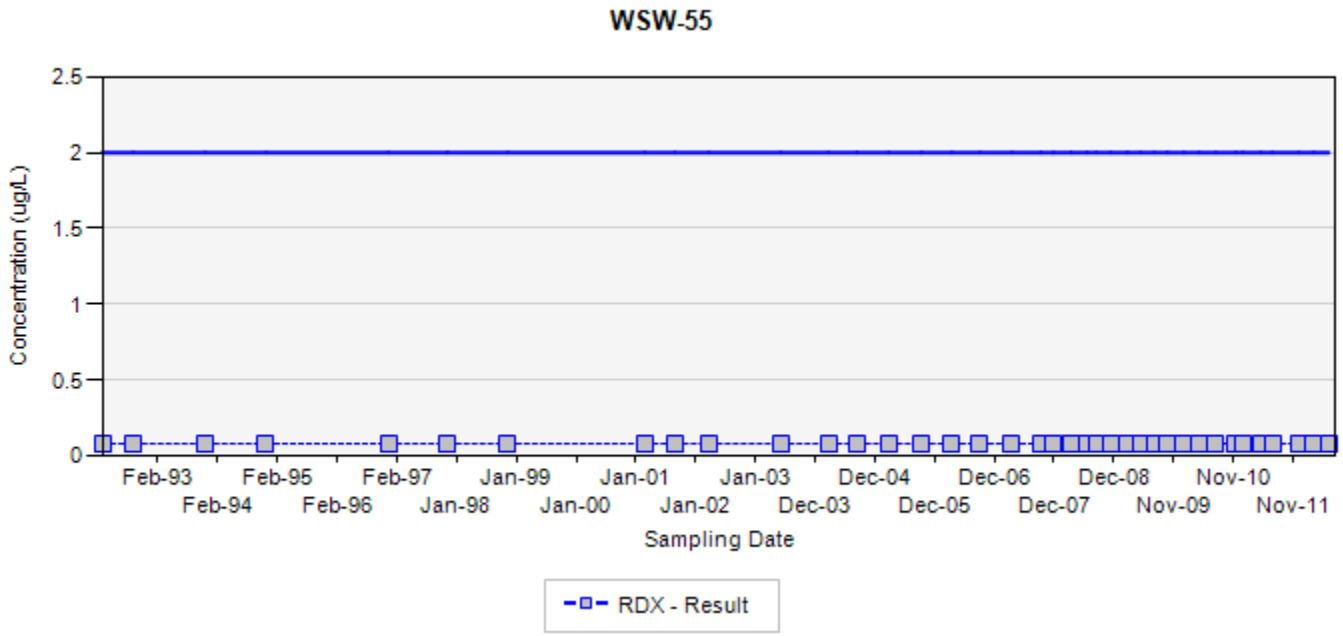
Appendix B
Concentration Trend Charts for Water Supply Wells





TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 5 µg/L
Final Target Groundwater Cleanup Goals for RDX is 2 µg/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

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

Appendix C
Concentration Trend Charts for Select Surface Water Locations

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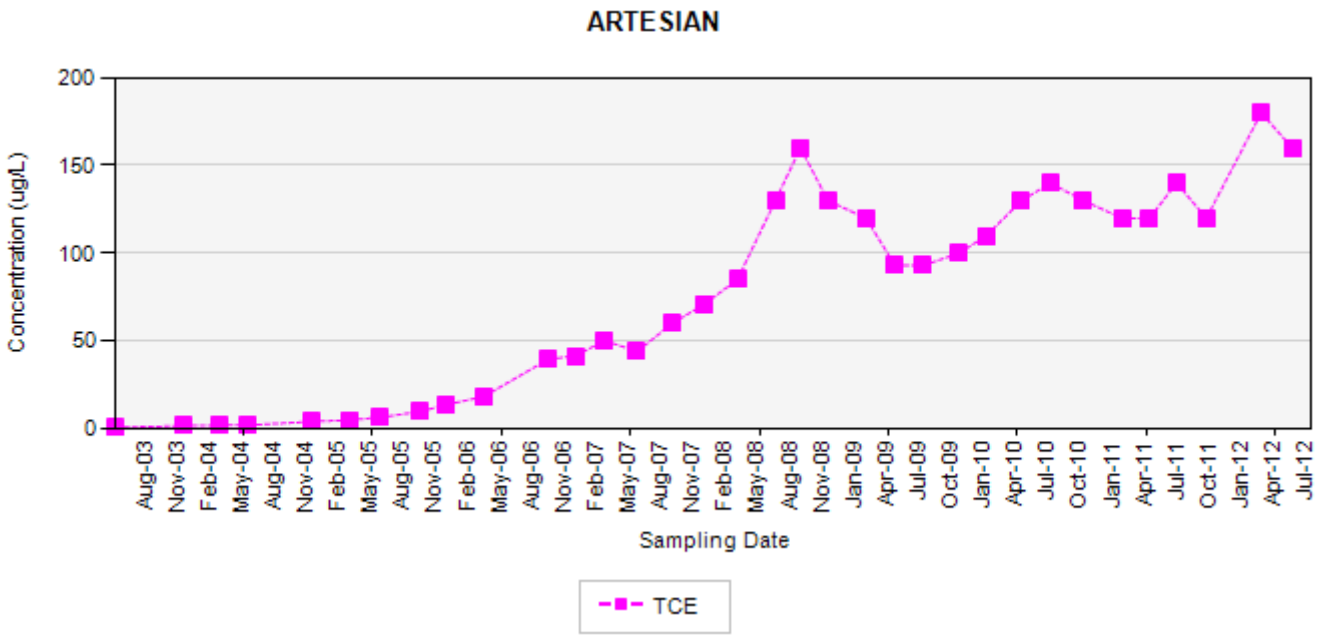
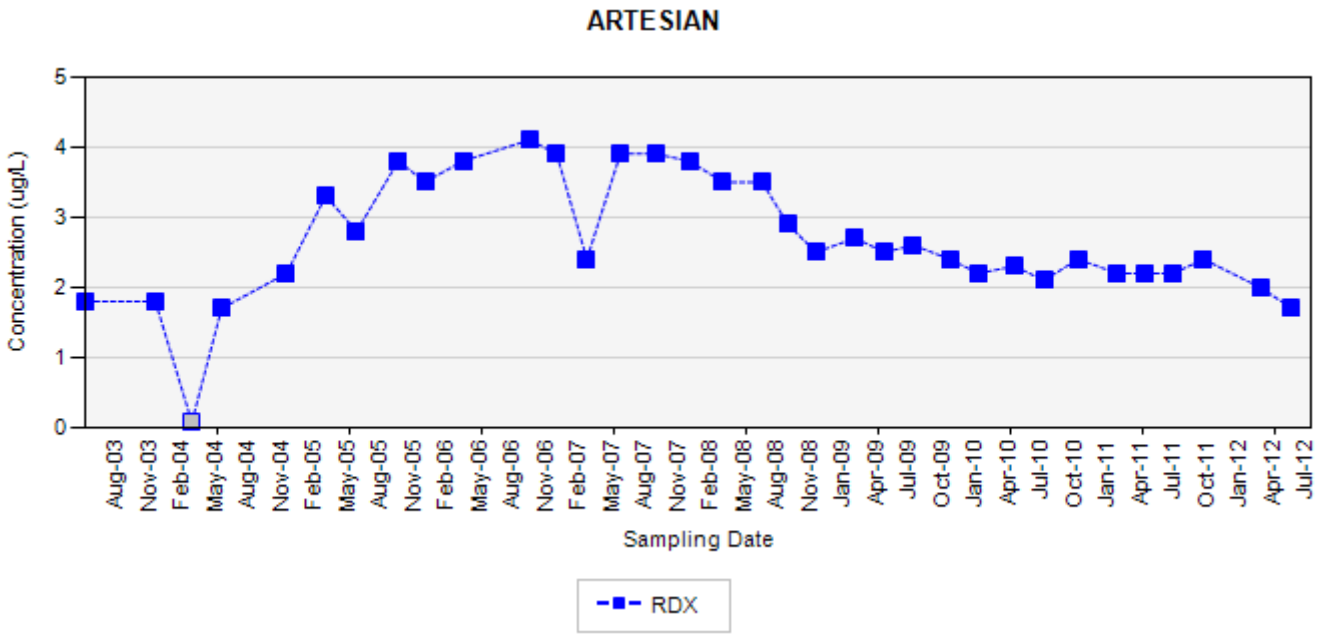
Appendix C
Concentration Trend Charts for Surface Water



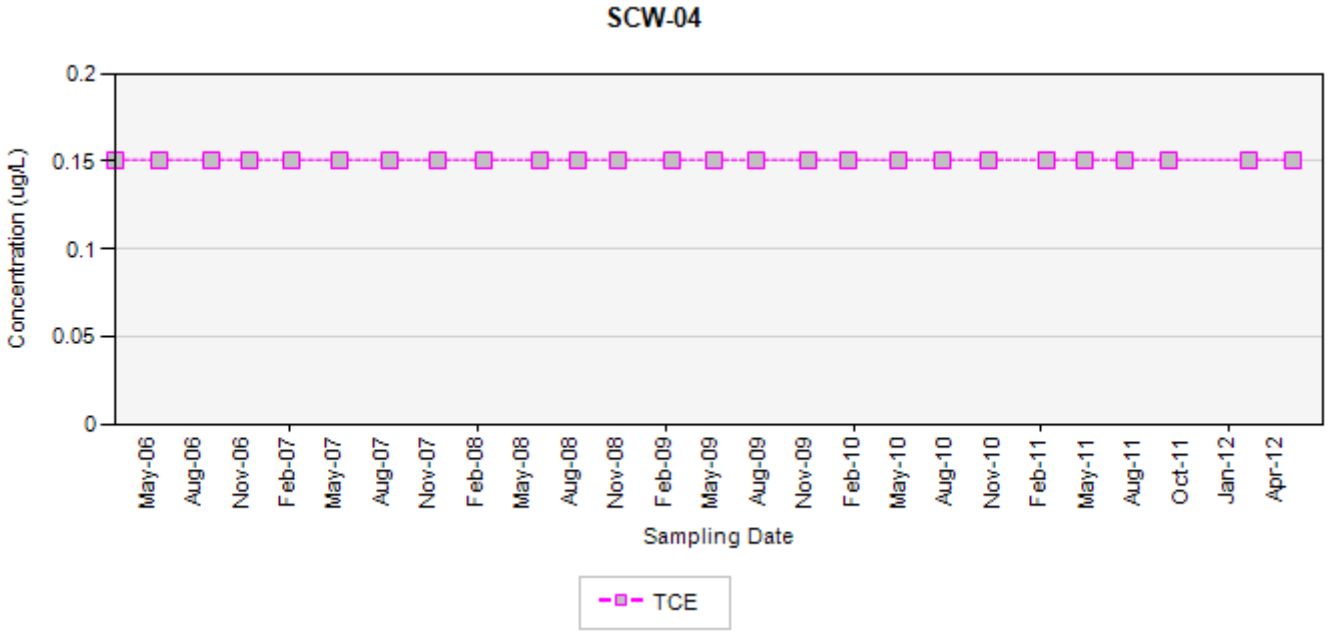


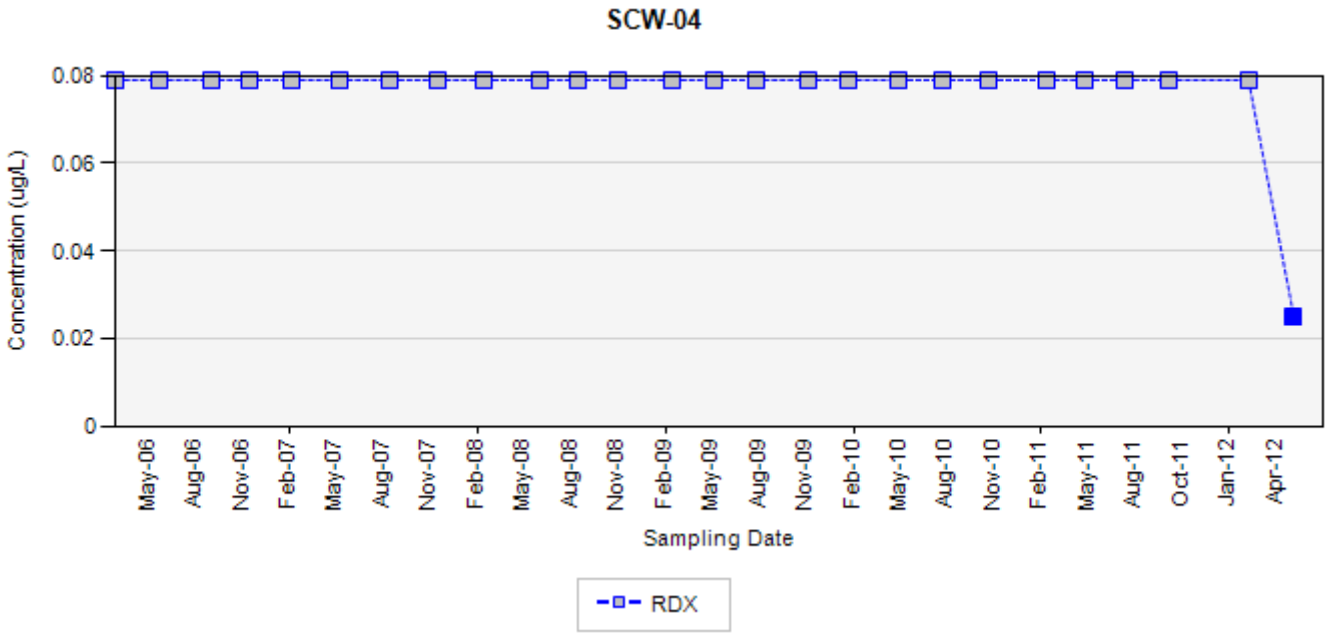
TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 810 µg/L
Final Target Groundwater Cleanup Goals for RDX is 100 µg/L

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 Surface Water



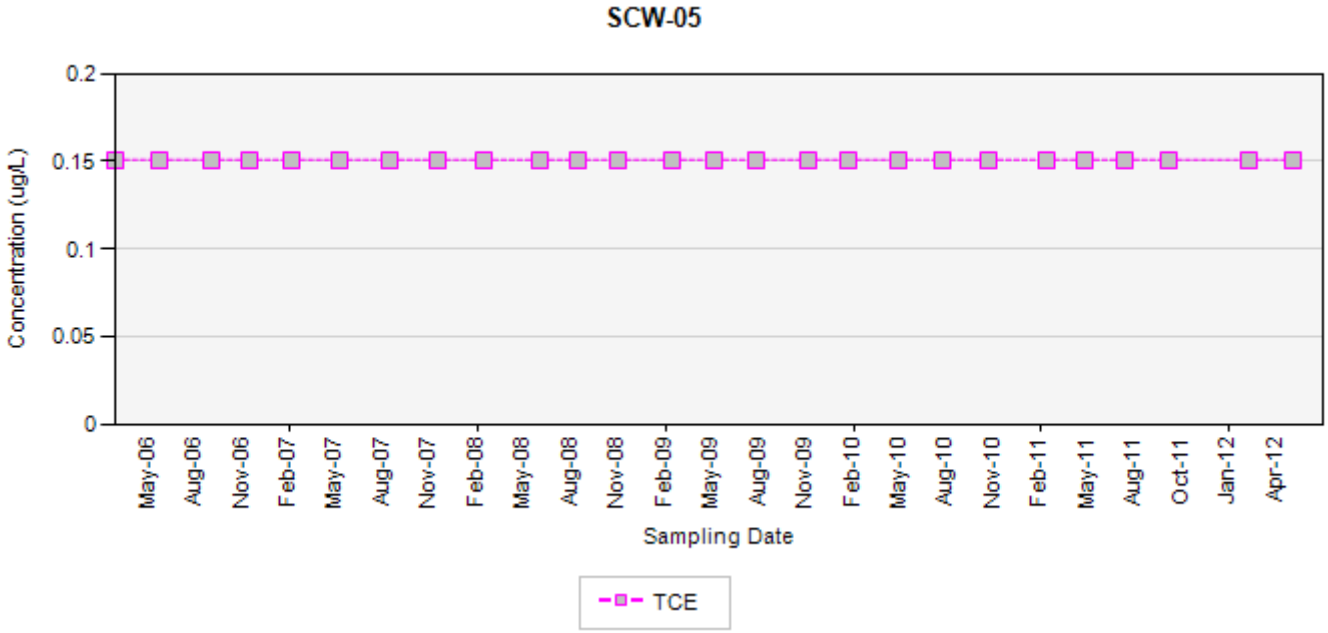


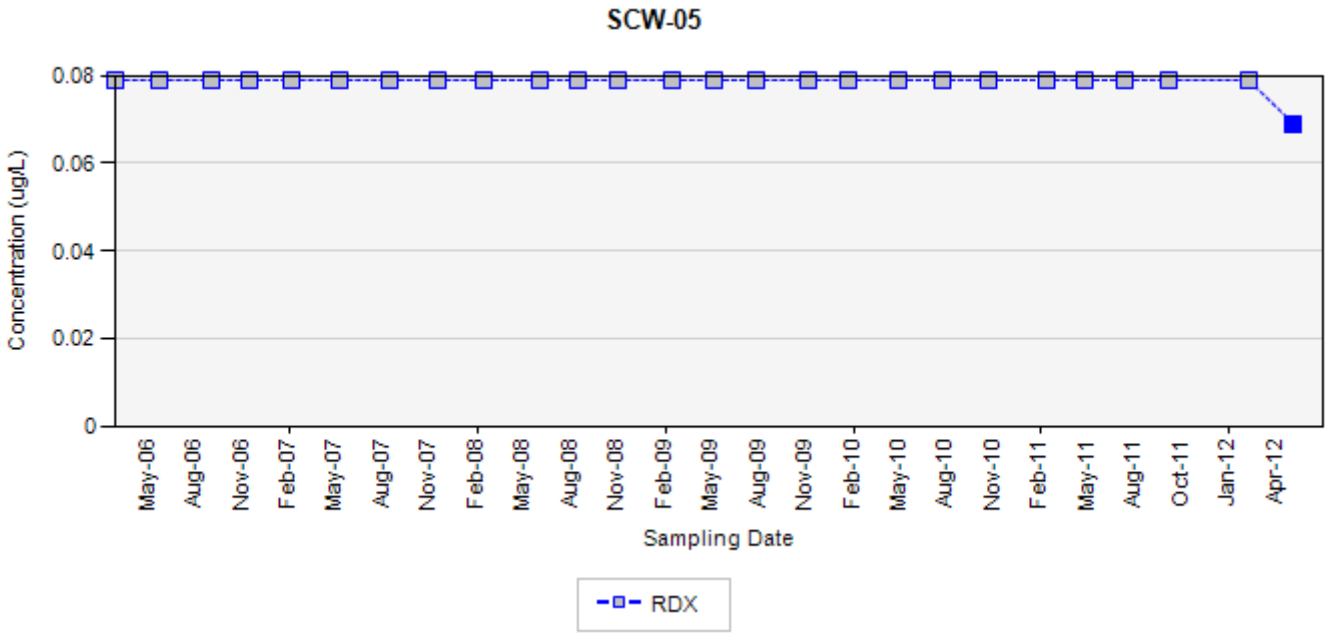
TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Final Target Groundwater Cleanup Goals for TCE is 810 µg/L
Final Target Groundwater Cleanup Goals for RDX is 100 µg/L

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 Surface Water





TCE - trichloroethene
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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

ug/L: micrograms per liter
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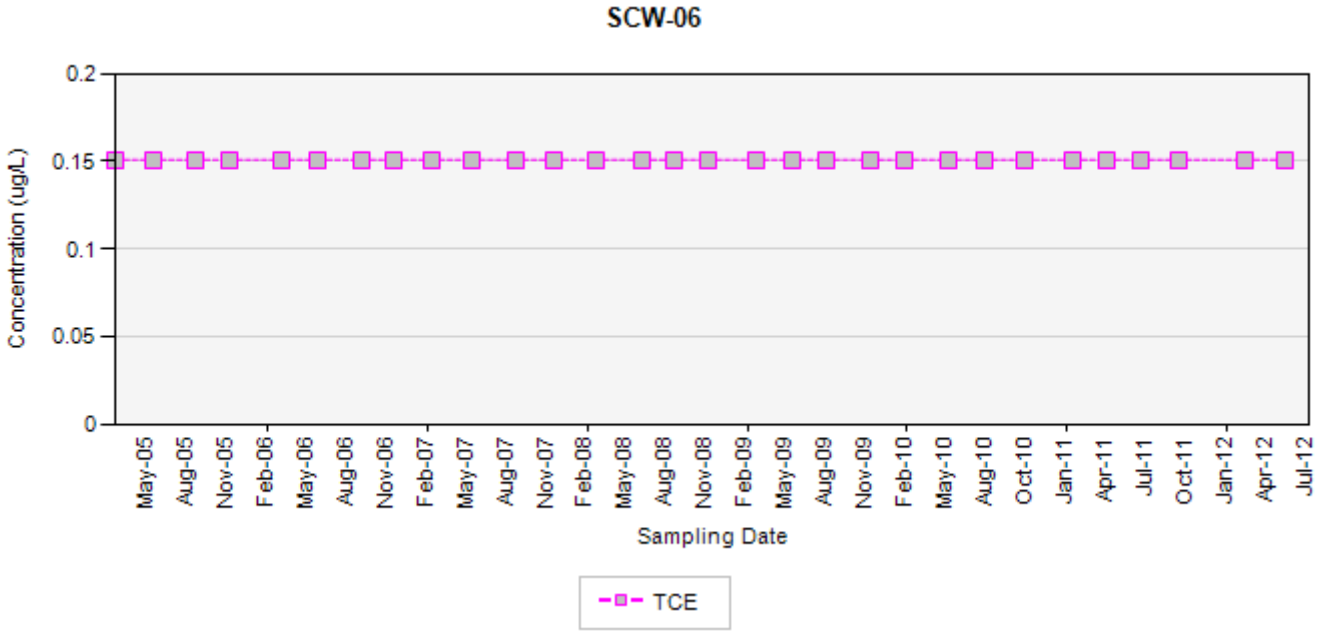
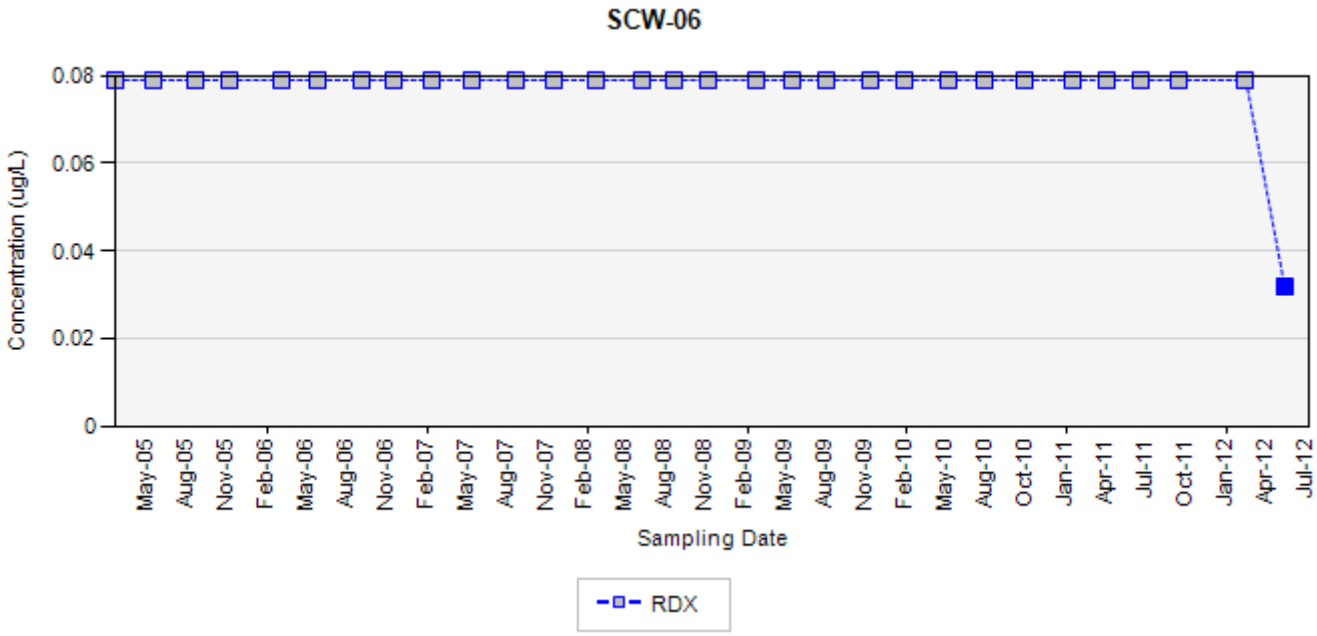
Appendix C
Concentration Trend Charts for Surface Water





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

ug/L: micrograms per liter
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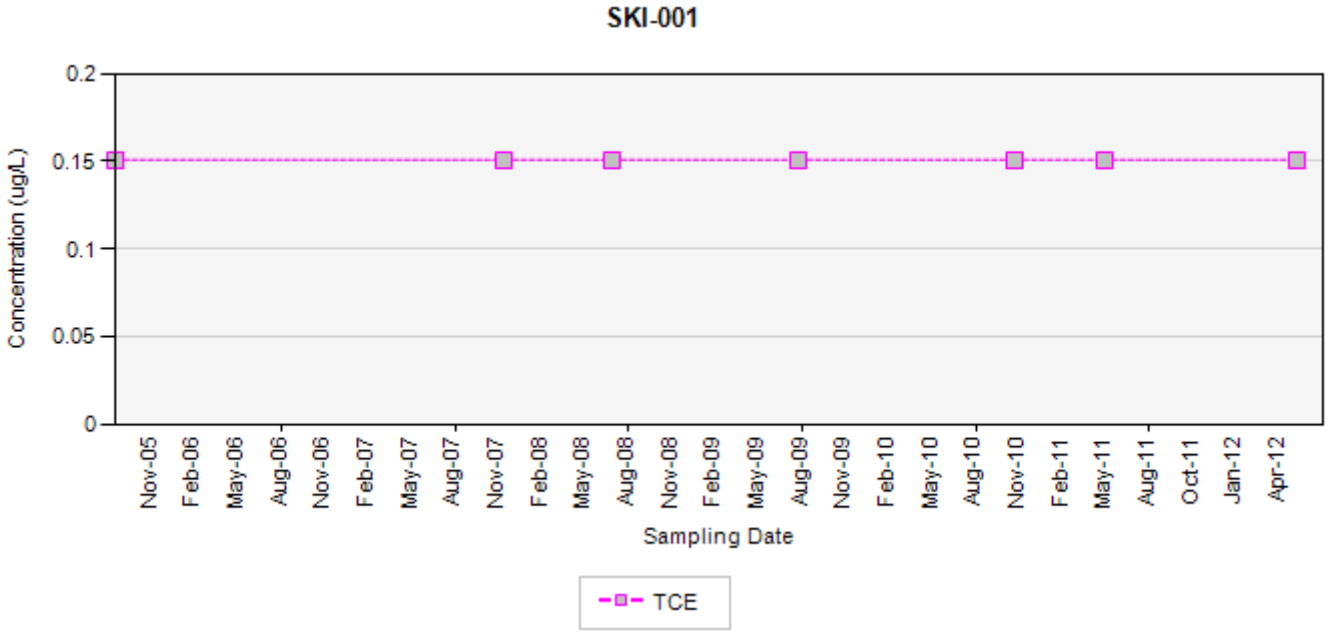

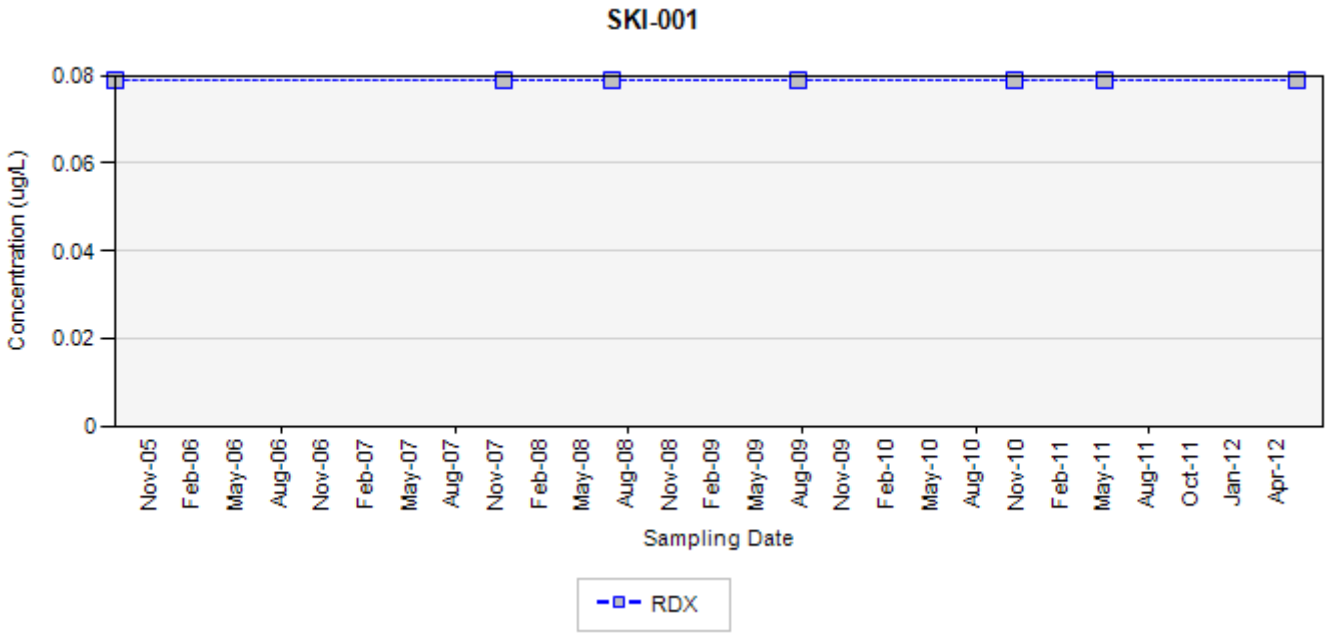

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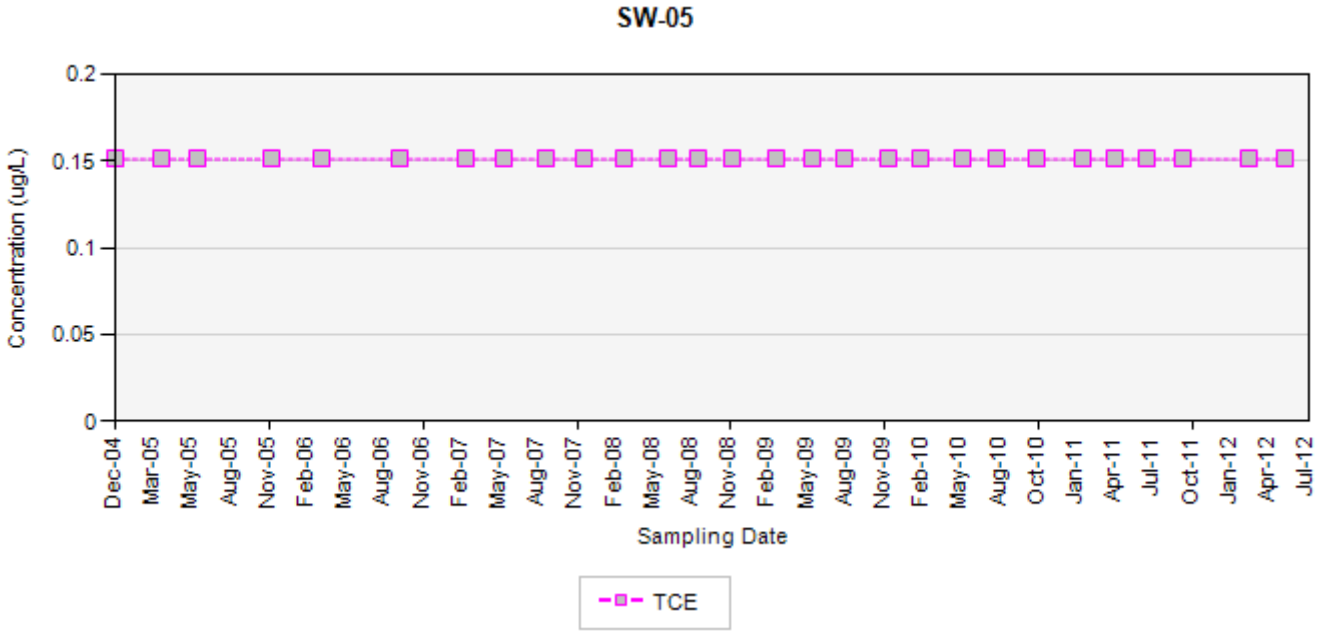

