FINAL

QUARTERLY SUMMARY REPORT
THIRD 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

November 2012

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November 2012

I hereby certify that the enclosed *Quarterly Summary Report Third 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 11/26/12
Date

Accepted as a submittal:

USACE Contracting Officer
Date

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TABLE OF CONTENTS

1.0 INTRODUCTION.....1
1.1 Objectives 1
2.0 SUMMARY OF THIRD QUARTER 2012 GROUNDWATER MONITORING WELL SAMPLING EVENT 2
2.1 Field Sampling.....2
2.2 Analytical Results 2
2.3 Groundwater Monitoring Well Summary.....3
3.0 SUMMARY OF THIRD QUARTER 2012 WATER SUPPLY WELL SAMPLING EVENT.....4
3.1 Field Sampling.....4
3.2 Analytical Results 4
3.3 Water Supply Well Summary 4
4.0 SUMMARY OF THIRD QUARTER 2012 SURFACE WATER SAMPLING EVENT.....5
4.1 Field Sampling.....5
4.2 Analytical Results 5
4.3 Surface Water Summary.....5
5.0 SUMMARY OF THIRD QUARTER 2012 OPERATIONS AND MAINTENANCE SAMPLING EVENTS.....5
5.1 Field Sampling.....6
5.2 Analytical Results 7
5.4 Operations and Maintenance Summary.....7
6.0 DATA VALIDATION RESULTS.....7
7.0 THIRD QUARTER 2012 SAMPLING EVENTS SUMMARY. 8
8.0 REFERENCES.....8

LIST OF TABLES

Table 1-1 Final Target Groundwater Cleanup Goals
Table 2-1 Perimeter Monitoring Wells Results for Third Quarter 2012 Sampling Event
Table 2-2 Compliance Monitoring Wells Results for Third Quarter 2012 Sampling Event
Table 2-3 LL1 Interior Plume Monitoring Wells Results for Third Quarter 2012 Sampling Event
Table 2-4 LL4, AMA, and Landfill Interior Plume Monitoring Wells Results for Third Quarter 2012 Sampling Event
Table 2-5 Focused Extraction Monitoring Wells at the FEW-11, FEW-14 and FEW-15 Sites Results for Third Quarter 2012 Sampling Event
Table 3-1 Water Supply Well Results for Third Quarter 2012 Sampling Event
Table 4-1 Surface Water Results for Third Quarter 2012 Sampling Event
Table 5-1 Operations and Maintenance Results for Third Quarter 2012 Sampling Events
Table 5-2 2012 Main Groundwater Treatment Plant Bypass Sampling Event Results

LIST OF FIGURES

Figure 2-1 Monitoring Well Third Quarter 2012 Sampling Locations
Figure 3-1 Water Supply Well Third Quarter 2012 Sampling Locations
Figure 4-1 Surface Water Third Quarter 2012 Sampling Locations
Figure 5-1 Operations and Maintenance Third Quarter 2012 Sampling Locations
Figure 5-2 Main Groundwater Treatment Plant Bypass 2012 Sampling Locations

LIST OF APPENDICES

Appendix A Concentration Trend Charts for Select Monitoring Wells

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 Third Quarter 2012 Groundwater Monitoring Program Sampling Events, Former Nebraska Ordnance Plant (on CD)

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

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

Appendix G Quality Control Summary Report 2012 Main Groundwater Treatment Plant Bypass Sampling Event, Former Nebraska Ordnance Plant (on CD)

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

LIST OF ACRONYMS AND ABBREVIATIONS

AMA	Atlas Missile Area
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
NDEQ	Nebraska Department of Environmental Quality
NOP	Nebraska Ordnance Plant
O&M	operations and maintenance
QC	quality control
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 Third 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 Third Quarter 2012 Groundwater Monitoring Program Sampling Events (on compact disk [CD]);
- Appendix E contains the Quality Control Summary Report Third Quarter 2012 Water Supply Well Sampling Event (on CD);
- Appendix F contains the Quality Control Summary Report Third Quarter 2012 Operations and Maintenance Sampling Events (on CD); and
- Appendix G contains the Quality Control Summary Report 2012 Main Groundwater Treatment Plant Bypass Sampling Event (on CD); and
- Appendix H 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 Third 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 THIRD 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 78 groundwater monitoring wells were collected during the Third Quarter 2012 monitoring well sampling event and are summarized below:

- Fifty-five groundwater monitoring wells were sampled for volatile organic compounds (VOCs);
- Seventy-five groundwater monitoring wells were sampled for explosives;
- Ten field duplicate samples were collected;
- Four matrix spike (MS)/matrix spike duplicate (MSD) pairs were collected;
- Two trip blanks were included with the volatile shipments.

2.2 Analytical Results

The Third Quarter 2012 groundwater monitoring well validated analytical results for all site specific compounds are presented in Tables 2-1 through 2-5. 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 Attachment 1 Field Sampling Plan, Appendix L of the *Site-Wide Work Plan, Support Services, Former Nebraska Ordnance Plant, Mead, Nebraska* (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 Third Quarter 2012 sampling event:

- Sixty-two Perimeter groundwater monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-1);
- Six Compliance groundwater monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-2);
- Five LL1 Interior Plume groundwater monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-3);
- Three LL4/ landfill/ AMA Interior Plume groundwater monitoring wells monitoring wells were sampled (detected results for site-specific compounds are presented in Table 2-4);
- Two 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);

No LL2 and LL3 Interior Plume or Upgradient, Sidegradient and Downgradient groundwater monitoring wells were sampled during the Third Quarter 2012 sampling event.

2.3 Groundwater Monitoring Well Summary

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

- Explosives COCs were detected in 18 Perimeter groundwater monitoring wells. All explosives detections were below the Final Target Groundwater Cleanup Goals. RDX was detected at the Final Target Groundwater Cleanup Goals at 2 micrograms per liter (µg/L) in MW-116A. TCE exceeded the Final Target Groundwater Cleanup Goals in MW-116A at 7.3 µg/L. One additional VOC was detected in a Perimeter groundwater monitoring well. Results for all Perimeter groundwater monitoring wells are presented in Table 2-1.
- No explosives or VOC were detected in the six Compliance groundwater monitoring wells sampled. Results for all Compliance groundwater monitoring wells are presented in Table 2-2.
- TCE exceeded the Final Target Groundwater Cleanup Goals in all five LL1 Interior Plume groundwater monitoring well locations and RDX exceeded the goals in two 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 2-3.
- No explosives were analyzed for the three LL4, AMA and landfill Interior Plume groundwater monitoring well locations. TCE exceeded the Final Target Groundwater Cleanup Goals in the three LL4, AMA and landfill Interior Plume groundwater monitoring well locations. Results for all LL4 and AMA Interior Plume monitoring wells are presented in Table 2-4.

- In the two Focused Extraction groundwater monitoring well locations, RDX, 2-4-dinitrotoluene, and TCE exceeded the Final Target Groundwater Cleanup Goals. Additional site specific compounds were detected including COCs detected below the Final Target Groundwater Cleanup Goals in the Focused Extraction groundwater monitoring well location. Results for all Focused Extraction groundwater monitoring well locations are presented in Table 2-5.

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

3.0 SUMMARY OF THIRD 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, 75 water supply well locations were sampled. In addition, the following samples were collected:

- Nine field duplicate samples;
- Four MS/MSD samples; and
- Three trip blanks.

The sampling locations at water supply well (WSW)-75 and WSW-116 were not accessible to the field crew at the time of sampling and a sample compliant with work plan requirements could not be obtained.

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 Third Quarter 2012 sampling event.

3.3 Water Supply Well Summary

During the water supply well sampling event, there were multiple detections of COCs and other site specific compounds. TCE and/or RDX exceeded the Final Target Groundwater Cleanup Goal in pretreatment granular activated carbon (GAC) system samples at three locations (WSW-52C-B, WSW-53-B, and WSW-54-B). There were no detections of TCE and/or RDX exceeding the Final Target Groundwater Cleanup Goal in any post GAC treatment system samples or any other samples collected during the water supply well sampling event. Results for the water supply well sampling event are presented in Tables 3-1. Historical results are presented for all sampling locations in Appendix H. Appendix B contains trending charts for water supply wells sampled during the Third Quarter 2012 sampling event. All trending charts require four or more data points to be included in this report.

4.0 SUMMARY OF THIRD 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, seven surface water locations were sampled. Five of the surface water sample location scheduled for the Third Quarter 2012, were dry and no sample was collected. In addition, the following samples were collected:

- One 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 Third 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 Third Quarter 2012 are presented in Tables 4-1. Historical results are presented for all sampling locations in Appendix H. Appendix C contains trending charts for surface water wells sampled during the Third Quarter 2012. All trending charts require four or more data points to be included in this report.

5.0 SUMMARY OF THIRD QUARTER 2012 OPERATIONS AND MAINTENANCE SAMPLING EVENTS

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

5.2 Field Sampling

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

- During August 2012, water samples were collected from extraction wells (EW) and focused extraction wells: EW-1R, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.
- During August 2012, water samples were collected from a test hole for proposed extraction well EW-17.
- During July 2012, one water sample was collected from each of the following GAC units: 320, 340, and 360.
- During August 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- During September 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 August 2012.
- One influent water sample and one effluent water sample were collected from groundwater circulation well (GCW)-1 during September 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 August 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 each was collected at the LL4 GTP during July and August 2012. One influent air sample was collected at the LL4 GTP during September 2012.
- One influent water sample and one effluent water sample were collected from the Advanced Oxidation Process (AOP) GTP during July 2012. Only the effluent water sample was collected in August because the associated water sample was collected from FEW-11. Groundwater from FEW-11 is representative of AOP influent groundwater and the August influent sample was collected from the FEW-11sample location. Since the AOP GTP was down until August 13, the sample was collected on August 24, no samples were collected during September 2012.
- Bypass sampling was conducted on September 7 and September 10, 2012 to confirm the influent tank water overflow did not impact the ponded area. Three water samples and four soil samples were collected during the Main GTP bypass sampling event.

A trip blank was included in each shipment that contained field samples scheduled for analysis of VOCs. The required frequency of collection for quality control (QC) samples (field duplicate and MS/MSD) is one per quarter. At least one QC field duplicate sample and one MS/MSD for each parameter was 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. One water and one soil QC field duplicate sample was collected for each parameter for the Main GTP bypass event. MS/MSD samples were not collected for the bypass event. The required field QC frequency was met overall for the Third Quarter 2012 O&M sampling events.

5.3 Analytical Results

The O&M validated analytical results for site-specific compounds are presented in Table 5-1 and the Main GTP bypass sampling results are presented in Table 5-2. Figure 5-1 illustrates all O&M locations sampled during the Third Quarter 2012 and Figure 5-2 illustrates the Main GTP bypass sample locations.

5.4 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 Third 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. Results from the 2012 Main Groundwater Treatment Plant Bypass sampling event confirm that the influent tank water overflow did not impact the ponded area.

6.0 DATA VALIDATION RESULTS

Data from the Third Quarter 2012 GMP and O&M sampling events were validated in accordance with project required criteria and appropriate qualifiers were assigned to data. Data validation for the former NOP was performed in accordance with the *Mead Validation Guidelines* (ECC, 2007), which includes an evaluation of holding times, a comparison of both field and laboratory duplicate results, a review of trip blank results, and an evaluation of other quality control measurements reported by the laboratory.

The *Quality Control Summary Report Third Quarter 2012 Groundwater Monitoring Program Sampling Events* is included as Appendix D, *Quality Control Summary Report Third Quarter 2012 Water Supply Well Sampling Event,* is included as Appendix E, *Quality Control Summary Report Third Quarter 2012 Operations and Maintenance Sampling Events,* is included as Appendix F, and the *Quality Control Summary Report 2012 Main Groundwater Treatment Plant Bypass Sampling Event* is included as Appendix G. 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 THIRD QUARTER 2012 SAMPLING EVENTS SUMMARY.

Based on the results of the Third 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.

GMP and O&M sampling programs will continue as planned for the remaining 2012 quarterly sampling events.

Results from the 2012 Main Groundwater Treatment Plant Bypass Sampling Event confirm that the influent tank water overflow did not impact the ponded area.

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 Third 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-106A	08/23/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-106B	08/23/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-106D	08/23/2012	0.11 U	0.11 U	0.053 UJ	**0.31 J**	0.053 U	0.11 U
MW-107A	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-107B	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-107D	08/23/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-108A	08/23/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-108B	08/23/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-108D	08/23/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-110A	08/22/2012	0.11 U	0.11 U	0.053 UJ	**0.24 J**	0.053 U	**0.11 J**
MW-110B	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-110D	08/22/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-112A	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-112B	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-113A	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-113B	08/23/2012	0.11 U	0.11 U	0.053 UJ	0.053 U	0.053 U	0.11 U
MW-113D	08/23/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-114A	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-114B	08/22/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-114D	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-115A	08/22/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-115B	08/22/2012	0.098 U	0.098 U	0.049 UJ	0.049 U	0.049 U	0.098 U
MW-115D	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-116A	08/10/2012	0.096 U	0.096 U	**0.16 J**	**2.0 J**	**0.49 J**	**0.11 J**
MW-116B	08/10/2012	**0.069 J**	0.098 U	0.049 UJ	0.049 U	0.049 U	0.098 U
MW-116D	08/10/2012	0.096 U	0.096 U	0.048 UJ	0.048 U	0.048 U	0.096 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Third 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-117A	08/23/2012	0.10 U	0.10 U	0.050 UJ	**0.24 J**	0.050 U	0.10 U
MW-117B	08/23/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-117D	08/23/2012	0.10 U	0.10 U	0.051 UJ	**0.21 J**	0.051 U	0.10 U
MW-118A	08/23/2012	0.11 U	0.11 U	0.053 UJ	**0.69**	0.053 U	0.11 U
MW-118B	08/23/2012	0.11 U	0.11 U	**0.18 J**	**0.83**	0.057 U	0.11 U
MW-147A	08/23/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-147B	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-147D	08/23/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-159A	08/23/2012	0.11 U	0.11 U	0.053 UJ	0.053 U	0.053 U	0.11 U
MW-159B	08/23/2012	**0.48 J**	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-35A	08/23/2012	0.10 U	0.10 U	0.052 UJ	**0.40 J**	0.052 U	0.10 U
MW-35B	08/23/2012	0.10 U	0.10 U	0.050 UJ	**0.28 J**	0.050 U	0.10 U
MW-35D	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-38A	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-38D	08/22/2012	0.11 U	0.11 U	0.056 UJ	0.056 U	0.056 U	0.11 U
MW-46A	08/23/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-46B	08/23/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-46D	08/23/2012	0.11 U	0.11 U	0.053 UJ	0.053 U	0.053 U	0.11 U
MW-80A	08/22/2012	0.11 U	0.11 U	0.053 UJ	0.053 U	0.053 U	0.11 U
MW-80B	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-80D	08/22/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-81A	08/22/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U
MW-81B	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-81D	08/22/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-83A	08/23/2012	0.11 U	0.11 U	0.057 UJ	**0.33 J**	0.057 U	0.11 U
MW-83B	08/23/2012	0.11 U	0.11 U	0.053 UJ	**0.13 J**	0.053 U	0.11 U
MW-83D	08/23/2012	0.11 U	0.11 U	0.055 UJ	0.055 U	0.055 U	0.11 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Third 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-84A	08/24/2012	0.098 U	0.098 U	0.049 UJ	**0.24 J**	0.049 U	0.098 U
MW-84B	08/24/2012	0.098 U	0.098 U	0.049 UJ	0.049 U	0.049 U	0.098 U
MW-84D	08/24/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-85A	08/23/2012	0.10 U	0.10 U	0.052 UJ	**0.91**	0.052 U	0.10 U
MW-85B	08/23/2012	0.11 U	0.11 U	0.053 UJ	**1.3**	0.053 U	0.11 U
MW-85D	08/23/2012	0.11 U	0.11 U	0.053 UJ	**0.12 J**	0.053 U	0.11 U
MW-95A	08/23/2012	0.11 U	0.11 U	0.053 UJ	0.053 U	0.053 U	0.11 U
MW-95B	08/23/2012	0.11 U	0.11 U	0.057 UJ	0.057 U	0.057 U	0.11 U
MW-95D	08/23/2012	0.10 U	0.10 U	0.050 UJ	**0.098 J**	0.050 U	0.10 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1 Perimeter Monitoring Wells

Results for Third 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-106A	08/23/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-106B	08/23/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-106D	08/23/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-107A	08/23/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-107B	08/23/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-107D	08/23/2012	0.25 U	0.25 U	0.42 U	0.25 U	0.25 U	0.25 U
MW-108A	08/23/2012	0.25 U	0.25 U	0.40 U	0.25 U	0.25 U	0.25 U
MW-108B	08/23/2012	0.25 U	0.25 U	0.42 U	0.25 U	0.25 U	0.25 U
MW-108D	08/23/2012	0.25 U	0.25 U	0.40 U	0.25 U	0.25 U	0.25 U
MW-110A	08/22/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-110B	08/22/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-110D	08/22/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-112A	08/23/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-112B	08/23/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-113A	08/23/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-113B	08/23/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-113D	08/23/2012	0.25 U	0.25 U	0.36 U	0.25 U	0.25 U	0.25 U
MW-114A	08/22/2012	0.25 U	0.25 U	0.42 U	0.25 U	0.25 U	0.25 U
MW-114B	08/22/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-114D	08/22/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	0.25 U
MW-115A	08/22/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	0.25 U
MW-115B	08/22/2012	0.25 U	0.25 U	0.47 U	0.25 U	0.25 U	0.25 U
MW-115D	08/22/2012	0.25 U	0.25 U	0.40 U	0.25 U	0.25 U	0.25 U
MW-116A	08/10/2012	0.25 U	0.25 U	0.42 U	**7.3**	0.25 U	0.25 U
MW-116B	08/10/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	0.25 U
MW-116D	08/10/2012	0.25 U	0.25 U	0.45 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 2-1 Perimeter Monitoring Wells

Results for Third 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-159A	08/23/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	**1.0**
MW-159B	08/23/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-38A	08/22/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-38D	08/22/2012	0.25 U	0.25 U	0.40 U	0.25 U	0.25 U	0.25 U
MW-46A	08/23/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-46B	08/23/2012	0.25 U	0.25 U	0.42 U	0.25 U	0.25 U	0.25 U
MW-46D	08/23/2012	0.25 U	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U
MW-80A	08/22/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	0.25 U
MW-80B	08/22/2012	0.25 U	0.25 U	0.37 U	**0.88 J**	0.25 U	0.25 U
MW-80D	08/22/2012	0.25 U	0.25 U	0.42 U	0.25 U	0.25 U	0.25 U
MW-81A	08/22/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-81B	08/22/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-81D	08/22/2012	0.25 U	0.25 U	0.39 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 Compliance Monitoring Wells

Results for Third 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-158A	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-158B	08/22/2012	0.10 U	0.10 U	0.051 UJ	0.051 U	0.051 U	0.10 U
MW-158D	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-88A	08/22/2012	0.10 U	0.10 U	0.052 UJ	0.052 U	0.052 U	0.10 U
MW-88B	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U
MW-88D	08/22/2012	0.10 U	0.10 U	0.050 UJ	0.050 U	0.050 U	0.10 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-2 Compliance Monitoring Wells

Results for Third 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-158A	08/22/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-158B	08/22/2012	0.25 U	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U
MW-158D	08/22/2012	0.25 U	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U
MW-88A	08/22/2012	0.25 U	0.25 U	0.41 U	0.25 U	0.25 U	0.25 U
MW-88B	08/22/2012	0.25 U	0.25 U	0.40 U	0.25 U	0.25 U	0.25 U
MW-88D	08/22/2012	0.25 U	0.25 U	0.40 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 2-3 LL1 Interior Plume Monitoring Wells

Results for Third 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-21A	08/24/2012	0.10 U	0.10 U	**0.075 J**	0.052 U	0.052 U	0.10 U
MW-21B	08/24/2012	0.11 U	**0.49**	**7.6 J**	**10.0**	0.053 U	0.11 U
MW-21D	08/24/2012	0.11 U	0.11 U	**0.062 J**	0.053 U	0.053 U	0.11 U
MW-24A	08/24/2012	0.11 U	0.11 U	**0.066 J**	0.053 U	0.053 U	0.11 U
MW-24B	08/24/2012	0.11 U	**0.23 J**	**3.8 J**	**16.0**	0.053 U	0.11 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-3 LL1 Interior Plume Monitoring Wells

Results for Third 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-21A	08/24/2012	0.25 U	**1.8 J**	0.39 U	**24.0**	**2.5**	0.25 U
MW-21B	08/24/2012	0.25 U	0.25 U	0.39 U	**87.0 J**	0.25 U	0.25 U
MW-21D	08/24/2012	0.25 U	**37.0**	0.38 U	**17.0**	**22.0**	0.25 U
MW-24A	08/24/2012	1.3 U	**81.0**	2.0 U	**500**	**1.5 J**	1.3 U
MW-24B	08/24/2012	0.25 U	0.25 U	0.34 U	**21.0**	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 Third 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	08/24/2012	0.93 U	**1.9 J**	1.5 U	**300**	0.93 U	0.93 U
MW-09B	08/24/2012	0.25 U	0.25 U	0.39 U	**28.0**	0.25 U	0.25 U
MW-09D	08/24/2012	1.3 U	**3.0 J**	1.8 U	**780**	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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Table 2-5 Focused Extraction Monitoring Wells at the FEW-11, FEW-14 and FEW-15 Sites

Results for Third 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-120D	08/24/2012	**29.0 J**	**1.3 J**	**1.7 J**	**13.0 J**	0.052 U	**1.1 J**
MW-120E	08/24/2012	0.10 U	0.10 U	**0.69 J**	**7.3**	0.052 U	0.10 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 Third 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-120D	08/24/2012	0.25 U	**0.63 J**	0.42 U	**17.0**	0.25 U	0.25 U
MW-120E	08/24/2012	11.0 U	**25.0 J**	18.0 U	**14000**	11.0 U	11.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Third 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
UNFL-09A	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
UNFL-10A	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
UNFL-12	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
UNFL-23	09/24/2012	0.049 U	0.049 U	0.024 UJ	0.024 U	0.024 U	0.049 U
UNFL-27	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-100	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-101	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-102	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-103	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-104	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-105	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-106	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-107	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-108	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-109	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-110	09/18/2012	0.051 U	0.051 U	0.026 UJ	0.026 U	0.026 U	0.051 U
WSW-111	09/19/2012	0.047 U	0.047 U	0.024 U	0.024 U	0.024 U	0.047 U
WSW-112	09/18/2012	0.048 U	0.048 U	0.024 UJ	**0.20 J**	0.024 U	0.048 U
WSW-113	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-114	09/18/2012	0.049 U	0.049 U	0.024 UJ	**0.44 J**	**0.048 J**	0.049 U
WSW-115	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-117	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	**0.094 J**
WSW-27	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-29	09/17/2012	0.049 U	0.049 U	0.024 UJ	**0.14 J**	0.024 U	0.049 U
WSW-29A	09/17/2012	0.048 U	0.048 U	0.024 UJ	**0.30**	0.024 U	0.048 U
WSW-32	09/17/2012	0.049 U	0.049 U	0.024 UJ	0.024 U	0.024 U	0.049 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 3-1 Water Supply Well

Results for Third 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-34	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-36	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-50A	09/17/2012	0.049 U	0.049 U	0.024 UJ	0.024 U	0.024 U	0.049 U
WSW-50B	09/17/2012	0.048 U	0.048 U	0.024 UJ	**1.8**	**0.042 J**	0.048 U
WSW-51	09/17/2012	0.049 U	0.049 U	0.025 UJ	**0.42**	0.025 U	0.049 U
WSW-51A	09/17/2012	0.048 U	0.048 U	0.024 UJ	**1.3**	0.024 U	0.048 U
WSW-52A	09/19/2012	0.047 U	0.047 U	0.024 U	0.024 U	0.024 U	0.047 U
WSW-52A-B	09/19/2012	0.048 U	0.048 U	0.024 U	**0.18 J**	0.024 U	0.048 U
WSW-52B	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-52C	09/24/2012	0.051 U	0.051 U	0.025 UJ	0.025 U	0.025 U	0.051 U
WSW-52C-B	09/24/2012	0.049 U	0.049 U	**0.040 J**	0.024 U	0.024 U	0.049 U
WSW-53	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-53-B	09/19/2012	0.048 U	0.048 U	**0.19 J**	**6.4**	0.024 U	0.048 U
WSW-54	09/18/2012	0.051 U	0.051 U	0.025 UJ	0.025 U	0.025 U	0.051 U
WSW-54-B	09/18/2012	0.049 U	**0.073 J**	**0.16 J**	**2.6**	0.024 U	0.049 U
WSW-55	09/17/2012	0.049 U	0.049 U	0.025 UJ	0.025 U	0.025 U	0.049 U
WSW-56	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-57	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-58	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-59	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-60	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-61	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-62	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-63	09/19/2012	0.047 U	0.047 U	0.024 U	0.024 U	0.024 U	0.047 U
WSW-64	09/19/2012	0.047 U	0.047 U	0.024 U	0.024 U	0.024 U	0.047 U
WSW-65	09/17/2012	0.049 U	0.049 U	0.024 UJ	**0.053 J**	0.024 U	0.049 U
WSW-66	09/17/2012	0.048 U	0.048 U	0.024 UJ	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 Third 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-67	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-68	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-73	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-74	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-76	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-77	09/18/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-79	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-80	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-81	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-82	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-86	09/18/2012	0.049 U	0.049 U	0.024 UJ	0.024 U	0.024 U	0.049 U
WSW-87	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-89	09/18/2012	0.050 U	0.050 U	0.025 UJ	0.025 U	0.025 U	0.050 U
WSW-90	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-91	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-92	09/19/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
WSW-93	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-94	09/24/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	**0.034 J**	0.048 U
WSW-95	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-96	09/17/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
WSW-97	09/18/2012	0.050 U	0.050 U	0.025 UJ	0.025 U	0.025 U	0.050 U
WSW-99	09/18/2012	0.048 U	0.048 U	0.024 UJ	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 Third 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
UNFL-09A	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
UNFL-10A	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
UNFL-12	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
UNFL-23	09/24/2012	0.45 U	0.37 U	0.36 U	**0.61**	0.24 U	0.33 U
UNFL-27	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-100	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-101	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-102	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-103	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-104	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-105	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-106	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-107	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-108	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-109	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-110	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-111	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-112	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-113	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-114	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-115	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-117	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-27	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-29	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-29A	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-32	09/17/2012	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 3-1 Water Supply Well

Results for Third 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-34	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-36	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-50A	09/17/2012	0.45 UJ	0.37 UJ	0.36 UJ	0.37 UJ	0.24 UJ	0.33 UJ
WSW-50B	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-51	09/17/2012	0.45 U	0.37 U	**0.52**	**0.38 J**	0.24 U	0.33 U
WSW-51A	09/17/2012	0.45 U	0.37 U	0.36 U	**2.9**	0.24 U	0.33 U
WSW-52A	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-52A-B	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-52B	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-52C	09/24/2012	0.45 UJ	0.37 UJ	0.36 UJ	0.37 UJ	0.24 UJ	0.33 UJ
WSW-52C-B	09/24/2012	4.5 U	3.7 U	3.6 U	**120**	2.4 U	3.3 U
WSW-53	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-53-B	09/19/2012	0.45 U	0.37 U	0.36 U	**2.2**	0.24 U	0.33 U
WSW-54	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-54-B	09/18/2012	0.45 U	0.37 U	0.36 U	**4.2**	0.24 U	0.33 U
WSW-55	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-56	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-57	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-58	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-59	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-60	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-61	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-62	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-63	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-64	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-65	09/17/2012	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 3-1 Water Supply Well

Results for Third 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-66	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-67	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-68	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-73	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-74	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-76	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-77	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-79	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-80	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-81	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-82	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-86	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-87	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-89	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-90	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-91	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-92	09/19/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-93	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-94	09/24/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-95	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-96	09/17/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-97	09/18/2012	0.45 U	0.37 U	0.36 U	0.37 U	0.24 U	0.33 U
WSW-99	09/18/2012	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 Third 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
SCW-04	08/30/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
SCW-05	08/30/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
SCW-06	08/30/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
SW-08	08/30/2012	0.048 U	0.048 U	**0.071 J**	**1.3**	0.024 U	0.048 U
SW-10	08/30/2012	**0.14 J**	0.048 U	0.024 UJ	**1.2**	0.024 U	0.048 U
SW-12	08/30/2012	**0.067 J**	0.048 U	**0.056 J**	**0.89**	0.024 U	0.048 U
SW-13	08/30/2012	0.048 U	0.048 U	**0.038 J**	**0.83**	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 Third 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**
SCW-04	08/30/2012	0.25 U	0.38 U	0.25 U	0.25 U	0.25 U	0.25 U
SCW-05	08/30/2012	0.25 U	0.37 U	0.25 U	0.25 U	0.25 U	0.25 U
SCW-06	08/30/2012	0.25 U	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U
SW-08	08/30/2012	0.25 U	0.51 U	0.25 U	0.25 U	**1.3**	**37.0**
SW-10	08/30/2012	0.25 U	0.50 U	0.25 U	0.25 U	**0.79 J**	**19.0**
SW-12	08/30/2012	0.25 U	0.53 U	0.25 U	0.25 U	0.25 U	**7.6**
SW-13	08/30/2012	0.25 U	0.50 U	0.25 U	0.25 U	0.25 U	**7.5**

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-1 Operations and Maintenance

Results for Third 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	07/02/2012	0.048 U	0.048 U	0.024 U	**2.8**	**0.020 J**	0.048 U
AOP-EFF	08/23/2012	0.048 U	0.048 U	0.024 UJ	**3.2**	**0.037 J**	**0.13 J**
AOP-INF	07/02/2012	0.048 U	**0.037 J**	**0.88 J**	**3.5**	0.024 U	0.048 U
EW-16	08/01/2012	0.048 U	0.048 U	**0.20 J**	**1.5**	0.024 U	0.048 U
EW-3	08/01/2012	0.048 U	0.048 U	**0.070 J**	**1.1**	0.024 U	0.048 U
EW-4	08/01/2012	0.048 U	0.048 U	**0.52 J**	**4.0**	0.024 U	0.048 U
EW-6	08/01/2012	0.048 U	0.048 U	**0.21 J**	**1.4**	0.024 U	0.048 U
EW-7	08/01/2012	0.048 U	0.048 U	**0.063 J**	**7.3**	0.024 U	0.048 U
EW-9	08/01/2012	0.048 U	0.048 U	**0.15 J**	**7.0**	0.024 U	0.048 U
FEW-11	08/23/2012	0.048 U	**0.047 J**	**0.96 J**	**4.0**	**0.013 J**	0.048 U
FEW-14	08/01/2012	0.048 U	**0.067 J**	**0.77 J**	**5.6**	0.024 U	0.048 U
GTP-320	07/02/2012	0.048 U	0.048 U	0.024 U	**0.037 J**	0.024 U	0.048 U
GTP-320	08/02/2012	0.048 U	0.048 U	0.024 UJ	**0.043 J**	0.024 U	0.048 U
GTP-320	09/12/2012	0.048 U	0.048 U	0.024 UJ	**0.13 J**	0.024 U	0.048 U
GTP-340	07/02/2012	0.048 U	0.048 U	0.024 U	**0.030 J**	0.024 U	0.048 U
GTP-340	08/02/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
GTP-340	09/12/2012	0.048 U	0.048 U	0.024 UJ	**0.083 J**	0.024 U	0.048 U
GTP-360	07/02/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-360	08/02/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
GTP-360	09/12/2012	0.048 U	0.048 U	0.024 UJ	**0.11 J**	0.024 U	0.048 U
GTP-EFF	07/02/2012	0.048 U	0.048 U	0.024 U	0.024 U	0.024 U	0.048 U
GTP-EFF	08/02/2012	0.048 U	0.048 U	0.024 UJ	**0.039 J**	0.024 U	0.048 U
GTP-EFF	09/12/2012	0.048 U	0.048 U	0.024 UJ	**0.11 J**	0.024 U	0.048 U
GTP-INF	07/02/2012	0.048 U	0.048 U	**0.12 J**	**3.3**	0.024 U	0.048 U
GTP-INF	08/02/2012	0.048 U	0.048 U	**0.21 J**	**3.8**	0.024 U	0.048 U
GTP-INF	09/12/2012	0.048 U	0.048 U	**0.16 J**	**3.8**	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 Third 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
LL1-EFF	08/02/2012	0.048 U	0.048 U	0.024 UJ	**0.071 J**	0.024 U	0.048 U
LL1-INF	08/02/2012	0.048 U	0.048 U	**0.036 J**	**0.066 J**	0.024 U	0.048 U
LL4-EFF	08/02/2012	0.048 U	0.048 U	0.024 UJ	0.024 U	0.024 U	0.048 U
LL4-INF	08/02/2012	0.048 U	0.048 U	**0.033 J**	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 Third 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	07/02/2012	0.25 U	0.25 U	0.25 U	**0.33 J**	0.25 U	0.25 U
AOP-EFF	08/23/2012	0.25 U	0.25 U	0.43 U	**0.43 J**	0.25 U	0.25 U
AOP-INF	07/02/2012	1.3 U	**4.9 J**	1.3 U	**1600**	1.3 U	1.3 U
EW-1R	08/01/2012	0.25 U	0.25 U	0.44 U	**3.6**	0.25 U	0.25 U
FEW-11	08/23/2012	6.1 U	**5.9 J**	11.0 U	**1900**	6.1 U	6.1 U
GCW1-EFF	09/12/2012	0.25 U	0.25 U	0.51 U	**0.45 J**	0.25 U	0.25 U
GCW1-INF	09/12/2012	1.0 U	**2.5 J**	2.0 U	**380**	1.0 U	1.0 U
GTP-320	07/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-320	08/02/2012	0.25 U	0.25 U	0.46 U	0.25 U	0.25 U	0.25 U
GTP-320	09/12/2012	0.25 U	0.25 U	0.51 U	0.25 U	0.25 U	0.25 U
GTP-340	07/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-340	08/02/2012	0.25 U	0.25 U	0.43 U	0.25 U	0.25 U	0.25 U
GTP-340	09/12/2012	0.25 U	0.25 U	0.52 U	0.25 U	0.25 U	0.25 U
GTP-360	07/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-360	08/02/2012	0.25 U	0.25 U	0.46 U	0.25 U	0.25 U	0.25 U
GTP-360	09/12/2012	0.25 U	0.25 U	0.51 U	0.25 U	0.25 U	0.25 U
GTP-EFF	07/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
GTP-EFF	08/02/2012	0.25 U	0.25 U	0.44 U	0.25 U	0.25 U	0.25 U
GTP-EFF	09/12/2012	0.25 U	0.25 U	0.49 U	0.25 U	0.25 U	0.25 U
GTP-INF	07/02/2012	0.25 U	0.25 U	0.25 U	**0.70 J**	0.25 U	0.25 U
GTP-INF	08/02/2012	0.25 U	0.25 U	0.52 U	**0.81 J**	0.25 U	0.25 U
GTP-INF	09/12/2012	0.25 U	0.25 U	0.56 U	**0.53 J**	0.25 U	0.25 U
LL1_AIR_EF	08/02/2012	-	-	-	**79.0**	-	-
LL1-EFF	07/02/2012	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
LL1-EFF	08/02/2012	0.25 U	0.25 U	0.45 U	**0.22 J**	0.25 U	0.25 U
LL1-EFF	09/12/2012	0.25 U	0.25 U	0.49 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 Third 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-INF	07/02/2012	0.50 U	0.50 U	0.50 U	**100**	0.50 U	0.50 U
LL1-INF	08/02/2012	0.35 U	0.35 U	0.76 U	**120 J**	0.35 U	0.35 U
LL1-INF	09/12/2012	0.38 U	0.38 U	0.79 U	**120**	0.38 U	0.38 U
LL4_AIR_EF	07/02/2012	-	-	-	**340**	-	-
LL4_AIR_EF	08/02/2012	-	-	-	**450**	-	-
LL4_AIR_IN	09/12/2012	-	-	-	**1100**	-	-
LL4-EFF	07/02/2012	0.25 U	0.25 U	0.25 U	**0.71 J**	0.25 U	0.25 U
LL4-EFF	08/02/2012	0.25 U	0.25 U	0.44 U	**0.67 J**	0.25 U	0.25 U
LL4-EFF	09/12/2012	0.25 U	0.25 U	0.49 U	**0.53 J**	0.25 U	0.25 U
LL4-INF	07/02/2012	1.3 U	**2.2 J**	1.3 U	**380**	1.3 U	1.3 U
LL4-INF	08/02/2012	1.3 U	**3.3 J**	3.3 U	**390**	1.3 U	1.3 U
LL4-INF	09/12/2012	1.1 U	**2.2 J**	2.3 U	**390**	1.1 U	1.1 U
TH-EW-17	08/07/2012	0.25 U	0.25 U	0.41 U	**7.6**	0.25 U	0.25 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 5-2

2012 Main Groundwater Treatment Plant Bypass Sampling Event Results

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives								
Location	**Sample Type**	**Sample Date**	**2,4-DNT**	**2A-DNT**	**4A-DNT**	**RDX**	**TNB**	**TNT**
NORTH 1	Water	09/07/2012	0.24 U	0.24 UJ	0.12 U	0.12 U	0.12 U	0.24 U
NORTH 1	Soil	09/07/2012	24.0 U	12.0 U	12.0 U	12.0 U	12.0 U	24.0 U
NORTH 2	Soil	09/07/2012	23.0 U	12.0 U	12.0 U	12.0 U	12.0 U	23.0 U
SOUTH 1	Water	09/07/2012	0.24 UJ	0.24 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.24 UJ
SOUTH 1	Soil	09/07/2012	24.0 U	12.0 U	12.0 U	12.0 U	12.0 U	24.0 U

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FIGURES

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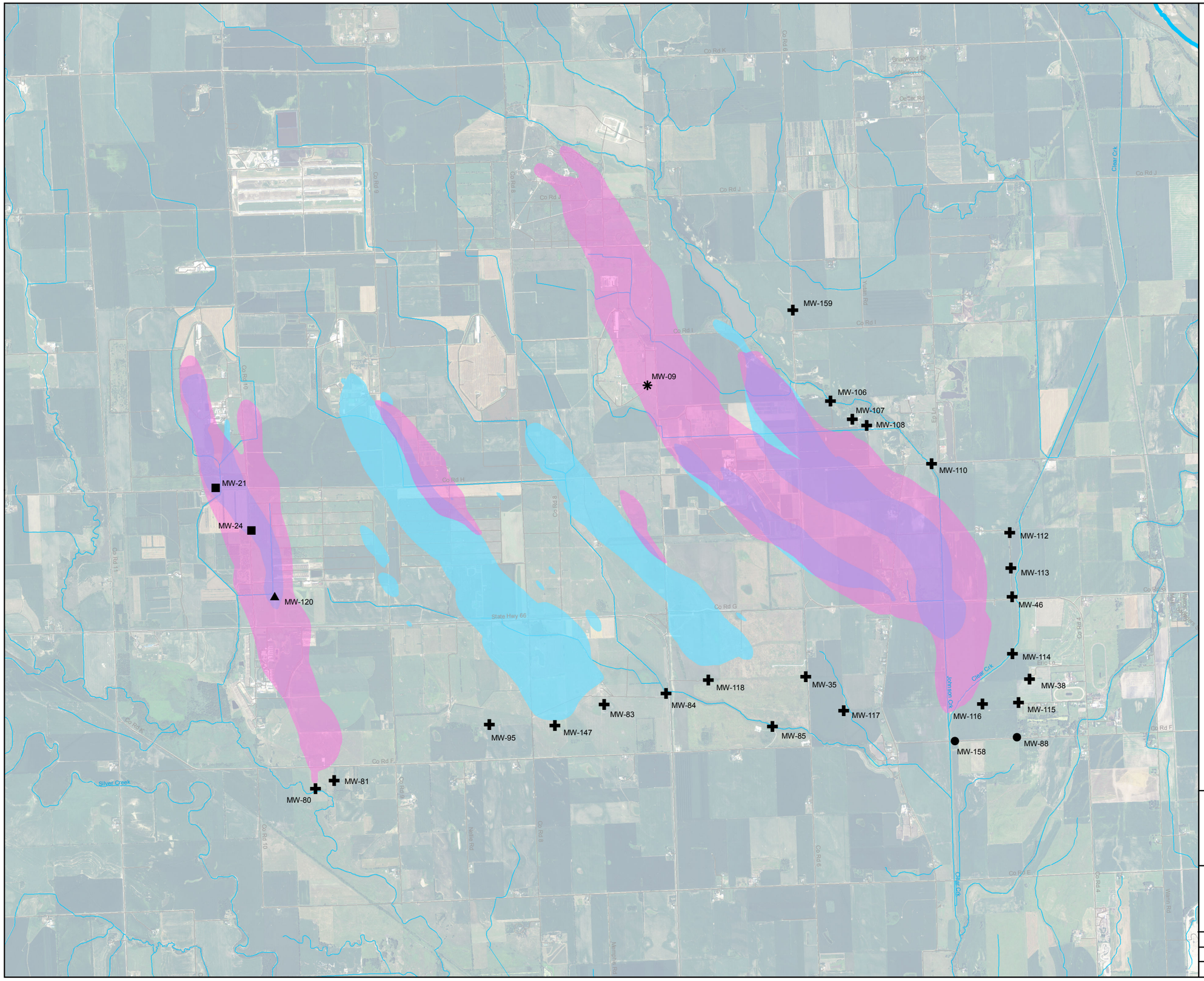

EXPLANATION

- ● Compliance Well
- ■ Load Line 1 Interior Plume Monitoring Well
- ✱ Load Line 4, Atlas Missile Area, and Landfill Interior Plume Monitoring Well
- ▲ Focused Extraction Monitoring Well
- ✚ Perimeter 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
Third Quarter 2012 Sampling Locations

Drawn by:	M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date:	11/6/2012	Date:	
Version:		Revision Date / Initials:	

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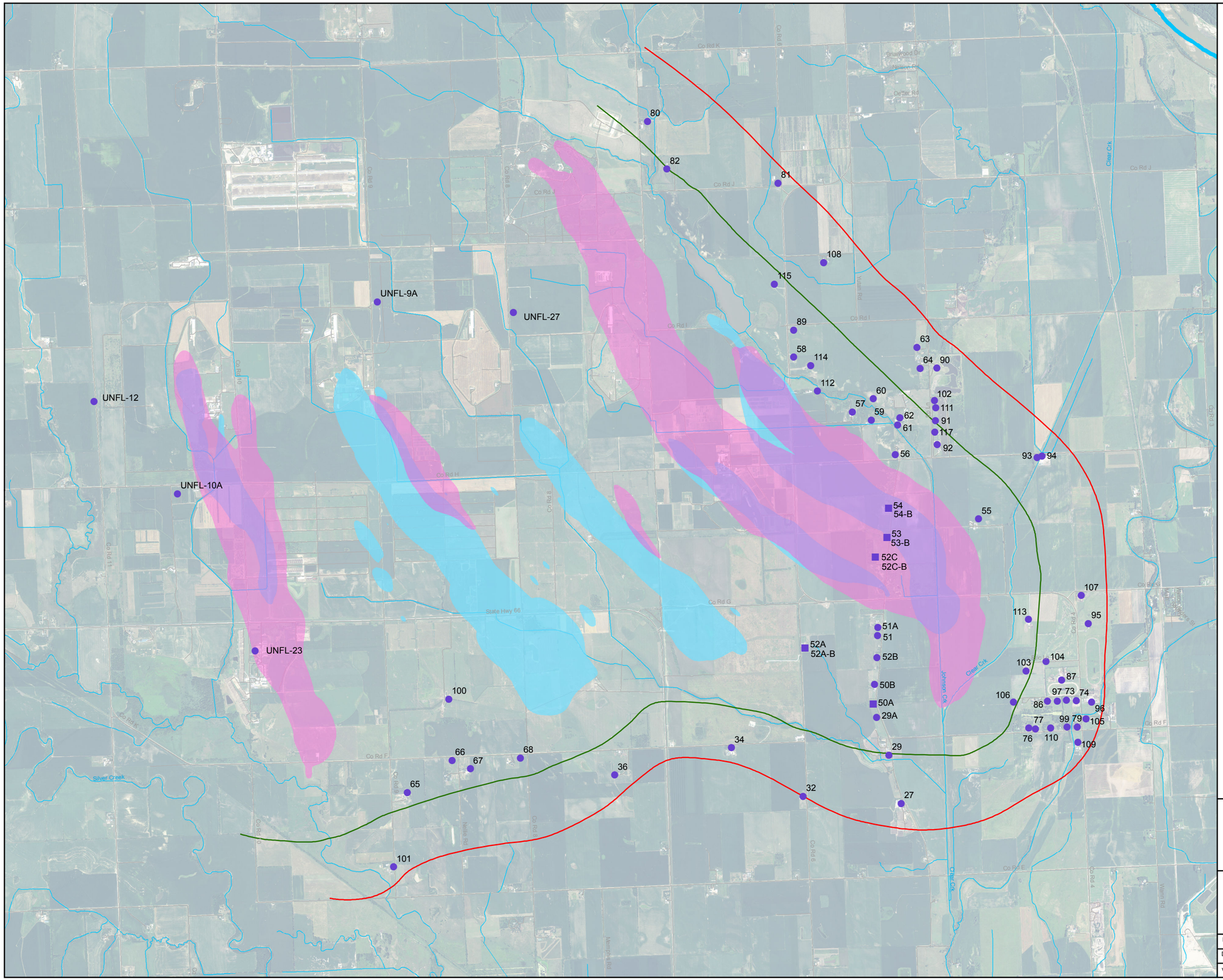

EXPLANATION

- Water Supply Well
- Alternate Water Supply Well
- Half-Mile Buffer Zone
- One-Mile Buffer Zone
- Approximate Area of TCE at a concentration of 5 ug/L or greater (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 3-1
Water Supply Well
Third Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 11/6/2012	Date:	
Version:	Revision Date / Initials:	

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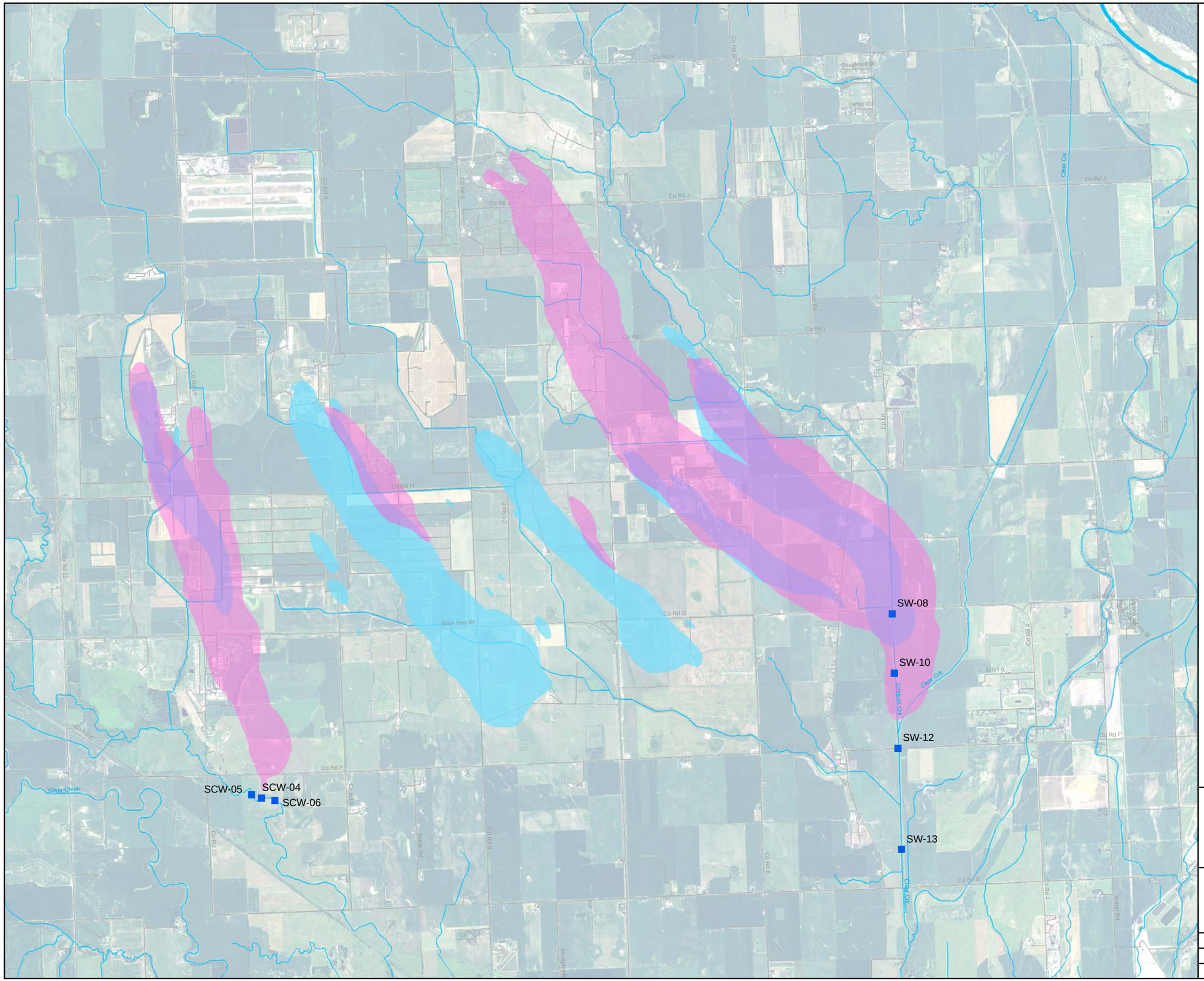

EXPLANATION

- 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
Third Quarter 2012 Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 11/6/2012	Date:	
Version:	Revision Date / Initials:	

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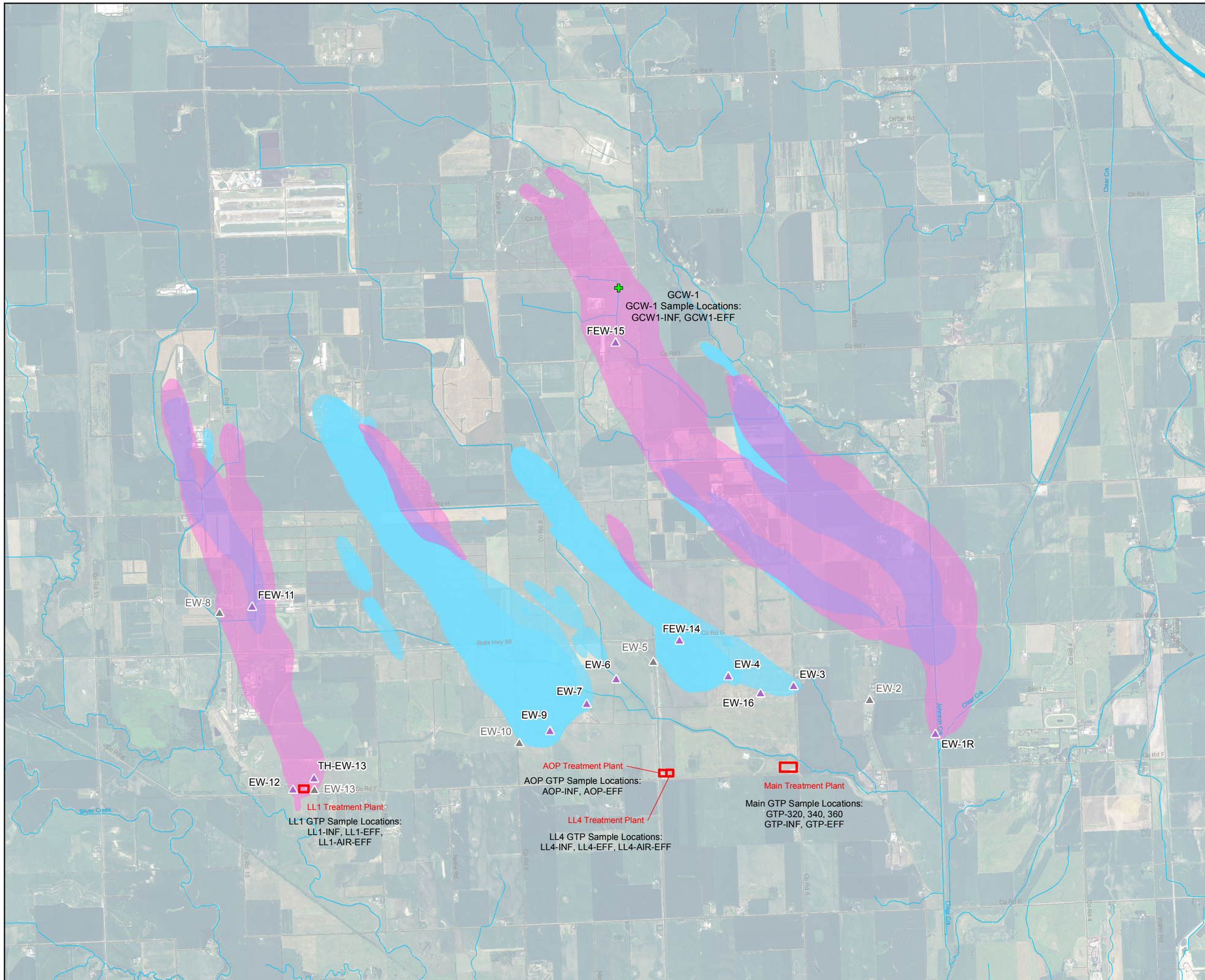

EXPLANATION

- Groundwater Circulation Well
- Groundwater Extraction Well (Sampled)
- 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

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Kansas City District

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

Drawn by: M Johanson		Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 11/6/2012		Date:	
Version:		Revision Date / Initials:	

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LEGEND

- Soil and Water Sample Location
- Culvert Under County Rd F (807 ft from the Intersection of County Rd F and County Rd 6)
- Water in Ditches from Bypass
- Ditch Overflow from Bypass

N

0 50 100 150 200 Feet

US Army Corps of Engineers
Kansas City District

Figure 5-2
2012 Main Groundwater Treatment Plant Bypass Sampling Locations

Drawn by: M Johanson	Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 9/6/2012	Date:	
Version:	Revision Date / Initials: 10/23/2012 MC	

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Appendix A
Concentration Trend Charts for Select Monitoring Wells

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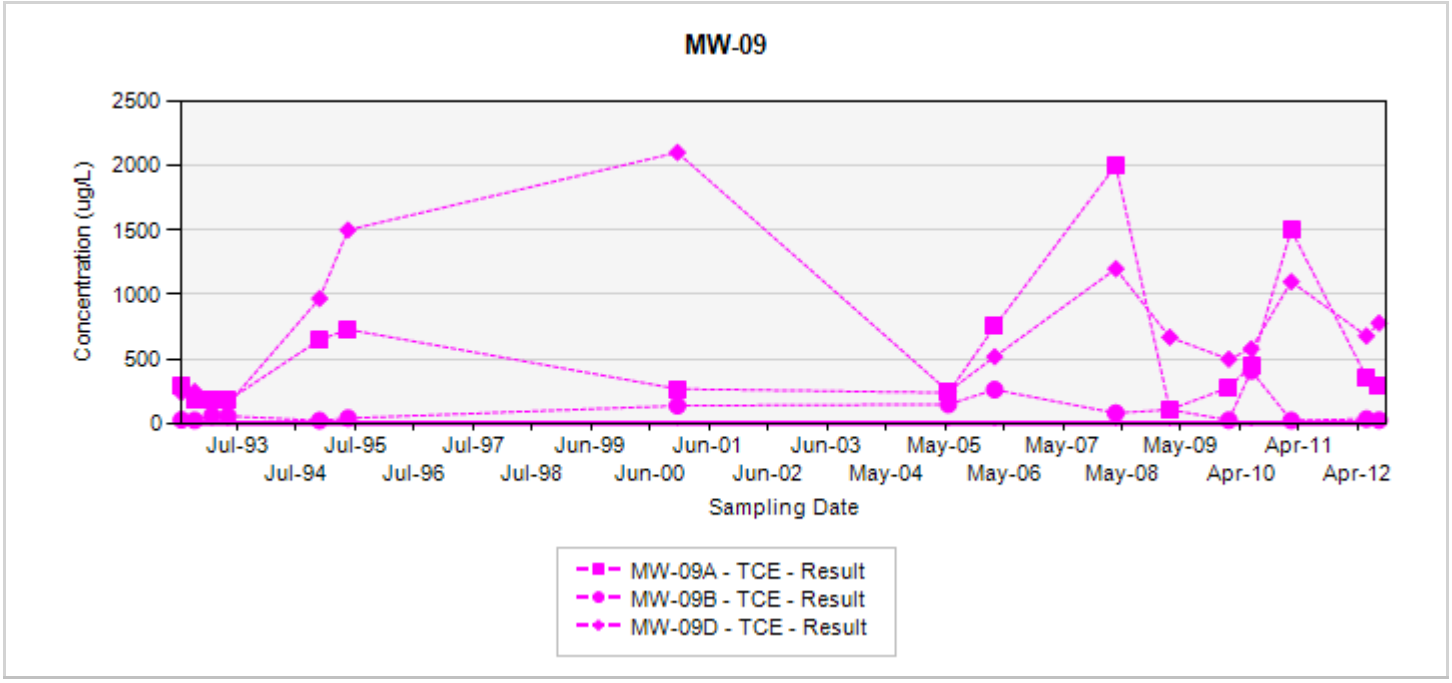
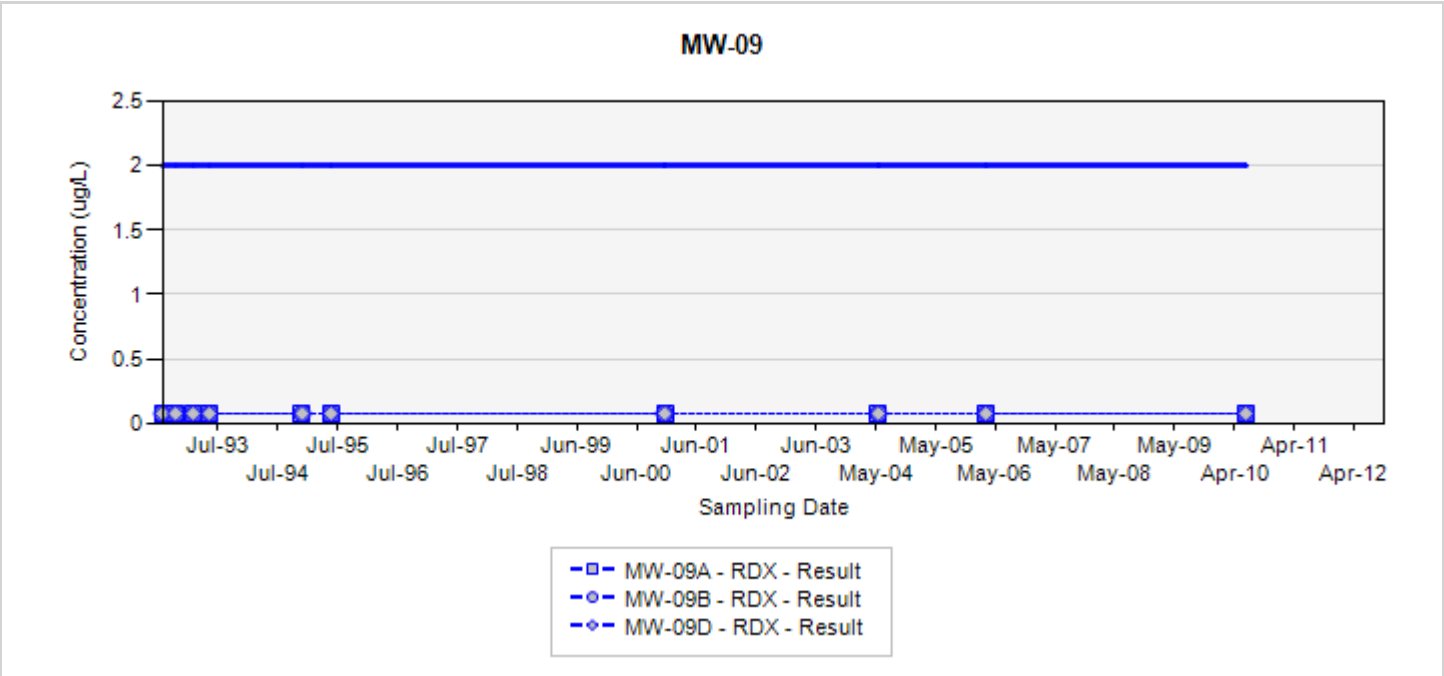
Concentration Trend Charts for Monitoring Wells





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

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

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

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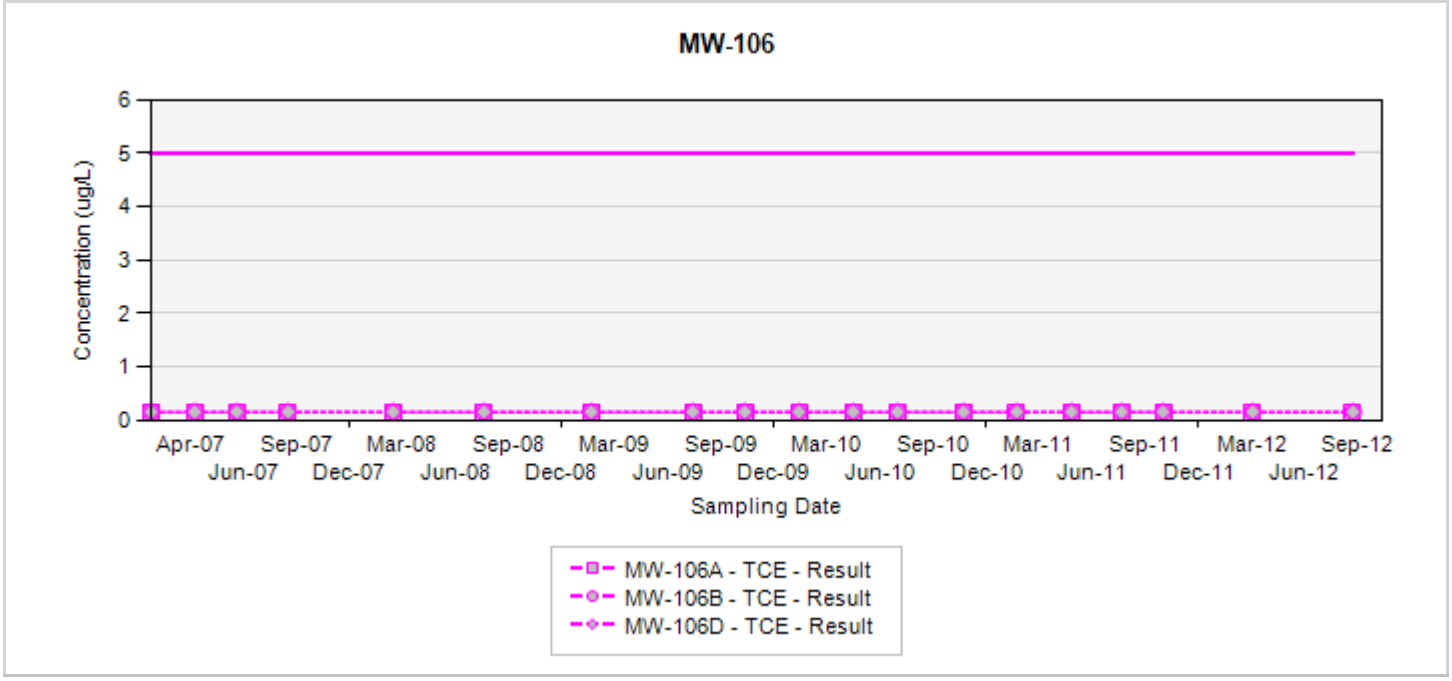
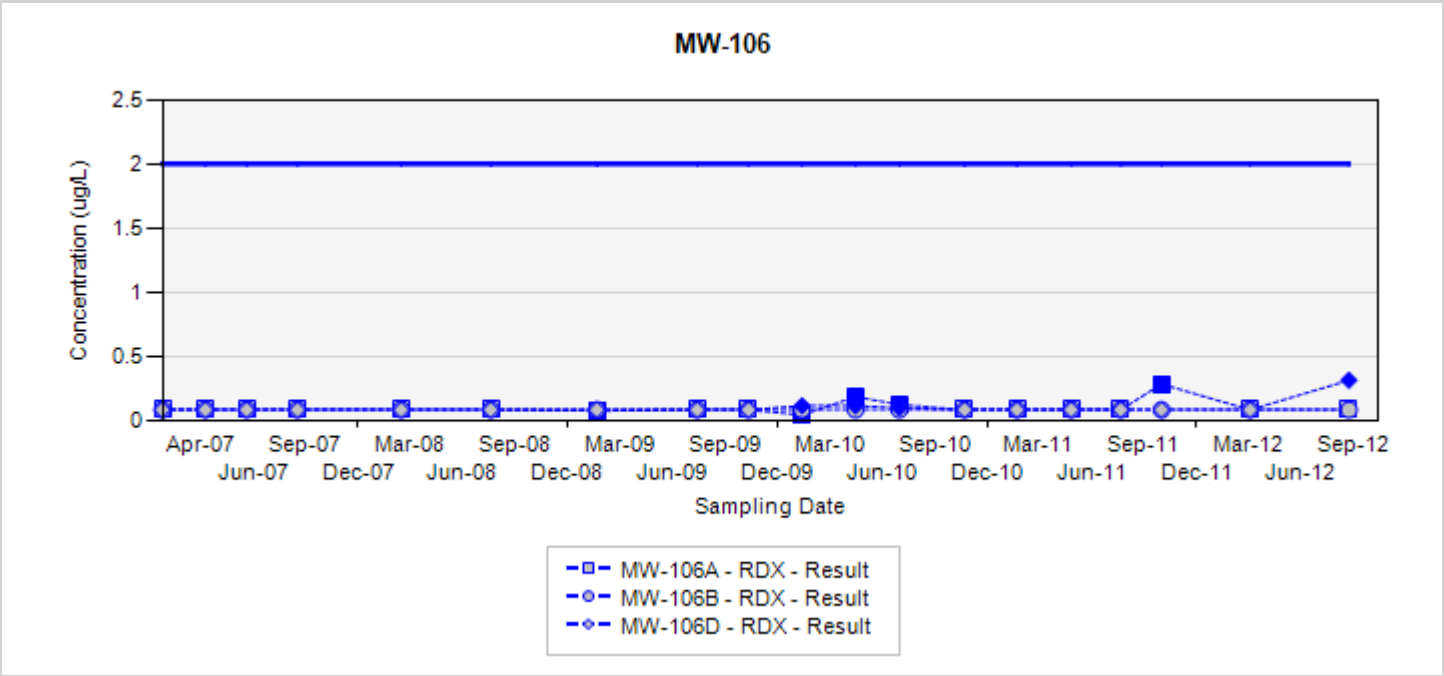
Concentration Trend Charts for Monitoring Wells





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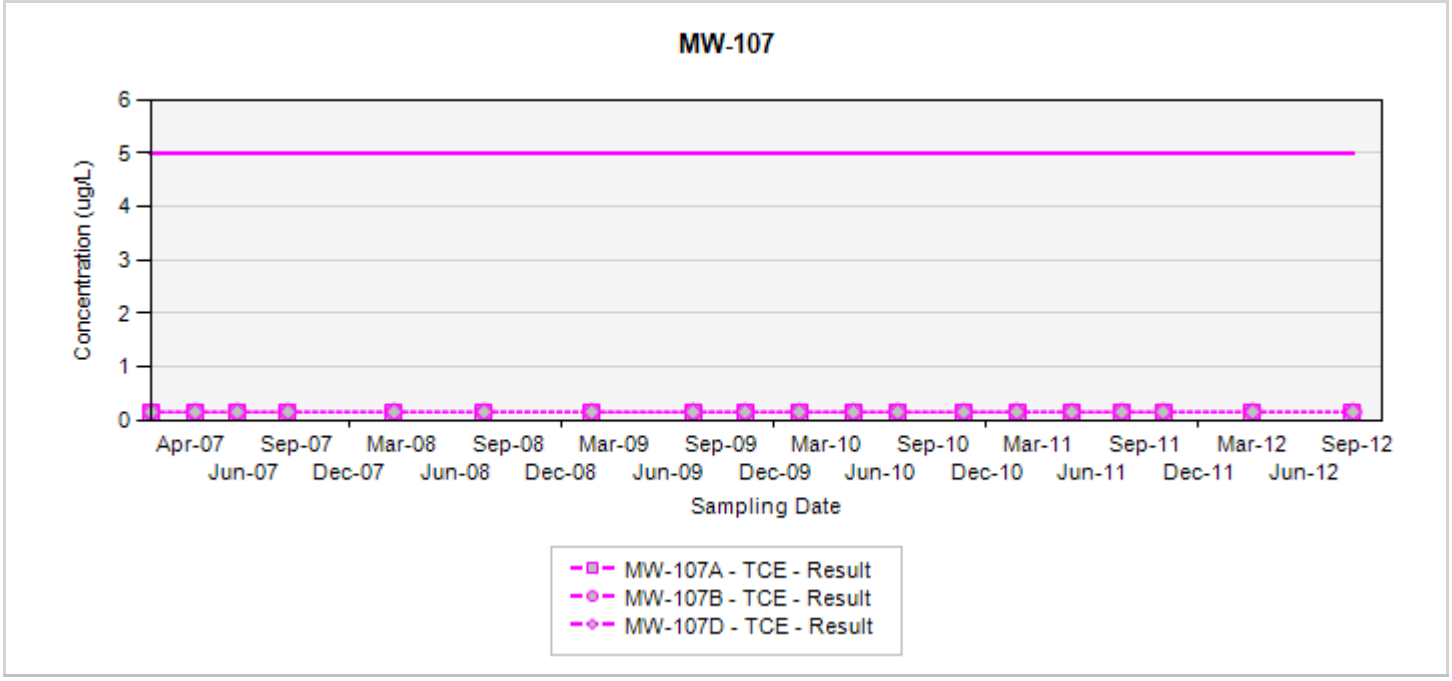