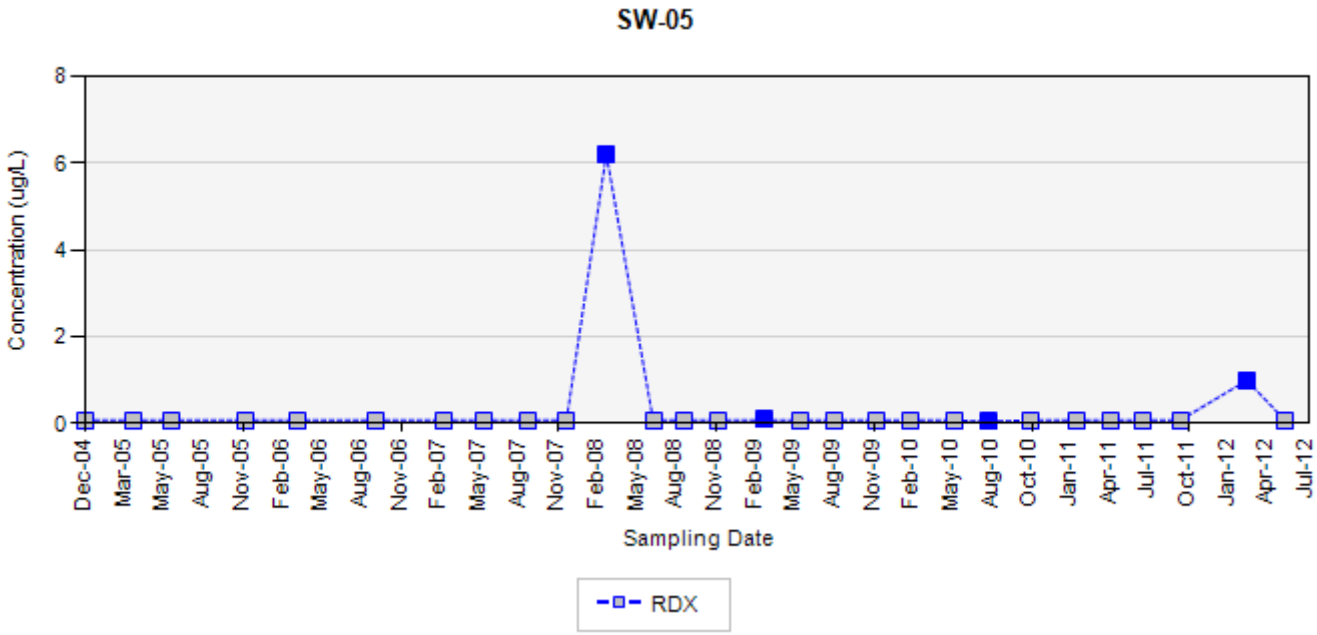

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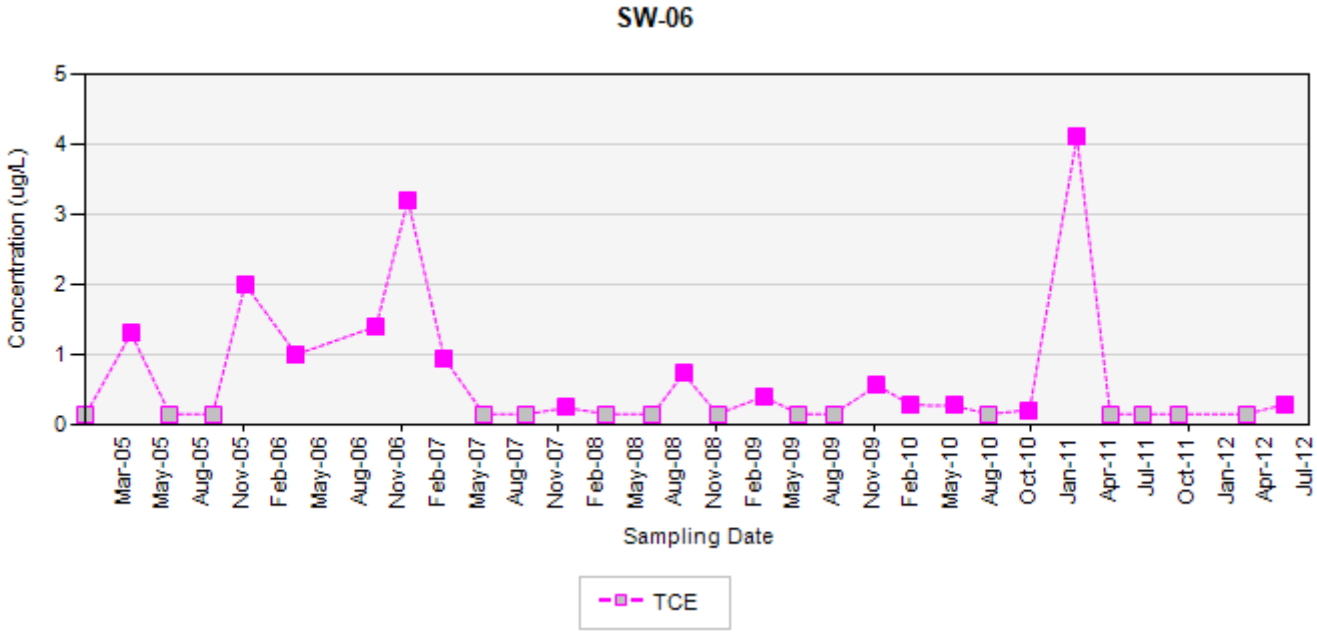

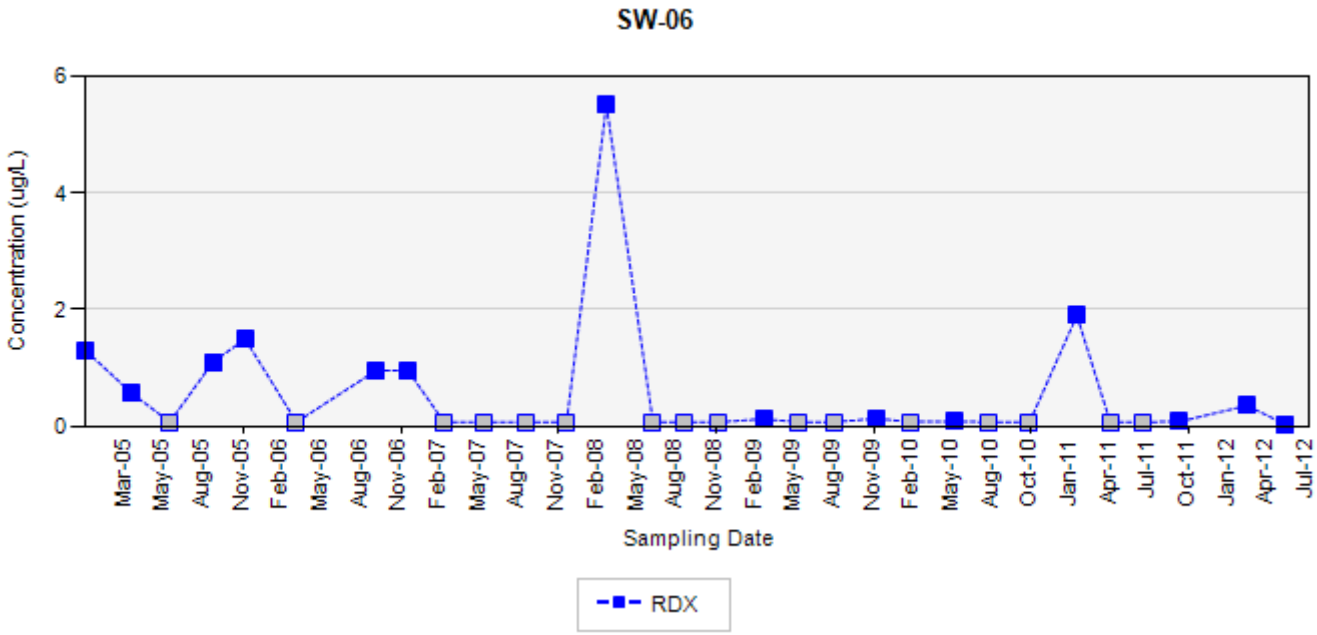

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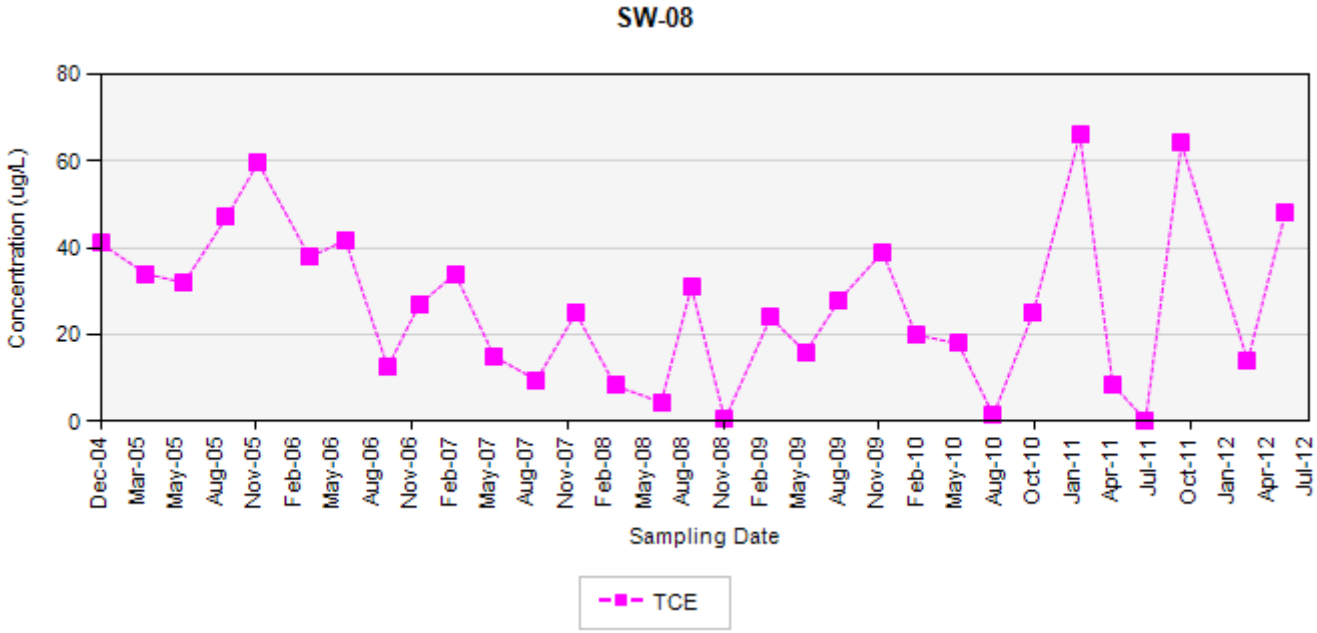

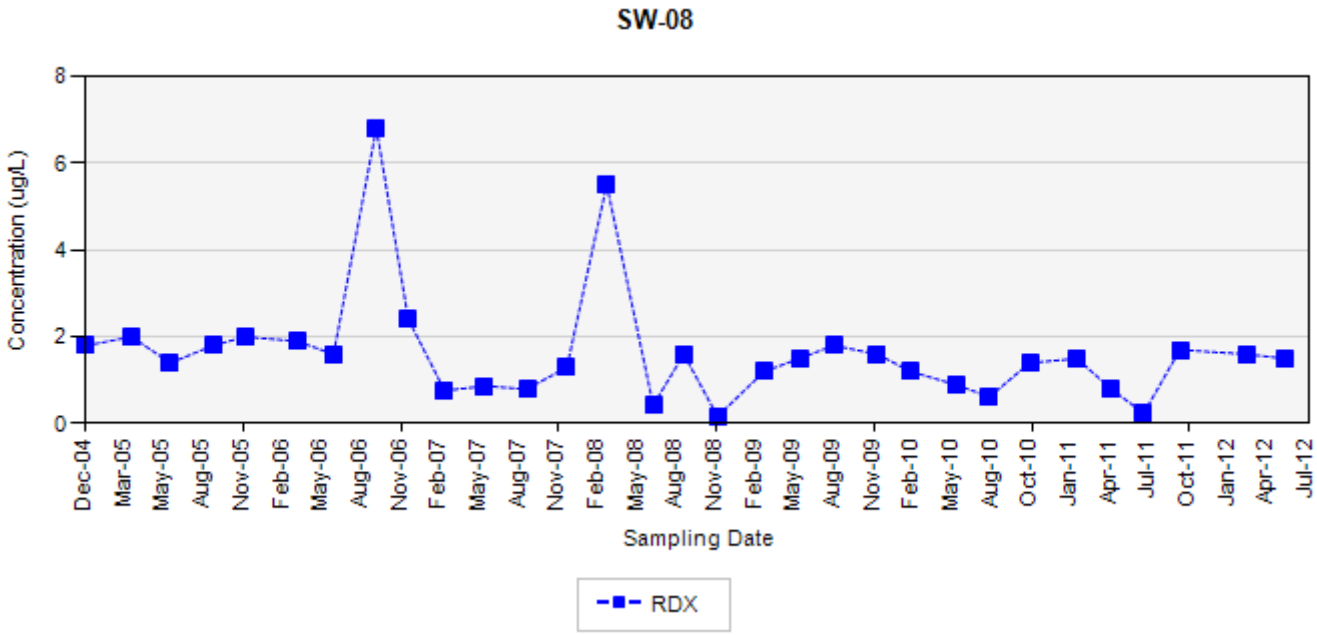

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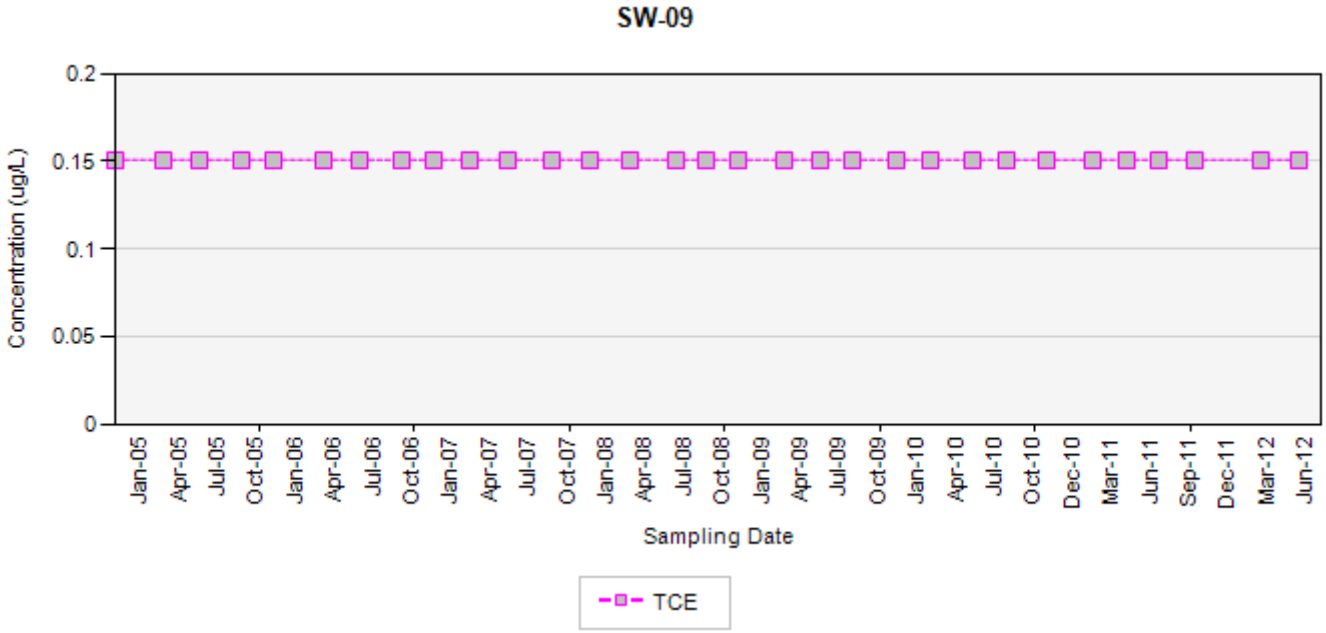

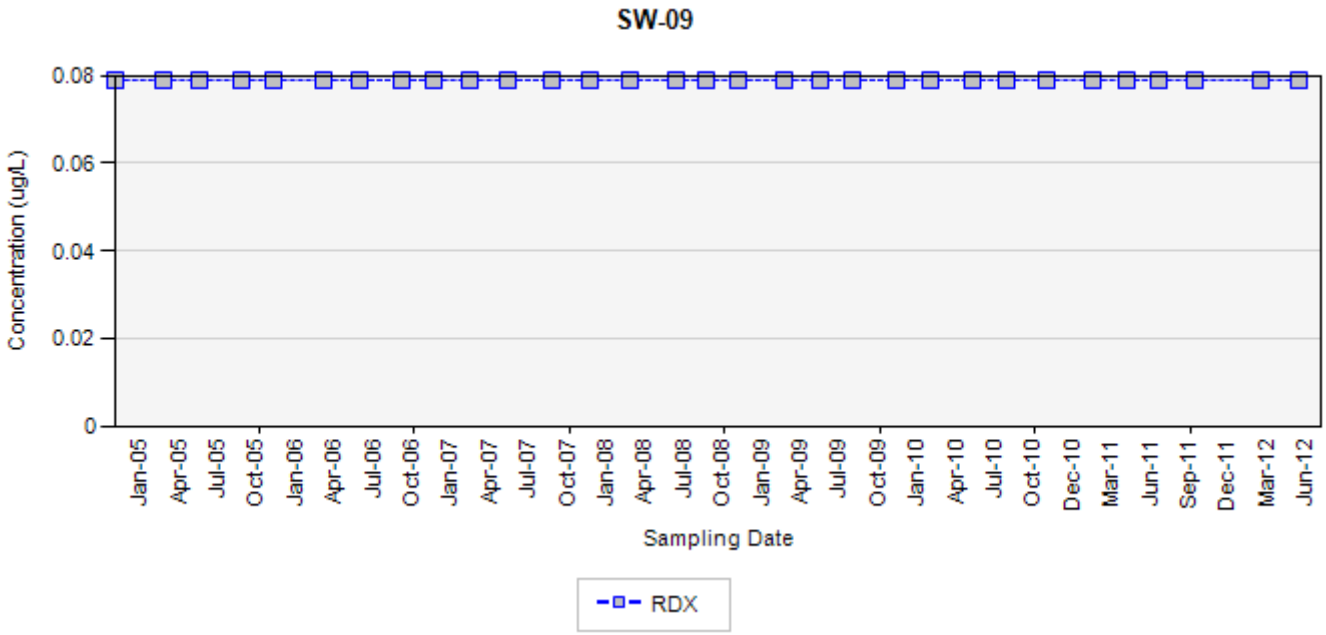

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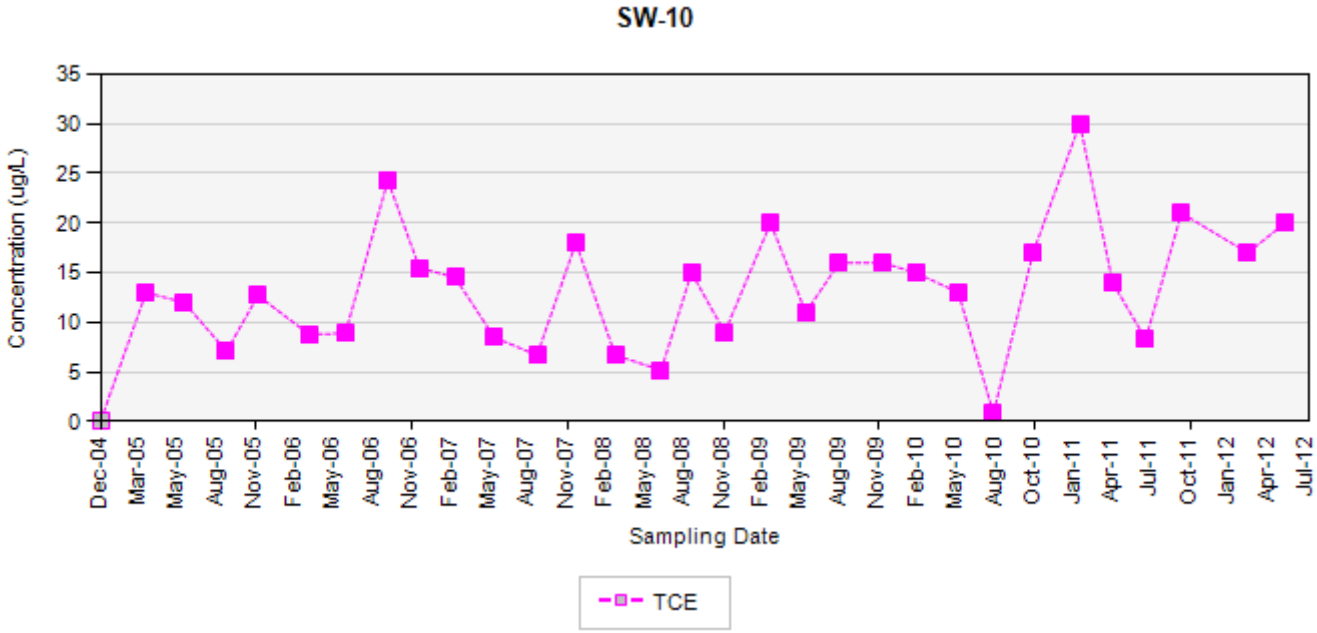

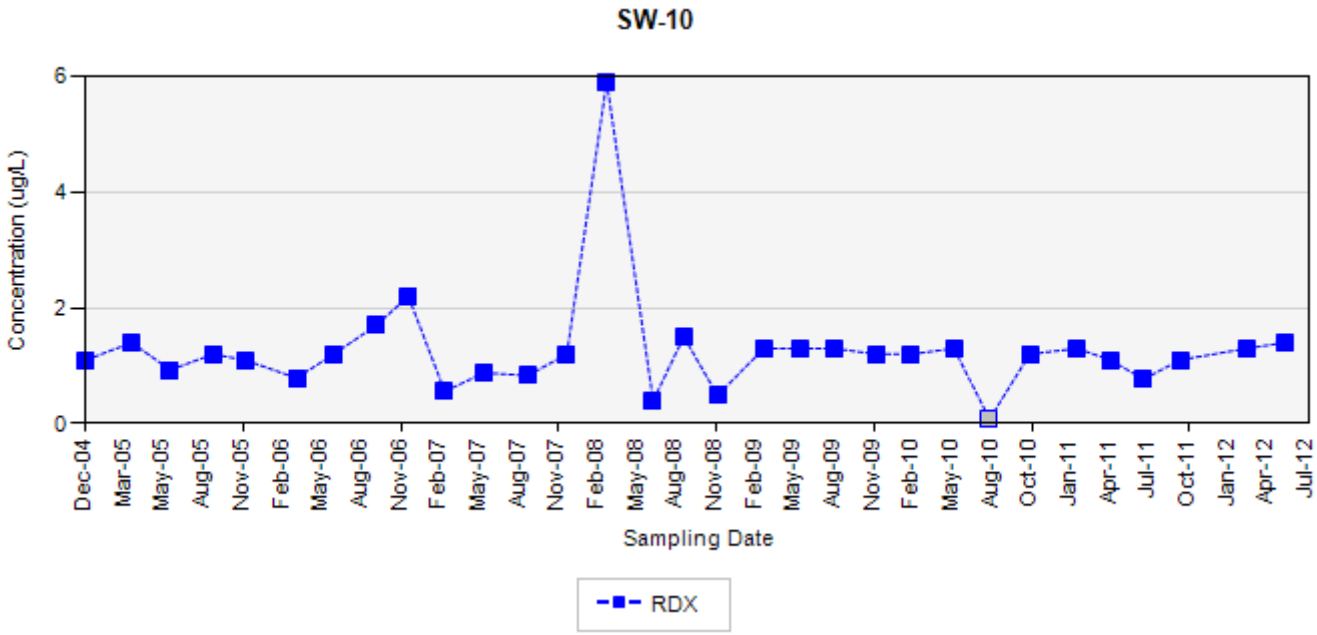

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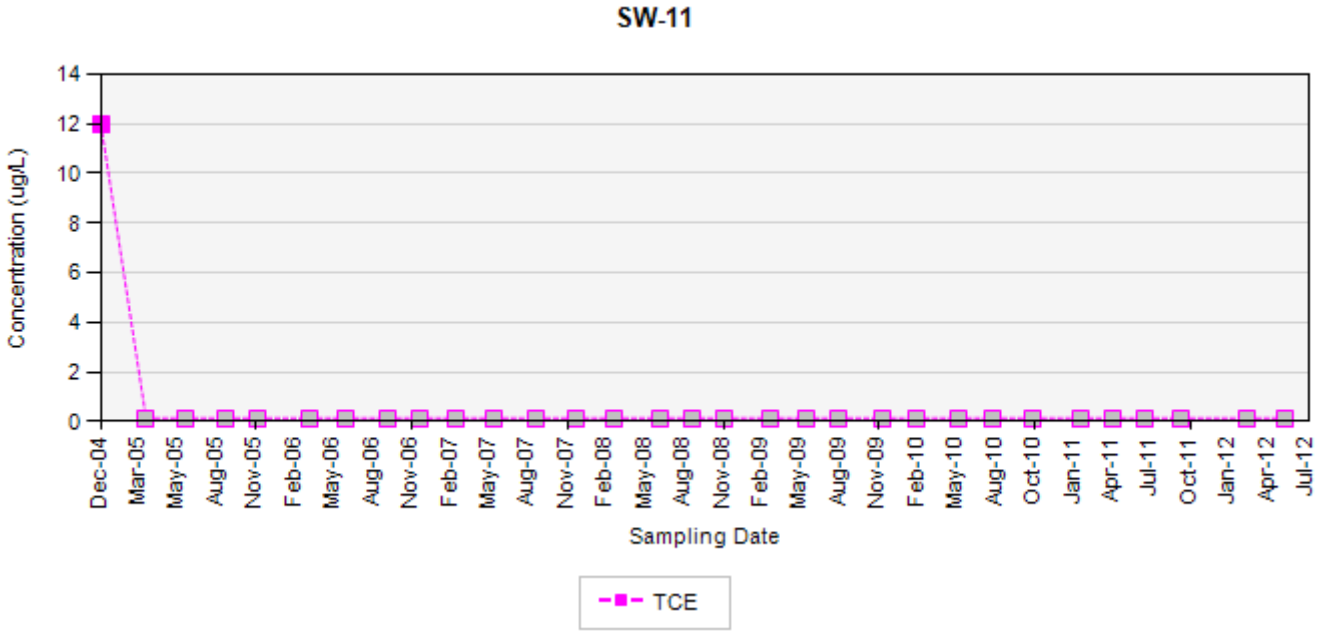

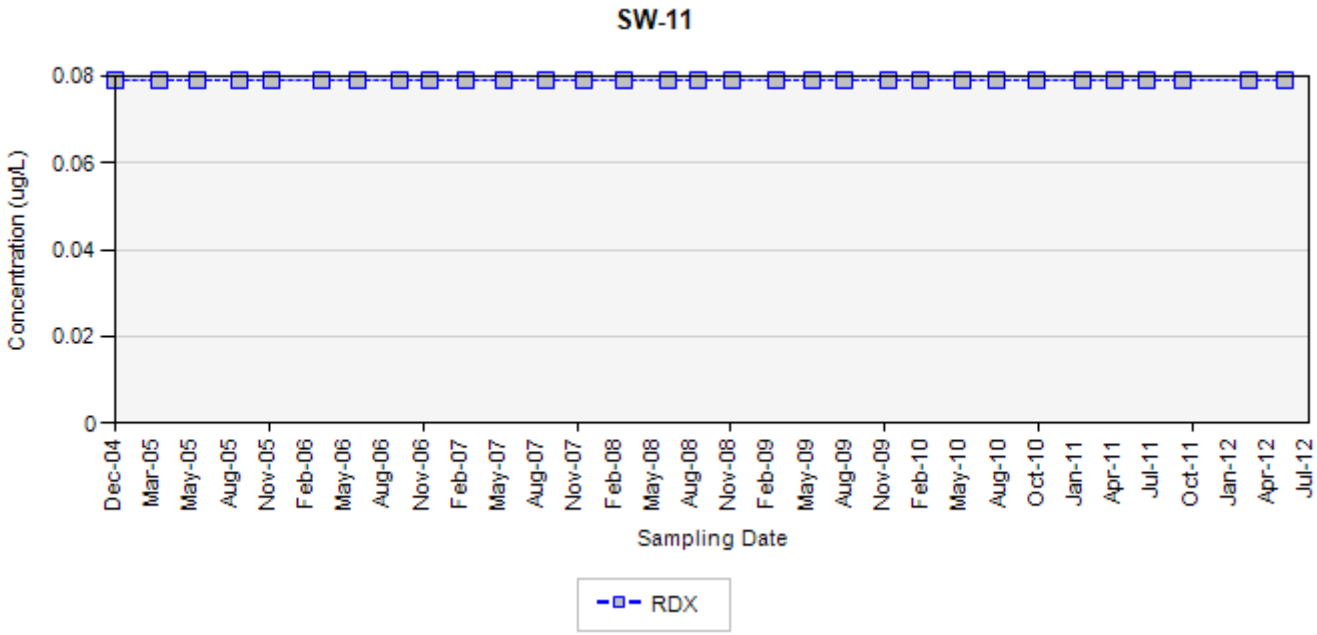

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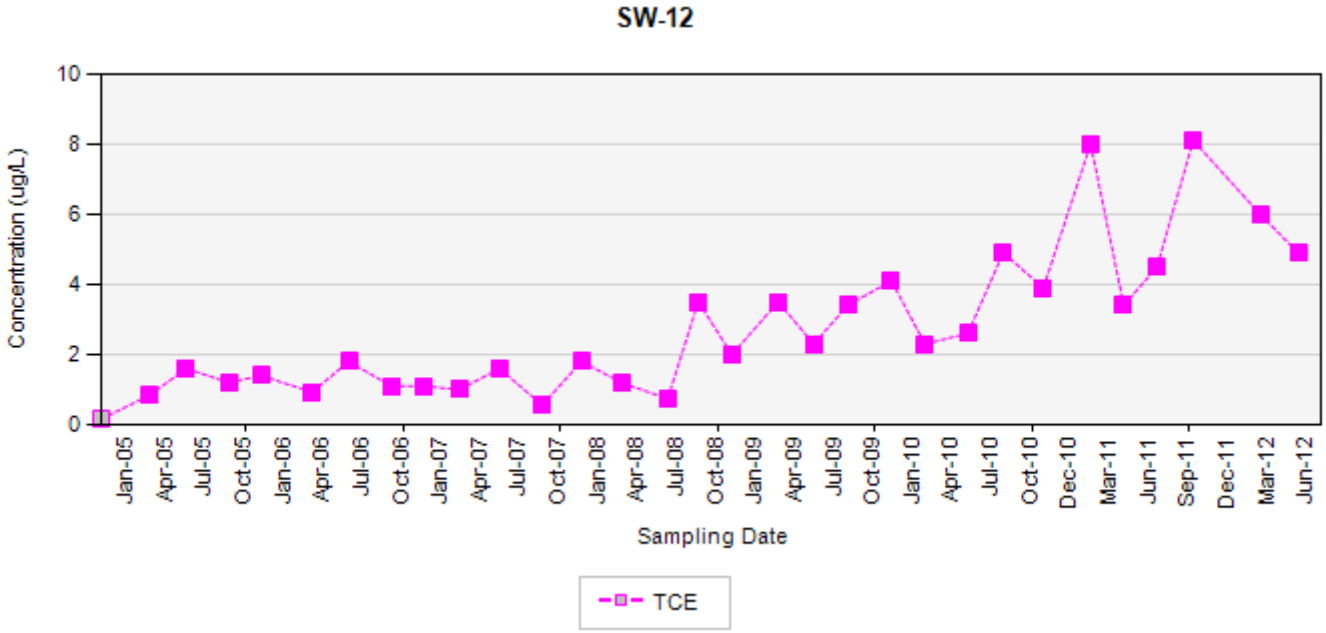

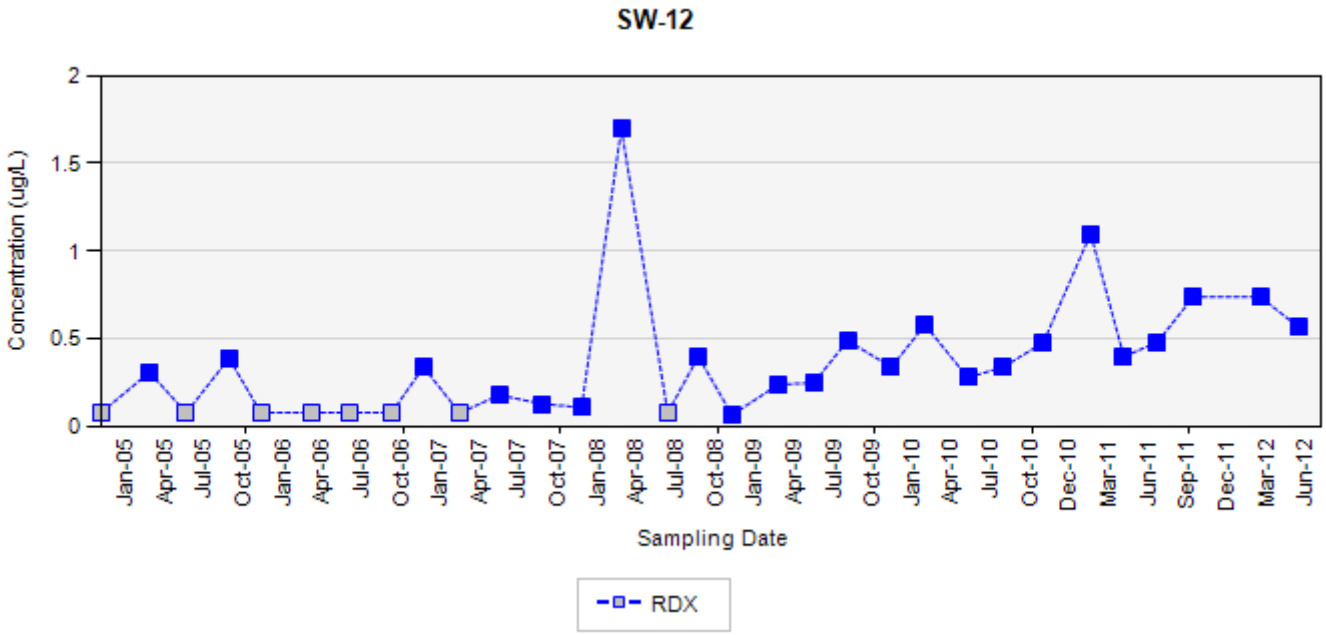

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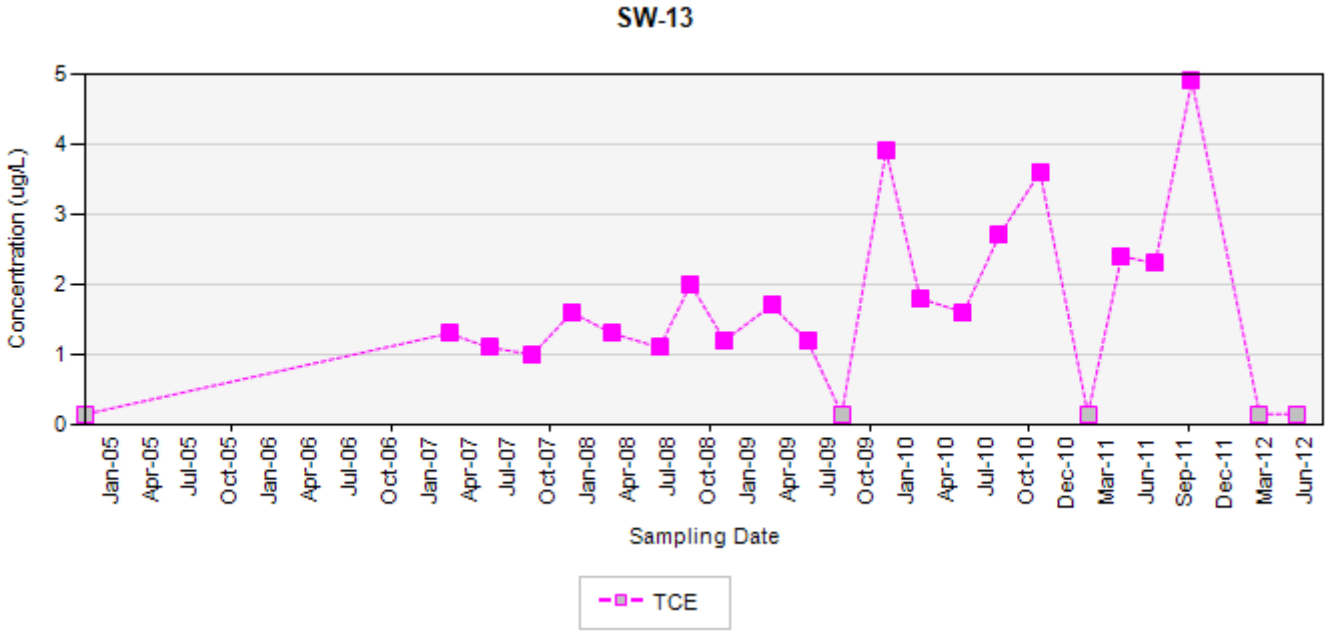

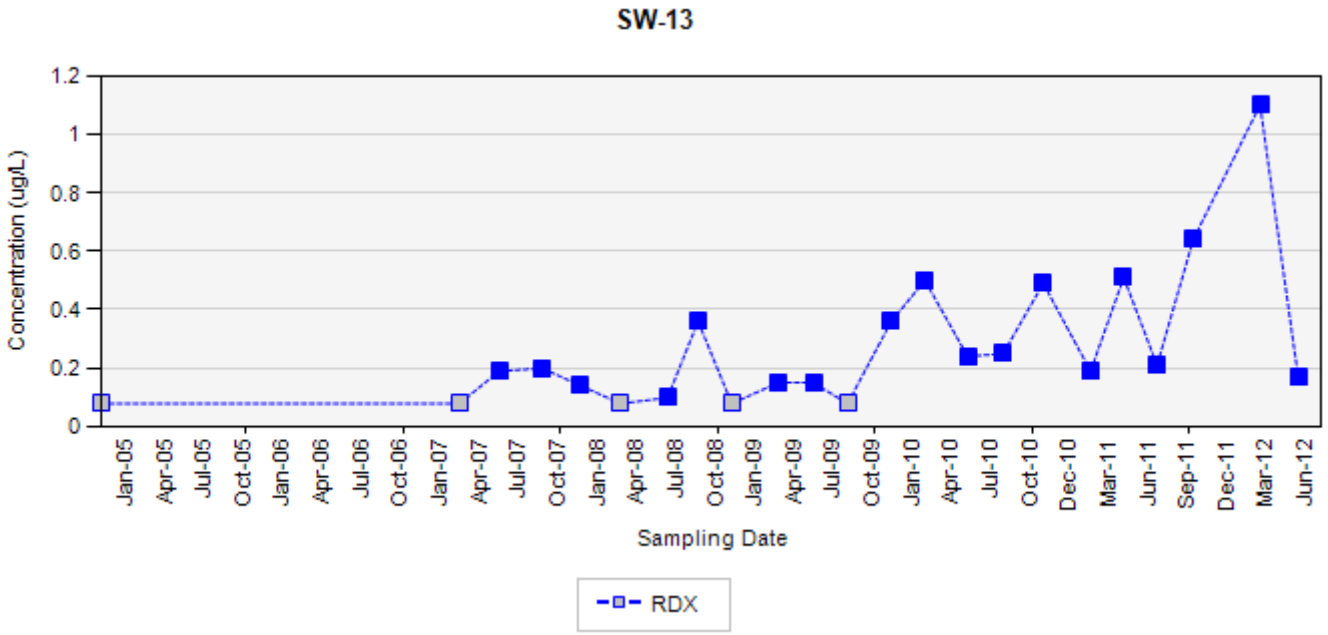

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Appendix D

Quality Control Summary Report Second Quarter 2012 Groundwater Monitoring Program Sampling Events, Former Nebraska Ordnance Plant

(on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT
SECOND QUARTER 2012

GROUNDWATER MONITORING PROGRAM
SAMPLING EVENTS

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

August 2012

Quality Control Summary Report
Second Quarter 2012 Groundwater Monitoring Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska

1.0 INTRODUCTION

Monitoring well and surface water sampling were conducted between May 22 and June 8, 2012 at the former Nebraska Ordnance Plant, near Mead, Nebraska. All sampling activities were performed in accordance with the *Site Wide Work Plan, Support Services, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska* (ECC, 2009). This Quality Control Summary Report presents a summary of the chemical data quality review for the Second Quarter 2012 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) SW-846 Method 8260B; and
- Explosives by EPA SW-846 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 Second Quarter 2012 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 Second Quarter 2012 surface water sampling event.