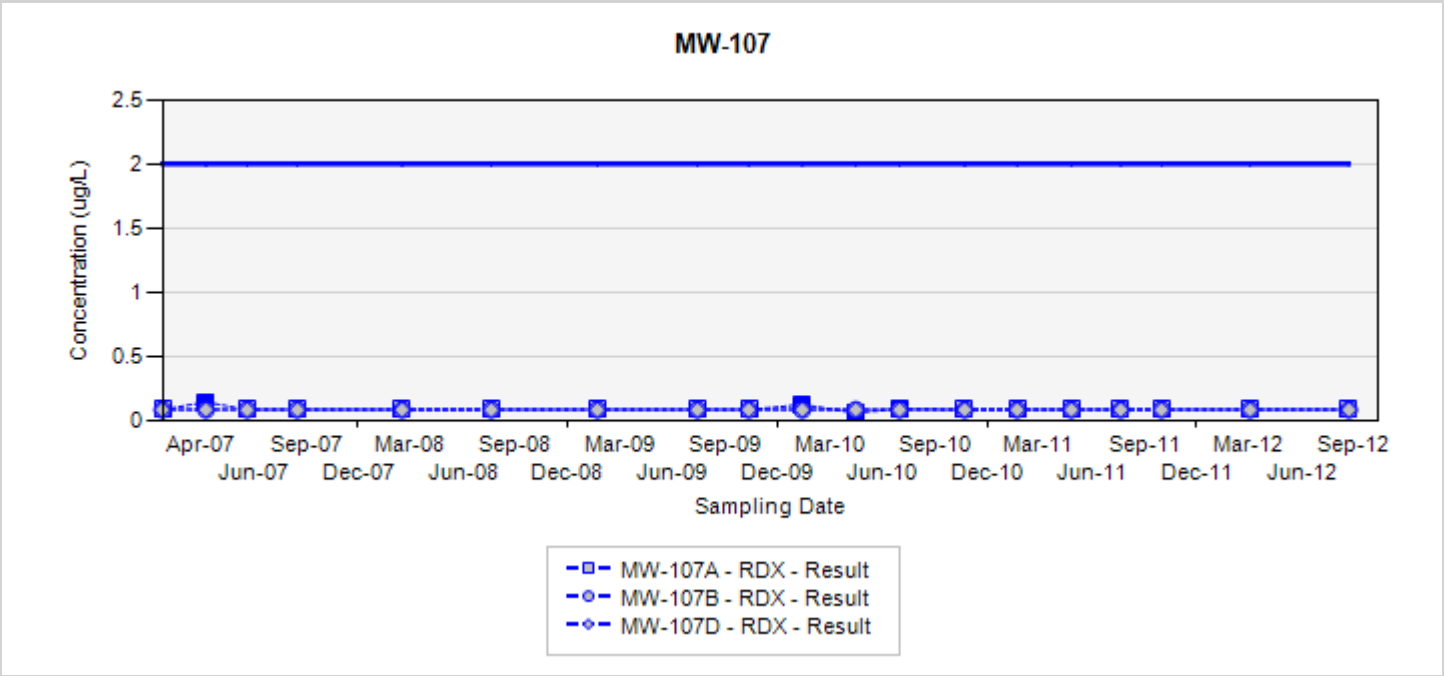

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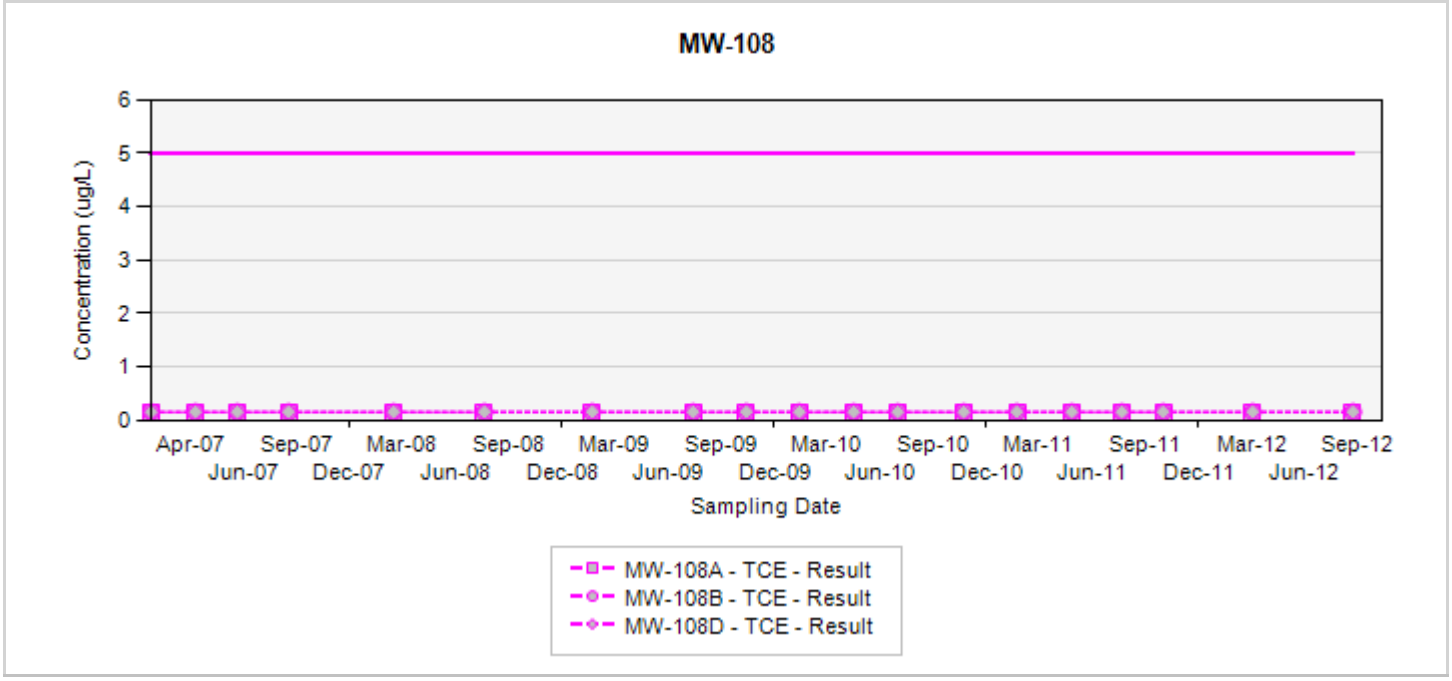

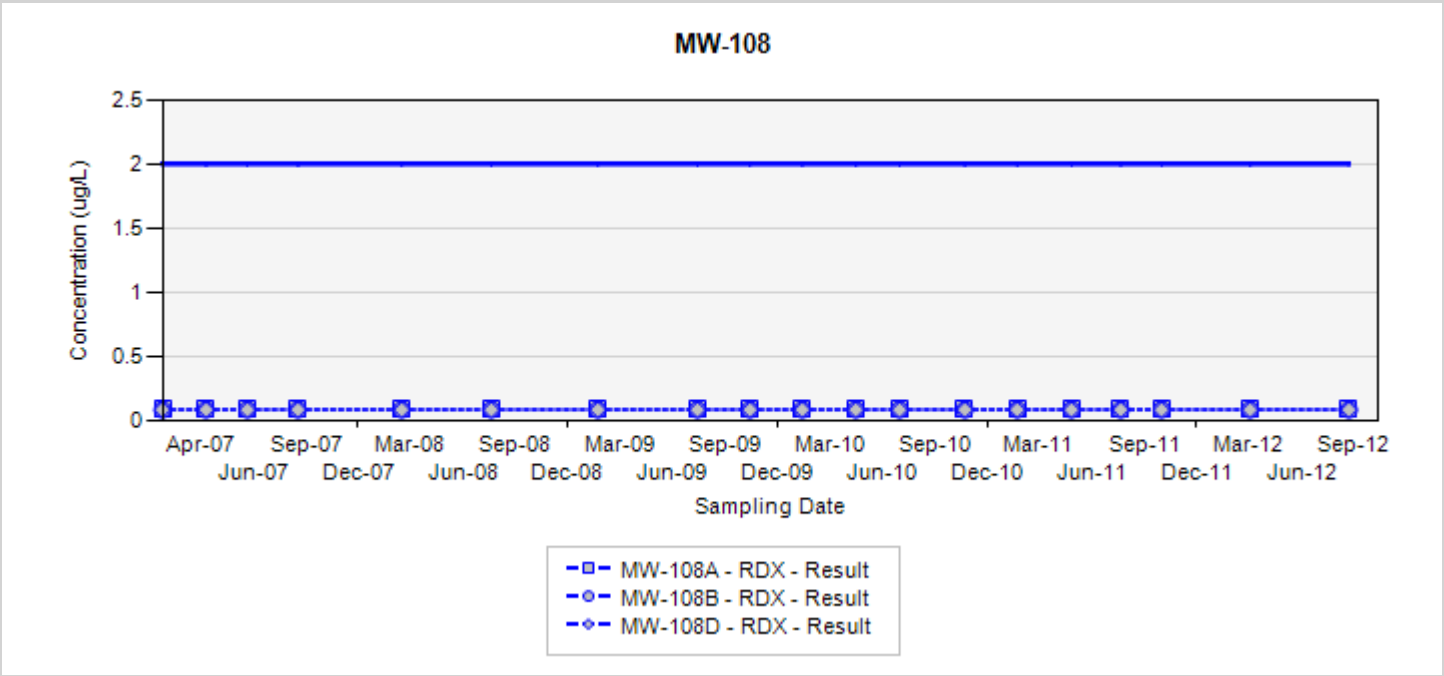

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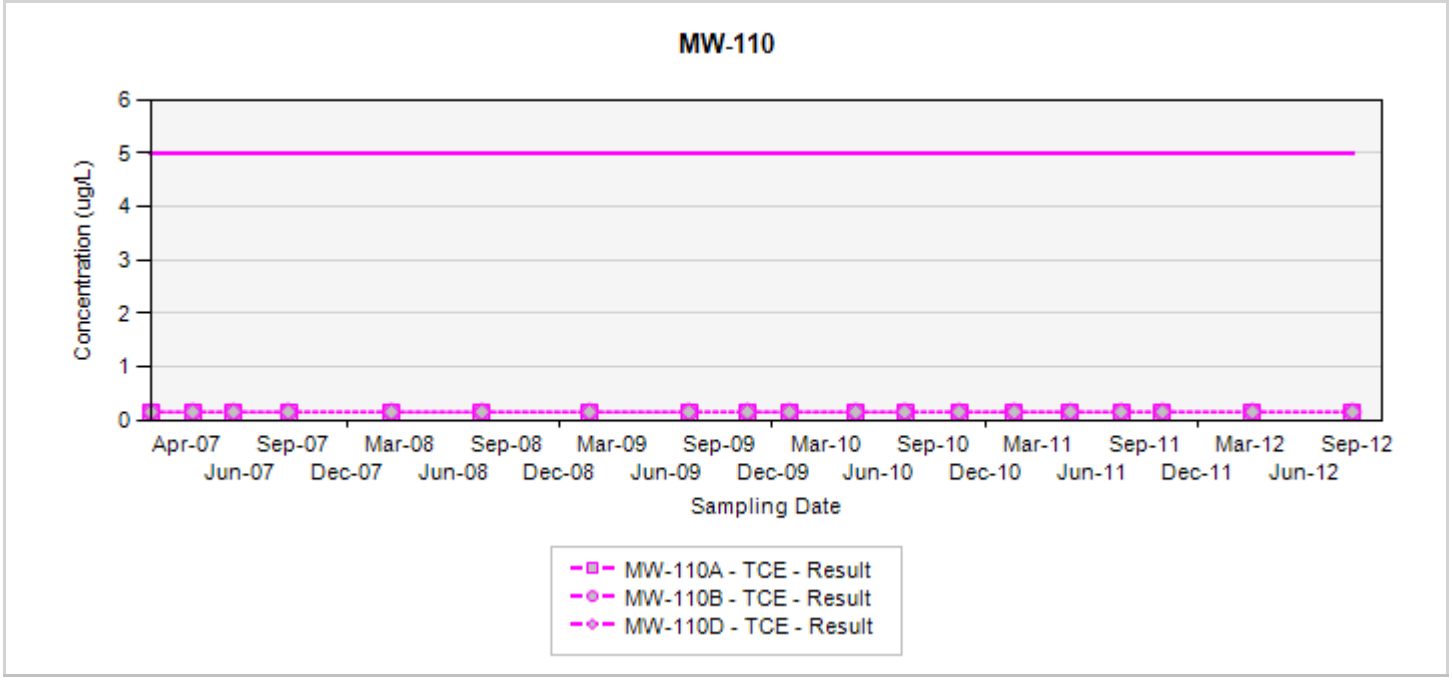

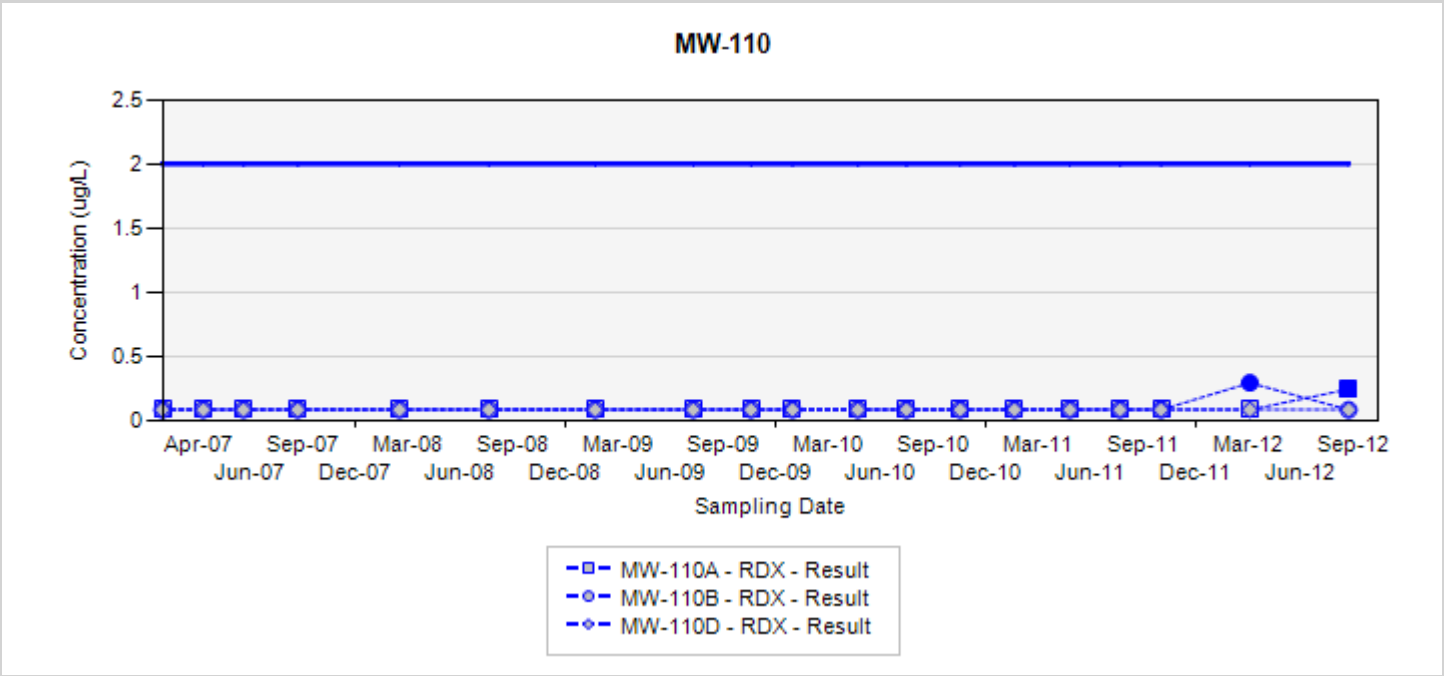

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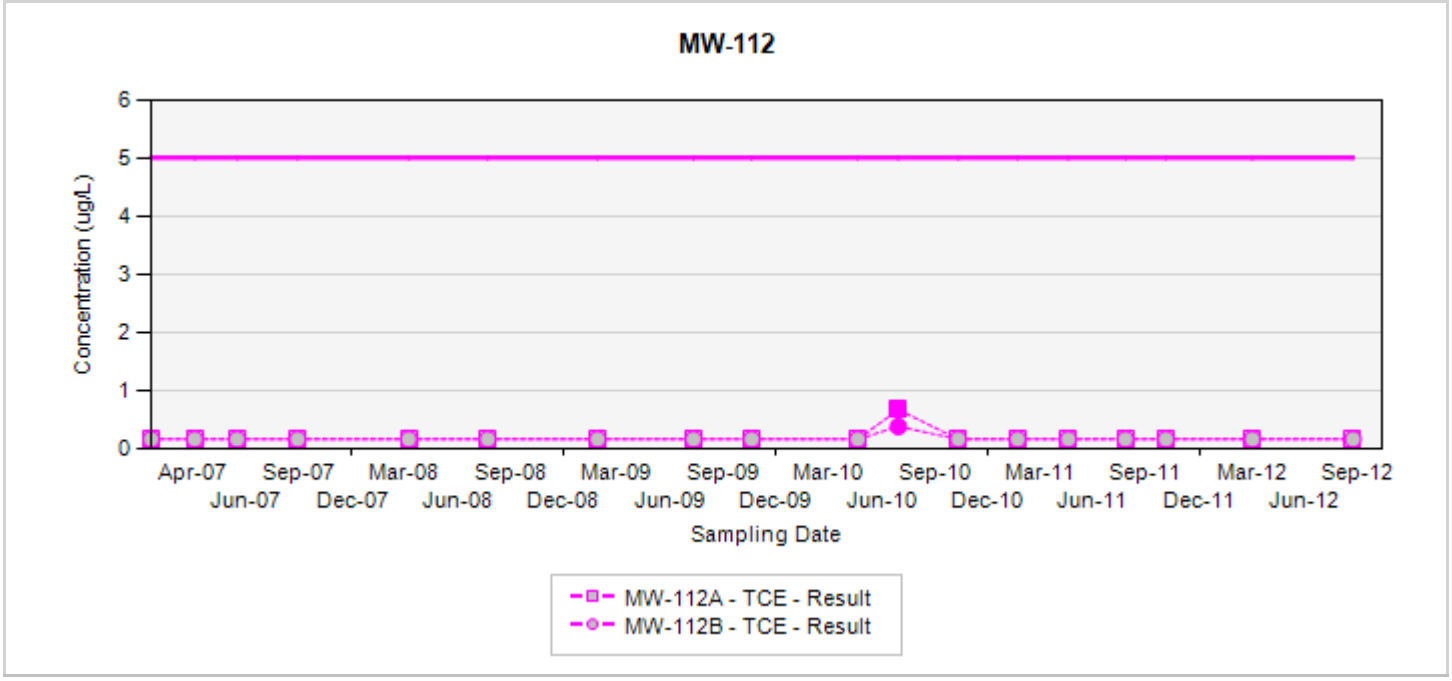

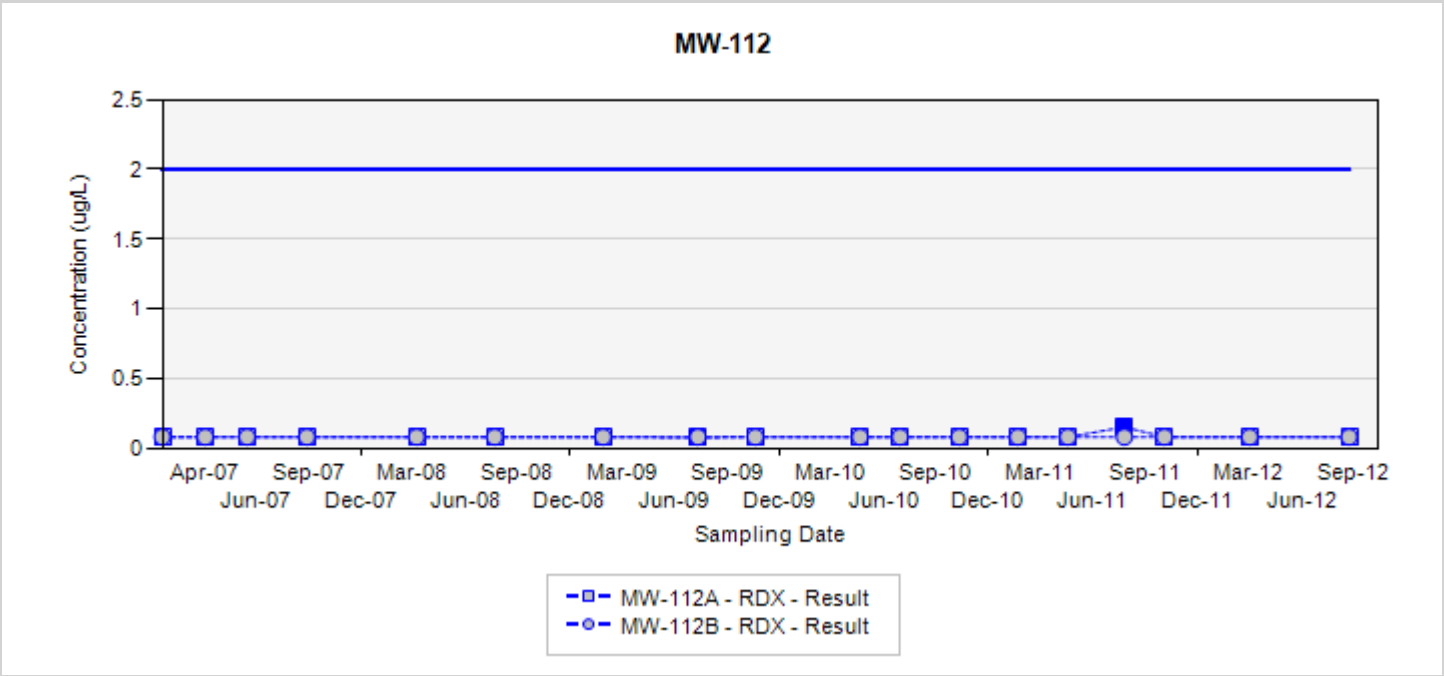

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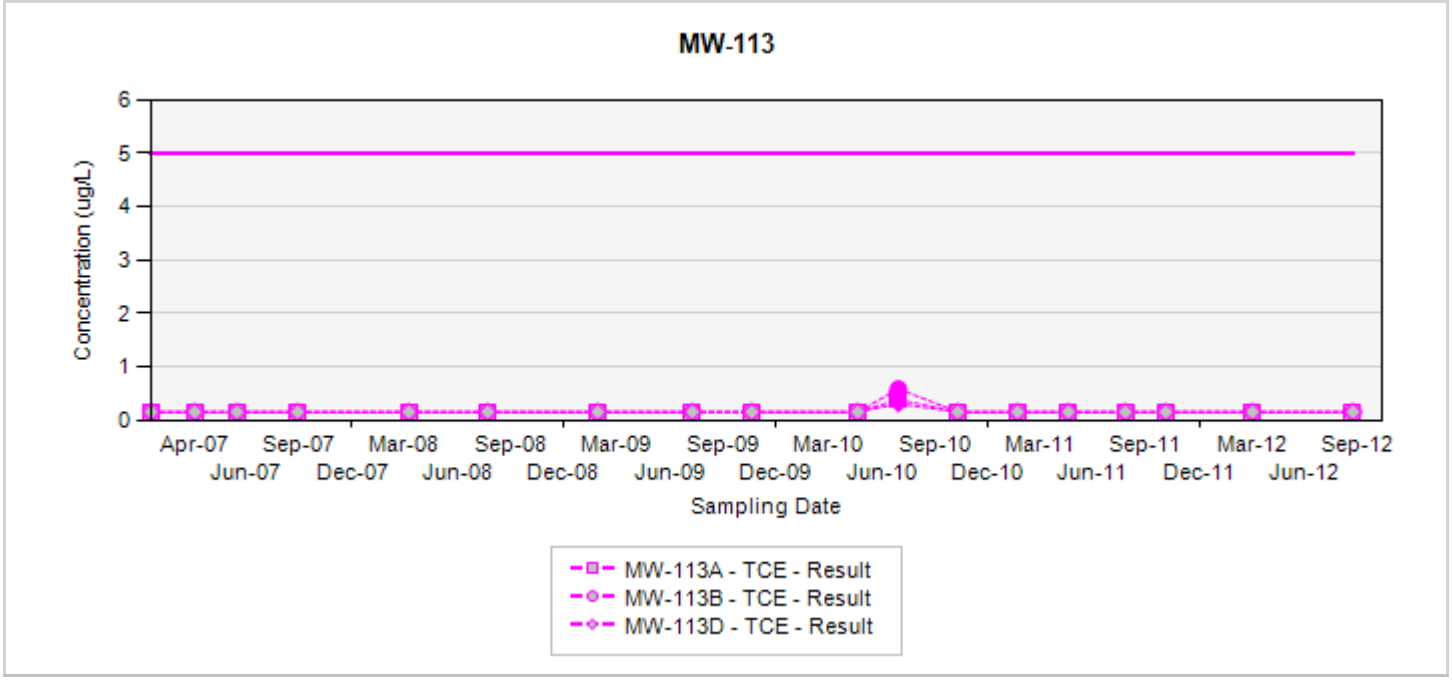

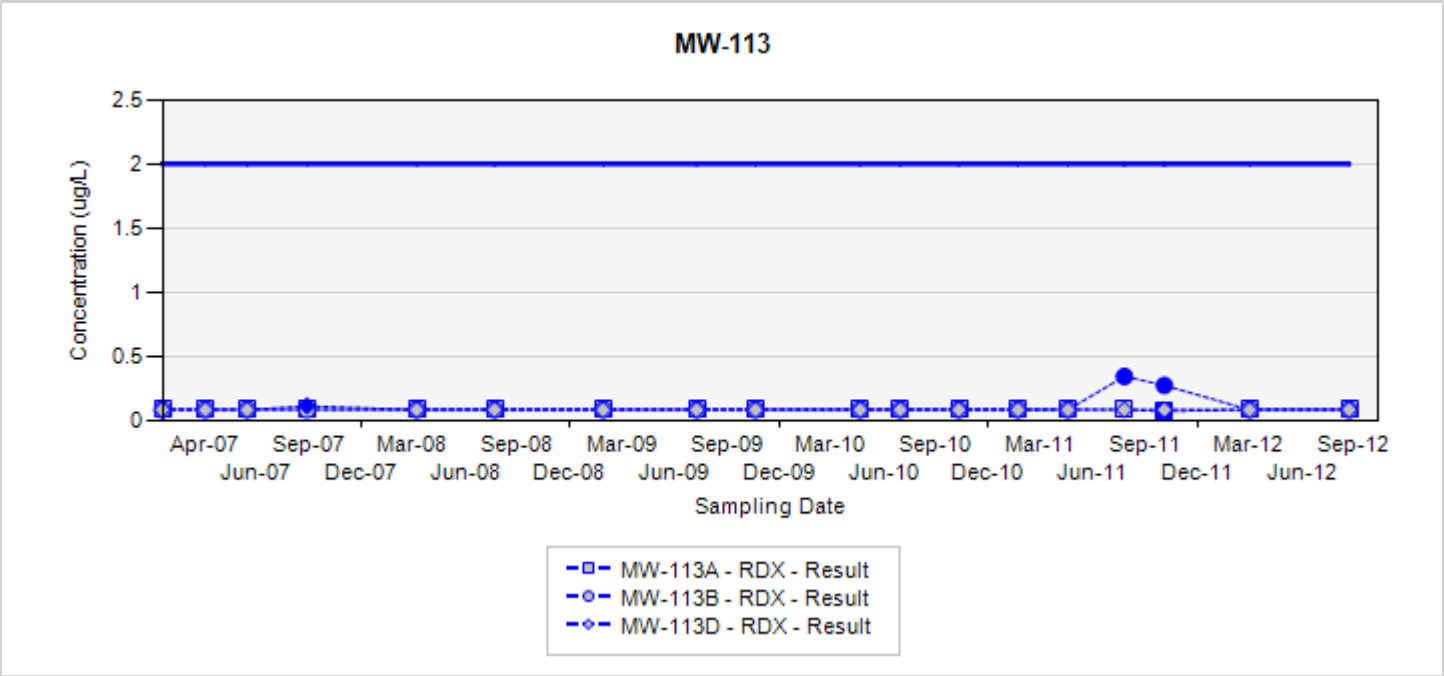

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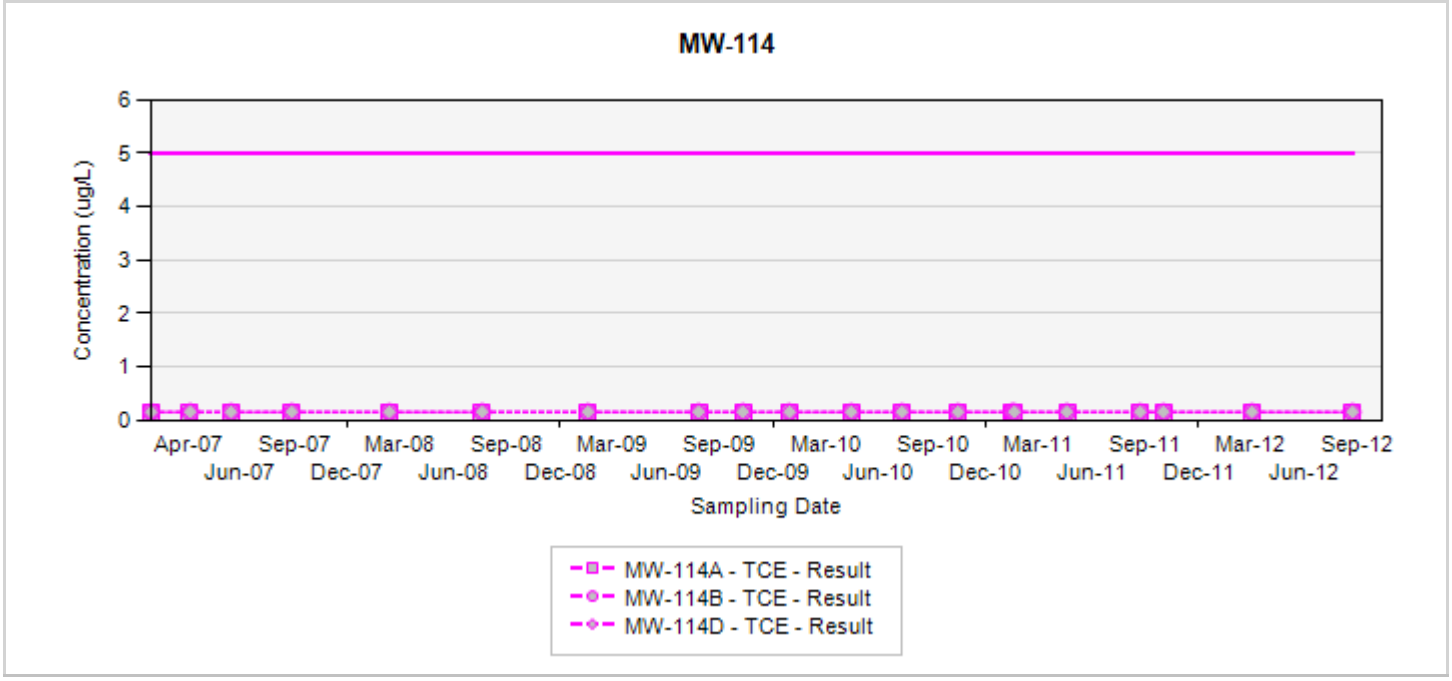

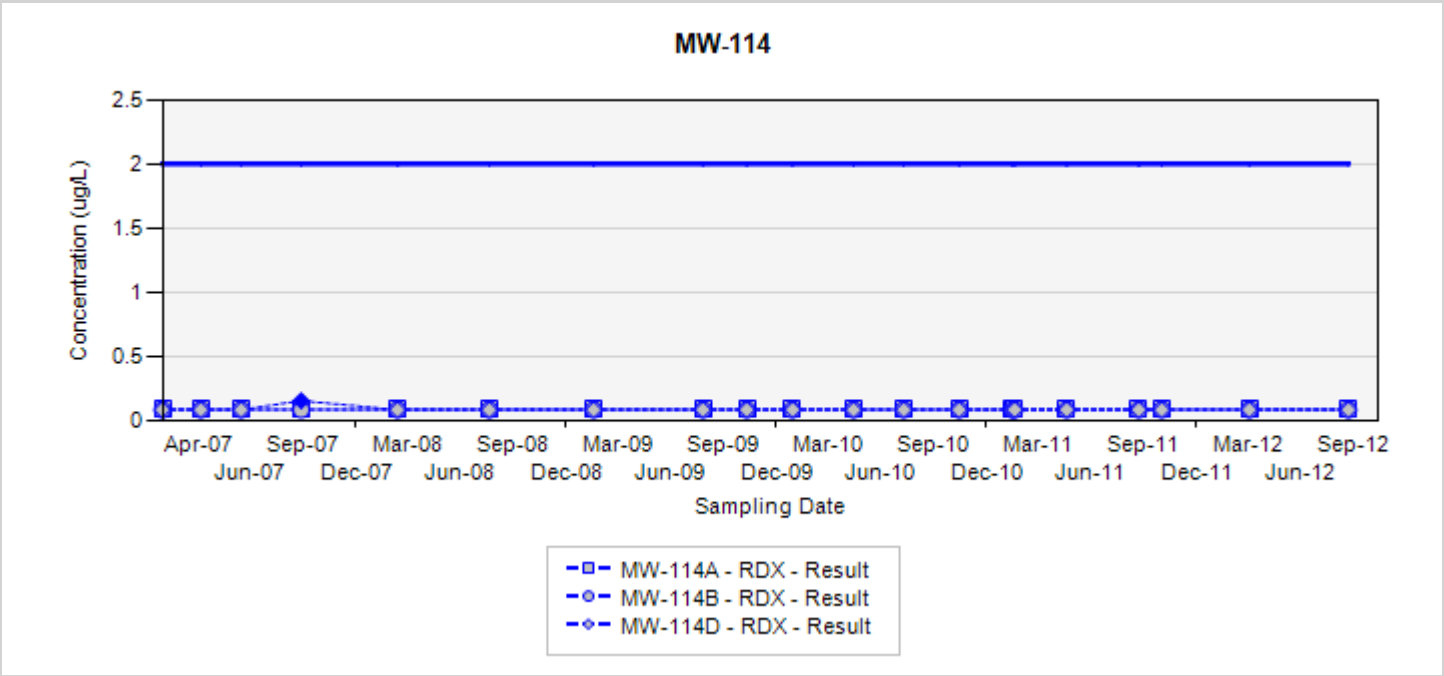

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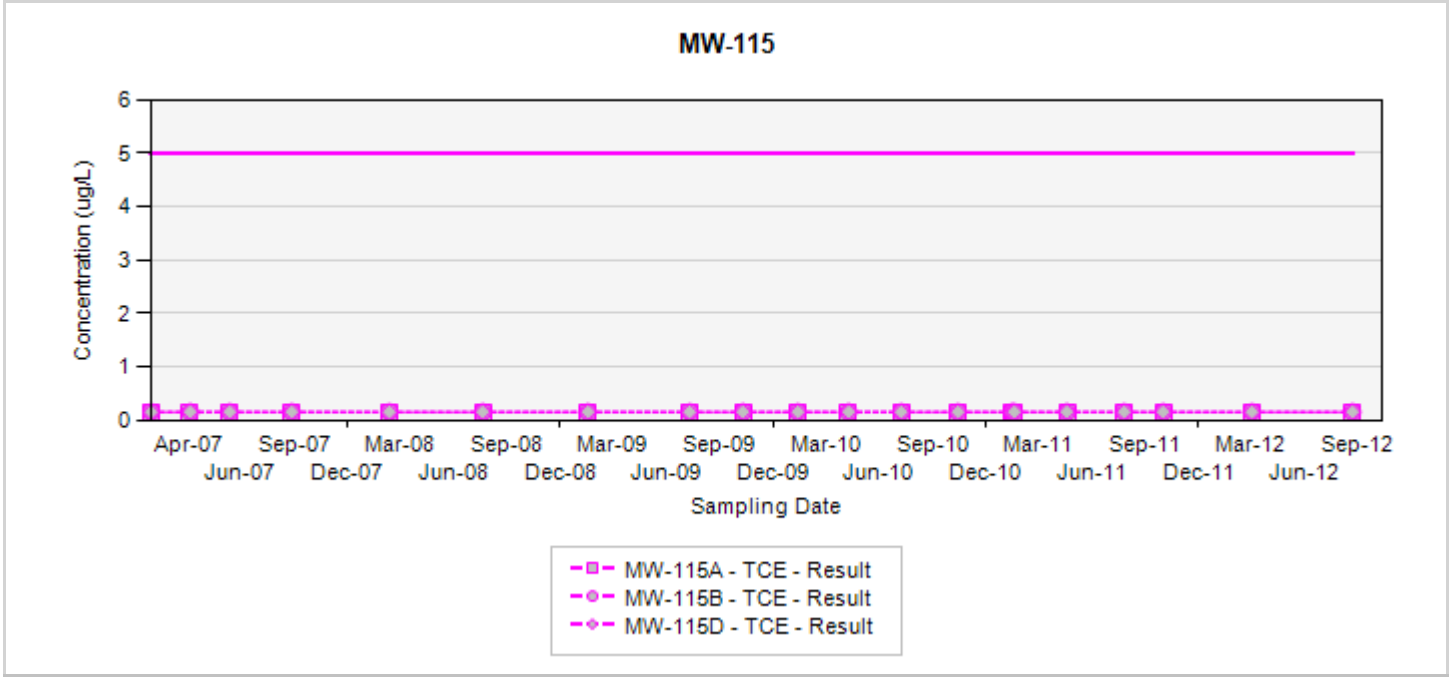

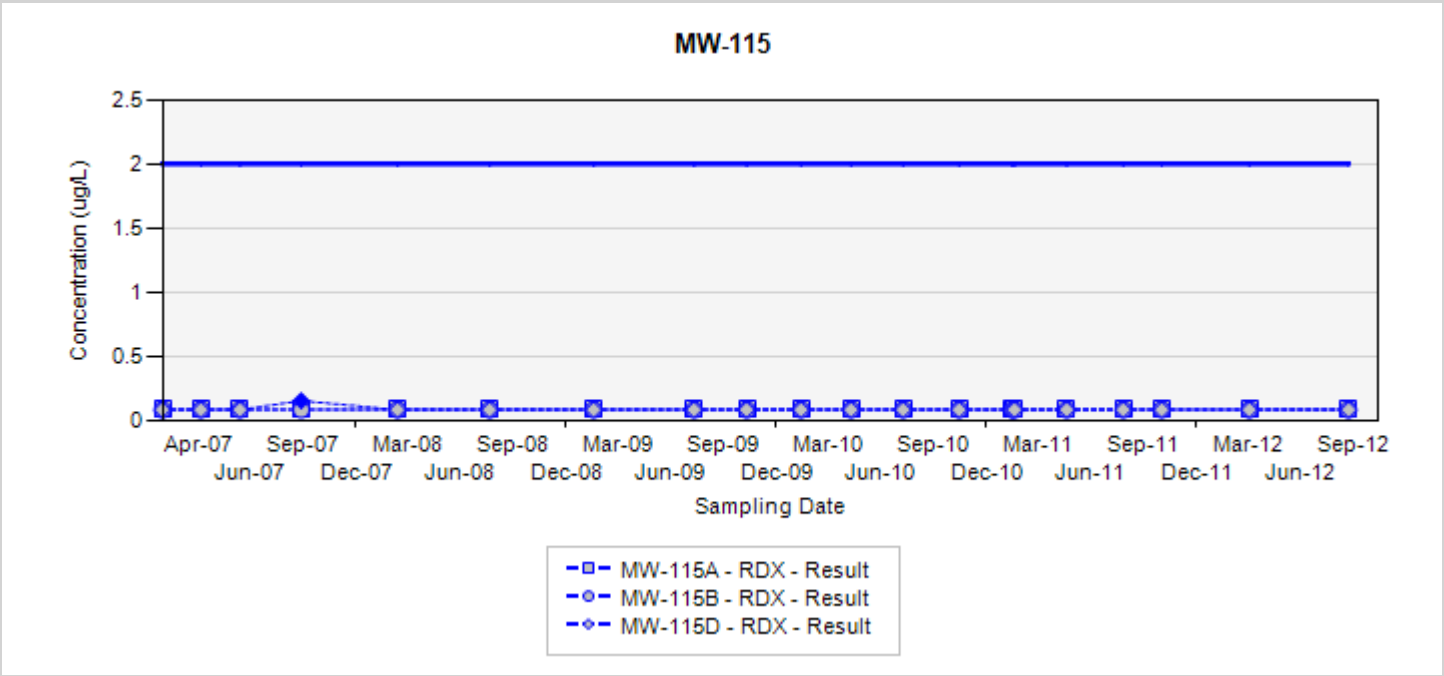

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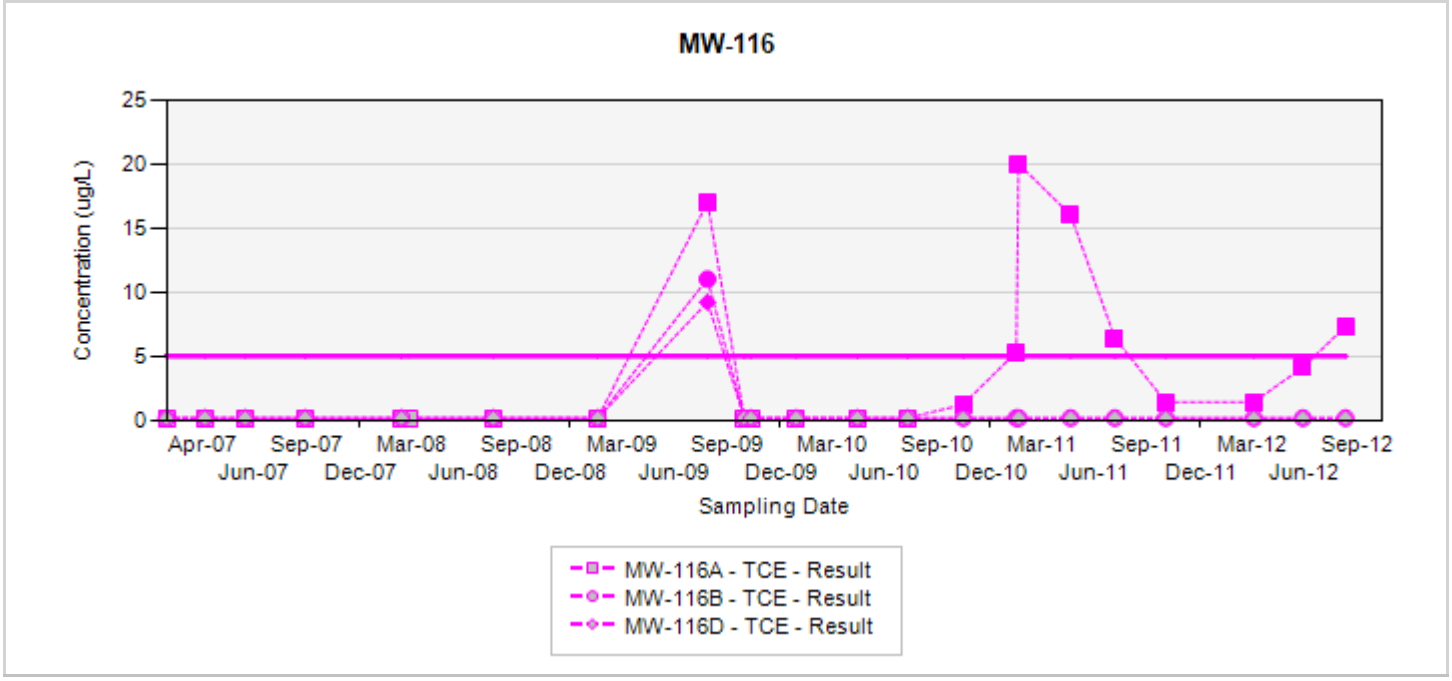

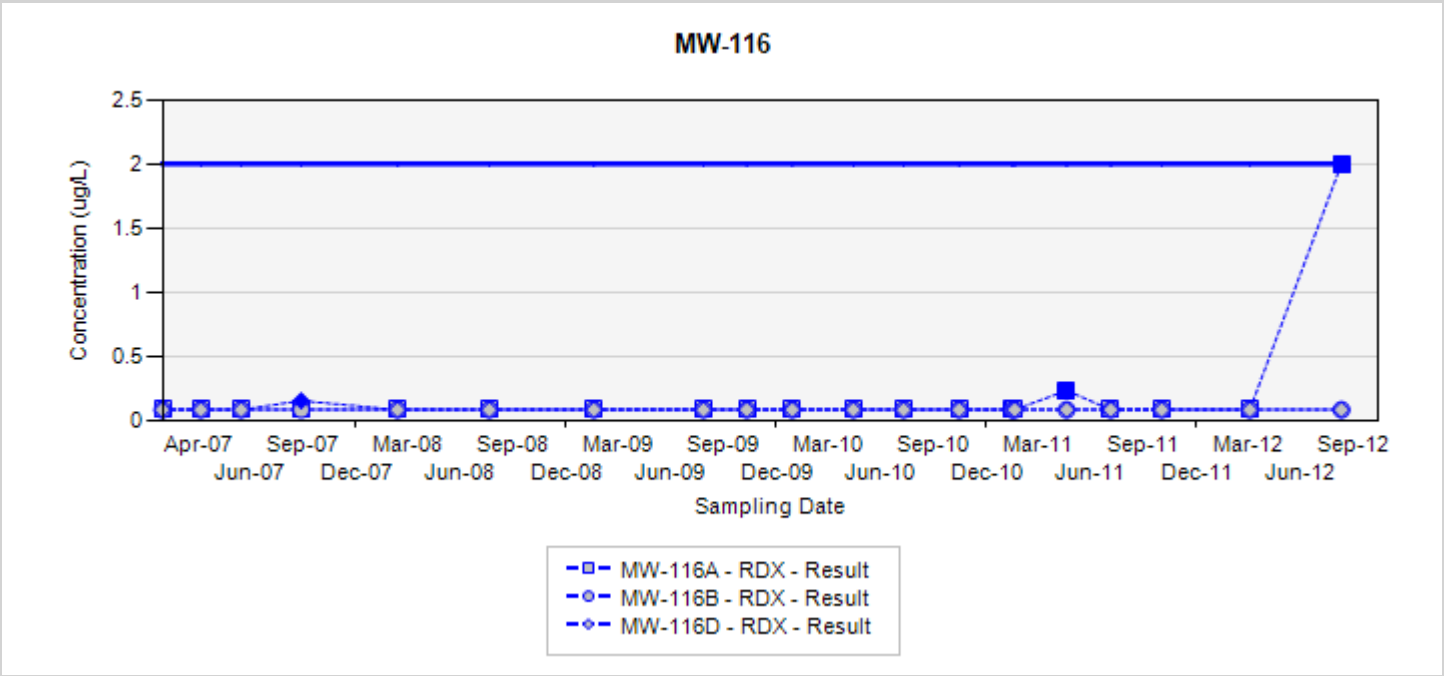

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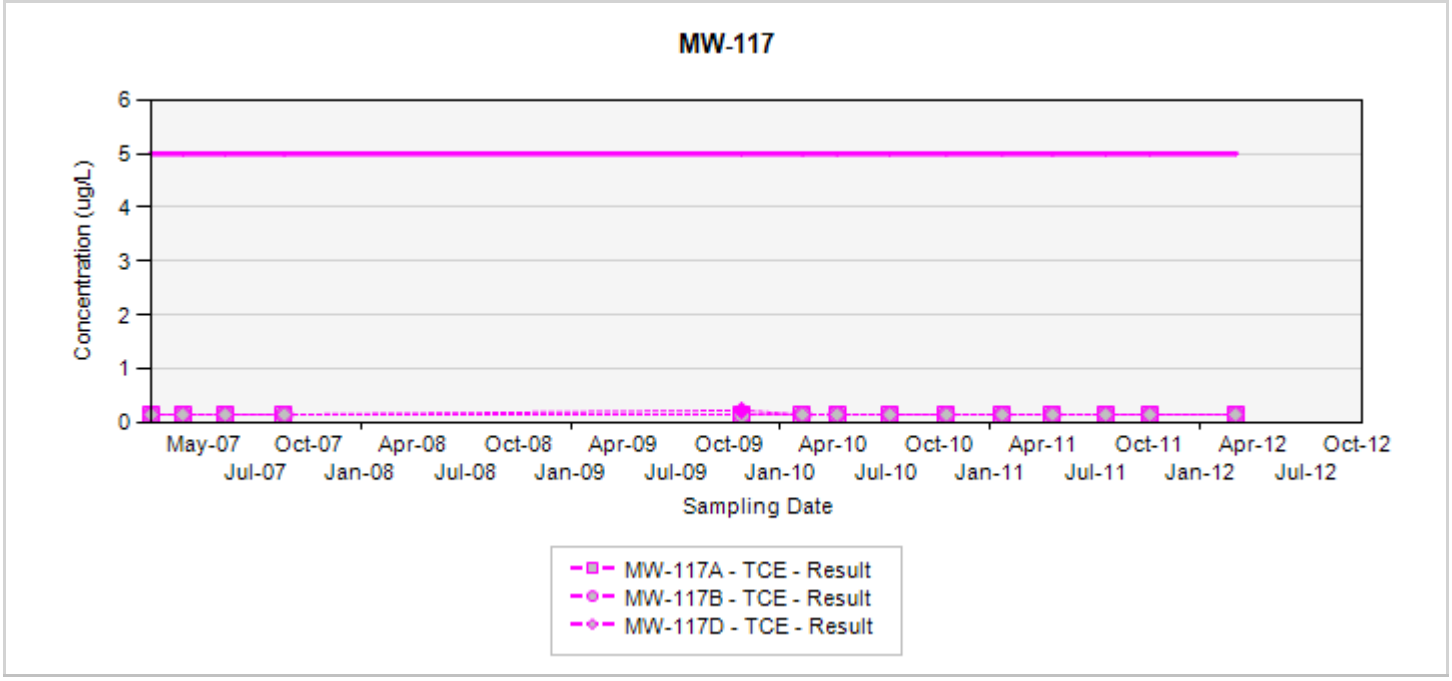

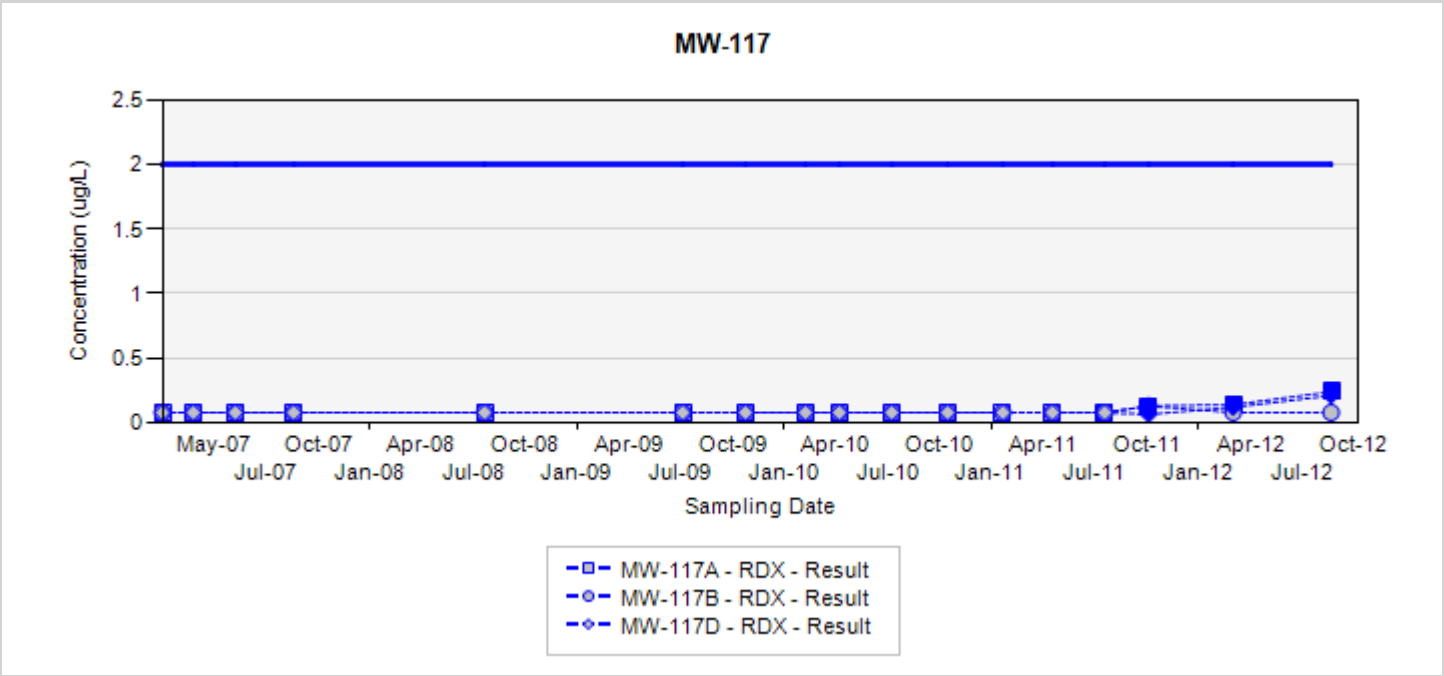

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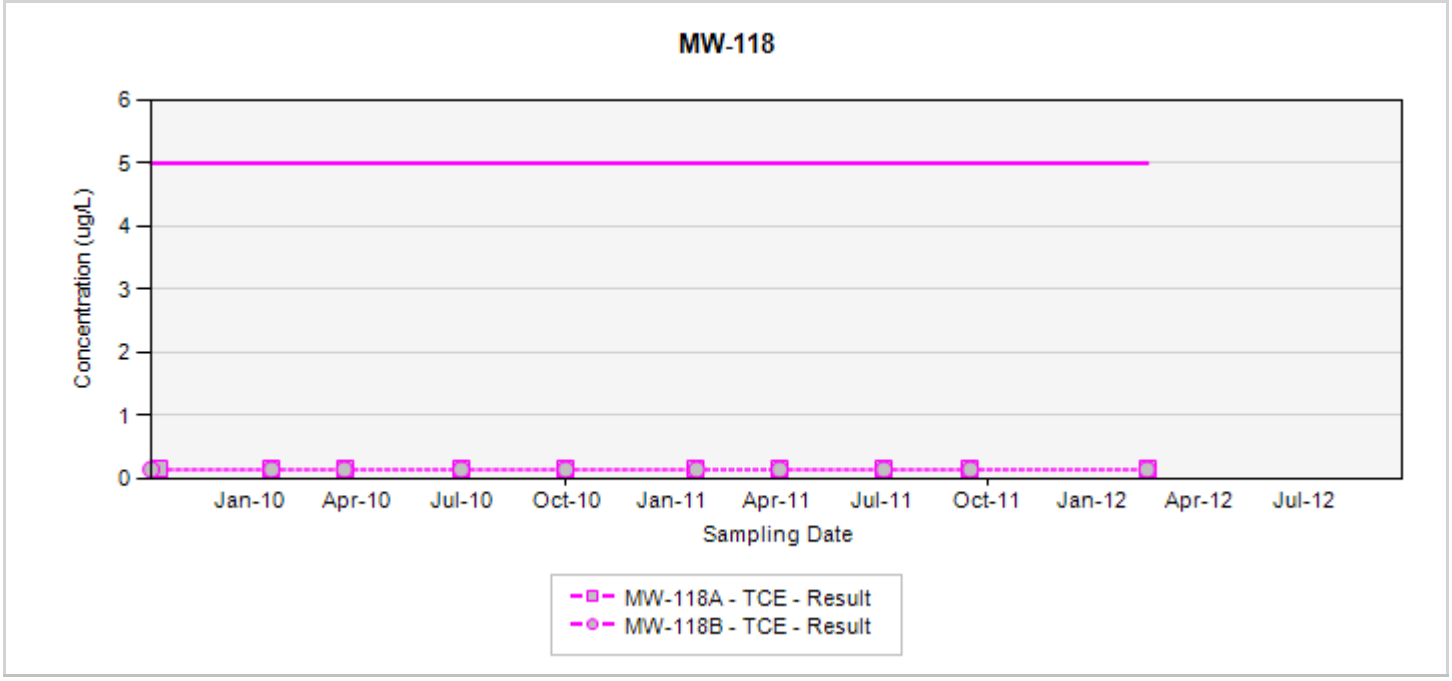

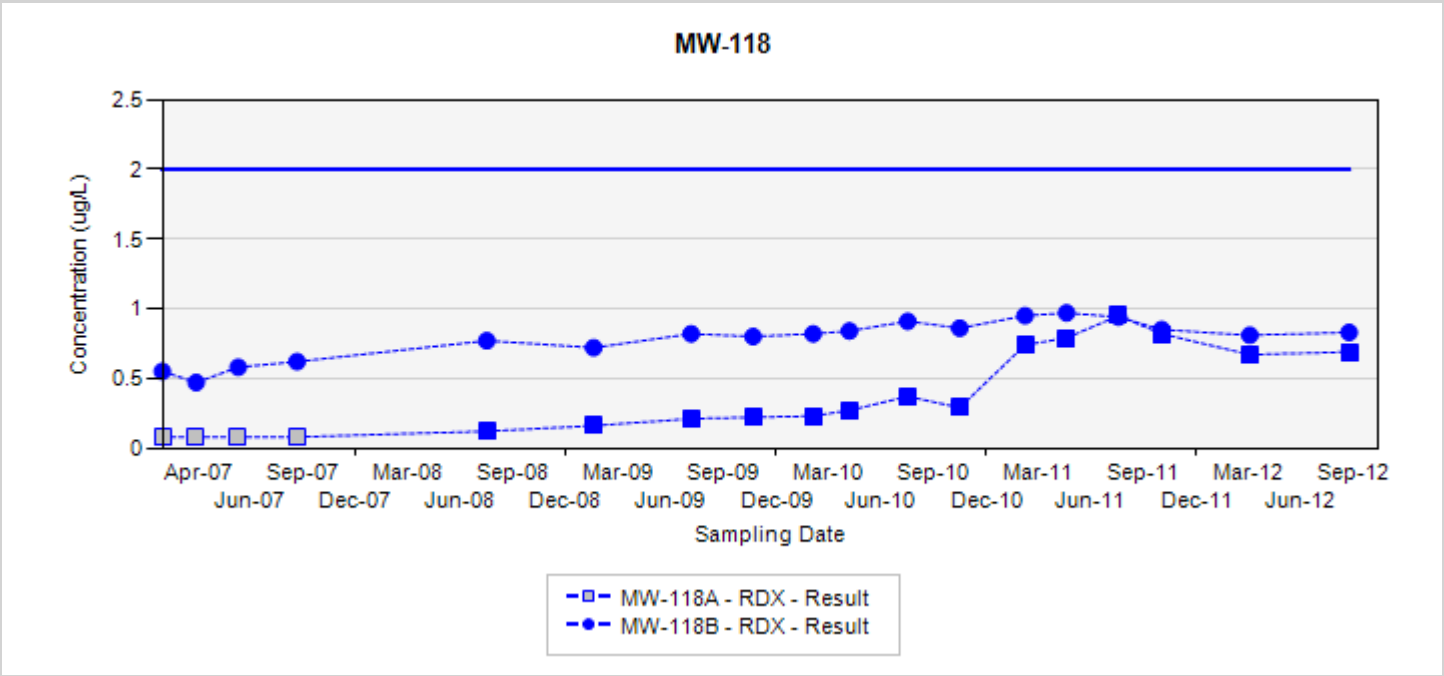

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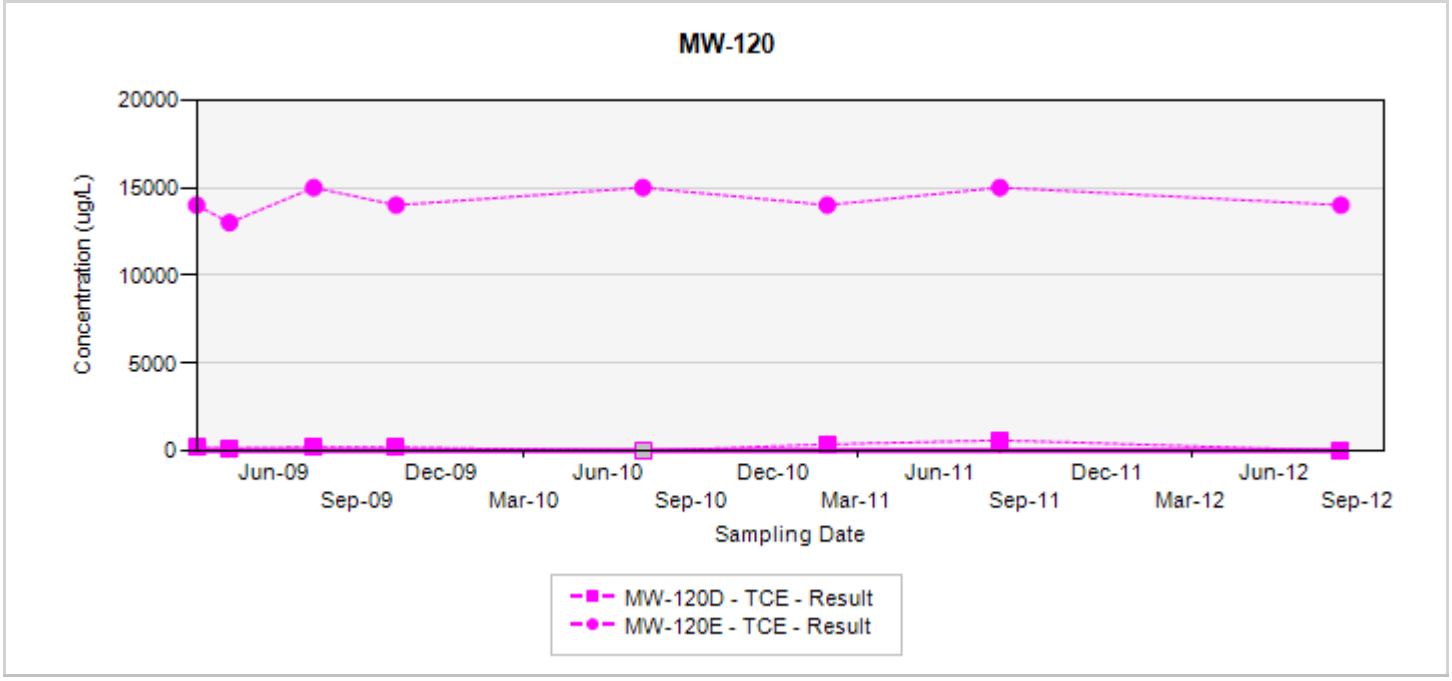

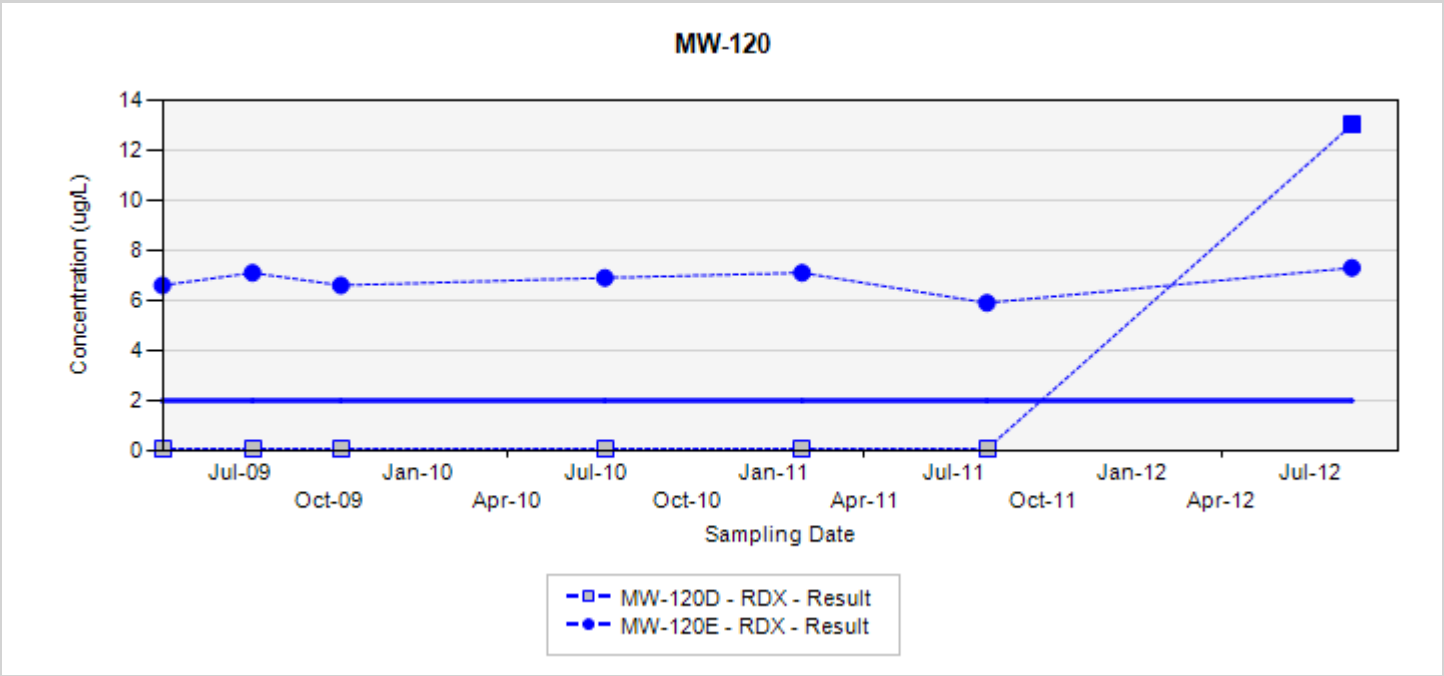

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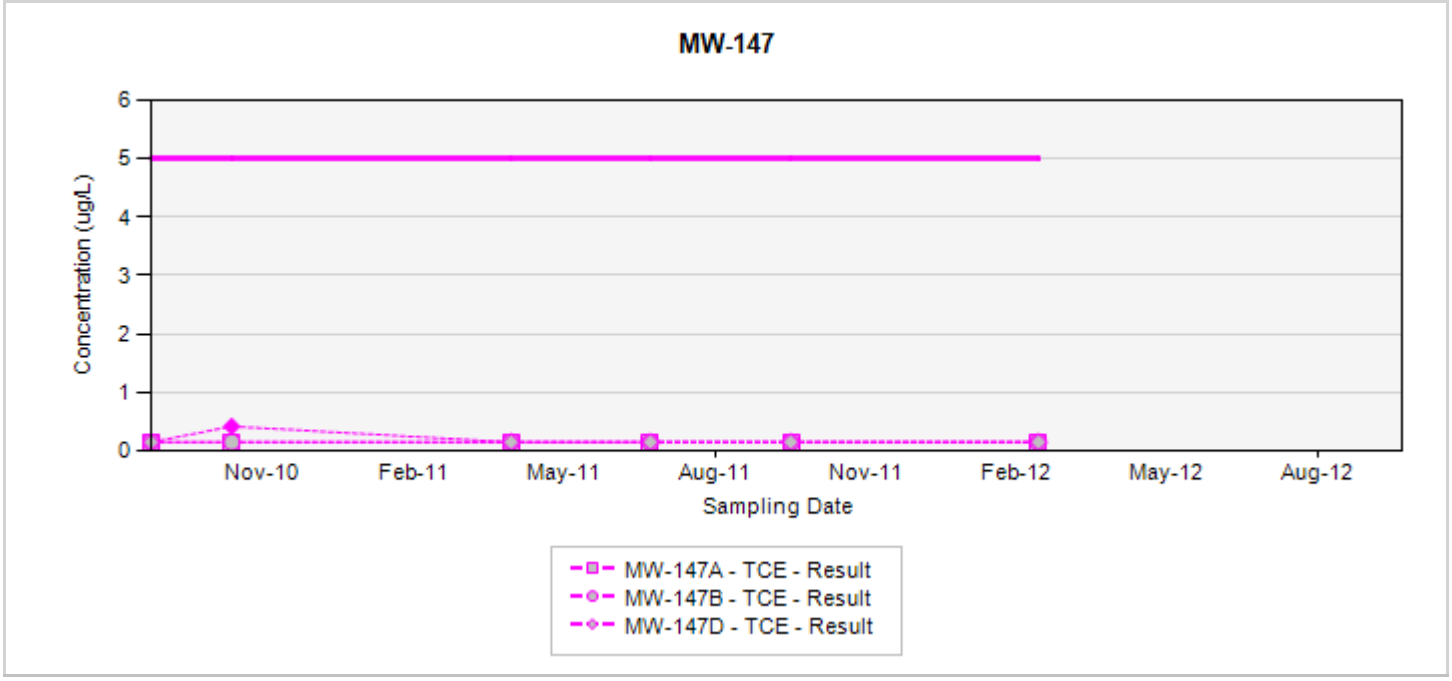