The chain-of-custody 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 with all analytical data.

2.0 FIELD SAMPLING ACTIVITIES

Samples from 182 monitoring wells were collected during the Second Quarter 2012 monitoring well sampling event. VOCs were sampled in 144 of the wells and 138 wells were sampled for explosives. Seventeen field duplicate samples, eleven matrix spike (MS)/matrix spike duplicate (MSD) pairs were also collected with the monitoring well samples. Additionally, seven trip blanks were included with the VOC sample shipments.

During the Second Quarter 2012 surface water sampling event, 13 surface water locations were sampled. In addition, two field duplicate samples and one MS/MSD sample pair were collected. One trip blank was included with the VOC sample 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 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 2007). Qualifiers were assigned based on laboratory QC criteria and professional judgment. Data quality evaluation results are presented in Table 3-1 for the monitoring wells and in Table 3-2 for the surface water samples. The QC outliers for the explosives and VOC 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 all but one sample cooler were received within the recommended temperature range of 4 ± 2°C or just below 2° C, but not frozen. One cooler was received at slightly elevated temperature at 6.6 °C. The qualifiers were not assigned since the laboratory noted that the samples were received on ice.

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 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.

Methylene chloride was detected in several method blanks; however, methylene chloride was not detected in any of the affected samples.

Trichloroethene (TCE) was detected in one method blank. TCE detects in two samples were qualified as non-detect (U). Refer to Table 3-1 for data quality evaluation results for the monitoring well sampling event and qualified samples. Table 3-4 presents the VOC QC outliers and associated samples for all assigned qualifiers for the monitoring well sampling event.

4-Amino-2,6-dinitrotoluene was detected in a method blank. 4-Amino-2,6-dinitrotoluene detects in three samples were qualified as non-detect (U). Refer to Table 3-1 for data quality evaluation results for the monitoring well sampling event and qualified samples. Table 3-3 presents the Explosives 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 reported in one of the trip blanks at a concentration above the limit of quantitation (LOQ) however, the review of the spectrum indicated it was a false positive. The laboratory submitted revised data. There were no detections of target analytes in 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) 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 (rejected) 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.

High surrogate % RECs resulted in the qualification as estimated (J) for all explosives detected results in one monitoring well sample. Refer to Table 3-1 for data quality evaluation results for the monitoring well sampling event and qualified samples. Table 3-3 presents the explosives QC outliers and associated samples for all assigned qualifiers for the monitoring well sampling event.

For the explosives analyses for several samples, the % REC for 1,2-dinitrobenzene on the confirmation column exceeded the laboratory QC limits. However, no qualification was required because all associated results were reported from the primary column.

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 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%.

All LCS/LCSD % RECs and RPDs were within laboratory QC limits.

3.8 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 Tables 2-1 and 2-2. 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.

MS/MSD % RECs for TCE and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) were outside QC limits and the TCE detections in six monitoring well samples, and the RDX detection in one monitoring well sample, were qualified estimated (J). Refer to Table 3-1 for data quality evaluation results for the monitoring well sampling event and qualified samples. Table 3-3 and Table 3-4 presents the explosives and VOC QC outliers and associated samples for all assigned qualifiers for the monitoring well sampling event.

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

3.9 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 Second Quarter 2012 monitoring well sampling event:

- BMW-009-042012 / BMW-209-042012 (VOCs);
- AMW-021-042012 / AMW-221-042012 (VOCs and Explosives);
- AMW-042-042012 / AMW-242-012012 (VOCs and Explosives);
- AMW-044-042012 / AMW-244-042012 (VOCs and Explosives);
- BMW-055-042012 / BMW-255-042012 (VOCs and Explosives);
- BMW-072-042012 / BMW-272-042012 (VOCs);
- BMW-078-042012 / BMW-278-042012 (VOCs);
- AMW-079-042012 / AMW-279-042012 (VOCs);
- AMW-0105-042012 / AMW-2105-042012 (VOCs and Explosives);
- AMW-0109-042012 / AMW-2109-042012 (VOCs and Explosives);
- AMW-0122-042012 / AMW-2122-042012 (VOCs and Explosives);
- BMW-0124-042012 / BMW-2124-042012 (VOCs and Explosives);
- BMW-0125-042012 / BMW-2125-042012 (VOCs and Explosives);
- EMW-0141-042012 / EMW-2141-042012 (VOCs and Explosives);
- BMW-0148-042012 / BMW-2148-042012 (VOCs and Explosives);
- AMW-0155-042012 / AMW-2155-042012 (VOCs and Explosives); and
- BMW-0156-042012 / BMW-2156-042012 (VOCs and Explosives).

The following field duplicate pairs were collected during the Second Quarter 2012 surface water sampling event:

- SCW-006-042012 / SCW-206-042012 (VOCs and Explosives); and
- SW-005-042012 / SW-205-042012 (VOCs and Explosives).

The field duplicate precision criteria (RPD of < 50%) was met in the all duplicate pairs with one exception. *cis*-1,2-dichloroethene was detected in field duplicate samples AMW-021-042012 / AMW-221-042012 with an RPD of 111%. *trans*-1,2-dichloroethene was detected above the LOQ in sample AMW-021-042012 but was not detected in the duplicate sample AMW-221-042012. Field duplicate results are considered acceptable when one result is not detected and the other result is detected below the LOQ or if both results are less than the LOQ. No sample qualifications were required.

3.10 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.

Twenty-six sample results for TCE and two sample results for RDX from the monitoring well sampling event were reported from secondary dilution 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 results from secondary dilutions should be used for these compounds and the initial least dilute or undiluted analysis should be used for all other results for these samples. [Note: Only the appropriately diluted results were reported by the laboratory from the secondary dilutions.]

3.11 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 associated qualified samples for the monitoring well and surface water sampling events, respectively. Table 3-3 and Table 3-5 present the explosive QC outliers and associated samples for all assigned qualifiers applicable to the monitoring well and surface water sampling events, respectively. These qualifiers were not used to determine analytical completeness or project completeness.

During a review of Second Quarter 2012 sampling data, results from MW-120D and MW-120E were identified as inconsistent with historical results representative from these locations. The inconsistent Second Quarter 2012 results from these locations indicate that it is likely the

samples from these two locations were inadvertently switched during either sampling or analysis. All Second Quarter 2012 results from MW-120D and MW-120E have been rejected based on professional judgment.

3.12 Laboratory Qualifiers

Analytes detected below the LOQ, but above the limit of detection 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 Second Quarter 2012 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 both VOCs and explosives. Field completeness for the surface water sampling events was 100% for both VOCs and explosives. The overall field completeness percentage was 100% for the monitoring well and 100% for the surface water Second Quarter 2012 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 (98.1%) and explosives (97.9%) 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 is at 98% for the monitoring well sampling event and 100% for the surface water sampling event. Both sampling events met the goal of 90%.

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. Both VOCs and explosives results from two monitoring well locations, MW-120D and MW-120E, were rejected based on professional judgment for the Second Quarter 2012 monitoring well sampling event. The quality data completeness percentage for VOCs is 98.8% and explosives is 98.7%. Overall quality data completeness is 98.7% which exceeds the quality data completeness goal of 80% for the monitoring well sampling events.

The quality data completeness percentage for VOCs and explosives, considered separately, is 100% for the Second Quarter 2012 surface water sampling event. Overall quality data completeness is therefore 100%, which exceeds the quality data completeness goal of 80% for the 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 was 98.7% and field completeness was 100% for the monitoring well sampling event. Both analytical completeness and field completeness for the surface water sampling event were 100%. The monitoring well project completeness percentage of 98.7% 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 the monitoring well and surface water sampling events, respectively.

5.0 CONCLUSIONS

Data are valid for use, as qualified. Overall field completeness is 100%, acceptable data completeness is 98%, quality data completeness is 98.7%, and the overall project completeness is 98.7% for the Second Quarter 2012 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 Second Quarter 2012 surface water sampling event.

All results for VOCs and explosives were rejected, based on professional judgment, in samples collected from two monitoring well locations. All results for explosives in one sample were qualified as estimated detect due to surrogate %REC outliers. Six TCE results and one RDX result were qualified as estimated detect due to MS or MSD %REC outliers. Three TCE results and two 4-amino-2,6-dinitrotoluene results were qualified as non-detect due to a laboratory blank detection. Results qualified for blank detections do not effect analytical or project completeness. Twenty six sample results for TCE and two sample results for RDX from the monitoring well sampling event were reported from a dilution due to calibration range exceedance. These results do not affect analytical or project completeness. Detected results qualified as estimated for inter-column RPD exceedances also do not affect analytical or project completeness.

6.0 REFERENCES

ECC, 2009, *Site Wide Work Plan, Support Services, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska*. August.

ECC, 2007 *Mead Validation Guidelines*, (approved by United States Army Corps of Engineers 2007).

Tables

List of Acronyms for Tables

Term	Definition
µg/L	micrograms per liter
BLK	blank
CAL	calibration
CCB	continuing calibration blank
C-RPD	column relative percent difference
GC/MS	gas chromatography–mass spectrometry
HPLC	high-performance liquid chromatography
ID	identification/identifier
IS	Internal standard
J	estimated
Lab	laboratory
LCS	laboratory control sample
LWL	lower warning limit
MDL	minimum detection limit
MS/MSD	matrix spike/matrix spike duplicate
MS	mass-spectrometry
MW	monitoring well
QC	quality control
%REC	percent recovery
RPD	relative percent difference
SCW	Silver Creek Water
SDG	sample delivery group
SW	surface water
SURR	surrogate
U	not detected at laboratory limit of detection
UCL	upper control limit
UJ	qualified as estimated and not detected at laboratory limit of detection
VOC	volatile organic compound

Table 1-1
Monitoring Well Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
BAZE-MW-01	BAZEMW-01-042012	Explosives
MW-02A	AMW-002-042012	Explosives, Volatiles
MW-02B	BMW-002-042012	Explosives, Volatiles
MW-03A	AMW-003-042012	Explosives, Volatiles
MW-03B	BMW-003-042012	Explosives, Volatiles
MW-05A	AMW-005-042012	Explosives, Volatiles
MW-05B	BMW-005-042012	Explosives, Volatiles
MW-08A	AMW-008-042012	Explosives, Volatiles
MW-08B	BMW-008-042012	Explosives, Volatiles
MW-09A	AMW-009-042012	Volatiles
MW-09B	BMW-009-042012	Volatiles
MW-09D	DMW-009-042012	Volatiles
MW-104A	AMW-0104-042012	Explosives, Volatiles
MW-104B	BMW-0104-042012	Explosives, Volatiles
MW-104D	DMW-0104-042012	Explosives, Volatiles
MW-104O	OMW-0104-042012	Explosives, Volatiles
MW-105A	AMW-0105-042012	Explosives, Volatiles
MW-105B	BMW-0105-042012	Explosives, Volatiles
MW-105O	OMW-0105-042012	Explosives, Volatiles
MW-109A	AMW-0109-042012	Explosives, Volatiles
MW-109B	BMW-0109-042012	Explosives, Volatiles
MW-109O	OMW-0109-042012	Explosives, Volatiles
MW-10A	AMW-010-042012	Explosives, Volatiles
MW-10B	BMW-010-042012	Explosives, Volatiles
MW-11	MW-011-042012	Explosives
MW-111A	AMW-0111-042012	Explosives, Volatiles
MW-111B	BMW-0111-042012	Explosives, Volatiles
MW-111O	OMW-0111-042012	Explosives, Volatiles
MW-116A	AMW-0116-042012	Volatiles
MW-116B	BMW-0116-042012	Volatiles
MW-116D	DMW-0116-042012	Volatiles
MW-119A	AMW-0119-042012	Explosives, Volatiles
MW-119B	BMW-0119-042012	Explosives, Volatiles
MW-120A	AMW-0120-042012	Explosives, Volatiles
MW-120B	BMW-0120-042012	Explosives, Volatiles
MW-120D	DMW-0120-042012	Explosives, Volatiles
MW-120E	EMW-0120-042012	Explosives, Volatiles
MW-121A	AMW-0121-042012	Explosives, Volatiles
MW-121B	BMW-0121-042012	Explosives, Volatiles
MW-121E	EMW-0121-042012	Explosives, Volatiles
MW-122A	AMW-0122-042012	Explosives, Volatiles
MW-122B	BMW-0122-042012	Explosives, Volatiles
MW-123A	AMW-0123-042012	Explosives, Volatiles
MW-123B	BMW-0123-042012	Explosives, Volatiles
MW-124A	AMW-0124-042012	Explosives, Volatiles
MW-124B	BMW-0124-042012	Explosives, Volatiles
MW-124D	DMW-0124-042012	Explosives, Volatiles
MW-125A	AMW-0125-042012	Explosives, Volatiles
MW-125B	BMW-0125-042012	Explosives, Volatiles

Table 1-1
Monitoring Well Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
MW-125D	DMW-0125-042012	Explosives, Volatiles
MW-126A	AMW-0126-042012	Explosives, Volatiles
MW-126B	BMW-0126-042012	Explosives, Volatiles
MW-126D	DMW-0126-042012	Explosives, Volatiles
MW-127A	AMW-0127-042012	Explosives, Volatiles
MW-127B	BMW-0127-042012	Explosives, Volatiles
MW-127E	EMW-0127-042012	Explosives, Volatiles
MW-128A	AMW-0128-042012	Explosives
MW-128B	BMW-0128-042012	Explosives
MW-128D	DMW-0128-042012	Explosives
MW-129A	AMW-0129-042012	Explosives
MW-129B	BMW-0129-042012	Explosives
MW-129D	DMW-0129-042012	Explosives
MW-130A	AMW-0130-042012	Explosives
MW-130B	BMW-0130-042012	Explosives
MW-130D	DMW-0130-042012	Explosives
MW-131A	AMW-0131-042012	Explosives
MW-131B	BMW-0131-042012	Explosives
MW-131D	DMW-0131-042012	Explosives
MW-132A	AMW-0132-042012	Explosives
MW-132B	BMW-0132-042012	Explosives
MW-132D	DMW-0132-042012	Explosives
MW-133A	AMW-0133-042012	Volatiles
MW-133B	BMW-0133-042012	Volatiles
MW-133D	DMW-0133-042012	Volatiles
MW-134A	AMW-0134-042012	Volatiles
MW-134B	BMW-0134-042012	Volatiles
MW-134D	DMW-0134-042012	Volatiles
MW-135A	AMW-0135-042012	Volatiles
MW-135B	BMW-0135-042012	Volatiles
MW-135D	DMW-0135-042012	Volatiles
MW-136A	AMW-0136-042012	Volatiles
MW-136B	BMW-0136-042012	Volatiles
MW-136D	DMW-0136-042012	Volatiles
MW-136E	EMW-0136-042012	Volatiles
MW-137A	AMW-0137-042012	Volatiles
MW-137B	BMW-0137-042012	Volatiles
MW-137D	DMW-0137-042012	Volatiles
MW-137E	EMW-0137-042012	Volatiles
MW-138A	AMW-0138-042012	Volatiles
MW-138B	BMW-0138-042012	Volatiles
MW-139A	AMW-0139-042012	Volatiles
MW-139B	BMW-0139-042012	Volatiles
MW-140A	AMW-0140-042012	Volatiles
MW-140B	BMW-0140-042012	Volatiles
MW-140D	DMW-0140-042012	Volatiles
MW-140O	OMW-0140-042012	Volatiles
MW-141A	AMW-0141-042012	Explosives, Volatiles
MW-141B	BMW-0141-042012	Explosives, Volatiles

Table 1-1
Monitoring Well Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
MW-141E	EMW-0141-042012	Explosives, Volatiles
MW-143B	BMW-0143-042012	Explosives, Volatiles
MW-144A	AMW-0144-042012	Explosives
MW-144E	EMW-0144-042012	Explosives
MW-145A	AMW-0145-042012	Explosives
MW-145E	EMW-0145-042012	Explosives
MW-146A	AMW-0146-042012	Explosives, Volatiles
MW-146B	BMW-0146-042012	Explosives, Volatiles
MW-148B	BMW-0148-042012	Explosives, Volatiles
MW-149A	AMW-0149-042012	Explosives, Volatiles
MW-150A	AMW-0150-042012	Explosives, Volatiles
MW-150B	BMW-0150-042012	Explosives, Volatiles
MW-151A	AMW-0151-042012	Explosives, Volatiles
MW-151B	BMW-0151-042012	Explosives, Volatiles
MW-152B	BMW-0152-042012	Explosives, Volatiles
MW-153A	AMW-0153-042012	Explosives, Volatiles
MW-153B	BMW-0153-042012	Explosives, Volatiles
MW-154A	AMW-0154-042012	Explosives, Volatiles
MW-154B	BMW-0154-042012	Explosives, Volatiles
MW-155A	AMW-0155-042012	Explosives, Volatiles
MW-155E	EMW-0155-042012	Explosives, Volatiles
MW-156A	AMW-0156-042012	Explosives, Volatiles
MW-156B	BMW-0156-042012	Explosives, Volatiles
MW-157A	AMW-0157-042012	Explosives, Volatiles
MW-157B	BMW-0157-042012	Explosives, Volatiles
MW-18A	AMW-018-042012	Explosives, Volatiles
MW-18B	BMW-018-042012	Explosives, Volatiles
MW-18C	CMW-018-042012	Explosives, Volatiles
MW-21A	AMW-021-042012	Explosives, Volatiles
MW-21B	BMW-021-042012	Explosives, Volatiles
MW-21D	DMW-021-042012	Explosives, Volatiles
MW-24A	AMW-024-042012	Explosives, Volatiles
MW-24B	BMW-024-042012	Explosives, Volatiles
MW-25A	AMW-025-042012	Explosives, Volatiles
MW-25B	BMW-025-042012	Explosives, Volatiles
MW-25D	DMW-025-042012	Explosives, Volatiles
MW-28A	AMW-028-042012	Explosives
MW-28B	BMW-028-042012	Explosives
MW-28D	DMW-028-042012	Explosives
MW-29A	AMW-029-042012	Explosives
MW-29B	BMW-029-042012	Explosives
MW-32A	AMW-032-042012	Explosives
MW-32B	BMW-032-042012	Explosives
MW-32D	DMW-032-042012	Explosives
MW-33A	AMW-033-042012	Explosives
MW-33B	BMW-033-042012	Explosives
MW-33D	DMW-033-042012	Explosives
MW-40A	AMW-040-042012	Volatiles
MW-40B	BMW-040-042012	Volatiles

Table 1-1
Monitoring Well Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
MW-42A	AMW-042-042012	Explosives, Volatiles
MW-42B	BMW-042-042012	Explosives, Volatiles
MW-42D	DMW-042-042012	Explosives, Volatiles
MW-43A	AMW-043-042012	Explosives, Volatiles
MW-43B	BMW-043-042012	Explosives, Volatiles
MW-43D	DMW-043-042012	Explosives, Volatiles
MW-44A	AMW-044-042012	Explosives, Volatiles
MW-44B	BMW-044-042012	Explosives, Volatiles
MW-44D	DMW-044-042012	Explosives, Volatiles
MW-54A	AMW-054-042012	Explosives, Volatiles
MW-54B	BMW-054-042012	Explosives, Volatiles
MW-55A	AMW-055-042012	Explosives, Volatiles
MW-55B	BMW-055-042012	Explosives, Volatiles
MW-65B	BMW-065-042012	Explosives
MW-72A	AMW-072-042012	Volatiles
MW-72B	BMW-072-042012	Volatiles
MW-78A	AMW-078-042012	Volatiles
MW-78B	BMW-078-042012	Volatiles
MW-79A	AMW-079-042012	Volatiles
MW-79B	BMW-079-042012	Volatiles
MW-87A	AMW-087-042012	Explosives, Volatiles
MW-87B	BMW-087-042012	Explosives, Volatiles
MW-87D	DMW-087-042012	Explosives, Volatiles
MW-89A	AMW-089-042012	Volatiles
MW-89B	BMW-089-042012	Volatiles
MW-89D	DMW-089-042012	Volatiles
MW-89E	EMW-089-042012	Explosives, Volatiles
MW-92A	AMW-092-042012	Volatiles
MW-92B	BMW-092-042012	Volatiles
MW-94A	AMW-094-042012	Explosives
MW-94B	BMW-094-042012	Explosives
MW-94D	DMW-094-042012	Explosives
MW-99A	AMW-099-042012	Explosives
MW-99B	BMW-099-042012	Explosives, Volatiles
MW-99D	DMW-099-042012	Explosives

Notes:

Volatiles	SW8260B	Volatile Organic Compounds by Capillary GC/MS
Explosives	SW8330	Nitroaromatics and Nitramines by HPLC

Table 1-2
Surface Water Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
ARTESIAN	OART-042012	Explosives, Volatiles
SCW-04	SCW-004-042012	Explosives, Volatiles
SCW-05	SCW-005-042012	Explosives, Volatiles
SCW-06	SCW-006-042012	Explosives, Volatiles
SKI-001	SKI-001-042012	Explosives, Volatiles
SW-05	SW-005-042012	Explosives, Volatiles
SW-06	SW-006-042012	Explosives, Volatiles
SW-08	SW-008-042012	Explosives, Volatiles
SW-09	SW-009-042012	Explosives, Volatiles
SW-10	SW-010-042012	Explosives, Volatiles
SW-11	SW-011-042012	Explosives, Volatiles
SW-12	SW-012-042012	Explosives, Volatiles
SW-13	SW-013-042012	Explosives, Volatiles

Notes:

Volatiles	SW8260B	Volatile Organic Compounds by Capillary GC/MS
Explosives	SW8330	Nitroaromatics and Nitramines by HPLC