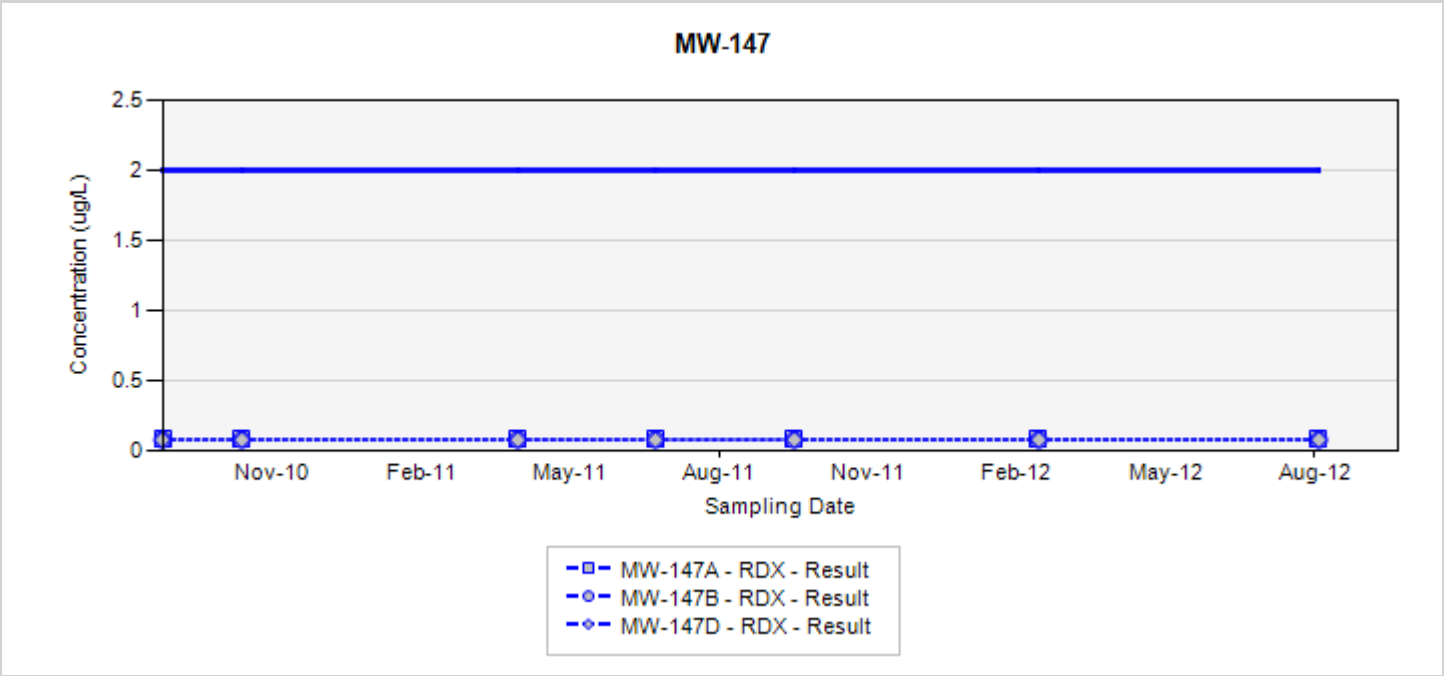

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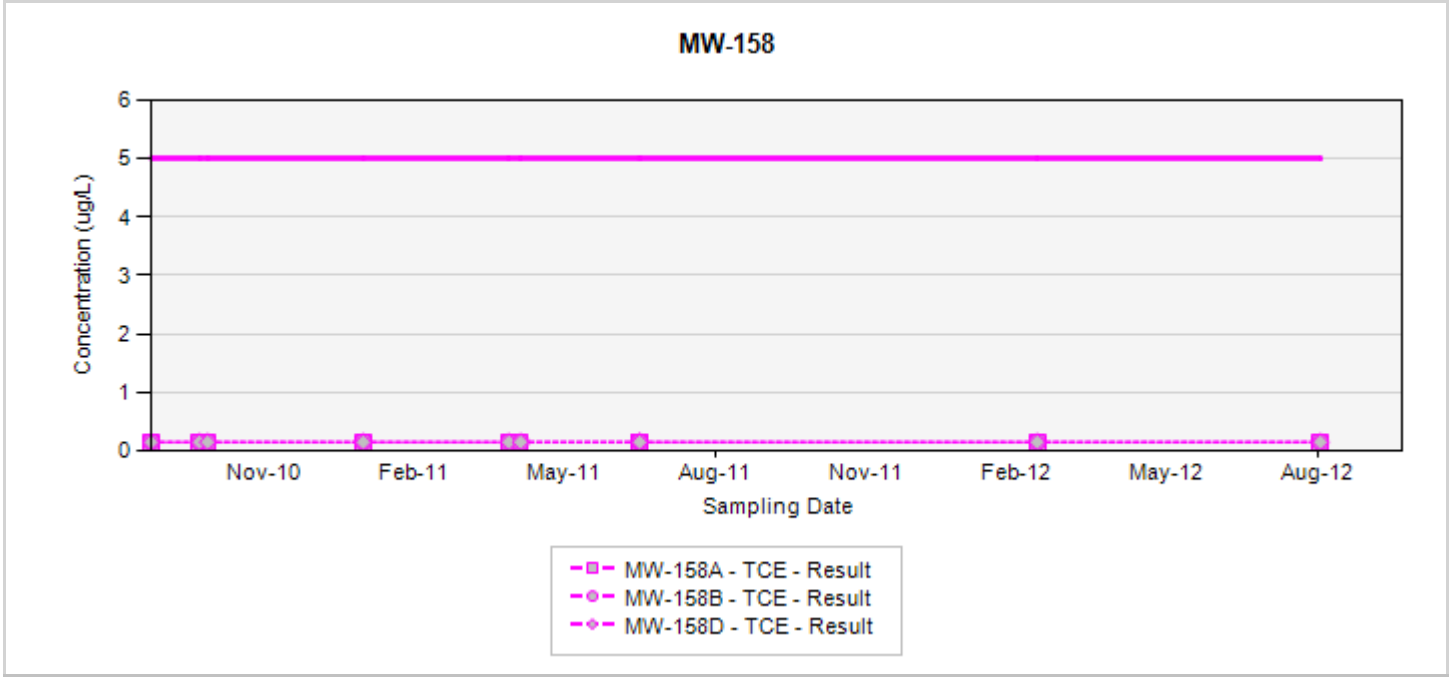

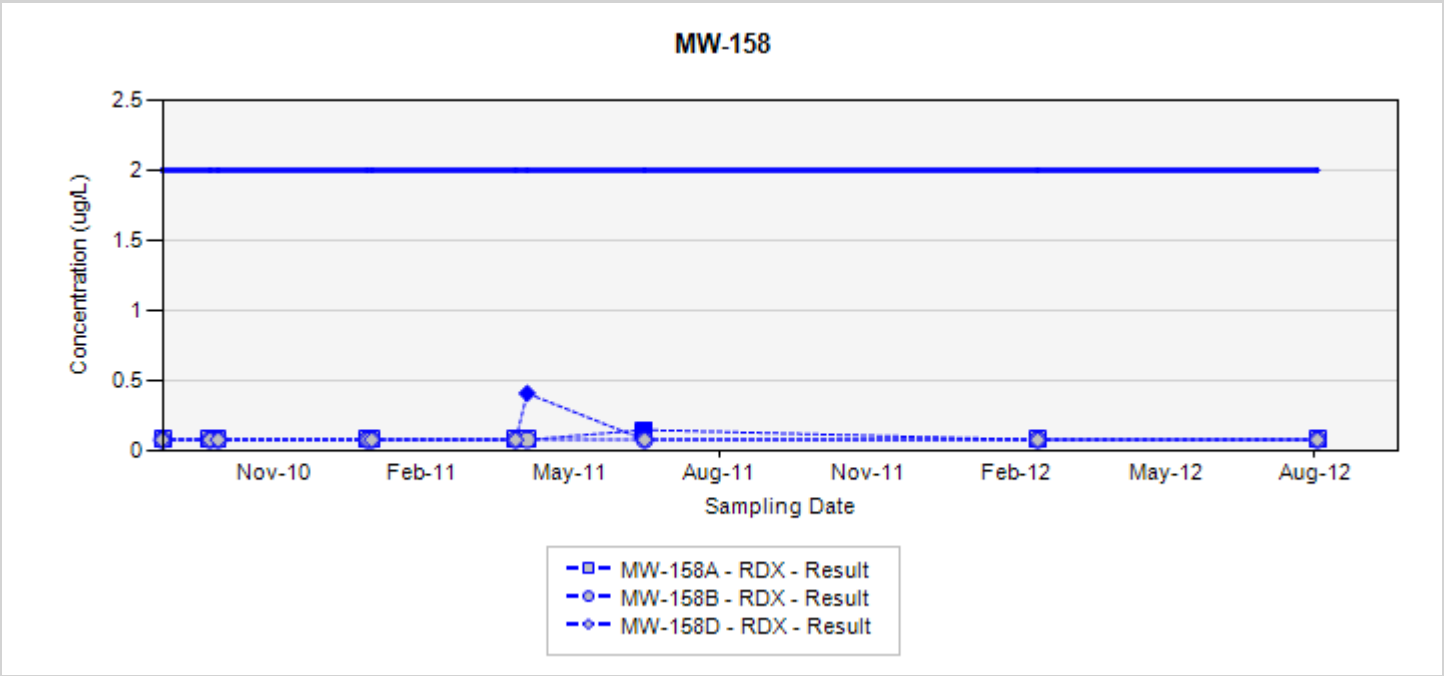

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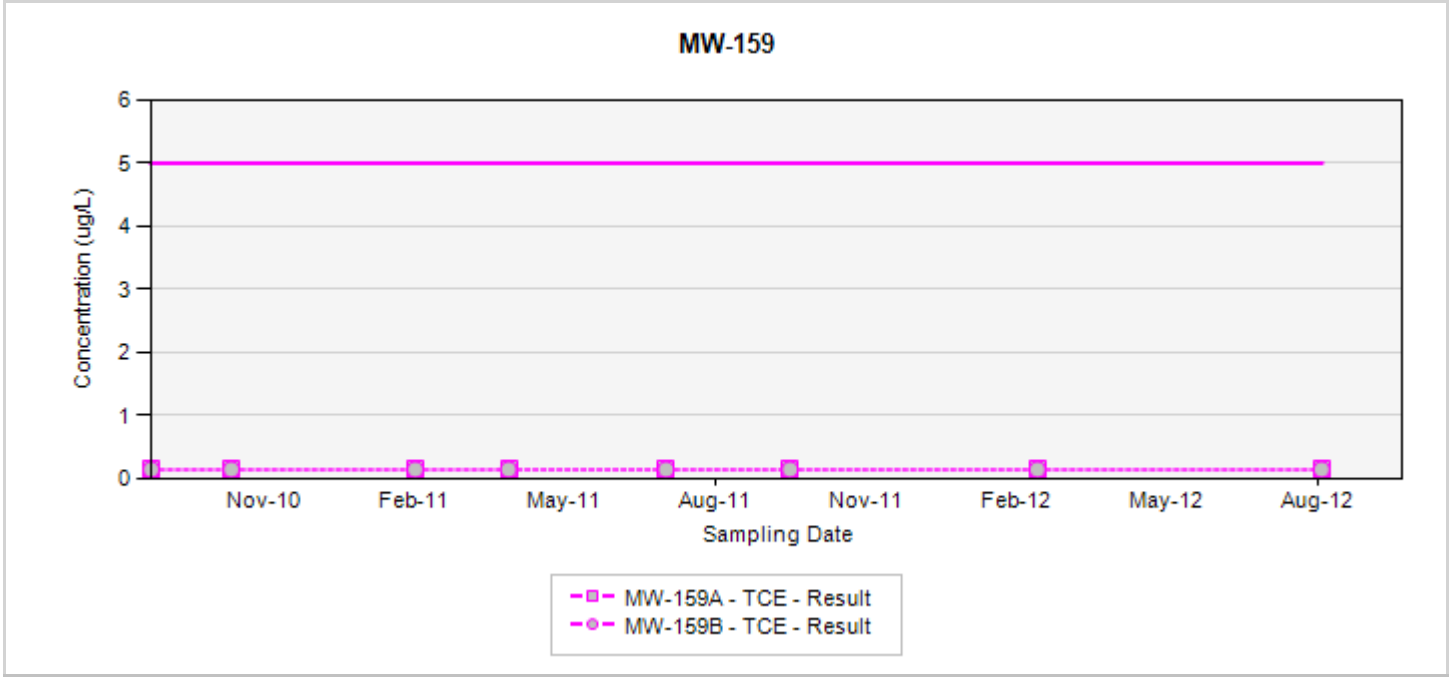

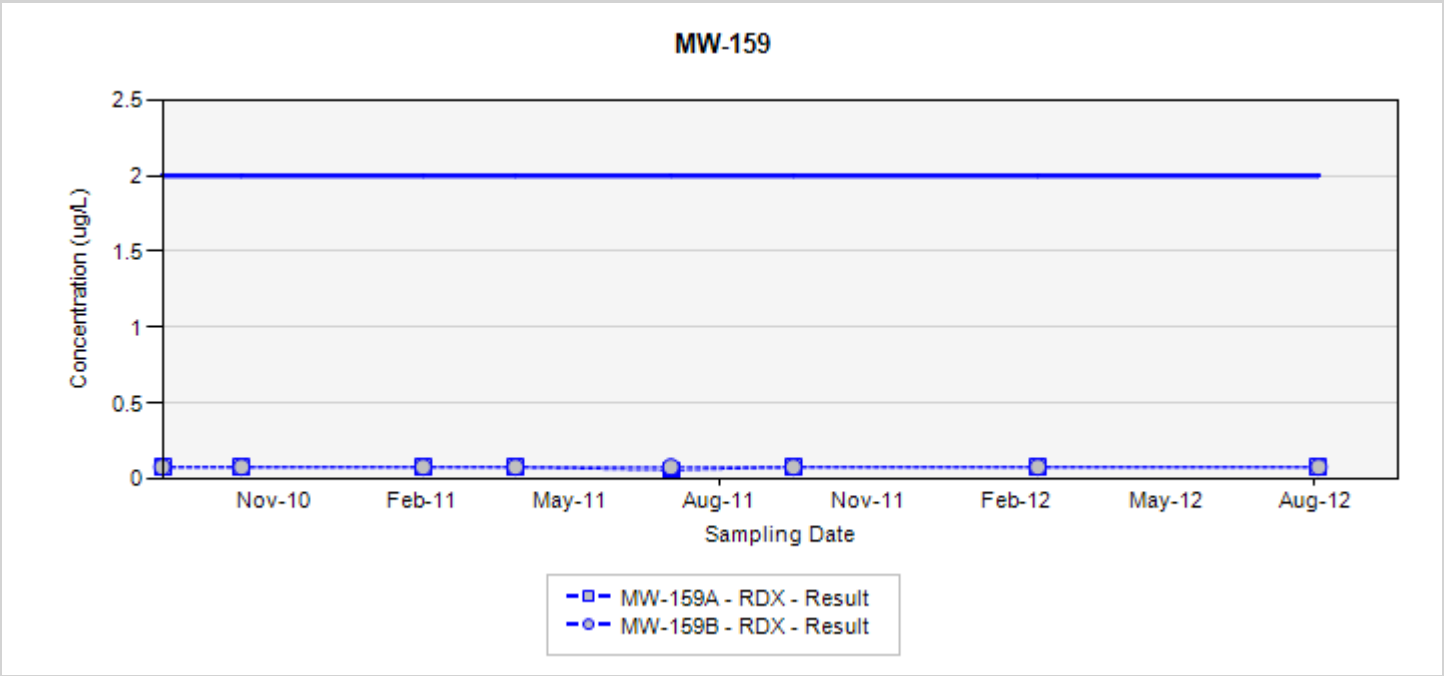

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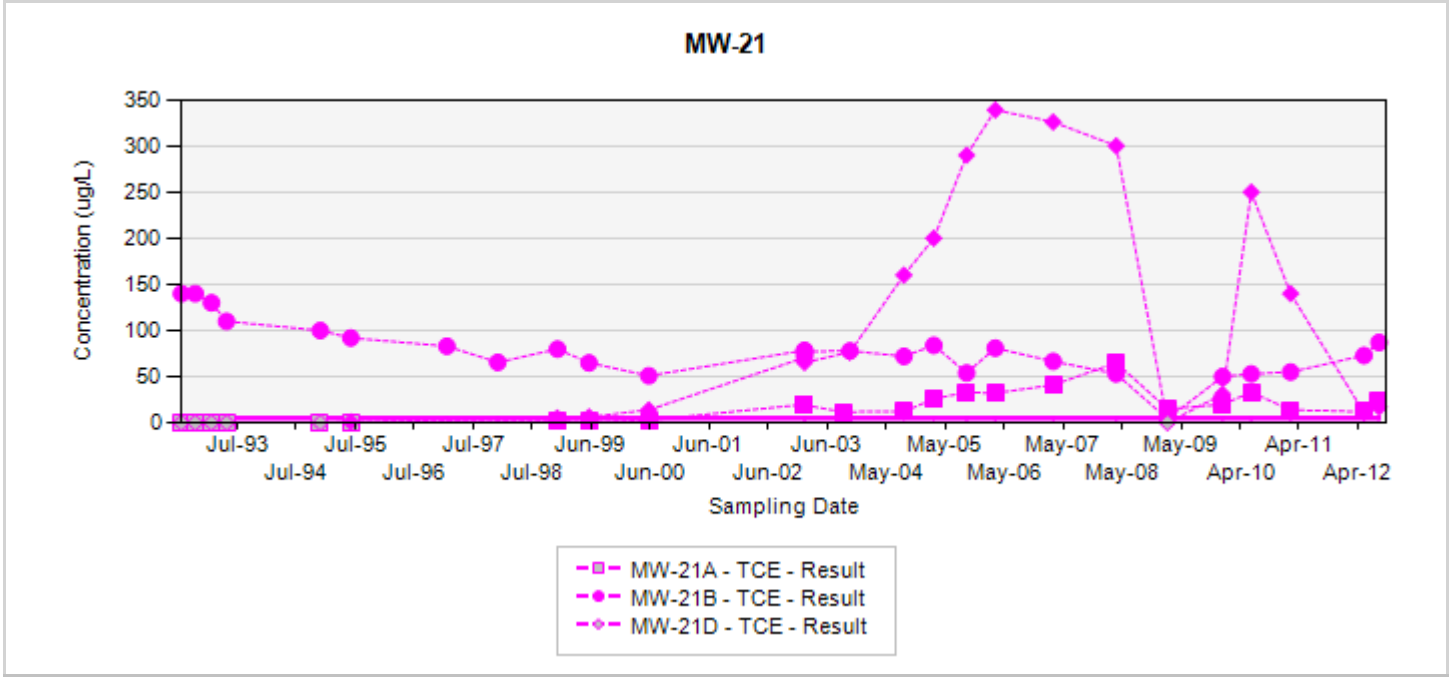

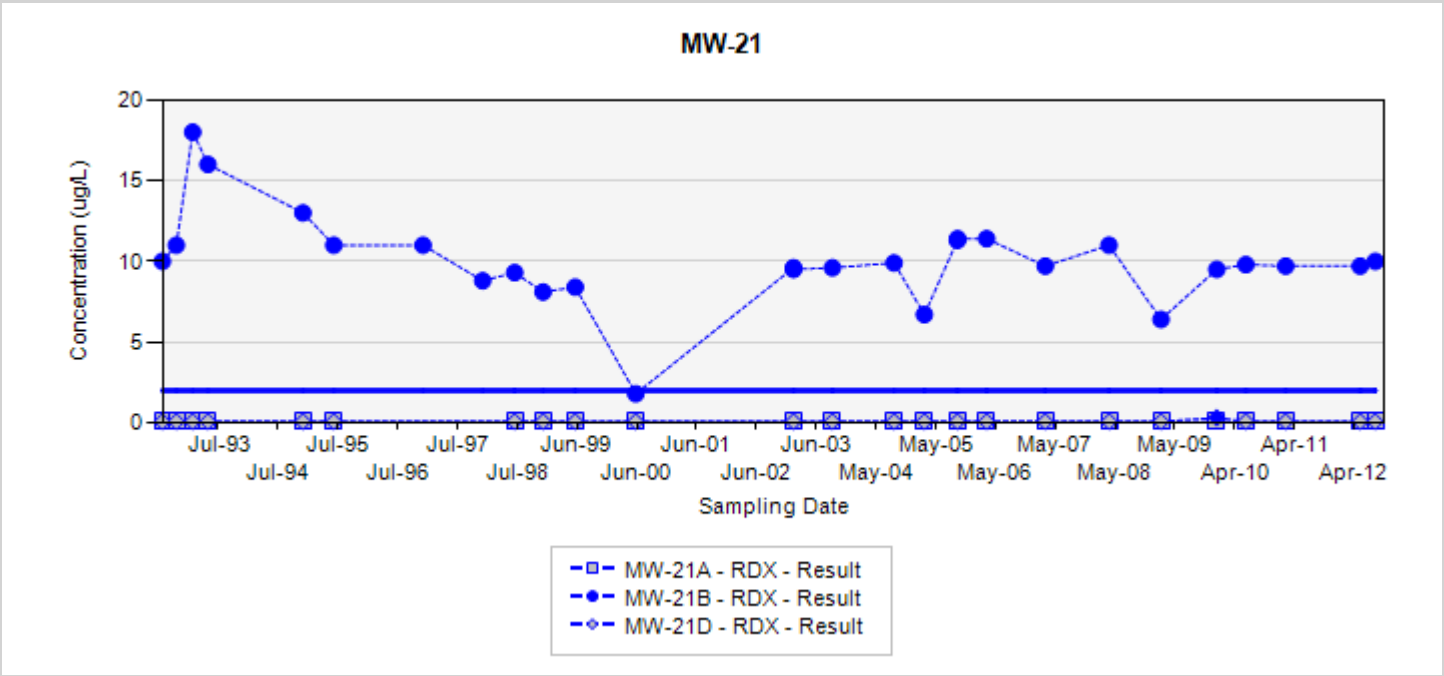

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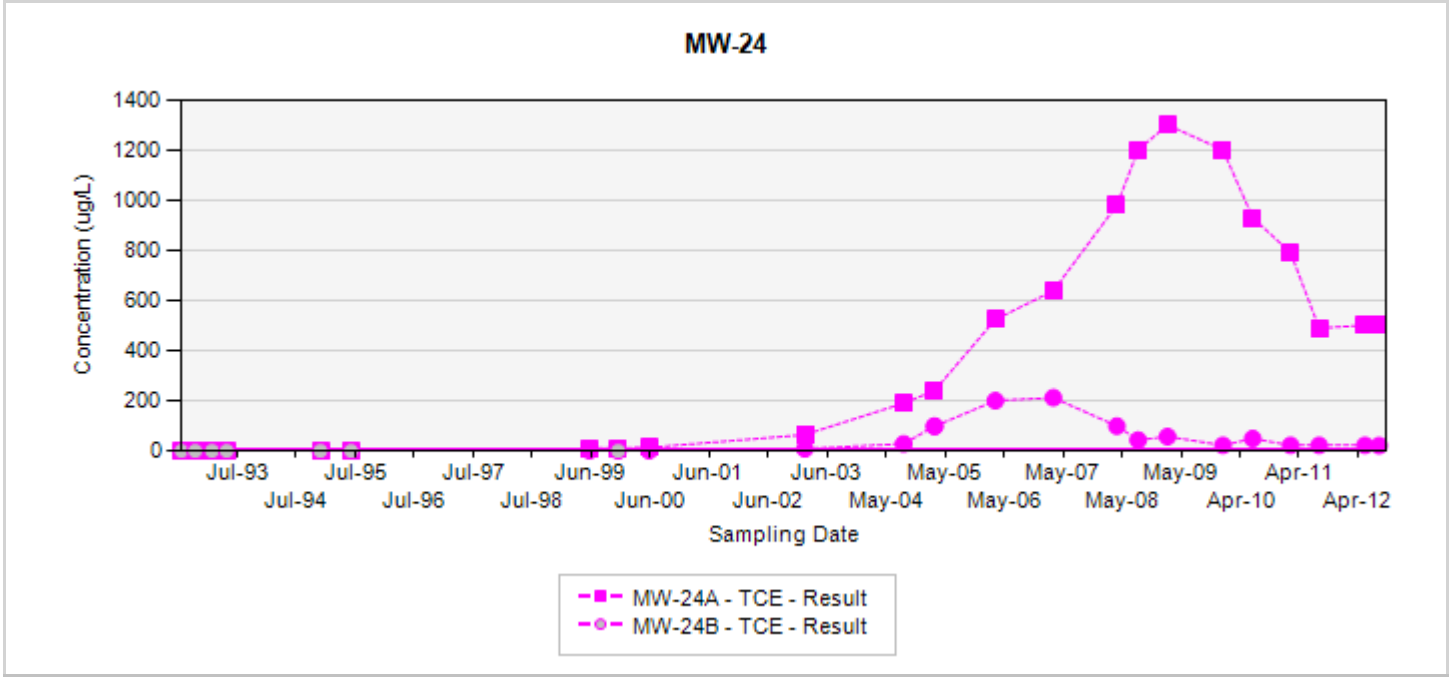

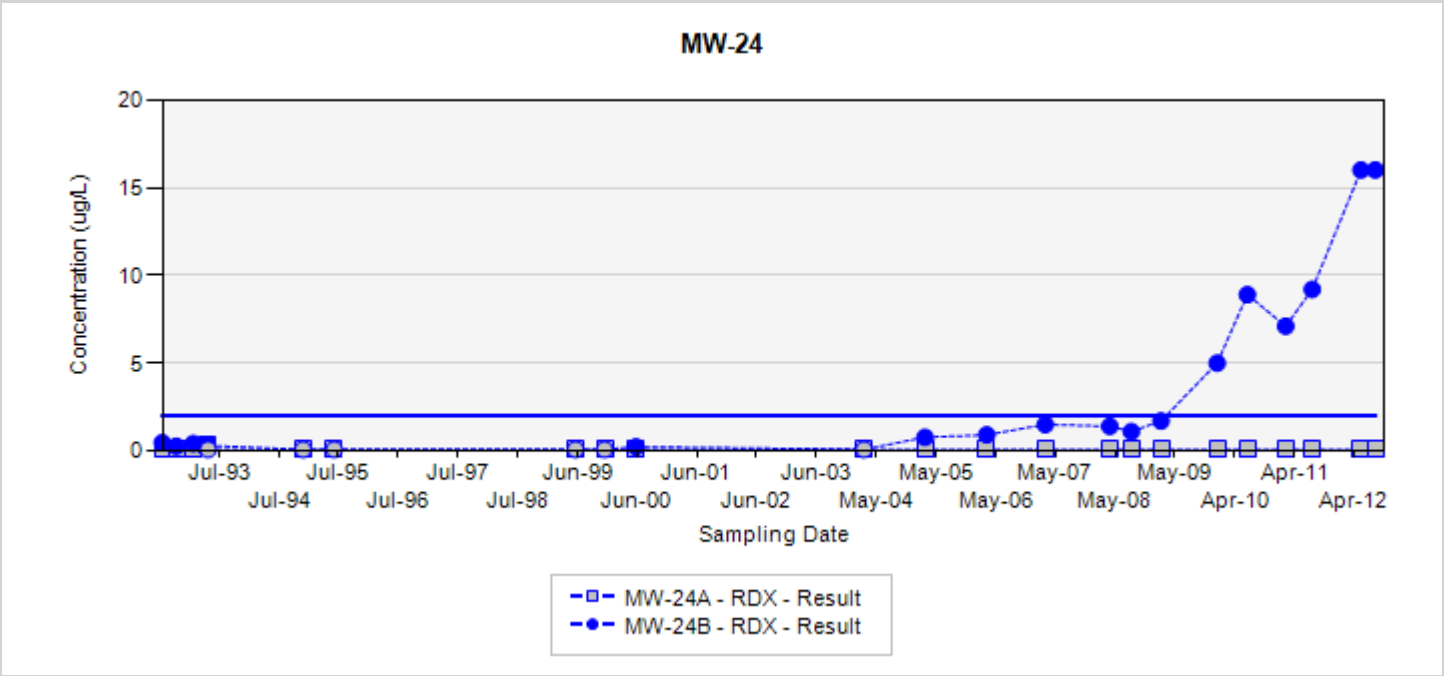

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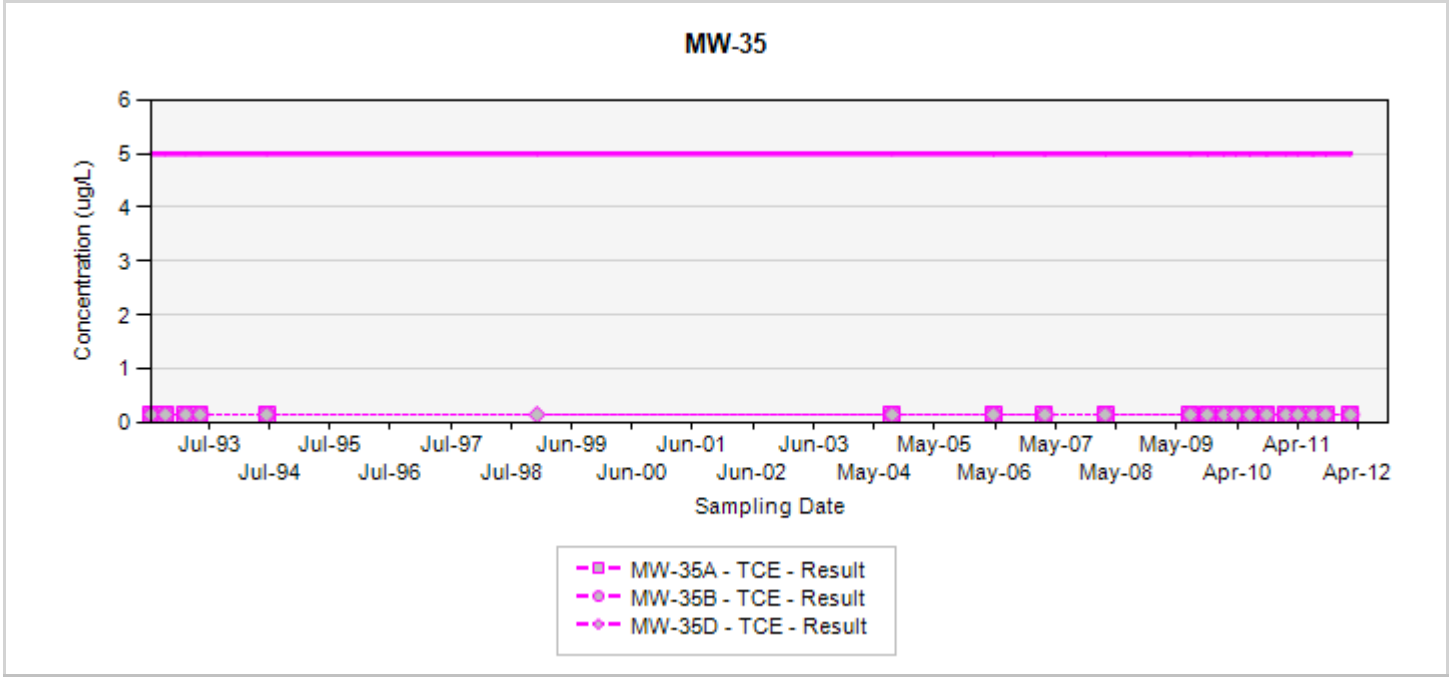

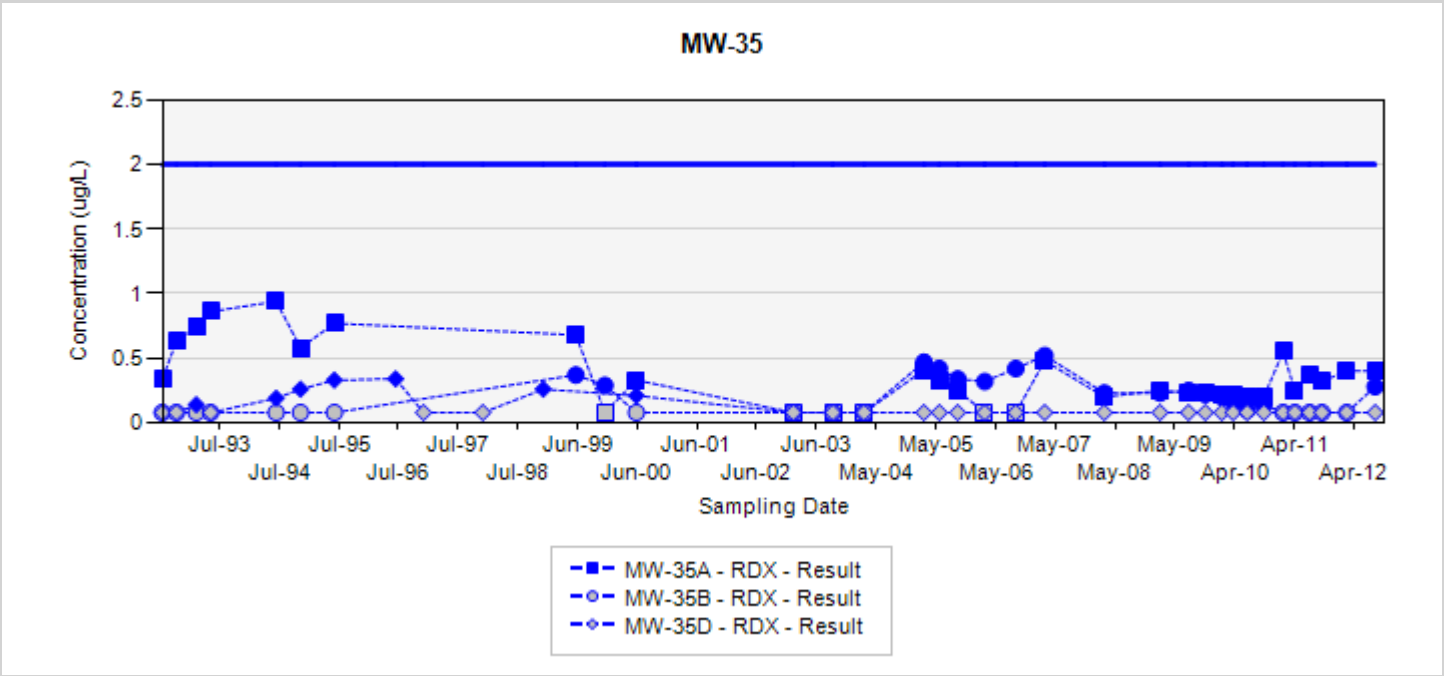

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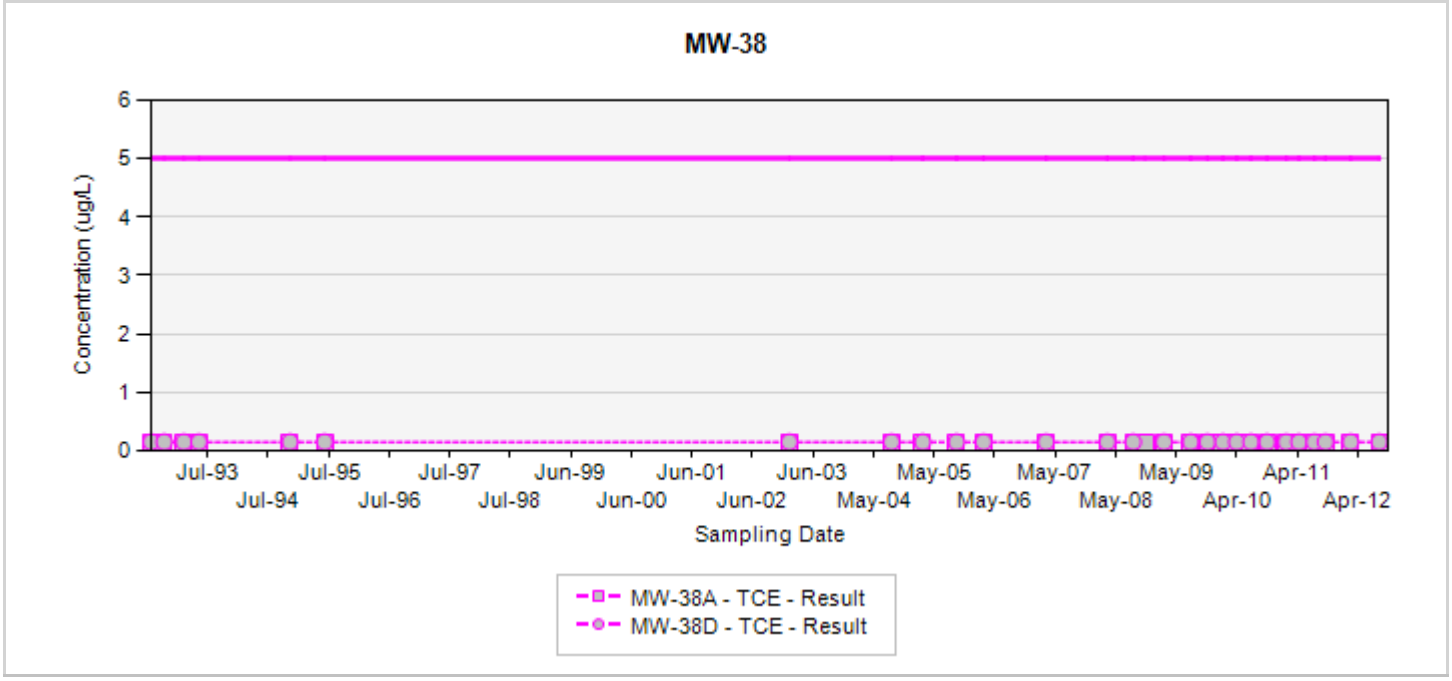

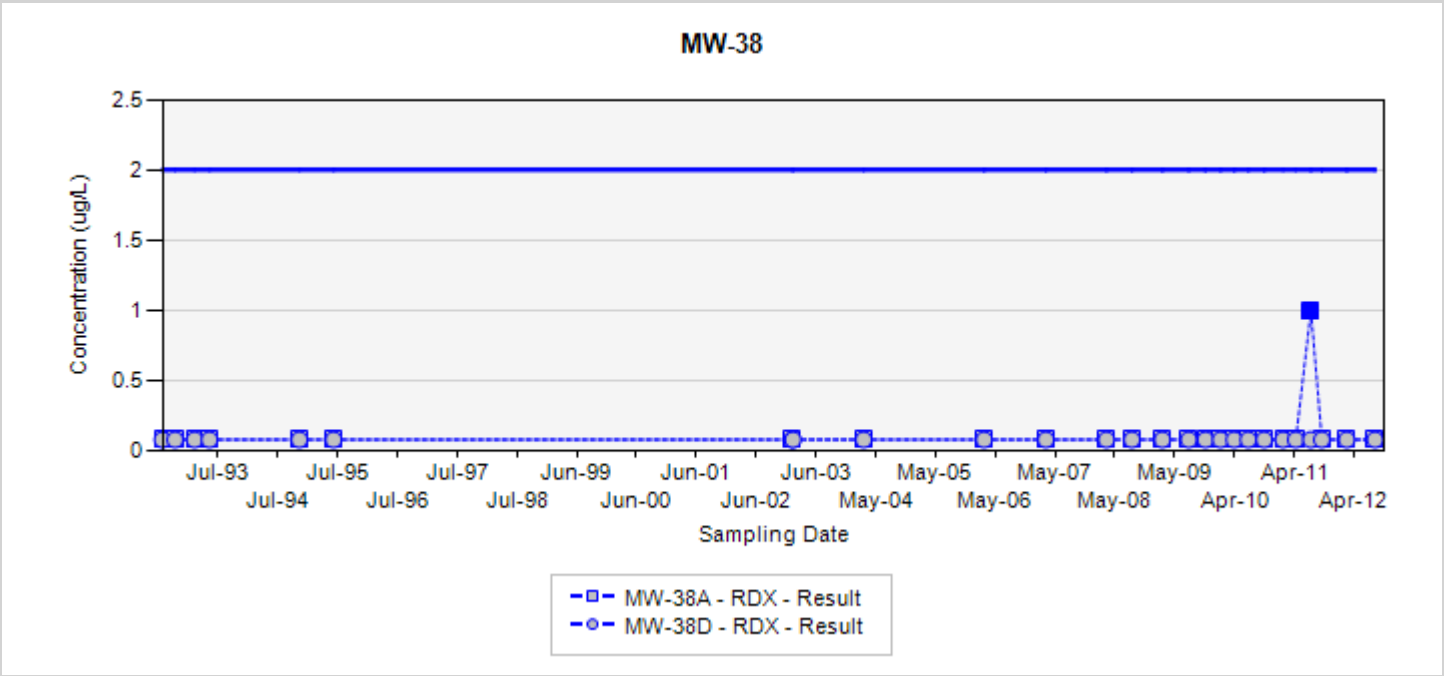

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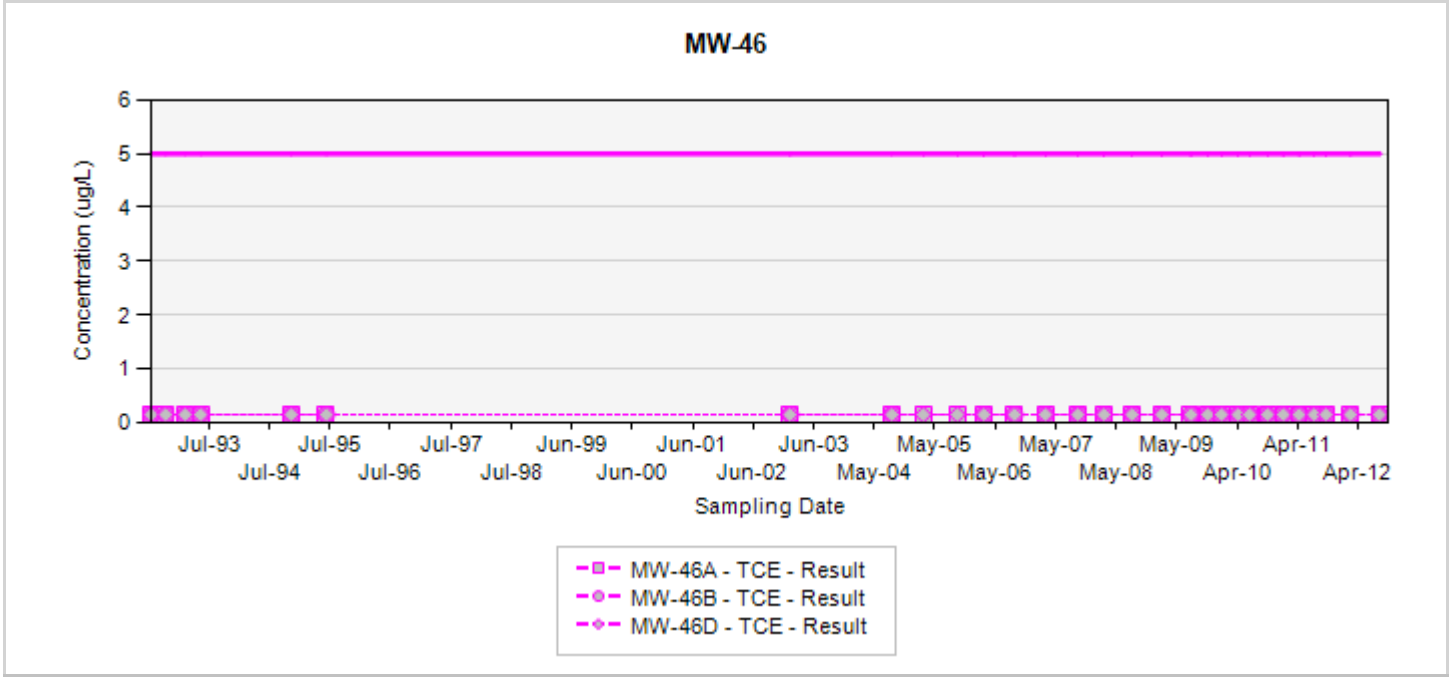

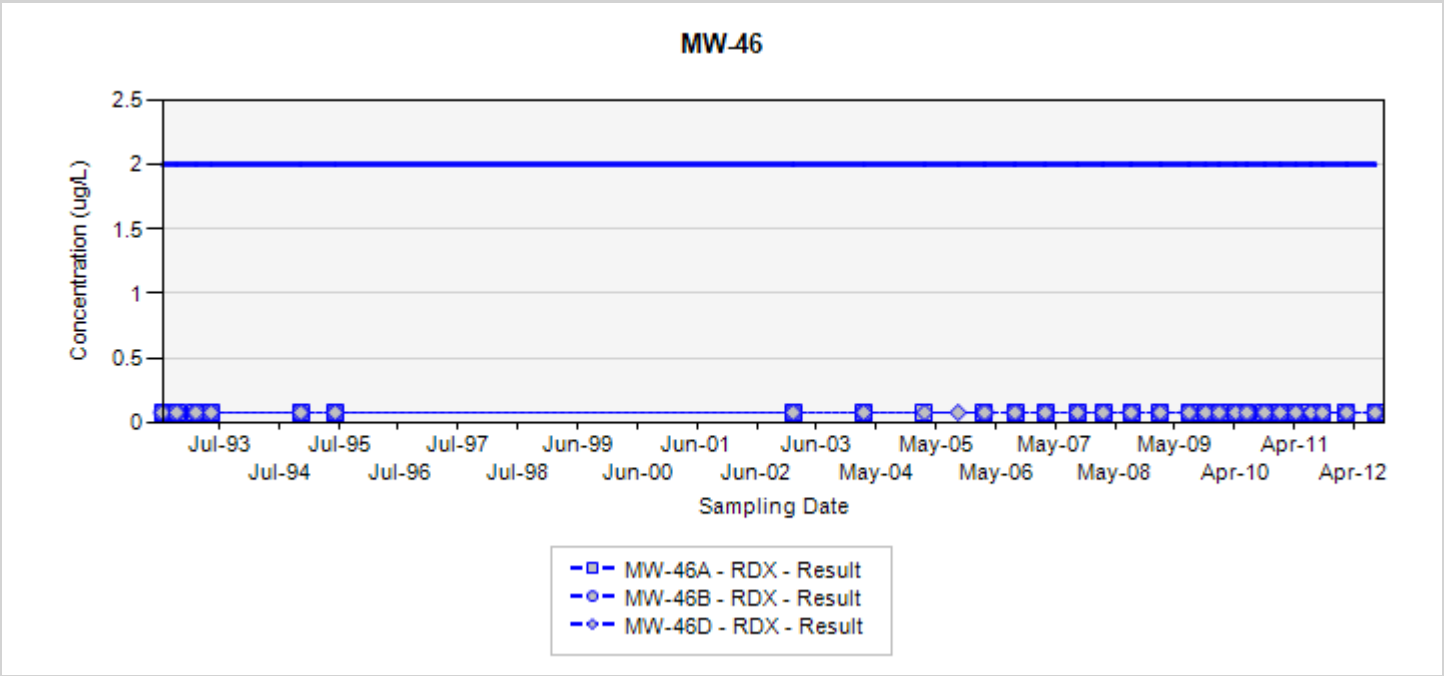

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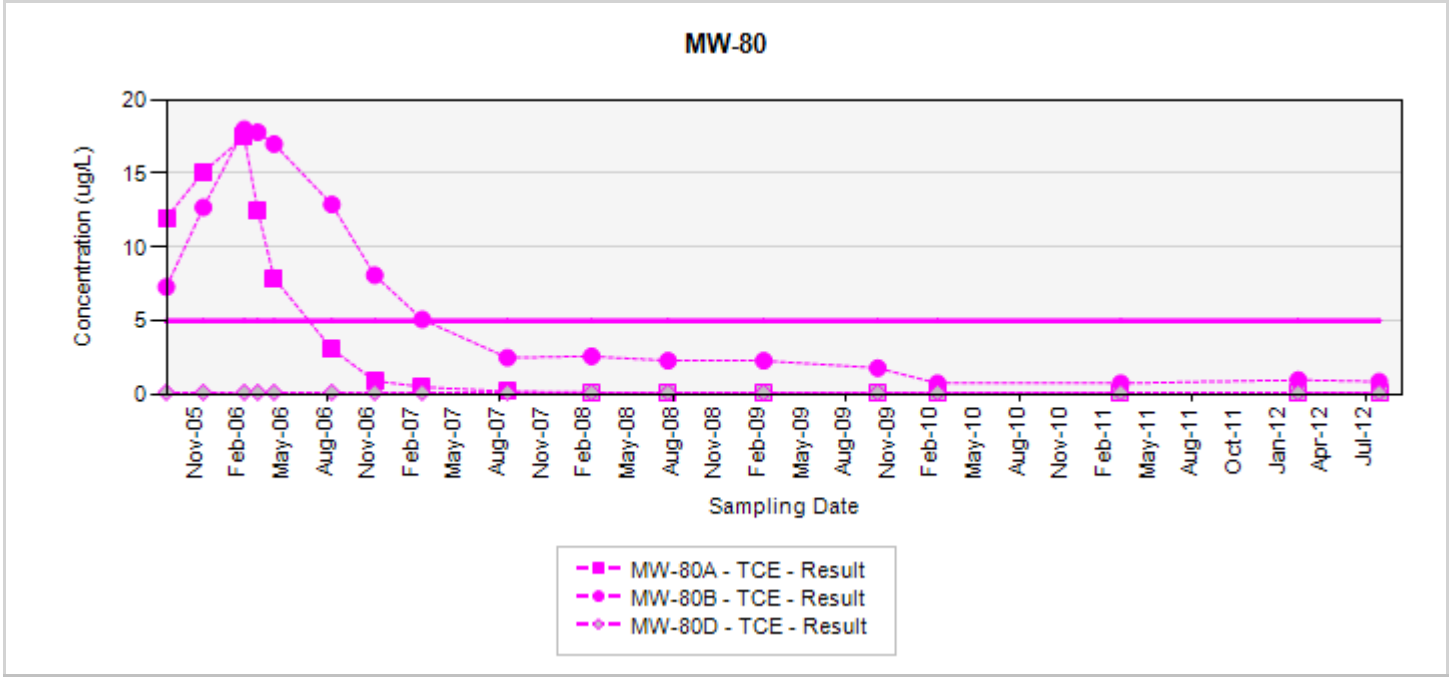

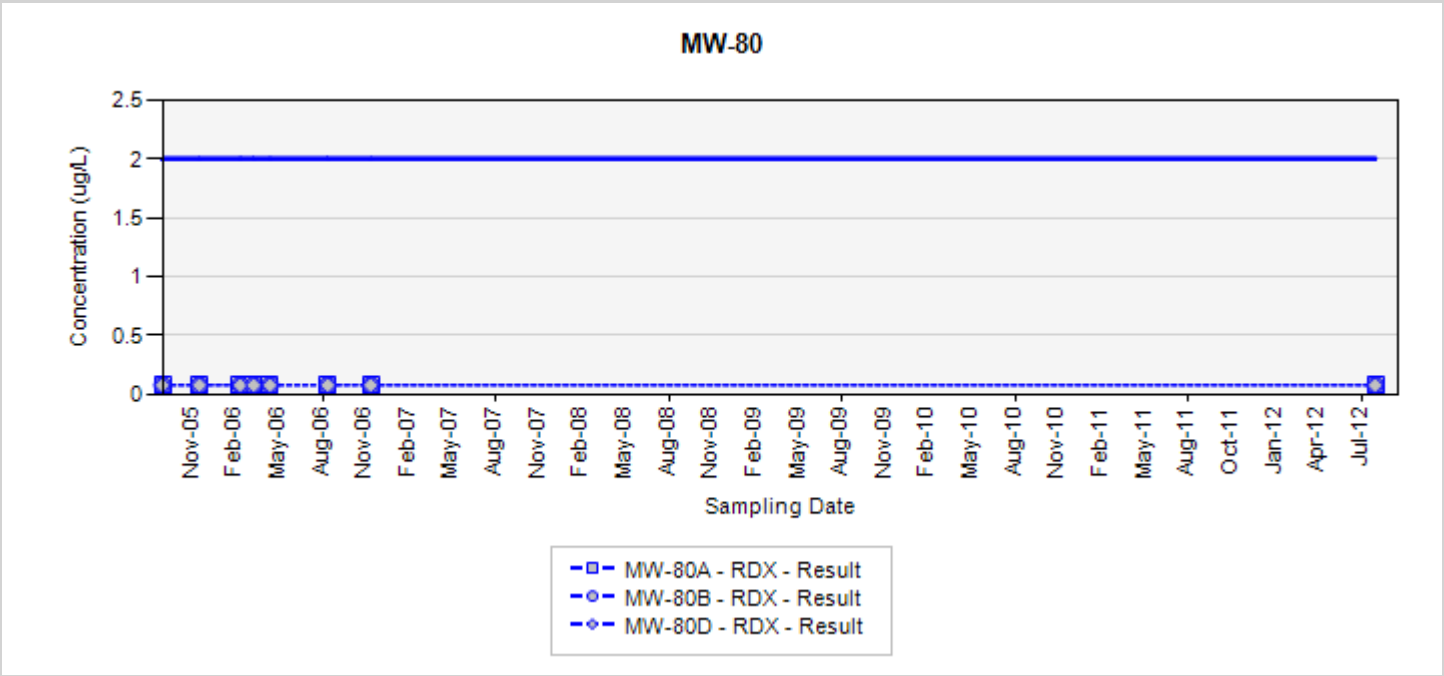

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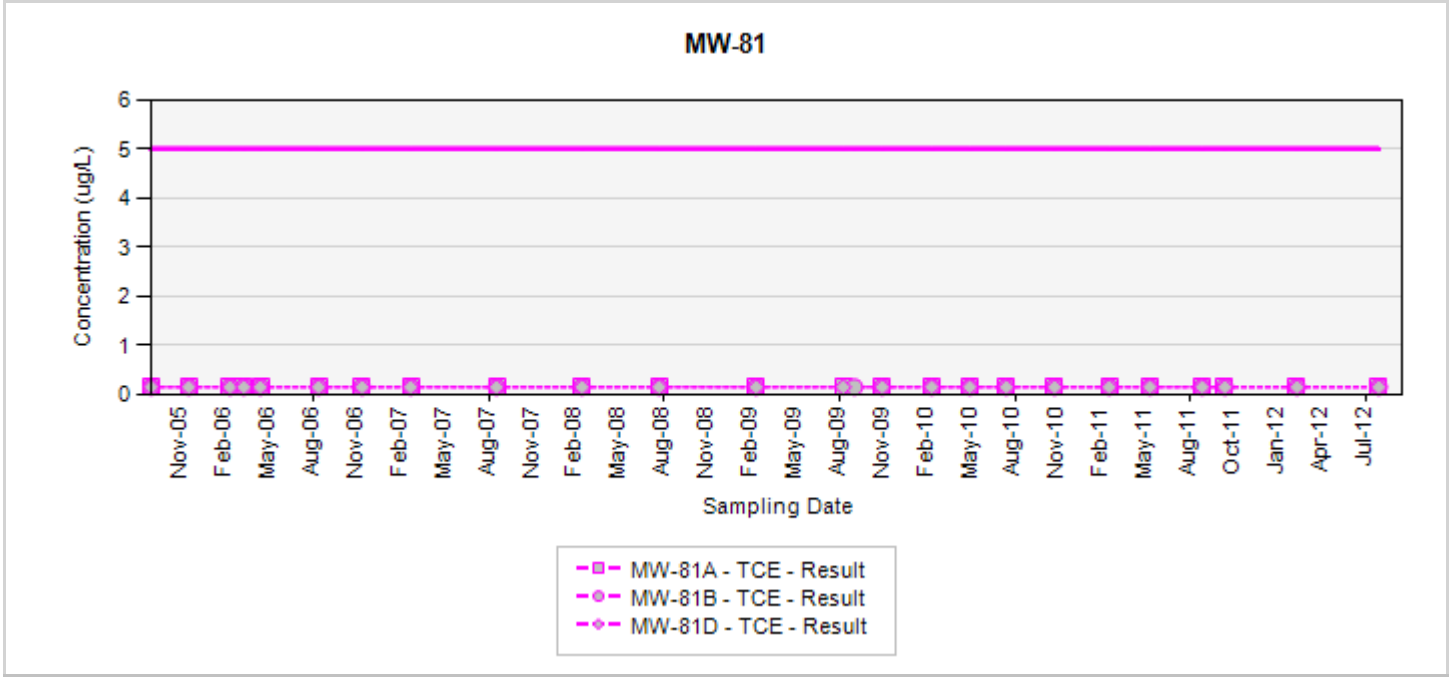

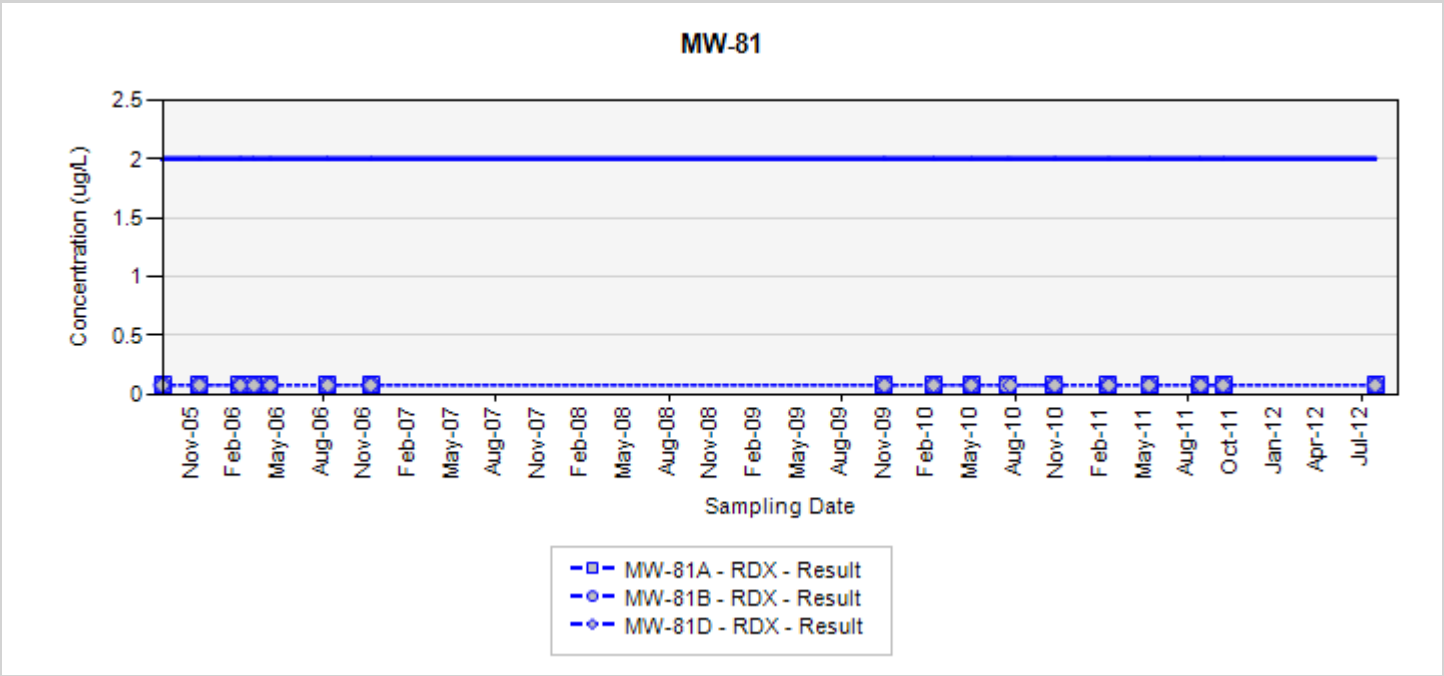

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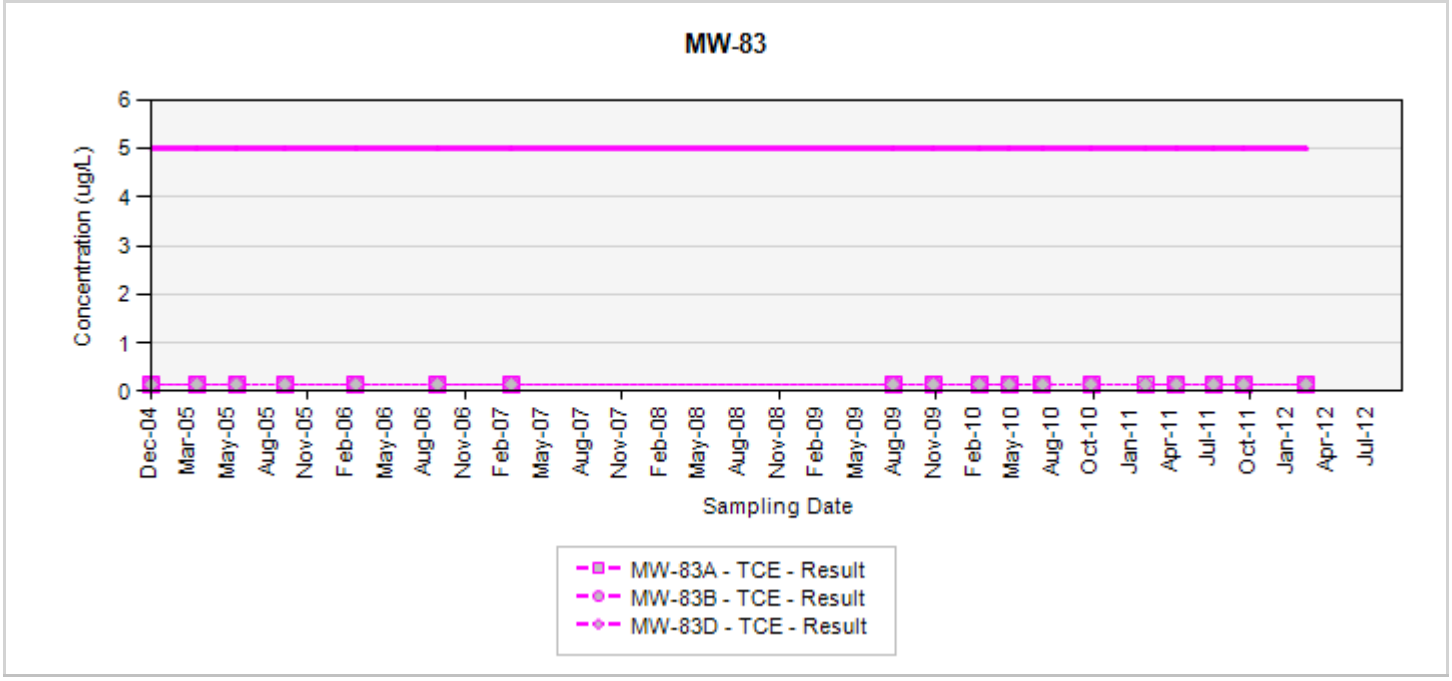

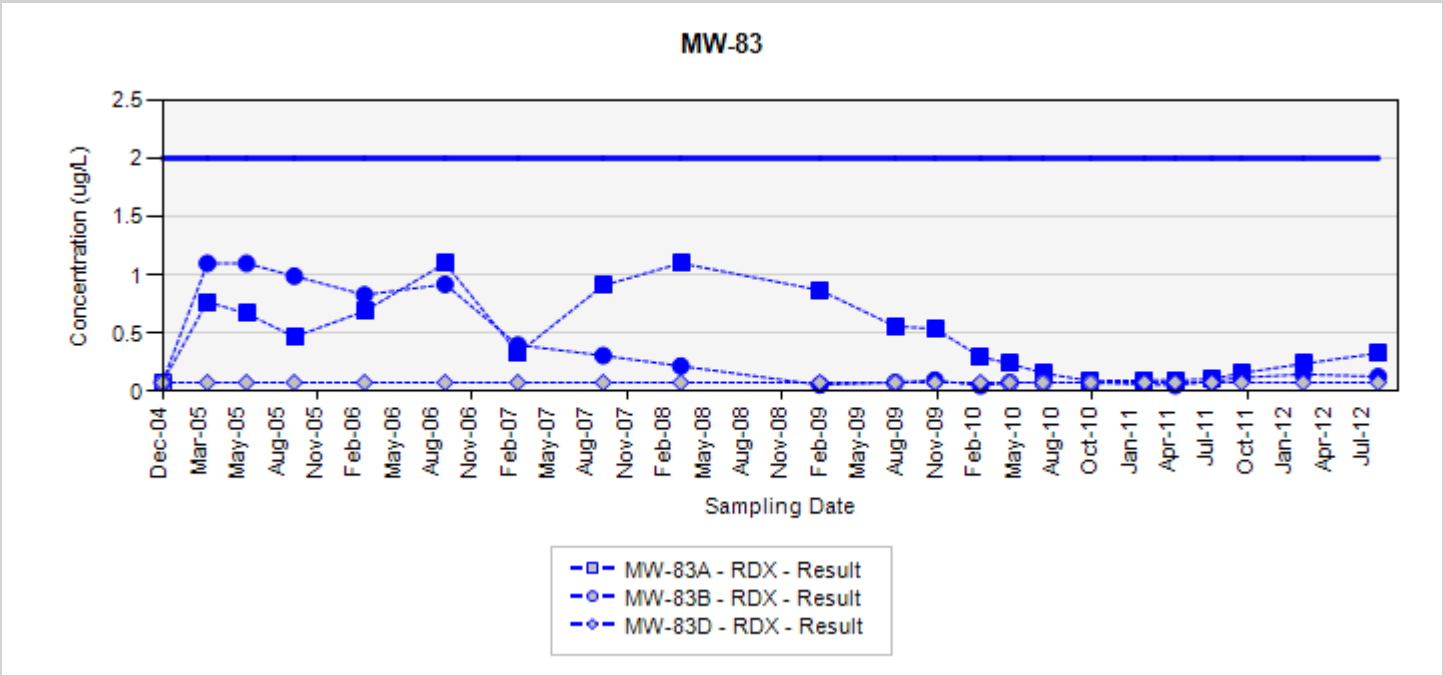

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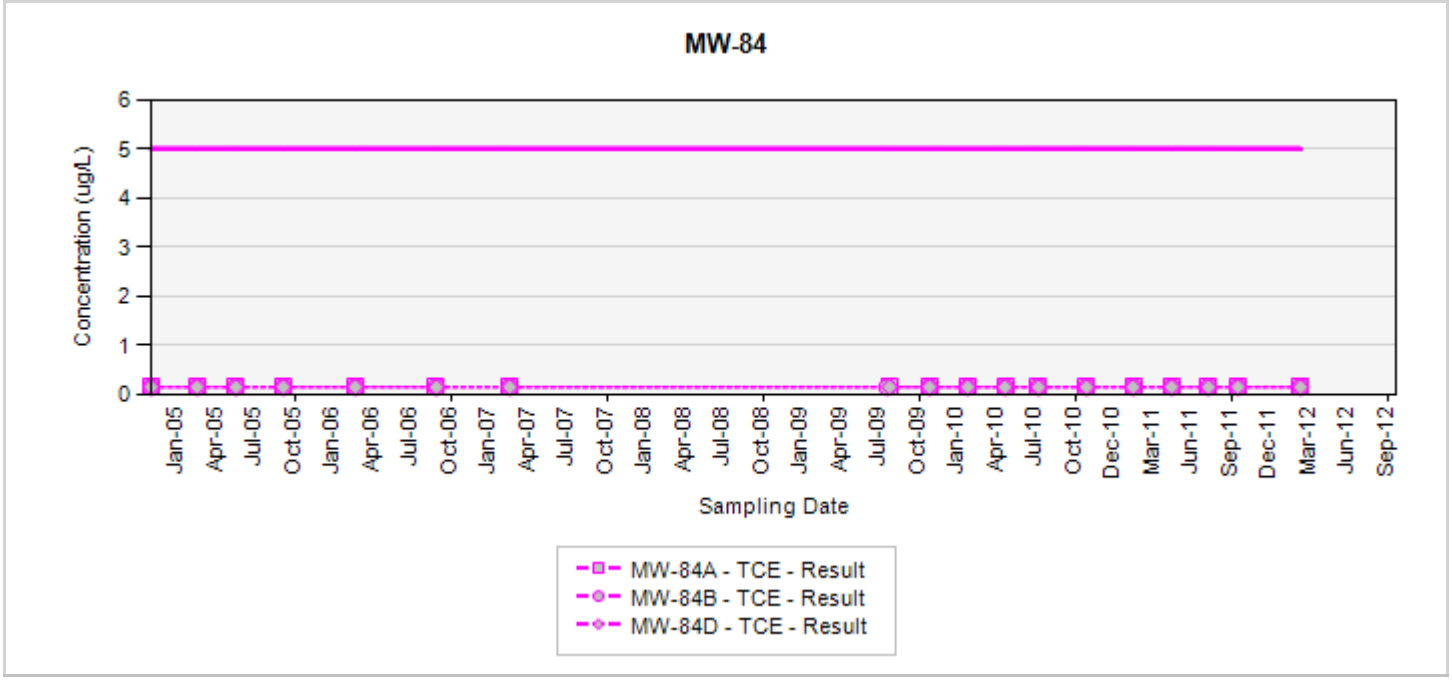