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
Field Samples								
AMW-0130-042012			5/22/2012	5/24/2012	200-10957-1	10957	•	
BMW-0130-042012			5/22/2012	5/24/2012	200-10957-2	10957	•	
DMW-0130-042012			5/22/2012	5/24/2012	200-10957-3	10957	•	
AMW-0129-042012			5/22/2012	5/24/2012	200-10957-4	10957	•	
BMW-0129-042012	BMW-0129-042012		5/22/2012	5/24/2012	200-10957-5	10957	•	
DMW-0129-042012			5/22/2012	5/24/2012	200-10957-6	10957	•	
AMW-0131-042012			5/22/2012	5/24/2012	200-10957-7	10957	•	
BMW-0131-042012			5/22/2012	5/24/2012	200-10957-8	10957	•	
DMW-0131-042012			5/22/2012	5/24/2012	200-10957-9	10957	•	
AMW-0132-042012			5/22/2012	5/24/2012	200-10957-10	10957	•	
BMW-0132-042012			5/22/2012	5/24/2012	200-10957-11	10957	•	
DMW-0132-042012			5/22/2012	5/24/2012	200-10957-12	10957	•	
AMW-0128-042012			5/22/2012	5/24/2012	200-10957-13	10957	•	
BMW-0128-042012	BMW-0128-042012		5/22/2012	5/24/2012	200-10957-14	10957	•	
DMW-0128-042012			5/22/2012	5/24/2012	200-10957-15	10957	•	
AMW-0133-042012			5/22/2012	5/24/2012	200-10957-17	10957		•
BMW-0133-042012			5/22/2012	5/24/2012	200-10957-18	10957		•
DMW-0133-042012			5/22/2012	5/24/2012	200-10957-19	10957		•
AMW-0134-042012			5/22/2012	5/24/2012	200-10957-20	10957		•
BMW-0134-042012			5/22/2012	5/24/2012	200-10957-21	10957		•
DMW-0134-042012	DMW-0134-042012		5/22/2012	5/24/2012	200-10957-22	10957		•
AMW-0135-042012			5/23/2012	5/25/2012	200-10986-2	10986		•
BMW-0135-042012			5/23/2012	5/25/2012	200-10986-3	10986		•
DMW-0135-042012			5/23/2012	5/25/2012	200-10986-4	10986		•
AMW-0136-042012			5/23/2012	5/25/2012	200-10986-5	10986		•
BMW-0136-042012			5/23/2012	5/25/2012	200-10986-6	10986		•
DMW-0136-042012			5/23/2012	5/25/2012	200-10986-7	10986		•
EMW-0136-042012			5/23/2012	5/25/2012	200-10986-8	10986		•
AMW-0137-042012			5/23/2012	5/25/2012	200-10986-9	10986		•
BMW-0137-042012			5/23/2012	5/25/2012	200-10986-10	10986		•
DMW-0137-042012			5/23/2012	5/25/2012	200-10986-11	10986		•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
EMW-0137-042012			5/23/2012	5/25/2012	200-10986-12	10986		•
AMW-0138-042012			5/23/2012	5/25/2012	200-10986-13	10986		•
BMW-0138-042012			5/23/2012	5/25/2012	200-10986-14	10986		•
AMW-0139-042012			5/23/2012	5/25/2012	200-10986-15	10986		•
BMW-0139-042012			5/23/2012	5/25/2012	200-10986-16	10986		•
AMW-028-042012			5/23/2012	5/25/2012	200-10986-17	10986	•	
BMW-028-042012			5/23/2012	5/25/2012	200-10986-18	10986	•	
DMW-028-042012			5/23/2012	5/25/2012	200-10986-19	10986	•	
AMW-029-042012			5/23/2012	5/25/2012	200-10986-20	10986	•	
BMW-029-042012			5/23/2012	5/25/2012	200-10986-21	10986	•	
AMW-032-042012			5/24/2012	5/25/2012	200-10986-22	10986	•	
BMW-032-042012			5/24/2012	5/25/2012	200-10986-23	10986	•	
DMW-032-042012			5/24/2012	5/25/2012	200-10986-24	10986	•	
AMW-033-042012			5/24/2012	5/25/2012	200-10986-25	10986	•	
BMW-033-042012			5/24/2012	5/25/2012	200-10986-26	10986	•	
DMW-033-042012			5/24/2012	5/25/2012	200-10986-27	10986	•	
AMW-003-042012			5/24/2012	5/25/2012	200-10986-28	10986	•	•
BMW-003-042012			5/24/2012	5/25/2012	200-10986-29	10986	•	•
AMW-002-042012			5/24/2012	5/25/2012	200-10986-30	10986	•	•
BMW-002-042012			5/24/2012	5/25/2012	200-10986-31	10986	•	•
AMW-0127-042012			5/24/2012	5/25/2012	200-10986-32	10986	•	•
BMW-0127-042012			5/24/2012	5/25/2012	200-10986-33	10986	•	•
EMW-0127-042012			5/24/2012	5/25/2012	200-10986-34	10986	•	•
AMW-025-042012			5/24/2012	5/25/2012	200-10986-35	10986	•	•
BMW-025-042012			5/24/2012	5/25/2012	200-10986-36	10986	•	•
DMW-025-042012			5/24/2012	5/25/2012	200-10986-37	10986	•	•
AMW-021-042012			5/24/2012	5/25/2012	200-10986-38	10986	•	•
		AMW-221-042012	5/24/2012	5/25/2012	200-10986-39	10986	•	•
BMW-021-042012	BMW-021-042012		5/24/2012	5/25/2012	200-10986-40	10986	•	•
DMW-021-042012			5/24/2012	5/25/2012	200-10986-41	10986	•	•
AMW-087-042012			5/29/2012	5/31/2012	200-11052-2	11052-1	•	•
BMW-087-042012			5/29/2012	5/31/2012	200-11052-3	11052-1	•	•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
DMW-087-042012			5/29/2012	5/31/2012	200-11052-4	11052-1	•	•
AMW-0116-042012			5/29/2012	5/31/2012	200-11052-5	11052-1		•
BMW-0116-042012			5/29/2012	5/31/2012	200-11052-6	11052-1		•
DMW-0116-042012			5/29/2012	5/31/2012	200-11052-7	11052-1		•
AMW-0105-042012			5/29/2012	5/31/2012	200-11052-8	11052-1	•	•
		AMW-2105-042012	5/29/2012	5/31/2012	200-11052-9	11052-1	•	•
BMW-0105-042012	BMW-0105-042012		5/29/2012	5/31/2012	200-11052-10	11052-1	•	•
OMW-0105-042012			5/29/2012	5/31/2012	200-11052-11	11052-1	•	•
AMW-0104-042012			5/29/2012	5/31/2012	200-11052-12	11052-1	•	•
BMW-0104-042012			5/29/2012	5/31/2012	200-11052-13	11052-1	•	•
DMW-0104-042012			5/29/2012	5/31/2012	200-11052-14	11052-1	•	•
OMW-0104-042012			5/29/2012	5/31/2012	200-11052-15	11052-1	•	•
AMW-0140-042012			5/29/2012	5/31/2012	200-11052-16	11052-1		•
BMW-0140-042012			5/29/2012	5/31/2012	200-11052-17	11052-1		•
DMW-0140-042012			5/29/2012	5/31/2012	200-11052-18	11052-1		•
OMW-0140-042012			5/29/2012	5/31/2012	200-11052-19	11052-1		•
AMW-0111-042012			5/29/2012	5/31/2012	200-11052-20	11052-1	•	•
BMW-0111-042012			5/29/2012	5/31/2012	200-11052-21	11052-1	•	•
OMW-0111-042012			5/29/2012	5/31/2012	200-11052-22	11052-1	•	•
AMW-0109-042012			5/30/2012	5/31/2012	200-11052-23	11052-2	•	•
		AMW-2109-042012	5/30/2012	5/31/2012	200-11052-24	11052-2	•	•
BMW-0109-042012	BMW-0109-042012		5/30/2012	5/31/2012	200-11052-25	11052-2	•	•
OMW-0109-042012			5/30/2012	5/31/2012	200-11052-26	11052-2	•	•
AMW-024-042012			5/30/2012	5/31/2012	200-11052-27	11052-2	•	•
BMW-024-042012			5/30/2012	5/31/2012	200-11052-28	11052-2	•	•
AMW-0124-042012			5/30/2012	5/31/2012	200-11052-29	11052-2	•	•
BMW-0124-042012			5/30/2012	5/31/2012	200-11052-30	11052-2	•	•
		BMW-2124-042012	5/30/2012	5/31/2012	200-11052-31	11052-2	•	•
DMW-0124-042012			5/30/2012	5/31/2012	200-11052-32	11052-2	•	•
AMW-0121-042012			5/30/2012	5/31/2012	200-11052-33	11052-2	•	•
BMW-0121-042012			5/30/2012	5/31/2012	200-11052-34	11052-2	•	•
EMW-0121-042012			5/30/2012	5/31/2012	200-11052-35	11052-2	•	•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
AMW-0122-042012			6/4/2012	6/6/2012	200-11141-2	11141	•	•
		AMW-2122-042012	6/4/2012	6/6/2012	200-11141-3	11141	•	•
BMW-0122-042012	BMW-0122-042012		6/4/2012	6/6/2012	200-11141-4	11141	•	•
AMW-0120-042012			6/4/2012	6/6/2012	200-11141-5	11141	•	•
BMW-0120-042012			6/4/2012	6/6/2012	200-11141-6	11141	•	•
DMW-0120-042012			6/4/2012	6/6/2012	200-11141-7	11141	•	•
EMW-0120-042012			6/4/2012	6/6/2012	200-11141-8	11141	•	•
AMW-0125-042012			6/4/2012	6/6/2012	200-11141-12	11141	•	•
BMW-0125-042012			6/4/2012	6/6/2012	200-11141-13	11141	•	•
		BMW-2125-042012	6/4/2012	6/6/2012	200-11141-14	11141	•	•
DMW-0125-042012			6/4/2012	6/6/2012	200-11141-15	11141	•	•
AMW-0123-042012			6/4/2012	6/6/2012	200-11141-9	11141	•	•
BMW-0123-042012			6/4/2012	6/6/2012	200-11141-10	11141	•	•
AMW-0126-042012			6/4/2012	6/6/2012	200-11141-16	11141	•	•
BMW-0126-042012			6/4/2012	6/6/2012	200-11141-17	11141	•	•
DMW-0126-042012			6/4/2012	6/6/2012	200-11141-18	11141	•	•
BMW-0119-042012			6/4/2012	6/6/2012	200-11143-2	11143	•	•
AMW-0119-042012			6/4/2012	6/6/2012	200-11143-1	11143	•	•
EMW-0141-042012			6/4/2012	6/6/2012	200-11143-5	11143	•	•
		EMW-2141-042012	6/4/2012	6/6/2012	200-11143-6	11143	•	•
AMW-018-042012			6/4/2012	6/6/2012	200-11141-19	11141	•	•
BMW-0141-042012			6/4/2012	6/6/2012	200-11143-4	11143	•	•
BMW-018-042012			6/4/2012	6/6/2012	200-11141-20	11141	•	•
AMW-0141-042012			6/4/2012	6/6/2012	200-11143-3	11143	•	•
CMW-018-042012			6/4/2012	6/6/2012	200-11141-21	11141	•	•
AMW-0150-042012			6/5/2012	6/6/2012	200-11140-18	11140	•	•
BMW-0150-042012			6/5/2012	6/6/2012	200-11140-19	11140	•	•
AMW-0153-042012			6/5/2012	6/6/2012	200-11140-14	11140	•	•
BMW-0153-042012			6/5/2012	6/6/2012	200-11140-15	11140	•	•
AMW-0154-042012			6/5/2012	6/6/2012	200-11140-16	11140	•	•
BMW-0154-042012			6/5/2012	6/6/2012	200-11140-17	11140	•	•
AMW-043-042012			6/5/2012	6/6/2012	200-11143-7	11143	•	•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
BMW-043-042012			6/5/2012	6/6/2012	200-11143-8	11143	•	•
DMW-043-042012			6/5/2012	6/6/2012	200-11143-9	11143	•	•
AMW-042-042012			6/5/2012	6/6/2012	200-11143-10	11143	•	•
		AMW-242-042012	6/5/2012	6/6/2012	200-11143-11	11143	•	•
BMW-042-042012	BMW-042-042012		6/5/2012	6/6/2012	200-11143-12	11143	•	•
DMW-042-042012			6/5/2012	6/6/2012	200-11143-13	11143	•	•
AMW-0157-042012			6/5/2012	6/6/2012	200-11140-1	11140	•	•
BMW-0157-042012			6/5/2012	6/6/2012	200-11140-2	11140	•	•
AMW-044-042012			6/5/2012	6/6/2012	200-11143-14	11143	•	•
		AMW-244-042012	6/5/2012	6/6/2012	200-11143-15	11143	•	•
BMW-044-042012	BMW-044-042012		6/5/2012	6/6/2012	200-11140-12	11140	•	•
AMW-0156-042012			6/5/2012	6/6/2012	200-11140-3	11140	•	•
DMW-044-042012			6/5/2012	6/6/2012	200-11140-13	11140	•	•
BMW-0156-042012			6/5/2012	6/6/2012	200-11140-4	11140	•	•
		BMW-2156-042012	6/5/2012	6/6/2012	200-11140-5	11140	•	•
AMW-0155-042012			6/5/2012	6/6/2012	200-11140-6	11140	•	•
		AMW-2155-042012	6/5/2012	6/6/2012	200-11140-7	11140	•	•
EMW-0155-042012			6/5/2012	6/6/2012	200-11140-8	11140	•	•
BMW-0152-042012			6/5/2012	6/6/2012	200-11140-9	11140	•	•
AMW-0151-042012			6/5/2012	6/6/2012	200-11140-10	11140	•	•
BMW-0151-042012			6/5/2012	6/6/2012	200-11140-11	11140	•	•
AMW-0145-042012			6/7/2012	6/9/2012	200-11202-23	11202-1	•	
EMW-0145-042012			6/7/2012	6/9/2012	200-11202-24	11202-1	•	
AMW-0144-042012			6/7/2012	6/9/2012	200-11202-25	11202-1	•	
EMW-0144-042012			6/7/2012	6/9/2012	200-11202-26	11202-1	•	
AMW-094-042012			6/7/2012	6/9/2012	200-11202-27	11202-1	•	
BMW-094-042012			6/7/2012	6/9/2012	200-11202-28	11202-1	•	
DMW-094-042012			6/7/2012	6/9/2012	200-11202-29	11202-1	•	
AMW-0146-042012			6/7/2012	6/9/2012	200-11202-30	11202-1	•	•
BMW-0146-042012			6/7/2012	6/9/2012	200-11202-31	11202-1	•	•
AMW-092-042012			6/7/2012	6/9/2012	200-11202-32	11202-1		•
BMW-092-042012			6/7/2012	6/9/2012	200-11202-33	11202-1		•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
AMW-079-042012			6/7/2012	6/9/2012	200-11202-12	11202-1		•
		AMW-279-042012	6/7/2012	6/9/2012	200-11202-13	11202-1		•
BMW-079-042012			6/7/2012	6/9/2012	200-11202-14	11202-1		•
AMW-089-042012			6/7/2012	6/9/2012	200-11202-15	11202-1		•
BMW-089-042012			6/7/2012	6/9/2012	200-11202-16	11202-1		•
DMW-089-042012			6/7/2012	6/9/2012	200-11202-17	11202-1		•
EMW-089-042012			6/7/2012	6/9/2012	200-11202-18	11202-1	•	•
AMW-099-042012			6/7/2012	6/9/2012	200-11202-19	11202-1	•	
BMW-099-042012			6/7/2012	6/9/2012	200-11202-20	11202-1	•	•
DMW-099-042012			6/7/2012	6/9/2012	200-11202-21	11202-1	•	
MW-011-042012			6/8/2012	6/9/2012	200-11202-34	11202-1	•	
AMW-054-042012			6/8/2012	6/9/2012	200-11202-35	11202-1	•	•
BMW-054-042012			6/8/2012	6/9/2012	200-11202-36	11202-1	•	•
AMW-055-042012			6/8/2012	6/9/2012	200-11202-37	11202-1	•	•
AMW-005-042012			6/8/2012	6/9/2012	200-11202-2	11202-2	•	•
BMW-055-042012			6/8/2012	6/9/2012	200-11202-38	11202-1	•	•
		BMW-255-042012	6/8/2012	6/9/2012	200-11202-39	11202-1	•	•
BMW-005-042012			6/8/2012	6/9/2012	200-11202-3	11202-2	•	•
BMW-065-042012			6/8/2012	6/9/2012	200-11202-4	11202-2	•	
AMW-008-042012			6/8/2012	6/9/2012	200-11202-5	11202-2	•	•
BMW-008-042012			6/8/2012	6/9/2012	200-11202-6	11202-2	•	•
AMW-009-042012			6/8/2012	6/9/2012	200-11202-7	11202-2		•
AMW-078-042012			6/8/2012	6/9/2012	200-11202-40	11202-1		•
BMW-009-042012			6/8/2012	6/9/2012	200-11202-8	11202-2		•
		BMW-209-042012	6/8/2012	6/9/2012	200-11202-9	11202-2		•
BMW-078-042012	BMW-078-042012		6/8/2012	6/9/2012	200-11202-41	11202-1		•
		BMW-278-042012	6/8/2012	6/9/2012	200-11202-42	11202-1		•
DMW-009-042012			6/8/2012	6/9/2012	200-11202-10	11202-2		•
AMW-040-042012			6/8/2012	6/9/2012	200-11202-43	11202-1		•
BMW-040-042012			6/8/2012	6/9/2012	200-11202-44	11202-2		•
BAZEMW-01-042012			6/8/2012	6/9/2012	200-11202-11	11202-2	•	
AMW-072-042012			6/8/2012	6/9/2012	200-11202-45	11202-2		•

Table 2-1
Sample Collection Summary
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
BMW-072-042012	BMW-072-042012		6/8/2012	6/9/2012	200-11202-46	11202-2		•
		BMW-272-042012	6/8/2012	6/9/2012	200-11202-47	11202-2		•
AMW-0149-042012			6/8/2012	6/9/2012	200-11202-48	11202-2	•	•
BMW-0143-042012			6/8/2012	6/9/2012	200-11202-49	11202-2	•	•
BMW-0148-042012			6/8/2012	6/9/2012	200-11202-50	11202-2	•	•
		BMW-2148-042012	6/8/2012	6/9/2012	200-11202-51	11202-2	•	•
AMW-010-042012			6/8/2012	6/9/2012	200-11202-52	11202-2	•	•
BMW-010-042012			6/8/2012	6/9/2012	200-11202-53	11202-2	•	•
Trip Blanks								
TRB-2133-042012			5/22/2012	5/24/2012	200-10957-16	10957		•
TRB-2135-042012			5/23/2012	5/25/2012	200-10986-1	10986		•
TRB-287-042012			5/29/2012	5/31/2012	200-11052-1	11052-1		•
TRB-2122-042012			6/4/2012	6/6/2012	200-11141-1	11141		•
TRB-2125-042012			6/4/2012	6/6/2012	200-11141-11	11141		•
TRB-2144-042012			6/7/2012	6/9/2012	200-11202-22	11202-1		•
TRB-205-042012			6/7/2012	6/9/2012	200-11202-1	11202-2		•

Notes:

Volatiles — Volatile Organic Compounds by Capillary GC/MS

Explosives — Nitroaromatics and Nitramines by HPLC

Table 2-2
Sample Collection Summary
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
Field Samples								
SCW-004-042012			5/31/2012	6/2/2012	200-11091-2	11091	•	•
SCW-005-042012			5/31/2012	6/2/2012	200-11091-3	11091	•	•
SCW-006-042012			5/31/2012	6/2/2012	200-11091-4	11091	•	•
		SCW-206-042012	5/31/2012	6/2/2012	200-11091-5	11091	•	•
SW-012-042012			5/31/2012	6/2/2012	200-11091-6	11091	•	•
SW-013-042012			5/31/2012	6/2/2012	200-11091-7	11091	•	•
SW-011-042012			5/31/2012	6/2/2012	200-11091-8	11091	•	•
SW-009-042012			5/31/2012	6/2/2012	200-11091-9	11091	•	•
SW-006-042012			5/31/2012	6/2/2012	200-11091-10	11091	•	•
SW-008-042012			5/31/2012	6/2/2012	200-11091-11	11091	•	•
SW-010-042012			5/31/2012	6/2/2012	200-11091-12	11091	•	•
OART-042012			5/31/2012	6/2/2012	200-11091-13	11091	•	•
SW-005-042012	SW-005-042012		5/31/2012	6/2/2012	200-11091-14	11091	•	•
		SW-205-042012	5/31/2012	6/2/2012	200-11091-15	11091	•	•
SKI-001-042012			5/31/2012	6/2/2012	200-11091-16	11091	•	•
Trip Blanks								
TRB-204-042012			5/31/2012	6/2/2012	200-11091-1	11091		•

Notes:

Volatiles — Volatile Organic Compounds by Capillary GC/MS
Explosives — Nitroaromatics and Nitramines by HPLC

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	%REC	BLK	C_RPD	IS_Surr	SAMP	Comments	Final Result
AMW-010-042012	6/8/2012	11202-2	200-11202-52	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.071	J			X			Column RPD	0.071 J
AMW-0104-042012	5/29/2012	11052-1	200-11052-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.083	J			X			Column RPD	0.083 J
AMW-0120-042012	6/4/2012	11141	200-11141-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.049	J			X			Column RPD	0.049 J
AMW-0122-042012	6/4/2012	11141	200-11141-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.082	J			X			Column RPD	0.082 J
AMW-0124-042012	5/30/2012	11052-2	200-11052-29	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.045	J			X			Column RPD	0.045 J
AMW-0125-042012	6/4/2012	11141	200-11141-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.075	J			X			Column RPD	0.075 J
AMW-0126-042012	6/4/2012	11141	200-11141-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.051	J			X			Column RPD	0.051 J
AMW-0127-042012	5/24/2012	10986	200-10986-32	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.10	J			X			Column RPD	0.10 J
AMW-0128-042012	5/22/2012	10957	200-10957-13	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.52	J			X			Column RPD	0.52 J
AMW-0130-042012	5/22/2012	10957	200-10957-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.11	J			X			Column RPD	0.11 J
AMW-0141-042012	6/4/2012	11143	200-11143-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.066	J			X			Column RPD	0.066 J
AMW-0144-042012	6/7/2012	11202-1	200-11202-25	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.26	J			X			Column RPD	0.26 J
AMW-0144-042012	6/7/2012	11202-1	200-11202-25	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.33	U		X				Lab Blank	0.42 U
AMW-0151-042012	6/5/2012	11140	200-11140-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.046	J			X			Column RPD	0.046 J
AMW-0153-042012	6/5/2012	11140	200-11140-14	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.059	J			X			Column RPD	0.059 J
AMW-0153-042012	6/5/2012	11140	200-11140-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.082	J			X			Column RPD	0.082 J
AMW-0154-042012	6/5/2012	11140	200-11140-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	J			X			Column RPD	0.20 J
AMW-0155-042012	6/5/2012	11140	200-11140-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.043	J			X			Column RPD	0.043 J
AMW-0157-042012	6/5/2012	11140	200-11140-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.060	J			X			Column RPD	0.060 J
AMW-024-042012	5/30/2012	11052-2	200-11052-27	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.047	J			X			Column RPD	0.047 J
AMW-042-042012	6/5/2012	11143	200-11143-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.11	J			X			Column RPD	0.11 J
AMW-043-042012	6/5/2012	11143	200-11143-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.065	J			X			Column RPD	0.065 J
AMW-044-042012	6/5/2012	11143	200-11143-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.068	J			X			Column RPD	0.068 J
AMW-2122-042012	6/4/2012	11141	200-11141-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.075	J			X			Column RPD	0.075 J
AMW-2155-042012	6/5/2012	11140	200-11140-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.042	J			X			Column RPD	0.042 J
AMW-242-042012	6/5/2012	11143	200-11143-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.090	J			X			Column RPD	0.090 J
AMW-244-042012	6/5/2012	11143	200-11143-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.077	J			X			Column RPD	0.077 J
BMW-005-042012	6/8/2012	11202-2	200-11202-3	Explosives	2,4,6-trinitrotoluene	µg/L	0.31	J			X			Column RPD	0.31 J
BMW-0104-042012	5/29/2012	11052-1	200-11052-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.057	J			X			Column RPD	0.057 J
BMW-0105-042012	5/29/2012	11052-1	200-11052-10	Volatiles	trichloroethene	µg/L	22	J	X					MS Recovery	22 J
BMW-0111-042012	5/29/2012	11052-1	200-11052-21	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.047	J			X			Column RPD	0.047 J
BMW-0119-042012	6/4/2012	11143	200-11143-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.13	J			X			Column RPD	0.13 J
BMW-0119-042012	6/4/2012	11143	200-11143-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.12	J			X			Column RPD	0.12 J
BMW-0119-042012	6/4/2012	11143	200-11143-2	Volatiles	trichloroethene	µg/L	0.67	U		X				Lab Blank	1.0 U
BMW-0120-042012	6/4/2012	11141	200-11141-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	1.5	J			X			Column RPD	1.5 J
BMW-0122-042012	6/4/2012	11141	200-11141-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.27	J			X			Column RPD	0.27 J

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	%REC	BLK	C_RPD	IS_Surr	SAMP	Comments	Final Result
BMW-0124-042012	5/30/2012	11052-2	200-11052-30	Explosives	4-amino-2,6-dinitrotoluene	µg/L	2.4	J			X			Column RPD	2.4 J
BMW-0125-042012	6/4/2012	11141	200-11141-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	3.4	J			X			Column RPD	3.4 J
BMW-0126-042012	6/4/2012	11141	200-11141-17	Explosives	1,3,5-trinitrobenzene	µg/L	0.62	J			X			Column RPD	0.62 J
BMW-0126-042012	6/4/2012	11141	200-11141-17	Explosives	2,4-dinitrotoluene	µg/L	0.53	J			X			Column RPD	0.53 J
BMW-0126-042012	6/4/2012	11141	200-11141-17	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.17	J			X			Column RPD	0.17 J
BMW-0126-042012	6/4/2012	11141	200-11141-17	Explosives	4-amino-2,6-dinitrotoluene	µg/L	11	J			X			Column RPD	11 J
BMW-0128-042012	5/22/2012	10957	200-10957-14	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	1.8	J	X					MS Recovery	1.8 J
BMW-0129-042012	5/22/2012	10957	200-10957-5	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.27	J			X			Column RPD	0.27 J
BMW-0131-042012	5/22/2012	10957	200-10957-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.10	J			X			Column RPD	0.10 J
BMW-0141-042012	6/4/2012	11143	200-11143-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	6.1	J			X			Column RPD	6.1 J
BMW-0150-042012	6/5/2012	11140	200-11140-19	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.12	J			X			Column RPD	0.12 J
BMW-0151-042012	6/5/2012	11140	200-11140-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.042	J			X			Column RPD	0.042 J
BMW-0152-042012	6/5/2012	11140	200-11140-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.065	J			X			Column RPD	0.065 J
BMW-0153-042012	6/5/2012	11140	200-11140-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.048	J			X			Column RPD	0.048 J
BMW-0154-042012	6/5/2012	11140	200-11140-17	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.072	J			X			Column RPD	0.072 J
BMW-018-042012	6/4/2012	11141	200-11141-20	Volatiles	trichloroethene	µg/L	0.22	U		X				Lab Blank	1.0 U
BMW-024-042012	5/30/2012	11052-2	200-11052-28	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.18	J			X			Column RPD	0.18 J
BMW-025-042012	5/24/2012	10986	200-10986-36	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.044	J			X			Column RPD	0.044 J
BMW-043-042012	6/5/2012	11143	200-11143-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.13	J			X			Column RPD	0.13 J
BMW-054-042012	6/8/2012	11202-1	200-11202-36	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.25	J			X			Column RPD	0.25 J
BMW-065-042012	6/8/2012	11202-2	200-11202-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.37	U		X				Lab Blank	0.41 U
BMW-072-042012	6/8/2012	11202-2	200-11202-46	Volatiles	trichloroethene	µg/L	1100	J	X					MS Recovery	1100 J
BMW-078-042012	6/8/2012	11202-1	200-11202-41	Volatiles	trichloroethene	µg/L	34	J	X					MS Recovery	34 J
BMW-2124-042012	5/30/2012	11052-2	200-11052-31	Explosives	4-amino-2,6-dinitrotoluene	µg/L	3.1	J			X			Column RPD	3.1 J
BMW-2125-042012	6/4/2012	11141	200-11141-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	3.3	J			X			Column RPD	3.3 J
BMW-272-042012	6/8/2012	11202-2	200-11202-47	Volatiles	trichloroethene	µg/L	1100	J	X					MS Recovery	1100 J
BMW-278-042012	6/8/2012	11202-1	200-11202-42	Volatiles	trichloroethene	µg/L	46	J	X					MS Recovery	46 J
CMW-018-042012	6/4/2012	11141	200-11141-21	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.065	J			X			Column RPD	0.065 J
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	R					X	Sample Receipt Condition	0.42 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	2,4,6-trinitrotoluene	µg/L	0.0	R					X	Sample Receipt Condition	0.42 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	2,4-dinitrotoluene	µg/L	0.0	R					X	Sample Receipt Condition	0.42 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	R					X	Sample Receipt Condition	0.42 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.42	R					X	Sample Receipt Condition	0.42 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	7.2	R					X	Sample Receipt Condition	7.2 R

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	%REC	BLK	C_RPD	IS_Surr	SAMP	Comments	Final Result
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	1,2-dichloropropane	µg/L	0.0	R					X	Sample Receipt Condition	37 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	cis-1,2-dichloroethene	µg/L	22	R					X	Sample Receipt Condition	22 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	methylene chloride	µg/L	0.0	R					X	Sample Receipt Condition	37 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	trans-1,2-dichloroethene	µg/L	0.0	R					X	Sample Receipt Condition	37 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	trichloroethene	µg/L	15000	R					X	Sample Receipt Condition	15000 R
DMW-0120-042012	6/4/2012	11141	200-11141-7	Volatiles	vinyl choride	µg/L	0.0	R					X	Sample Receipt Condition	37 R
DMW-0124-042012	5/30/2012	11052-2	200-11052-32	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.077	J			X			Column RPD	0.077 J
DMW-0125-042012	6/4/2012	11141	200-11141-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.10	J			X			Column RPD	0.10 J
DMW-0126-042012	6/4/2012	11141	200-11141-18	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.063	J			X			Column RPD	0.063 J
DMW-0128-042012	5/22/2012	10957	200-10957-15	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.34	J			X			Column RPD	0.34 J
DMW-0129-042012	5/22/2012	10957	200-10957-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.054	J			X			Column RPD	0.054 J
DMW-0130-042012	5/22/2012	10957	200-10957-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.094	J			X			Column RPD	0.094 J
DMW-0131-042012	5/22/2012	10957	200-10957-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.069	J			X			Column RPD	0.069 J
DMW-0134-042012	5/22/2012	10957	200-10957-22	Volatiles	trichloroethene	µg/L	79	J	X					MS Recovery	79 J
DMW-021-042012	5/24/2012	10986	200-10986-41	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.048	J			X			Column RPD	0.048 J
DMW-042-042012	6/5/2012	11143	200-11143-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.11	J			X			Column RPD	0.11 J
DMW-043-042012	6/5/2012	11143	200-11143-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.062	J			X			Column RPD	0.062 J
DMW-044-042012	6/5/2012	11140	200-11140-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.044	J			X			Column RPD	0.044 J
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	R					X	Sample Receipt Condition	0.40 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	2,4,6-trinitrotoluene	µg/L	0.0	R					X	Sample Receipt Condition	0.40 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	2,4-dinitrotoluene	µg/L	0.12	R					X	Sample Receipt Condition	0.12 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	R					X	Sample Receipt Condition	0.40 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.053	R					X	Sample Receipt Condition	0.053 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.0	R					X	Sample Receipt Condition	0.40 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	1,2-dichloropropane	µg/L	0.0	R					X	Sample Receipt Condition	3.7 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	cis-1,2-dichloroethene	µg/L	290	R					X	Sample Receipt Condition	290 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	methylene chloride	µg/L	0.0	R					X	Sample Receipt Condition	3.7 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	trans-1,2-dichloroethene	µg/L	1.7	R					X	Sample Receipt Condition	1.7 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	trichloroethene	µg/L	57	R					X	Sample Receipt Condition	57 R
EMW-0120-042012	6/4/2012	11141	200-11141-8	Volatiles	vinyl choride	µg/L	0.0	R					X	Sample Receipt Condition	3.7 R

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	%REC	BLK	C_RPD	IS_Surr	SAMP	Comments	Final Result
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	1,3,5-trinitrobenzene	µg/L	190	J				X		Surrogate recovery outside project limits.	190 J
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	2,4,6-trinitrotoluene	µg/L	100	J				X		Surrogate recovery outside project limits.	100 J
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	2,4-dinitrotoluene	µg/L	0.20	J			X	X		Column RPD,Surrogate recovery outside project limits.	0.20 J
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	2-amino-4,6-dinitrotoluene	µg/L	3.3	J				X		Surrogate recovery outside project limits.	3.3 J
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	4-amino-2,6-dinitrotoluene	µg/L	2.2	J				X		Surrogate recovery outside project limits.	2.2 J
EMW-0127-042012	5/24/2012	10986	200-10986-34	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	10	J			X	X		Column RPD,Surrogate recovery outside project limits.	10 J
EMW-0141-042012	6/4/2012	11143	200-11143-5	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.21	J			X			Column RPD	0.21 J
EMW-0141-042012	6/4/2012	11143	200-11143-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	3.0	J			X			Column RPD	3.0 J
EMW-0155-042012	6/5/2012	11140	200-11140-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.043	J			X			Column RPD	0.043 J
EMW-089-042012	6/7/2012	11202-1	200-11202-18	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.045	U		X				Lab Blank	0.41 U
EMW-089-042012	6/7/2012	11202-1	200-11202-18	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.16	J			X			Column RPD	0.16 J
EMW-2141-042012	6/4/2012	11143	200-11143-6	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.21	J			X			Column RPD	0.21 J
EMW-2141-042012	6/4/2012	11143	200-11143-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	2.9	J			X			Column RPD	2.9 J

	Reason for Qualification
%REC	LCS - low, LCS Recovery, MS - low, MS Recovery
BLK	Ambient Blank, Lab Blank, CCB, CCB - Neg, Trip Blank, Equipment Blank, Field Blank, Material Blank, Lab Blank - Neg
C_RPD	Column RPD
IS_Surr	Internal standard, Surrogate recovery outside project limits.
SAMP	Cooler temperature greater than 10 degreec C., Cooler temperature greater than 4 degrees C, but less than 10 degreec C., Encore sample holding time exceeded by less than 2X., Encore sample holding time

Table 3-2
Data Quality Evaluation Results
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	Comments	Final Result
OART-042012	5/31/2012	11091	200-11091-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.041	J	X	Column RPD	0.041 J
SCW-004-042012	5/31/2012	11091	200-11091-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.025	J	X	Column RPD	0.025 J
SCW-006-042012	5/31/2012	11091	200-11091-4	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.032	J	X	Column RPD	0.032 J
SCW-206-042012	5/31/2012	11091	200-11091-5	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.025	J	X	Column RPD	0.025 J
SW-006-042012	5/31/2012	11091	200-11091-10	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.045	J	X	Column RPD	0.045 J
SW-008-042012	5/31/2012	11091	200-11091-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.071	J	X	Column RPD	0.071 J
SW-009-042012	5/31/2012	11091	200-11091-9	Explosives	2,4-dinitrotoluene	µg/L	0.062	J	X	Column RPD	0.062 J
SW-010-042012	5/31/2012	11091	200-11091-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.050	J	X	Column RPD	0.050 J
SW-013-042012	5/31/2012	11091	200-11091-7	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.17	J	X	Column RPD	0.17 J

	Reason for Qualification
C_RPD	Column RPD

Table 3-3
Explosives Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
Explosives					
Blank					
AMW-0144-042012	11202-1	4-amino-2,6-dinitrotoluene	Lab Blank > MDL	< 0.02 µg/L	0.031 µg/L
BMW-065-042012	11202-2	4-amino-2,6-dinitrotoluene	Lab Blank > MDL	< 0.02 µg/L	0.031 µg/L
EMW-089-042012	11202-1	4-amino-2,6-dinitrotoluene	Lab Blank > MDL	< 0.02 µg/L	0.031 µg/L
Confirmation Column Difference					
AMW-010-042012	11202-2	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	77.1 RPD
AMW-0104-042012	11052-1	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	190 RPD
AMW-0120-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
AMW-0122-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	178 RPD
AMW-0124-042012	11052-2	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	200 RPD
AMW-0125-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
AMW-0126-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	200 RPD
AMW-0127-042012	10986	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	78.8 RPD
AMW-0128-042012	10957	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	63.2 RPD
AMW-0130-042012	10957	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	82.1 RPD
AMW-0141-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	200 RPD
AMW-0144-042012	11202-1	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	88.9 RPD
AMW-0151-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	174 RPD
AMW-0153-042012	11140	2-Amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	165 RPD
AMW-0153-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	197 RPD

Table 3-3
Explosives Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
AMW-0154-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	115 RPD
AMW-0155-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	199 RPD
AMW-0157-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	177 RPD
AMW-024-042012	11052-2	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	199 RPD
AMW-042-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	166 RPD
AMW-043-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	66.7 RPD
AMW-044-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	185 RPD
AMW-2122-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	180 RPD
AMW-2155-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	198 RPD
AMW-242-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	176 RPD
AMW-244-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	184 RPD
BMW-005-042012	11202-2	2,4,6-trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	43.1 RPD
BMW-0104-042012	11052-1	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
BMW-0111-042012	11052-1	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	93.8 RPD
BMW-0119-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	93.8 RPD
BMW-0119-042012	11143	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	70.3 RPD
BMW-0120-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
BMW-0122-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	182 RPD
BMW-0124-042012	11052-2	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	195 RPD

Table 3-3
Explosives Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
BMW-0125-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	148 RPD
BMW-0126-042012	11141	1,3,5-trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	48.0 RPD
BMW-0126-042012	11141	2,4-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	160 RPD
BMW-0126-042012	11141	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	190 RPD
BMW-0126-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	150 RPD
BMW-0129-042012	10957	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	59.7 RPD
BMW-0131-042012	10957	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	42.4 RPD
BMW-0141-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	174 RPD
BMW-0150-042012	11140	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	66.7 RPD
BMW-0151-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	198 RPD
BMW-0152-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	105 RPD
BMW-0153-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
BMW-0154-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	57.4 RPD
BMW-024-042012	11052-2	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	82.0 RPD
BMW-025-042012	10986	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	152 RPD
BMW-043-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	92.1 RPD
BMW-054-042012	11202-1	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	41.3 RPD
BMW-2124-042012	11052-2	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
BMW-2125-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	155 RPD

Table 3-3
Explosives Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
CMW-018-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	51.4 RPD
DMW-0120-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	199 RPD
DMW-0124-042012	11052-2	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	197 RPD
DMW-0125-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	189 RPD
DMW-0126-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	199 RPD
DMW-0128-042012	10957	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	78.6 RPD
DMW-0129-042012	10957	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	59.7 RPD
DMW-0130-042012	10957	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	62.8 RPD
DMW-0131-042012	10957	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	104 RPD
DMW-021-042012	10986	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	140 RPD
DMW-042-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	169 RPD
DMW-043-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	63.7 RPD
DMW-044-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	92.7 RPD
EMW-0120-042012	11141	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	174 RPD
EMW-0127-042012	10986	2,4-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	101 RPD
EMW-0127-042012	10986	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	75.9 RPD
EMW-0141-042012	11143	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	186 RPD
EMW-0141-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	185 RPD
EMW-0155-042012	11140	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	198 RPD

Table 3-3
Explosives Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
EMW-089-042012	11202-1	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	124 RPD
EMW-2141-042012	11143	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	181 RPD
EMW-2141-042012	11143	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	184 RPD
MS Recovery					
BMW-0128-042012	10957	hexahydro-1,3,5-trinitro-1,3,5-triazine	Matrix Spike exceeds UCL	70 - 115 %	116 %
Surrogate					
EMW-0127-042012	10986	1,3,5-trinitrobenzene	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %
EMW-0127-042012	10986	2,4-dinitrotoluene	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %
EMW-0127-042012	10986	2,4,6-trinitrotoluene	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %
EMW-0127-042012	10986	2-amino-4,6-dinitrotoluene	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %
EMW-0127-042012	10986	4-amino-2,6-dinitrotoluene	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %
EMW-0127-042012	10986	hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds UCL	1,2-dinitrobenzene 70 - 115 %	147 %

Table 3-4
VOCs Quality Control Outliers
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
Volatiles					
Blank					
AMW-0151-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-0155-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-0156-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-0157-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-044-042012	11143	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-2155-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
AMW-244-042012	11143	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
BMW-0119-042012	11143	trichloroethene	Lab Blank > MDL	< 0.14 µg/L	0.24 µg/L
BMW-0152-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
BMW-0156-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
BMW-0157-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
BMW-018-042012	11141	trichloroethene	Lab Blank > MDL	< 0.14 µg/L	0.24 µg/L
BMW-042-042012	11143	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
BMW-2156-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
DMW-042-042012	11143	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
EMW-0155-042012	11140	methylene chloride	Lab Blank > MDL	< 0.21 µg/L	0.23 µg/L
MS Recovery					
BMW-0105-042012	11052-1	trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	61.2 %
BMW-0105-042012	11052-1	trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	65.6 %
BMW-072-042012	11202-2	trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	67.6 %
BMW-078-042012	11202-1	trichloroethene	Matrix Spike exceeds UCL	80 - 120 %	134 %
BMW-272-042012	11202-2	trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	67.6 %
BMW-278-042012	11202-1	trichloroethene	Matrix Spike exceeds UCL	80 - 120 %	134 %
DMW-0134-042012	10957	trichloroethene	Matrix Spike exceeds UCL	80 - 120 %	124 %

Table 3-5
Explosives Quality Control Outliers
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
Explosives					
Confirmation Column Difference					
OART-042012	11091	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	192 RPD
SCW-004-042012	11091	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	131 RPD
SCW-006-042012	11091	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	83.6 RPD
SCW-206-042012	11091	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	143 RPD
SW-006-042012	11091	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	83.9 RPD
SW-008-042012	11091	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	159 RPD
SW-009-042012	11091	2,4-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	55.8 RPD
SW-010-042012	11091	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	131 RPD
SW-013-042012	11091	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	86.9 RPD

Table 4-1
Field Completeness
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	151	151	100%
Volatiles	161	161	100%
Totals =	312	312	100.0%
Goal =			95%

Notes:

Number of Samples Planned includes field samples and field duplicate samples.