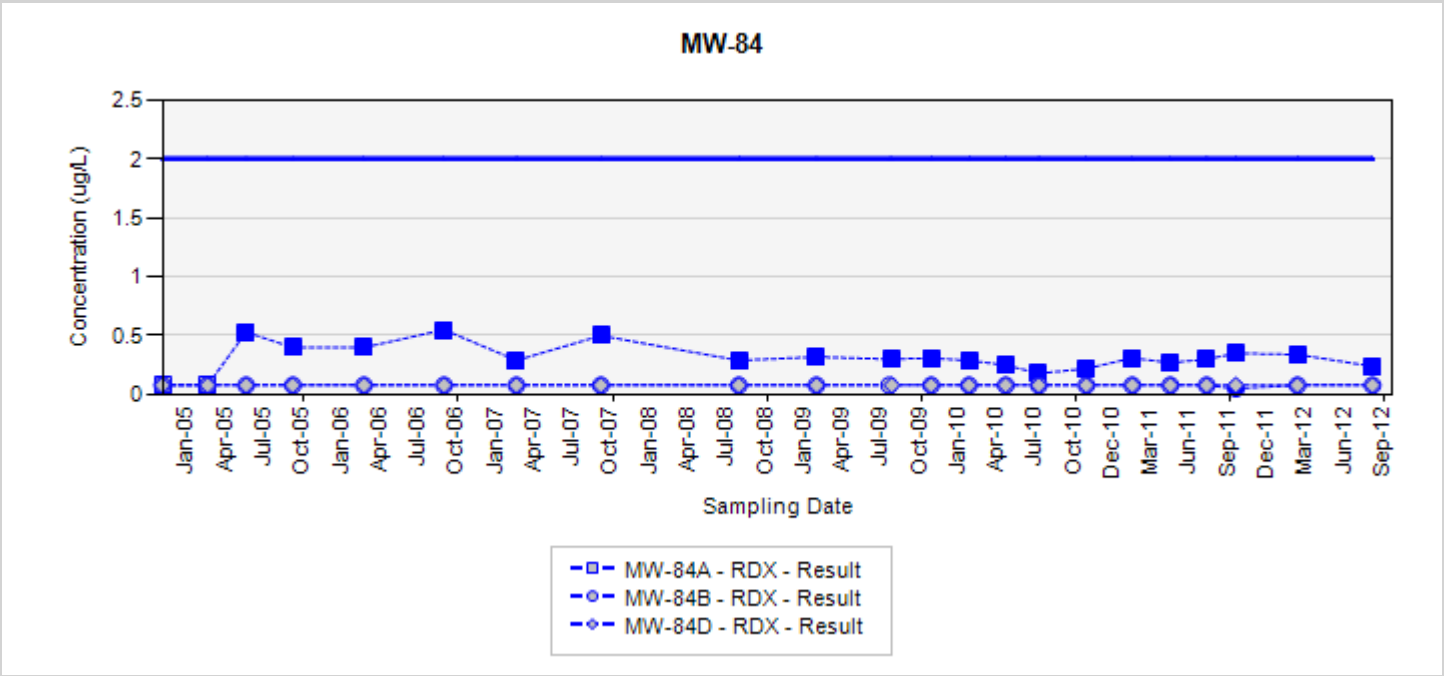

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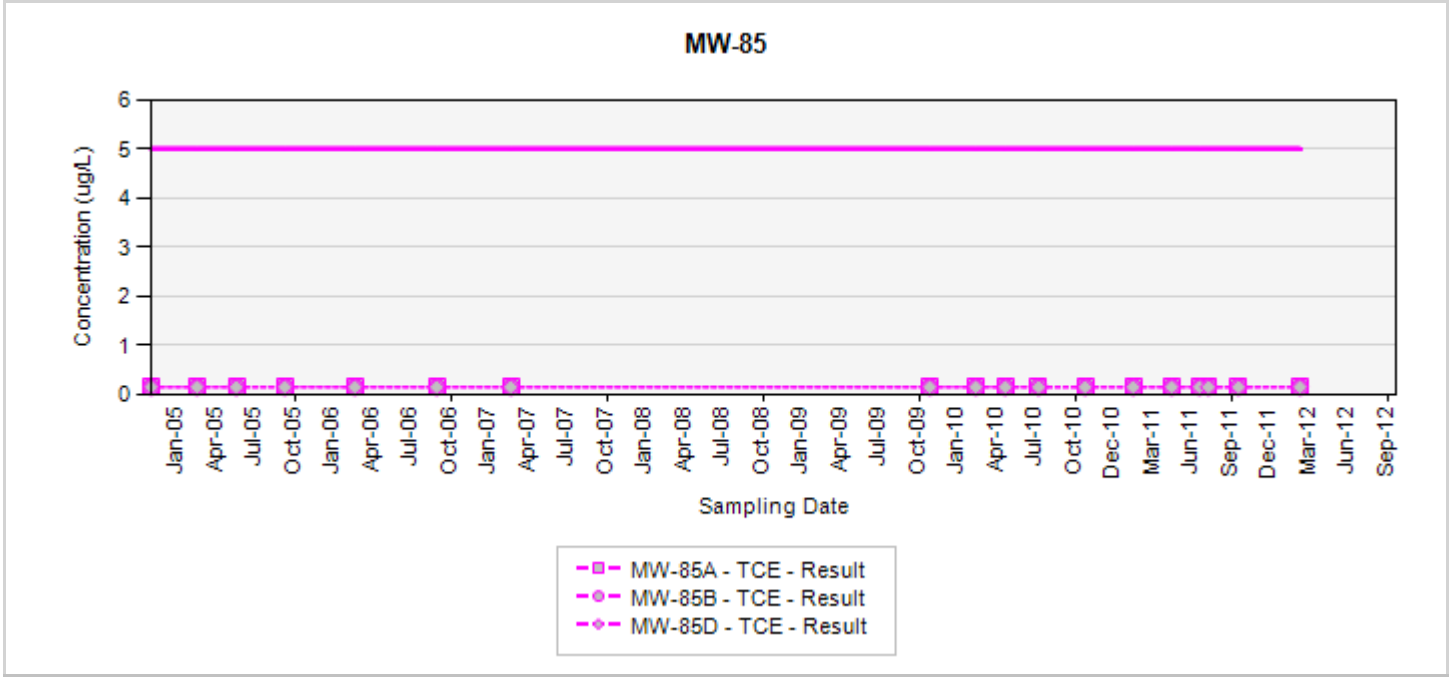

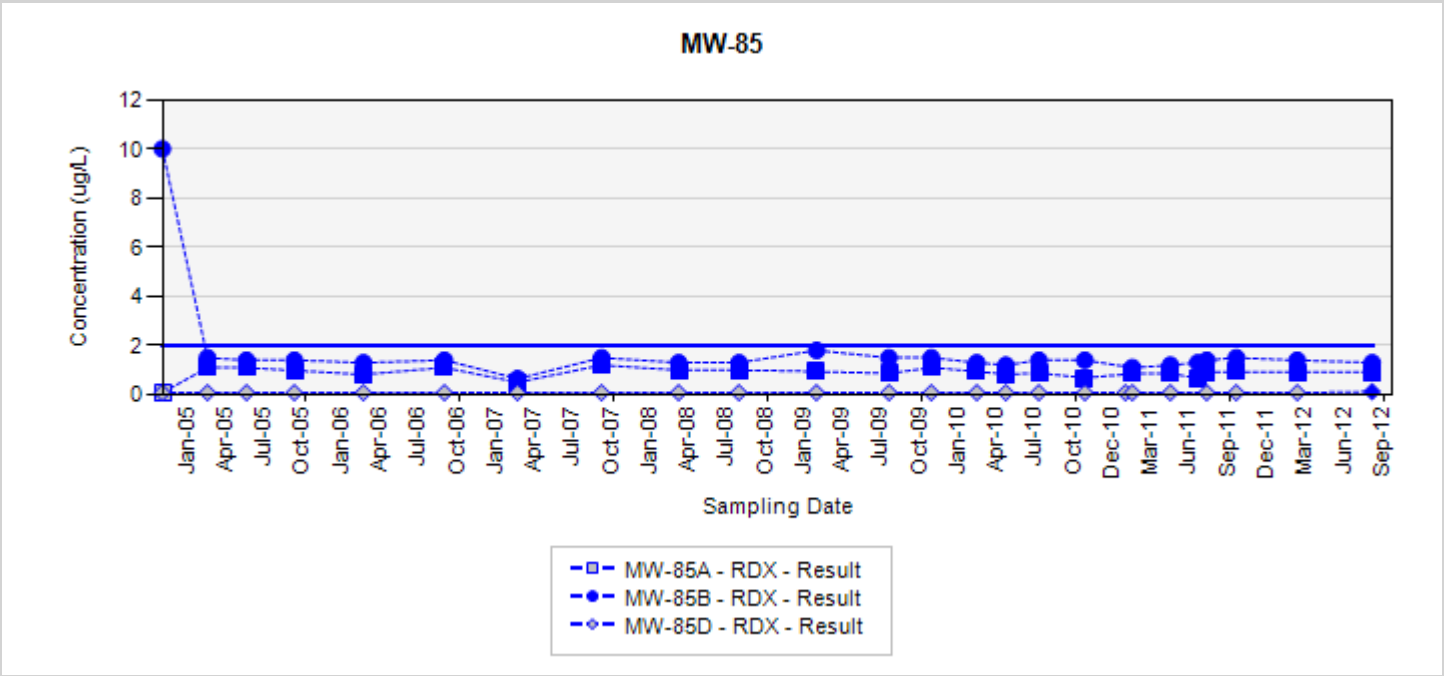

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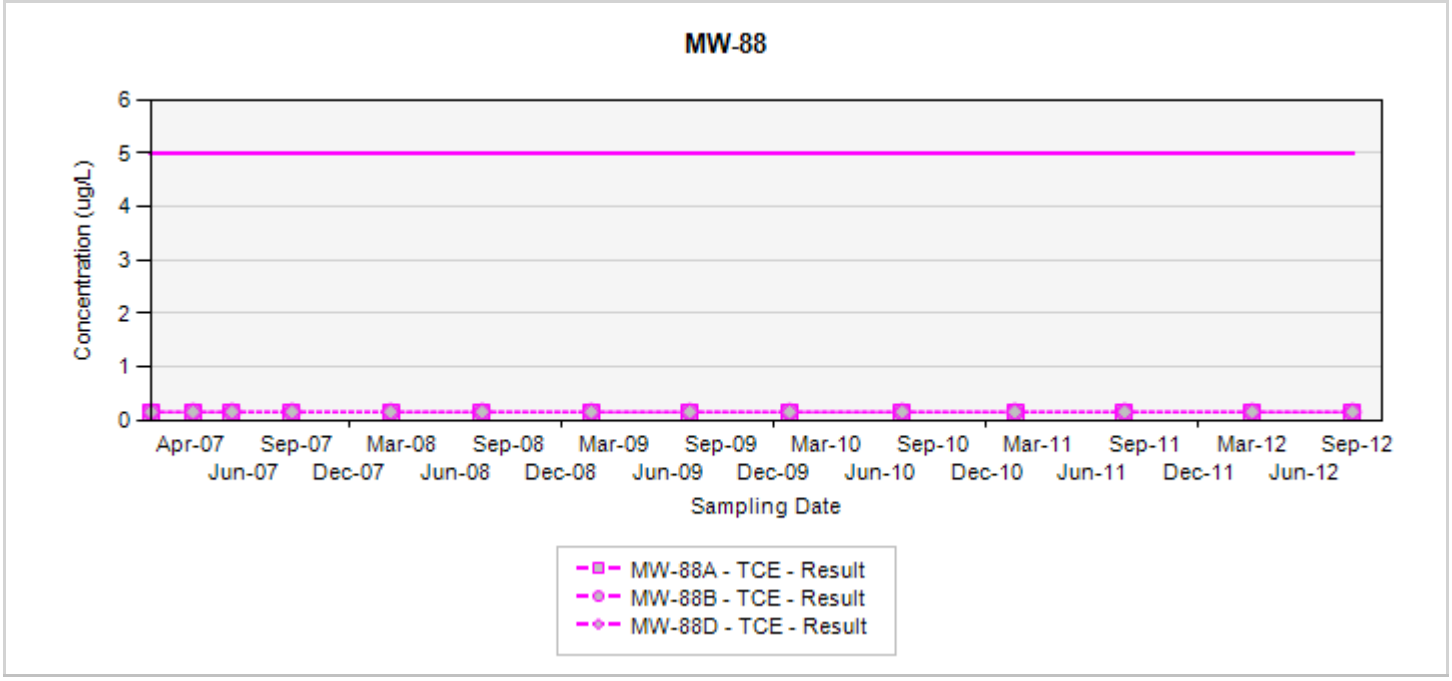

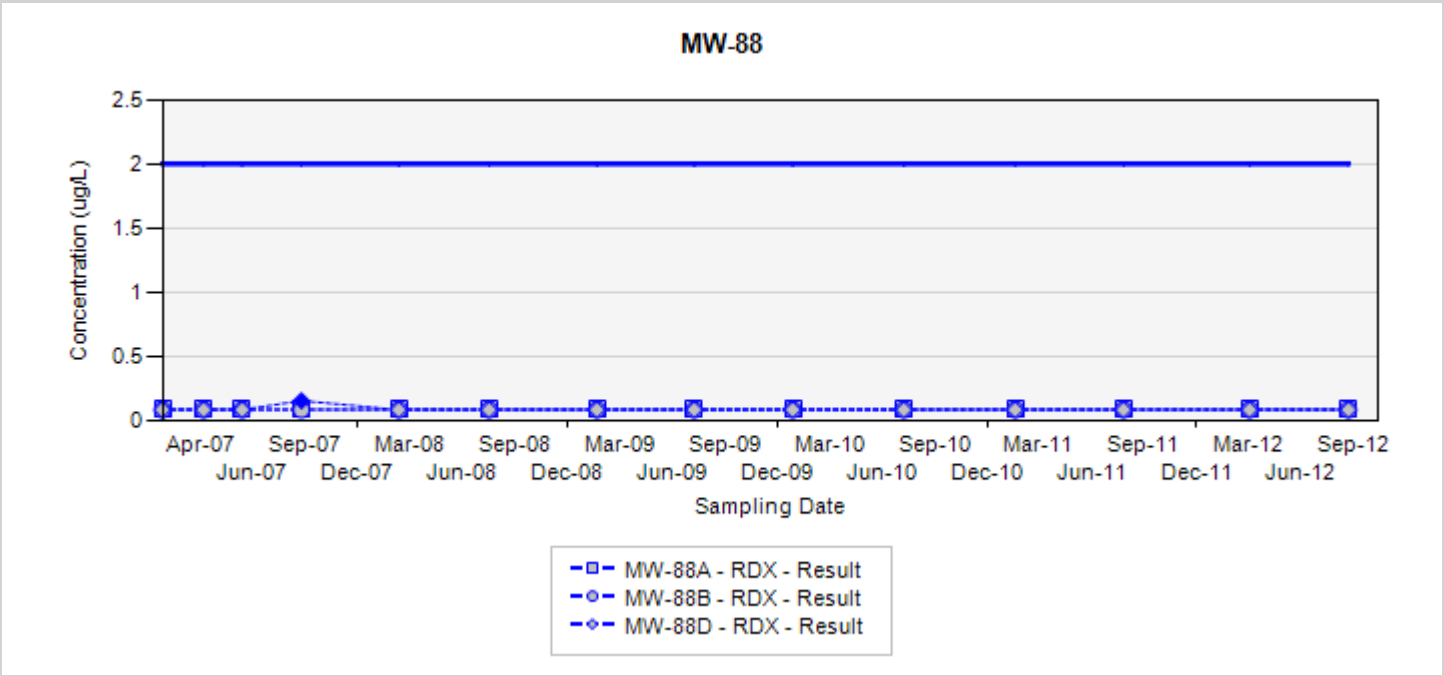

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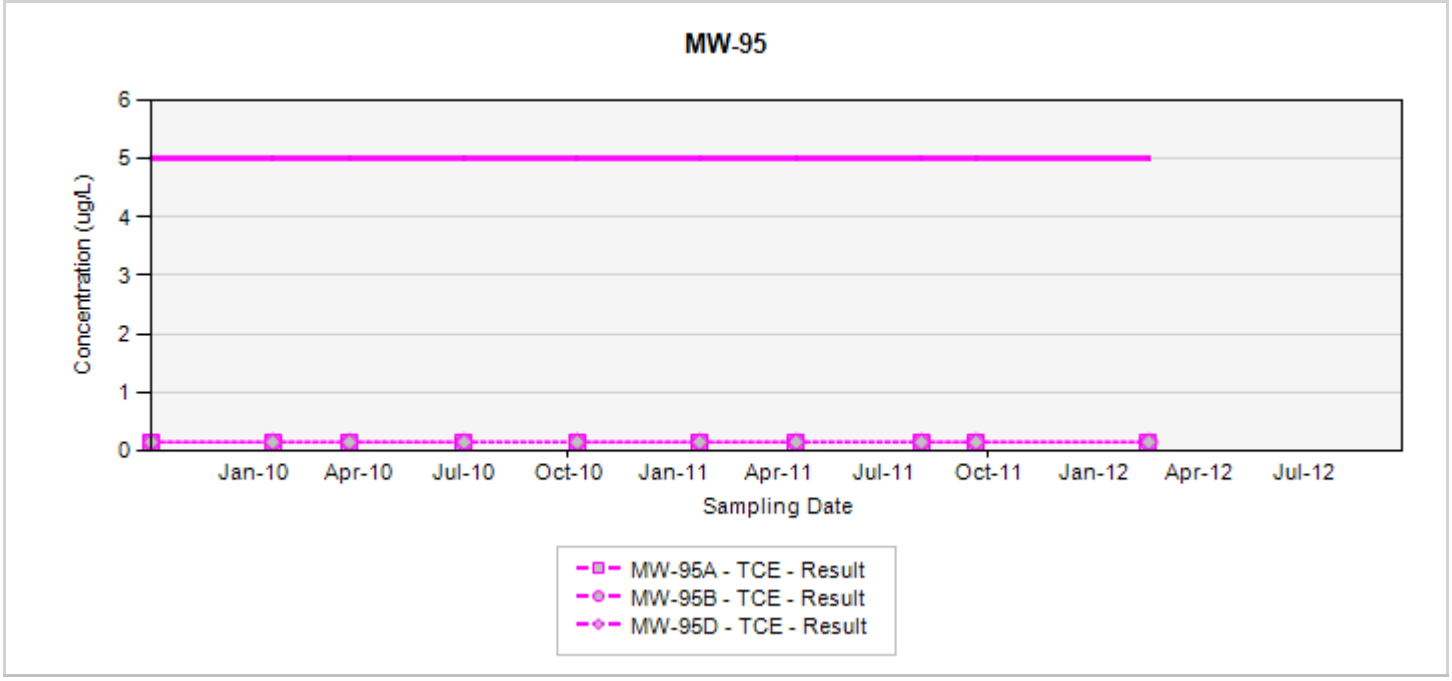

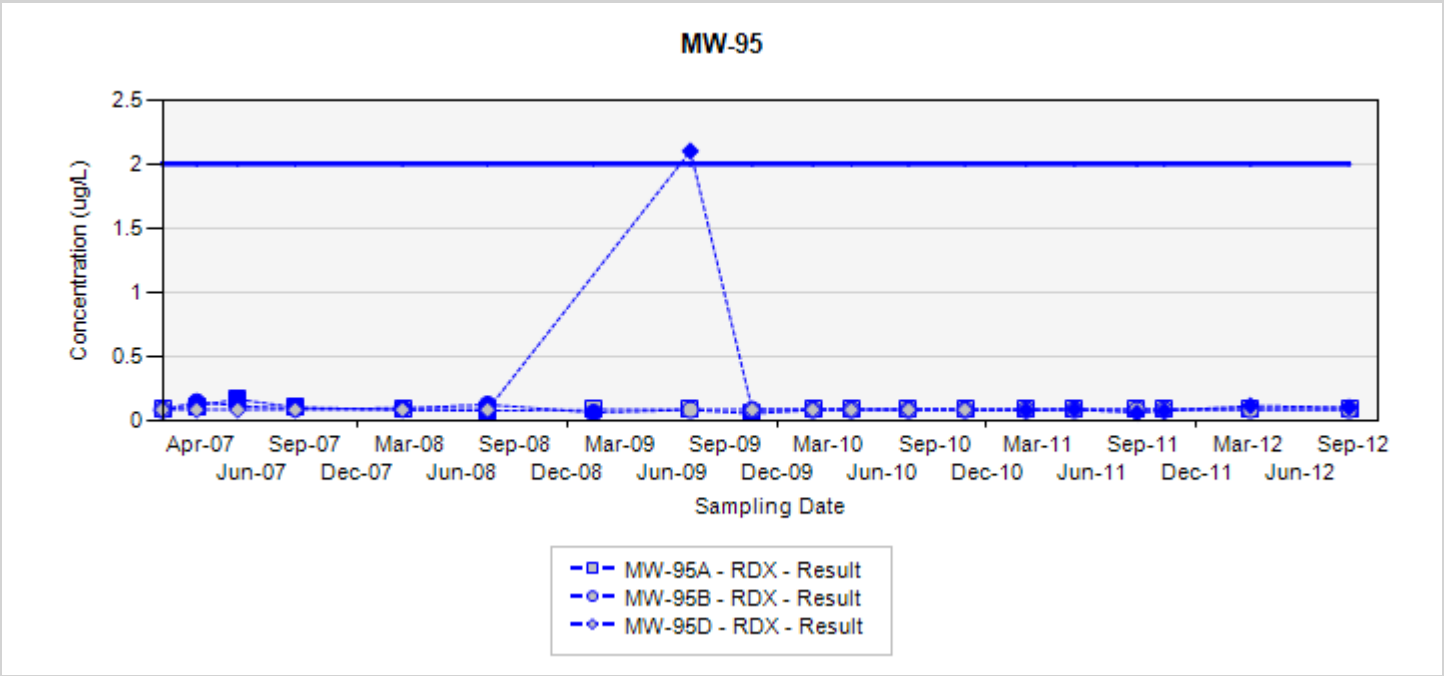

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Appendix B
Concentration Trend Charts for Select Water Supply Wells

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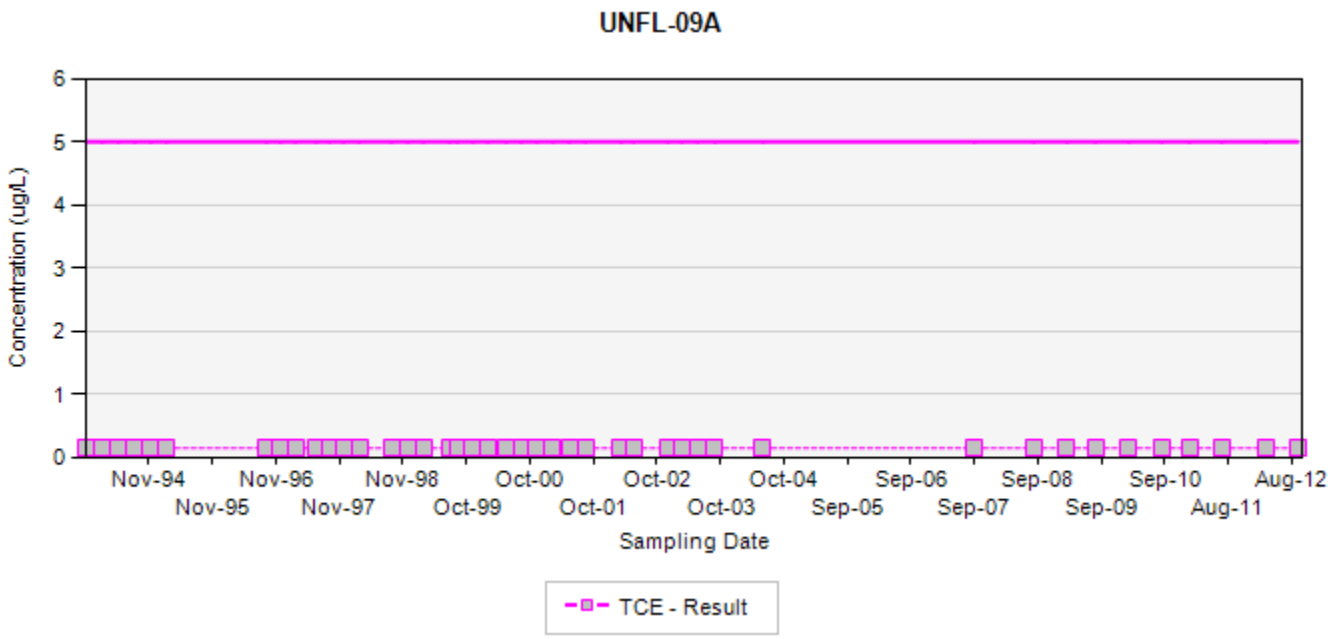
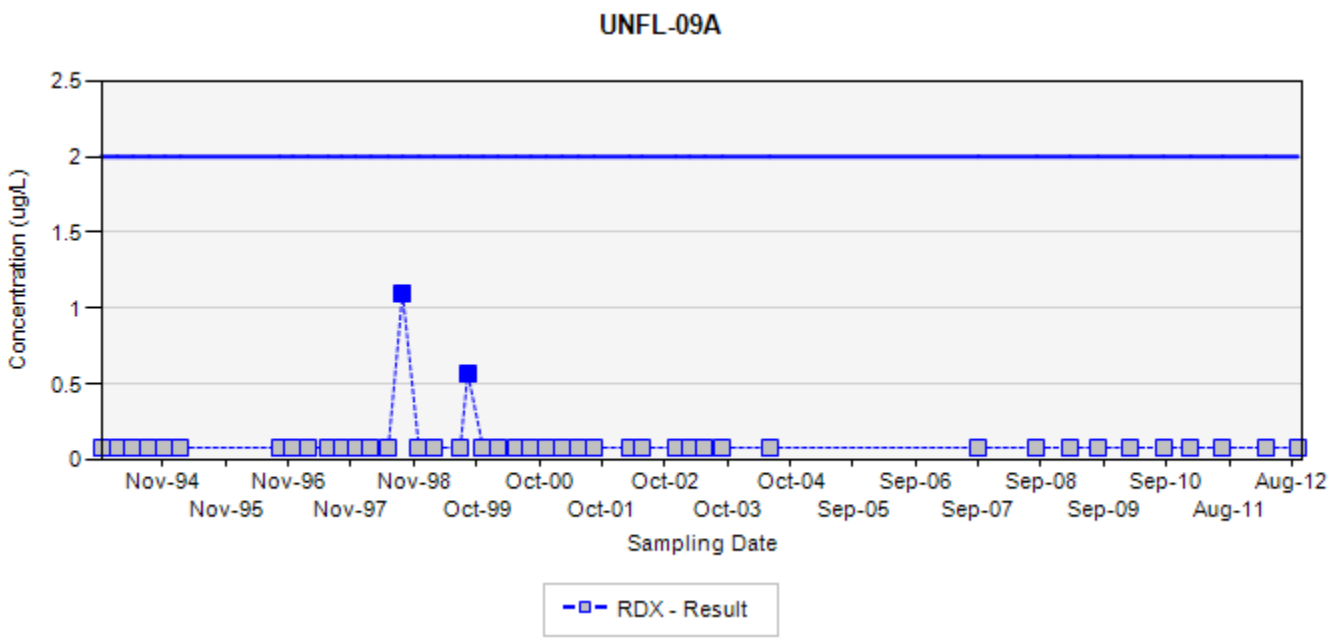
Appendix B
Concentration Trend Charts for Water Supply Well Locations





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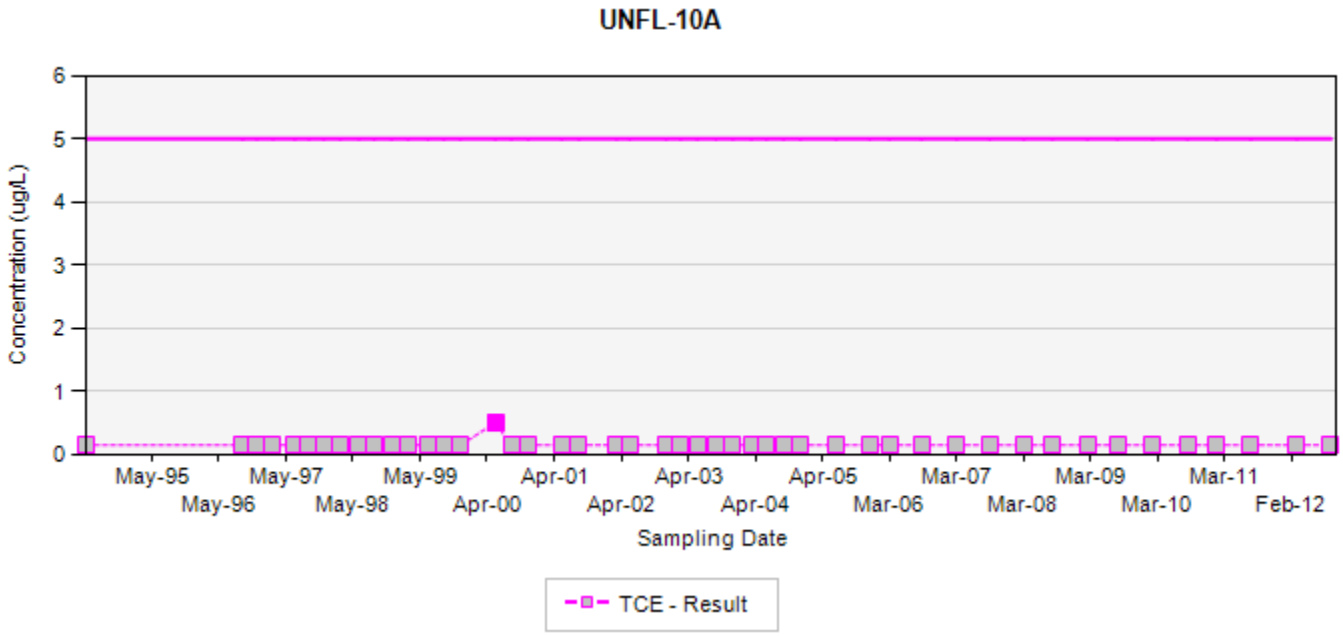

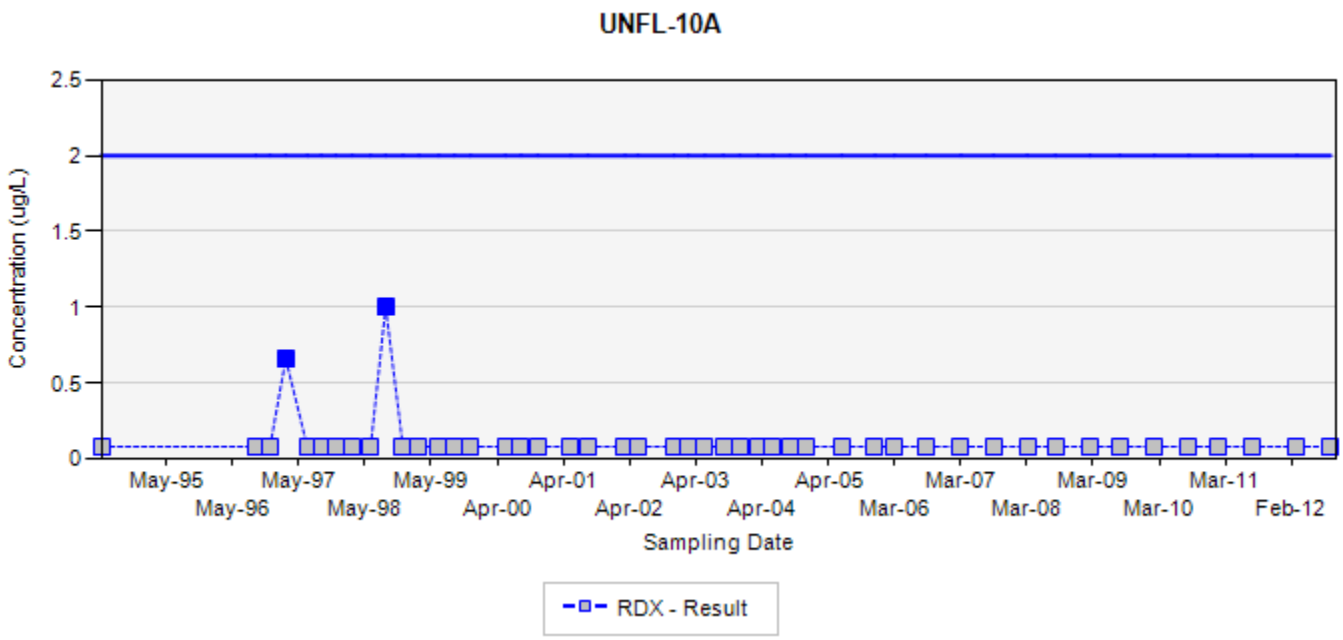

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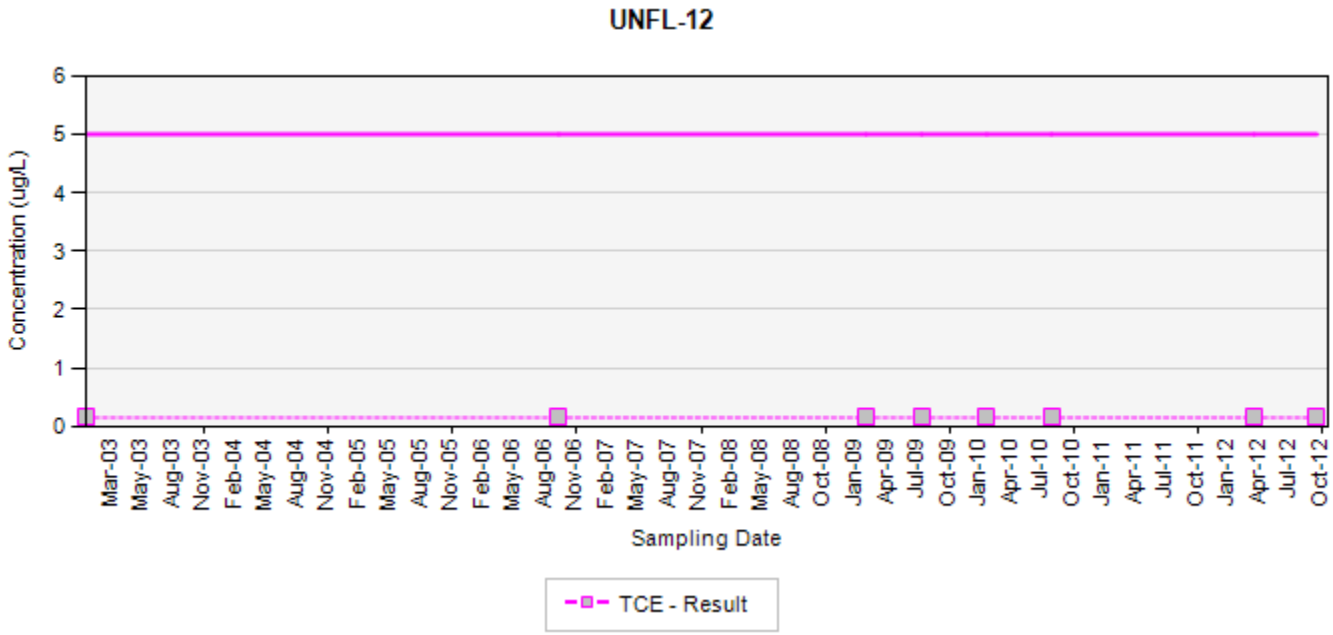

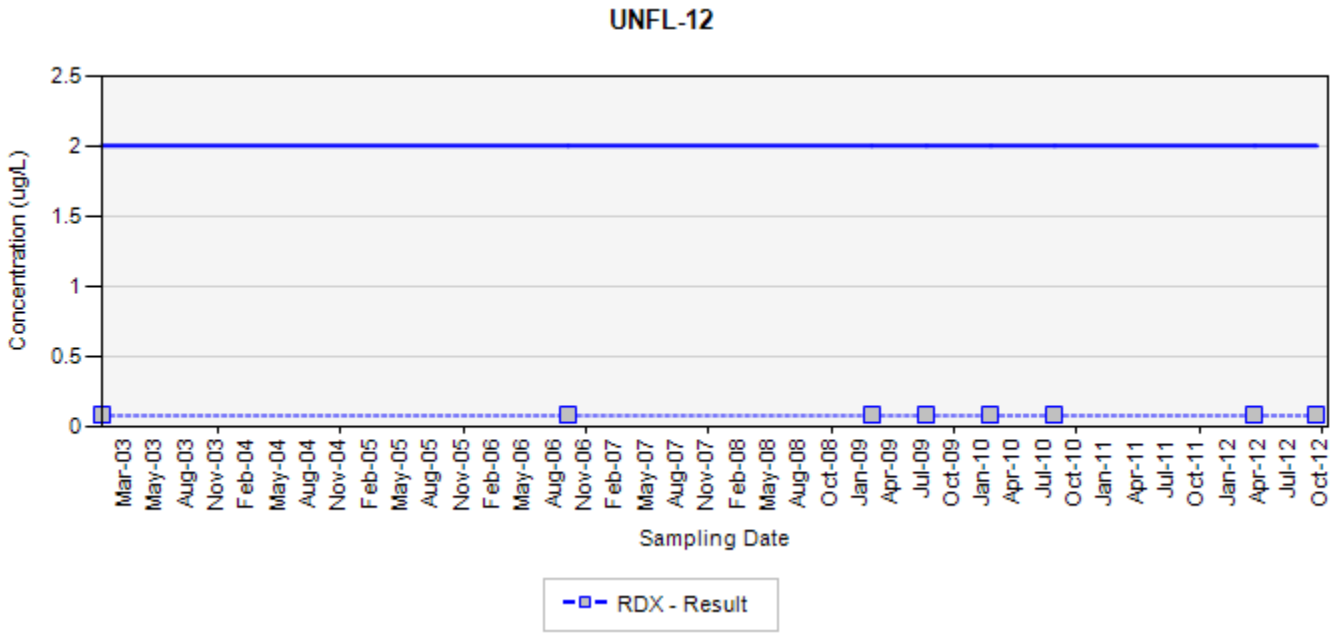

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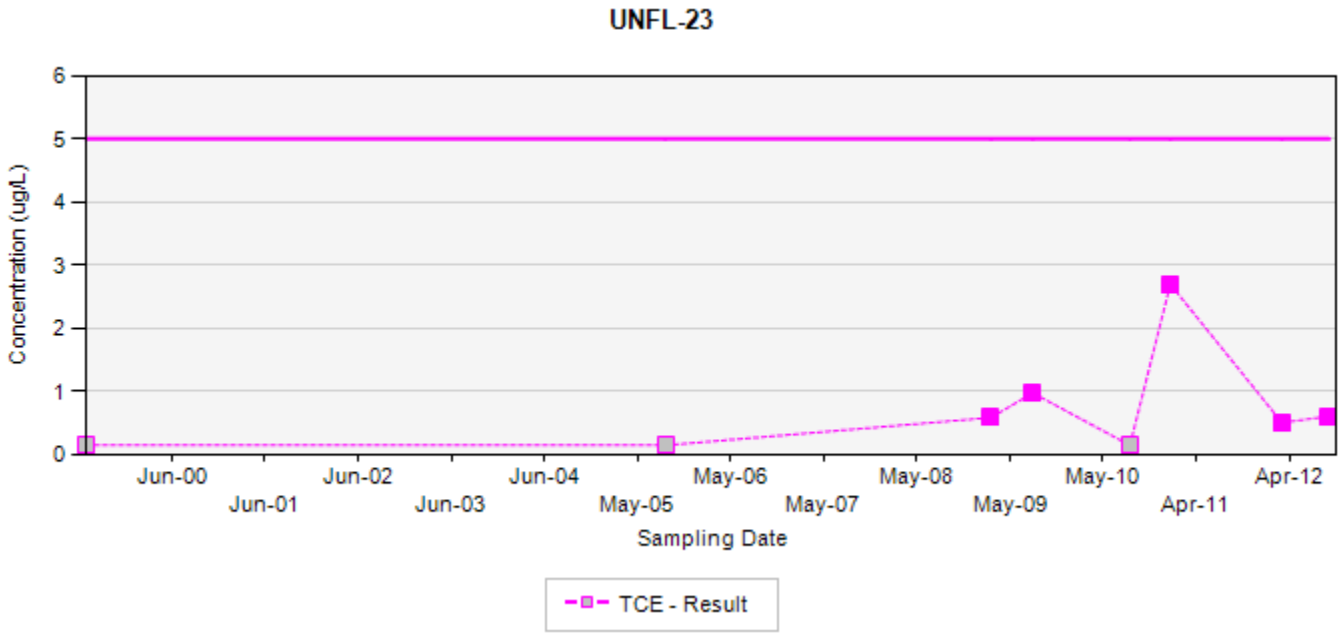

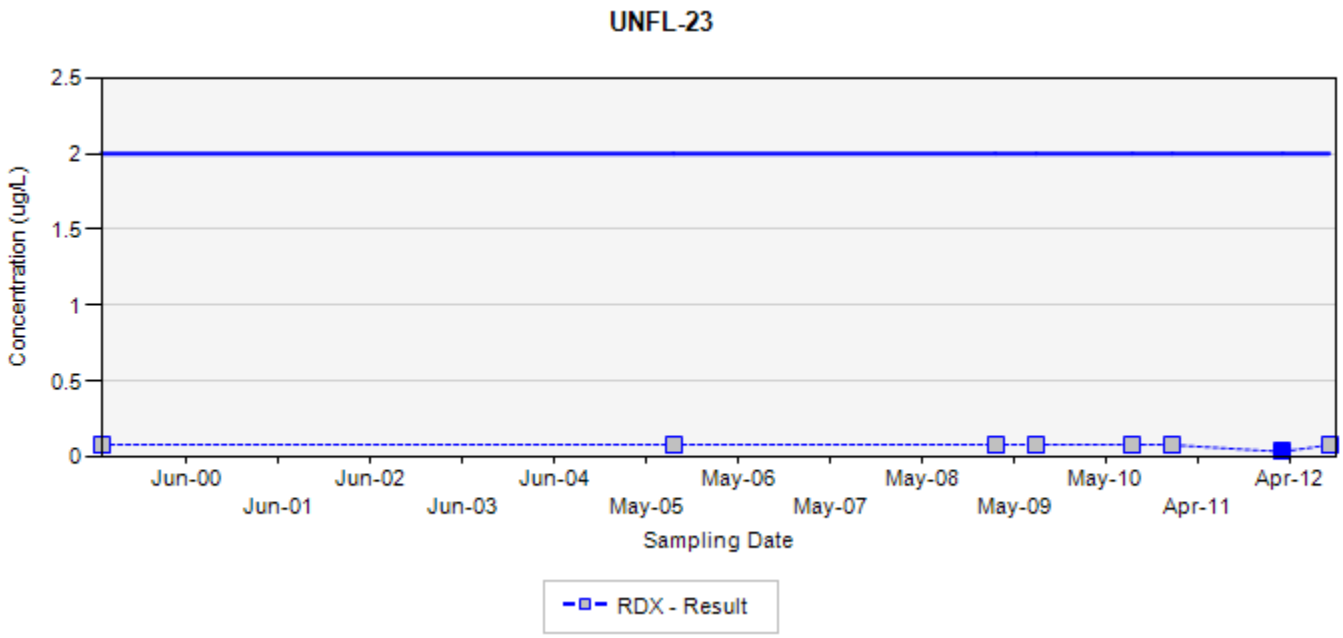

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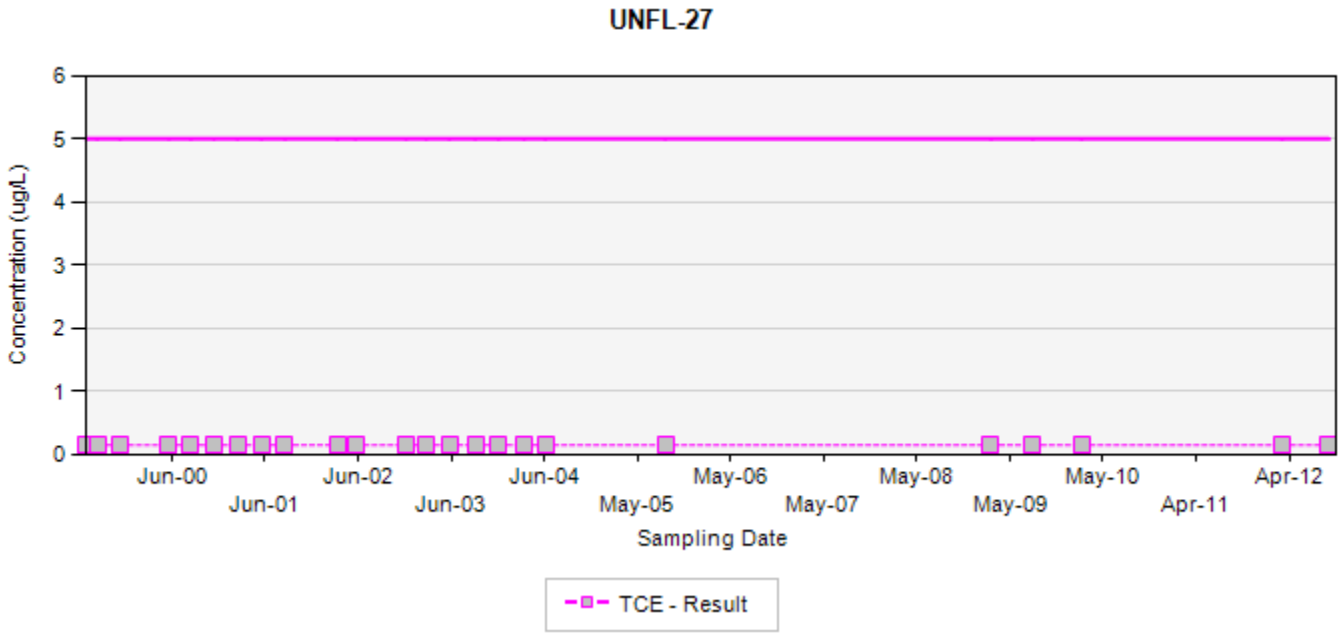

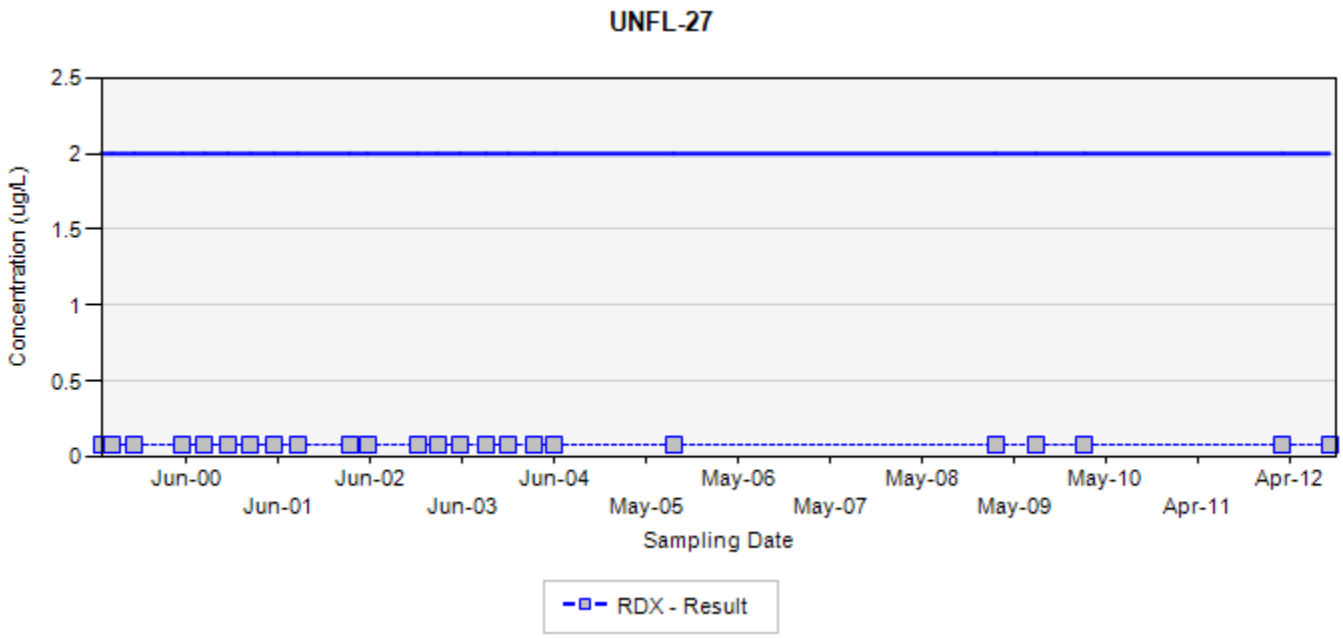

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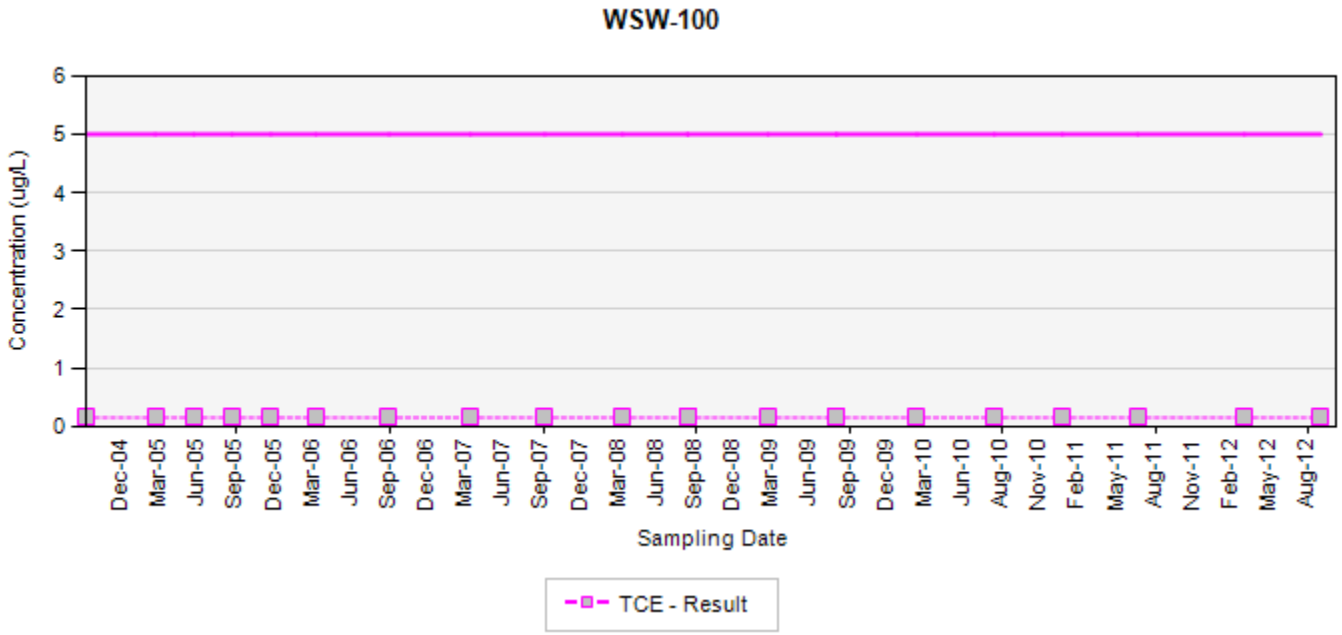

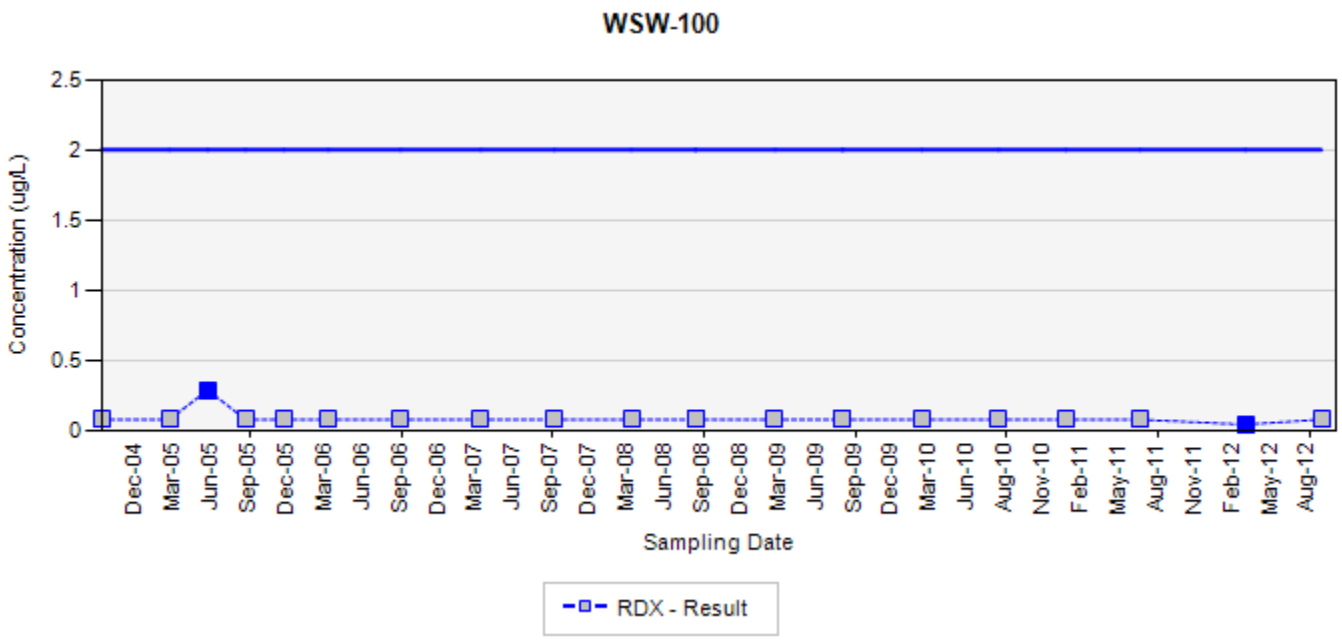

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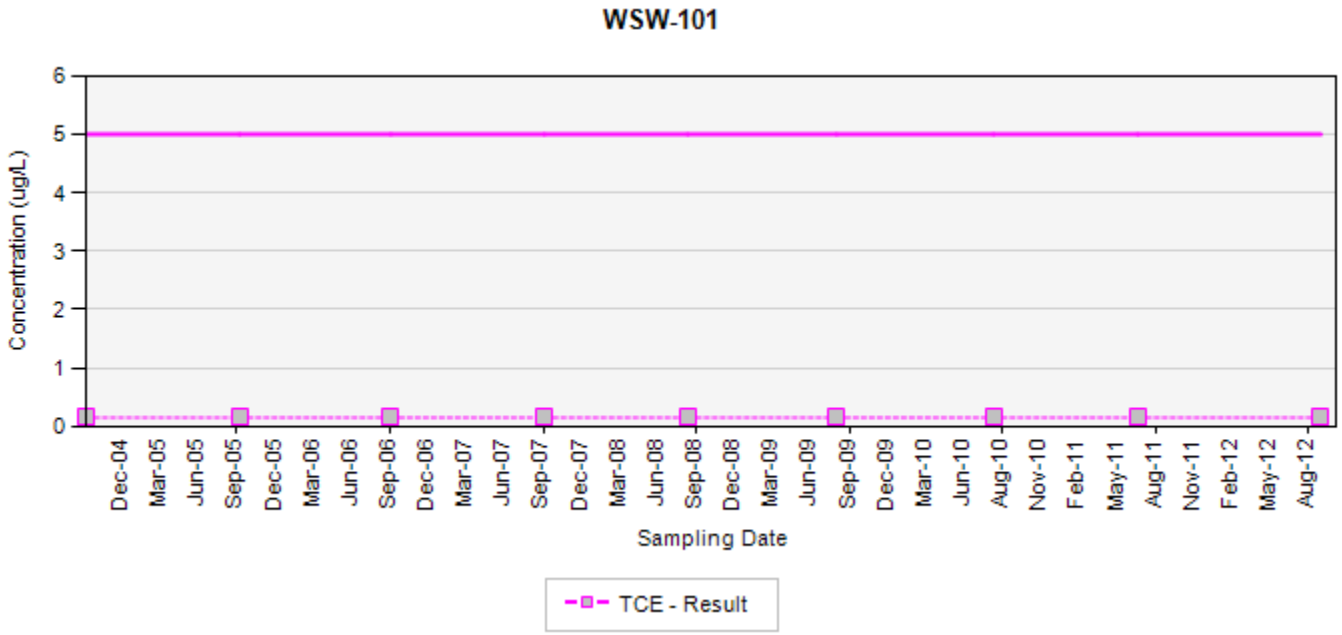

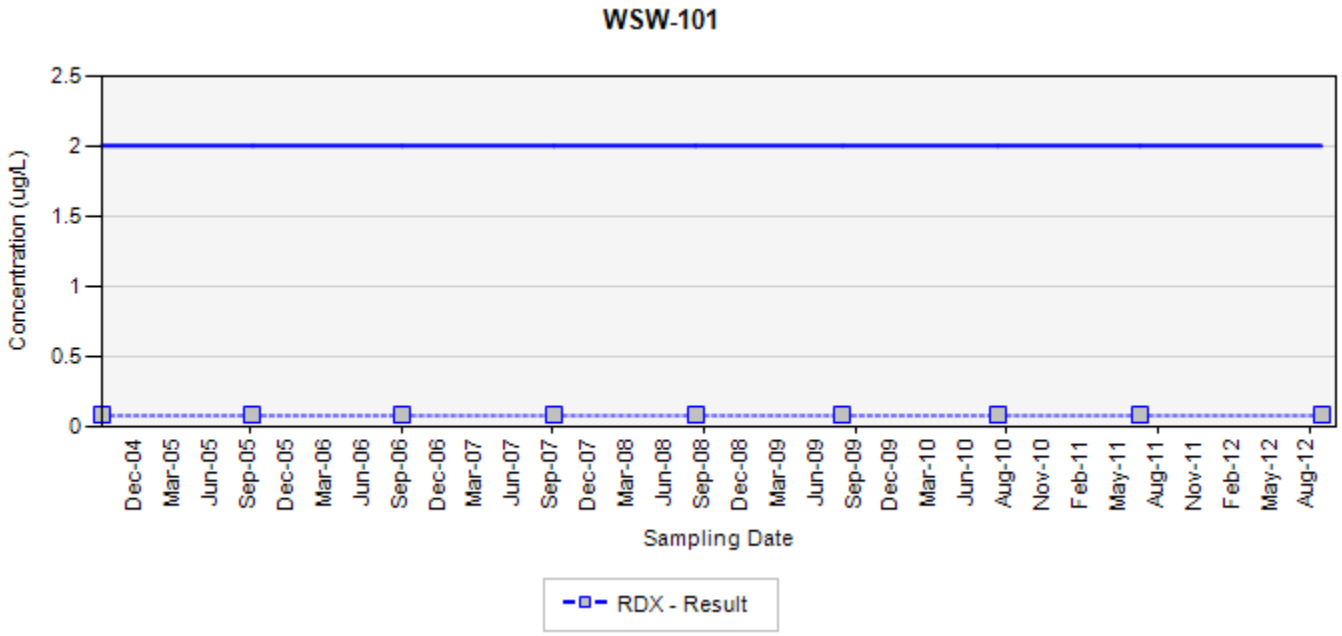

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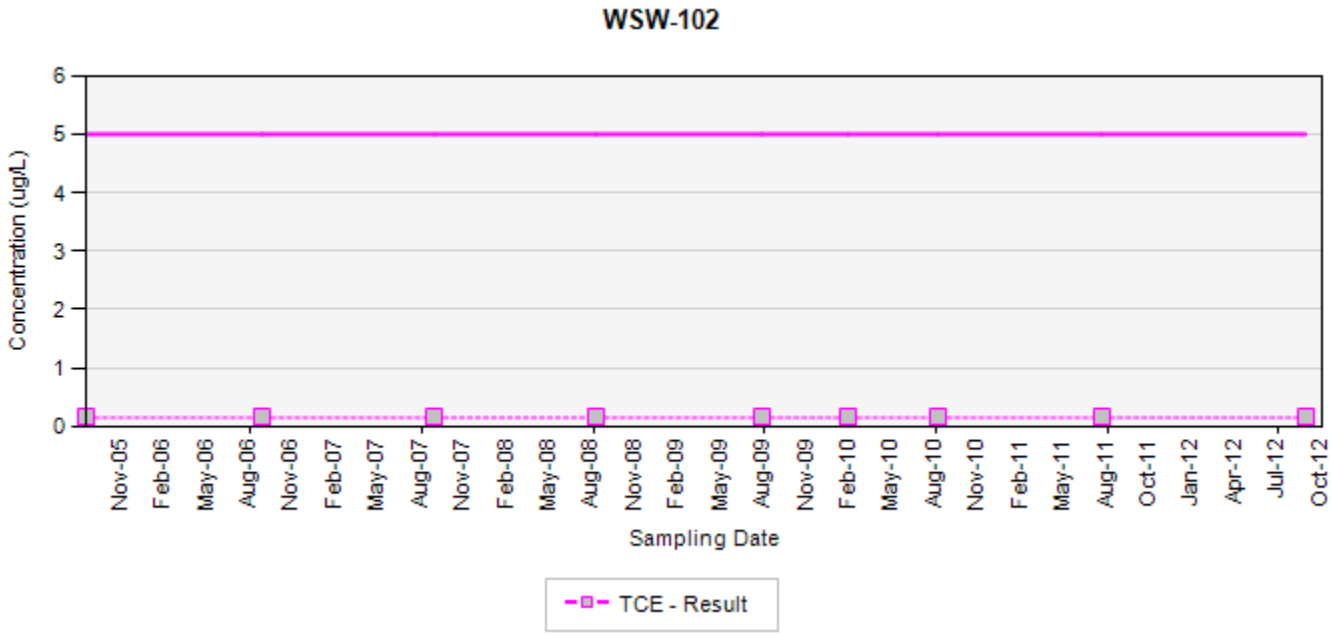

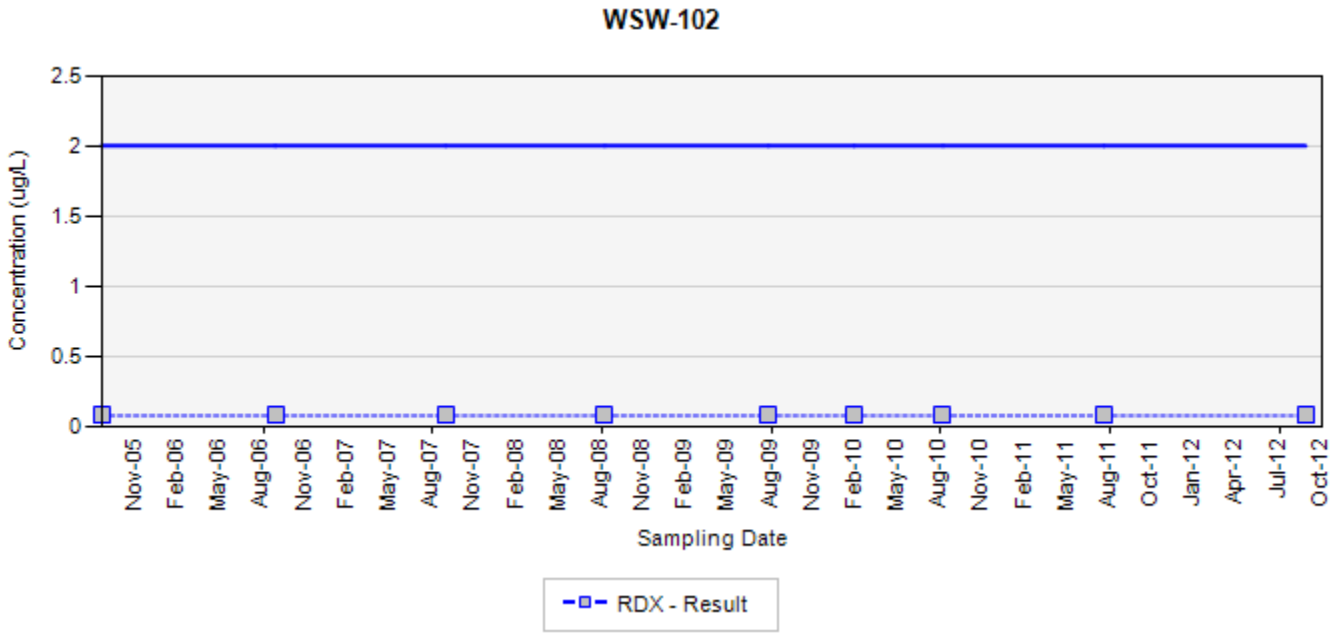

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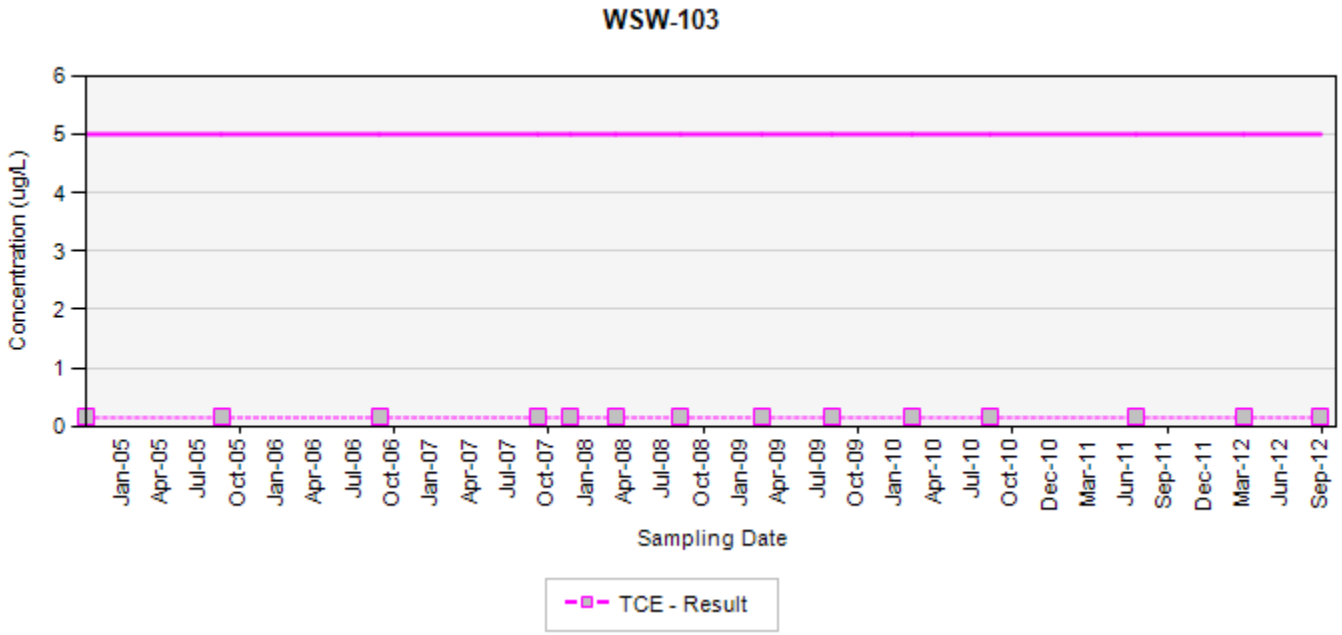