Table 4-2
Field Completeness
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	15	15	100%
Volatiles	15	15	100%
Totals =	30	30	100.0%
Goal =			95%

Notes:

Number of Samples Planned includes field samples and field duplicate samples.

Table 4-3
Analytical Completeness
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters	Acceptable Data	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data	Quality Data Completeness	Quality Data Completeness Goals
Explosives (Analyte Count - 6)	906	887	97.9%	90%	894	98.7%	80%
Volatiles (Analyte Count - 6)	966	948	98.1%	90%	954	98.8%	80%
Totals =	1872	1835	98.0%	90%	1848	98.7%	80%

Notes:

Total number of parameters includes field samples (includes data points from dilutions and/or reanalyses to be used in place of original data) and field duplicates (does not include field blanks or trip blanks).
Acceptable data includes data that has not been rejected or qualified as estimated (J/UJ). Data points for which the required corrective actions were taken or do not require corrective action do not count against the acceptable data completeness goal calculation (i.e., results exceeding the calibration range that were reanalyzed at dilutions within the calibration range).
Quality data is defined as all non-rejected data.

Table 4-4
Analytical Completeness
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters	Acceptable Data	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data	Quality Data Completeness	Quality Data Completeness Goals
Explosives (Analyte Count - 6)	90	90	100%	90%	90	100%	80%
Volatiles (Analyte Count - 6)	90	90	100%	90%	90	100%	80%
Totals =	180	180	100.0%	90%	180	100.0%	80%

Notes:

Total number of parameters includes field samples (includes data points from dilutions and/or reanalyses to be used in place of original data) and field duplicates (does not include field blanks or trip blanks).

Acceptable data includes data that has not been rejected or qualified as estimated (J/UJ). Data points for which the required corrective actions were taken or do not require corrective action do not count against the acceptable data completeness goal calculation (i.e., results exceeding the calibration range that were reanalyzed at dilutions within the calibration range).

Quality data is defined as all non-rejected data.

Table 4-5
Project Completeness
Second Quarter 2012 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
100.0%	98.7%	98.7%
Project Completeness Goal =		90%

Notes:

Analytical Completeness is the percentage of usable data (i.e. quality data 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.

Table 4-6
Project Completeness
Second Quarter 2012 Surface Water Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
100.0%	100.0%	100.0%
Project Completeness Goal =		90%

Notes:

Analytical Completeness is the percentage of usable data (i.e. quality data 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.

Appendix A
Chain of Custody Records

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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-22-12	COC No: 05-22/2
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 _____			
(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	Sample Specific Notes
AMW-0130-042012	5-22-12	0830	G	W	2		✓	
BMW-0130-042012		0835	G	W	2		✓	
DMW-0130-042012		0840	G	W	2		✓	
AMW-0129-042012		0930	G	W	2		✓	
BMW-0129-042012		0935	G	W	2		✓	
BMW-0129-042012MS		0935	G	W	2		✓	
BMW-0129-042012MSD		0935	G	W	2		✓	
DMW-0129-042012		0940	G	W	2		✓	
AMW-0131-042012		1035	G	W	2		✓	
BMW-0131-042012		1045	G	W	2		✓	
DMW-0131-042012		1055	G	W	2		✓	
AMW-0132-042012	↓	1120	G	W	2		✓	

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* [X] *Disposal By Lab* [ ] *Archive For* *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC/Arroyo	5-22-12 1700	Fed-Ex 7984	2573 4982	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5/23/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-22-12	COC No: 05 2212
FCC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 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 ____			
(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	Sample Specific Notes:
BMW-0132-042012	5-22-12	1130	G	W	2		✓	
DMW-0132-042012		1140	G	W	2		✓	
AMW-0128-042012		1205	G	W	2		✓	
BMW-0128-042012		1220	G	W	2		✓	
BMW-0128-042012 MS		1220	G	W	2		✓	
BMW-0128-042012 MSD		1220	G	W	2		✓	
DMW-0128-042012		1235	G	W	2		✓	
TRB-2133-042012		1320	G	W	2	✓		
AMW-0133-042012		1400	G	W	3	✓		
BMW-0133-042012		1410	G	W	3	✓		
DMW-0133-042012		1425	G	W	3	✓		
AMW-0134-042012	✓	1455	G	W	3	✓		

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]	FCR/Array	5-22-12 1700	Fed-Ex 7984 2525	TA 4982	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BWR	Date/Time: 5/24/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-22-12	COC No: 052212
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			
(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	Sample Specific Notes:
BMW-0134-042012	5-22-12	1505	G	W	3	✓		
DMW-0134-042012	↓	1520	G	W	3	✓		
DMW-0134-042012MS		1520	G	W	3	✓		
DMW-0134-042012MSD	↓	1520	G	W	3	✓		

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]	ECR/Arroy	5-22-12 1600	[signature] 7484 2573	498	
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5/24/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-23-12	COC No. 05 2312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 4 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	Sample Specific Notes:
TRB-2135-042012	5-23-12	0815	G	W	2	✓		
AMW-0135-042012		0910	G	W	3	✓		
BMW-0135-042012		0920	G	W	3	✓		
DMW-0135-042012		0930	G	W	3	✓		
AMW-0136-042012		1010	G	W	3	✓		
BMW-0136-042012		1020	G	W	3	✓		
DMW-0136-042012		1030	G	W	3	✓		
EMW-0136-042012		1040	G	W	3	✓		
AMW-0137-042012		1115	G	W	3	✓		
BMW-0137-042012		1125	G	W	3	✓		
DMW-0137-042012		1135	G	W	3	✓		
EMW-0137-042012	↓	1145	G	W	3	✓		

Preservation Used: 1= Ice, 2= HCl; 3= HZSO4; 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]	ECA / Army	5-24-12 1600	[signature]	84 3602	70
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA BUR	5-25-12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 05-23-12	COC No: 05-2312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 4 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	Sample Specific Notes.
AMW-0138-042012	5-23-12	1255	G	W	3	✓		
BMW-0138-042012		1300	G	W	3	✓		
AMW-0139-042012		1320	G	W	3	✓		
BMW-0139-042012		1330	G	W	3	✓		
AMW-028-042012		1415	G	W	2		✓	
BMW-028-042012		1425	G	W	2		✓	
DMW-028-042012		1435	G	W	2		✓	
AMW-029-042012		1515	G	W	2		✓	
BMW-029-042012	✓	1525	G	W	2		✓	
~~FRB-2032-042012~~	~~5-24-12~~	~~0845~~	~~G~~	~~W~~	~~2~~	~~✓~~	~~—~~	~~(illegible)~~
AMW-032-042012		0855	G	W	2		✓	
BMW-032-042012	↓	0905	G	W	2		✓	

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]	ECR/Army	5-24-12 1810	[signature]	FedEx	5-24-12 1810
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA BUR	5-25-12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 05-24-12	COC No: 05232
FCC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 4 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			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
DMW-032-042012	5-24-12	0915	G	W	2		✓	
AMW-033-042012		0950	G	W	2		✓	
BMW-033-042012		0955	G	W	2		✓	
DMW-035-042012		1000	G	W	2		✓	
AMW-003-042012		1035	G	W	5	✓	✓	
BMW-003-042012		1045	G	W	5	✓	✓	
AMW-002-042012		1115	G	W	5	✓	✓	
BMW-002-042012		1125	~~W~~G	W	5	✓	✓	
AMW-027-042012		1150	G	W	5	✓	✓	
BMW-027-042012		1200	G	W	5	✓	✓	
EMW-027-042012		1210	G	W	5	✓	✓	
AMW-025-042012	↓	1255	G	W	5	✓	✓	

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]	FCI/Army	5-24-12 1100	Fed-Ex 7981 3602 46		70
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5-25-12 1030
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-24-12	COC No: 052312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 COCs
1748 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	Sample Specific Notes
BMW-025-042012	5-24-12	1315	G	W	5	✓	✓	
DMW-025-042012		1325	G	W	5	✓	✓	
AMW-021-042012		1355	G	W	5	✓	✓	
AMW-221-042012		1355	G	W	5	✓	✓	
BMW-021-042012		1415	G	W	5	✓	✓	
BMW-021-042012MS		1415	G	W	5	✓	✓	
BMW-021-042012MSD		1415	G	W	5	✓	✓	
DMW-021-042012	↓	1435	G	W	5	✓	✓	

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/Army	5-24-12 1600	Fed-Ex 7984	3602 4670	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA BUR	5-25-12 1030
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-29-12	COC No: 05-2912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 4 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 differer: 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	Sample Specific Notes:
TRB-287-042012	5-29-12	0830	G	W	2	✓		
AMW-087-042012		0930	G	W	5	✓	✓	
BMW-087-042012		0940	G	W	5	✓	✓	
DMW-087-042012		0950	G	W	5	✓	✓	
AMW-0116-042012		1035	G	W	3	✓		
BMW-0116-042012		1045	G	W	3	✓		
DMW-0116-042012		1050	G	W	3	✓		
AMW-0105-042012		1150	G	W	5	✓	✓	
AMW-2105-042012		1150	G	W	5	✓	✓	
BMW-0105-042012		1205	G	W	5	✓	✓	
BMW-0105-042012MS		1205	G	W	5	✓	✓	
BMW-0105-042012MSD	✓	1205	G	W	5	✓	✓	

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/Amy	5-29-12 1700	FedEx	2255	0955
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5-31-12 1105
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-24-12	COC No: 05-2412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 4 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			SOG No.
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	Sample Specific Notes:
OMW-0105-042012	5-29-12	1235	G	W	5	✓	✓	
AMW-0104-042012		1315	G	W	5	✓	✓	
BMW-0104-042012		1325	G	W	5	✓	✓	
DMW-0104-042012		1335	G	W	5	✓	✓	
OMW-0104-042012		1350	G	W	5	✓	✓	
AMW-0140-042012		1435	G	W	3	✓		
BMW-0140-042012		1445	G	W	3	✓		
DMW-0140-042012		1450	G	W	3	✓		
OMW-0140-042012		1455	G	W	3	✓		
AMW-0111-042012		1530	G	W	5	✓	✓	
BMW-0111-042012		1540	G	W	5	✓	✓	
OMW-0111-042012	✓	1550	G	W	5	✓	✓	

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]	ECR/Array	5-30-12 1015	Fedex 7936 2255		0955
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA Bur	Date/Time: 5-31-12 1105
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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South Burlington, VT 5403
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2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 05-30-12	COC No: 052912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 6 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	Sample Specific Notes:
AMW-0109-042012	5-30-12	1040	G	W	5	✓	✓	
AMW-2109-042012	↓	1040	G	W	5	✓	✓	
BMW-0109-042012		1105	G	W	5	✓	✓	
BMW-0109-042012MS		1105	G	W	5	✓	✓	
BMW-0109-042012MSD		1105	G	W	5	✓	✓	
CMW-0109-042012		1130	G	W	5	✓	✓	
AMW-024-042012		1215	G	W	5	✓	✓	
BMW-024-042012		1225	G	W	5	✓	✓	
AMW-0124-042012		1310	G	W	5	✓	✓	
BMW-0124-042012		1310	G	W	5	✓	✓	
BMW-2124-042012		1310	G	W	5	✓	✓	
DMW-0124-042012	↓	1320	G	W	5	✓	✓	

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	5-30-12 1700	Fed-Ex 7436	TA	2255 0955
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5-31-12 1105
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
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phone 802.660.1990 fax 802.660.1919

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 05-30-12	COC No: 052912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 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	Sample Specific Notes:
AMW-0121-042012	5-30-12	1410	G	W	5	✓	✓	
BMW-0121-042012	↓	1420	G	W	5	✓	✓	
EMW-0121-042012	↓	1435	G	W	5	✓	✓	

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:

1760

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	5-30-12	Fed-Ex	2436 2255	0955
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA BUR	5-31-12 1105
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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phone 802.660.1990 fax 802.660.1919

2nd QTR ~~Monitoring Well~~ Sampling 2012
S-W-S

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-31-12	COC No: 053112
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	Sample Specific Notes:
TRB-204-042012	5-31-12	0830	G	W	2	X		
SCW-004-042012	5-31-12	0855	G	W	5	X	X	
SCW-005-042012	5-31-12	0905	G	W	5	X	X	
SCW-006-042012	5-31-12	0920	G	W	5	X	X	
SCW-206-042012	5-31-12	0920	G	W	5	X	X	
SW-012-042012	5-31-12	0955	G	W	5	X	X	
SW-013-042012	5-31-12	1010	G	W	5	X	X	
SW-011-042012	5-31-12	1025	G	W	5	X	X	
SW-009-042012	5-31-12	1040	G	W	5	X	X	
SW-006-042012	5-31-12	1055	G	W	5	X	X	
SW-008-042012	5-31-12	1235	G	W	5	X	X	
SW-010-042012	5-31-12	1250	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 D. Hinz	ECC	1630 5-31-12	Fed-ex 7936 2732		0062
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TABUR	0065 6/2/12 0945
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

2nd QTR ~~Monitoring Well~~ Sampling 2012
Surface water

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-31-12	COC No: 053112
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			
(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	Sample Specific Notes:
OART - 042012	5-31-12	1305	G	W	5	X	X	
SW - 005 - 042012	5-31-12	1325	G	W	5	X	X	
SW - 205 - 042012	5-31-12	1325	G	W	5	X	X	
SW - 005 - 042012 MS	5-31-12	1325	G	W	5	X	X	
SW 005 - 042012 MSD	5-31-12	1325	G	W	5	X	X	
SKI - 001 - 042012	5-31-12	1345	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:

1630

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	5-31-12	Fedex 7936	2732 0065	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TAB	6/2/12 0945
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-5-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 6 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	Sample Specific Notes:
A mw-0157-042012	6-5-12	1130	G	W	5	X	X	
B mw-0157-042012	6-5-12	1140	G	W	5	X	X	
A mw-0156-042012	6-5-12	1200	G	W	5	X	X	
B mw-0156-042012	6-5-12	1210	G	W	5	X	X	
B mw-2156-042012	6-5-12	1210	G	W	5	X	X	
A mw-0155-042012	6-5-12	1245	G	W	5	X	X	
A mw-2155-042012	6-5-12	1245	G	W	5	X	X	
B mw-0155-042012	6-5-12	1255	G	W	5	X	X	
B mw-0152-042012	6-5-12	1340	G	W	5	X	X	
A mw-0151-042012	6-5-12	1355	G	W	5	X	X	
B mw-0151-042012	6-5-12	1410	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	6-5-12 1200	Fed-ex	7984 7530	6986
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-5-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 6 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	Sample Specific Notes:
AMW-043-042012	6.5.12	0825	G	W	5	3	2	
BMW-043-042012	6.5.12	0835	G	W	5	3	2	
DMW-043-042012	6.5.12	0845	G	W	5	3	2	
AMW-042-042012	6.5.12	0940	G	W	5	3	2	
AMW-242-042012	6.5.12	0940	G	W	5	3	2	
BMW-042-042012	6.5.12	0950	G	W	5	3	2	
BMW-042-042012 MS	6.5.12	0950	G	W	5	3	2	
BMW-042-042012 MSD	6.5.12	0950	G	W	4	3	1	
DMW-042-042012	6.5.12	1000	G	W	5	3	2	
AMW-044-042012	6.5.12	1140	G	W	5	3	2	
AMW-244-042012	6.5.12	1140	G	W	5	3	2	
BMW-044-042012	6.5.12	1150	G	W	5	3	2	- Parent only

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:

Copy - original with 11143
1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	6-5-12	[signature]	7484 7530	6 9 86
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-5-12	COC No:
FCC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	6 of 6 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	Sample Specific Notes:
BMW-044-042012 MS	6.5.12	1150	G	W	4	3	1	
BMW-044-04012 MSD	6.5.12	1150	G	W	5	3	2	
DMW-044-04012	6.5.12	1200	G	W	5	3	2	
AMW-0153-04012	6.5.12	1335	G	W	5	3	2	
BMW-0153-04012	6.5.12	1345	G	W	5	3	2	
AMW-0154-04012	6.5.12	1420	G	W	5	3	2	
BMW-0154-04012	6.5.12	1430	G	W	5	3	2	
AMW-0150-042012	6.5.12	1510	G	W	5	3	2	
BMW-0150-042012	6.5.12	1520	G	W	5	3	2	

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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	FCC	6-5-12	Fed-ex 7984	7530	6986
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-4-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 6 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	Sample Specific Notes:
TRB-2122-042012	6-4-12	0816	G	W	2	X		
Amw-0122-042012	6-4-12	0820	G	W	5	X	X	
Amw-2122-042012	6-4-12	0820	G	W	5	X	X	
Bmw-0122-042012	6-4-12	0825	G	W	5	X	X	
Bmw-0122-042012 MS	6-4-12	0825	G	W	4	X	X	
Bmw-0122-042012 MSD	6-4-12	0825	G	W	4	X	X	
Amw-0120-042012	6-4-12	1010	G	W	5	X	X	
Bmw-0120-042012	6-4-12	1020	G	W	5	X	X	
Dmw-0120-042012	6-4-12	1030	G	W	5	X	X	
Emw-0120-042012	6-4-12	1040	G	W	5	X	X	
Amw-0123-042012	6-4-12	1205	G	W	5	X	X	
Bmw-0123-042012	6-4-12	1215	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	6-5-12	Fedex 7984	7530 6986	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-4-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 6 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	Sample Specific Notes:
TRB-2125-042012	6-4-12	1130	G	w	2	X		
Amw-0125-042012	6-4-12	1130	G	w	5	X	X	
Bmw-0125-042012	6-4-12	1140	G	w	5	X	X	
Bmw-2125-042012	6-4-12	1140	G	w	5	X	X	
Dmw-0125-042012	6-4-12	1150	G	w	5	X	X	
Amw-0126-042012	6-4-12	1225	G	w	5	X	X	
Bmw-0126-042012	6-4-12	1235	G	w	5	X	X	
Dmw-0126-042012	6-4-12	1245	G	w	5	X	X	
Amw-018-042012	6-4-12	1430	G	w	5	X	X	
Bmw-018-042012	6-4-12	1440	G	w	5	X	X	
Cmw-018-042012	6-4-12	1450	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	6-5-12	Fed-Ex 79	8475 30	6986
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-4-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 6 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	Sample Specific Notes:
A mw-0119-042012	6-4-12	1310	G	w	5	X	X	
B mw-0119-042012	6-4-12	1250	G	w	5	X	X	
A mw-0141-042012	6-4-12	1445	G	w	5	X	X	
B mw-0141-042012	6-4-12	1435	G	w	5	X	X	
E mw-0141-042012	6-4-12	1425	G	w	5	X	X	
E mw-2141-042012	6-4-12	1425	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:

1800

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Toby Hinz	ECC	6-5-12	Fed-ex 7924 7530		6986
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA Bur	6/6/12 1030
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

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-5-12	COC No: 060412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 6 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	Sample Specific Notes:
AMW-043-042012	6.5.12	0825	G	W	5	3	2	
BMW-043-042012	6.5.12	0835	G	W	5	3	2	
DMW-043-042012	6.5.12	0845	G	W	5	3	2	
AMW-042-042012	6.5.12	0940	G	W	5	3	2	
AMW-242-042012	6.5.12	0940	G	W	5	3	2	
BMW-042-042012	6.5.12	0950	G	W	5	3	2	
BMW-042-042012 MS	6.5.12	0950	G	W	5	3	2	
BMW-042-042012 MSD	6.5.12	0950	G	W	4	3	1	
DMW-042-042012	6.5.12	1000	G	W	5	3	2	
AMW-044-042012	6.5.12	1140	G	W	5	3	2	
AMW-244-042012	6.5.12	1140	G	W	5	3	2	
BMW-044-042012	6.5.12	1150	G	W	5	3	2	

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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. Hinz	ECC	6-5-12	Fed-ex 7984 7530		6986
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA BUR	6/6/12 1030
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-7-12	COC No: 060812
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.
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	Sample Specific Notes:
AMW-079-042012	6.7.12	1325	G	W	3	3		
AMW-279-04012	6.7.12	1325	G	W	3	3		
BMW-079-04012	6.7.12	1335	G	W	3	3		
AMW-080-04012	6.7.12	1415	G	W	3	3		
BMW-080-04012	6.7.12	1420	G	W	3	3		
DMW-080-04012	6.7.12	1425	G	W	3	3		
EMW-080-04012	6.7.12	1430	G	W	5	3	2	
AMW-099-04012	6.7.12	1530	G	W	2		2	
BMW-099-04012	6.7.12	1540	G	W	5	3	2	
DMW-099-04012	6.7.12	1550	G	W	2		2	

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 B. Hinz	ECC	6-8-12 1800	Fed-Ex 7936 6049		2695
Relinquished by:	Company:	Date/Time:	Received by: A. Power	Company: TABuR	Date/Time: 6-9-12 10:15
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6.7.12	COC No: 060812
FCC	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.
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	Sample Specific Notes:
TRB-2144-042012	6.7.12	0805	G	W	2	2		
AMW-0145-042012	6.7.12	0840	G	W	2		2	
EMW-0145-042012	6.7.12	0850	G	W	2		2	
AMW-0144-042012	6.7.12	0920	G	W	2		2	
EMW-0144-042012	6.7.12	0930	G	W	2		2	
AMW-094-042012	6.7.12	1025	G	W	2		2	
BMW-094-042012	6.7.12	1030	G	W	2		2	
DMW-094-042012	6.7.12	1035	G	W	2		2	
AMW-0146-042012	6.7.12	1140	G	W	5	3	2	
BMW-0146-042012	6.7.12	1150	G	W	5	3	2	
AMW-092-042012	6.7.12	1240	G	W	3	3	2	
BMW-092-042012	6.7.12	1250	G	W	3	3	2	

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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	FCC	6-8-12	[signature] 7936 6049		2695
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TABUR	Date/Time: 6-9-12 10:15
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

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-8-12	COC No: 060812
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	Sample Specific Notes:
MW-011-042012	6.8.12	0840	G	W	2		2	
AMW-054-042012	6.8.12	0905	G	W	5	3	2	
BMW-054-042012	6.8.12	0910	G	W	5	3	2	
AMW-055-042012	6.8.12	0940	G	W	5	3	2	
BMW-055-042012	6.8.12	0950	G	W	5	3	2	
BMW-256-042012	6.8.12	0950	G	W	5	3	2	
AMW-078-042012	6.8.12	1110	G	W	5	3		
BMW-078-042012	6.8.12	1120	G	W	3	3		
BMW-078-042012	6.8.12	1120	G	W	3	3		
BMW-078-042012 MSD	6.8.12	1120	G	W	3	3		
BMW-078-042012 MS	6.8.12	1120	G	W	3	3		
AMW-040-042012	6.8.12	1150	G	W	5	3		

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:

1100

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby V.	ECC	6-8-12	FedEx 7936 6049		2695
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TABLR	6-9-12 1015
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-8-12	COC No: 060812
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 _____			
(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	Sample Specific Notes:
TRB-205-042012	6-8-12	0900	G	w	2	✓		
Amw-005-042012	6-8-12	0945	G	w	5	✓	✓	
Bmw-005-042012	6-8-12	0955	G	w	5	✓	✓	
Bmw-065-042012	6-8-12	1005	G	w	2		✓	
Amw-008-042012	6-8-12	1025	G	w	5	✓	✓	
Bmw-008-042012	6-8-12	1035	G	w	5	✓	✓	
Amw-009-042012	6-8-12	1105	G	w	3	✓		
Bmw-009-042012	6-8-12	1120	G	w	3	✓		
Bmw-209-042012	6-8-12	1120	G	w	3	✓		
Dmw-009-042012	6-8-12	1130	G	w	3	✓		
BAZEmw-01-042012	6-8-12	1215	G	w	2		✓	

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:

1900

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby R Hinz	ECC	6-8-12	Fed-ex 7936 6049 2695		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			A. Ranen	TABUR	6-9-12 10:15
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

2nd QTR Monitoring Well Sampling Event 2012

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-8-12	COC No: 060812
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			
(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	Sample Specific Notes:
BMW-040-042012	6.8.12	1155	G	W	3	3		
AMW-072-042012	6.8.12	1220	G	W	3	3		
BMW-072-042012	6.8.12	1230	G	W	3	3		
BMW-272-042012	6.8.12	1230	G	W	3	3		
BMW-072-042012 MS	6.8.12	1230	G	W	3	3		
BMW-072-042012MSD	6.8.12	1230	G	W	3	3		
AMW-0149-042012	6.8.12	1330	G	W	5	3	2	
BMW-0143-042012	6.8.12	1350	G	W	5	3	2	
BMW-0148-042012	6.8.12	1415	G	W	5	3	2	
BMW-2148-042012	6.8.12	1415	G	W	5	3	2	
AMW-010-042012	6.8.12	1511	G	W	5	3	2	
BMW-010-042012	6.8.12	1520	G	W	5	3	2	

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	6-8-12	Fedex	7936 6049 2695	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TABUR	6-9-12 1015
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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South Burlington, VT 5403
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2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-29-12	COC No: 052912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 4 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	Sample Specific Notes:
TRB-287-042012	5-29-12	0830	G	W	2	✓		
AMW-087-042012		0930	G	W	5	✓	✓	
BMW-087-042012		0940	G	W	5	✓	✓	
DMW-087-042012		0950	G	W	5	✓	✓	
AMW-0116-042012		1035	G	W	3	✓		
BMW-0116-042012		1045	G	W	3	✓		
DMW-0116-042012		1050	G	W	3	✓		
AMW-0105-042012		1150	G	W	5	✓	✓	
AMW-2105-042012		1150	G	W	5	✓	✓	
BMW-0105-042012		1205	G	W	5	✓	✓	
BMW-0105-042012 MS		1205	G	W	5	✓	✓	
BMW-0105-042012 MSD	↓	1205	G	W	5	✓	✓	

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]	FCR/Army	5-29-12 1205	[signature]	7936 2255	0955
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA BUR	5-31-12 1105
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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Suite 11
South Burlington, VT 5403
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2nd QTR Monitoring Well Sampling 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 5-29-12	COC No: 05-2012
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 6 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	Sample Specific Notes:
OMW-0105-042012	5-29-12	1235	G	W	5	✓	✓	
AMW-0104-042012		1315	G	W	5	✓	✓	
BMW-0104-042012		1325	G	W	5	✓	✓	
DMW-0104-042012		1335	G	W	5	✓	✓	
OMW-0104-042012		1350	G	W	5	✓	✓	
AMW-0140-042012		1435	G	W	3	✓		
BMW-0140-042012		1445	G	W	3	✓		
DMW-0140-042012		1450	G	W	3	✓		
OMW-0140-042012		1455	G	W	3	✓		
AMW-0111-042012		1530	G	W	5	✓	✓	
BMW-0111-042012		1540	G	W	5	✓	✓	
OMW-0111-042012	↓	1550	G	W	5	✓	✓	

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/Army	5-30-12 1815	Fed-ex 7936 2255		0955
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA BUR	Date/Time: 5-31-12 1105
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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uite 11
outh Burlington, VT 5403
hone 802.660.1990 fax 802.660.1919

2nd QTR Monitoring Well Sampling 2012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 05-30-12	COC No. 05291 2
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 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			
303) 298-7837 FAX	☐ 3 weeks			SDG No.
Project 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	Sample Specific Notes:
AMW-0121-042012	5-30-12	1410	G	W	5	✓	✓	
BMW-0121-042012	↓	1420	G	W	5	✓	✓	
EMW-0121-042012	↓	1435	G	W	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:

1700

elinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	5-30-12	Fed-Ex 7936 2255		0955
elinquished by:	Company:	Date/Time:	Received by:	Company: TA BUR	Date/Time: 5-31-12 1105
elinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Appendix B
Field Forms

Location Mead, NE - FNOP Date 5-16-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (FGRI Army)

0900 Treatment plant, safety meeting, load sampling supplies, gear
1010 Left treatment plant
1045 - Set 500ml sampling bags at MW-79A & MW-79B
1100 - Set 500ml sampling bags at MW-92A & MW-92B
1130 - Set 1L sampling bags at MW-03A & MW-03B
1150 - Set 1L sampling bags at MW-02A & MW-02B
1210 - Set 1L sampling bag at MW-65B
1240 - Set 1L sampling bags at MW-32A, MW-32B, & MW-32D
1320 - Set 1L sampling bags at MW-33A, MW-33B, & MW-33D
1330 To Treatment Plant, more sampling totes
1410 Set 1L sampling bags at MW-130A, MW-130B, & MW-130D
1430 Set 1.5L sampling bag at MW-129B
1445 Set 1L sampling bags at
~~1445~~ MW-129A & MW-129D
1510 Set 1L sampling bags at MW-131A MW-131B & MW-131D

Location Mead, NE - FNOP Date 5-16-12

Project / Client 2nd Quart. Mon. Well Sampling - 2012 Mike Daugherty

1525 Set 1L sampling bags at MW-132A, MW-132B, & MW-132D
1540 Set 1.5L sampling bags at MW-128A & MW-128B
1545 Set 1L sampling bag at MW-128D
1600 Finish for day

Mike Daugherty

Location Mead, NE - FNOP Date 5-17-12

Project / Client 2nd Quarterly Mon. Well Samples - 2012

Mike Daugherty (Army/ER)

0800 Treatment Plant, safety meeting, reviewed well locations, loaded sampling supplies

0855 Left Treatment plant

0925 Set sampling bags at MW-55A & MW-55B

0945 Set sampling bags at MW-54A & MW-54B

1005 Set sampling bag at MW-11

1035 Set sampling bags at MW-133A, MW-133B, & MW-133D

1115 Set sampling bags at MW-134A, MW-134B, & MW-134D (physically removed excess bentonite, & added new J-plug to MW-134B)

1145 Set sampling bags at MW-135A, MW-135B, & MW-135D (added new J-plug to MW-135B)

1230 Set sampling bags at MW-136A, MW-136B, MW-136D & MW-136E (walked to it from South, due to hay)

1320 Set sampling bags at MW-137A, MW-137B, MW-137D, & MW-137E

Location Mead, NE - FNOP Date 5-17-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012

Mike Daugherty

1345 Set sampling bags at MW-138A & MW-138B

1415 Set sampling bags at MW-139A & MW-139B

1430 To Treatment plant for more equipment

1520 Set sampling bags at MW-104A, MW-104B, & MW-104D

1530 Finish for the Day

Mike Daugherty

Location Mead, NE - FNOP Date 5-18-12

Project / Client 2nd Quarterly Mon. Well Sampling 2012

Mike Daugherty (FOR / Army)

0800 Treatment Plant, safety meeting, planning, load equipment

0855 Set sampling bags at MW-109 A & MW-109 B

0915 Set sampling bags at MW-111 A & MW-111 B

1025 Set sampling bags at MW-89A, MW-89B, MW-89D, & MW-89E (scooped excess bentonite from 89E - flushmount, & MW-89B bag at bottom w/extra rope)

1110 Set sampling bags at MW-122A & MW-122B

Added new J-plugs at these flush mount wells

1135 Set sampling bags for MW-123A & MW-123B

1205 Set sampling bags for MW-121 A, MW-121 B, & MW-121 E

1240 Set sampling bags for MW-119 A & MW-119B

1340 Set sampling bags at MW-120 A, MW-120B, MW-120D, & MW-120E

Added J-plug to MW-120A

Location Mead, NE - FNOP Date 5-18-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012

Mike Daugherty

1420 Set sampling bags at MW-125A, MW-125B, & MW-125D

1500 Finish for the day

Mike Daugherty

Location Mead, NE - FNOP Date 5-22-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (Acel Jones)

1205 AMW-0128-042012
2-Expl., 2" diam, hydrosleeve
1220 BMW-0128-042012
2-Expl. 2" diam, hydrosleeve
BMW-0128-042012MS 2-Expl.
BMW-0128-042012MSD 2-Expl.
1235 DMW-0128-042012
2-Expl, 2" diam., hydrosleeve

1300 Back to Treatment Plant for more equipment
1320 TRB-2133-042012 2-VOCs
1330 Left Treatment Plant
1350 MW-133A - WL = 43.64
MW-133B - WL = 43.62
MW-133D - WL = 43.66
1400 AMW-0133-042012
3-VOCs, 2" diam., hydrosleeve
1410 BMW-0133-042012
3-VOCs, 2" diam, hydrosleeve
1425 DMW-0133-042012
3-VOCs, 2" diam, hydrosleeve

Location Mead, NE - FNOP Date 5-22-12 19

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty

1445 MW-134A - WL = 46.03
MW-134B - WL = 46.11
MW-134D - WL = 45.98
1455 AMW-0134-042012
3-VOCs, 2" diam. hydrosleeve
1505 BMW-0134-042012
3-VOCs, 2" diam., hydrosleeve
1520 DMW-0134-042012
3-VOCs, 2" diam, hydrosleeve
DMW-0134-042012MS 3-VOCs
DMW-0134-042012MSD 3-VOCs

1600 Finished for the Day

Mike Daugherty

Location Mead, NE - FNOP Date 5-22-12

Project / Client 2nd Quarterly Monitoring Well Sampling -2012 Millie Daugherty (ICF Intern)

0745 Treatment Plant, Safety Meet, load-up equipment for sampling

0815 left Treatment plant to Sample

0825 MW-130A - WL = 58.94
MW-130B - WL = 59.34
MW-130D - WL = 58.56

0830 AMW-0130-042012
2 - Expl., 2" diam., hydrosleeve

0835 BMW-0130-042012
2 - Expl., 2" diam., hydrosleeve

0840 DMW-0130-042012
2 - Expl., 2" diam, hydrosleeve

0915 MW-129A - WL = 60.71
MW-129B - WL = 60.67
MW-129D - WL = 60.22

0930 AMW-0129-042012
2 - Expl., 2" diam., hydrosleeve

0935 BMW-0129-042012
2 - Expl. 2" diam., hydrosleeve
BMW-0129-042012MS 2-Expl.
BMW-0129-042012MSD 2-Expl.

0940 DMW-0129-042012
2-Expl., 2" diam, hydrosleeve

Location Mead, NE - FNOP Date 5-22-12

Project / Client 2nd Quarter Mon. Well Sampl. -2012 Millie Daugherty

1020 MW-131A - WL = 55.80
MW-131B - WL = 55.64
MW-131D - WL = 55.71

1035 AMW-0131-042012
2 - Expl., 2" diam, hydrosleeve

1045 BMW-0131-042012
2-Expl. 2" diam, hydrosleeve

1055 DMW-0131-042012
2-Expl., 2" diam, hydrosleeve

1110 MW-132A - WL = 65.38
MW-132B - WL = 65.10
MW-132D - WL = 65.80

1120 AMW-0132-042012
2-Expl., 2" diam, hydrosleeve

1130 BMW-0132-042012
2-Expl., 2" diam, hydrosleeve

1140 DMW-0132-042012
2-Expl., 2" diam, hydrosleeve

1155 MW-128A - WL = 60.51
MW-128B - WL = 60.52
MW-128D - WL = 60.31

Location Mead, NE - FNDP Date 5-21-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012 Mike Dougherty (ECR Array)

0900 Treatment Plant, Safety Meet, Load Equip.
0915 Left Plant to set sampling bags
0945 Set sampling bags at MW-124A, MW-124B, & MW-124D
1005 Set sampling bags at MW-126A, MW-126B, & MW-126D
1025 Set sampling bags at MW-127A, MW-127B, & MW-127E
1050 Set sampling bags at MW-25A, MW-25B, & MW-25D
1105 Set sampling bags at MW-21A, MW-21B, & MW-21D
1120 Set sampling bags at MW-24A & MW-24B (Added new lock to MW-24A)
1140 Set sampling bags at MW-28A, MW-28B & MW-28D (Added new lock to MW-28A)
1155 Set sampling bags at MW-29A & MW-29B
1200 To Treatment plant for more equipment
1215 Left Plant to set more bags
1255 Set sampling bags at MW-141A, MW-141B, & MW-141E

Location Mead, NE - FNDP Date 5-21-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Dougherty

1315 Set sampling bags at MW-144A & MW-144E
1330 Set sampling bag at MW-148B
1355 Set sampling bag at MW-145A (MW-145E line was cut last time?) & needs to be re-made; TD of well = 82')
1420 Set sampling bag at MW-143B (put on new j-plug w/ring, due to cattle)
1505 Set sampling bag at MW-149A (put on new j-plug w/ring, due to cattle)
1545 Set sampling bags at MW-146A & MW-146B
1600 Done for the Day

Location Mead, NE - FNOP Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (FCR Array)

0800 Treatment Plant, load up equipment, safety meet
0815 TRB-2135-042012 - 2 VOCs
0835 Left Treatment Plant to Sample
0855 MW-135A - WL = 42.98
MW-135B - WL = 42.91
MW-135D - WL = 42.14
~~080~~0910 AMW-0135-042012
3-VOCs, 2" diam, hydrosleeve
0920 BMW-0135-042012
3-VOCs, 2" diam, hydrosleeve
0930 DMW-0135-042012
3-VOCs, 2" diam hydrosleeve

1000 MW-136A - WL = 42.65
MW-136B - WL = 42.52
MW-136D - WL = 42.17
MW-136E - WL = 42.67
1010 AMW-0136-042012
3-VOCs, 2" diam., hydrosleeve
1020 BMW-0136-042012
3-VOCs, 2" diam hydrosleeve
1030 DMW-0136-042012
3-VOCs, 2" diam, hydrosleeve
1040 EMW-0136-042012
3-VOCs, 2" diam, hydrosleeve

Location Mead, NE - FNOP Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty

1110 MW-137A - WL = 35.42
MW-137B - WL = 35.38
MW-137D - WL = 35.18
MW-137E - WL = 35.47
1115 AMW-0137-042012
3-VOCs 2" diam, hydrosleeve
1125 BMW-0137-042012
3-VOCs, 2" diam, hydrosleeve
1135 DMW-0137-042012
3-VOCs, 2" diam, hydrosleeve
1145 EMW-0137-042012
3-VOCs, 2" diameter, hydrosleeve

1210 To Treatment Plant for more equipment
1245 MW-138A - WL = 41.68
MW-138B - WL = 42.08
1255 AMW-0138-042012
3-VOCs, 2" diam, hydrosleeve
1300 BMW-0138-042012
3-VOCs, 2" diam, hydrosleeve

1315 MW-139A - WL = 42.81
MW-139B - WL = 43.10

Location Head, NE - Fort Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ICA Army)

1320 AMW-0139-042012
3 VOCs, 2" diam, hydrosleeve

1330 BMW-0139-042012
3 VOCs, 2" diam, hydrosleeve

1405 MW-28A - WL = 49.83
MW-28B - WL = 50.40
MW-28D - WL = 49.59

1415 AMW-028-042012
2-Expl, 2" diam, hydrosleeve

1425 BMW-028-042012
2-Expl, 2" diam, hydrosleeve

1435 DMW-028-042012
2-Expl, 2" diam, hydrosleeve

1510 MW-29A - WL = 48.72
MW-29B - WL = 49.66

1515 AMW-029-042012
2-Expl, 2" diam, hydrosleeve

1525 BMW-029-042012
2-Expl, 2" diam, hydrosleeve
Added new locks to MW-29A & MW-29B

1600 Finished for the Day
Michael Daugherty

Location _____ Date _____

Project / Client _____

Location Mead, NE - FNOP Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (FCR Array)

0800 Treatment Plant, load up equipment, safety meet
0815 TRB-2135-042012 - 2 VOCs
0835 Left Treatment Plant to Sample
0855 MW-135A - WL = 42.98
MW-135B - WL = 42.91
MW-135D - WL = 42.14
~~080~~0910 AMW-0135-042012
3-VOCs, 2" diam, hydrosleeve
0920 BMW-0135-042012
3-VOCs, 2" diam, hydrosleeve
0930 DMW-0135-042012
3-VOCs, 2" diam, hydrosleeve

1000 MW-136A - WL = 42.65
MW-136B - WL = 42.52
MW-136D - WL = 42.17
MW-136E - WL = 42.67
1010 AMW-0136-042012
3-VOCs, 2" diam., hydrosleeve
1020 BMW-0136-042012
3-VOCs, 2" diam, hydrosleeve
1030 DMW-0136-042012
3-VOCs, 2" diam, hydrosleeve
1040 EMW-0136-042012
3-VOCs, 2" diam, hydrosleeve

Location Mead, NE - FNOP Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty

1110 MW-137A - WL = 35.42
MW-137B - WL = 35.38
MW-137D - WL = 35.18
MW-137E - WL = 35.47
1115 AMW-0137-042012
3-VOCs 2" diam, hydrosleeve
1125 BMW-0137-042012
3-VOCs, 2" diam, hydrosleeve
1135 DMW-0137-042012
3-VOCs, 2" diam, hydrosleeve
1145 EMW-0137-042012
3-VOCs, 2" diameter, hydrosleeve

1210 To Treatment Plant for more equipment
1245 MW-138A - WL = 41.68
MW-138B - WL = 42.08
1255 AMW-0138-042012
3-VOCs, 2" diam, hydrosleeve
1300 BMW-0138-042012
3-VOCs, 2" diam, hydrosleeve

1315 MW-139A - WL = 42.81
MW-139B - WL = 43.10

Location Mead, NE - FNUP Date 5-23-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Dougherty (TCR Army)

1320 AMW-0139-042012
3 VOCs, 2" diam, hydrosleeve

1330 BMW-0139-042012
3 VOCs, 2" diam, hydrosleeve

1405 MW-28A - WL = 49.83
MW-28B - WL = 50.40
MW-28D - WL = 49.59

1415 AMW-028-042012
2-Expl, 2" diam, hydrosleeve

1425 BMW-028-042012
2-Expl, 2" diam, hydrosleeve

1435 DMW-028-042012
2-Expl, 2" diam, hydrosleeve

1510 MW-29A - WL = 48.72
MW-29B - WL = 49.66

1515 AMW-029-042012
2-Expl, 2" diam, hydrosleeve

1525 BMW-029-042012
2-Expl, 2" diam hydrosleeve
Added new locks to MW-29A & MW-29B

1600 Finished for the Day
Michael Dougherty

Location Date

Project / Client

Location Mead, NE - FNOP Date 5-23-12
Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ICA Army)

1320 AMW-0139-042012
3 VOCs, 2" diam, hydrosleeve
1330 BMW-0139-042012
3 VOCs, 2" diam, hydrosleeve

1405 MW-28A - WL = 49.83
MW-28B - WL = 50.40
MW-28D - WL = 49.59
1415 AMW-028-042012
2-Expl, 2" diam, hydrosleeve
1425 BMW-028-042012
2-Expl, 2" diam, hydrosleeve
1435 DMW-028-042012
2-Expl, 2" diam, hydrosleeve

1510 MW-29A - WL = 48.72
MW-29B - WL = 49.66
1515 AMW-029-042012
2-Expl, 2" diam, hydrosleeve
1525 BMW-029-042012
2-Expl, 2" diam, hydrosleeve
Added new locks to MW-29A & MW-29B

1600 Finished for the Day
Michael Daugherty

Location Mead, NE - FNOP Date 5-24-12
Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ICA Army)

0800 Treatment Plant, Safety meet, load up equip.
0815 TRB-2032-042012 - 2 VOCs
0830 Left Treatment Plant to sample
0845 MW-32A - WL = 47.64
MW-32B - WL = 47.59
MW-32D - WL = 47.52
0855 AMW-032-042012
2-Expl, 2" diam, hydrosleeve
0905 BMW-032-042012
2-Expl, 2" diam, hydrosleeve
0915 DMW-032-042012
2-Expl, 2" diam, hydrosleeve
Added new lock to MW-32B

0940 MW-33A - WL = 50.94
MW-33B - WL = 50.95
MW-33D - WL = 50.70
0950 AMW-033-042012
2-Expl, 2" diam, hydrosleeve
0955 BMW-033-042012
2-Expl, 2" diam, hydrosleeve
1000 DMW-033-042012
2-Expl, 2" diam, hydrosleeve
Added new lock to MW-33A

Location Mead, NE - FNOP Date 5-24-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ICR Array)

1025 MW-03A - WL = 41.41
MW-03B - WL = 41.50

1035 AMW-003-042012
3-VOCs, 2-Expl, 2.3" diam, hydrosleeve

1045 BMW-003-042012
3-VOCs, 2-Expl, 2.3" diam, hydrosleeve

1105 MW-02A - WL = 38.17
MW-02B - WL = 38.60

1115 AMW-002-042012
3-VOCs, 2-Expl, 2.3" diam, hydrosleeve

1125 BMW-002-042012
3-VOCs, 2-Expl, 2.3" diam, hydrosleeve

1140 MW-127A - WL = 30.81
MW-127B - WL = 31.12
MW-127E - WL = 31.37

1150 AMW-0127-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1200 BMW-0127-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1210 ~~1205~~ EMW-0127-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1240 MW-25A - WL = 43.12
MW-25B - WL = 42.51
MW-25D - WL = 43.45

Location Mead, NE - FNOP Date 5-24-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty

1255 AMW-025-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1315 BMW-025-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1325 DMW-025-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1345 MW-21A - WL = 34.95
MW-21B - WL = 34.97
MW-21D - WL = 34.95

1355 AMW-021-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
AMW-221-042012 3-VOCs, 2-Expl

1415 BMW-021-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
BMW-021-042012MS 3VOCs, 2-Expl
BMW-021-042012MSD 3VOCs, 2-Expl

1435 DMW-021-042012
3VOCs, 2-Expl, 2" diam, hydrosleeve

1450 Back to Treat. Plant, deliver samples

1515 Finish for the Day

Mike Daugherty

Location Mead, NE - FNOP Date 5-29-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012

Mike Daugherty (FOR Army)

Note - Added new lock to MW-111B

1615 Return to Plant, unload, etc

1630 Finish for Day

Mike Daugherty

Location Mead, NE - FNOP Date 5-30-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012

Mike Daugherty (JCB for Army)

1000 Treatment Plant, Safety Meet, load-up

1015 left Plant in Gator to Sample

1030 MW-109A - WL = 2.44

MW-109B - WL = 2.17

MW-109O - WL = 6.14

1040 AMW-0109-042012

3-VOCs, 2-Expl, 2" diam, hydrolase

AMW-2109-042012 3VOCs & 2-Expl

1105 BMW-0109-042012

3-VOCs, 2-Expl, 2" diam, hydrolase

BMW-0109-042012 MS 3-VOCs & 2-Expl

BMW-0109-042012MSD 3-VOCs & 2-Expl

1130 OMW-0109-042012

3-VOCs, 2-Expl, 2" diam, bailer

1205 MW-24A - WL = 40.01

MW-24B - WL = 39.79

1215 AMW-024-042012

3-VOCs, 2-Expl, 2" diam, hydrolase

1225 BMW-024-042012

3-VOCs, 2-Expl, 2" diam, hydrolase

Location Mead, NE - TNCA Date 5-30-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012 Mike Dougherty (CR/Array)

1250 MW-124 A - WL = 41.42
MW-124 B - WL = 41.14
MW-124 D - WL = 41.79

1300 AMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrostore

1310 BMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrostore
BMW-2124-042012 3-VOCs & 2-Expl

1320 DMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrostore

1350 MW-121 A - WL = 54.23
MW-121 B - WL = 54.32
MW-121 E - WL = 54.00

1410 AMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrostore

1420 BMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrostore

1435 EMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrostore

1500 Returned to Treatment Plant

1515 Finish for the Day

Mike Dougherty

Location _____ Date _____

Project / Client _____

Location Mead, NE – FNOP Date 5-30-12

Project / Client 2nd Quarterly Mon. Well Sampling -2012 Mike Dougherty (CR Array)

1250 MW-124 A – WL = 41.42
MW-124 B – WL = 41.14
MW-124 D – WL = 41.79

1300 AMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1310 BMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
BMW-2124-042012 3-VOCs & 2-Expl

1320 DMW-0124-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1350 MW-121 A – WL = 54.23
MW-121 B – WL = 54.32
MW-121 E – WL = 54.00

1410 AMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1420 BMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1435 EMW-0121-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1500 Returned to Treatment Plant

1515 Finish for the Day

Mike Dougherty

Location Mead FNOP Date 5-31-12

Project / Client Mead FNOP / 45 ACE SWS 2nd QTR 2012

Toby & Hiz

0647 on Site

0715 Safety meeting

0800 Loading water

0855 SCW-04
SCW-004-042012
3 VOC's / 2 EXPS
8260's / 8330's
We are now using 500 mL bottles for exp.
Continuing to use 40 mL for VOC's.

0905 SCW-005
SCW-005-042012
8330 / 8260B 3 VOC's / 2 EXP's

0920 SCW-06
SCW-006-042012
SCW-206-042012
8260B / 8330 6 VOC's / 4 EXPS

0940 waiting for lightning to pass

0955 SW-012
SW-012-042012
3 VOC's / 2 EXP's 8260B / 8230

Location Mead NE Date 5-31-12

Project / Client Mead FNSP / USACE

2nd QTR SWS

Continued

1010 SW-13

SW-013-042012

3 vol's / 2 Ex's 8330/8260B

1025 SW-11

SW-011-042012

3 vol's / 2 Ex's 8330/8260B

1040 SW-09

SW-009-042012

3 vol's / 2 Ex's 8330/8260B

1055 SW-06

SW-006-042012

3 vol's / 2 Ex's 8330/8260B

1110 Back at Plant

1235 SW-08

SW-008-042012

3 vol's / 2 Ex's

8330 / 8260B

1250 SW-10

SW-010-042012

3 vol's / 2 Ex's.

8260B / 8330

Location Mead FNSP Date 5-31-12

Project / Client Mead / USACE

2nd QTR SWS

1305 Continued

ART

OART-042012

3 vol's / 2 Ex's

8260B / 8330

1325 SW-05

SW-005-042012

SW-205-042012

SW-005-042012 MS

SW-005-042012 MSD

12 vol's / 8 Ex's

8260B / 8330

1345 SKI

SKI-001-042012

3 vol's / 2 Ex's

8260B / 8330

1405 Back at Plant

1455 Packing Samples

1535 Leaving for Fed-ex

1620 Leaving Fed-ex

Location Mead NE Date 6-4-12

Project / Client MEAD FNOP

2nd Qtr Sampling SWS

J. Combs

0816 MW-122A 53.37 ✓
MW-122B 54.18 ✓

0820 MW-122A-042012
6-VOCs, ~~4~~ explosives
hydrosleeve, 2-inch well

1000 MW-120A - 51.87' ✓
MW-120B - 51.90' ✓
MW-120D - 52.32' ✓
MW-120E 52.02 ✓

1010 AMW-0120-042012
3 VOA, 2 exp
hydrosleeve 2" well

1020 BMW-0120-042012
3 VOA, 2 exp
hydrosleeve 2" well

1030 DMW-0120-042012
3 VOA, 2 EXP
hydrosleeve 2" well

1040 EMW-0120-042012
3 VOA, 2 EXP

Location MEAD, NE Date 6.4.12

Project / Client MEAD, FNOP

2ND Qtr 2012 J. Combs

1153 MW-123A 53.81' ✓
MW-123B 53.87' ✓

1205 AMW-0123-04012 hydrosleeve, 2" well
3 VOC, 2 EXP

1215 ~~A~~BMW-0123-04012
3 VOC, 2 EXP
hydrosleeve, 2" well

1250 BMW-0119-04012
3 VOCs, 2 EXP
hydrosleeve, 2" well
MW-0119B 43.22' ✓
MW-0119A 43.14' ✓

1410 MW 141A 36.32' ✓
MW 141B 36.29' ✓
MW 141E 36.26' ✓

1415 ~~A~~BMW-0141-04012
~~AM~~ 3 VOC, 2 EXP.
hydrosleeve, 2" well

1425 ~~A~~CMW-2141-04012
3 VOC, 2 EXP
hydrosleeve, 2" well

1435 BMW-0141-042012
3 VOC, 2 EXP
hydrosleeve, 2" well

Location MEAD, NE Date 6.4.12

Project / Client ENOP

1445 EMW-0141-042012
3 VOC, 2 EXP.
hydrosleeve, 2" well

1600

END OF DAY

Location Date

Project / Client

Location _____ Date 3-5-12

Project / Client 1st QTR SWS

Continued

1135 ART

OART - 012012

3 vol's / 8260B 2 RDX / 8330

1150 SW - 05

SW - 005 - 012012

+ QC 2 RDX / 8330 3 vol 8260

+ MS 2 RDX / 8330 3 vol 8260

+ MSD 2 RDX / 8330 3 vol 8260

1230 Back at Plant.

1300 Packing SWS.

1335 Done packing SWS.

1400 Copying paper work.

Location Mead FNOP Date 6-4-12

Project / Client Mead FNOP / USALE

2nd QTR SW 2012

Toby D. Hiz (ECL)

0654 Toby on site.

0730 (ICR) goc combs on site

1130 A mw - 0125 - 042012

mw - 125 A - wl - 44.89

8260B / 8330 3 vol's / 2 Ex's

1140 mw - 125 B - wl - 45.04

B mw 0125 - 042012

B mw - 2125 - 042012

6 vol's / 4 Ex's

8260B / 8330.

1150 D mw - 0125 - 042012 wl - 44.61

3 vol's / 2 Ex's

8260B / 8330.

These 3 wells are all sampled by Hydrasleeves from 2" wells.

1225 A mw - 0126 - 042012

mw - 126 A - wl 38.85

3 vol's / 2 Ex's 8260B / 8330

1235 B mw - 0126

mw - 126 B wl - 39.23

3 vol's / 2 Ex's

8260B / 8330

Location _____ Date 6-4-12

Project / Client 2nd QTR SE 2012

Continued

1245 mw 126 D - wl - 38.14

Dmw - 026 - 042012

3 vol's / 2 EXP's

8330 / 8260B

1430 A mw - 018 - 042012

mw - 18 A wl - 42.45

3 vol's / 2 EXP's

8260B / 8330

1440 mw - 18B wl - 42.94

B mw - 018 - 042012

8260B / 8330

3 vol's / 2 EXPS

1450 mw - 18 C wl - 40.18

C mw - 018 - 042012

3 vol's / 2 EXPS

8260B / 8330

1515 QC'ing 2 oc (ICR's) Samples

1600 ICR Leaving

1625 Begin ICE.

1645 Leaving plant.

1750 Doing DQCR.

Location _____ Date _____

Project / Client _____

Location MEAD, NE Date 6.7.12

Project / Client FNOP

0805 TRIP BLANK

0840 MW 145 A 47.12' ▽

MW 145 E 47.38' ▽

0840 AMW-0145-042012

2 EXP,

2" well, hydrosleeve

0850 EMW-0145-042012

2 EXP

2" well, hydrosleeve

0920 MW 144A 39.39 ▽

MW 144E 39.69 ▽

0920 AMW-0144-042012

2 EXP

2" well, hydrosleeve

0930 EMW-0144-042012

2 EXP

2" well, hydrosleeve

1025 MW 94 A 47.72' ▽

MW 94 B 47.70' ▽

MW 94 D 48.45' ▽

1025 AMW-094-042012

2 EXP

2" well, hydrosleeve

Location MEAD, NE Date 6.7.12

Project / Client FNOP

1030 BMW-094-042012

2 EXPL

2" well, hydrosleeve

1035 DMW-094-042012

2 EXPL

2" well, hydrosleeve

1140 MW-146 A 47.27' ▽

MW-146 B 47.08' ▽

1140 AMW-0146-042012

3 VOC, 2 EXP

2" well, hydrosleeve

1150 BMW-0146-042012

3 VOC, 2 EXP

2" well, hydrosleeve

1240 MW-92 A 8.19' ▽

MW-92 B 8.45' ▽

AMW-092-042012

3 VOC, ~~2 EXP~~

2" well, hydrosleeve

1250 BMW-092-042012

3 VOC, ~~2 EXP~~

2" well, hydrosleeve

1320 MW-79 A 9.53' ▽

MW-79 B 9.60' ▽

Location MEAD, NE Date 6.7.12

Project / Client ENOP

1325 AMW-079-042012
3 VOC
2" well, hydrosleeve
AMW-279-042012
3 VOC
2" well, hydrosleeve
1335 BMW-079-042012
3 VOC
2" well, hydrosleeve
1415 MW-89A 56.15' ▽
MW-89B 56.62' ▽
MW-89D 55.80' ▽
MW-89E 52.68' ▽
1525 MW-99A 69.99' ▽
MW-99B 70.18' ▽
MW-99D 69.79' ▽
1530 AMW-099-04012
2 EXP
2" well, hydrosleeve
1540 BMW-099-04012
2 EXP, 3 VOC
2" well, hydrosleeve
1550 DMW-099-04012
2 EXP

Location MEAD, NE Date 6.7.12

Project / Client ENOP

1550 cont 2" well, hydrosleeve
1615 BACK TO SHOP

END OF DAY

Location Mead FNOP Date 6-8-12

Project / Client Mead FNOP / USACE

2nd QTR MW-SE 2012

Toby V. Hiz (EW)

0730 Safety meeting with (ZCK)

0800 Helping gw (ZCK) set Ready

0945 MW-05A WL-33.48

AMW-005-042012

3 vol's / 2 Exp's

8260B / 8330.

0955 MW-05B WL-33.64

BMW-005-042012

3 vol's / 2 Exp's

There are 3 inch wells.

1105 MW-09A WL-52.11

AMW-009-042012

3 vol's / 8260B

1120 MW-09B WL-52.09

BMW-009-042012

6 vol's / 8260B

QC taken 9/10.

1130 MW-09D WL-51.89

DMW-009-042012

3 vol's / 8260B

Location Mead FNOP Date 6-8-12

Project / Client USACE

Continued

1005 MW-65B WL-32.79

BMW-065-042012

2 Exp's / 8330

1025 MW-08A WL-46.81

AMW-008-042012

3 vol's / 2 Exp's

8260B / 8330

1035 MW-08B WL-46.84

BMW-008-042012

3 vol's / 2 Exp's

8260B / 8330

1215 BAZE-MW-1 WL-45.56

BAZEMW-01-042012

2 Exp's / 8260B

1400 QC'ing

1600 Packing coolers

1730 Leaving Hart

1816 Leaving Fed-Ex

Location MEAD, NE Date 6.8.12

Project / Client ENOP

0830 MW-11 29.48' ▽

0840 MW-011-042012

2 EY, hydrosleeve, 2" well

0855 MW-54A 11.13' ▽

MW-54B 7.81' ▽

0905 AMW-054-042012

2EY, 3 VOC

2" well, hydrosleeve

0910 BMW-054-042012

2EY, 3 VOC

2" well, hydrosleeve

0934 MW-55 A 18.27' ▽

MW-55 B 18.74' ▽

0940 AMW-055-042012

2 EY, 3 VOC

2" well, hydrosleeve

0950 BMW-055-042012

2EY, 3 VOC

BMW-255-042012

2EY, 3 VOC

2" well, hydrosleeve

1055 AMW-78A 34.92' ▽

MW-78B 35.02' ▽

1110 AMW-078-042012

Location MEAD, NE Date 6.8.12

Project / Client ENOP

1110 3 VOCs

2" well, hydrosleeve

1120 BMW-078-042012

3 VOCs

BMW-278-042012

3 VOCs

BMW-078-042012 MSD

3 VOCs

BMW-078-042012 MS

3 VOCs

2" well, hydrosleeve

1145 MW-40 A 41.05' ▽

MW-40 B 41.33' ▽

1150 AMW-040 ~~2012~~ -042012

3 VOCs

2" well, hydrosleeve

1155 BMW-040-042012

3 VOCs

2" well, hydrosleeve

1215 MW-72 A 39.65' ▽

MW-72 B 39.19' ▽

1220 AMW-072-042012

3 VOCs

2" well, hydrosleeve

Location MEAD, NE Date 6.8.12

Project / Client FNOP

1230 BMW-072-042012
3 VOCs
BMW-272-042012
3 VOCs
BMW-072-042012 MS
~~BM~~ 3 VOCs
BMW-072-042012 MSD
3 VOCs
2" well, hydrosleeve
note - well cap missing
1325 MW-149 44.55' ▽
1330 AMW-0149-042012
3 VOCs, 2 EXP
2" well, hydrosleeve
1350 MW-143B 44.70' ▽
1350 BMW-0143-042012
3 VOCs, 2 EXP
2" well, hydrosleeve
1410 MW-148 B 42.21' ▽
1415 BMW-0148-042012
3 VOCs, 2 EXP
BMW-2148-042012
3 VOCs, 2 EXP
2" Well, hydrosleeve

Location MEAD, NE Date 6.8.12

Project / Client FNOP

1500 MW 10 A 39.78' ▽
MW 10 B 39.82' ▽
1510 AMW-010-042012
3 VOCs, 2 EXP
2" WELL, hydrosleeve
1520 BMW-010-042012
3 VOCs, 2 EXP
2" WELL, hydrosleeve
1610 BACK TO SHOP

END OF DAY

Location Mead Facil Date 5-25-12

Project / Client Mead Facil / USACE
2nd QTR SE 2012

Toby A. Hinz (ECC)

0700 on site / Safety meeting
0800 making up paperwork
0830 setting mw-44 cluster
0845 Setting mw-43 cluster
Hydra sleeve.
0900 Back at Plant.
1355 Setting mw-08 cluster
1420 Setting mw-09 cluster
1600 Setting mw-42 cluster
Hydra-sleeve -
1625 Back at Plant.

Location Mead, NE - FNOP Date 5-29-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ECC)

0800 Treatment Plant, Safety Meeting, load-up equipment
0830 TRB-287-042012 -2 VOCs
0900 Left Plant to Sample wells
0925 MW-87A - WL = 4.27
MW-87B - WL = 4.29
MW-87D - WL = 4.31
0930 AMW-087-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
0940 BMW-087-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
0950 DMW-087-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
1025 MW-116A - WL = 5.44
MW-116B - WL = 5.41
MW-116D - WL = 5.41
1035 AMW-0116-042012
3-VOCs, 2" diam, hydrosleeve
1045 BMW-0116-042012
3-VOCs, 2" diam hydrosleeve
1050 DMW-0116-042012
3-VOCs, 2" diam, hydrosleeve

Note - Added new locks to MW-116B & MW-116D

Location Mead, NE, FNOP Date 5-29-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012
Mike Dougherty (ICR Array)

1135 MW-105A - WL = 3.89
MW-105B - WL = 4.04
MW-105O - WL = 7.67

1150 AMW-0105-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
AMW-2105-042012 3-VOCs, & 2-Expl.

1205 BMW-0105-042012
3-VOCs, 2-Expl., 2" diam, hydrosleeve
BMW-0105-042012MS 3-VOCs & 2-Expl.
BMW-0105-042012MSD 3-VOCs & 2-Expl.

1235 OMW-0105-042012
3-VOCs, 2-Expl, 2" diam, bailer

1305 MW-104A - WL = 2.49
MW-104B - WL = 2.49
MW-104D - WL = 3.09
MW-104O - WL = 3.68

1315 AMW-0104-042012
3-VOCs, 2-Expl, 2" diam., hydrosleeve

1325 BMW-0104-042012
3-VOCs, 2 Expl., 2" diam, hydrosleeve

1335 DMW-0104-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1350 OMW-0104-042012
3-VOCs, 2-Expl., 2" diam, bailer

Location Mead, NE- FNOP Date 5-29-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012
Mike Dougherty

Note - Added 4 new locks, 1 each to MW-104A, MW-104B, MW-104D, & MW-104O

1425 MW-140A - WL = 6.03
MW-140B - WL = 5.85
MW-140D - WL = 5.82
MW-140O - WL = 9.03

1435 AMW-0140-042012
3-VOCs, 2" diam, hydrosleeve

1445 BMW-0140-042012
3-VOCs, 2" diam, hydrosleeve

1450 DMW-0140-042012
3-VOCs, 2" diam, hydrosleeve

1455 OMW-0140-042012
3-VOCs, 2" diam, bailer
Added new lock @ MW140B

1520 MW-111A - WL = 4.27
MW-111B - WL = 4.02
MW-111O - WL = 6.25

1530 AMW-0111-042012
3-VOCs, 2-Expl., 2" diam, hydrosleeve

1540 BMW-0111-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve

1550 OMW-0111-042012
3-VOCs, 2-Expl., 2" diam, bailer

Location Mead, NE - FNOP Date 5-29-12

Project / Client 2nd Quarterly Mon. Well Sampling - 2012
Mike Daughert (FCR Army)

Note - Added new lock to MW-111B
1615 Return to Plant unload, etc
1630 Finish for Day

Mike Daughert

Location Date

Project / Client

Location Mead FNOP Date 5-25-12

Project / Client Mead FNOP / USACE
2nd QTR SE 2012

Toby O. Hinz (ECC)

0700 on site / Safety meeting
0800 making up tetheris
0830 setting mw-44 cluster
0845 Setting mw-43 cluster
Hydra sleeve
0900 Back at Plant.
1355 Setting mw-08 cluster
1420 Setting mw-09 cluster
1600 Setting mw-42 cluster
Hydra-sleeve -
1625 Back at Plant.

Location Mead, NE - FNOP Date 5-29-12

Project / Client 2nd Quarterly Monitoring Well Sampling - 2012 Mike Daugherty (ECC)

0800 Treatment Plant, Safety Meeting, load-up equipment
0830 TRB-287-042012 -2 VOCs
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MW-87B - WL = 4.29
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3-VOCs, 2-Expl, 2" diam, hydrosleeve
0940 BMW-087-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
0950 DMW-087-042012
3-VOCs, 2-Expl, 2" diam, hydrosleeve
1025 MW-116A - WL = 5.44
MW-116B - WL = 5.41
MW-116D - WL = 5.41
1035 AMW-0116-042012
3-VOCs, 2" diam, hydrosleeve
1045 BMW-0116-042012
3-VOCs, 2" diam hydrosleeve
1050 DMW-0116-042012
3-VOCs, 2" diam, hydrosleeve

Note - Added new locks to MW-116B & MW-116D

Appendix C
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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

Appendix E

Quality Control Summary Report Second Quarter 2012 Water Supply Well Sampling Event, Former Nebraska Ordnance Plant (on CD)

Regional Office

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

Phone: 303.298.7607
Fax: 303.298.7837

August 6, 2012

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

Re: Transmittal of the Final Quality Control Summary Report
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska
Contract No. W912DQ-08-D-0001, Task Order No. 0002

Dear Ms. Frazier:

ECC is hereby transmitting one electronic copy of the Final Quality Control Summary Report for the Second Quarter 2012 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)

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: August 6, 2012	TRANSMITTAL NO. 2012-048

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

Attn: Jacqy Frazier 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 electronic					
	Second Quarter 2012 Water Supply Well Sampling Event							

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

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
SECOND QUARTER 2012

WATER SUPPLY WELL PROGRAM SAMPLING EVENT

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

August 2012

1.0 INTRODUCTION

Water supply well sampling was conducted on April 23, 2012 and June 19, 2012 at the former Nebraska Ordnance Plant, Mead, Nebraska. All sampling activities were performed in accordance with the *Site-Wide Work Plan, Support Services, Former Nebraska Ordnance Plant, Mead, Nebraska* (ECC, 2009). This Quality Control Summary Report presents a summary of the chemical data quality review for the Second Quarter 2012 water supply well 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 explosives analyses were performed by TestAmerica of South Burlington, Vermont. The VOC analyses were performed by TestAmerica of Savannah, Georgia. 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 compact disk with all analytical data, including summary forms, and raw data, for the Second Quarter 2012 water supply well sampling event.

2.0 SAMPLING ACTIVITIES

Four locations were sampled for chemical analyses during the Second Quarter 2012 water supply well sampling event. In addition, a field duplicate sample, a matrix spike (MS) / matrix spike duplicate (MSD) sample pair, and two trip blanks were collected.

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 water supply well locations, laboratory sample IDs, and field sample IDs;
- Quality control (QC) split sample information;
- MS/MSD sample information;
- Dates of sample collection and sample receipt by the laboratory;
- COC numbers;
- Sample delivery group 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 the U.S. Army Corps of Engineers in 2007. Both project specified limits and laboratory control limits were

used to assess data quality.

Data quality evaluation results and results qualifications are presented in Table 3-1 according to field sample ID. QC outliers are presented in Table 3-2.

3.1 Sample Receipt at the Laboratory

All sample custodial possession and transfer requirements were met for samples received at the two laboratories. 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. The VOC pH Logs indicated that all samples were properly preserved to a pH less than 2.

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 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 sample delivery group 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 pairs collected this quarter are listed below:

- 051-042012 / 251-042012 (VOC and explosives)

The field duplicate precision criteria (RPD of < 50%) was met in the duplicate pair with one exception. Methylene chloride was detected above the limit of quantitation in sample 051-042012 but was not detected in duplicate sample, 251-042012. No sample qualifications were required based on field duplicate findings since corrective action is not required by the laboratory for field duplicate findings.

3.10 Dilutions and Reanalyses

No dilutions or re-analyses were required for this data set.