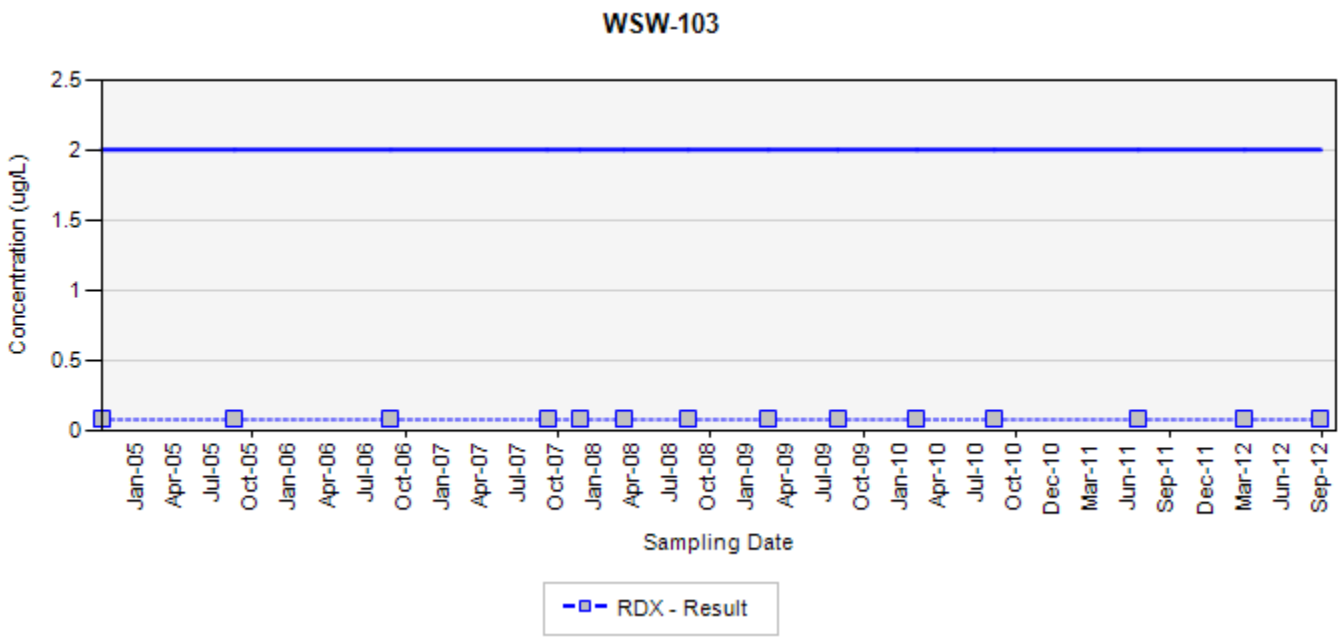

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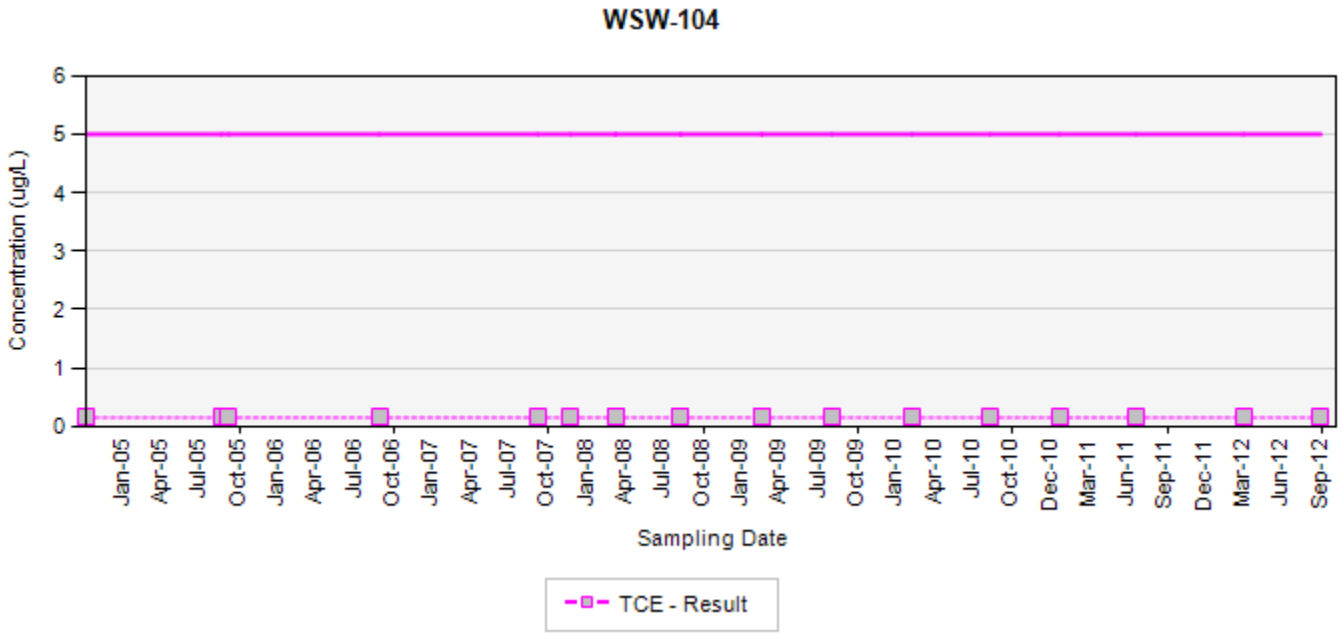

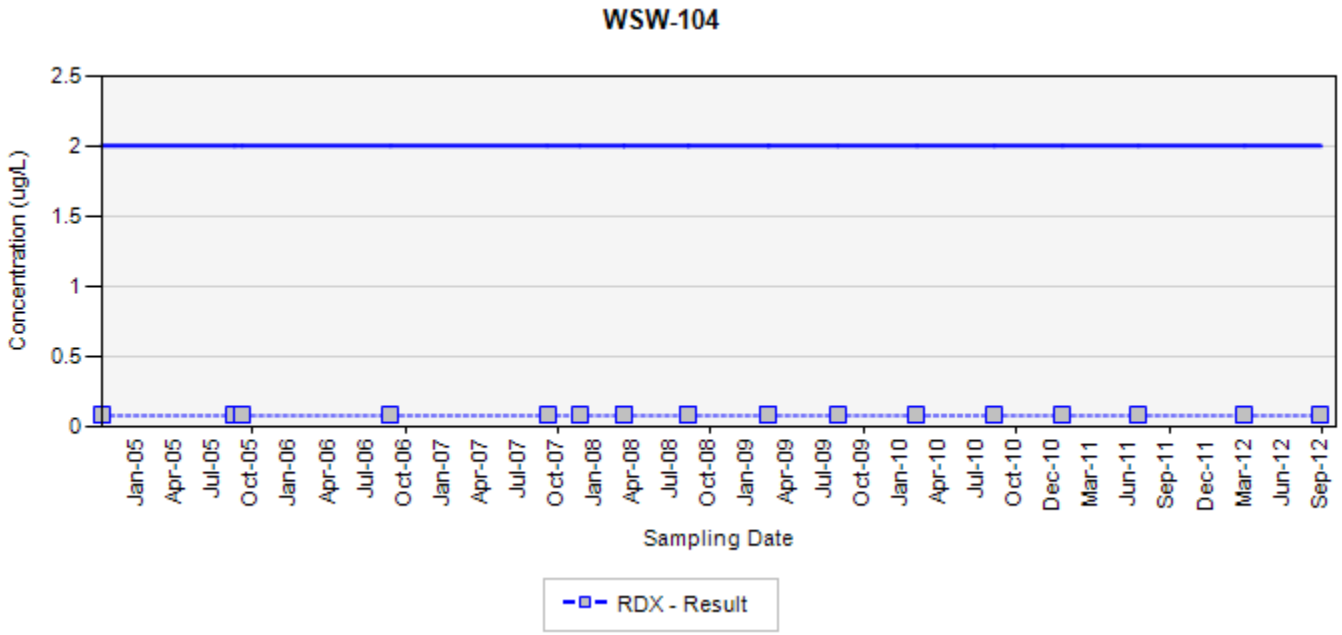

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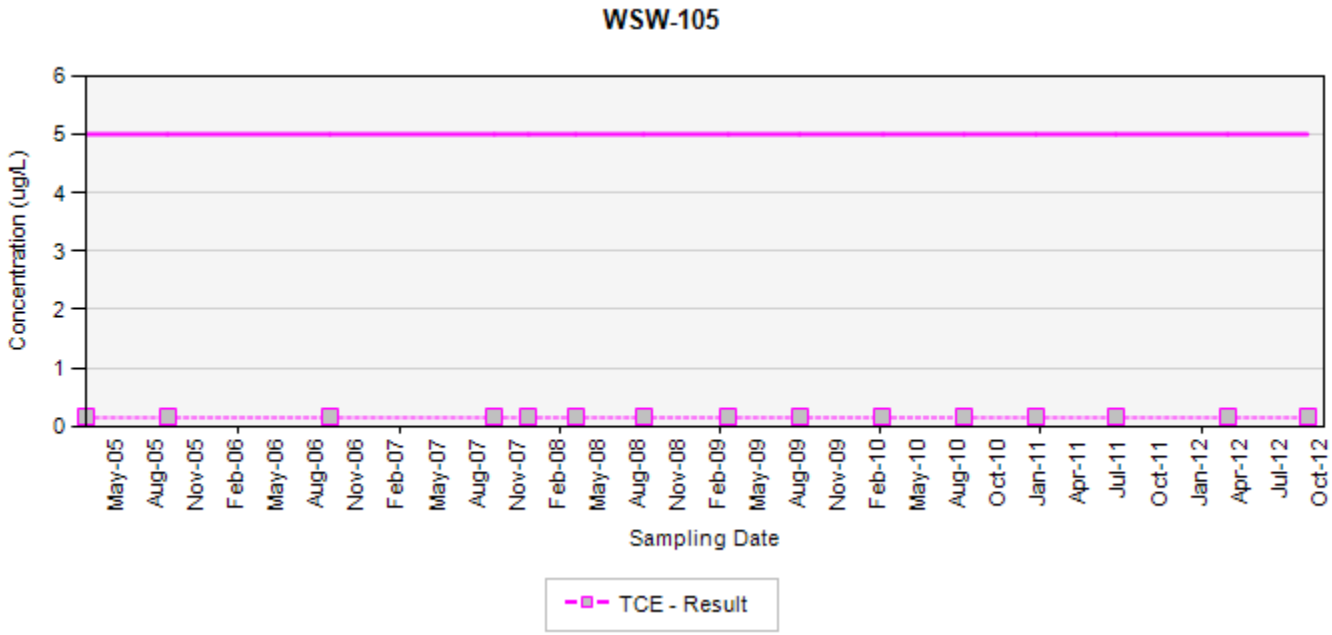

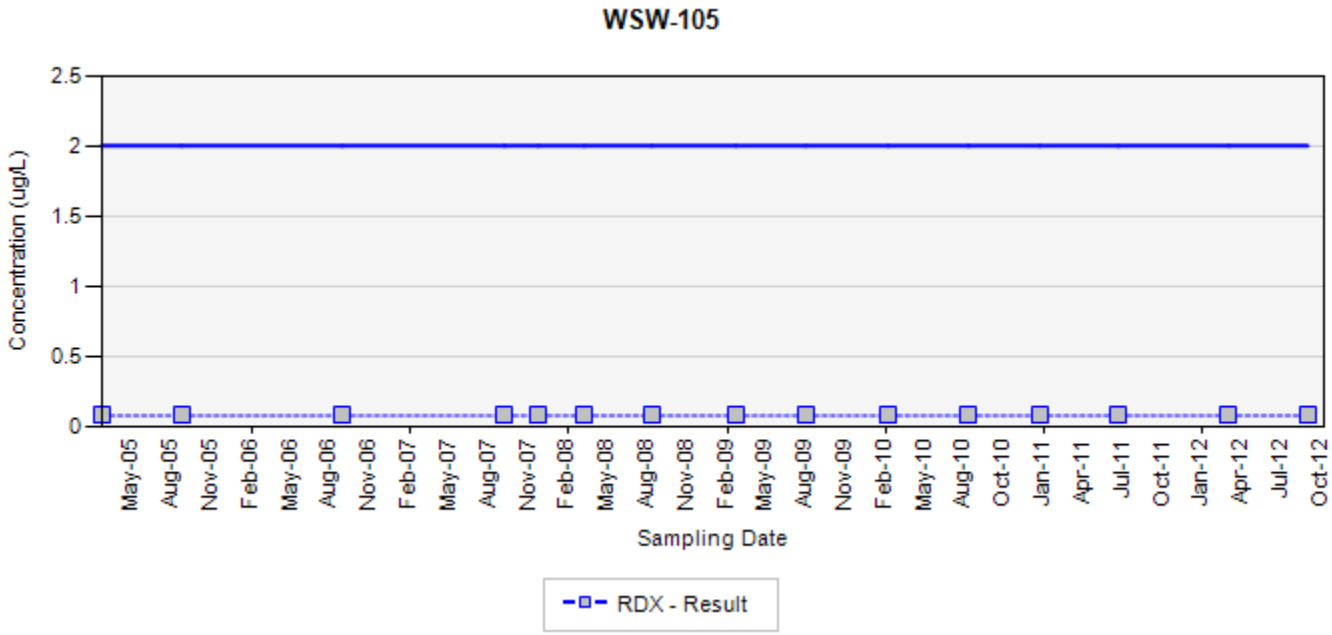

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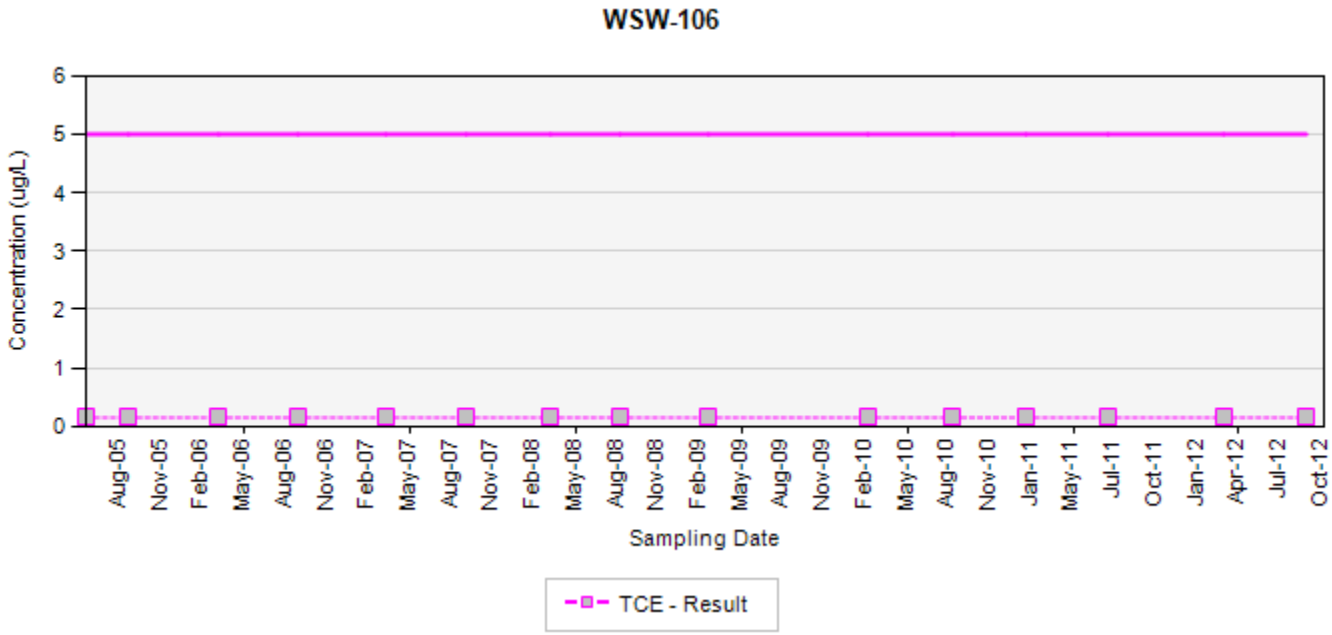

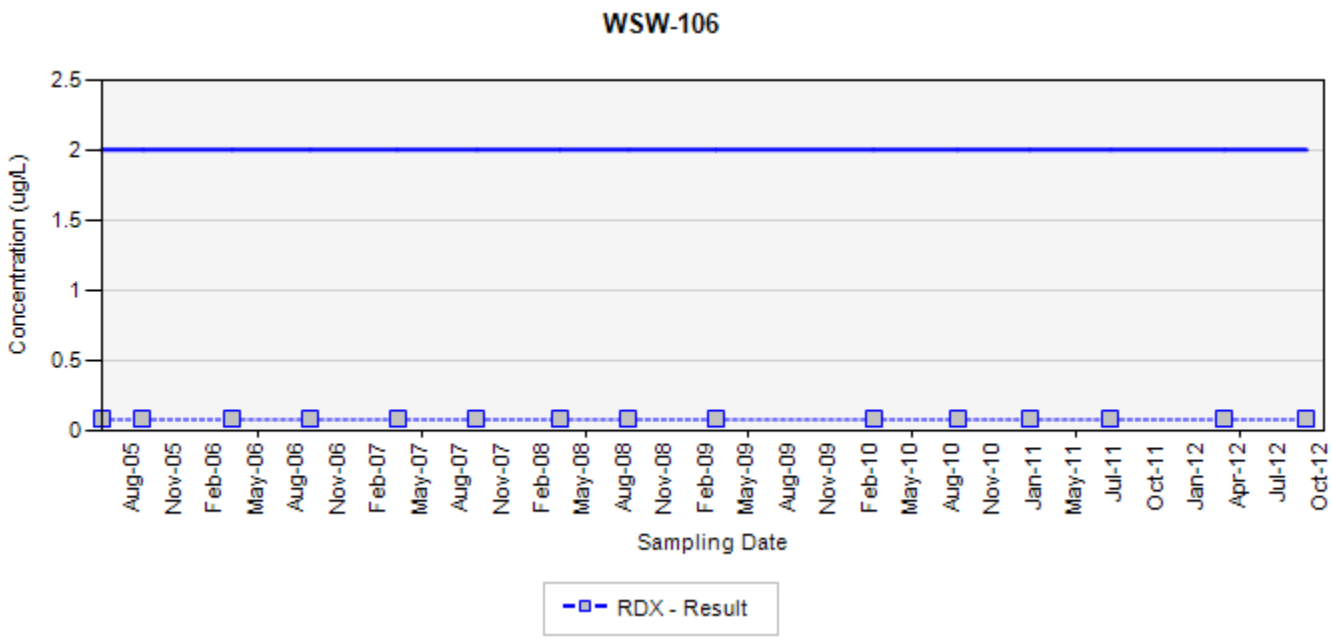

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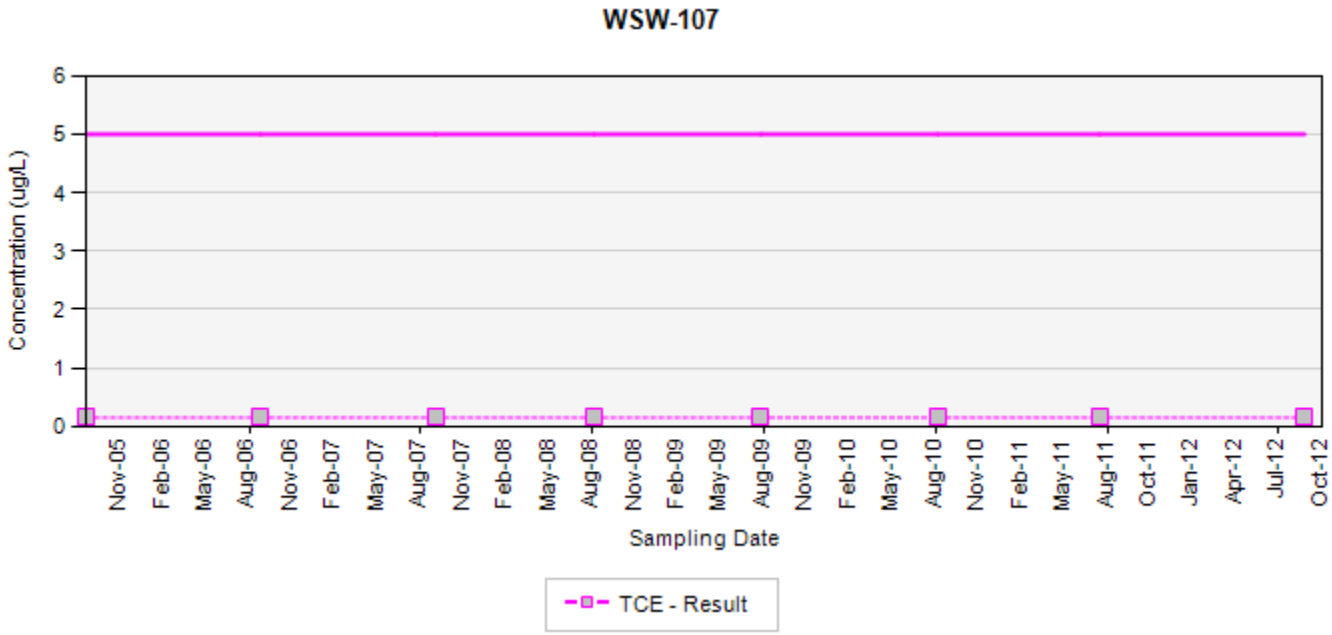

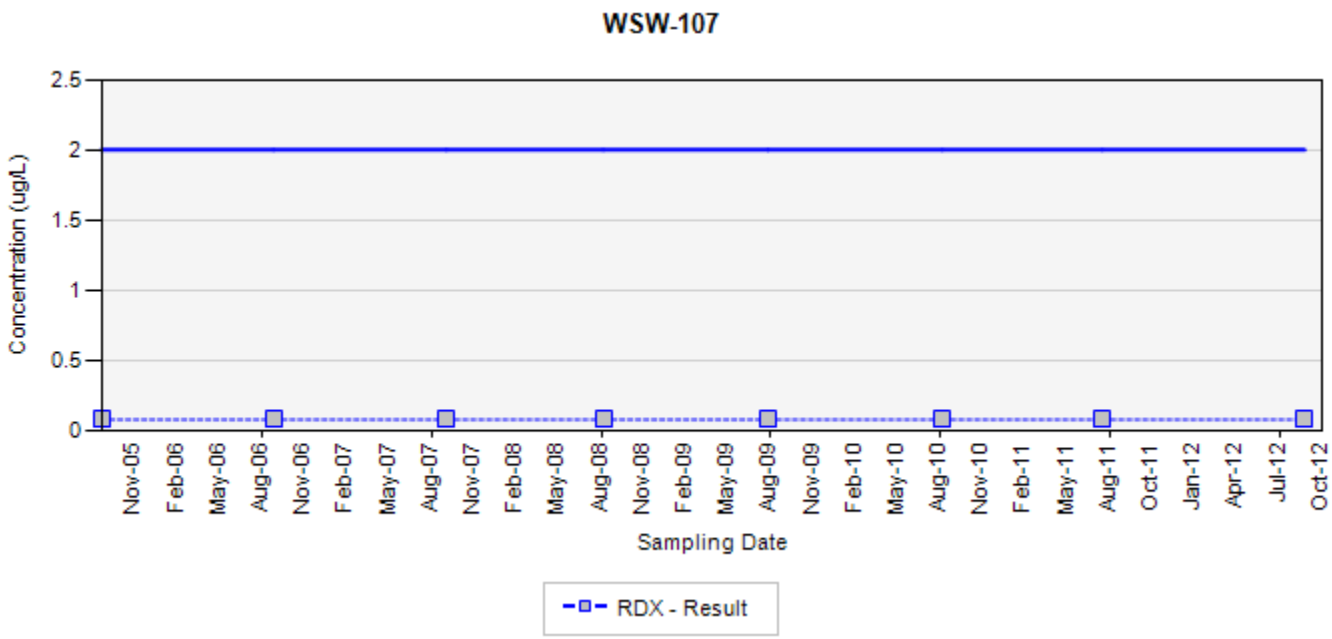

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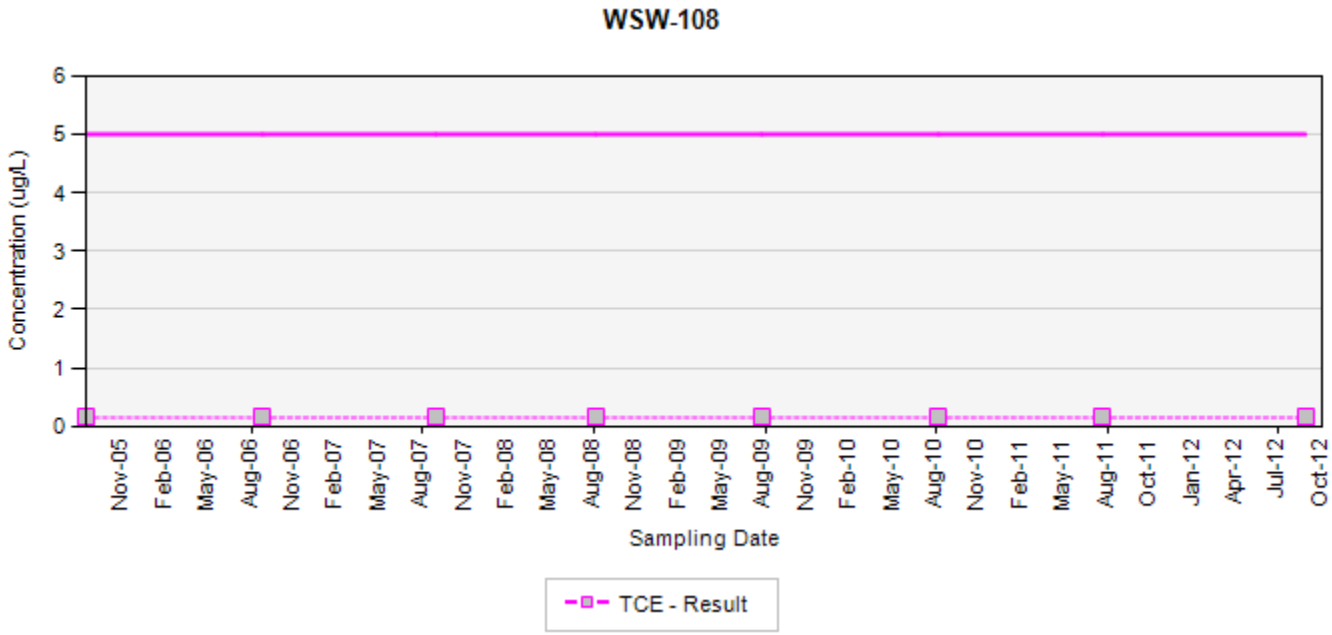

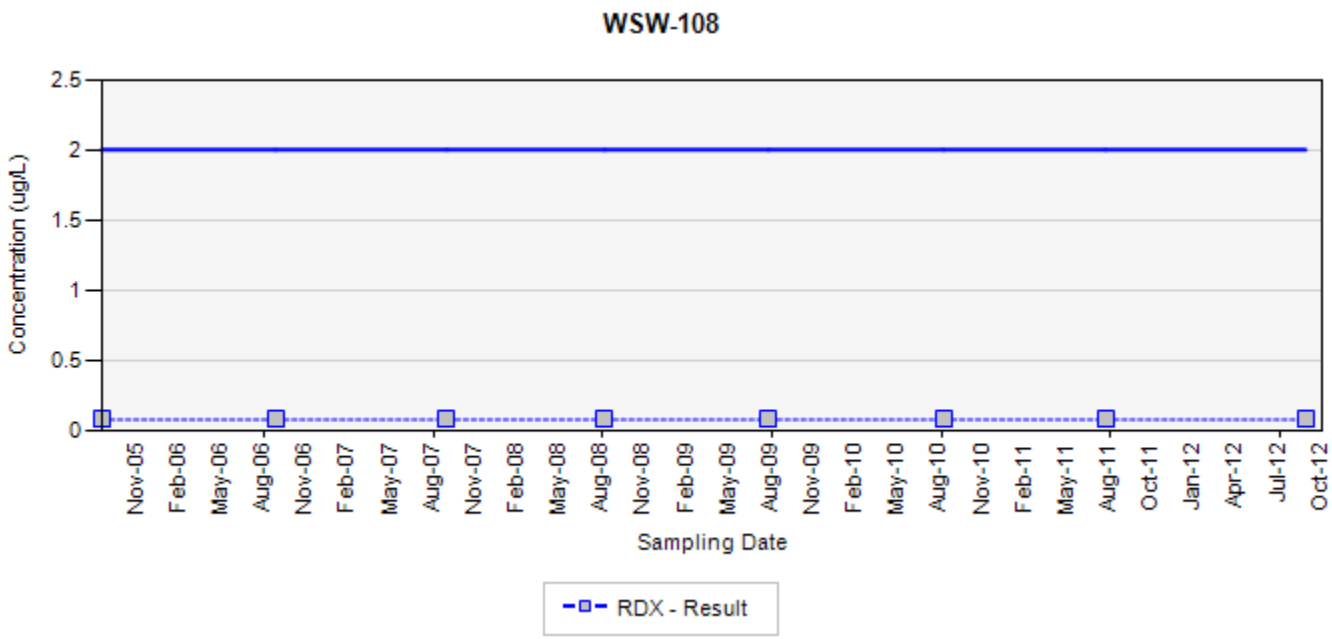

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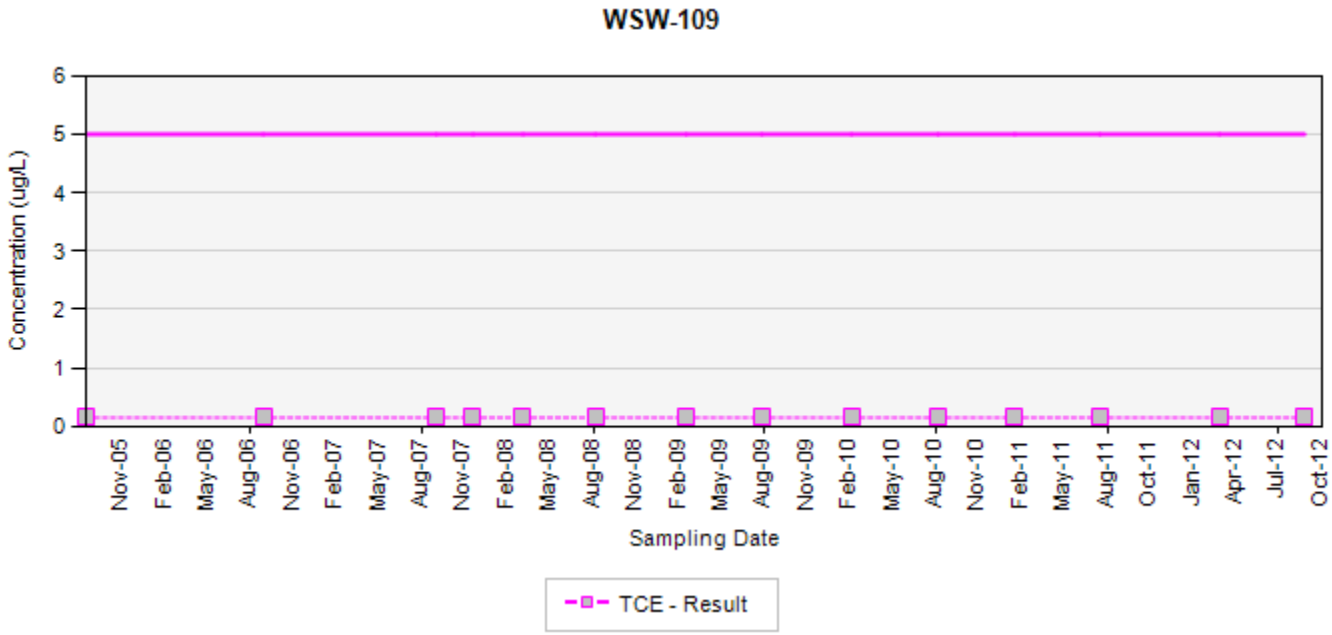

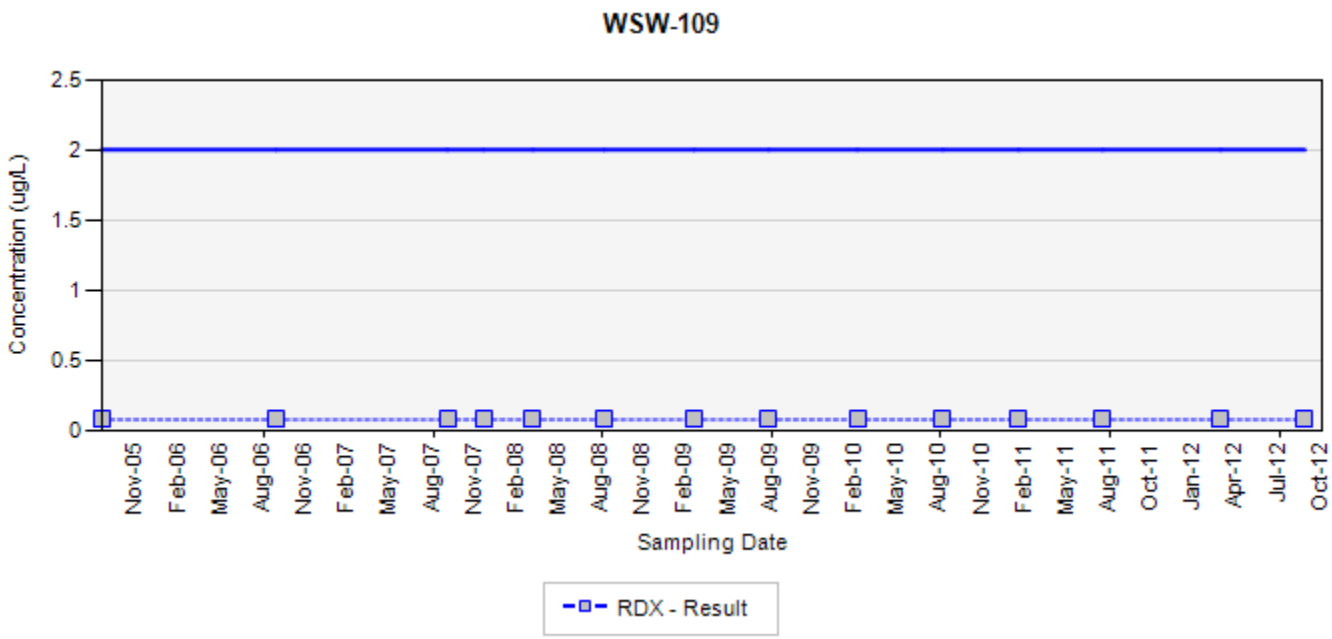

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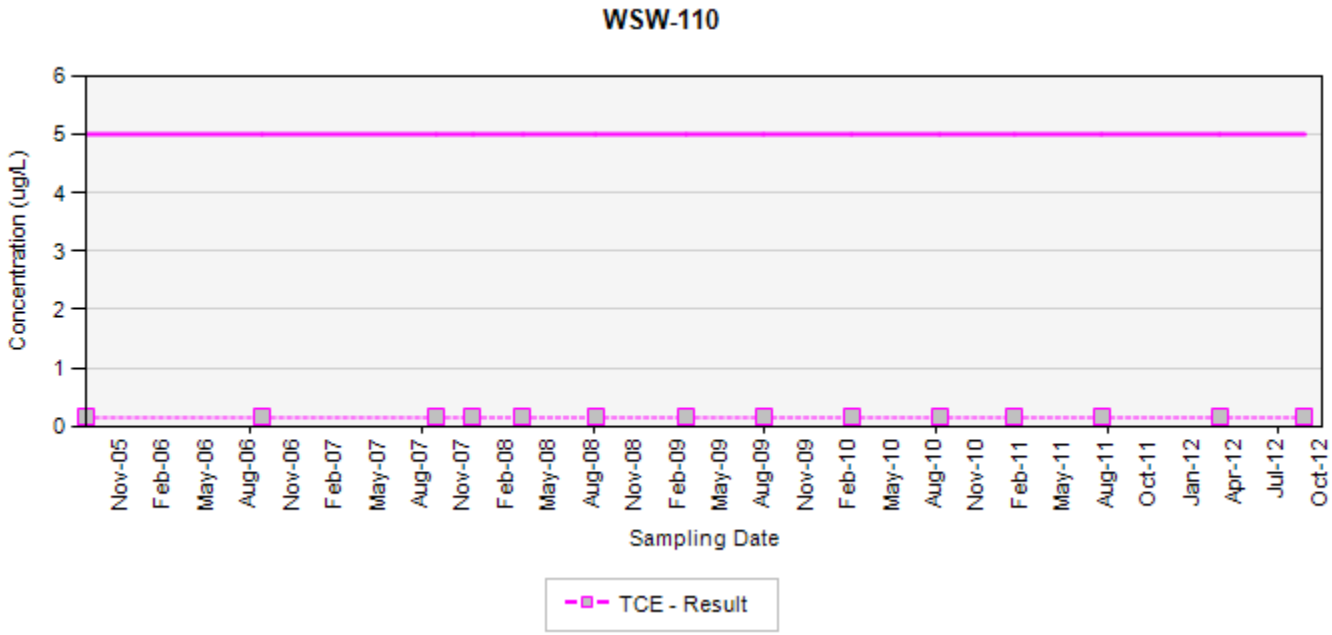

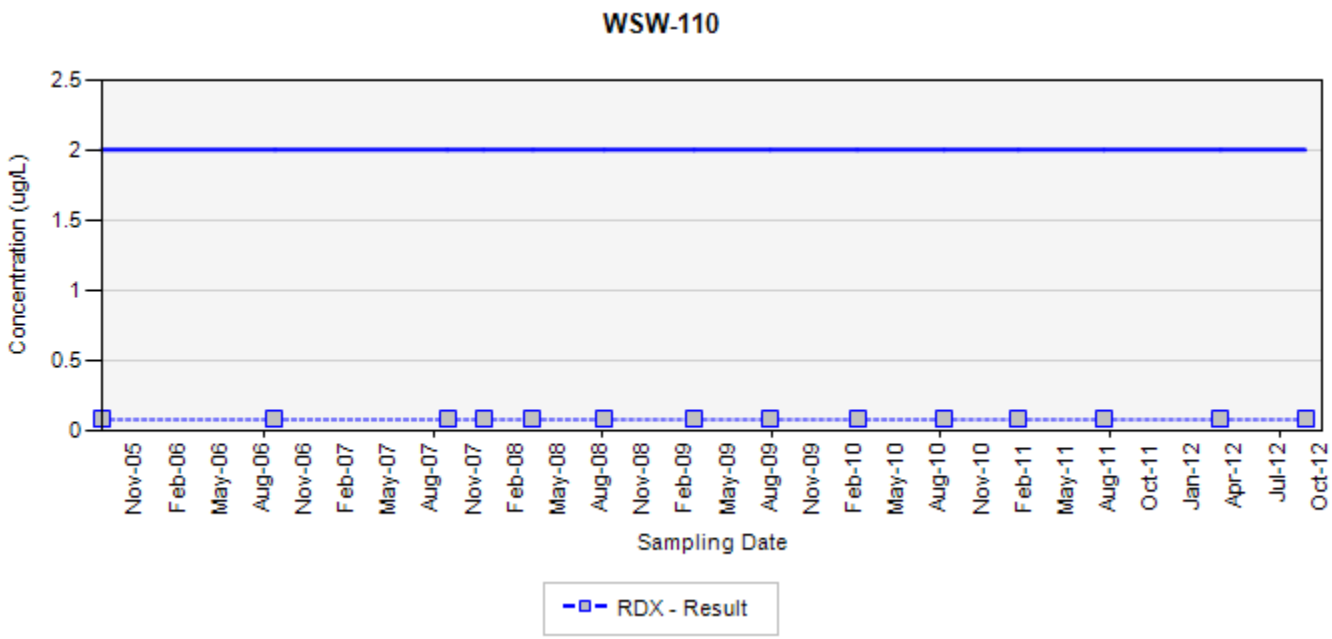

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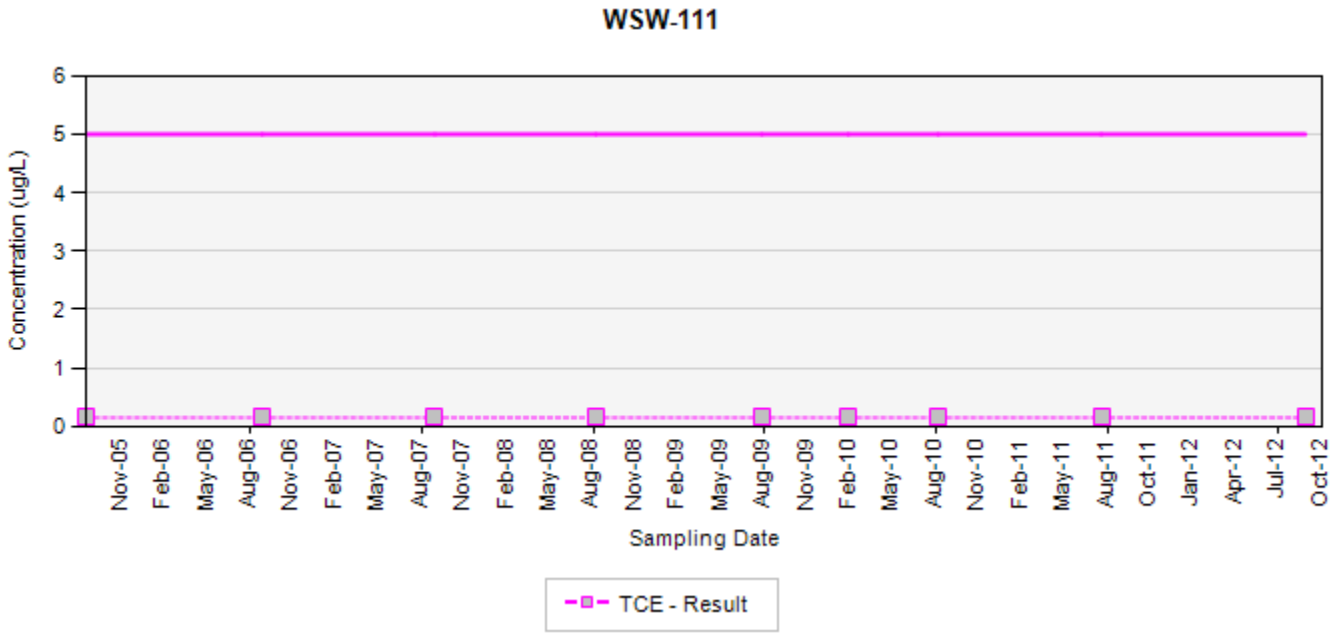

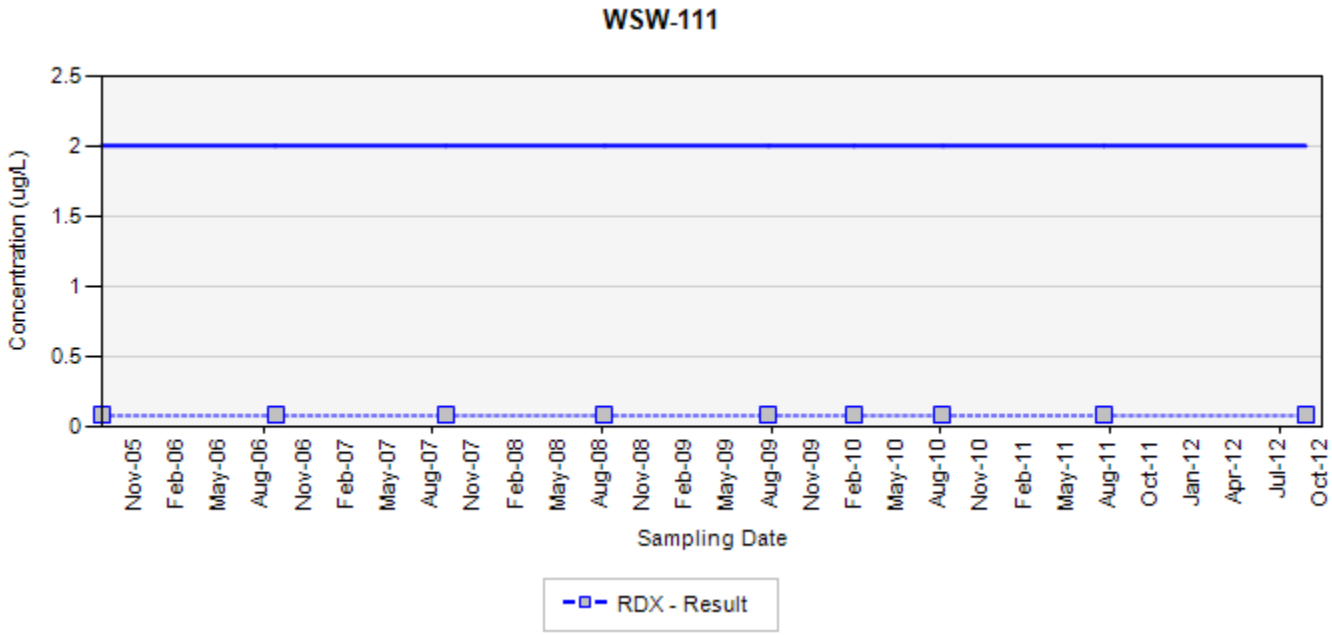

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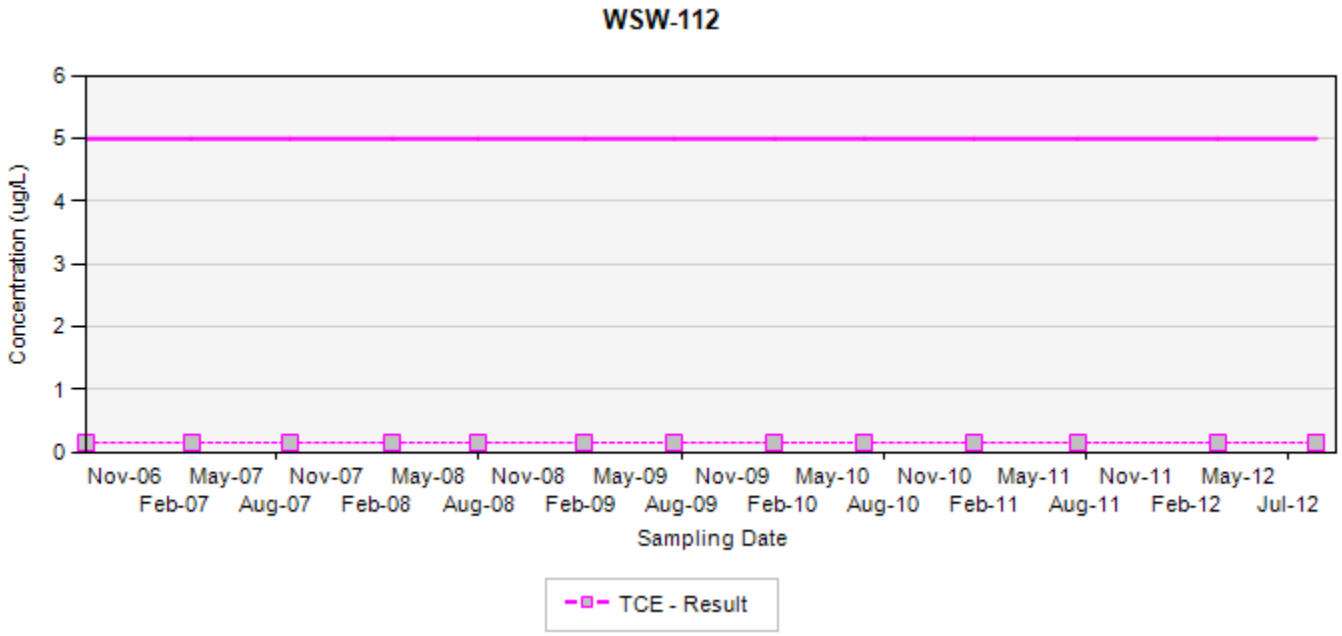

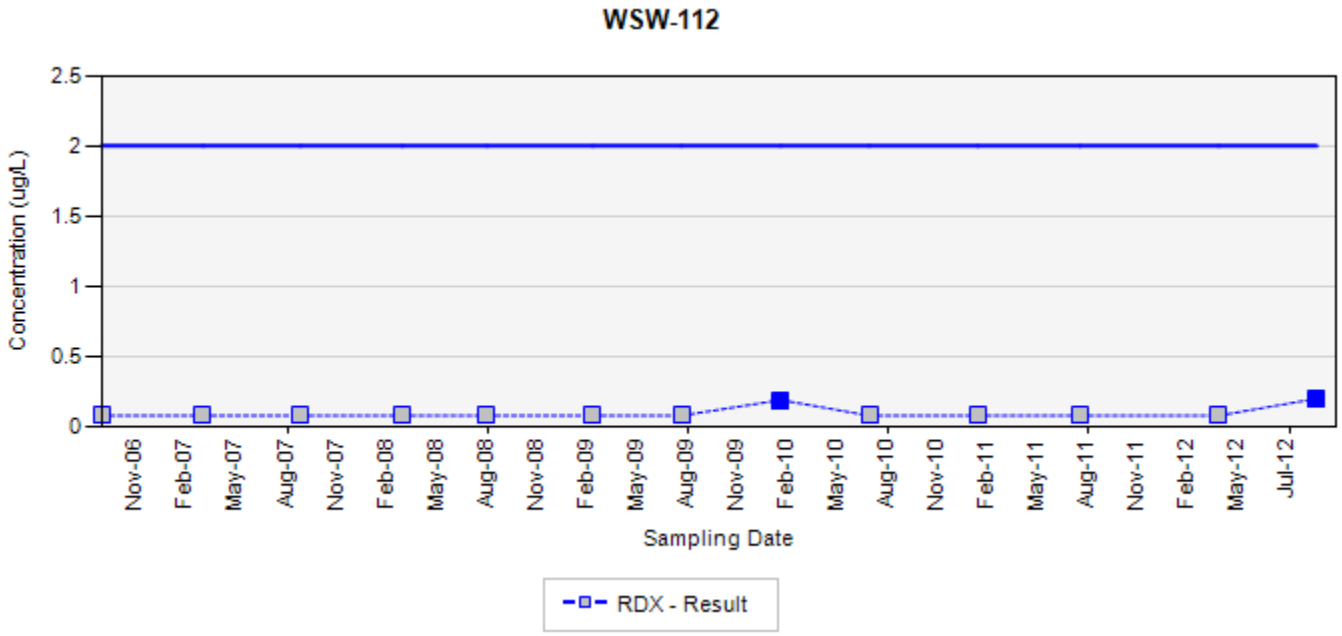

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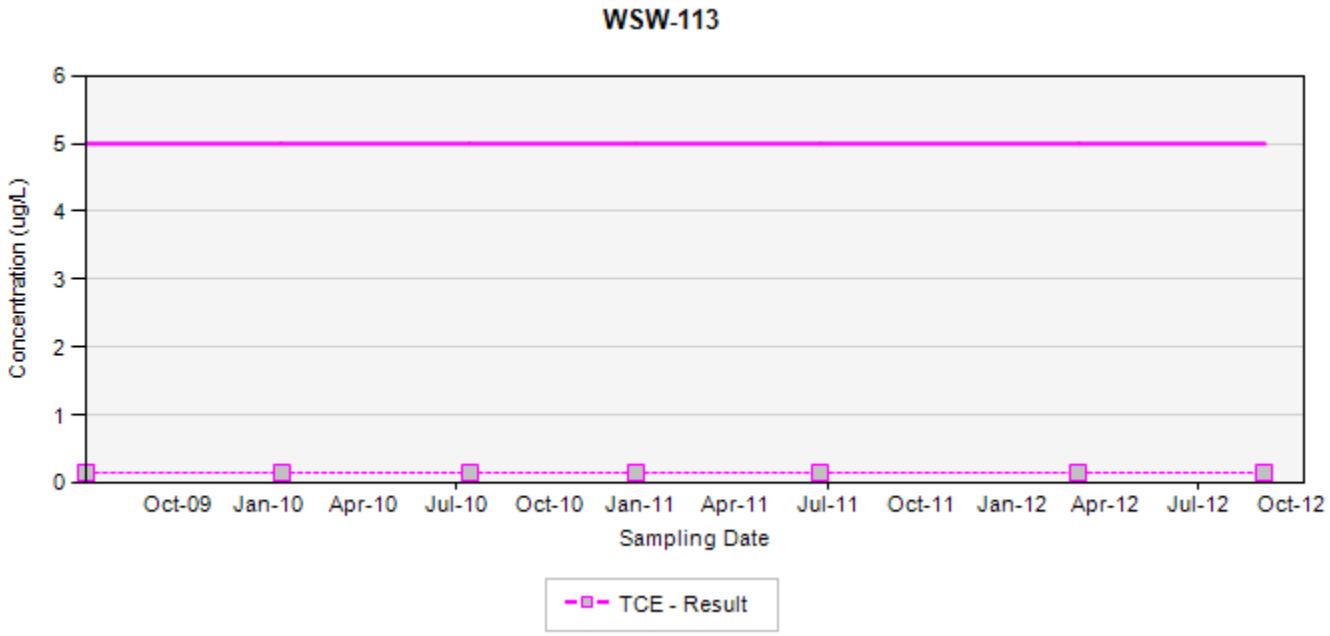

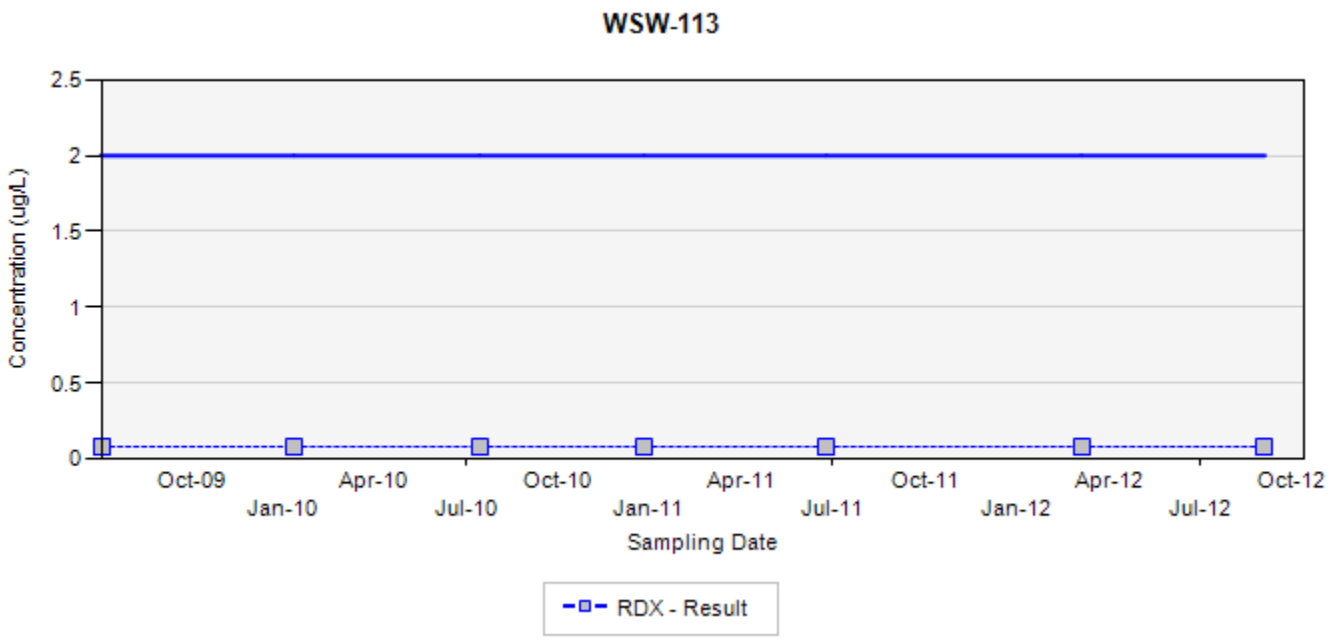

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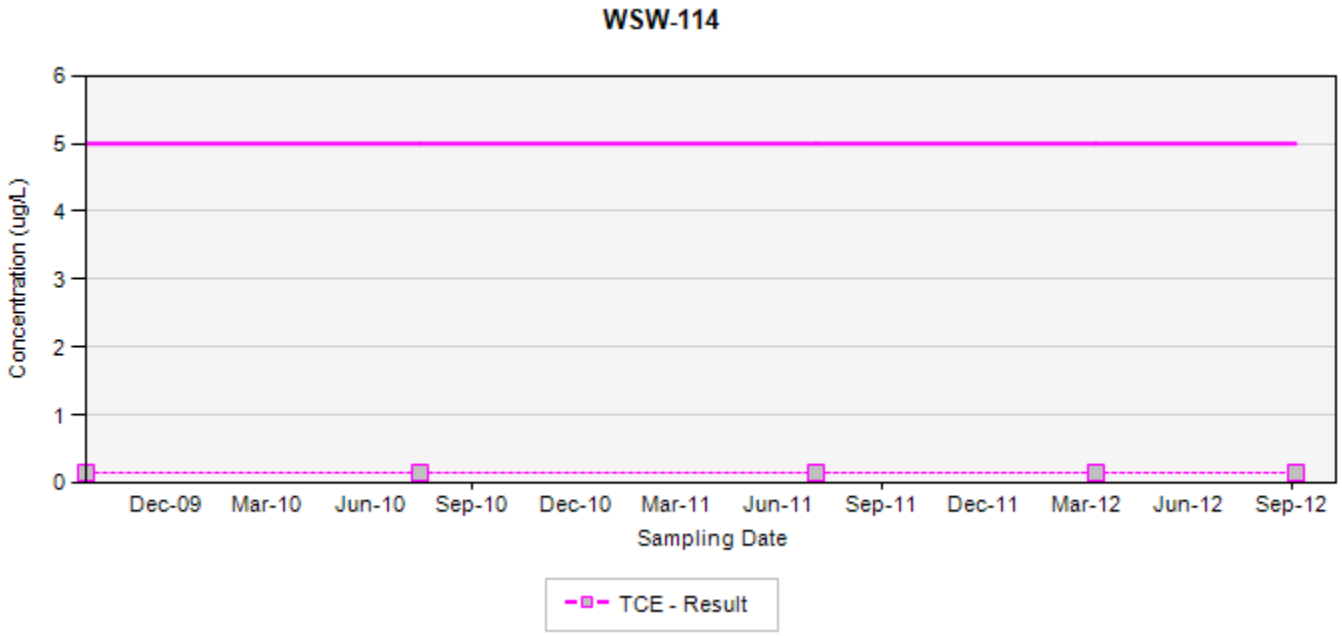

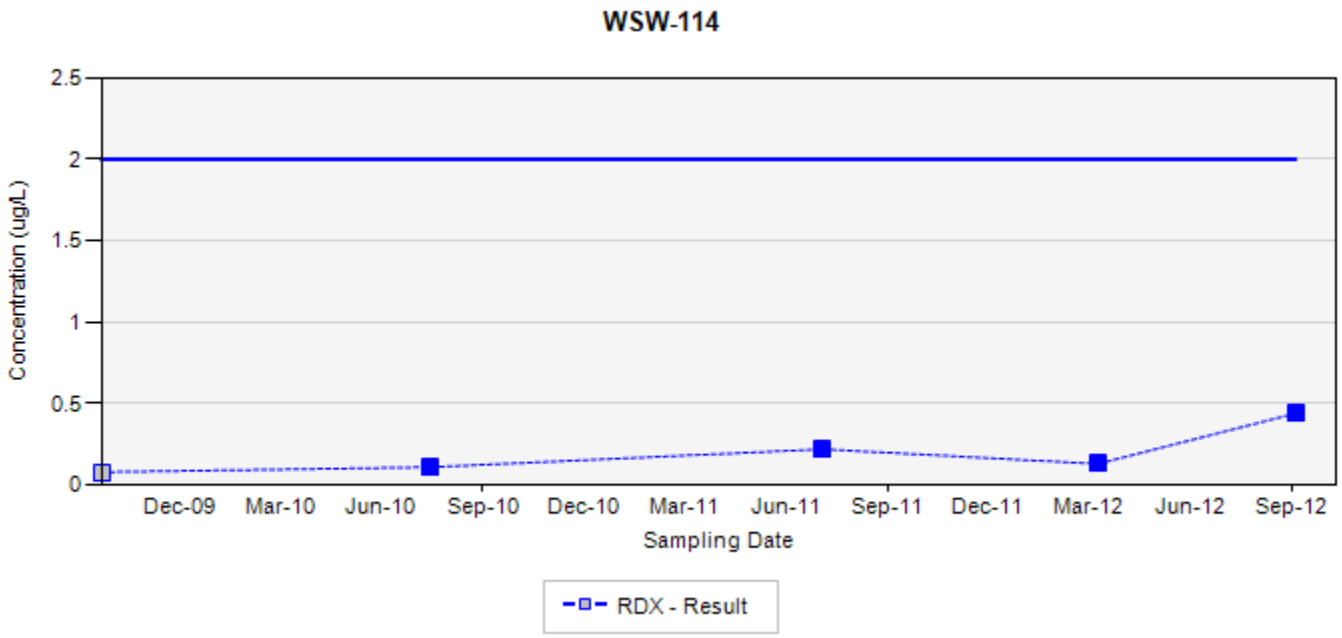

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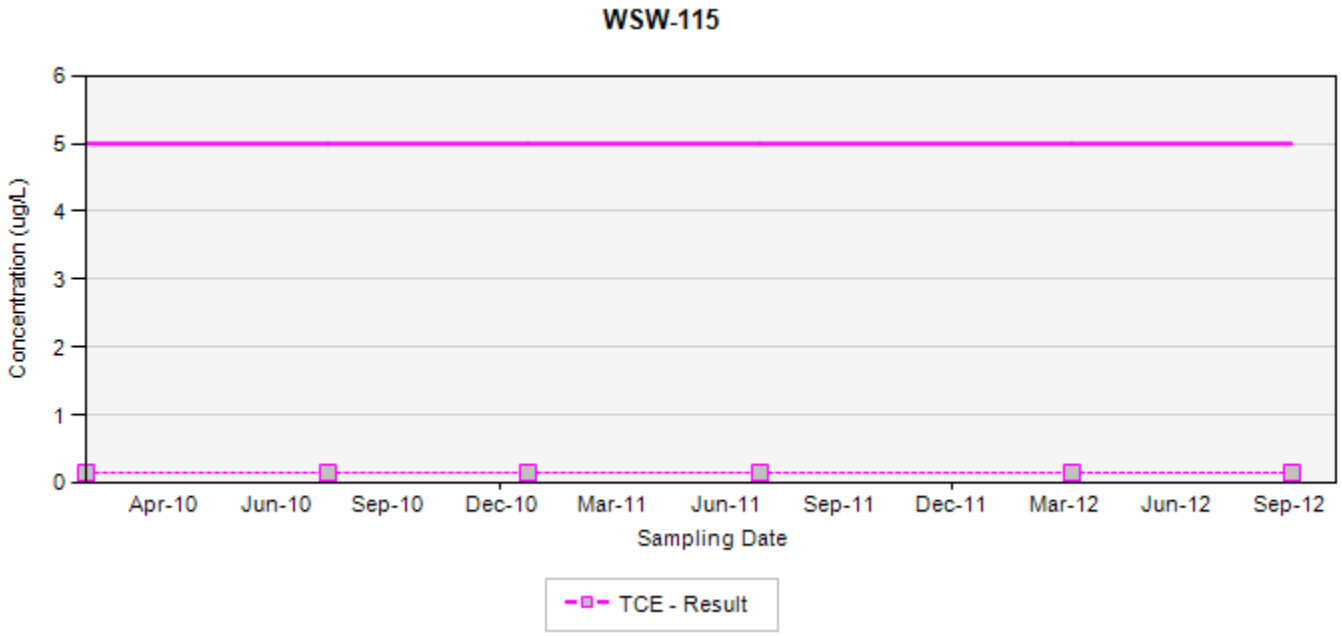

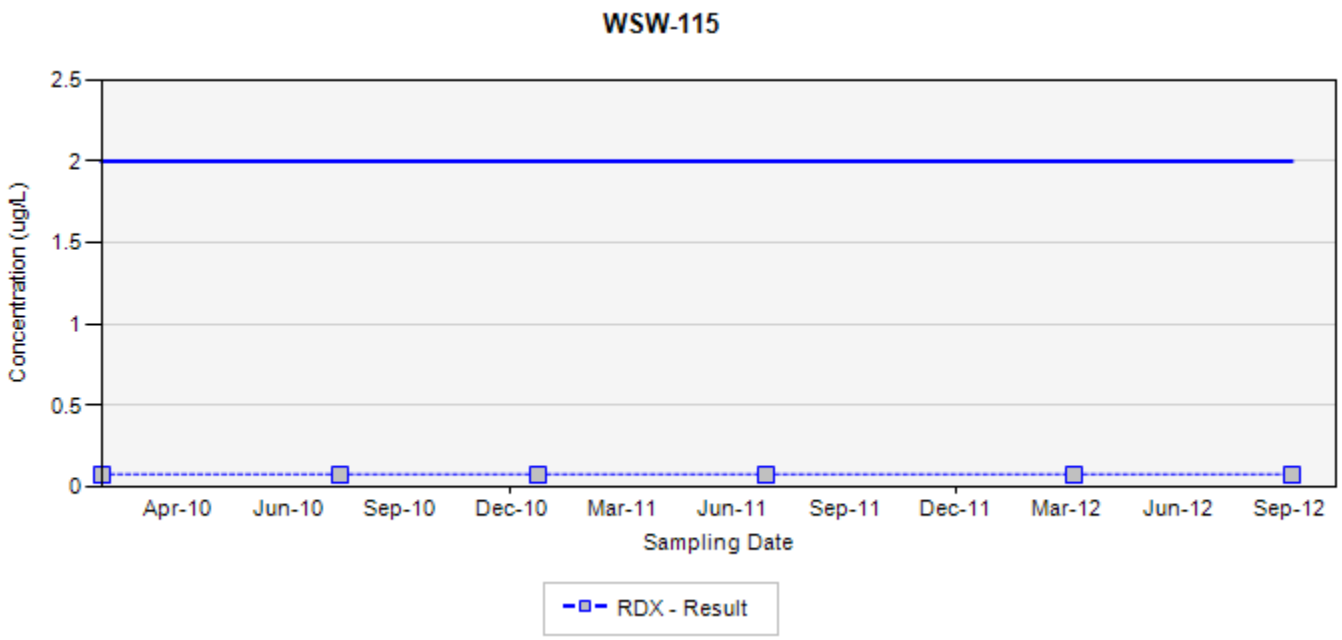

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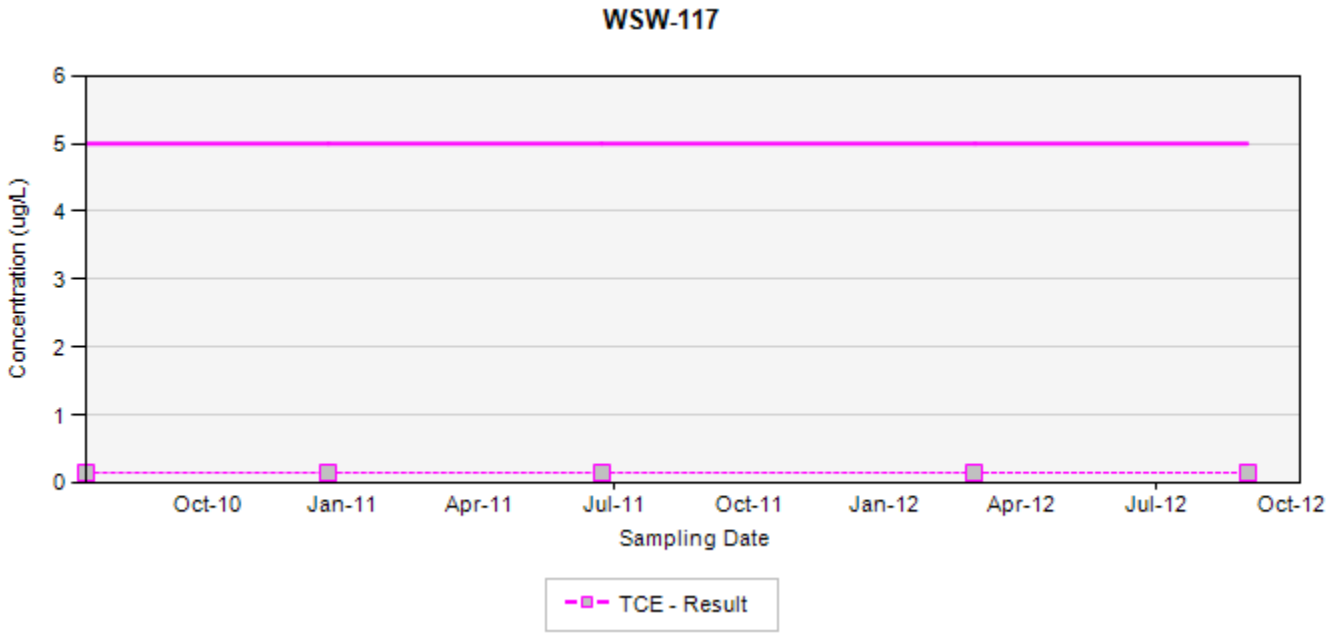