3.11 Other QC Parameters

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

Detected results with the dual column RPDs exceeding 40% are qualified as estimated (J). Refer to Table 3-1 for data quality evaluation results and associated qualified samples and

Table 3-2 for QC outliers and associated samples for all assigned qualifiers. This qualifier was not used to determine analytical completeness or project completeness.

3.12 Laboratory Qualifiers

Analytes detected below the limit of quantitation, but above the limit of detection 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 Second Quarter 2012 water supply well 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 four sample locations (water supply well [WSW]-050B, WSW-051, WSW-051A, and WSW-055) were scheduled for VOC and explosive analysis sampling this quarter. These sample locations, along with the appropriate QC samples, were 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 exceeds 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 no corrective actions by the laboratory are required or 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 all 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 qualified as noted in Table 3-1. Overall quality data completeness is 100%. Overall acceptable data completeness is 100% and over all field completeness is 100%, both of which exceed project goals. The overall project completeness at 100% exceeds the project goal of 90%.

6.0 REFERENCES

ECC, 2007 *Mead Validation Guidelines*, (approved by the U.S. Army Corps of Engineers 2007)

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

Tables

List of Acronyms for Tables

Term	Definition
µg/L	micrograms per liter
GC/MS	Gas chromatography–mass spectrometry
C_RPD	column relative percent difference
HPLC	high-performance liquid chromatography
ID	identification/identifier
J	estimated
Lab	laboratory
MS/MSD	matrix spike/matrix spike duplicate
QC	Quality Control
RPD	relative percent difference
SDG	sample delivery group
UCL	upper control limit
WSW	water supply well

Table 1-1
Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Water Supply Well Locations	Sample IDs	Analyses
WSW-50B	050B-042012	Explosives, Volatiles
WSW-51	051-042012	Explosives, Volatiles
WSW-51A	051A-042012	Explosives, Volatiles
WSW-55	055-042012	Explosives, Volatiles

Notes:

Volatiles	E524.2	Volatile Organic Compounds by Purge & Trap Capillary Column GC/MS
Explosives	SW8330	Nitroaromatics and Nitramines by HPLC

Table 2-1
Sample Collection Summary
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
Field Samples								
051A-042012			4/23/2012	4/24/2012	200-10471-2	10471-1		•
051A-042012			4/23/2012	4/24/2012	200-10484-1	10471-1	•	
051-042012			4/23/2012	4/24/2012	200-10471-3	10471-2		•
051-042012			4/23/2012	4/24/2012	200-10484-2	10471-1	•	
		251-042012	4/23/2012	4/24/2012	200-10471-4	10471-2		•
		251-042012	4/23/2012	4/24/2012	200-10484-3	10471-1	•	
055-042012	055-042012		6/19/2012	6/20/2012	200-11385-1	11385	•	•
050B-042012			6/19/2012	6/20/2012	200-11385-2	11385	•	•
Trip Blanks								
TRB-251A-042012			4/23/2012	4/24/2012	200-10471-1	10471-1		•
TRB-255-042012			6/19/2012	6/20/2012	200-11385-3	11385		•

Notes:

Volatiles E524.2 Volatile Organic Compounds by Purge & Trap Capillary Column GC/MS

Explosives SW8330 Nitroaromatics and Nitramines by HPLC

• = Requested for the indicated analyses

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	Comments	Final Result
050B-042012	6/19/2012	11385	200-11385-2	Explosives	1,3,5-trinitrobenzene	µg/L	0.026	J	X	Column RPD	0.026 J

	Reason for Qualification
C_RPD	Column RPD

Table 3-2
Explosives Quality Control Outliers
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
Explosives					
Confirmation Column Difference					
050B-042012	11385	1,3,5-trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	105 RPD

Table 4-1
Field Completeness
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	5	5	100%
Volatiles	5	5	100%
Totals =	10	10	100.0%
Goal =			95%

Notes:

Number of Samples Planned includes field samples and field duplicate samples.

Table 4-2
Analytical Completeness
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters	Acceptable Data	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data	Quality Data Completeness	Quality Data Completeness Goals
Explosives (Analyte Count - 6)	30	30	100%	90%	30	100%	80%
Volatiles (Analyte Count - 6)	30	30	100%	90%	60	100%	80%
Totals =	60	90	100.0%	95%	90	100.0%	80%

Notes:

Total number of parameters includes field samples (includes data points from dilutions and/or reanalyses to be used in place of original data) and field duplicates (does not include field blanks or trip blanks).

Acceptable data includes data that has not been rejected or qualified as estimated (J/UJ). Data points for which the required corrective actions were taken or do not require corrective action do not count against the acceptable data completeness goal calculation (i.e., results exceeding the calibration range that were reanalyzed at dilutions within the calibration range).

Quality data is defined as all non-rejected data.

Table 4-3
Project Completeness
Second Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
100.0%	100.0%	100.0%
Project Completeness Goal =		90%

Notes:

Analytical Completeness is the percentage of usable data (i.e. quality data 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.

Appendix A
Chain of Custody Records

TestAmerica Savannah
5102 LaRoche Ave.
Savannah, GA 31404
Phone (912) 354 7858

WSW SAMPLES 2ND QTR 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 4-23-12	COC No: 042312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Abbie Yant	Carrier: FedEx	1 of 1 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) 298-7807 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.	524.2 - VOCs	Sample Specific Notes:
TRB-251A-042012	4-23-12	1045	G	W	2	X	
051A-042012	4-23-12	1045	G	W	3	X	
051-042012	4-23-12	1100	G	W	3	X	24 HR TAT
251-042012	4-23-12	1100	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:

0.8°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	4-23-12 1600	Fed-ex 7934	8369 2056	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: George Kimes	Company: TASA	Date/Time: 4/24/12 0921

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

WSW SAMPLES 2ND QTR 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 4-23-12	COC No: 042312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 1 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.	8330 - Explosives	Sample Specific Notes:
051A - 042012	4-23-12	1045	G	W	2	X	
051 - 042012	4-23-12	1100	G	W	2	X	
251 - 042012	4-23-12	1100	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:

1600

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	4-23-12	Fed-Ex 7934	8368 4101	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA Burlington	4/24/12 1100
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Savannah
5102 LaRoche Ave.
Savannah, GA 31404
Phone (912) 354 7858

WSW SAMPLES 2ND QTR 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 4-23-12	COC No: 042312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Abbie Yant	Carrier: FedEx	1 of 1 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.	524.2 - VOCs	Sample Specific Notes:
TRB-251A-042012	4-23-12	1045	G	W	2	X	
051A-042012	4-23-12	1045	G	W	3	X	
051-042012	4-23-12	1100	G	W	3	X	> 24 HR TAT
251-042012	4-23-12	1100	G	W	3	X	

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

Possible Hazard Identification
[X] *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*

Special Instructions/QC Requirements & Comments:

0.8°C

1600

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby W. Hinz	ECC	4-23-12	Fed-ex 7934	8369 2056	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: George K Lomes	Company: TASV	Date/Time: 4/24/12 0921

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

2nd QTR WSW SE 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6-19-2012	COC No: 061912
FCC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 1 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	Sample Specific Notes:
055-042012	6/19/2012	925	G	W	2		X	
055-042012 MS	6/19/2012	~~0945~~ 0925	G	W	2		X	
055-042012 MSD	6/19/2012	~~0945~~ 0925	G	W	2		X	
050B-042012	6/19/2012	0945	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:
Toby A. Hinz	FCC	6-19-12 1600	Fed-ex 7985 2719		2355
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASVR	6/20/12 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Savannah
5102 LaRoche Ave.
Savannah, GA 31404

~~Groundwater samples~~ WSW 2012 2nd QTR

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Phone (912) 354 7858

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 6/19/2012	COC No: 061912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Abbie Yunt	Carrier: FedEx	1 of 1 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.	524.2 - VOCs	Sample Specific Notes.
TRB-255-042012	6/19/2012	925	G	W	~~3~~ 2	X	
055-042012	6/19/2012	925	G	W	3	X	
055-042012 MS	6/19/2012	~~0945~~ 0925	G	W	3	X	
055-042012 MSD	6/19/2012	~~0945~~ 0925	G	W	3	X	
050B-042012	6/19/2012	0945	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:

3.1°C ~~630 80449~~ Grac dw

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. Hinz	FCL	6-19-12 1600	FCL-Q 7936	9664	6800
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA SV	6/20/12 0029

Appendix B
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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

Appendix F

Quality Control Summary Report Second Quarter 2012 Operations and Maintenance Sampling Events, Former Nebraska Ordnance Plant (on CD)

Regional Office

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

Phone: 303.298.7607
Fax: 303.298.7837

August 13, 2012

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

Re: Transmittal of the Final Quality Control Summary Report
Second Quarter 2012 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant, Mead, Nebraska
Contract No. W912DQ-08-D-0001, Task Order No. 0002

Dear Ms. Frazier:

ECC is hereby transmitting one electronic copy of the Final Quality Control Summary Report for the Second Quarter 2012 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)

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: August 13, 2012	TRANSMITTAL NO. 2012-050

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

Attn: Jacqy Frazier 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 electronic					
	Second Quarter 2012 Operations and Maintenance 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
SECOND QUARTER 2012

OPERATIONS AND MAINTENANCE PROGRAM
SAMPLING EVENTS

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

August 2012

Quality Control Summary Report
Second Quarter 2012 Operations and Maintenance Sampling Events
Former Nebraska Ordnance Plant
Mead, Nebraska

1.0 INTRODUCTION

Sampling was conducted at the Main Groundwater Treatment Plant (GTP), Load Line (LL) 1 GTP, LL4 GTP, Groundwater Circulation Well (GCW) 1, and the Advanced Oxidation Process (AOP) GTP 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, Support Services, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska* (ECC, 2009). This Quality Control Summary Report is a summary of the chemical data quality review for the Second Quarter 2012 monthly sampling events.

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

- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) SW-846 Method 8260B;
- Trichloroethene (TCE) by EPA Compendium Method TO-15;
- Explosives by EPA SW-846 Method 8330;
- Metals (iron and manganese) by EPA SW-846 Method 6010B;
- Total Suspended Solids (TSS) by Method SM2540D;
- Total Organic Carbon (TOC) by EPA SW-846 Method 9060; and
- Nitrate by SW-846 Method 9056.

The analyses were performed by TestAmerica of South Burlington, Vermont, with the exception of the nitrate analyses which were analyzed by TestAmerica of Denver, Colorado.

Table 1-1 presents a complete list of the locations planned for sample collection, the corresponding sample identifications (IDs), and the requested analyses for the Second Quarter 2012 O&M sampling event.

The chain-of-custody 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 with all analytical data.

2.0 FIELD SAMPLING ACTIVITIES

During the Second Quarter 2012 O&M sampling events the following field samples were collected:

- Water samples were collected from extraction wells (EW) and focused extraction wells (FEW) during the Second Quarter 2012 O&M sampling event: EW-1R, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.
- During April 2012, one water sample was collected from each of the following granular activated carbon (GAC) units: 310, 330, and 350.
- During May 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- During June 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- One influent water sample and one effluent water sample were collected from the Main GTP during each month of this quarter as well as two field duplicate samples (one influent sample and one effluent sample) during May 2012.
- One influent water sample and one effluent water 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 May 2012.
- One effluent 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 each month of this quarter.
- One effluent air sample was collected at the LL4 GTP during April 2012.
- One influent water sample and one effluent water sample were collected from the AOP GTP during each month of this quarter with the exception of the May sampling event. Only the effluent water sample was collected in May 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 were collected for the Main GTP and LL1 GTP sampling events. Field duplicates and MS/MSD samples were not collected for the AOP GTP or LL4 GTP sampling events. The required field QC frequency was met overall for the Second Quarter 2012 O&M sampling events.

Table 2-1 provides the sample collection information for the O&M sampling events listed by date sampled and laboratory sample 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 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 *Mead Validation Guidelines* (ECC, 2007, approved by United States Army Corps of Engineers 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.

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 narratives. 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.

TOC was detected in a method blank below the limit of quantitation (LOQ). However, no qualifiers were added to the results because the concentration in the associated samples was greater than 5 times the concentration in the blank.

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.

All %RECs were within laboratory QC limits for the applicable analyses.

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%.

All LCS and LCSD % RECs were within laboratory QC limits. 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, 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.

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.

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 Second Quarter 2012 monthly O&M sampling events. The field duplicate pairs are listed below:

- 5447-0512-EFF-135 / 5447-0512-2EFF-135 (Nitrate);
- 5447-0512-INF-135 / 5447-0512-2INF-135 (VOC, Explosives);
- 5447-0512-LL1-EFF-079 / 5447-0512-LL1-2EFF-079 (Nitrate);
- 5447-0512-LL1-INF-079 / 5447-0512-LL1-2INF-079 (VOC, Explosives); and
- 5447-0512-LL1-AIR-EFF-079 / 5447-0512-LL1-2AIR-EFF-079 (VOC).

All field duplicate pairs met the precision criteria except for the field duplicate pair 5447-0512-LL1-AIR-EFF-079 / 5447-0512-LL1-2AIR-EFF-079 with an RPD of 53% for TCE. No qualification is required for the field duplicate findings.

Note: Field duplicate results are considered acceptable when one result is not detected and the other result is detected below the 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 acceptable.

3.11 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.

Five samples required a secondary dilution 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.

All three air samples were analyzed at a dilution due to high level of TCE. The laboratory only reported the results from the dilution analysis. No qualifiers were assigned as a result of exceeded calibration ranges because acceptable results from diluted sample analyses were provided.

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 inter-column RPDs.

Detected results with the inter-column 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).

3.13 Laboratory Qualifiers

Analytes detected below the LOQ, but above the limit of detection 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 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 Second Quarter 2012 O&M sampling events. An evaluation of field, analytical, and project completeness is presented in Tables 4-1 through 4-3.

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 in Table 4-1 for the O&M sampling events.

Field completeness for the O&M sampling events was 100% for each method because all scheduled samples were collected. The overall field completeness percentage is therefore 100% for the O&M Second Quarter 2012 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 Table 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: 100%

All analyses exceed the 90% criteria for the individual methods, and the overall acceptable data completeness is 100% which exceeds 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 Second Quarter 2012 O&M sampling events. The quality data completeness percentage for VOCs, explosives, and wet chemistry, considered separately, is 100% and 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 percentage is 100%, which exceeds 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 is 100% which exceeds the project completeness goal of 90%.

Five results for TCE were reported from a secondary dilution due to calibration range exceedance and thirteen explosive results were qualified as estimated for inter-column RPDs exceedances. These qualifiers were not used to determine analytical completeness or project completeness.

6.0 REFERENCES

ECC, 2009, *Site Wide Work Plan, Support Services, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska.* August.

ECC, 2007 *Mead Validation Guidelines*, (approved by United States Army Corps of Engineers 2007).

Tables

List of Acronyms for Tables

Term	Definition
µg/L	micrograms per liter
AOP	Advanced Oxidation Process
C-RPD	column relative percent difference
EFF	effluent
EW	extraction well
FEW	focused extraction well
GC/MS	gas chromatography–mass spectrometry
GCW	groundwater circulation well
GTP	groundwater treatment plant
HPLC	high-performance liquid chromatography
ICP	inductively coupled plasma
ID	identification/identifier
INF	influent
J	estimated
Lab	laboratory
LL	Load Line
MS/MSD	matrix spike/matrix spike duplicate
QC	quality control
RPD	relative percent difference
SDG	sample delivery group
TOC	total organic compound
TSS	total suspended solids
U	not detected at laboratory limit of detection
UCL	upper control limit

Table 1-1
Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
AOP-EFF	5447-0412-AOP-EFF2-058	Explosives, Volatiles
AOP-EFF	5447-0512-AOP-EFF2-053	Explosives, Volatiles
AOP-EFF	5447-0612-AOP-EFF2-136	Explosives, Volatiles
AOP-INF	5447-0412-AOP-INF-058	Explosives, Volatiles
AOP-INF	5447-0612-AOP-INF-136	Explosives, Volatiles
EW-16	5447-0512-EW16-135	Explosives, Volatiles
EW-1R	5447-0412-EW1R-200	Volatiles
EW-1R	5447-0512-EW1R-135	Explosives, Volatiles
EW-3	5447-0512-EW03-135	Explosives, Volatiles
EW-4	5447-0512-EW04-135	Explosives, Volatiles
EW-6	5447-0512-EW06-135	Explosives, Volatiles
EW-7	5447-0512-EW07-135	Explosives, Volatiles
EW-9	5447-0512-EW09-135	Explosives, Volatiles
EW-9	5447-0512-EW09-135A	Explosives
FEW-11	5447-0512-EW11-135	Explosives, Volatiles
FEW-14	5447-0512-EW14-135	Explosives, Volatiles
GCW1-EFF	GCW1-EFF-042012	Volatiles
GCW1-EFF	GCW1-EFF-062012	Volatiles
GCW1-INF	GCW1-INF-042012	Volatiles
GCW1-INF	GCW1-INF-062012	Volatiles
GTP-310	5447-0412-310-134	Explosives, Volatiles
GTP-320	5447-0512-320-135	Explosives, Volatiles
GTP-320	5447-0612-320-136	Explosives, Volatiles
GTP-330	5447-0412-330-134	Explosives, Volatiles
GTP-340	5447-0512-340-135	Explosives, Volatiles
GTP-340	5447-0612-340-136	Explosives, Volatiles
GTP-350	5447-0412-350-134	Explosives, Volatiles
GTP-360	5447-0512-360-135	Explosives, Volatiles
GTP-360	5447-0612-360-136	Explosives, Volatiles
GTP-EFF	5447-0412-EFF-134	Anions, Explosives, Volatiles
GTP-EFF	5447-0512-EFF-135	Anions, Explosives, Volatiles
GTP-EFF	5447-0612-EFF-136	Anions, Explosives, Volatiles
GTP-INF	5447-0412-INF-134	Explosives, Volatiles
GTP-INF	5447-0512-INF-135	Explosives, Volatiles
GTP-INF	5447-0612-INF-136	Explosives, Metals, TOC, TSS, Volatiles
LL1_AIR_EF	5447-0512-LL1-AIR-EFF-079	Volatiles-Air
LL1-EFF	5447-0412-LL1-EFF-078	Anions, Volatiles
LL1-EFF	5447-0512-LL1-EFF-079	Anions, Explosives, Volatiles
LL1-EFF	5447-0612-LL1-EFF-080	Anions, Volatiles
LL1-INF	5447-0412-LL1-INF-078	Volatiles
LL1-INF	5447-0512-LL1-INF-079	Explosives, Volatiles
LL1-INF	5447-0612-LL1-INF-080	Metals, TOC, TSS, Volatiles
LL4_AIR_EF	5447-0412-LL4-AIR-EFF	Volatiles-Air
LL4-EFF	5447-0412-LL4-EFF	Anions, Volatiles

Table 1-1
Sample Locations, Sample IDs, and Analyses
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
LL4-EFF	5447-0512-LL4-EFF	Anions, Explosives, Volatiles
LL4-EFF	5447-0612-LL4-EFF-080	Anions, Volatiles
LL4-INF	5447-0412-LL4-INF	Volatiles
LL4-INF	5447-0512-LL4-INF	Explosives, Volatiles
LL4-INF	5447-0612-LL4-INF-080	Metals, TOC, TSS, Volatiles

Notes:

TSS	A2540D	Total Suspended Solids Dried at 103-105 C
Metals	SW6010B	Trace Metals by ICP
Volatiles	SW8260B	Volatile Organic Compounds by Capillary GC/MS
Explosives	SW8330	Nitroaromatics and Nitramines by HPLC
Anions	SW9056	Anion Chromatography
TOC	SW9060	Total Organic Carbon
Volatiles-Air	TO15	The Determination for Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS

Table 2-1
Sample Collection Summary
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Anions	Explosives	Metals	TOC	TSS	Volatiles	Volatiles-Air
Field Samples													
5447-0412-AOP-INF-058			4/2/2012	4/2/2012	200-10156-6	10156		•				•	
5447-0612-AOP-INF-136			6/4/2012	6/5/2012	200-11119-6	11119		•				•	
5447-0412-INF-134			4/2/2012	4/2/2012	200-10156-1	10156		•				•	
		5447-0512-2INF-135	5/1/2012	5/2/2012	200-10627-2	10627		•				•	
5447-0512-INF-135	5447-0512-INF-135		5/1/2012	5/2/2012	200-10627-1	10627		•				•	
5447-0612-INF-136			6/4/2012	6/5/2012	200-11119-1	11119		•	•	•	•	•	
5447-0412-310-134			4/2/2012	4/2/2012	200-10156-2	10156		•				•	
5447-0412-330-134			4/2/2012	4/2/2012	200-10156-3	10156		•				•	
5447-0412-350-134			4/2/2012	4/2/2012	200-10156-4	10156		•				•	
5447-0412-AOP-EFF2-058			4/2/2012	4/2/2012	200-10156-7	10156		•				•	
5447-0512-AOP-EFF2-053			5/1/2012	5/2/2012	200-10627-7	10627		•				•	
5447-0612-AOP-EFF2-136			6/4/2012	6/5/2012	200-11119-7	11119		•				•	
5447-0412-EFF-134			4/2/2012	4/2/2012	200-10156-5	10156	•	•				•	
		5447-0512-2EFF-135	5/1/2012	5/2/2012	200-10627-19	10627	•						
5447-0512-EFF-135	5447-0512-EFF-135		5/1/2012	5/2/2012	200-10627-6	10627	•	•				•	
5447-0612-EFF-136			6/4/2012	6/5/2012	200-11119-5	11119	•	•				•	
5447-0412-LL1-INF-078			4/2/2012	4/3/2012	200-10157-1	10157						•	
		5447-0512-LL1-2INF-079	5/1/2012	5/2/2012	200-10629-2	10629		•				•	
5447-0512-LL1-INF-079	5447-0512-LL1-INF-079		5/1/2012	5/2/2012	200-10629-1	10629		•				•	
5447-0612-LL1-INF-080			6/4/2012	6/5/2012	200-11118-1	11118			•	•	•	•	
5447-0412-LL1-EFF-078			4/2/2012	4/3/2012	200-10157-2	10157	•					•	
		5447-0512-LL1-2EFF-079	5/1/2012	5/2/2012	200-10629-5	10629	•						
5447-0512-LL1-EFF-079	5447-0512-LL1-EFF-079		5/1/2012	5/2/2012	200-10629-3	10629	•	•				•	
5447-0612-LL1-EFF-080			6/4/2012	6/5/2012	200-11118-2	11118	•					•	
5447-0412-LL4-INF			4/2/2012	4/3/2012	200-10158-1	10158						•	
5447-0512-LL4-INF			5/1/2012	5/2/2012	200-10630-1	10630		•				•	
5447-0612-LL4-INF-080			6/4/2012	6/5/2012	200-11120-1	11120			•	•	•	•	
5447-0412-LL4-AIR-EFF			4/2/2012	4/3/2012	200-10166-1	10166							•
5447-0412-LL4-EFF			4/2/2012	4/3/2012	200-10158-2	10158	•					•	
5447-0512-LL4-EFF			5/1/2012	5/2/2012	200-10630-2	10630	•	•				•	
5447-0612-LL4-EFF-080			6/4/2012	6/5/2012	200-11120-2	11120	•					•	
5447-0412-EW1R-200			4/2/2012	4/2/2012	200-10156-10	10156						•	
5447-0512-EW1R-135			5/1/2012	5/2/2012	200-10627-9	10627		•				•	

Table 2-1
Sample Collection Summary
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Anions	Explosives	Metals	TOC	TSS	Volatiles	Volatiles-Air
GCW1-INF-042012			4/2/2012	4/2/2012	200-10156-8	10156						•	
GCW1-INF-062012			6/4/2012	6/5/2012	200-11119-8	11119						•	
GCW1-EFF-042012			4/2/2012	4/2/2012	200-10156-9	10156						•	
GCW1-EFF-062012			6/4/2012	6/5/2012	200-11119-9	11119						•	
5447-0512-320-135			5/1/2012	5/2/2012	200-10627-3	10627		•				•	
5447-0612-320-136			6/4/2012	6/5/2012	200-11119-2	11119		•				•	
5447-0512-340-135			5/1/2012	5/2/2012	200-10627-4	10627		•				•	
5447-0612-340-136			6/4/2012	6/5/2012	200-11119-3	11119		•				•	
5447-0512-360-135			5/1/2012	5/2/2012	200-10627-5	10627		•				•	
5447-0612-360-136			6/4/2012	6/5/2012	200-11119-4	11119		•				•	
5447-0512-EW11-135			5/1/2012	5/2/2012	200-10627-16	10627		•				•	
		5447-0512-LL1-2AIR-EFF-079	5/1/2012	5/2/2012	200-10637-2	10637							•
5447-0512-LL1-AIR-EFF-079			5/1/2012	5/2/2012	200-10637-1	10637							•
5447-0512-EW03-135			5/1/2012	5/2/2012	200-10627-10	10627		•				•	
5447-0512-EW16-135			5/1/2012	5/2/2012	200-10627-18	10627		•				•	
5447-0512-EW04-135			5/1/2012	5/2/2012	200-10627-11	10627		•				•	
5447-0512-EW14-135			5/1/2012	5/2/2012	200-10627-17	10627		•				•	
5447-0512-EW09-135			5/1/2012	5/2/2012	200-10627-14	10627		•				•	
5447-0512-EW09-135A			5/1/2012	5/2/2012	200-10627-15	10627		•					
5447-0512-EW07-135			5/1/2012	5/2/2012	200-10627-13	10627		•				•	
5447-0512-EW06-135			5/1/2012	5/2/2012	200-10627-12	10627		•				•	

Table 2-1
Sample Collection Summary
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Anions	Explosives	Metals	TOC	TSS	Volatiles	Volatiles-Air
Trip Blanks													
TRB-2INF-042012			4/2/2012	4/2/2012	200-10156-11	10156						•	
TRB-LL1-2INF-042012			4/2/2012	4/3/2012	200-10157-3	10157						•	
TRB-LL4-2INF-042012			4/2/2012	4/3/2012	200-10158-3	10158						•	
TRB-2INF-052012			5/1/2012	5/2/2012	200-10627-8	10627						•	
TRB-LL4-2INF-052012			5/1/2012	5/2/2012	200-10630-3	10630						•	
TRB-LL1-2INF-052012			5/1/2012	5/2/2012	200-10629-4	10629						•	
TRB-2INF-062012			6/4/2012	6/5/2012	200-11119-10	11119						•	
TRB-LL1-2INF-062012			6/4/2012	6/5/2012	200-11118-3	11118						•	
TRB-LL4-2INF-062012			6/4/2012	6/5/2012	200-11120-3	11120						•	

Notes:

TSS - A2540D Total Suspended Solids Dried at 103-105 C

Metals - SW6010B - Trace Metals by ICP

Volatiles - SW8260B - Volatile Organic Compounds by Capillary GC/MS

Explosives - SW8330 - Nitroaromatics and Nitramines by HPLC

Anions - SW9056 -Anion Chromatography

TOC - SW9060 - Total Organic Carbon

Volatiles-Air - TO15 - The Determination fo Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS

• = Requested for the indicated analyses

Table 3-1
Data Quality Evaluation Results
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	Comments	Final Result
5447-0412-AOP-EFF2-058	4/2/2012	10156	200-10156-7	Explosives	2,4,6-trinitrotoluene	µg/L	0.10	J	X	Column RPD	0.10 J
5447-0412-AOP-INF-058	4/2/2012	10156	200-10156-6	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.035	J	X	Column RPD	0.035 J
5447-0512-EW03-135	5/1/2012	10627	200-10627-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.057	J	X	Column RPD	0.057 J
5447-0512-EW11-135	5/1/2012	10627	200-10627-16	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.040	J	X	Column RPD	0.040 J
5447-0512-EW11-135	5/1/2012	10627	200-10627-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.88	J	X	Column RPD	0.88 J
5447-0512-EW14-135	5/1/2012	10627	200-10627-17	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.063	J	X	Column RPD	0.063 J
5447-0512-LL1-2INF-079	5/1/2012	10629	200-10629-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.026	J	X	Column RPD	0.026 J
5447-0512-LL1-INF-079	5/1/2012	10629	200-10629-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.022	J	X	Column RPD	0.022 J
5447-0512-LL1-INF-079	5/1/2012	10629	200-10629-1	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.047	J	X	Column RPD	0.047 J
5447-0612-320-136	6/4/2012	11119	200-11119-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.021	J	X	Column RPD	0.021 J
5447-0612-AOP-INF-136	6/4/2012	11119	200-11119-6	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.033	J	X	Column RPD	0.033 J
5447-0612-AOP-INF-136	6/4/2012	11119	200-11119-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.88	J	X	Column RPD	0.88 J
5447-0612-EFF-136	6/4/2012	11119	200-11119-5	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.022	J	X	Column RPD	0.022 J

Reason for Qualification

C_RPD Column RPD

Table 3-2
Explosives Quality Control Outliers
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample ID(s) Requiring Qualification	SDG	Compound(s)	QC Outlier	QC Parameter Control Limit	QC Result
Explosives					
Confirmation Column Difference					
5447-0412-AOP-EFF2-058	10156	2,4,6-trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	53.2 RPD
5447-0412-AOP-INF-058	10156	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	159 RPD
5447-0512-EW03-135	10627	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	96.1 RPD
5447-0512-EW11-135	10627	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	179 RPD
5447-0512-EW11-135	10627	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	184 RPD
5447-0512-EW14-135	10627	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	44.4 RPD
5447-0512-LL1-2INF-079	10629	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	194 RPD
5447-0512-LL1-INF-079	10629	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	195 RPD
5447-0512-LL1-INF-079	10629	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	42.0 RPD
5447-0612-320-136	11119	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	84.9 RPD
5447-0612-AOP-INF-136	11119	2-amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	192 RPD
5447-0612-AOP-INF-136	11119	4-amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	182 RPD
5447-0612-EFF-136	11119	hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	74.3 RPD

Table 4-1
Field Completeness
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Anions	11	11	100%
Explosives	36	36	100%
Metals	3	3	100%
TOC	3	3	100%
TSS	3	3	100%
Volatiles	48	48	100%
Volatiles-Air	3	3	100%
Totals =	107	107	100.0%
Goal =			95%

Notes:

Number of Samples Planned includes field samples and field duplicate samples.

Table 4-2
Analytical Completeness
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters	Acceptable Data	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data	Quality Data Completeness	Quality Data Completeness Goals
Anions (Analyte Count - 1)	11	11	100%	90%	11	100%	80%
Explosives (Analyte Count - 6)	216	216	100%	90%	216	100%	80%
Metals (Analyte Count - 2)	6	6	100%	90%	6	100%	80%
TOC (Analyte Count - 1)	3	3	100%	90%	3	100%	80%
TSS (Analyte Count - 1)	3	3	100%	90%	3	100%	80%
Volatiles (Analyte Count - 6)	288	288	100%	90%	288	100%	80%
Volatiles-Air (Analyte Count - 1)	3	3	100%	90%	3	100%	80%
Totals =	530	530	100.0%	90%	530	100.0%	80%

Notes:

Total number of parameters includes field samples (includes data points from dilutions and/or reanalyses to be used in place of original data) and field duplicates (does not include field blanks or trip blanks).
Acceptable data includes data that has not been rejected or qualified as estimated (J/UJ). Data points for which the required corrective actions were taken or do not require corrective action do not count against the acceptable data completeness goal calculation (i.e., results exceeding the calibration range that were reanalyzed at dilutions within the calibration range).
Quality data is defined as all non-rejected data.

Table 4-3
Project Completeness
Second Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
100.0%	100.0%	100.0%
Project Completeness Goal =		90%

Notes:

Analytical Completeness is the percentage of usable data (i.e. quality data 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.

Appendix A
Chain of Custody Records

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 2 Suite 350
Lakewood CO 80401
Contact: John Ryder
Phone: 303-278-7607
Fax: 303-278-7837
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

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	VOCs 8260B	Explosives 8330	Lab/Sample ID (Lab Use Only)
W	4-2	0733		X	5447-0412-INF-134	3	2			X	X	
W	4-2	0736		X	5447-0412-310-134	3	2			X	X	
W	4-2	0739		X	5447-0412-330-134	3	2			X	X	
W	4-2	0742		X	5447-0412-350-134	3	2			X	X	
W	4-2	0745		X	5447-0412-EFF-134	3	2			X	X	
W	4-2	0837		X	5447-0412-AOP-INF-058	3	2			X	X	
W	4-2	0833		X	5447-0412-AOP-EFF2-058	3	2			X	X	
W	4-2	0911		X	GCW1-INF-042012	3				X		
W	4-2	0914		X	GCW1-EFF-042012	3				X		
W	4-2	0858		X	5447-0412-EWIR-200	3				X		
W	4-2	0733		X	TRB-2INF-042012	2				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	4-2-12	1500	FedEx 8625-3615-0313	4-2-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature] TAFBUR	4/3/12	1015
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M April 2012

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

3.9

Page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 1746 Cole Blvd Bldg 21 Suite 200 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7600	Phone:
Fax: 303-278-2830	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: Tim Theras

Sampler's Signature: [signature]

Proj. No.: 5442002

Project Name: FNOP 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	4-2	0245		X	5442-0412-EFF-134		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	4-2-12	1500	FedEx 8675-3615-0324	4-2-12	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 April 2012

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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CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 7746 C6 Blvd Bld 2 Ste 300 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7602	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

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 ☐

Sampler's Name: Jim Thairs
Sampler's Signature: [signature]

Proj. No.: 5449002
Project Name: FNOP Med

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	VOC's 8260B	Lab/Sample ID (Lab Use Only)
W	4-2	0808		X	5449-0412-LL2-INF-078	3				X	
W	4-2	0812		X	5449-0412-LL2-EFF-078	3				X	
W	4-2	0808		X	TRB-LL2-2INF-040012	2				X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	4-2-12	1500	Fed Ex 5675-3615-0313	4-2-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature) TASUR	Date 4/3/12	Time 10:15
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL2 OtM
Apr: 1 2012

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

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bldg 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:

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 Theras
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	4-2	0800		X	5447-0412-121-EFF-078		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	4-2-12	1500	FedEx 8675 3615-0327	4-2-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: 121 O+M
April 2012

Client's delivery of samples constitutes acceptance of TestAmerica terms and conditions contained in the Price Schedule.