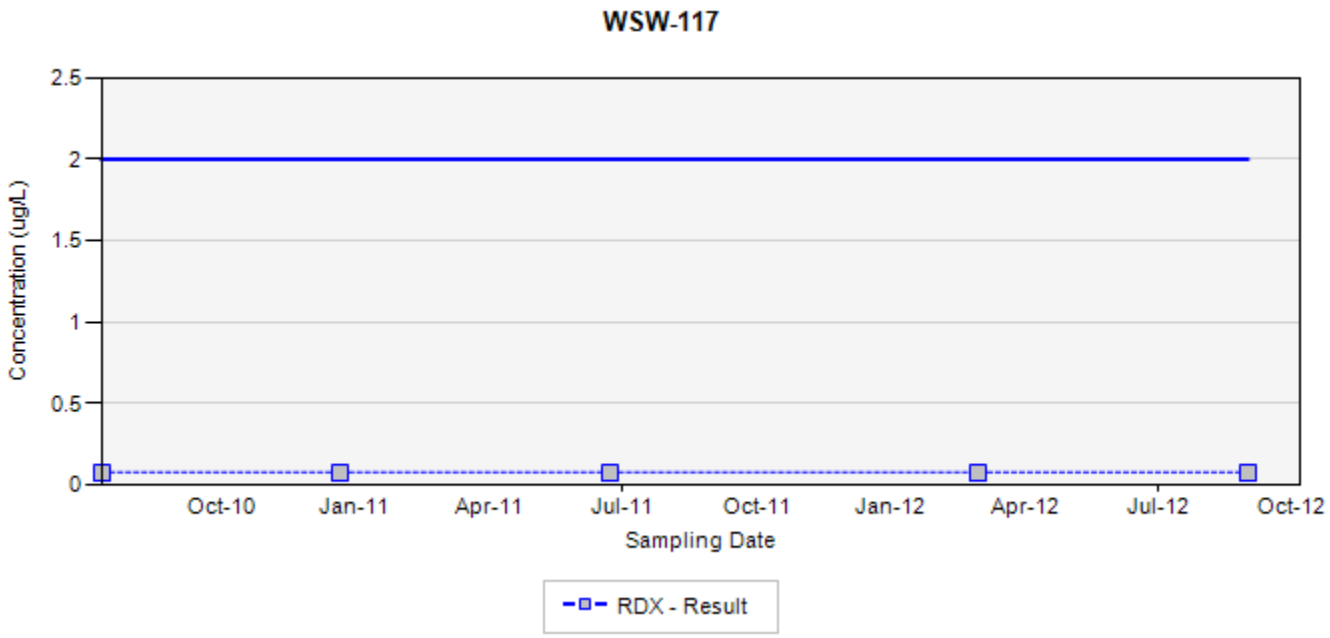

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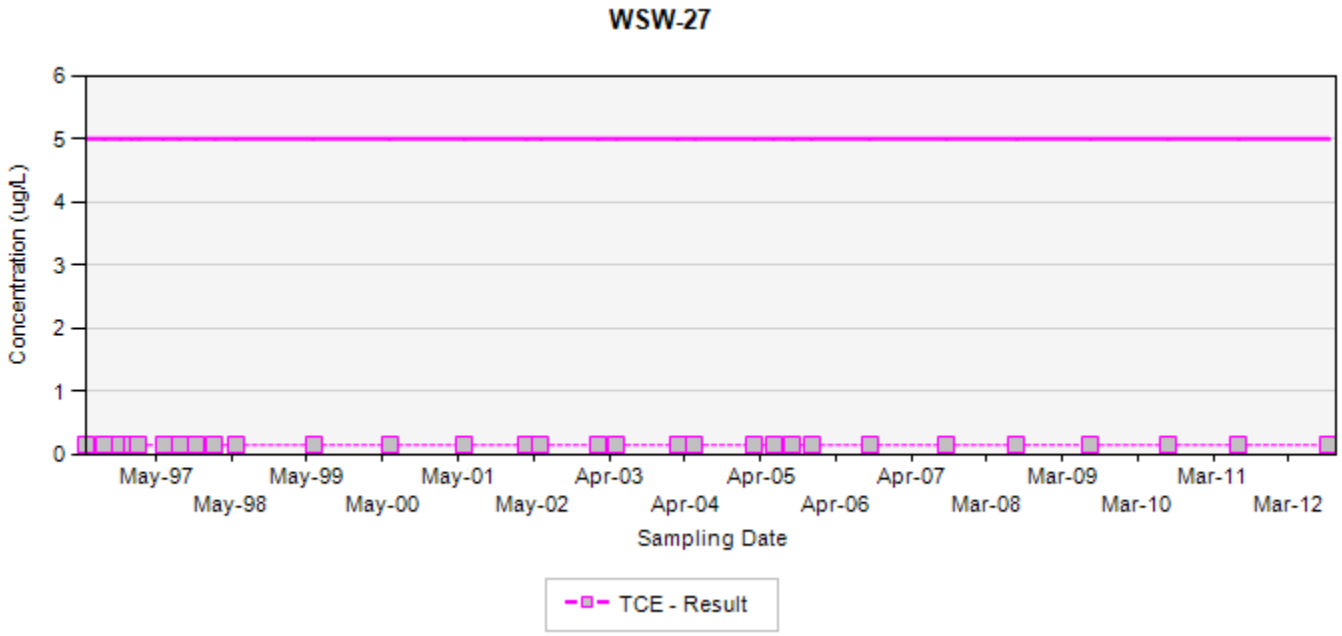

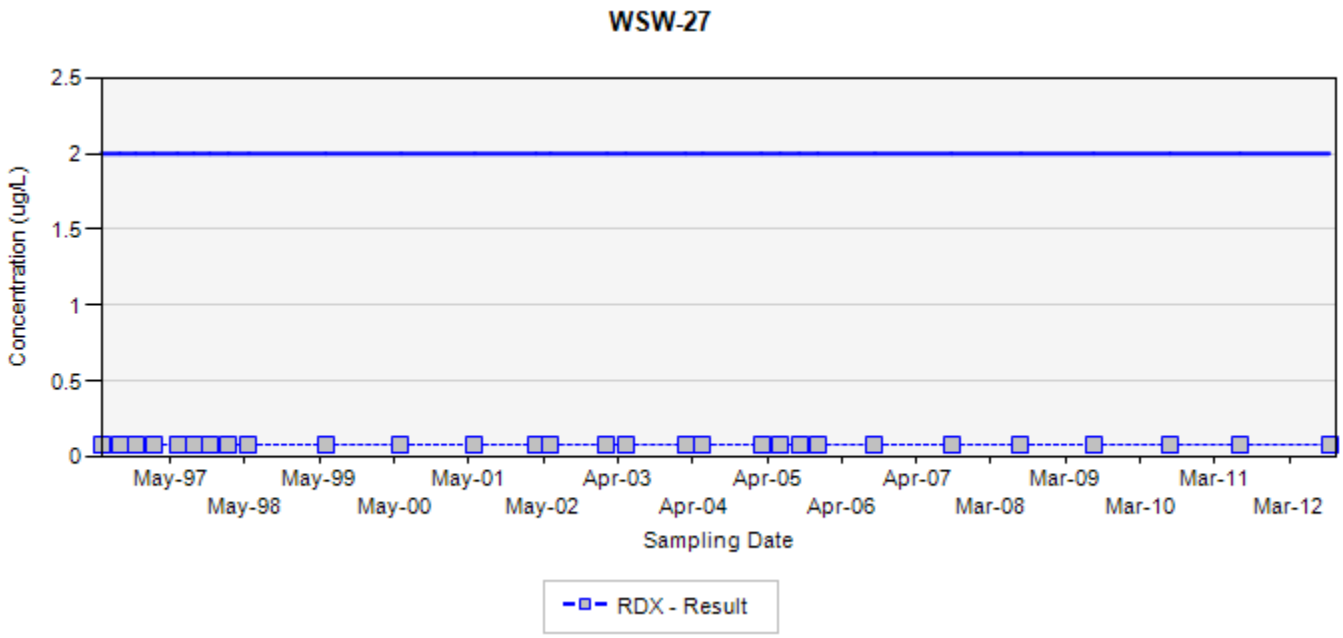

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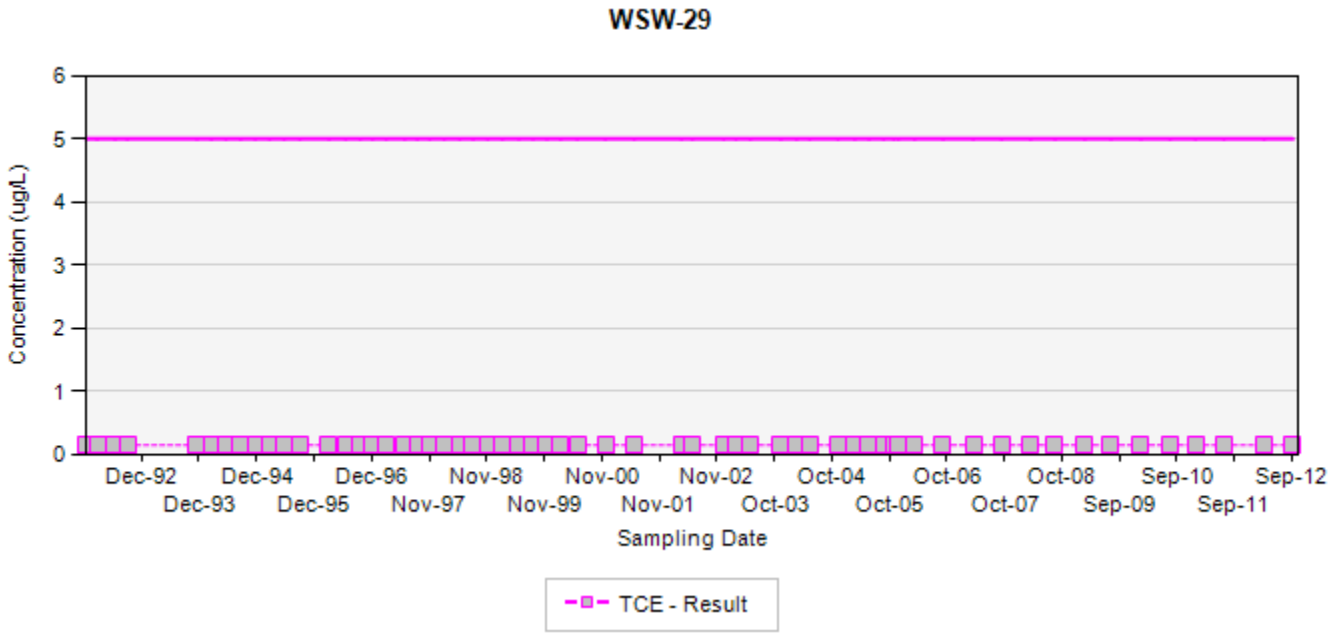

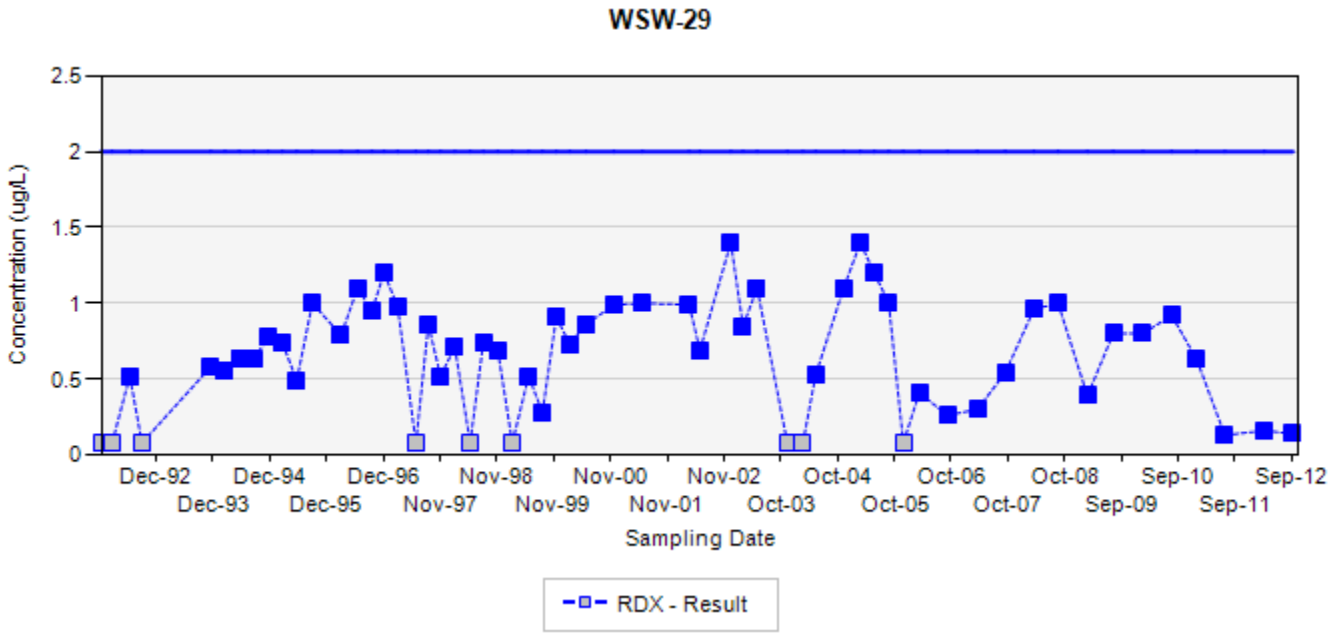

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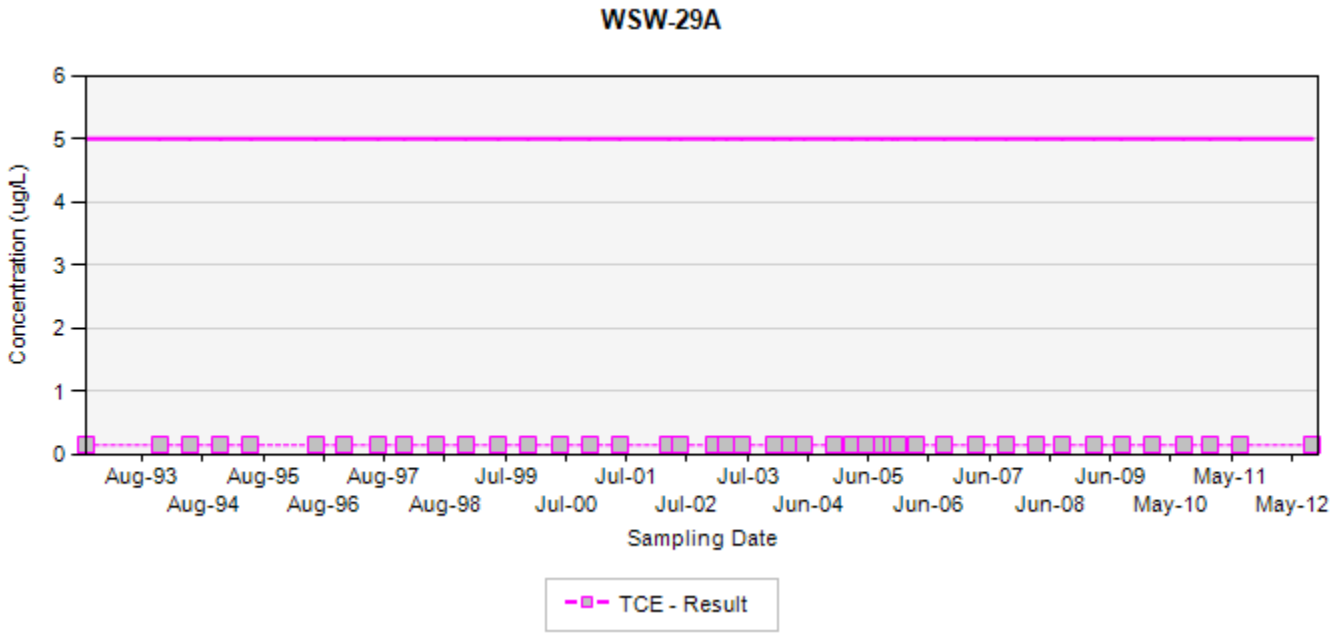

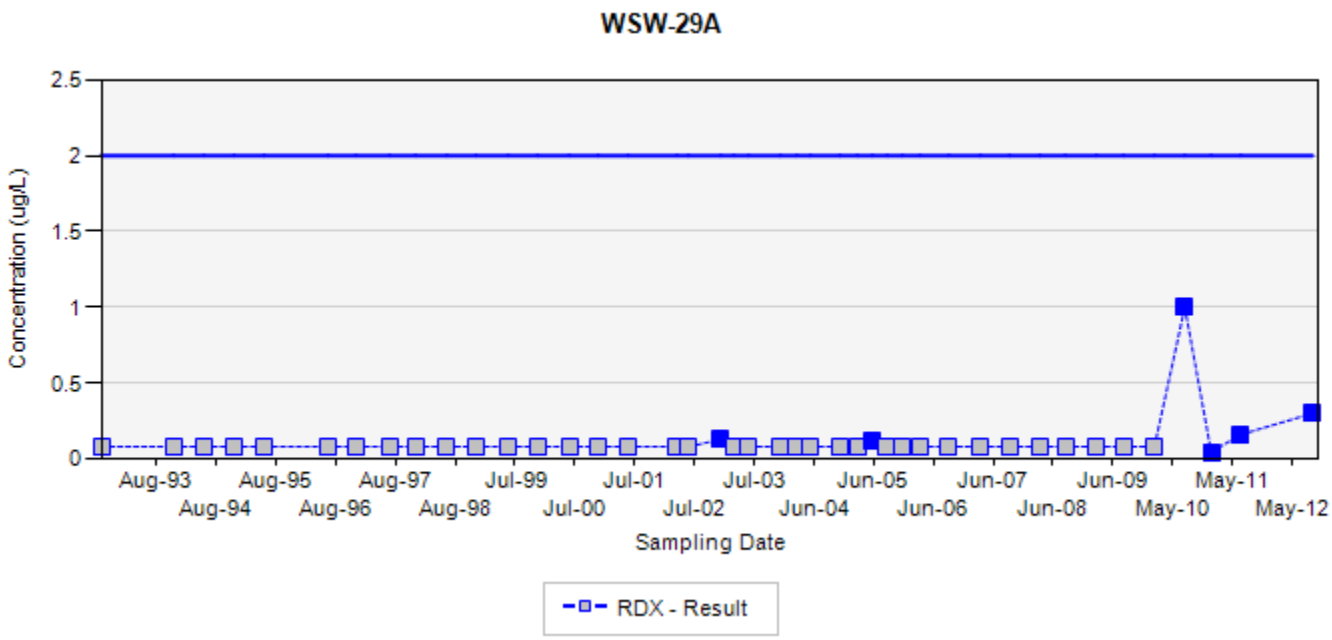

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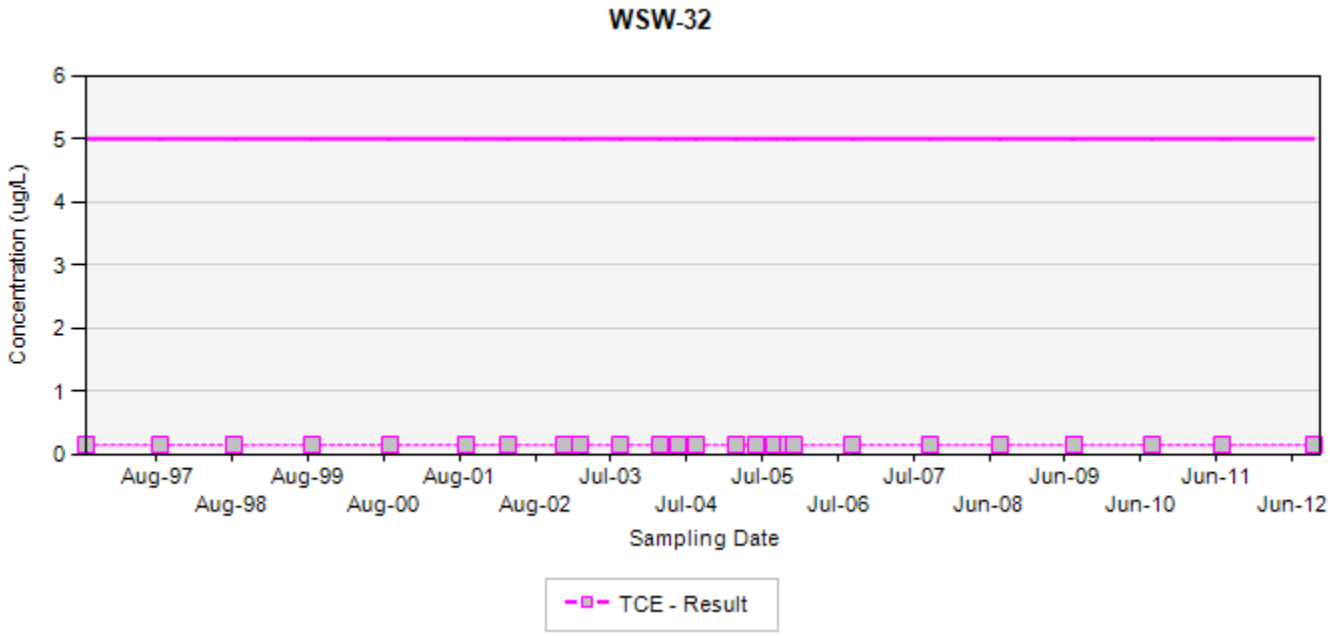

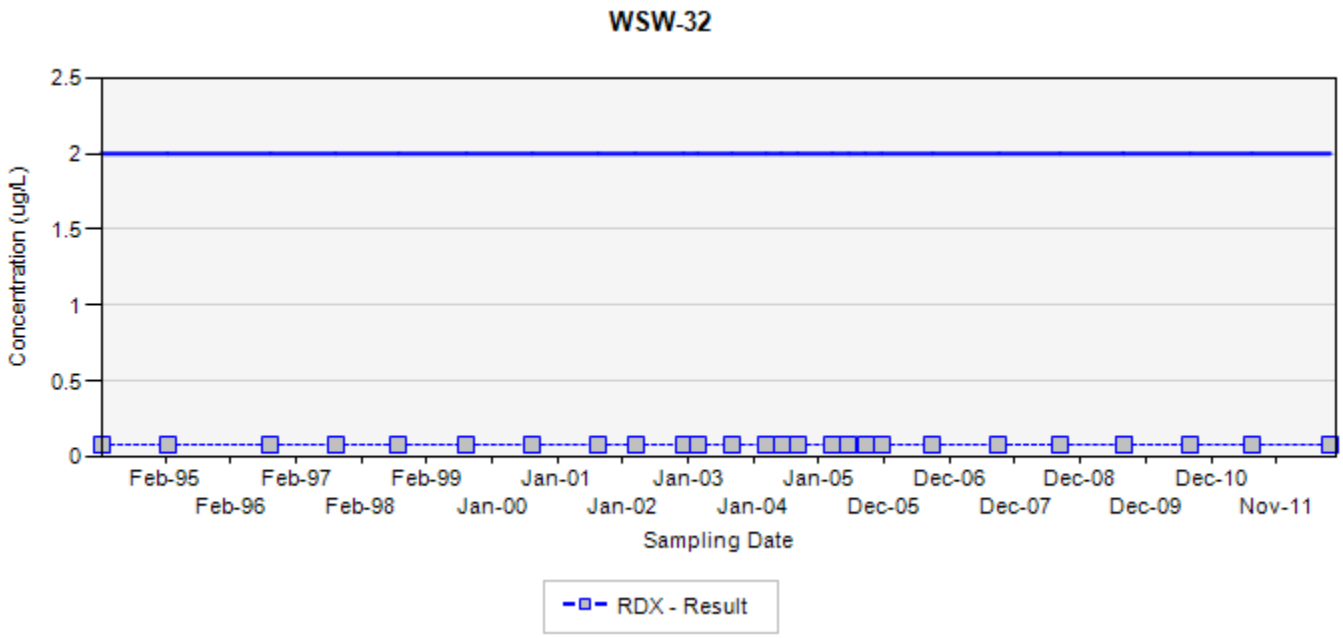

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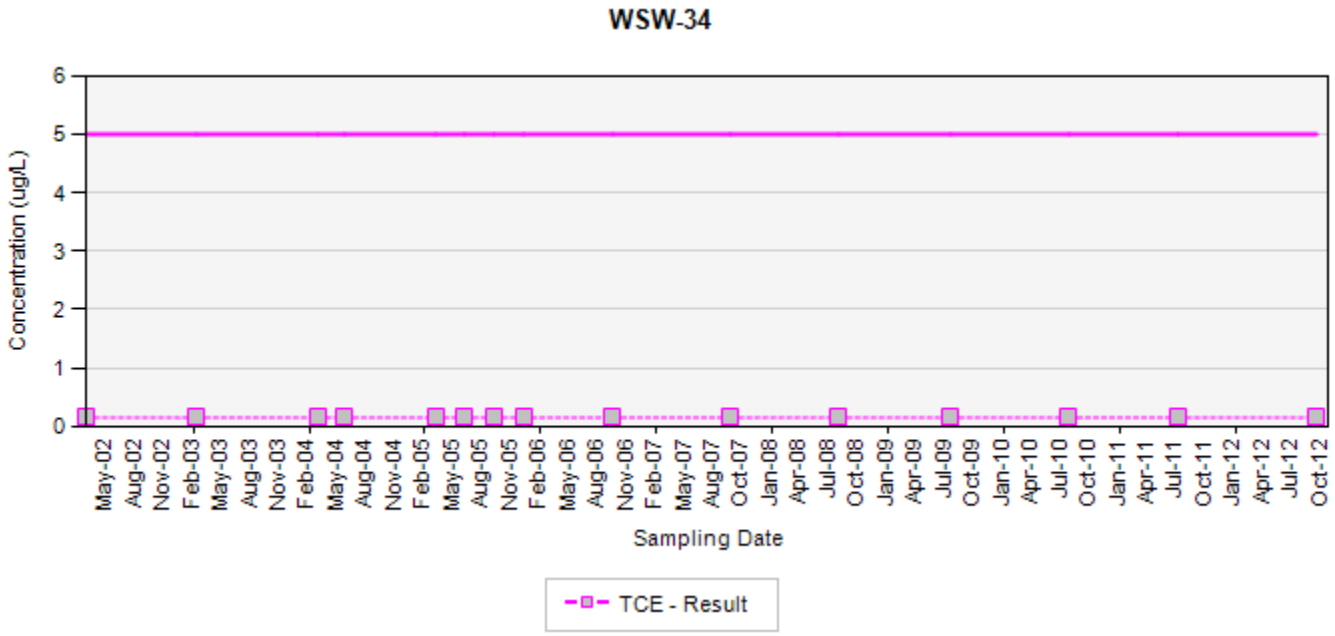

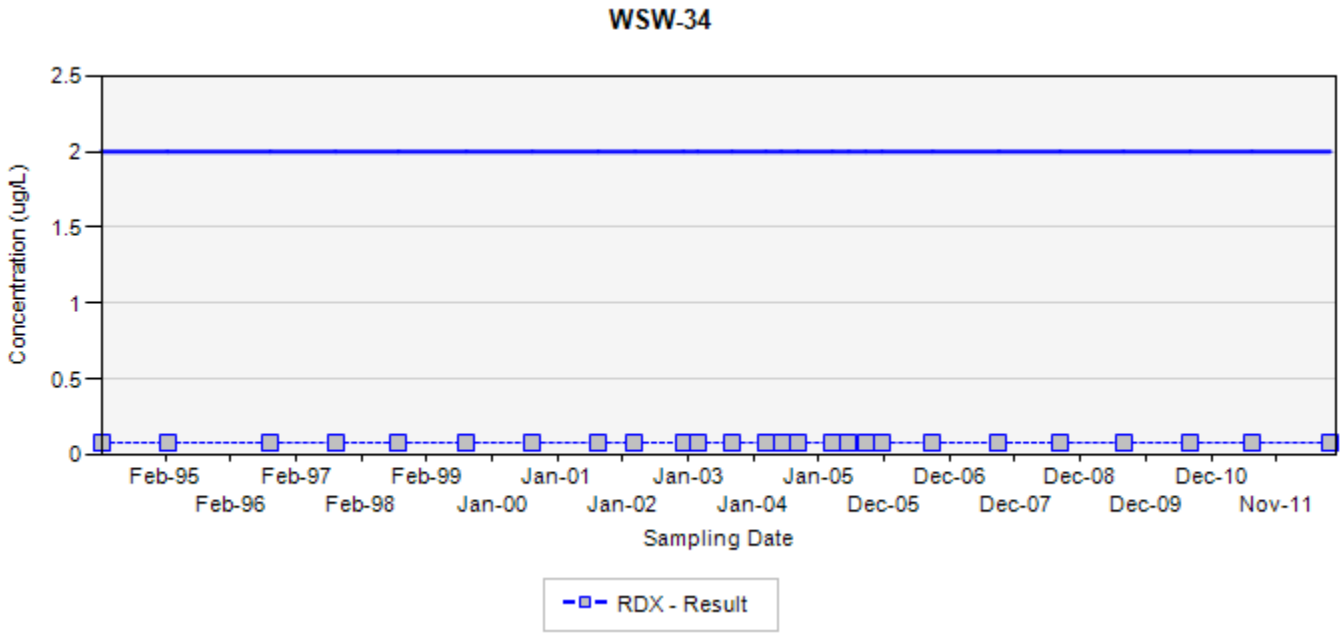

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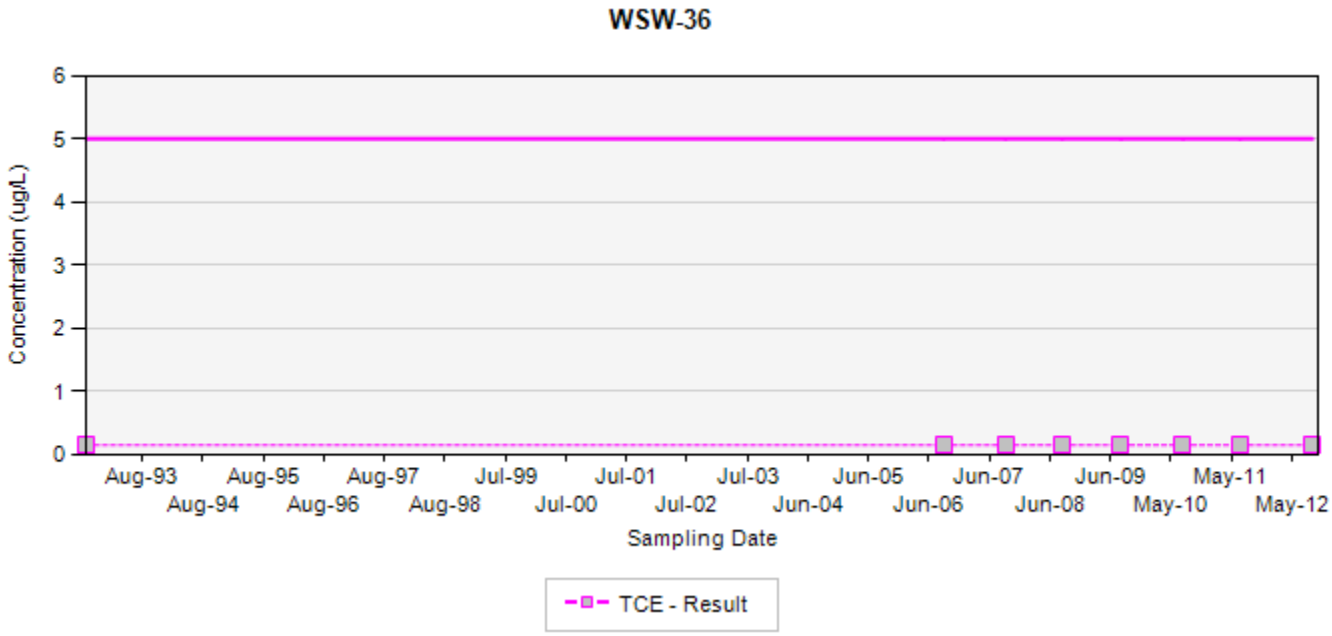

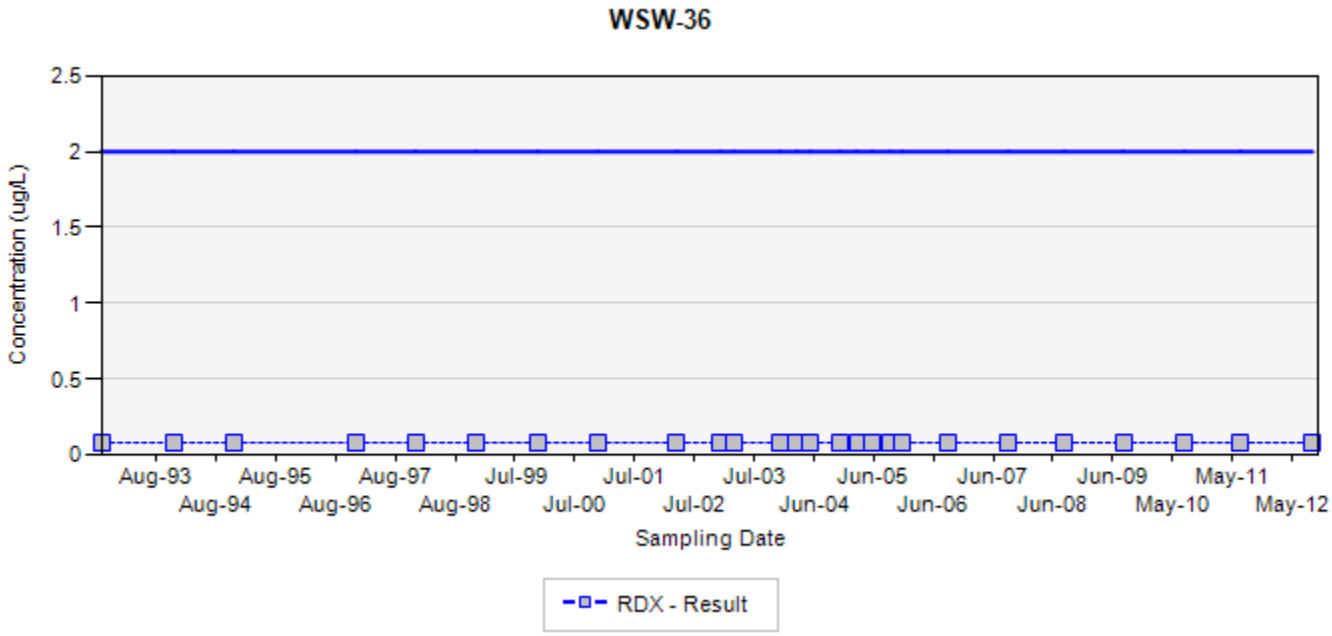

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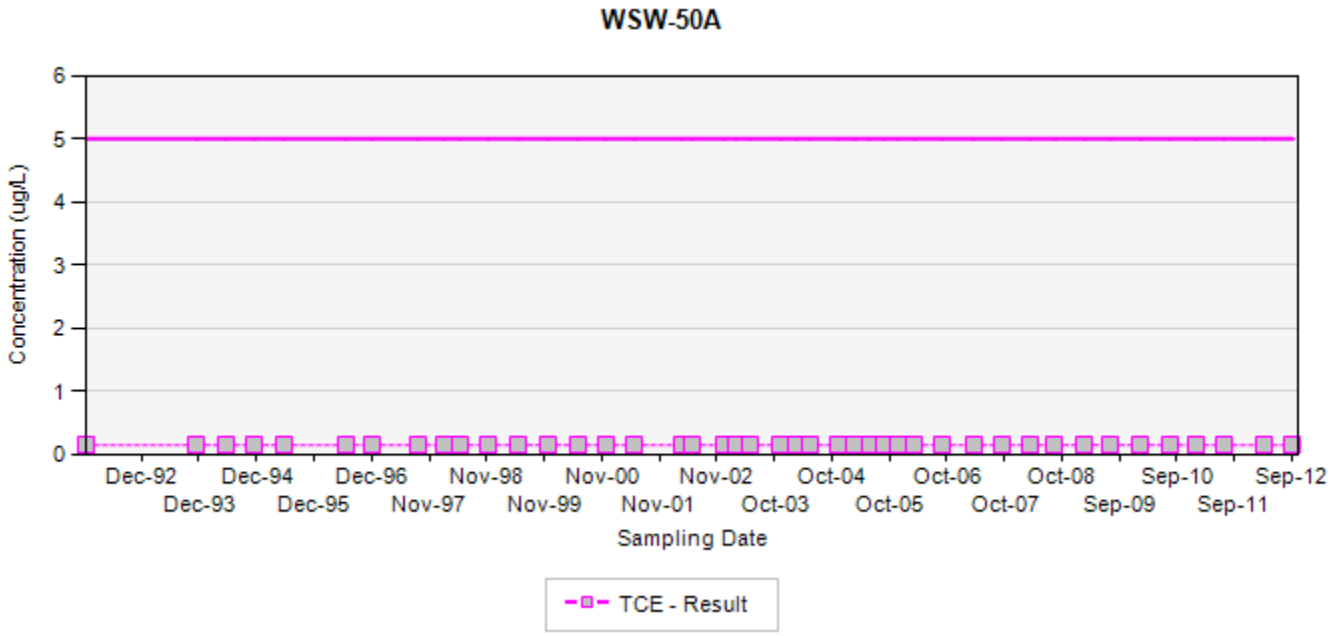

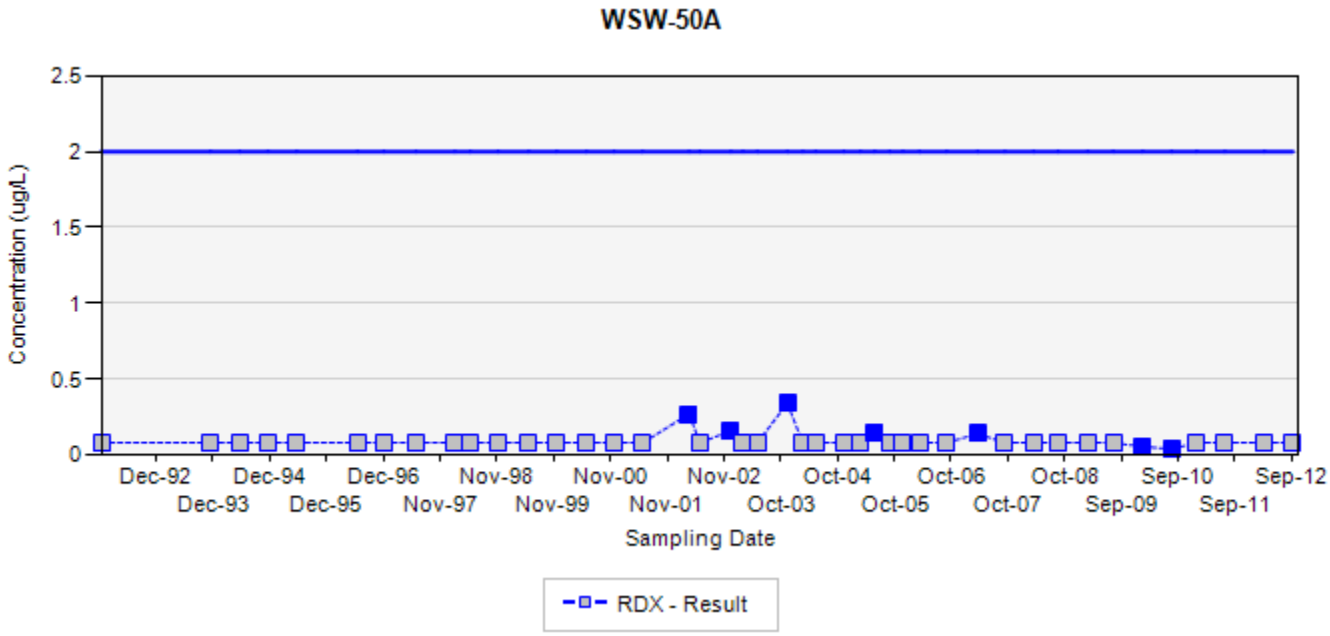

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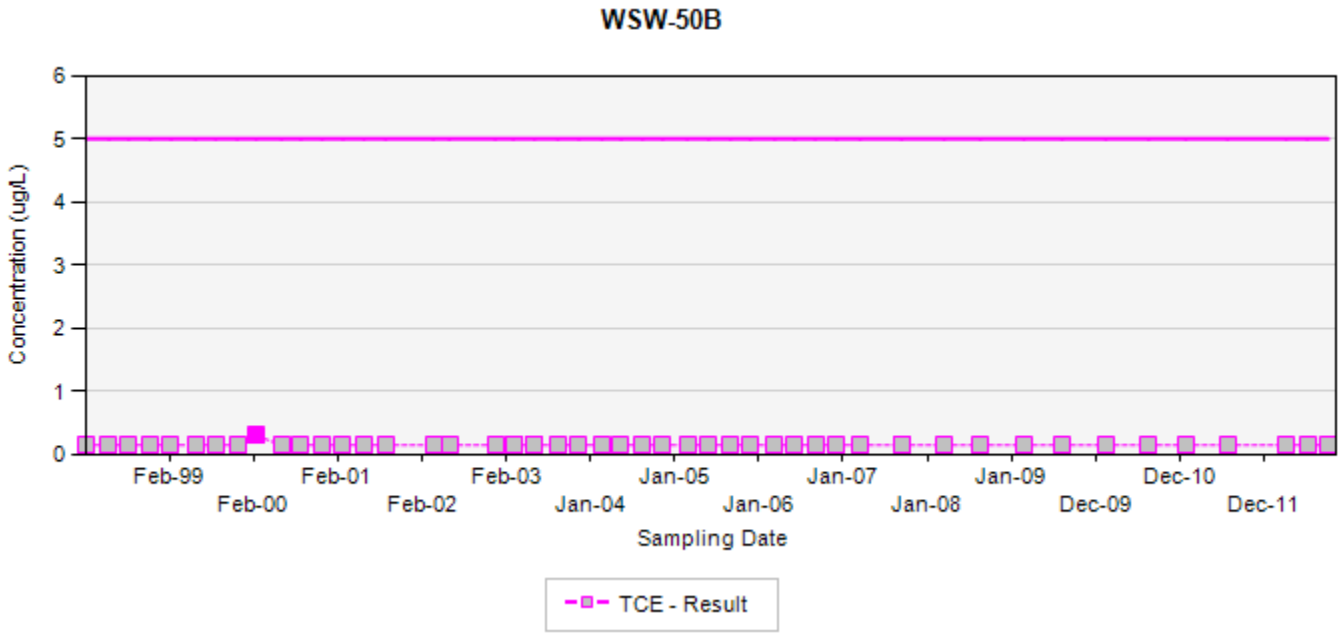

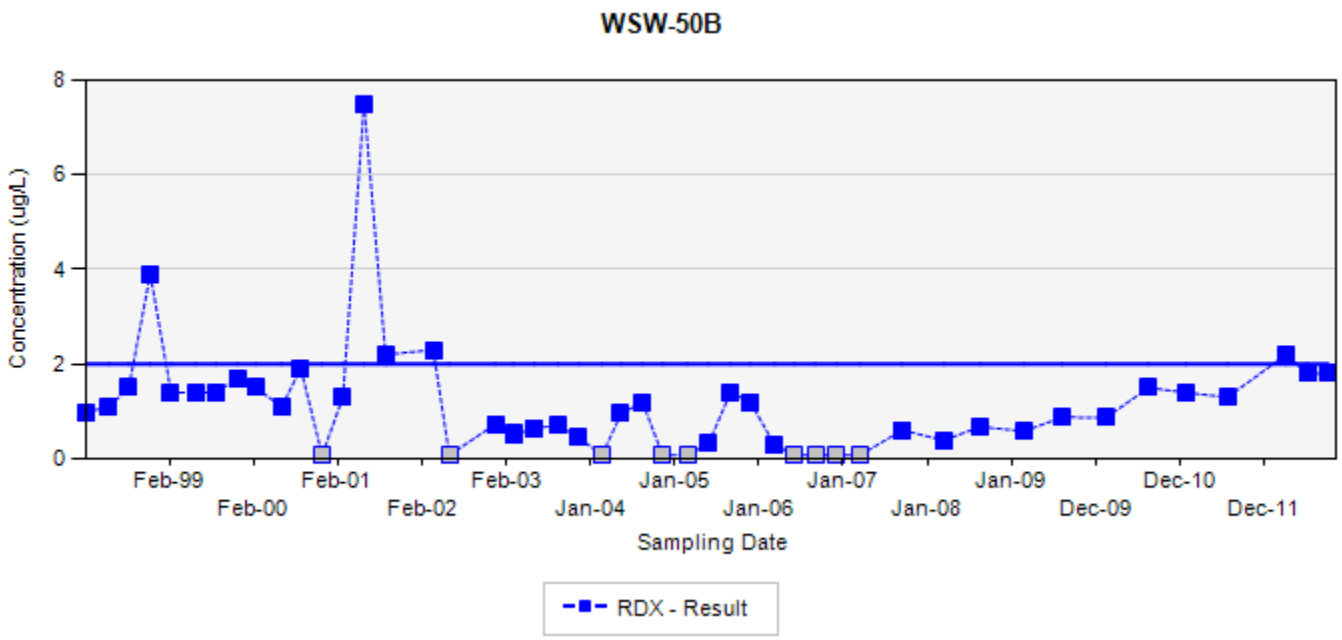

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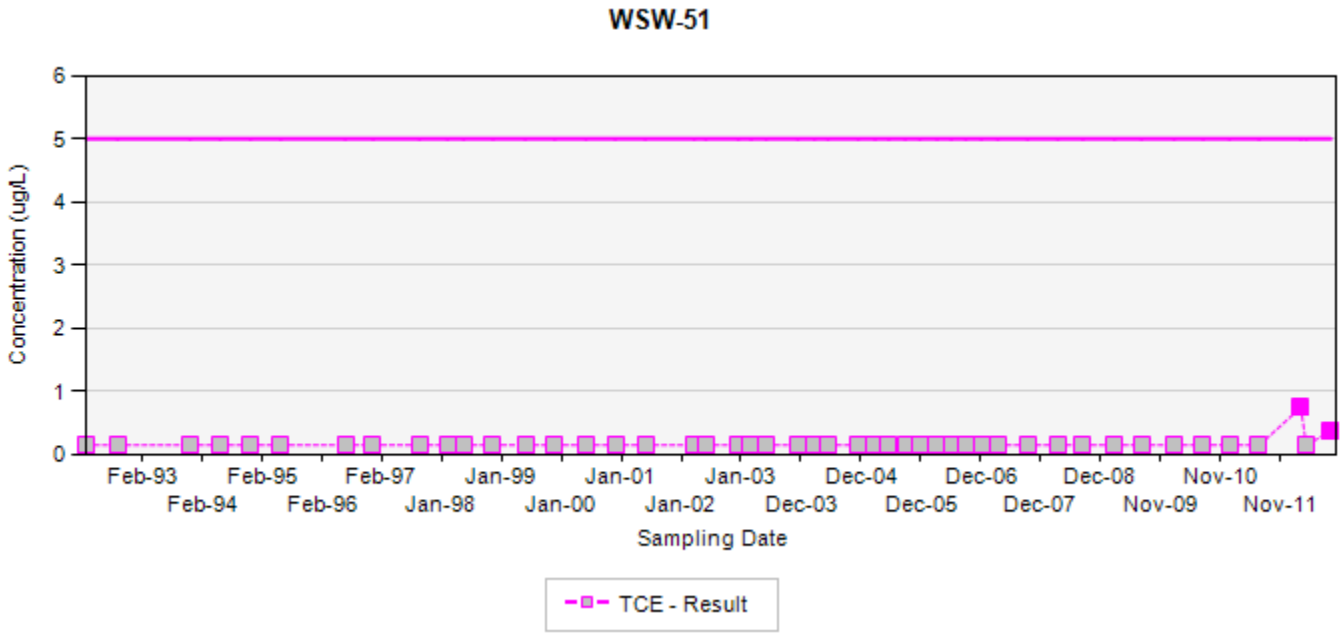

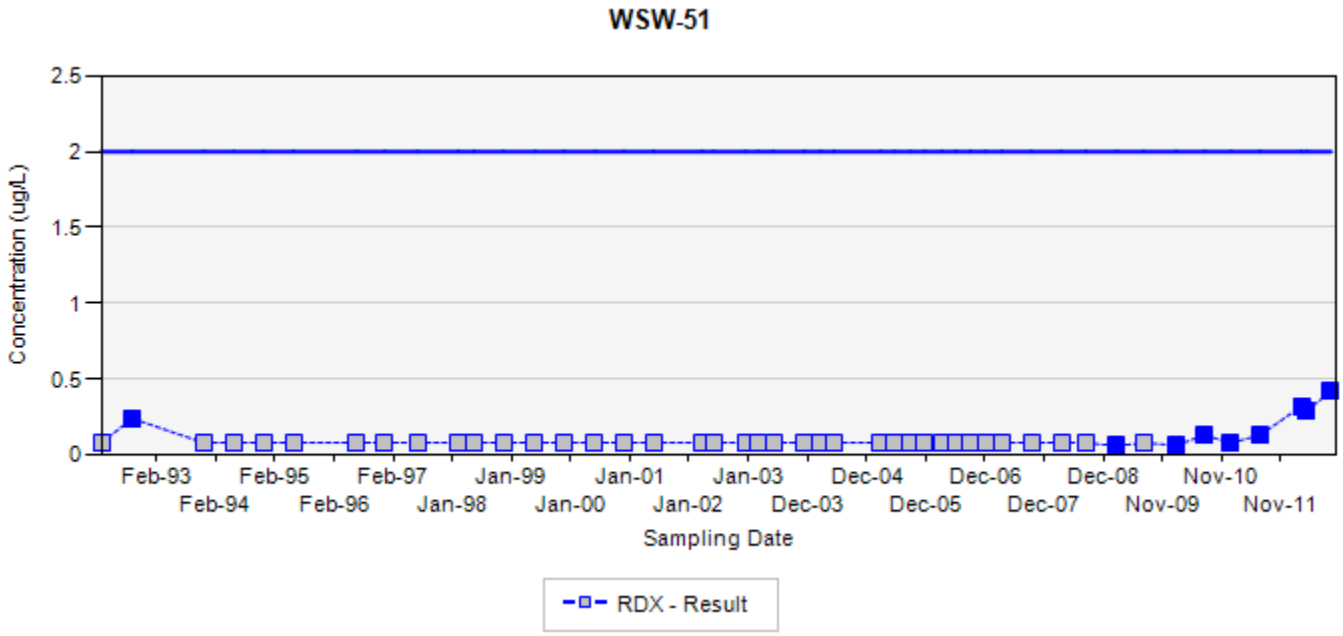

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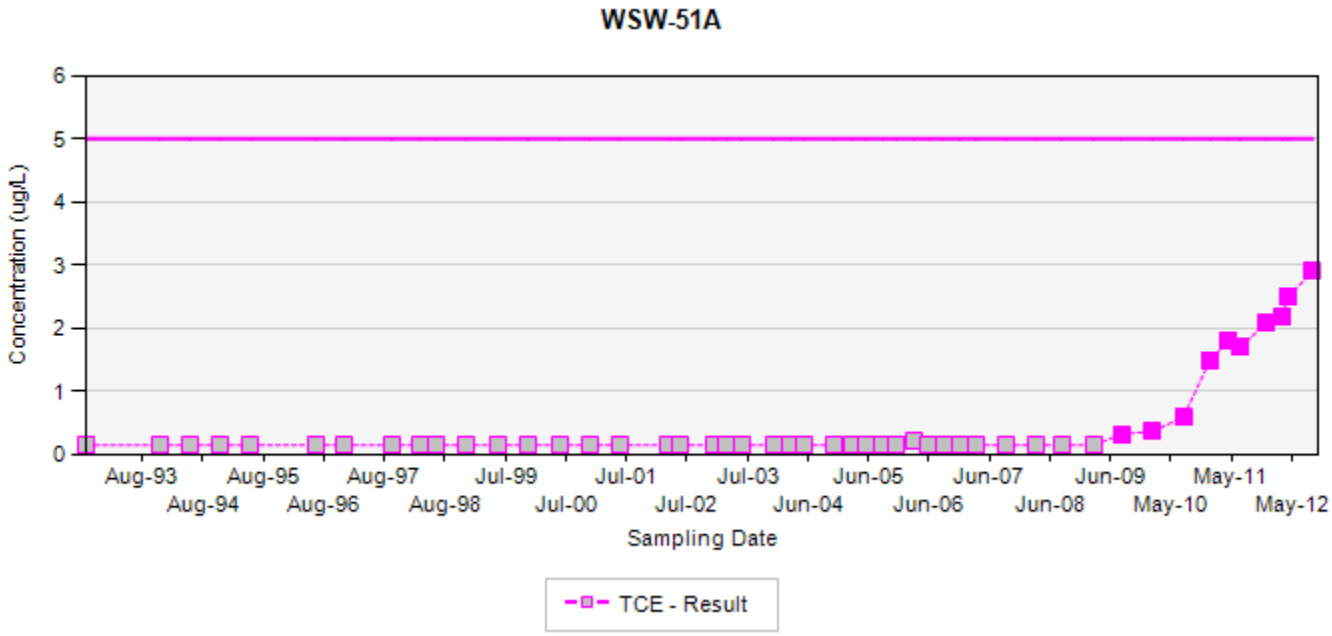

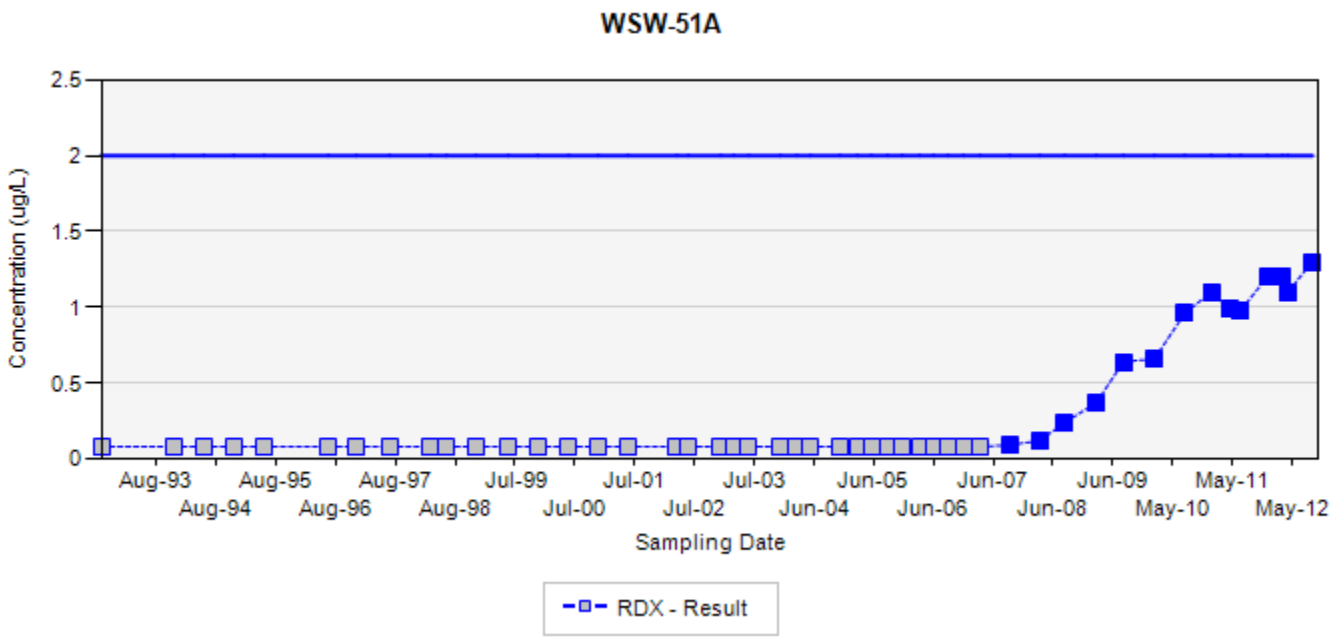

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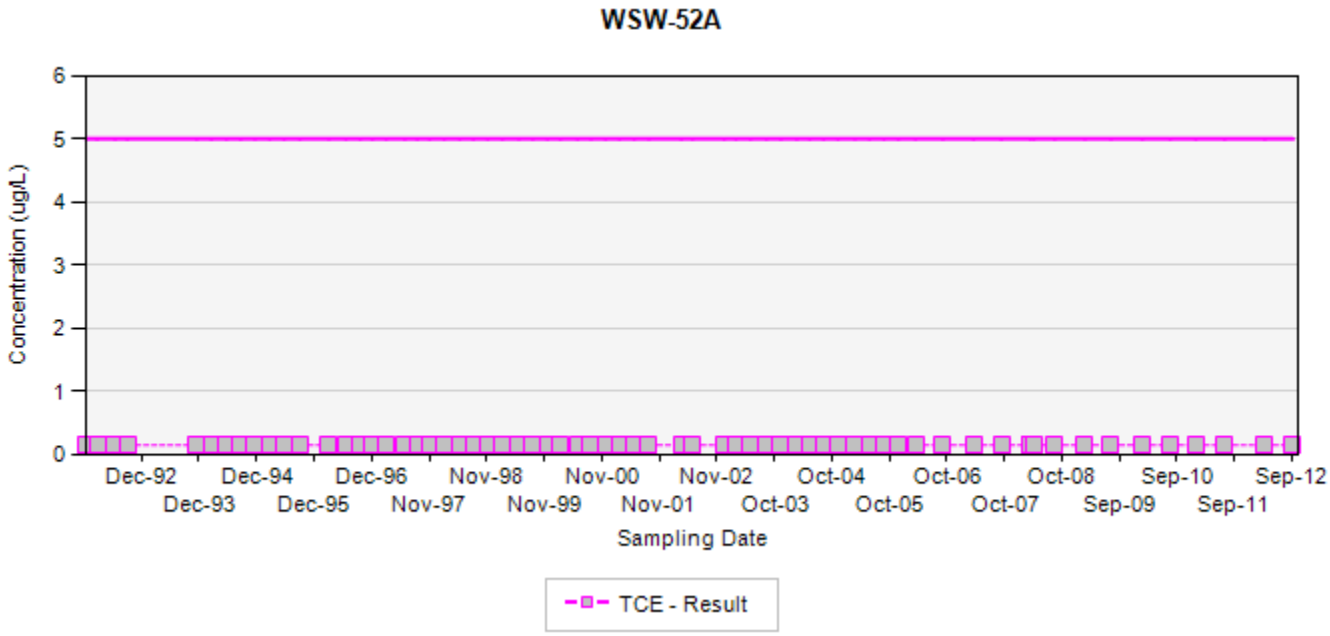

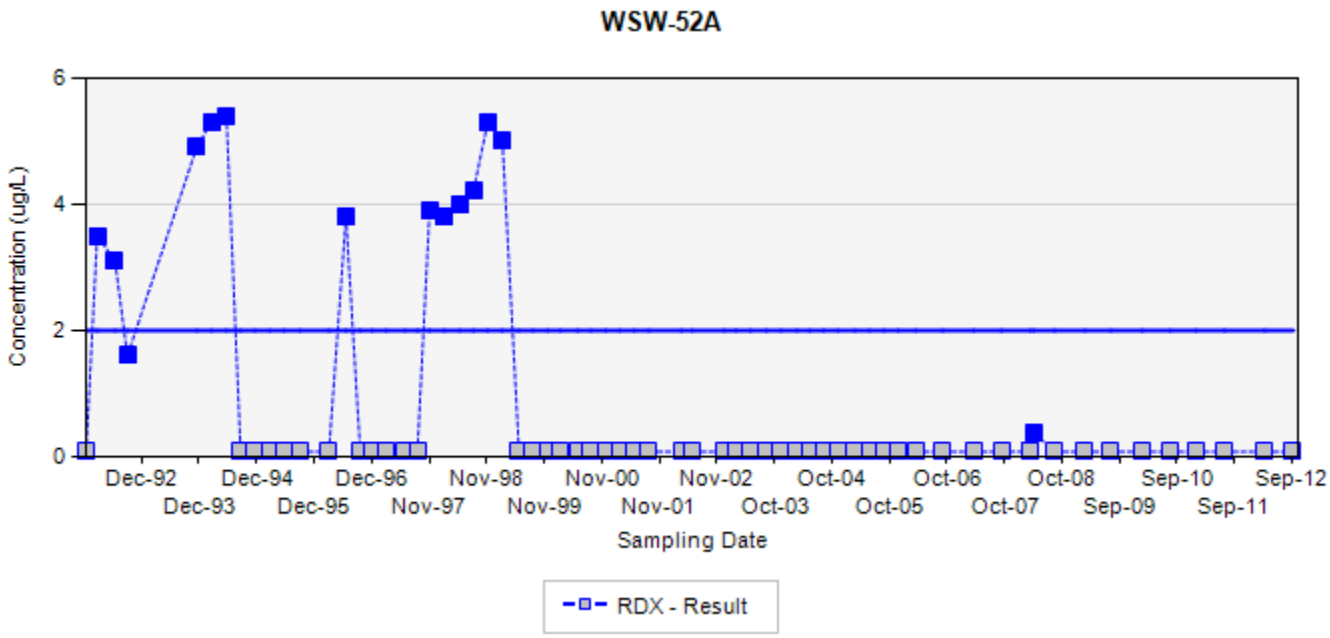

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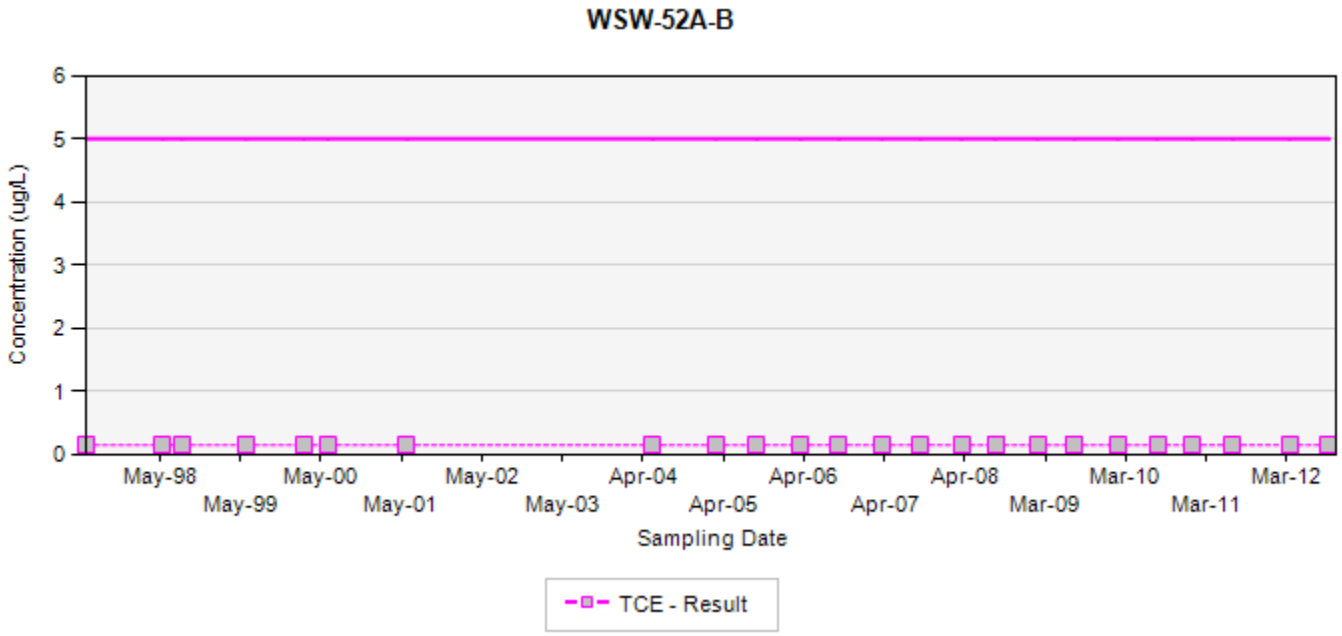

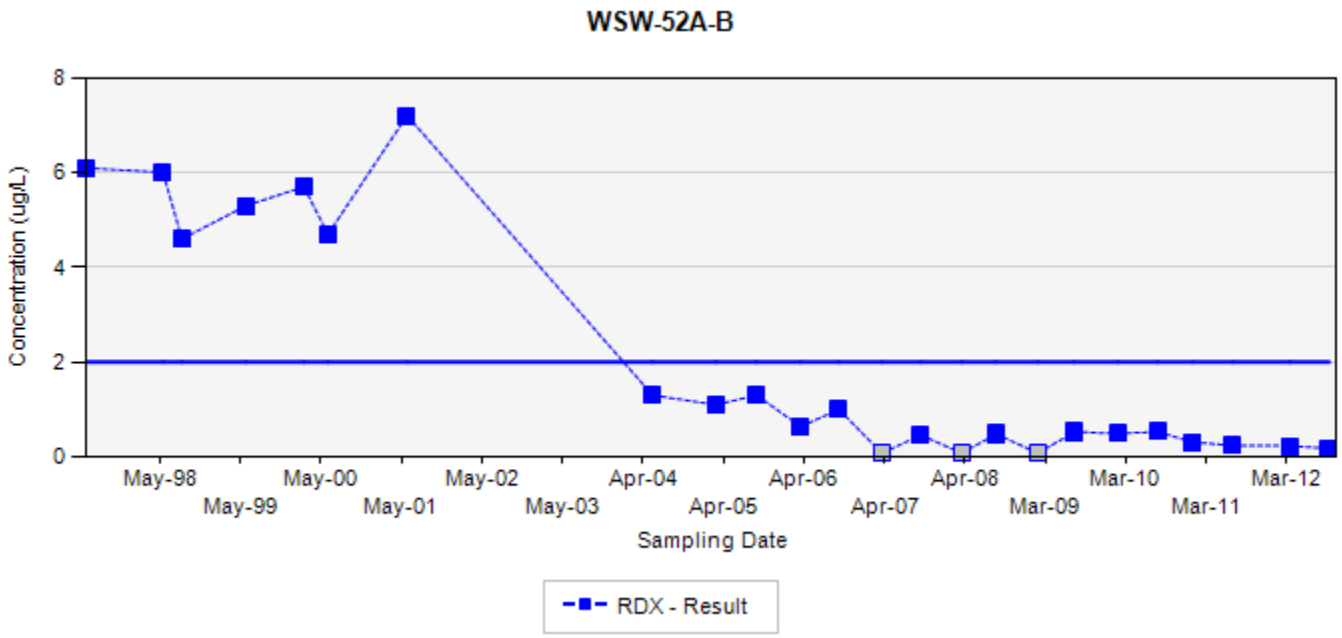

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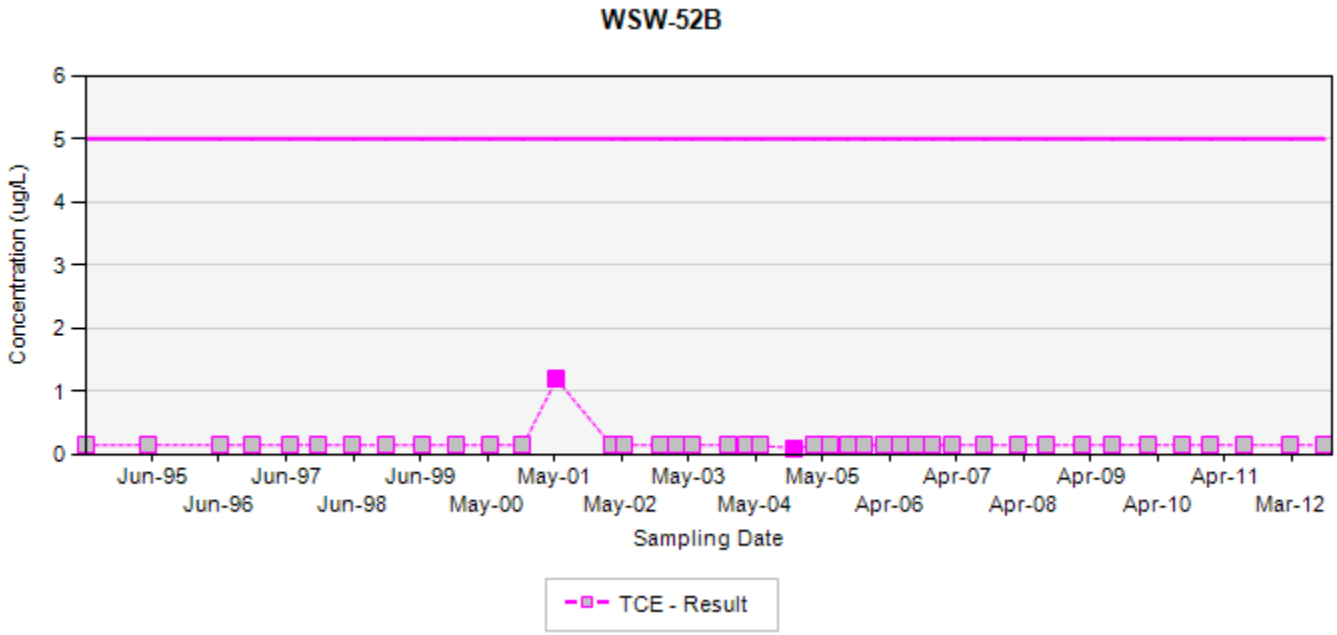