[1]Matrix W/W - 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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CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ECC	Company:
Address: 12466 Blue Ridge Blvd Suite 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7602	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: Tim Thars
Sampler's Signature:

Proj. No.: 5447.002
Project Name: FNOP Mead

ANALYSIS REQUESTED: Volatile Organics

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	Lab/Sample ID (Lab Use Only)
W	4-2	0830		X	5447-0412-LL4-INF	3				
W	4-2	0832		X	5447-0412-LL4-EFF	3				
W	4-2	0830		X	TRB-LL4-2INF-042012	2				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	4-2-12	1500	Fed Ex 5425-3615-0313	4-2-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature]	4/3/12	1015
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Sample LL4 plant April 2012

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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3.9 gp 112-1 4/3

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Burlington
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South Burlington, VT 05403 Tel: 802 660 1990

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1946 Colo 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:

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 Thares
Sampler's Signature:

Proj. No.: 5447002
Project Name: FNDP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt	250 ml	P/O		Lab/Sample ID (Lab Use Only)
W	4/2	0832		X	5447.0412-LL4-EFP		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-2-12	1500	FedEx 8695 3615 0304	4-2-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL4 plant sampling Event Apr. 1 2012

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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TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: John Ryder	Samples Collected By: Tim Thomas	1 of 1 COCs
Company: ECC	Phone:		
Address: 1746 Cole Blvd B(42) Suite 350	Email:		
City/State/Zip Lakewood CO 80401			
Phone: 303-288-7600	Site Contact: Tim Thomas		
FAX: 303-298-9830	TA Contact:		
Project Name: FNDP Mech	Analysis Turnaround Time		
Site: 5449.002	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
5449.0412-LL4-AIR-EFC	4-2-12	0832		29	0	~	4871	X											

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (Inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
LL4 sampling
April 2012

Samples Shipped by: E	Date/Time: 4-2-12 1500	Samples Received by: FedEx 8695-3615-0335
Samples Relinquished by:	Date/Time:	Received by: TASUR 4/3/12 1015
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Cooler

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page 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bldg 3 (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: Nitrate 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: Timothy
Sampler's Signature:

Pro. 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	Lab/Sample ID (Lab Use Only)
W	5-1	0948		X	5447-0512-EFF-135		1	1		
W	5-1	0948		X	5447-0512-DEFF-135		1	1		
W	5-1	0948		X	5447-0512-EFF-MS		1	1		
W	5-1	0948		X	5447-0512-EFF-MSD		1	1		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5-1-12	1700	FedEx 8105-2615-0380	5-1-12	1700
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature]	05/02/12	0935
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M May 2012 3.8°C

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

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1946 Colo Blvd Bld 2 Ste 330
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7603
Fax: 303-298-7530
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Jim Theres
Sampler's Signature:

Proj. No.: 5447022
Project Name: FNDP Mead

ANALYSIS REQUESTED: Voc's 8260B, Explosives 8330

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			Lab/Sample ID (Lab Use Only)
W	5-1	0727		X	5447-0512-INF-135	3	2			X	X	
W	5-1	0727		X	5447-0512-2INF-135	3	2			X	X	
W	5-1	0727		X	5447-0512-INF-MS	3	2			X	X	
W	5-1	0727		X	5447-0512-INF-MSD	3	2			X	X	
W	5-1	0737		X	5447-0512-320-135	3	2			X	X	
W	5-1	0741		X	5447-0512-340-135	3	2			X	X	
W	5-1	0744		X	5447-0512-360-135	3	2			X	X	
W	5-1	0748		X	5447-0512-EFF-135	3	2			X	X	
W	5-1	0855		X	5447-0512-AOP-EFF2-053	3	2			X	X	
W	5-1	0727		X	TRB-2INF-053012	2				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5-1-12	1500	Fed Ex 8675-3615-0368	5-1-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature) [signature]	Date 5/8/12	Time 1030
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant OtM May 2012

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 2 of 2

CHAIN OF CUSTODY RECORD

Report to:	Invoice to:
Company: ERC	Company:
Address: 1241 Cole Blvd Bldg 3 Ste 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-9609	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

Sampler's Name: Tim Thares

Sampler's Signature: [signature]

Proj. No.: 5447002

Project Name: FNOP Mod

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 ☐

ANALYSIS REQUESTED: VOCs 8260B, Explosives 8330

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			Lab/Sample ID (Lab Use Only)
W	5-1	0828		X	5447-0512-FW2R-135	3	2			X	X	
W	5-1	1036		X	5447-0512-EW03-135	3	2			X	X	
W	5-1	1052		X	5447-0512-EW04-135	3	2			X	X	
W	5-1	1138		X	5447-0512-EW06-135	3	2			X	X	
W	5-1	1130		X	5447-0512-EW07-135	3	2			X	X	
W	5-1	1116		X	5447-0512-EW09-135	3	2			X	X	
W	5-1	1116		X	5447-0512-EW09-135A		2				X	
W	5-1	0940		X	5447-0512-EW11-135	3	2			X	X	
W	5-1	1100		X	5447-0512-EW14-135	3	2			X	X	
W	5-1	1042		X	5447-0512-EW16-135	3	2			X	X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5-1-12	1500	Fed Ex 5625-2615-0368	5-1-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature]	5/2/12	1030
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: Main Plant O&M May 2012

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

Pg 1 of 1

CHAIN OF CUSTODY RECORD

Report to:
Company: ECC
Address: 1746 Cole Blvd Bldg 21 Suite 300
Lakewood Co. 80401
Contact: John Ryder
Phone: 303-278-1600
Fax: 303-278-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

Sampler's Name: Jim Thorn
Sampler's Signature:

Proj. No.: 5449002
Project Name: FNOP Mead

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 ☐

ANALYSIS REQUESTED: VOCs 8260B; 4 Explosives 8330

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			Lab/Sample ID (Lab Use Only)
W	5-1	0950		X	5449-0512-LL1-INF-079					X	X	
W	5-1	0950		X	5449-0512-LL1-2INF-079					X	X	
W	5-1	0950		X	5449-0512-LL1-INF-MS					X	X	
W	5-1	0950		X	5449-0512-LL1-INF-MSD					X	X	
W	5-1	1000		X	5449-0512-LL1-EFF-079					X	X	
W	5-1	0950		X	TRB-LL1-2INF-05 2012					X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	5-1-12	1500	Fed Ex 8675-3615-6368	5-1-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			TARSON	5/2/12	1030
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 O+M
May 2012

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: 1446 Colorado Blvd Bldg 1 Suite 200
Lakewood Co 80401
Contact: John Ryder
Phone: 303-298-7601
Fax: 303-298-7837
Contract/ Quote:

Invoice to:
Company:
Address:
Contact:
Phone:
Fax:

ANALYSIS REQUESTED: Nitrate 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:

Proj. No.: 5449002
Project Name: FNOP Mead

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	5-1	1000		X	5449-0512-LL1-EFF-009		1	1		X	
W	5-1	1000		X	5449-0512-LL1-2EFF-009		1	1		X	
W	5-1	1000		X	5449-0512-LL1-EFF-MS		1	1		X	
W	5-1	1000		X	5449-0512-LL1-EFF-MSD		1	1		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5-1-12	1500	Fed Ex 8695 3615 0380	5-1-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature]	05/02/12	0935
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: LL1 O&M 3.8°C
May 2012

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:	Invoice to:
Company: ECC	Company:
Address: 1746 Cole Blvd Bldg 1 Suite 350 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7607	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

Sampler's Name: Tim Thorns

Sampler's Signature: [signature]

Proj. No.: 5447002

Project Name: FNOP Mech

ANALYSIS REQUESTED: Volatile Organics 8260B, Explosives 8330

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	Volatile Organics 8260B	Explosives 8330	Lab/Sample ID (Lab Use Only)
W	5-1	0905		X	5447-0512-224-INF	3	2			X	X	
W	5-1	0908		X	5447-0512-224-EFF	3	2			X	X	
W	5-1	0905		X	TRB-224-2INF-052012	2				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5-1-12	1500	Fed Ex 8605 3615-0368	5-1-12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature] TABER	5/2/12	1030
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: 224 May 2012

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:	Invoice to:
Company: ECC	Company:
Address: 7596 Cole Blvd Bld 2, Suite 200 Lakewood Co 80401	Address:
Contact: John Ryder	Contact:
Phone: 303-298-7602	Phone:
Fax: 303-298-7837	Fax:
Contract/ Quote:	

ANALYSIS REQUESTED: Water Sodium

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

Sampler's Signature

Proj. No. 5442002

Project Name: FNOP Mead

Matrix[1]	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Water Sodium	Lab/Sample ID (Lab Use Only)
W	5-1	0900		X	5442-0512-114-EFF		1	1		X	

Relinquished by: (Signature) — Date: 5-1-12 — Time: 1500
Received by: (Signature) FedEx 8605 3615 0389 — Date: 5-1-12 — Time: 1500

Relinquished by: (Signature) — Date: — Time:
Received by: (Signature) — Date: 05/02/12 — Time: 0935

Relinquished by: (Signature) — Date: — Time:
Received by: (Signature) — Date: — Time:

Remarks: LL4 May 2012 3.8°C

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 Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: John Ryder	Samples Collected By: Tim Thers	1 of 1 COCs
Company: ECC	Phone:		
Address: 1946 Colo Blvd Bldg 1 Suite 370	Email:		
City/State/Zip Lakewood CO 80401			
Phone: 303-298-7607	Site Contact: Tim Thers		
FAX: 303-298-7830	TA Contact:		
Project Name: FNDP Mach	Analysis Turnaround Time		
Site: 5449-002	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
5449-0512-LL1-AIR-EFF-079	5-1-12	1010		29	0		4390	X											
5449-0512-LL1-AIR-EFF-079	5-1-12	1010		29	0		3870	X											
11																			

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (Inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments: LL1 O&M May 2012

Samples Shipped by: ~~FedEx~~	Date/Time: 5-1-12 - 1500	Samples Received by: Fed Ex 8675-3615-0379
Samples Relinquished by:	Date/Time:	Received by: TABOR 5/2/12 1030
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

LL1 O&M June 2012

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No.
Client Contact: John Ryder	Phone:	E-Mail:		Page: 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd Bld 21 Suite 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7602	PO #:			
Email:	WO #:			
Project Name: ENDP Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	VOCs 5260B	T.S.S. SM2540D	TPC 9060	Metals 6010B									Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
5447-0612-LL1-INF-050	6-4-12	0955	C	W			3	1	1	1									6	A, I
5447-0612-LL1-EFF-050	6-4-12	0800	C	W			3												3	A, I
TRB-LL1-2INF-062012	6-4-12	0955	G	W			2												2	A, I

TT

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1500	ECC	Fed Ex 8675-3615-0398	6-4-12 2500	ECC
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 6-5-12 1115	Company TA BUR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

LL O&M June 2012

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: John Ryder	Phone:	E-Mail:		Page: 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd Bld 21 Suite 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7602	PO #:			
Email:	WO #:			
Project Name: FNUD Mead	Project #: 5440002			
Site:	SSOW#:			

Analysis Requested

Field Filtered Sample (Yes or No)
Perform MS/MSD (Yes or No)
VOA 8260B

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	VOA 8260B	Total Number of containers	Special Instructions/Note:
Preservation Code:			F	W					
5440-0612-LL-EFR-080	6-4-12	0800	G	W			2	2	I, 1

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1500	ECC	FedEx 8675 3615 0357	6-4-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			[signature]	6/5/12 0930	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

Main Plant O&M June 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: John Ryder	Phone:	E-Mail:		Page: pg 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd Bld 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENDP Mod	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	VOC's 8260B	Explosives 8330	TSS SM2540D	TOC 9060	Metals 6010B								Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
5447-0612-INF-136	6-4-12	0721	G	W			3	2	1	1	1								6	
5447-0612-320-136	6-4-12	0725	G	W			3	2											5	
5447-0612-340-136	6-4-12	0727	G	W			3	2											5	
5447-0612-360-136	6-4-12	0731	G	W			3	2											5	
5447-0612-EFF-136	6-4-12	0735	G	W			3	2											5	
5447-0612-AOP INF-136	6-4-12	0842	G	W			3	2											5	
5447-0612-AOP-EFF2-136	6-4-12	0845	G	W			3	2											5	
GCW1-INF-062012	6-4-12	0816	G	W			3												3	
GCW1-EFF-062012	6-4-12	0818	G	W			3												3	
TRB-2INF-062012	6-4-12	0821	G	W			2												2	

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1500	ECC	Fed Ex 8693 3615 0390	6-4-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 6-5-12 1115	Company: TA BUR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

3.6 gpm IRI
6/5/12 Main Plant O+M June 2012

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: John Ryder	Phone:	E-Mail:		Page: 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd Bldg 21 Suite 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: CO 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNOP Mod	Project #: 5447 002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Water 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0612-EFF-136	6-4-12	0735	G	W			2	2	I, S,

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1500	ECC	Fed Ex 8695 3615 0357	6-4-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 6/5/12 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

LL4 Sampling June 2012

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: John Ryder	Phone:	E-Mail:		Page: 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd B12 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7602	PO #:			
Email:	WO #:			
Project Name: ENDP Mead	Project #: 5440002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w=water, s=solid, o=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	VOC's 8260B	TSS SM2540D	TOC 9060	Metals 6010B									Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
5440-0612-LL4-INF	6-4-12	0848	G	W			3	1	1	1									6	A, I
5440-0612-LL4-EFF	6-4-12	0853	G	W			3												3	A, I
TRB-LL4-2INF-060212	6-4-12	0848	G	W			2												2	A, I

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1520	ECC	FedEx 8605-3613-0390	6-4-12 1520	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 6-5-12 1115	Company TA BUR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

LL4 Sampling June 2012

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone:(802)660-1990

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Brian Ryder	Phone:	E-Mail:		Page: 1 of 1
Company: ECC				Job #:
Address: 1746 Cole Blvd Bld 21 Suite 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: CO 80401				
Phone: 303-298-7602	PO #:			
Email:	WO #:			
Project Name: FNDP Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	N-Total Phos	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0612-LL4-EFP	6-4-12	0853	G	W			2	2	I, S.

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-4-12 1500	ECC	FedEx 8695 8316 1550	6-4-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	6/5/12 0930	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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 Cole Blvd. Bld. 9 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: Vincent Stallbaumer
Sampler's Signature:

Proj. No.
Project Name
No/Type of Containers[2]

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	3-19	1210		X	5447-0312-EWIR-471	3				X	
W	3-19	1210		X	TRB-2EWIR-032012	3				X	
					Last						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3/19/12	1500	Fedex 867536150302	3/19/12	1500
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			TA BLR	3/20/12	1035
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Remarks: 471 gpm

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)

Appendix B
Field Notes

4-2-12

Sample Event # 78

Time Calibrate pH & Cond Meter

0745 pH 7.0=7.0 Cond 1409=1455/1409

0808 Sampled plant Influent 5447-0412-LL1-INF-078

0812 Sampled plant Effluent 5447-0412-LL1-EFF-078

Sampling Summary BOHG, E.Hed

ID	Time	pH	Cond	Temp	VOC	NH3-N
INF	0808	7.3	565	13.8	3	-
EFF	0812	8.1	563	12.9	3	2

VOC samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0313

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-0324

62° Sunny
SE @ 9mph
87% Humidity

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 078

Leader:
Date: April 2, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL1 Plant

Weather Information:
Sky: Clear
Precipitation: None
Humidity: 87%

Temp. Max/Min: 62 degrees
Wind Speed/Direction: SE. @ 9 MPH

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity	pH	Temp	Scond
0808	Sampled Influent 5447-0412-LL1-INF-078	7.3	13.8	565
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0812	Sampled Effluent 5447-0412-LL1-EFF-078	8.1	12.9	563
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0725– 0730 Calibrate pH and S cond meters
pH 7.0 =7.0 S cond. 1409 = 1459/1409

Remarks: Water samples sent to Test America Burlington. Nitrates were sent to Test America Denver.

Total Hours Worked: 2

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

4-2-12 Sample LL4

Time Calibrate pH + Scond meters

0725 pH 7.0 = 7.0 Scond 1409 = 1458/1409

0830 Sample plant Influent 5447.0412-LL4-INF

0832 Sample plant Effluent 5447.0412.LL4-EFF

0835 Sample Carbon Air 5447.0412-LL4-AIR-EFF

Sampling Summary Bottles Filled

ID	Time	pH	Scond	Temp	VOC	Nitrate	Air
INF	0830	7.3	588	12.3	3	–	–
EFF	0832	8.0	605	11.9	3	2	–
AIR	0835	–	–	–	–	–	1

Voc samples shipped overnight to Test America Burlington via Fed Ex Air Bill #8675-3615-0313

Nitrate sample shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-0324

Air Sample shipped overnight to Test America Burlington via Fed Ex Air Bill #8675-3615-0335

42° Sunny
SE @ 9 mph
87% Humidity

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 0

Leader:
Date: April 2, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL4 Plant

Weather Information:
Sky: Clear
Precipitation: None
Humidity: 87%

Temp. Max/Min: 62 degrees
Wind Speed/Direction: SE @ 9 mph

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity	pH	Temp	Scond
0830	Sampled Influent 5447-0412-LL4-INF	7.3	12.3	588
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0832	Sampled Effluent 5447-0412-LL4-EFF	8.0	11.9	605
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			
0835	Sampled Air Influent 5447-0412-LL4-AIR- INF			
	Influent sample – 1 – 1 Lt Canister – No Preservative – Air Sample			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0725-- 0730 Calibrate pH and S cond meters
pH 7.0 =7.0 S cond. 1409 = 1459/1409

Remarks: Water samples sent to Test America Burlington. Nitrates were sent to Test America Denver.
Air samples shipped to Test America Burlington.

Total Hours Worked: 2

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

4-2-12 Sample Event # 134

Time	
	Calibrate pH + Cond meter.
0725	pH 7.0 = 7.0 Cond 1409 = 1459/1409
0733	Sampled plant Influent 5447-0412-INF-134
0736	Sampled GAC 310 5447-0412-310-134
0739	Sampled GAC 330 5447-0412-330-134
0742	Sampled GAC 350 5447-0412-350-134
0745	Sampled plant Effluent 5447-0412-EFF-134
0817	Sampled AOP Influent 5447-0412-AOP-INF-058
0823	Sampled AOP Effluent 5447-0412-AOP-EFF2-058
0911	Sampled GCW-1 Influent GCW1-INF-042012
0914	Sampled GCW-1 Effluent GCW1-EFF-042012
0858	Sampled EW-7R 5447-0312-EW7R-200

62° Sunny
SE @ 9 mph
87% Humidity

4-2-12

Sampling Event # 134
Sampling Summary Bottles Filled

ID	Time	pH	Sond	Temp	Jar	Explosives	Nitrates
INF	0733	7.1	582	14.4	3	2	-
310	0736	7.2	587	12.6	3	2	-
330	0739	7.2	585	12.0	3	2	-
350	0742	7.2	583	11.6	3	2	-
EFF	0745	7.2	583	11.5	3	2	2
AOP-INF	0827	7.3	662	12.8	3	2	-
AOP-EFF	0822	7.5	653	13.2	3	2	-
GCW/INF	0911	7.9	456	17.1	3	-	-
GCW/EFF	0914	8.2	466	16.2	3	-	-
EW IR	0858	7.5	768	14.8	3	-	-

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill 8675-3615-0313

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-0324

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 134

Leader:
Date: April 2, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled main plant

Weather Information:
Sky: Clear
Precipitation: None
Humidity: 87%

Temp. Max/Min: 62 degrees
Wind Speed/Direction: SE. @ 9 mph

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity		pH	Temp	Scond
0733	Sampled Influent	5447-0412-INF-134	7.1	14.4	582
	Influent samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0736	Sampled GAC Vessel 310 Lead	5447-0412-310-134	7.2	12.6	587
0739	Sampled GAC Vessel 330 Lead	5447-0412-330-134	7.2	12.0	585
0742	Sampled GAC Vessel 350 Lead	5447-0412-350-134	7.2	11.6	583
	All GAC Vessel samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0745	Sampled Effluent	5447-0412-EFF-134	7.2	11.5	583
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative - Explosives				
	1 – 500ml poly bottle – no preservative – Nitrates				
	1 – 500ml poly bottle – H2SO4 – Nitrates				

0827	Sampled AOP Influent 5447-0412-AOP-INF-058	7.3	12.8	662
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0823	Sampled AOP Effluent 5447-0412-AOP-EFF2-058	7.5	13.2	653
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0911	Sampled Influent GCW1-INF-042012	7.9	17.1	456
	Influent sample – 3 – 40ml bottles –HCL – VOC'S			
0914	Sampled Effluent GCW1-EFF-042012	8.2	16.2	460
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
0858	Sampled EW-1R 5447-0412-EW1R-134	7.5	14.8	768
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0725– 0730 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 1459/1409

Remarks: Samples shipped to Test America Burlington
Nitrate samples shipped to Test America Denver
GAC 370 not sample due to being off line

Total Hours Worked: 6

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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 – 1R 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
0828	7.1	12.7	789
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1036	7.1	13.5	644
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 05/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1052	7.2	13.1	479
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1138	7.1	13.4	521
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1130	7.2	14.1	523
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1116	7.2	13.9	442
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
0847	7.2	15.1	678
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1100	7.1	12.9	485
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 05-01-12 ECC Project # 5447-002 Weather 59 & 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
1042	7.4	12.9	529
Instrument ID			
Calibration Date	05/01/12	05/01/12	05/01/12

*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 -5 Total 5 glass
Analytes/parameters requested: -- Voc's, Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 05/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: Reviewed by

Date 05/01/12 Date

5-1-12 Sample Event #79

Time Calibrate pH & Cond meter

0700 pH 7.0 = 6.92 / 7.00 Cond 1409 = 1316 / 1409

0950 Sampled plant Influent 5447-0512-LL1-INF-079

0950 Sampled plant Influent 5447-0512-LL1-INF-079

0950 Sampled plant Influent 5447-0512-LL1-INF-MS

0950 Sampled plant Influent 5447-0512-LL1-INF-MSD

1000 Sampled plant Effluent 5447-0512-LL1-EFF-079

1000 Sampled plant Effluent 5447-0512-LL1-EFF-079

1000 Sampled plant Effluent 5447-0512-LL1-EFF-MS

1000 Sampled plant Effluent 5447-0512-LL1-EFF-MSD

1010 Sampled Carbon Air 5447-0512-LL1-AIR-EFF-079

1010 Sampled Carbon Air 5447-0512-LL1-2AIR-EFF-079

59° Cloudy

SE 9mph

92% Humidity

5-1-12

Sample Event # 79

Sampling Summary - Bottles Filled

ID	Time	pH	Cond	Temp	Odor	Explosives	Nitrates	TCE
INF	0950	7.0	590	14.1	3	2	–	–
2INF	0950	7.0	590	14.1	3	2	–	–
INFMS	0950	7.0	590	14.1	3	2	–	–
INFMSD	0950	7.0	590	14.1	3	2	–	–
EFF	1000	8.3	588	58.9 14.9	3	2	2	–
2EFF	1000	8.3	588	14.9	–	–	2	–
EFFMS	1000	8.3	588	14.9	–	–	2	–
EFFMSD	1000	8.3	588	14.9	–	–	2	–
AIR	1010	–	–	–	–	–	–	1
2AIR	1010	–	–	–	–	–	–	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0368

Nitrate samples shipped overnight to Test America ~~Denver~~ Savannah via Fed Ex Air Bill # 8675-3615-0380

Air samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0379

5-1-12 Sample 2L4

Time Calibrate pH & Cond meters

0700 pH 7.0 = 6.92/7.00 Cond 1409 = 1366 - 1409

0905 Sample plant Influent 5447-0512-2L4-INF

0908 Sample plant Effluent 5447-0512-2L4-EFF

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	SOC	Explosives	Nitrate
INF	0905	7.2	601	56.2 / 63.4	3	2	-
EFF	0908	8.2	599	56.6 / 63.7	3	2	2

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill #8675-3615-0368

Nitrate sample shipped overnight to Test America ~~Denver~~ Savannah via Fed Ex Air Bill # 8675 3615-0380

59° Cloudy
SE 9 mph
92% Humidity

5-1-12 Sample Event #135

Time Calibrate pH & Cond meters

0700 pH 7.0 = 6.92/7.00 Cond 1409 = 1366/1409

0727 Sampled plant Influent 5447-0512-INF-135

0727 Sampled plant Influent 5447-0512-2INF-135

0727 Sampled plant Influent 5447-0512-INF-MS

0727 Sampled plant Influent 5447-0512-INF-MSD

0734 Sample GAC 320 5447-0512-320-135

0741 Sampled GAC 340 5447-0512-340-135

0744 Sampled GAC 360 5447-0512-360-135

0748 Sampled plant Effluent 5447-0512-EFF-135

0748 Sampled plant Effluent 5447-0512-2EFF-135

0748 Sampled plant Effluent 5447-0512-EFF-MS

0748 Sampled plant Effluent 5447-0512-EFF-MSD

0858 Sampled AOP plant Effluent 5447-0512-AOP-EFF2-053

59° Cloudy

5 @ 9mph

92% Humidity

5-1-12 Sample Event #135

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	Odor	Explosives	Nitrates
INF	0727	7.2	607	56.5 13.6	3	2	–
2INF	0727	7.2	607	13.6	3	2	–
INF-MS	0727	7.2	607	13.6	3	2	–
INF-MSD	0727	7.2	607	13.6	3	2	–
320	0737	7.2	601	55.3 12.9	3	2	–
340	0741	7.2	601	54.9 12.7	3	2	–
360	0744	7.2	601	55.0 12.8	3	2	–
EFF	0748	7.1	601	54.8 12.7	3	2	2
2EFF	0748	7.1	601	12.7	–	–	2
EFF-MS	0748	7.1	601	12.7	–	–	2
EFF-MSD	0748	7.1	601	12.7	–	–	2
AOP-EFF2	0858	7.1	673	57.6 14.2	3	2	–

Samples shipped overnight to Test America Burlington via FedEx Air Bill # 8675-3615-0368

Nitrate samples shipped overnight to Test America Savannah ~~Dsavannah~~ via FedEx Air Bill # 8675-3615-0280

5-1-12 Sampling Event # 135 cont.

Tue Calibrate pH & Cond Meters

0700 pH 7.0 = 6.92/7.00 Cond 1409 = 1364/1409

0828 Sampled EW-1R 5447-0512-EW1R-135

1036 Sampled EW-3 5447-0512-EW03-135

1052 Sampled EW-4 5447-0512-EW04-135

1138 Sampled EW-6 5447-0512-EW06-135

1130 Sample EW 7 5447-0512-EW07-135

1116 Sampled EW-9 5447-0512-EW09-135

1116 Sampled EW-9 MV 5447-0512-EW09-135A

0847 Sampled EW-11 5447-0512-EW11-135

1100 Sampled EW-14 5447-0512-EW14-135

1042 Sampled EW-16 5447-0512-EW16-135

5-1-12 Sample Event # 135

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	VOC	Explosive
EW1R	0828	7.1	789	54.9 12.7	3	2
EW-3	1036	7.1	644	56.4 13.5	3	2
EW-4	1052	7.2	479	55.6 13.1	3	2
EW 6	1138	7.1	521	56.2 13.4	3	2
EW 7	1130	7.2	523	57.3 14.1	3	2
EW 9	1116	7.2	442	57.1 13.9	3	2
EW-SW	1116	-	-	-	-	2
EW11	0847	7.2	678	59.2 15.1	3	2
EW14	1100	7.1	485	55.3 12.9	3	2
EW16	1042	7.2	529	55.2 12.9	3	2

Samples shipped overnight to Test America Burlington via Fed Ex AirBill # 8675-3615-0368

6-4-12 Sample event #80

Time Calibrate pH & Sond meters

0710 pH 7.0=7.0 Sond 1409=1385/1409

0755 Sampled plant Influent 5447-0612-LL1-INF-080

0800 Sampled plant Effluent 5447-0612-LL1-EFF-080

Sampling Summary Bottles Filled

ID	Time	pH	Sond	Temp	VOCs	Lab	Lab	Metals	Metals
INF	0755	7.0	582	13.7	3	1	1	1	-
EFF	0800	8.2	581	14.1	3	-	-	-	2

Samples shipped overnight to Test America Burlington Wi via Fed Ex Air Bill # 8675 3615 0390

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675 3615 0357

85° Sunny

NW @ 6 mph

75% Humidity

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 080

Leader:
Date: June 4, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL1 Plant

Weather Information:
Sky: Clear
Precipitation: None

Temp. Max/Min: 68 degrees
Wind Speed/Direction: NW. @ 6 MPH

Humidity: 75%

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity	pH	Temp	Scond
0755	Sampled Influent 5447-0612-LL1-INF-080	7.0	13.7	582
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – T.S.S.			
	1 – 250ml amber bottle – H2SO4 - TOC			
	1 – 250ml poly bottle – HNO3 - Metals			
0800	Sampled Effluent 5447-0612-LL1-EFF-080	8.2	14.1	581
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0710-- 0715 Calibrate pH and S cond meters

pH 7.0 =7.0 S cond. 1409 = 1385/1409

Remarks: Water samples sent to Test America Burlington. Nitrates were sent to Test America Denver.

Total Hours Worked: 2

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

6-4-12 Sample 224

Time Calibrate pH & Cond Meters

0710 pH 7.0 = 7.0 Cond 1409 = 1385/1409

0848 Sample plant Influent 5447-0612-224-INF

0853 Sample plant Effluent 5447-0612-224-Eff

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	Solids	Ammonia	TOC	Metals	Nitrates
INF	0848	7.2	400	14.6	3	1	1	1	-
EFF	0853	8.2	591	13.5	3	-	-	-	2

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8695-3615-0390

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8695-3615-0357

68° Sunny
~~N~~ NW 6 mph
75% Humidity

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 0

Leader:
Date: June 4, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL4 Plant

Weather Information:
Sky: Clear
Precipitation: None
Humidity: 75%

Temp. Max/Min: 68 degrees
Wind Speed/Direction: NW @ 6 mph

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity	pH	Temp	Scond
0848	Sampled Influent 5447-0612-LL4-INF	7.2	14.6	600
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – T.S.S.			
	1 – 250ml amber bottle – H2SO4 - TOC			
	1 – 250ml poly bottle – HNO3 - Metals			
0853	Sampled Effluent 5447-0612-LL4-EFF	8.2	13.5	591
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0710– 0715 Calibrate pH and S cond meters
pH 7.0 =7.0 S cond. 1409 = 1385/1409

Remarks: Water samples sent to Test America Burlington. Nitrates were sent to Test America Denver.

Total Hours Worked: 2

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

6-7-12 Sample Event # 136

Time	Calibrate pH & Sond meters
0710	pH 7.0 = 7.0 Sond 1409 = 1385 / 1409
0721	Sample plant Influent 5447-0612-INF-136
0725	Sample GAC 320 5447-0612-320-136
0727	Sample GAC 340 5447-0612-340-136
0731	Sample GAC 360 5447-0612-360-136
0735	Sample Plant Effluent 5447-0612-EFF-136
0842	Sample AOP Influent 5447-0612-AOP-INF-136
0835	Sample AOP Effluent 5447-0612-AOP-EFF-136
0816	Sample GCW-1 influent ~~5447-0612-GCW-1-INF~~ GCW-1-INF-062012
0818	Sample GCW-1 Effluent GCW-1-EFF-062012

68° Sunny
NW @ 6 mph
75% Humidity

6-4-12 Sample Event #136

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	VOCs	GRO	Phosphorus	TOC	Nitrate-N	Nitrite-N
INF	0721	7.1	598	14.6	3	2	1	1	1	-
320	0725	7.2	599	13.4	3	2	-	-	-	-
340	0727	7.2	594	13.3	3	2	-	-	-	-
360	0731	7.2	597	13.1	3	2	-	-	-	-
EFF	0735	7.1	599	13.1	3	2	-	-	-	2
AOP-INF	0842	7.1	671	15.0	3	2	-	-	-	-
AOP-EFF	0835	7.0	[illegible]	14.6	3	2	-	-	-	-
Cool-INF	0816	7.2	467	14.6	3	-	-	-	-	-
Cool-EFF	0818	8.2	472	15.6	3	-	-	-	-	-

Samples shipped overnight to Test America Burlington via FedEx Air Bill # 8675-3615-0350

Nitrite samples shipped overnight to Test America Denver via FedEx Air Bill # 8675-3615-0357

FIGURE 9-1
Environmental Chemical Corporation
1746 Cole Boulevard, Building 21, Suite 350
Lakewood, CO 80401

Daily Chemical Quality Control Report

Field Team: Tim Thares/Vince Stallbaumer
Report:
Client:
Report No. 136

Leader:
Date: June 4, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled Main Plant

Weather Information:
Sky: Clear
Precipitation: None
Humidity: 75%

Temp. Max/Min: 68 degrees
Wind Speed/Direction: NW @ 6 mph

Contractor/Subcontractor and Area of Responsibility:

Work Performed Today: Indicate location and description of work performed.

Time	Activity	pH	Temp	Scond
0721	Sampled Influent 5447-0612-INF-136	7.1	14.6	598
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative – Explosives			
	1 – 1Lt poly bottle – no preservative – T.S.S.			
	1 – 250ml amber bottle – H2SO4 - TOC			
	1 – 250ml poly bottle – HNO3 - Metals			
0725	Sampled GAC Vessel 320 Lead 5447-0612-320-136	7.2	13.6	599
0727	Sampled GAC Vessel 340 Lead 5447-0612-340-136	7.2	13.3	596
0731	Sampled GAC Vessel 360 Lead 5447-0612-360-136	7.2	13.1	597
	All GAC Vessel samples – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative – Explosives			
0735	Sampled Effluent 5447-0612-EFF-136	7.1	13.1	599
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
	1 – 500ml poly bottle – no preservative – Nitrates			
	1 – 500ml poly bottle – H2SO4 – Nitrates			

0842	Sampled AOP Influent 5447-0612-AOP-INF-136	7.1	15.0	671
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0835	Sampled AOP Effluent 5447-0612-AOP-EFF2-136	7.0	14.6	670
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0816	Sampled Influent GCW1-INF-062012	7.2	14.6	467
	Influent sample – 3 – 40ml bottles –HCL – VOC'S			
0818	Sampled Effluent GCW1-EFF-062012	8.2	15.6	472
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			

Field Instrument Measurements: pH, S cond., Temp (degree C)

Calibration: 0710– 0715 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 1385/1409

Remarks: Samples shipped to Test America Burlington
Nitrate samples shipped to Test America Denver

Total Hours Worked: 4

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

Appendix C
Reference Sheet
Data Validation Qualifiers
Drinking Water Standards

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

Appendix G

Historical Detections spreadsheet of TCE and RDX for Monitoring Wells, Water Supply Wells and Surface Water Locations (on CD)