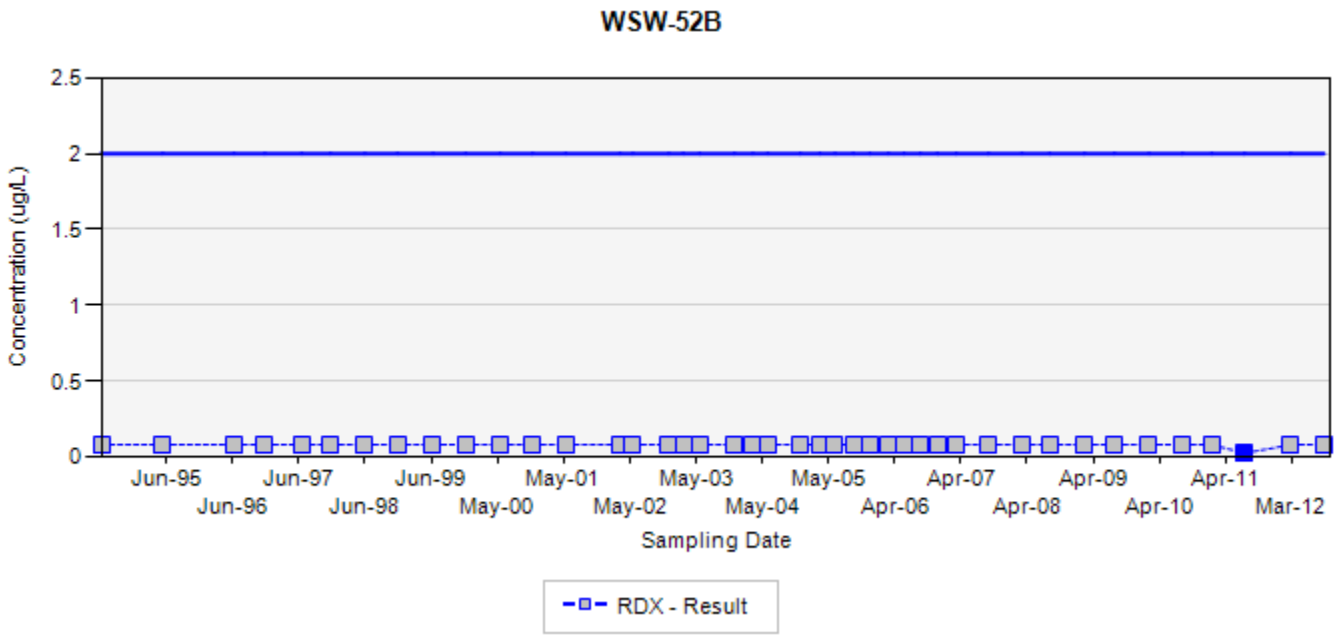

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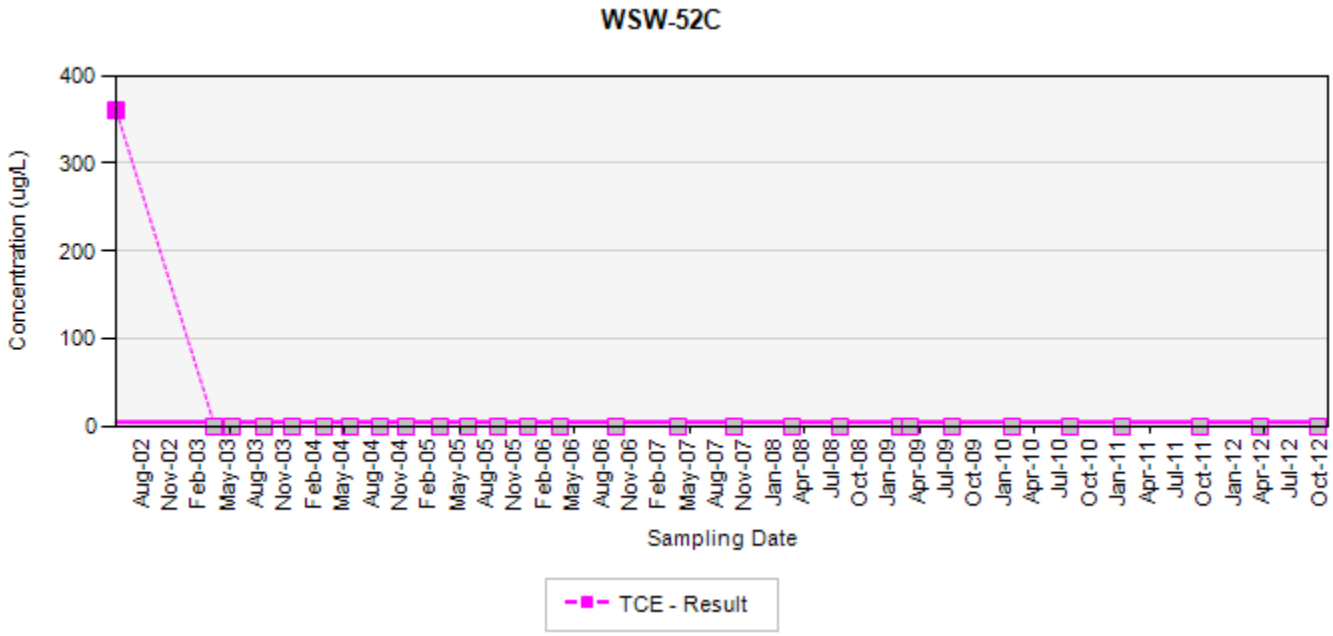

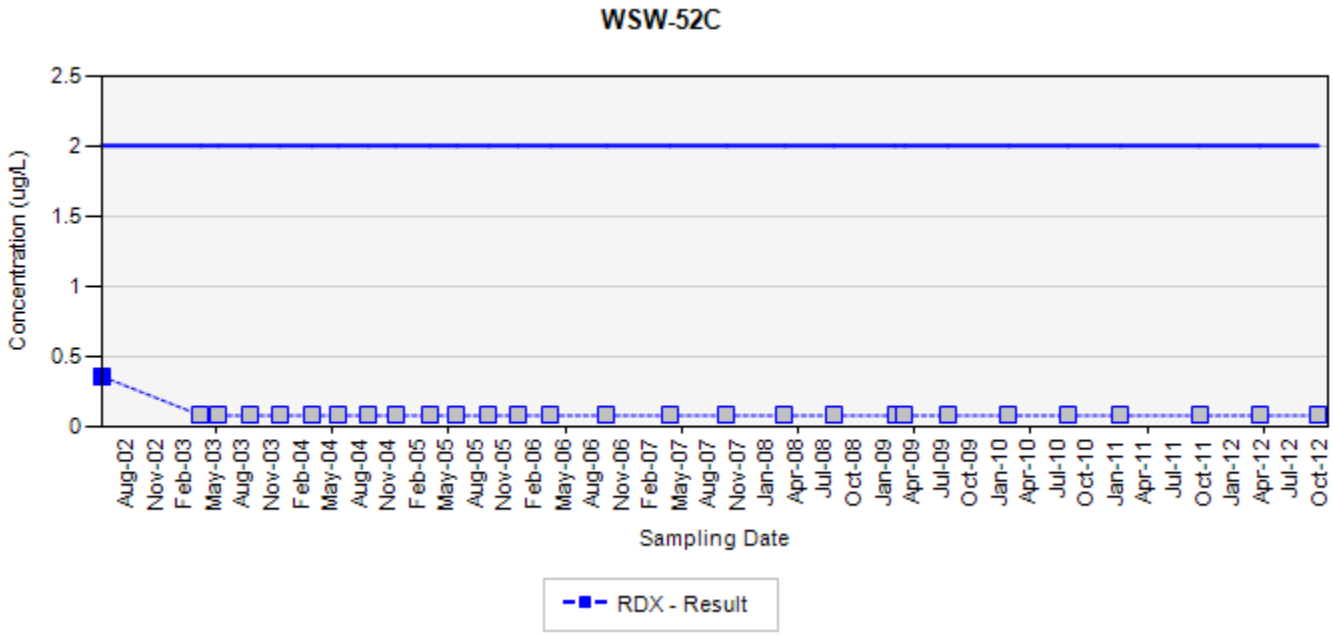

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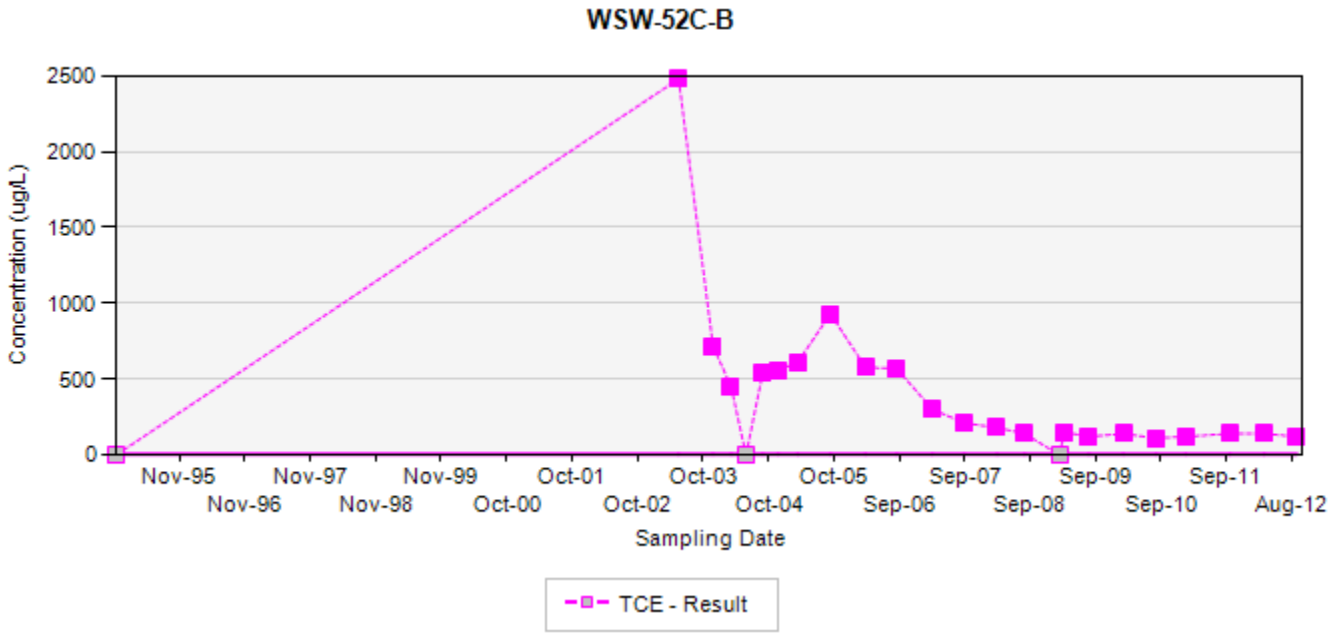

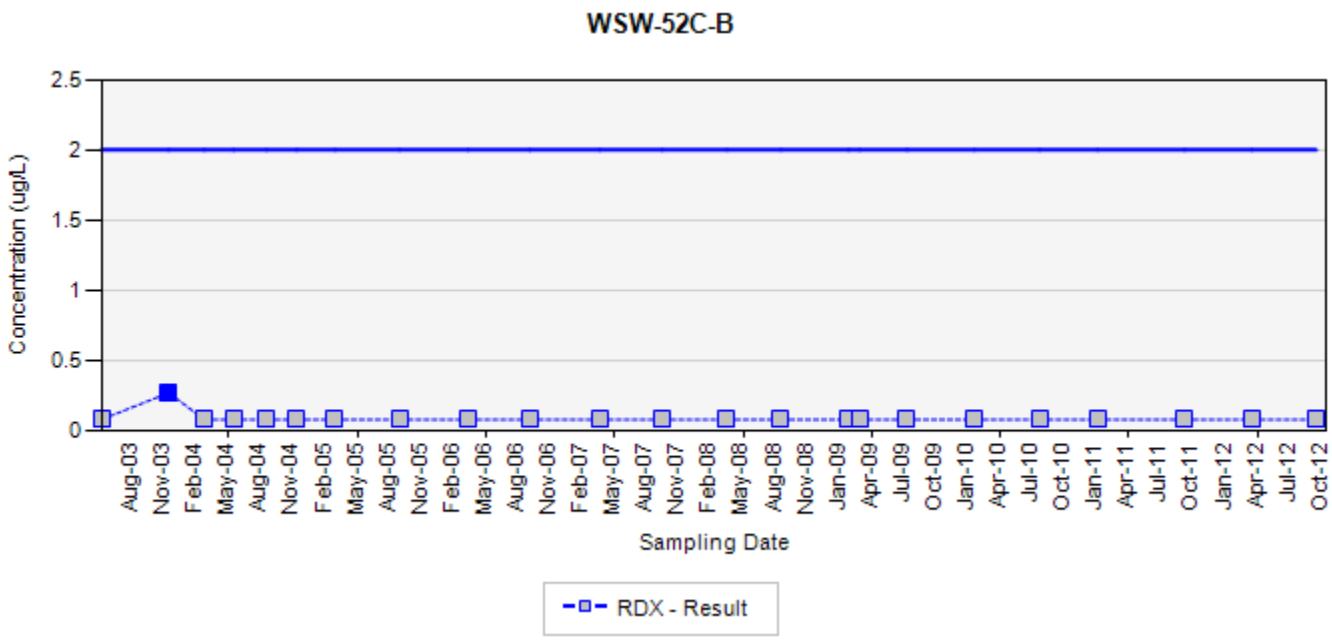

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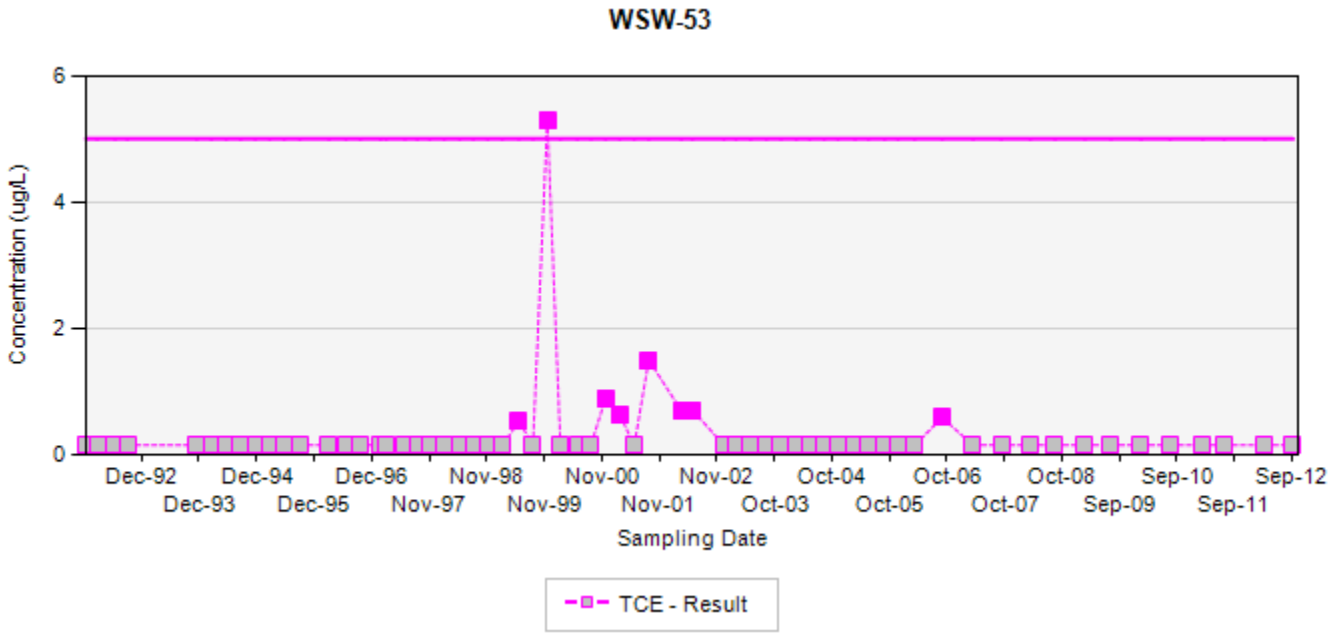

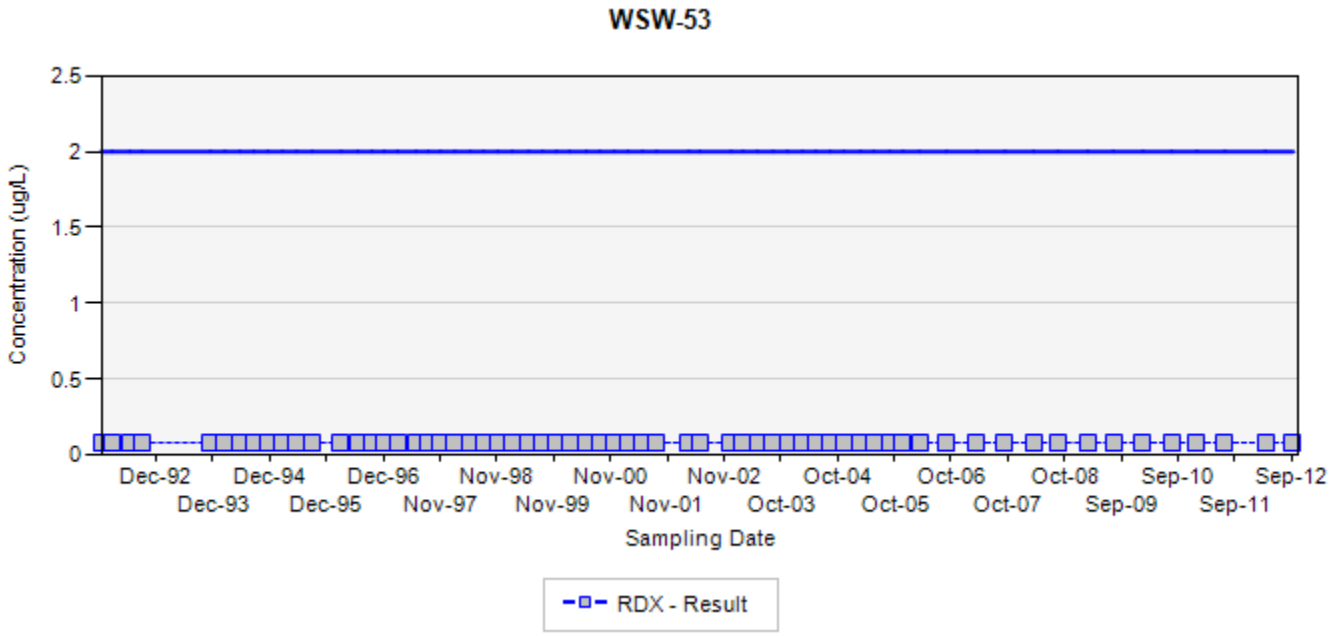

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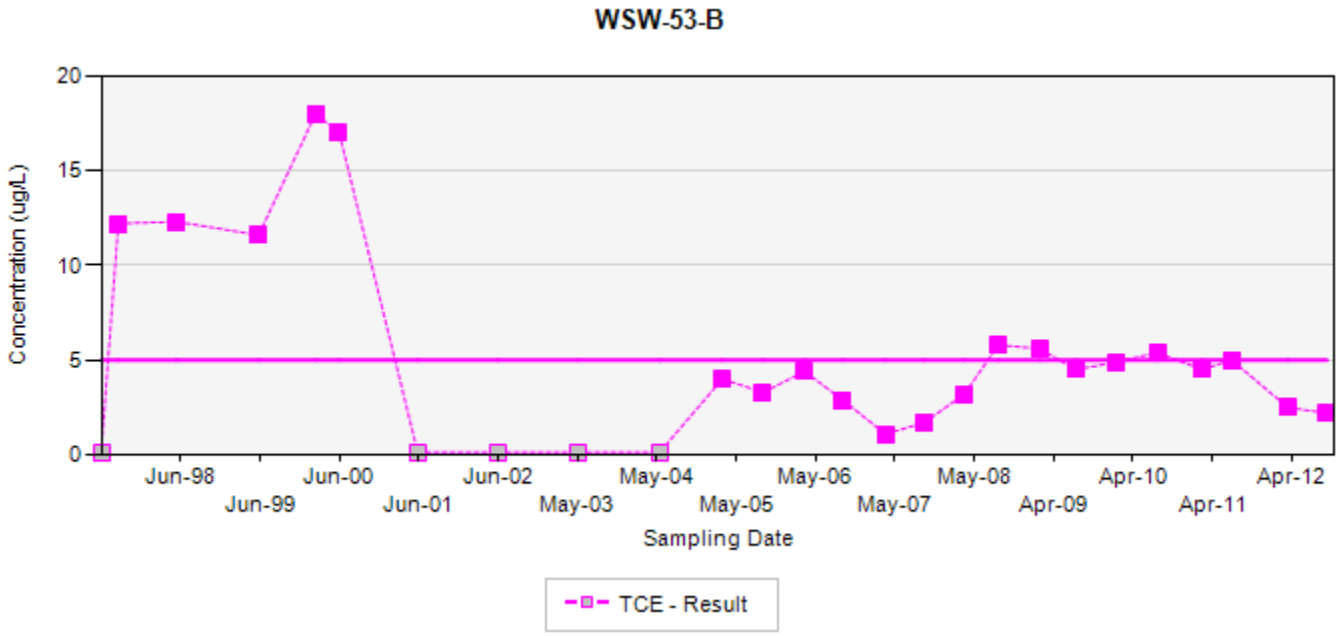

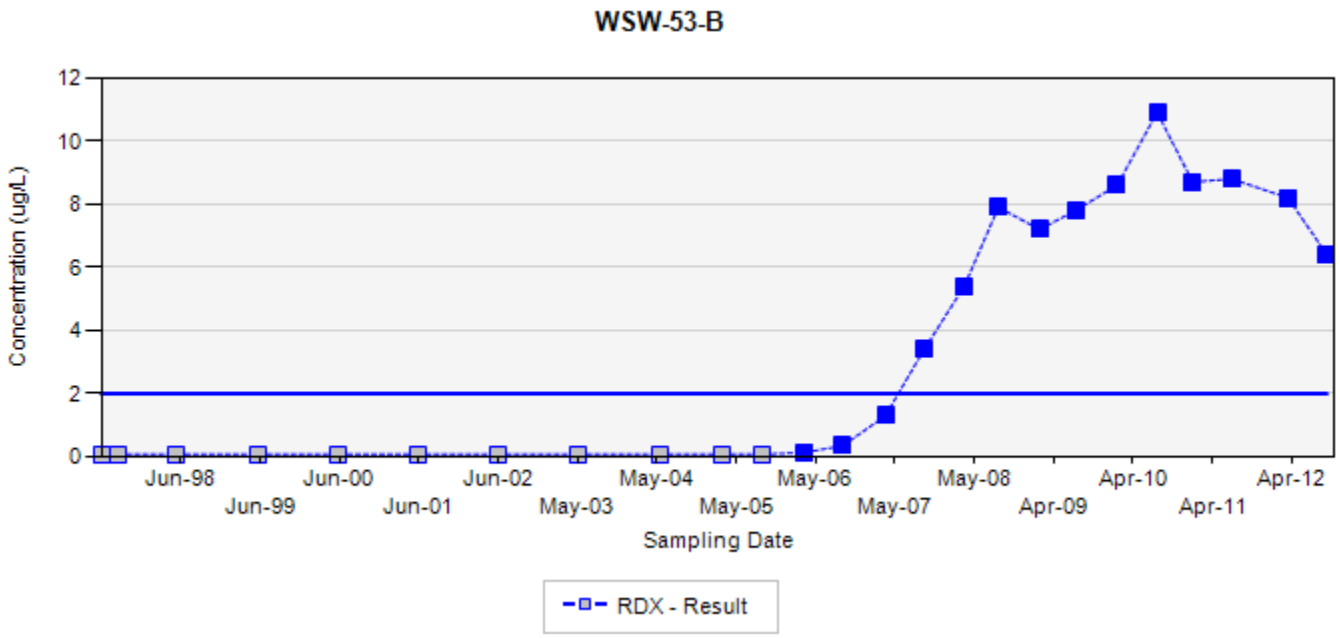

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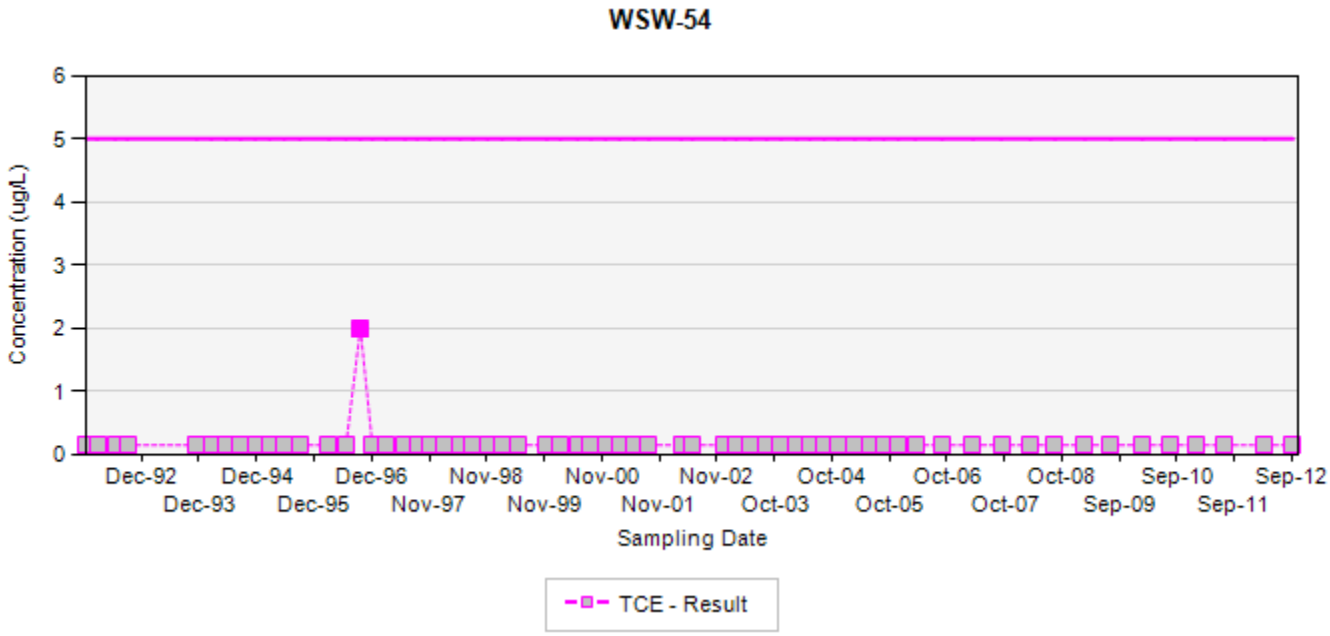

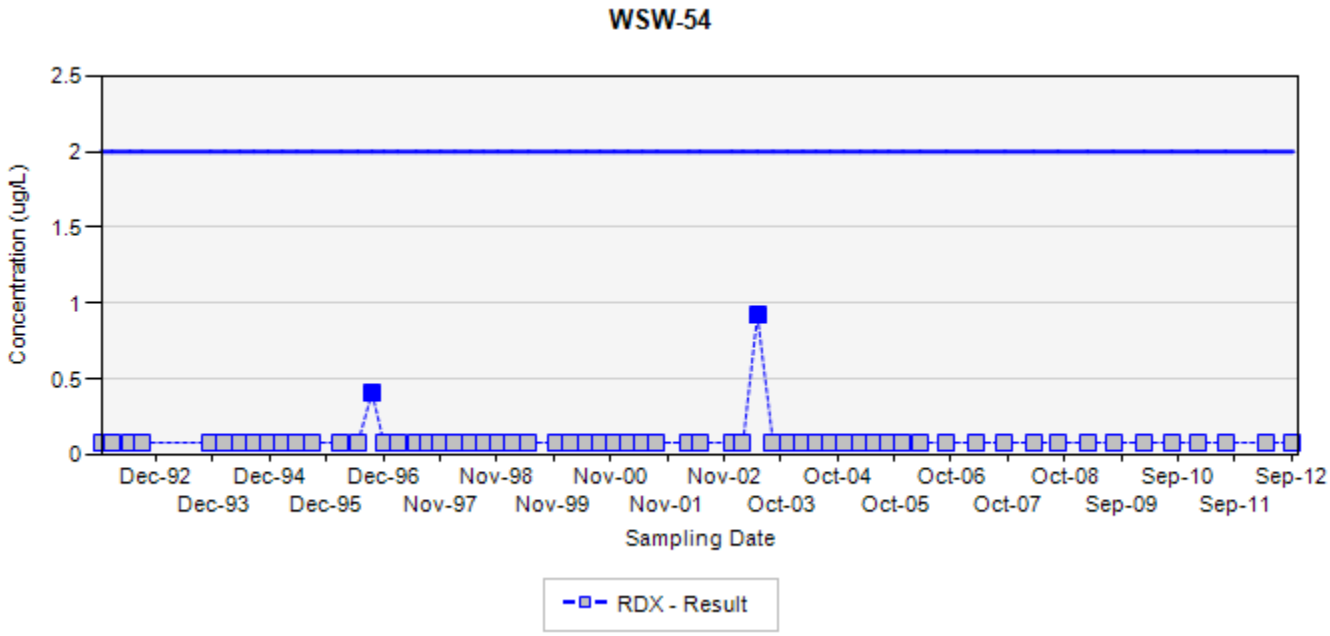

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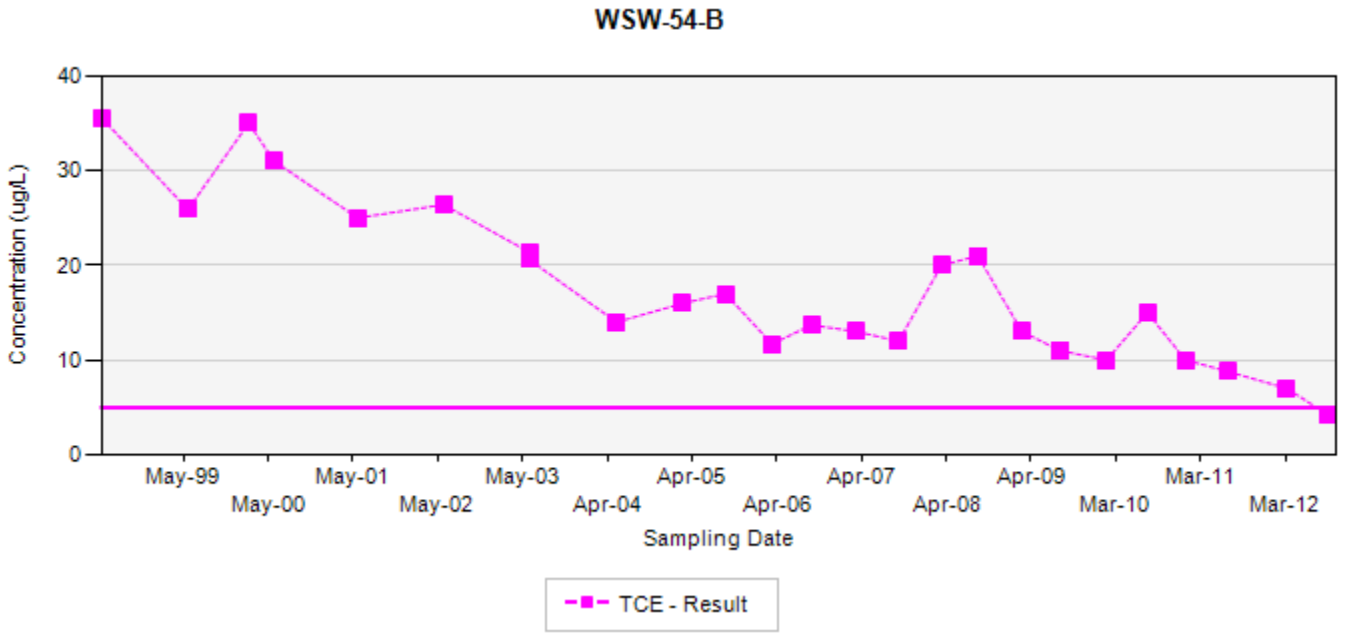

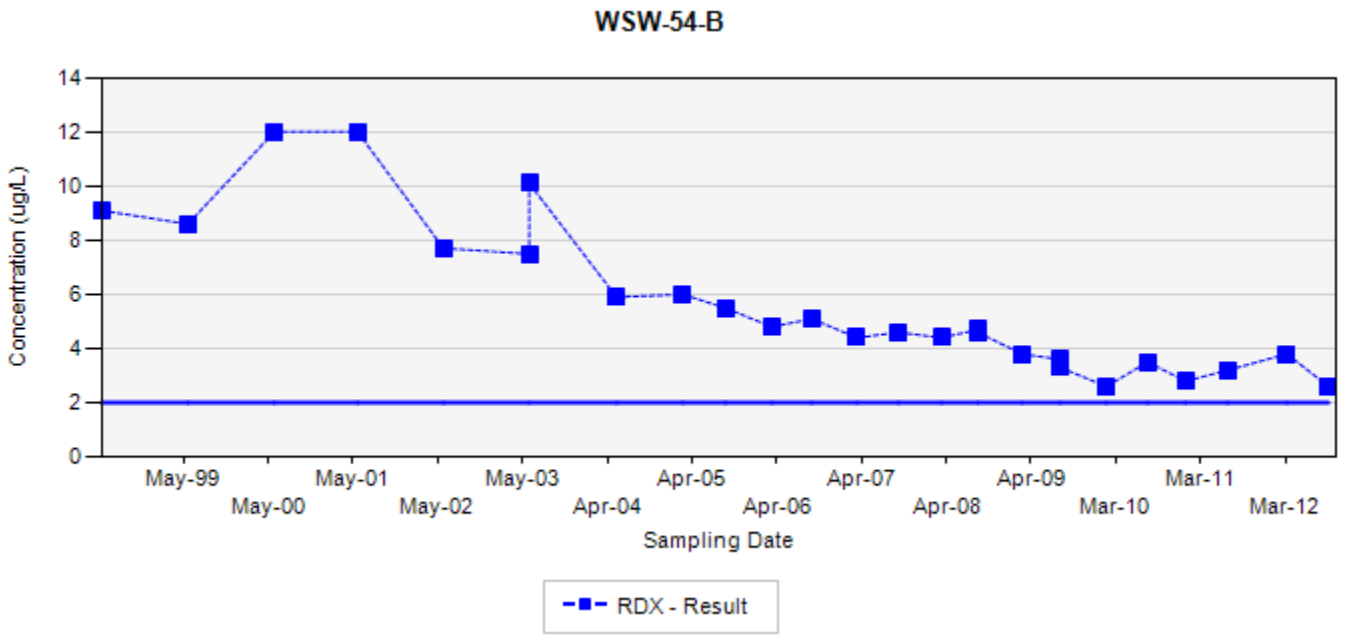

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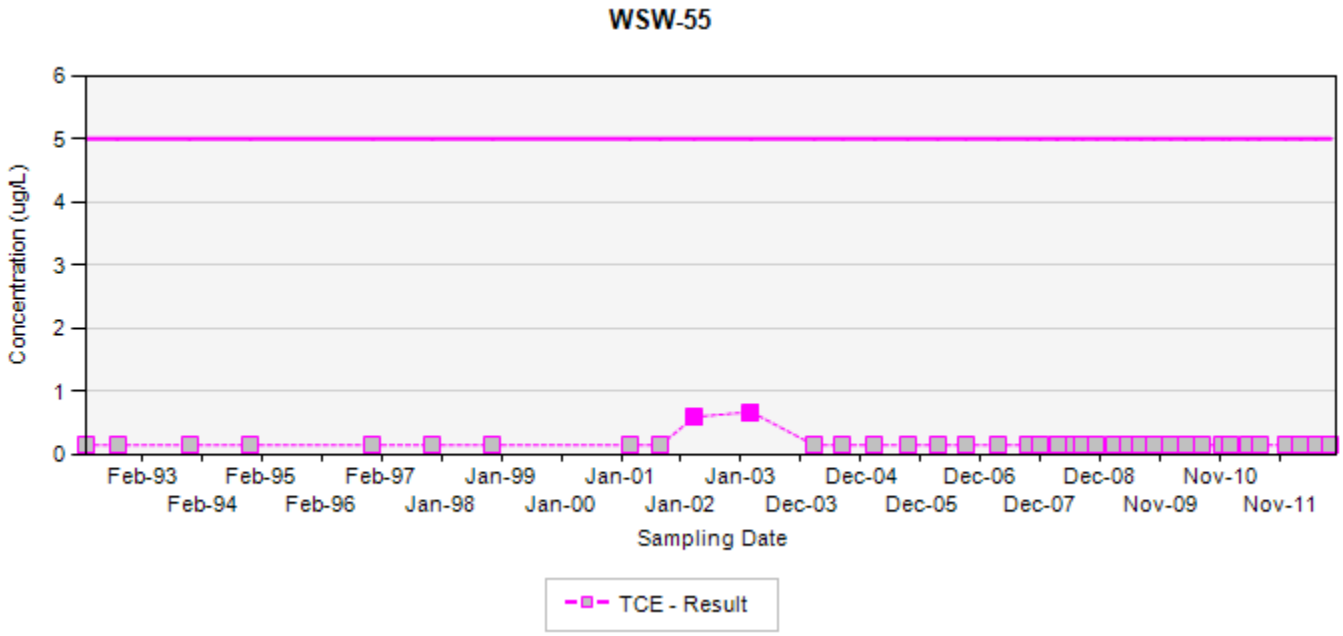

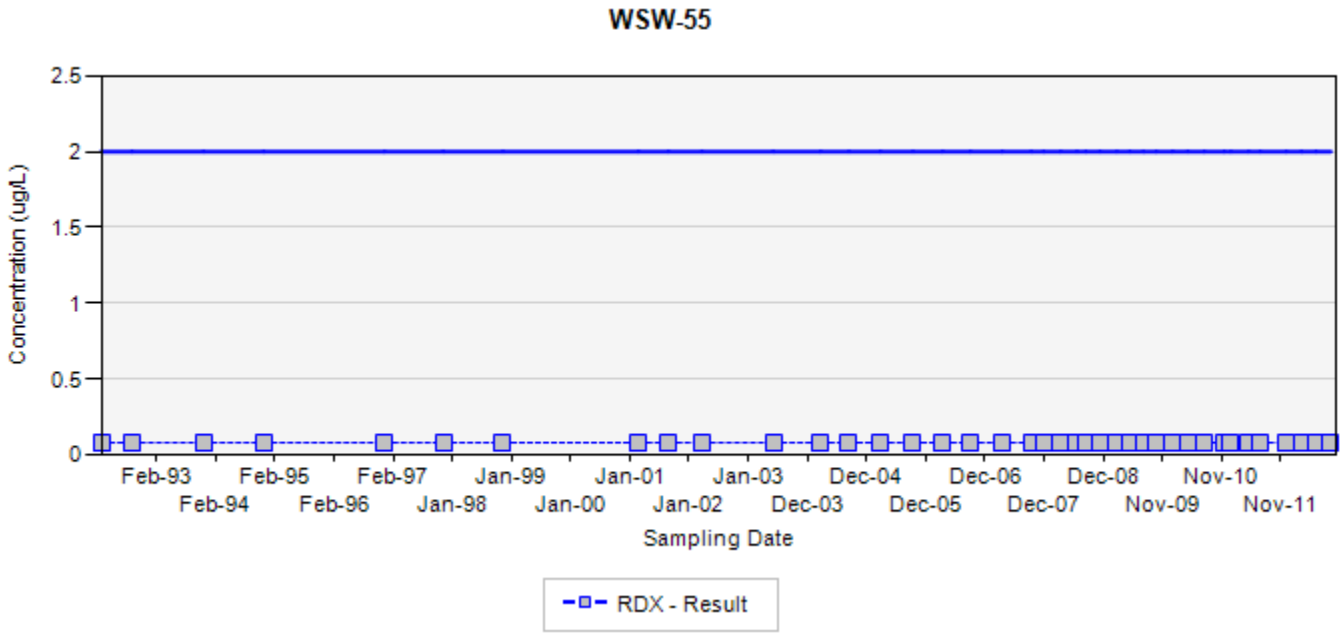

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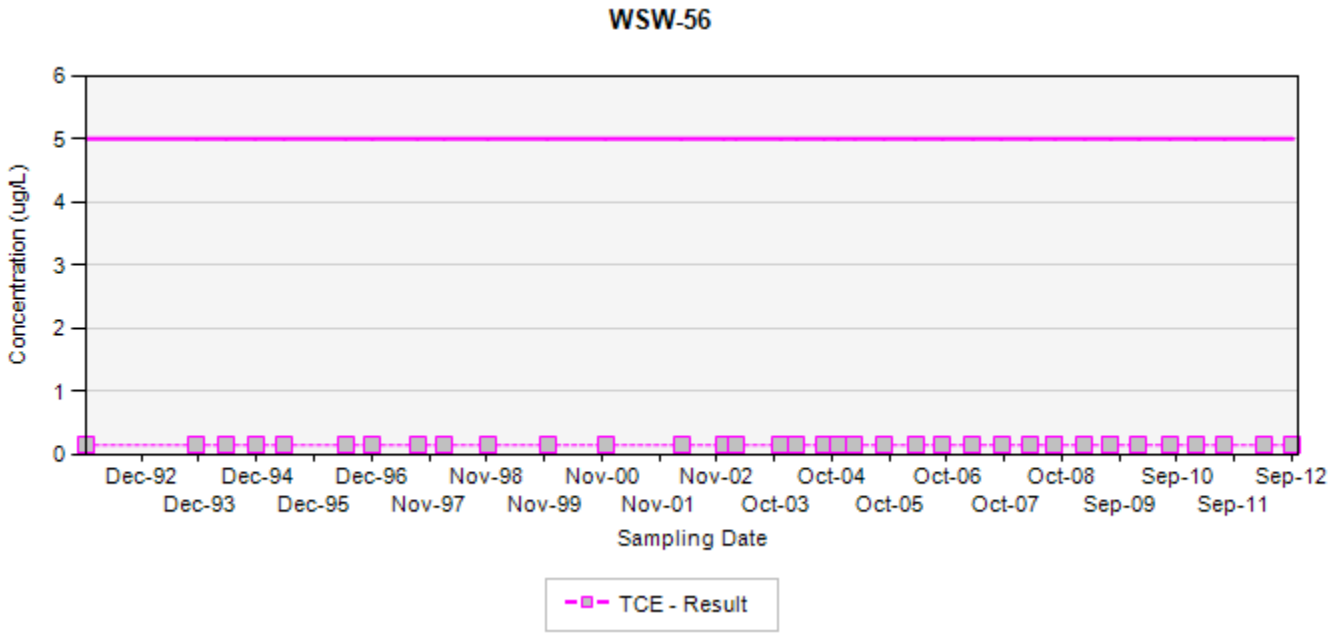

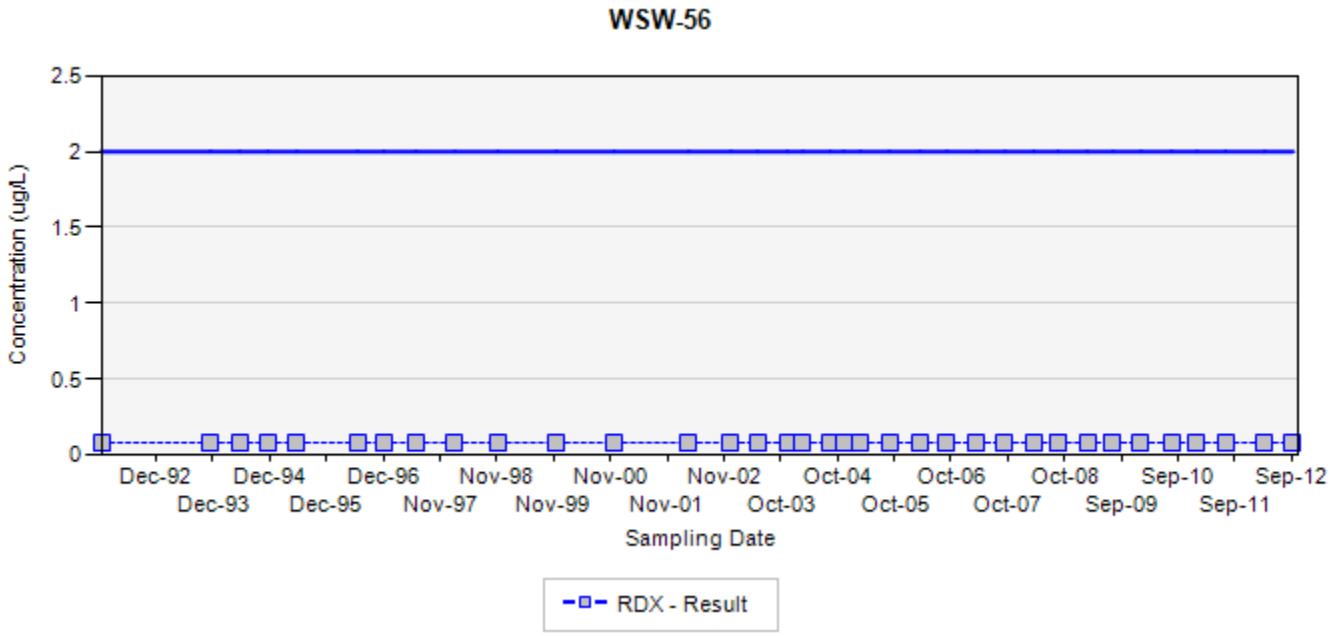

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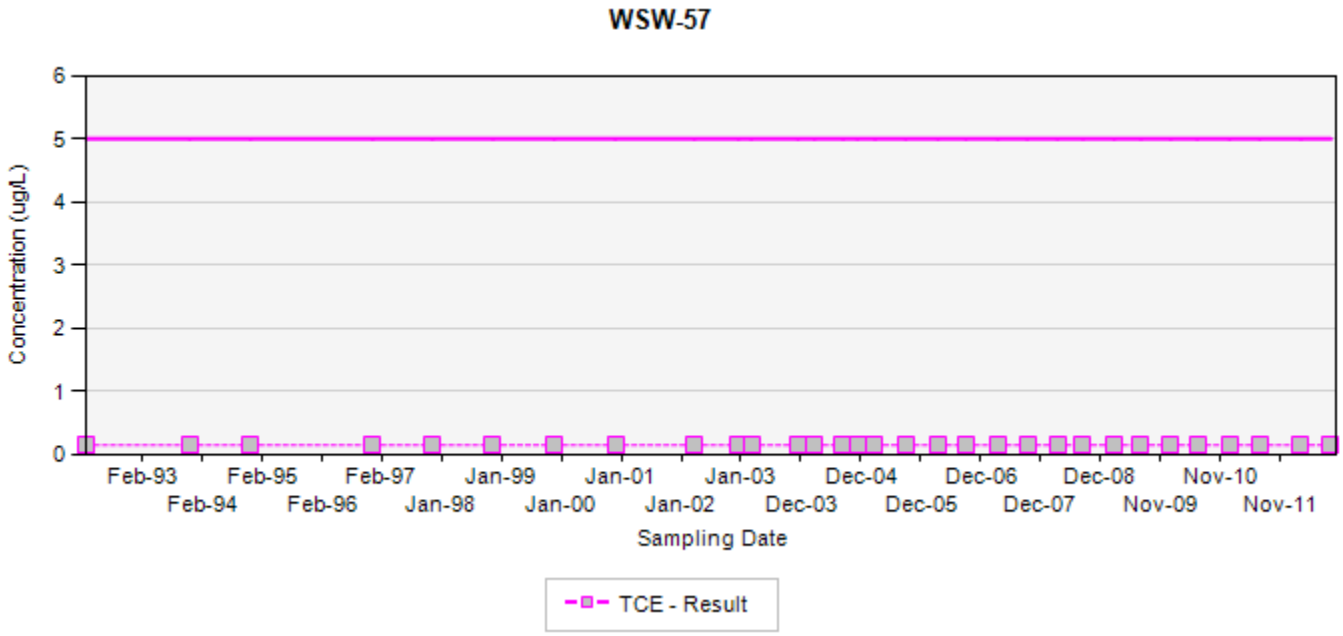

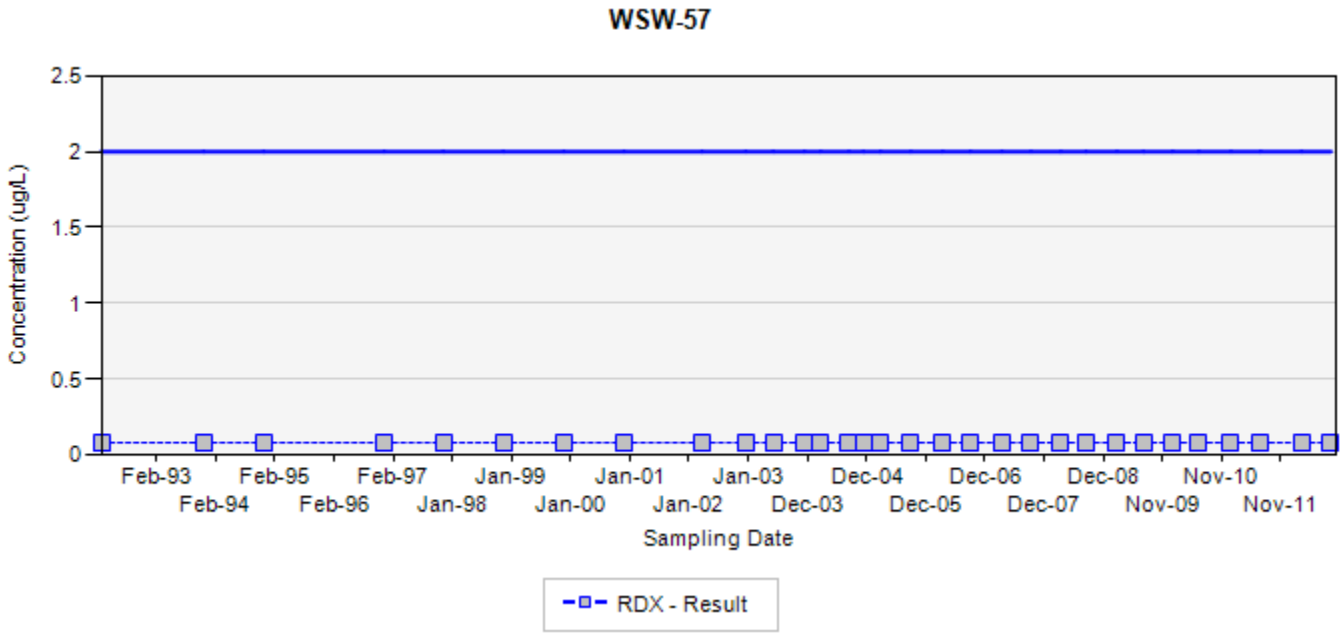

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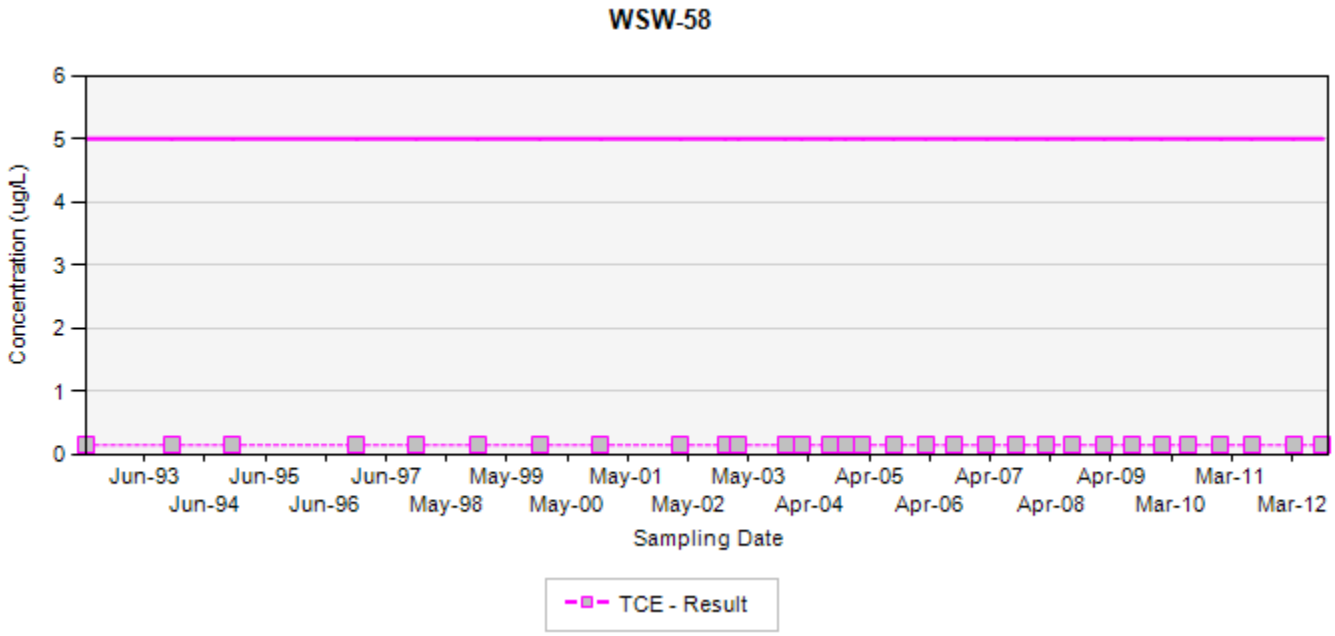

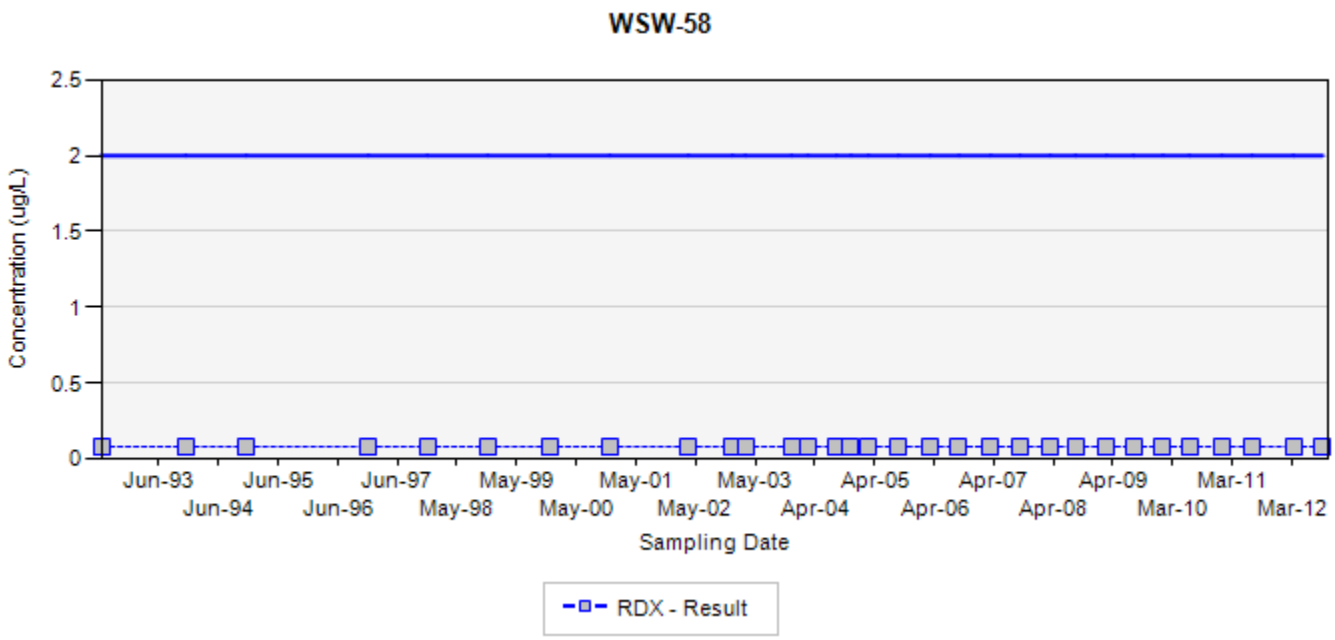

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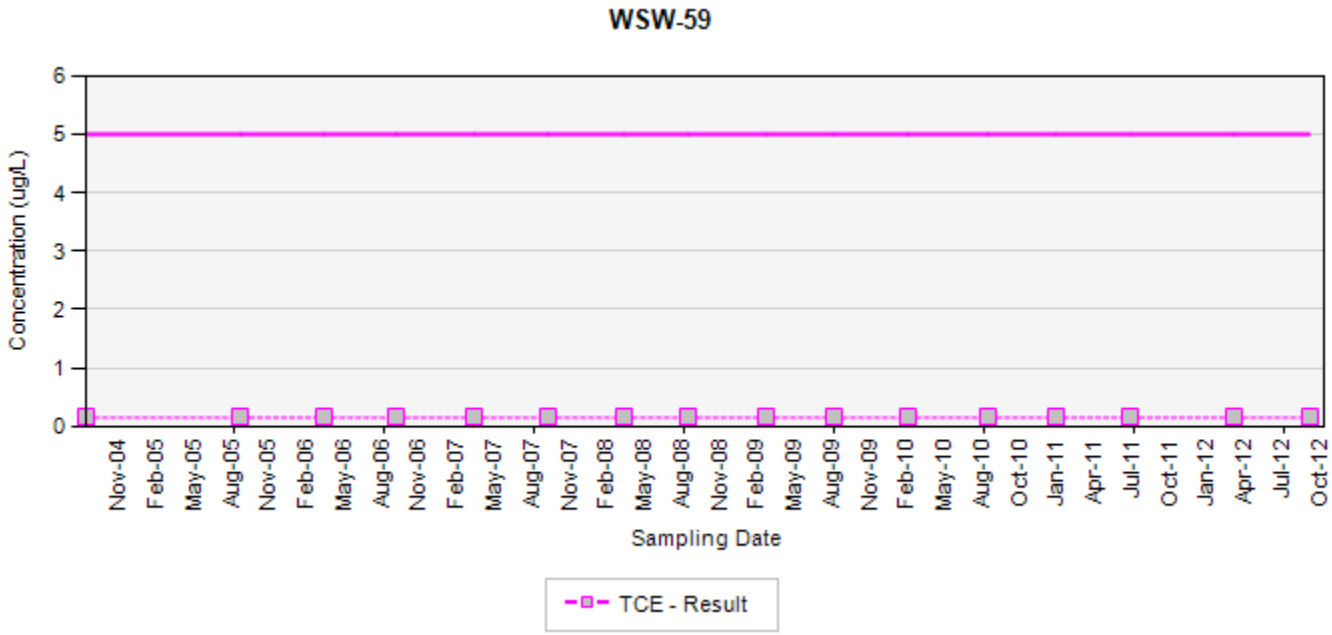

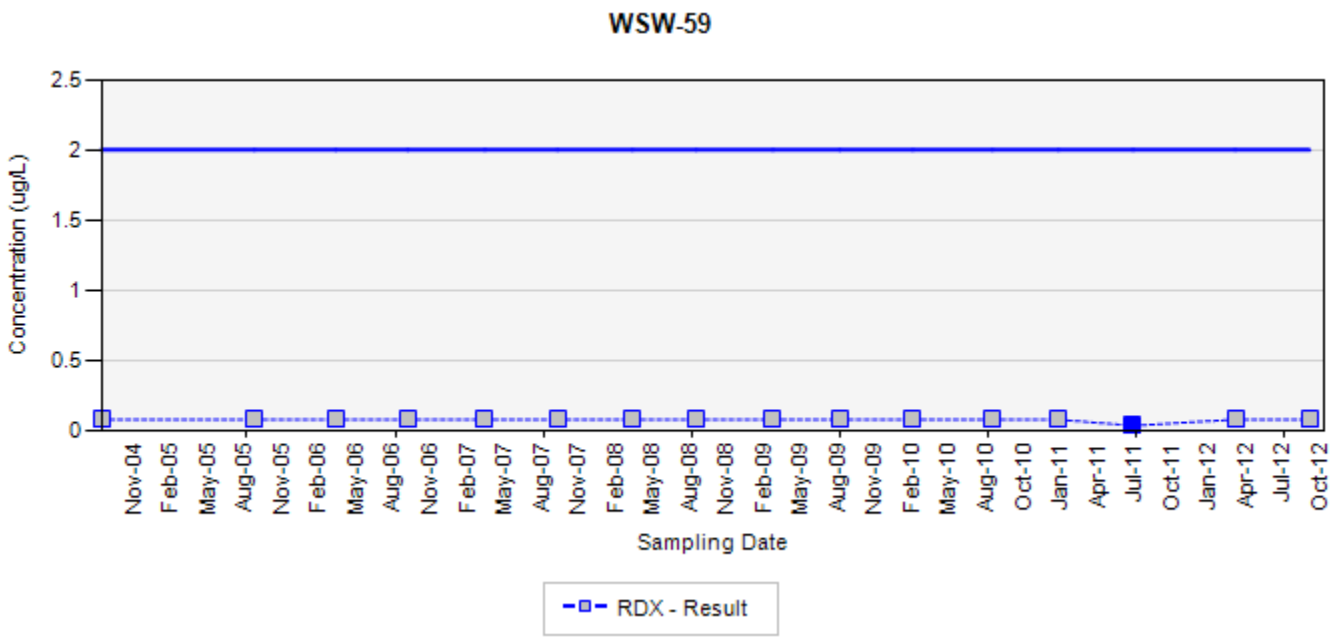

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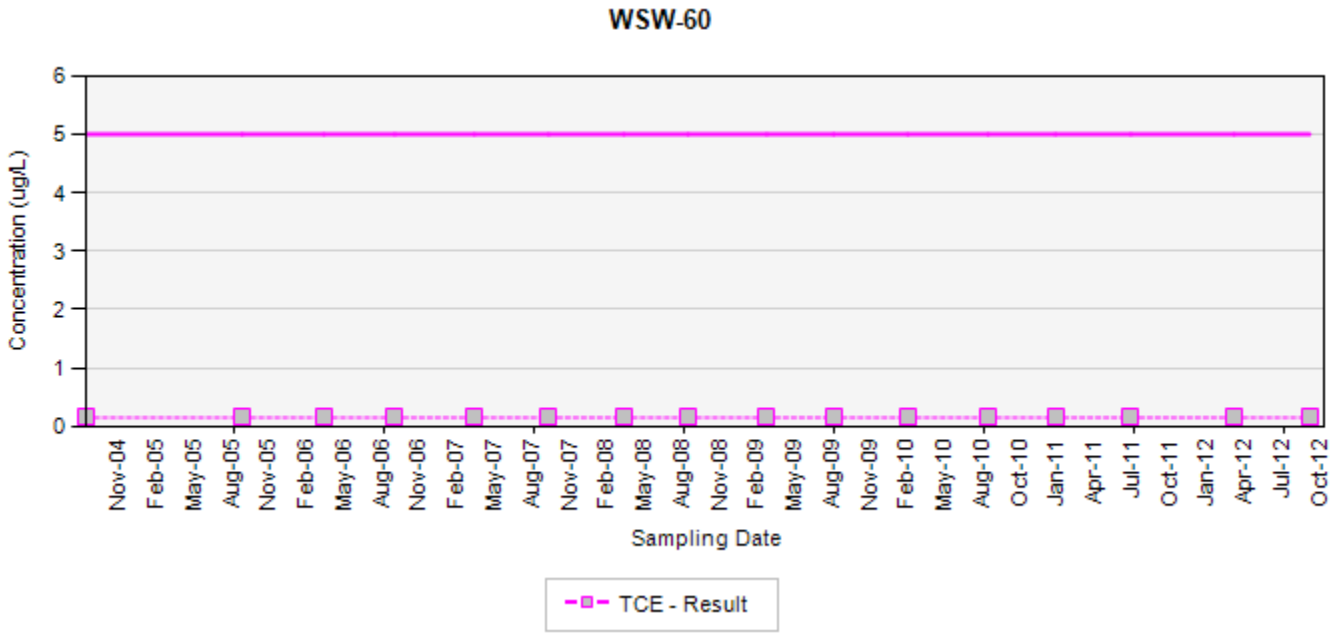

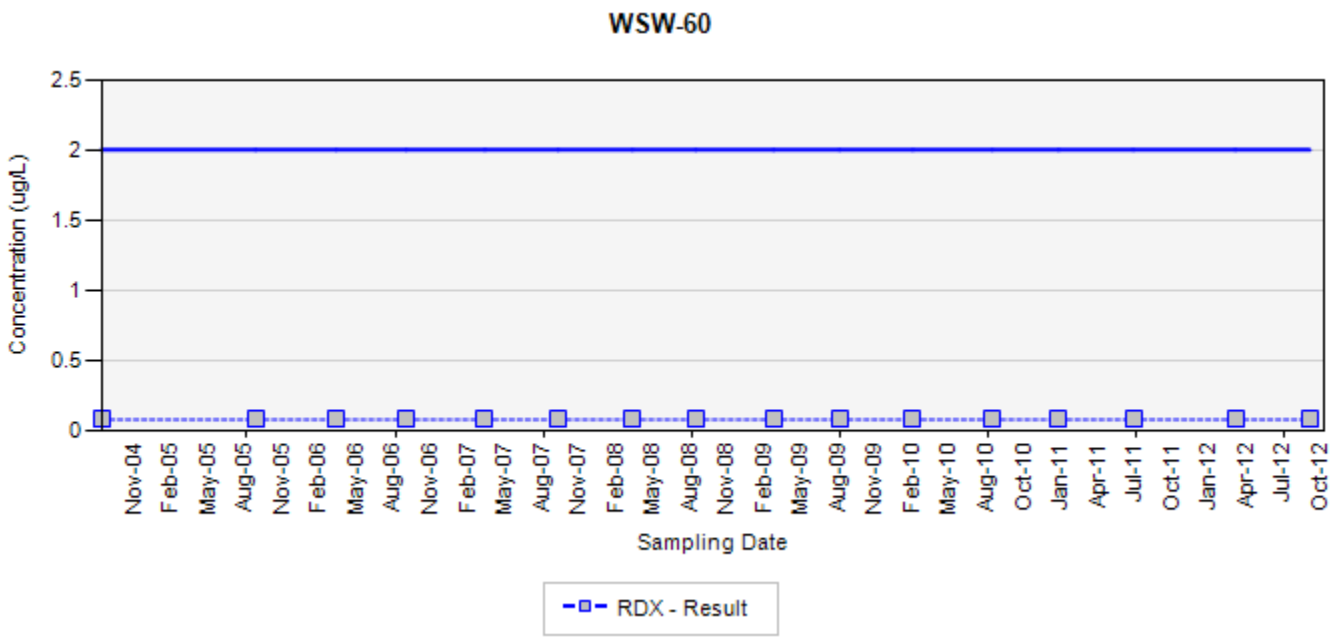

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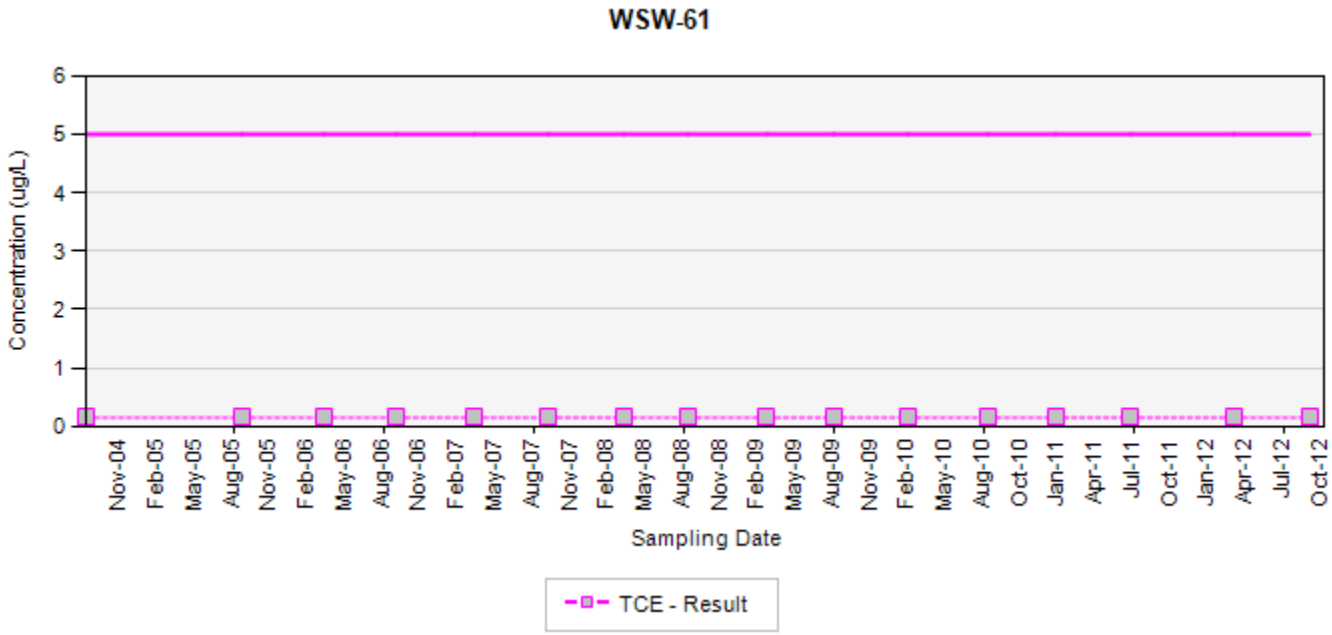

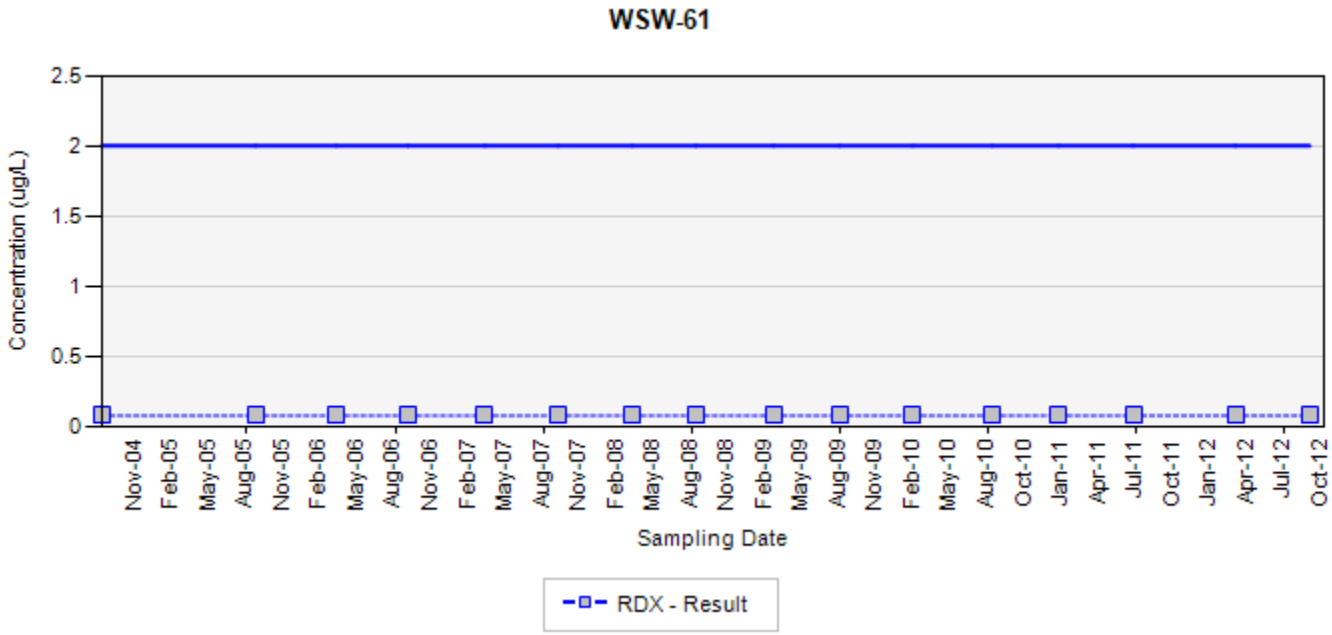

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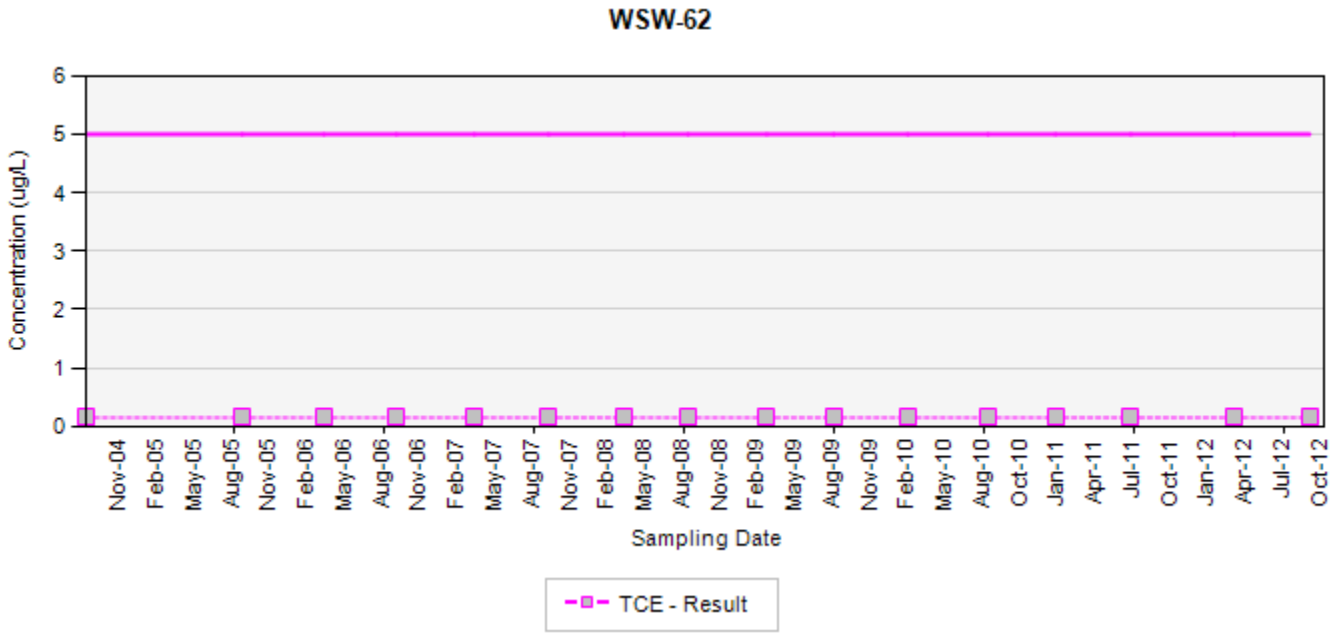

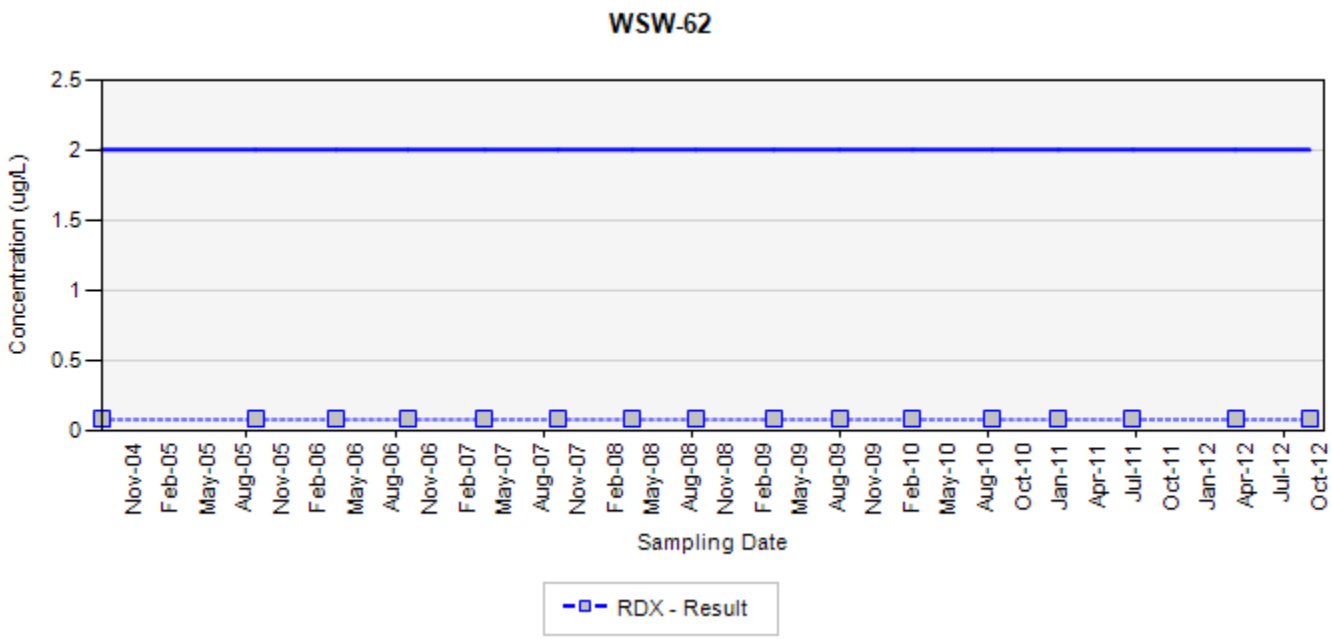

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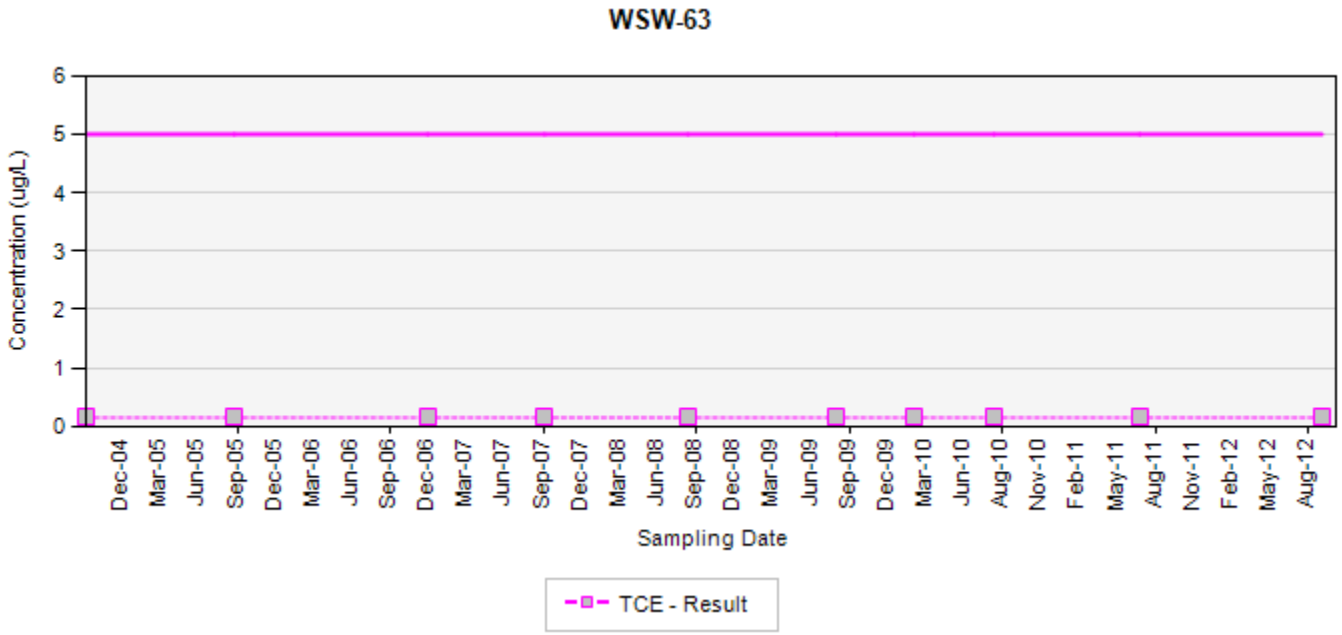

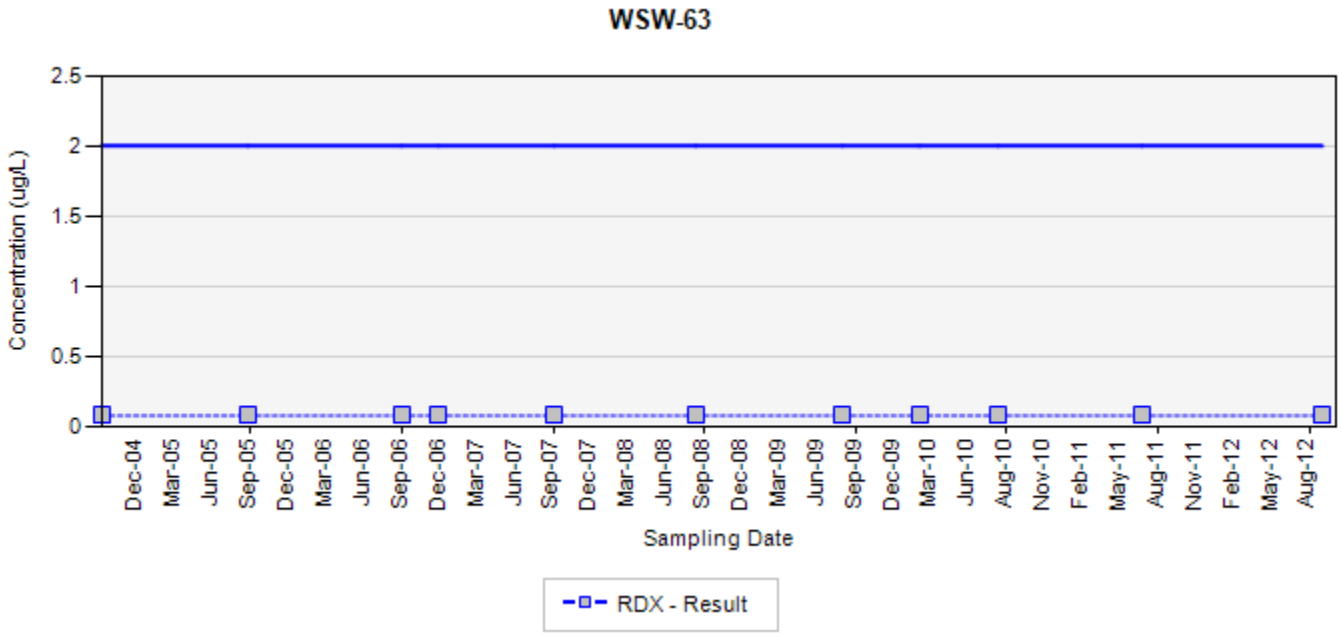

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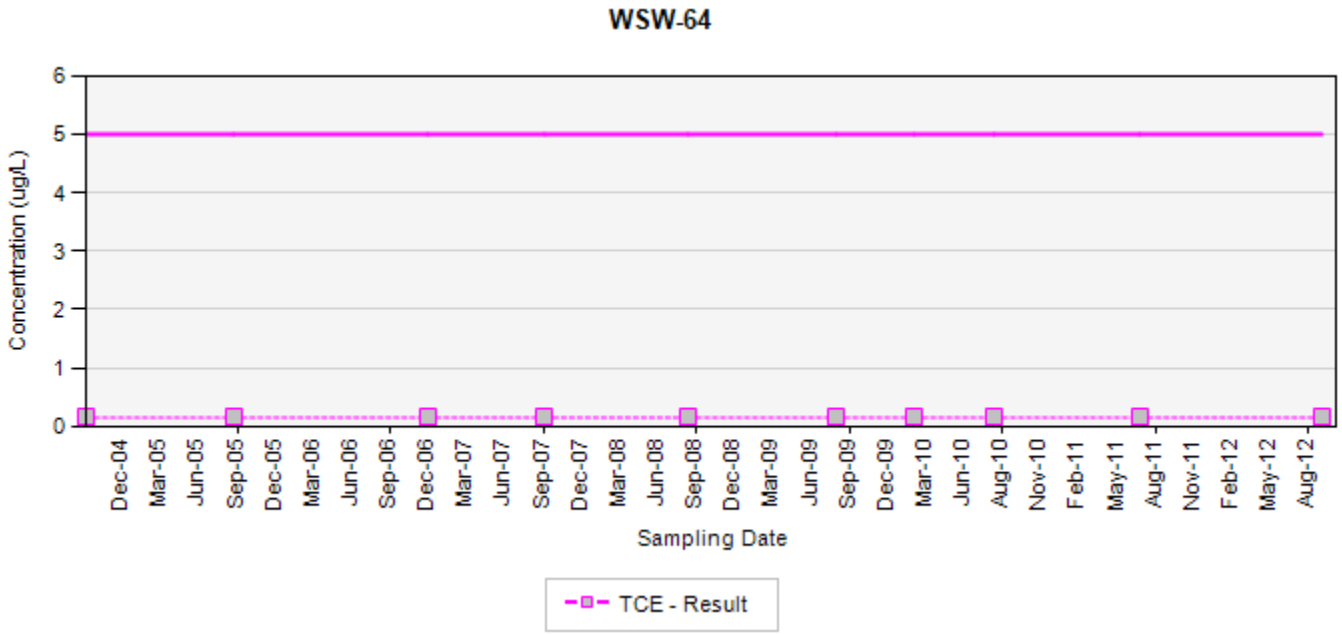

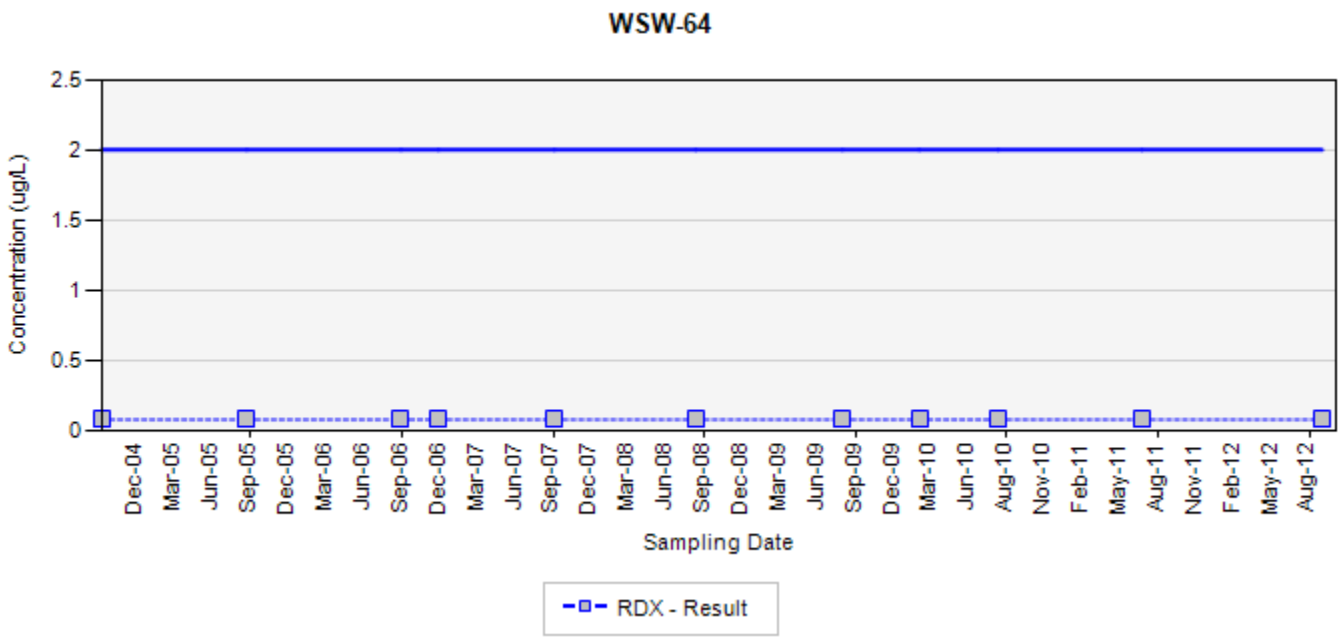

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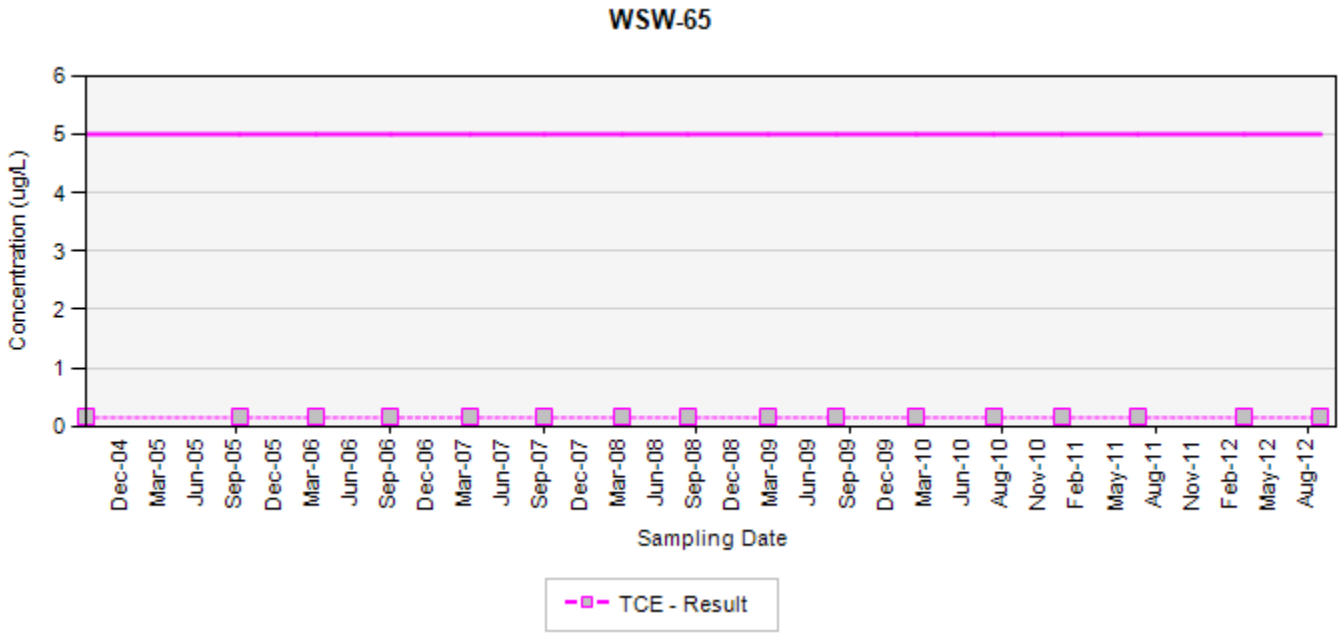

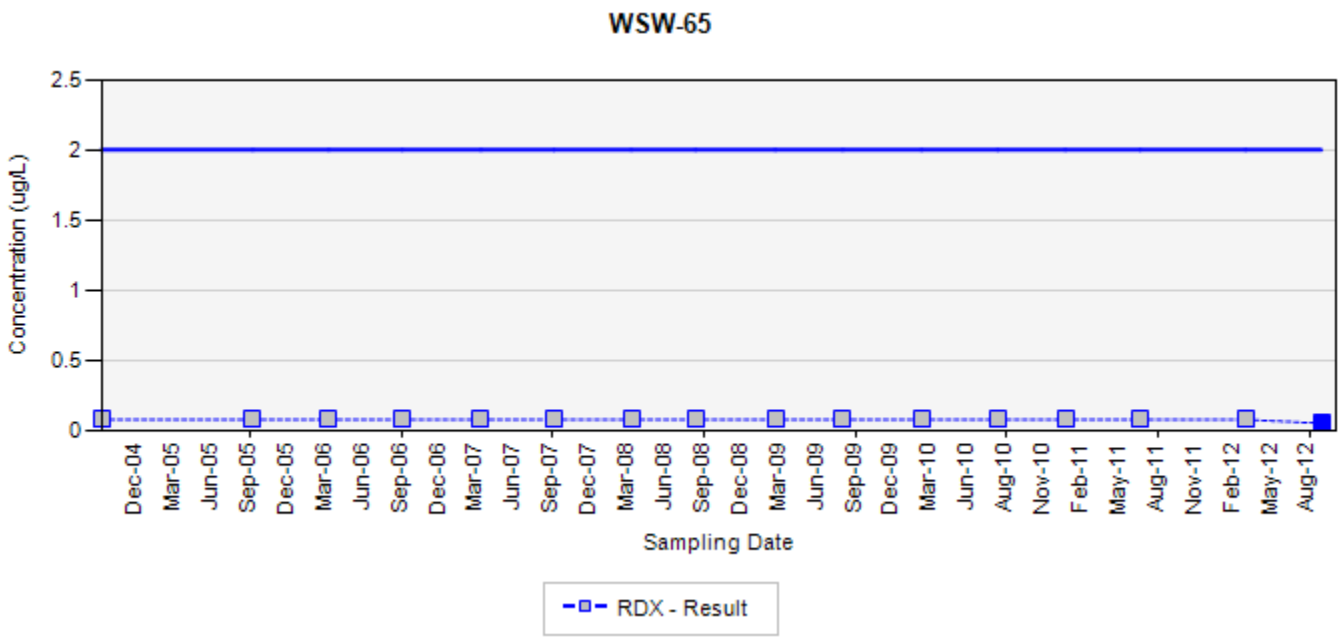

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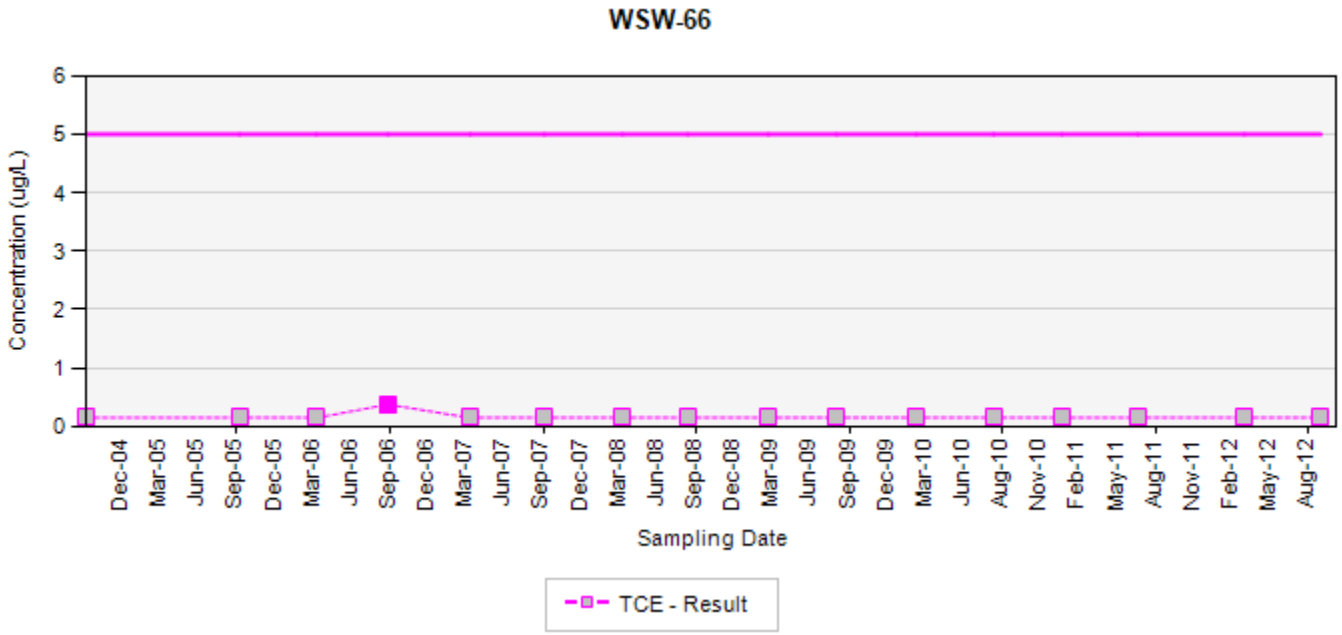

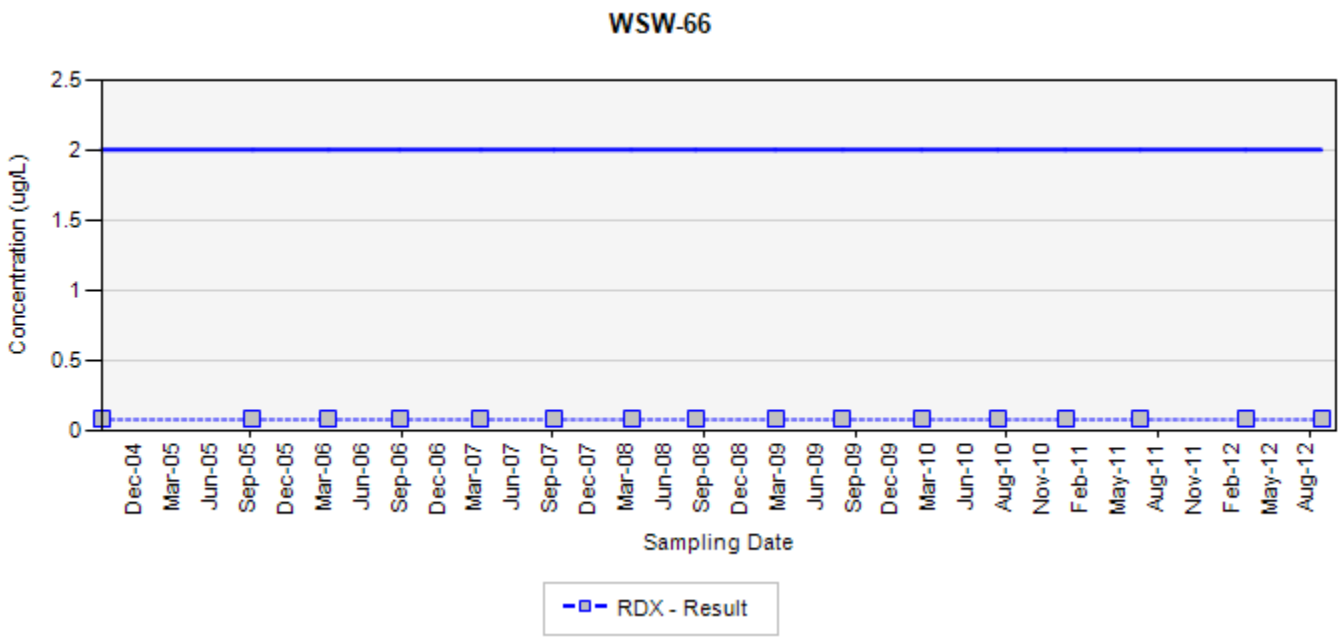

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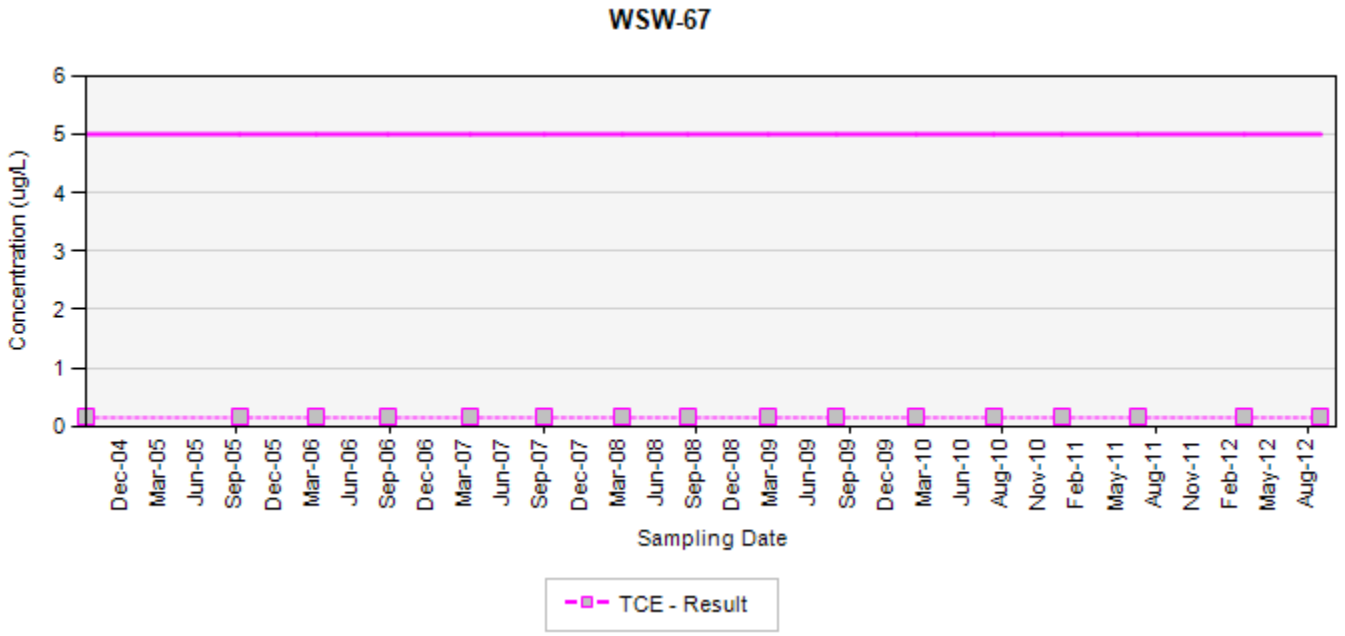

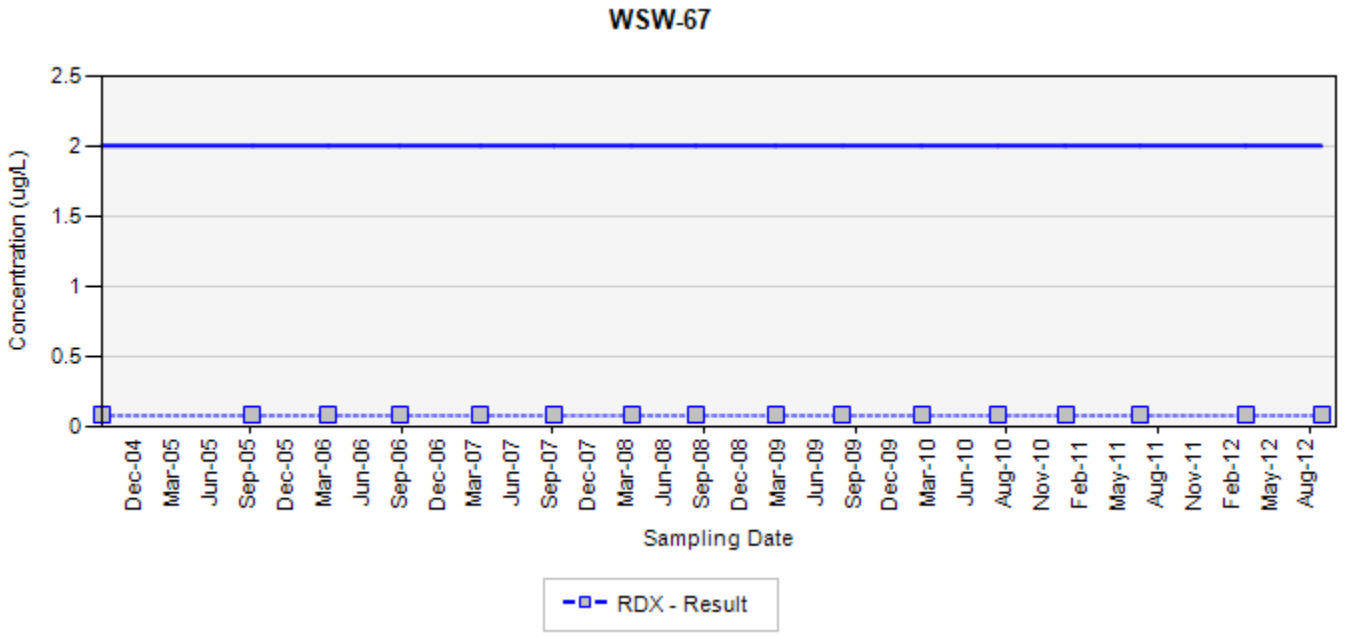

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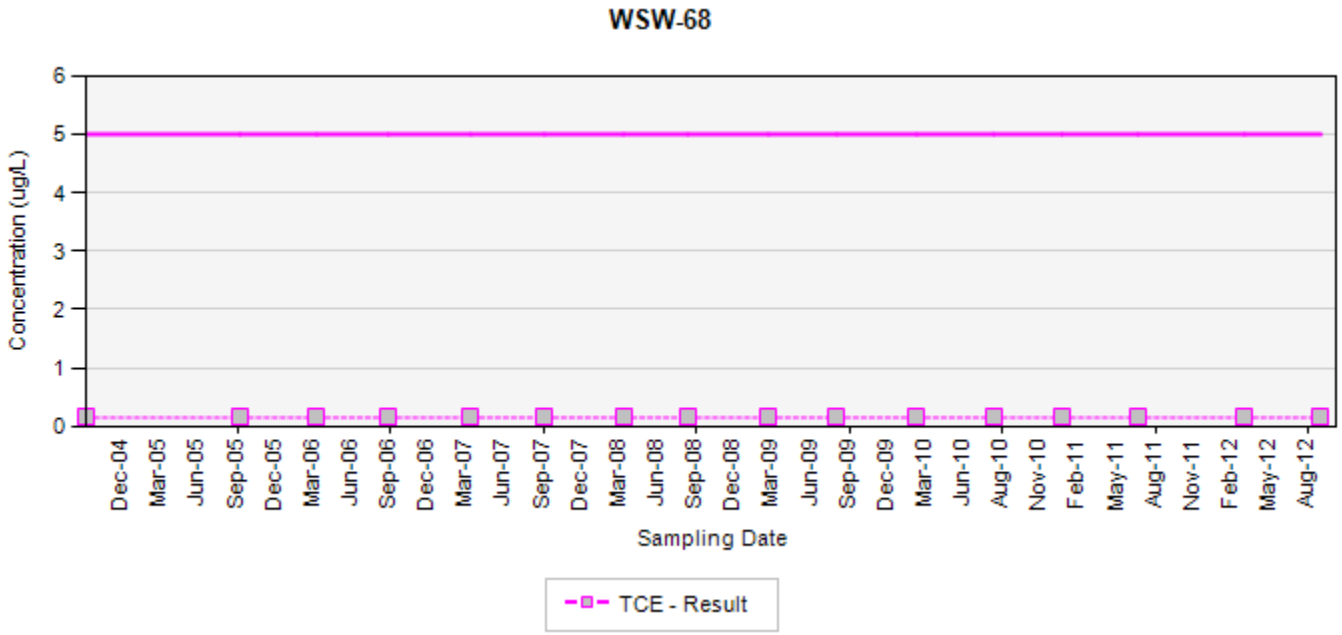

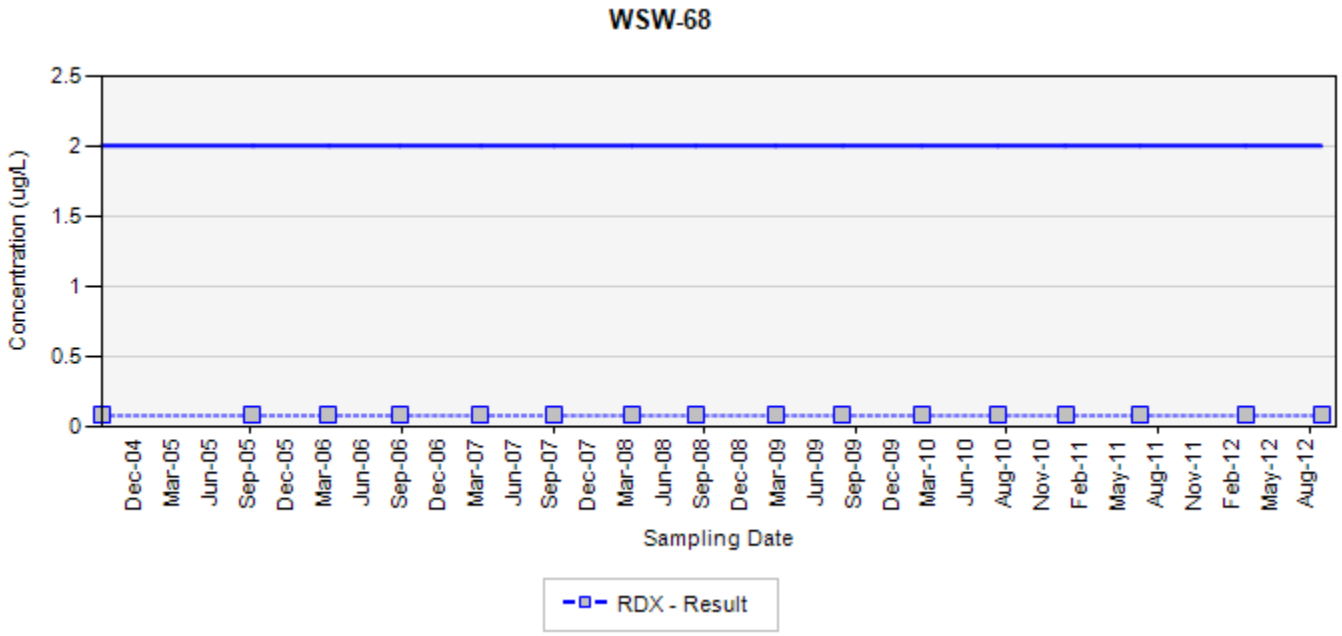

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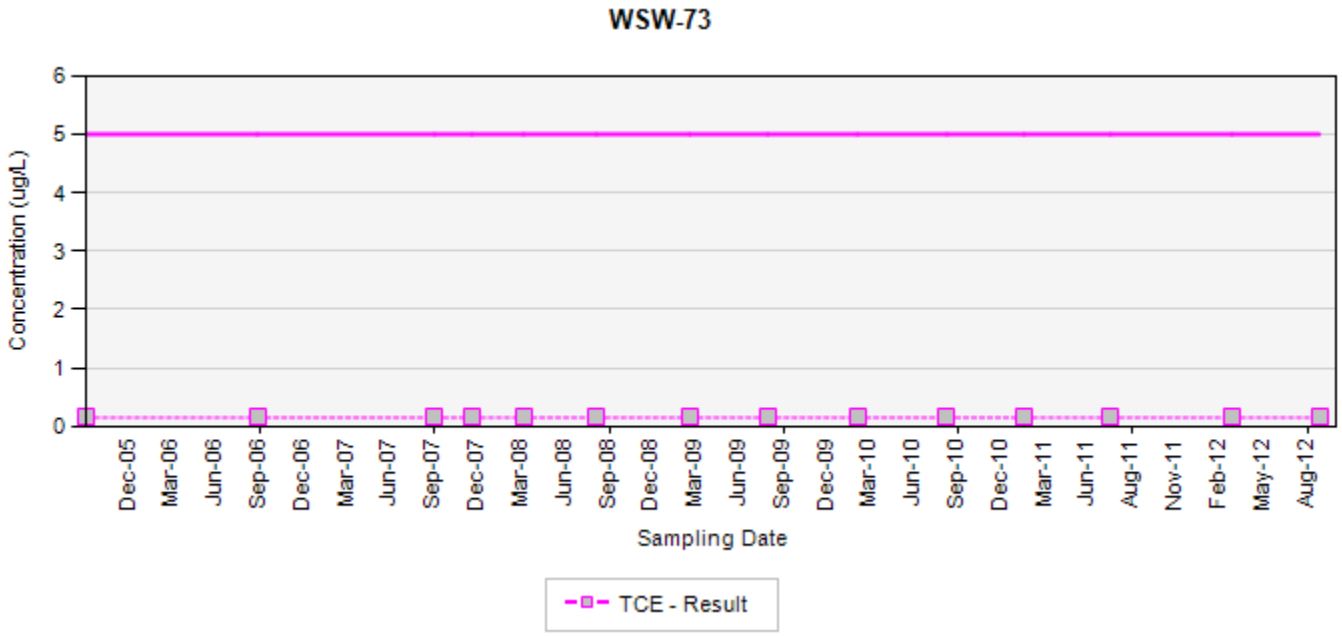

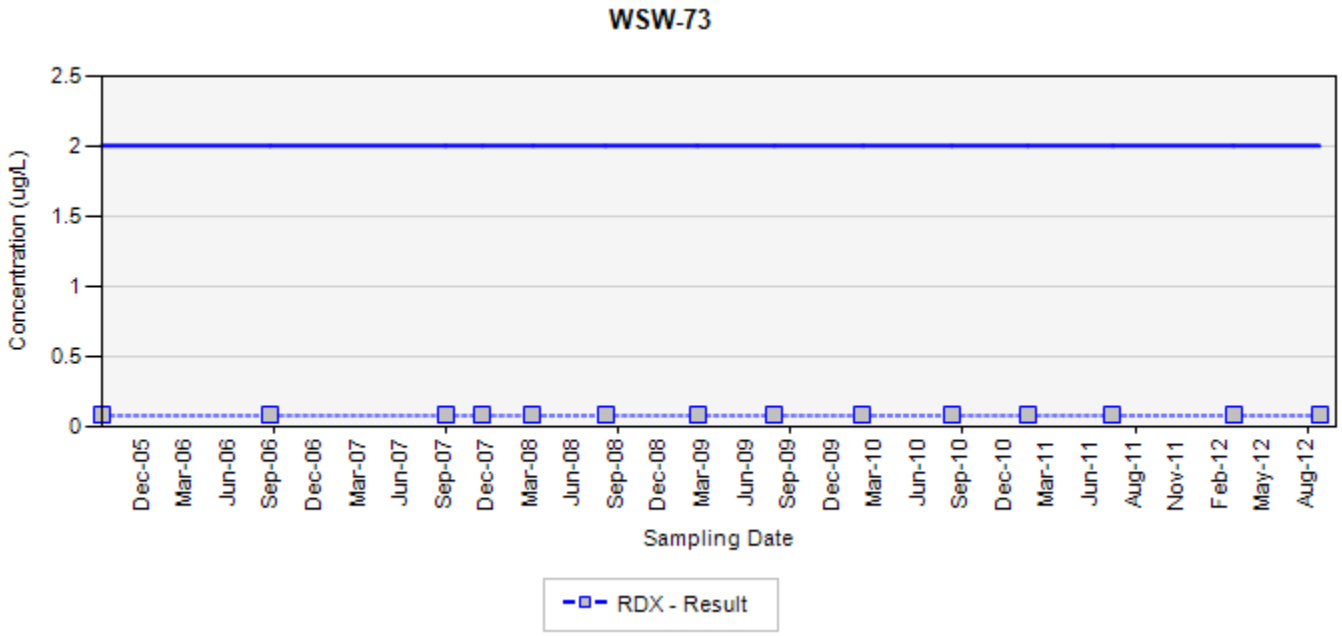

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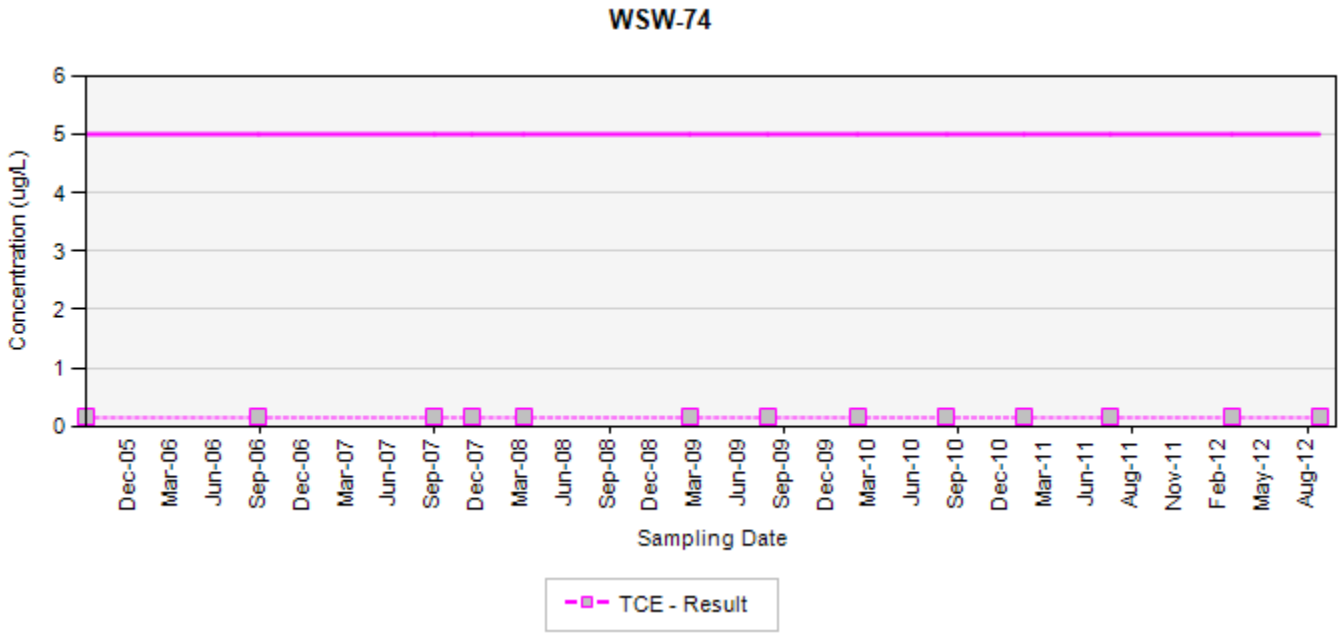

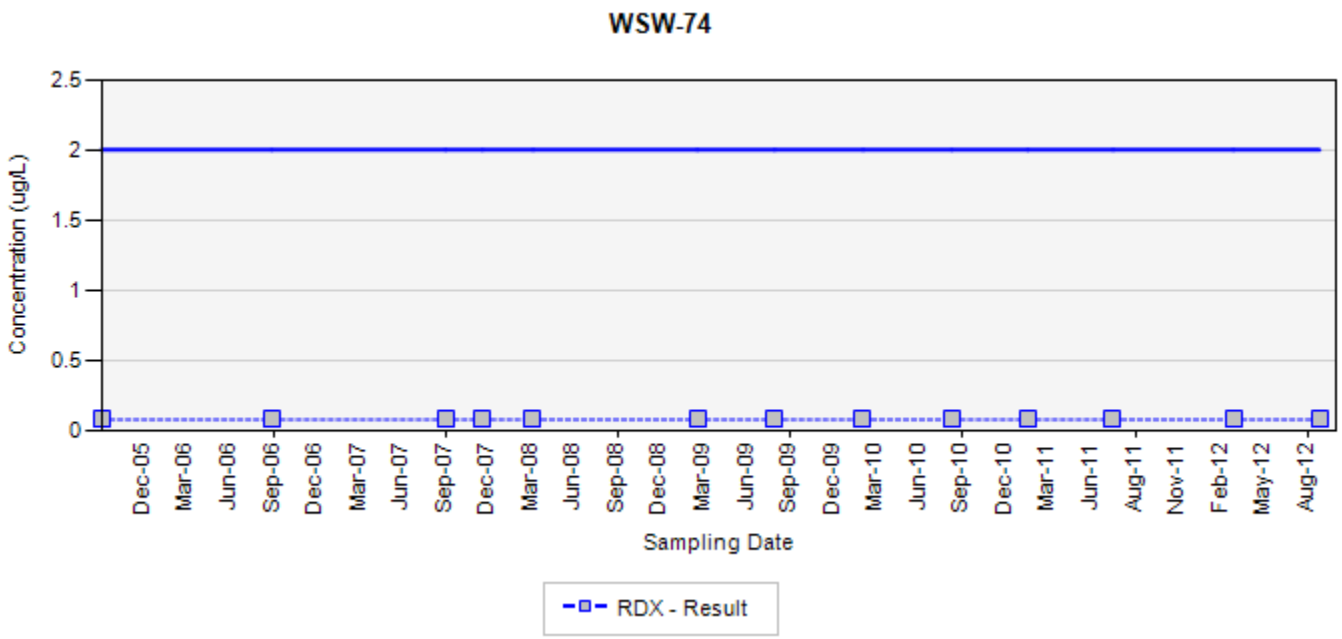

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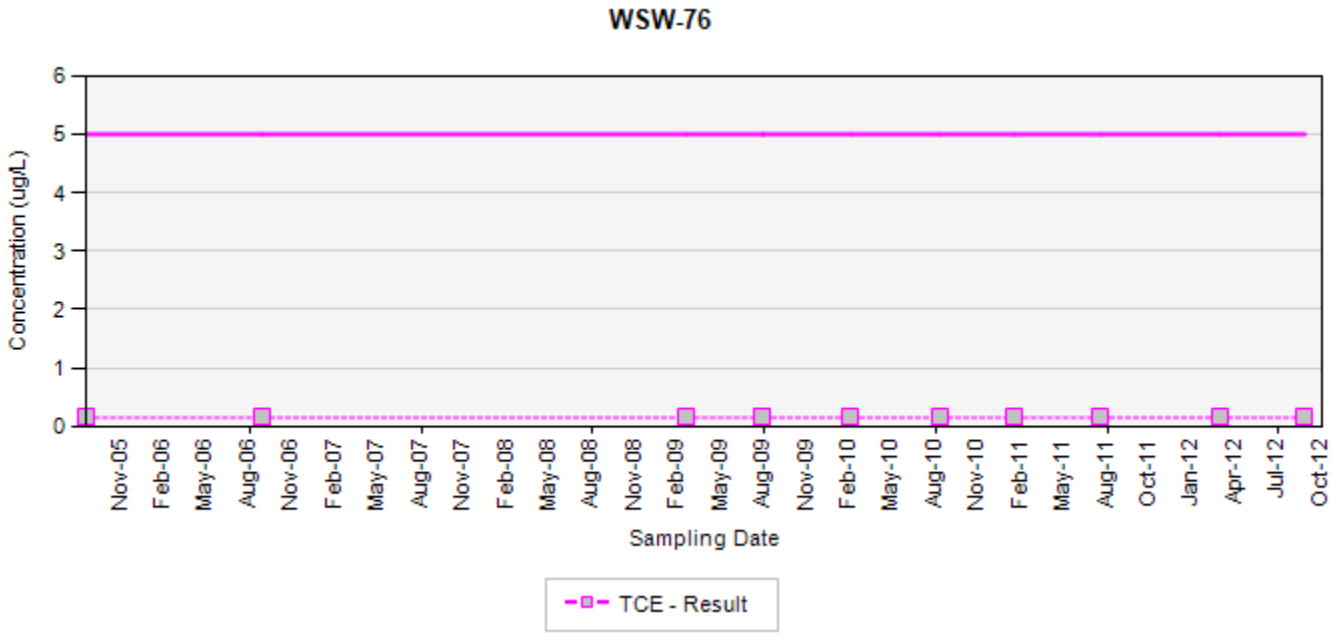

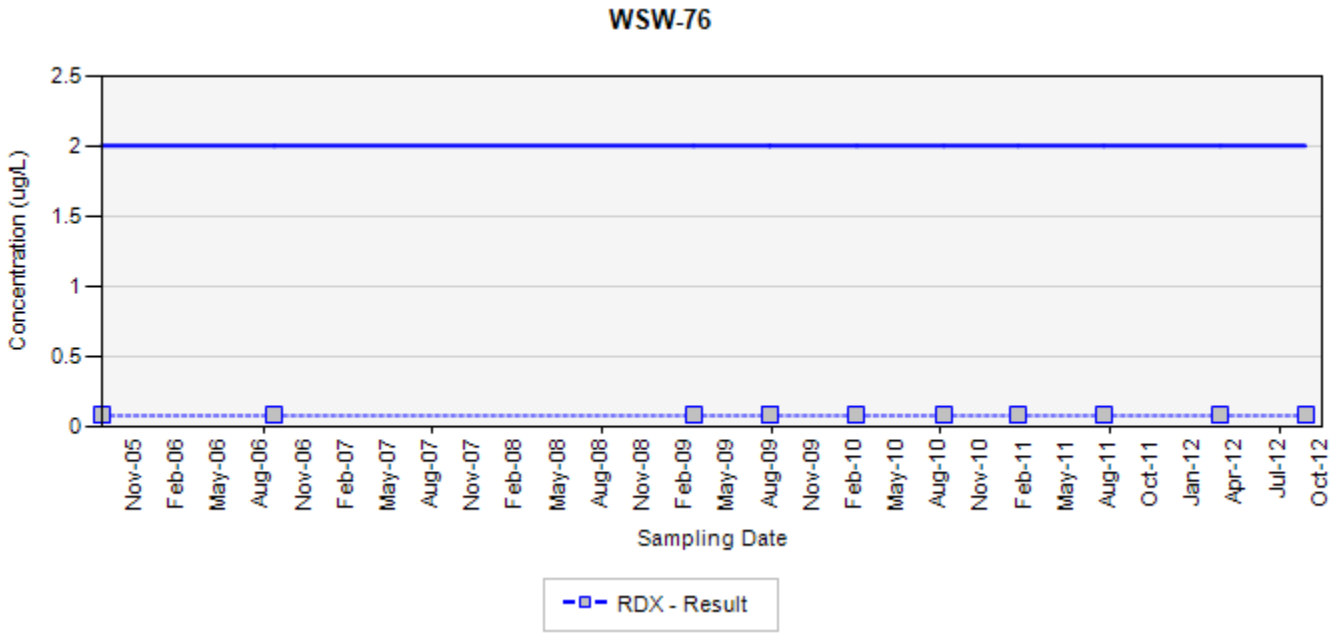

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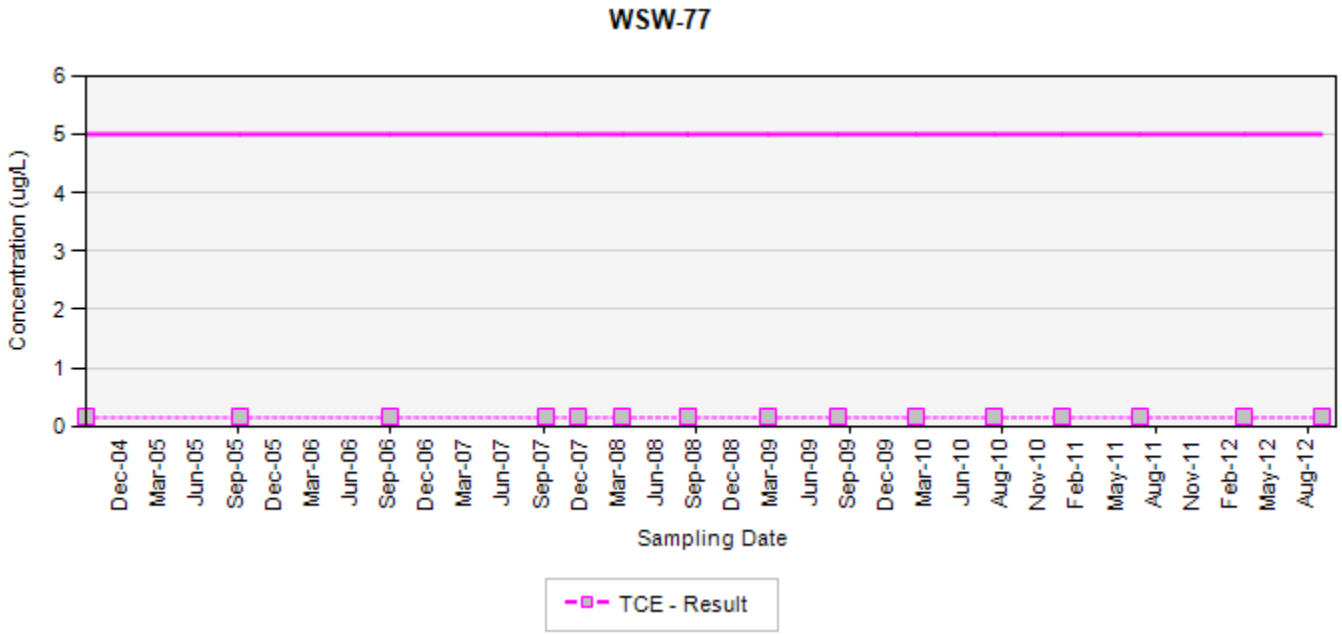

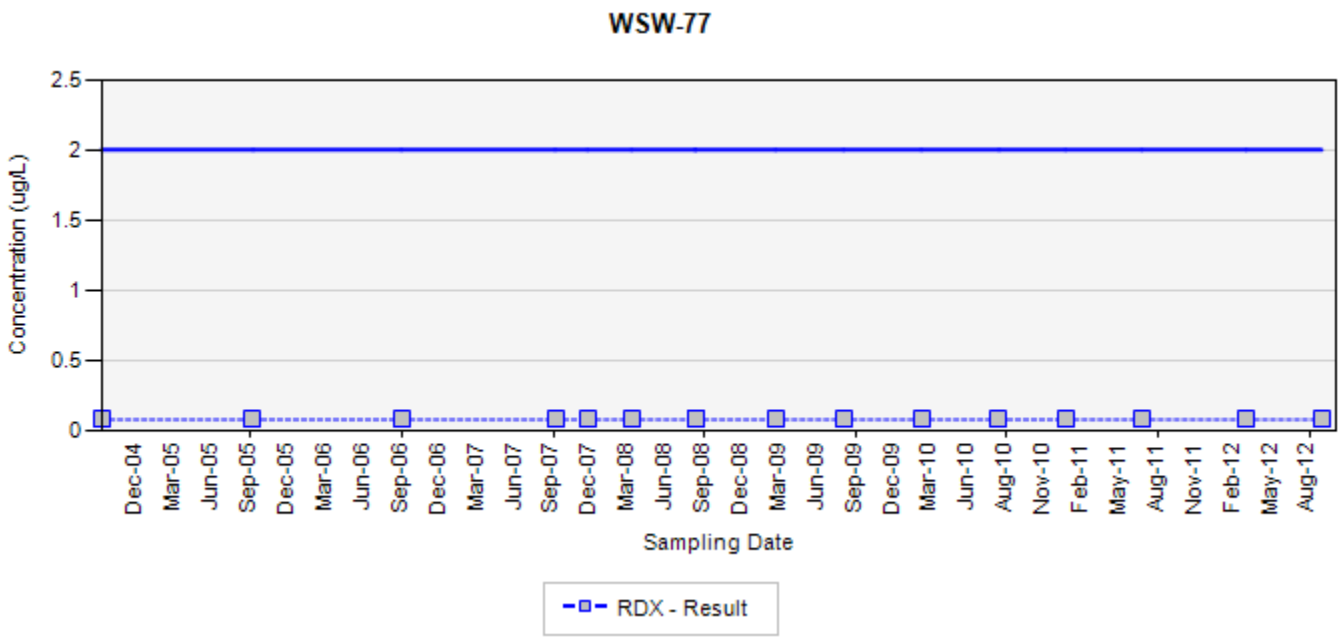

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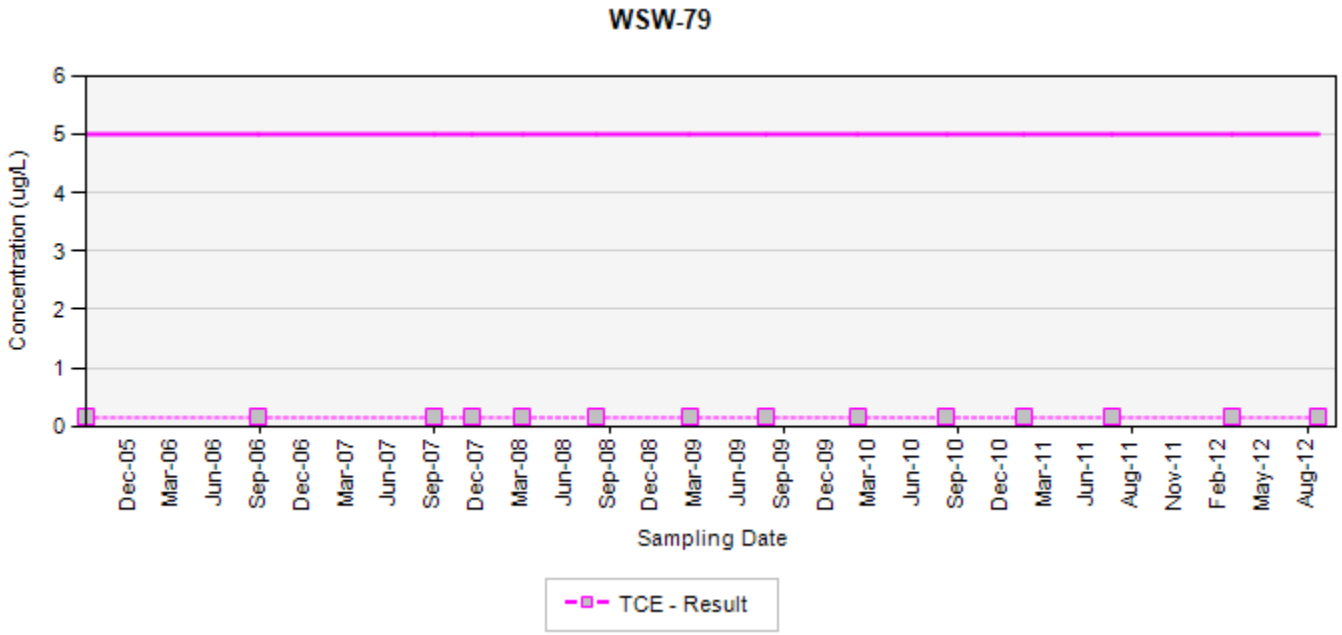

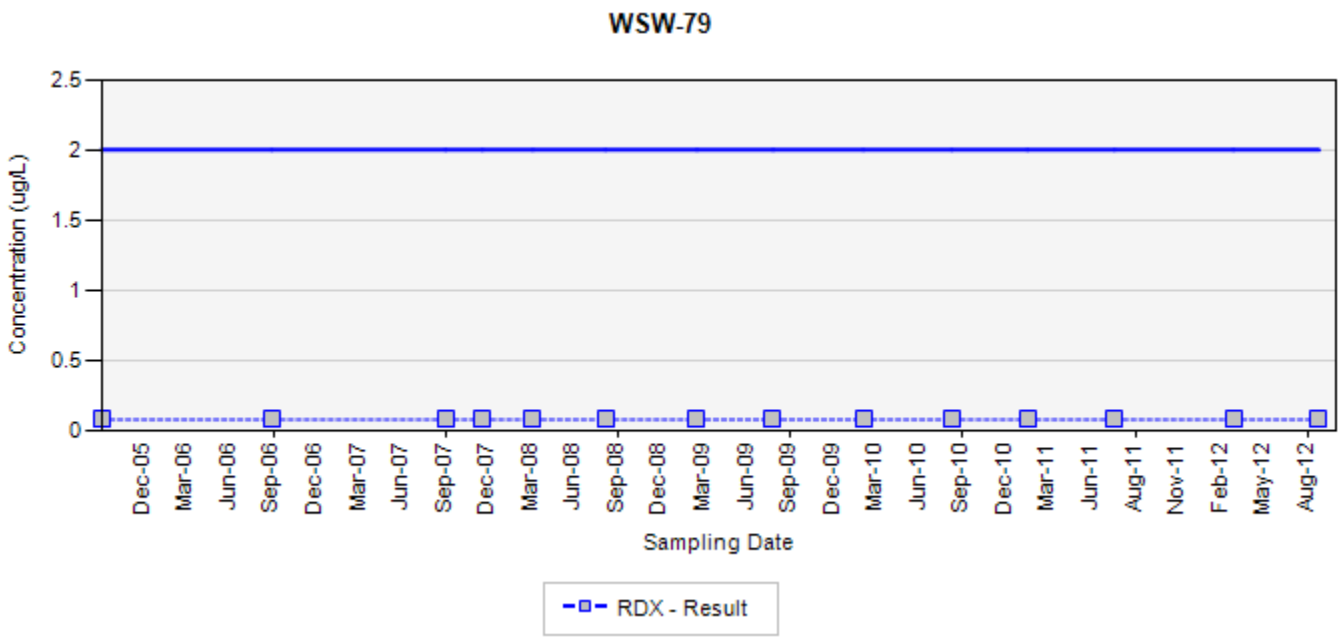

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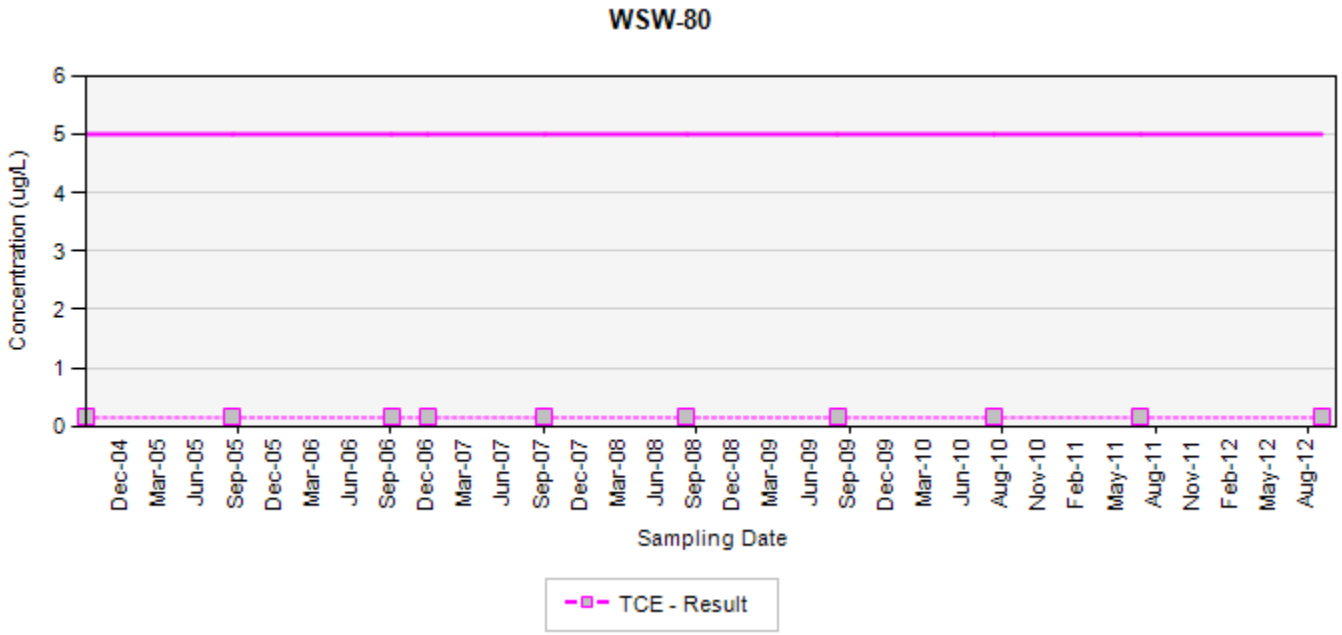

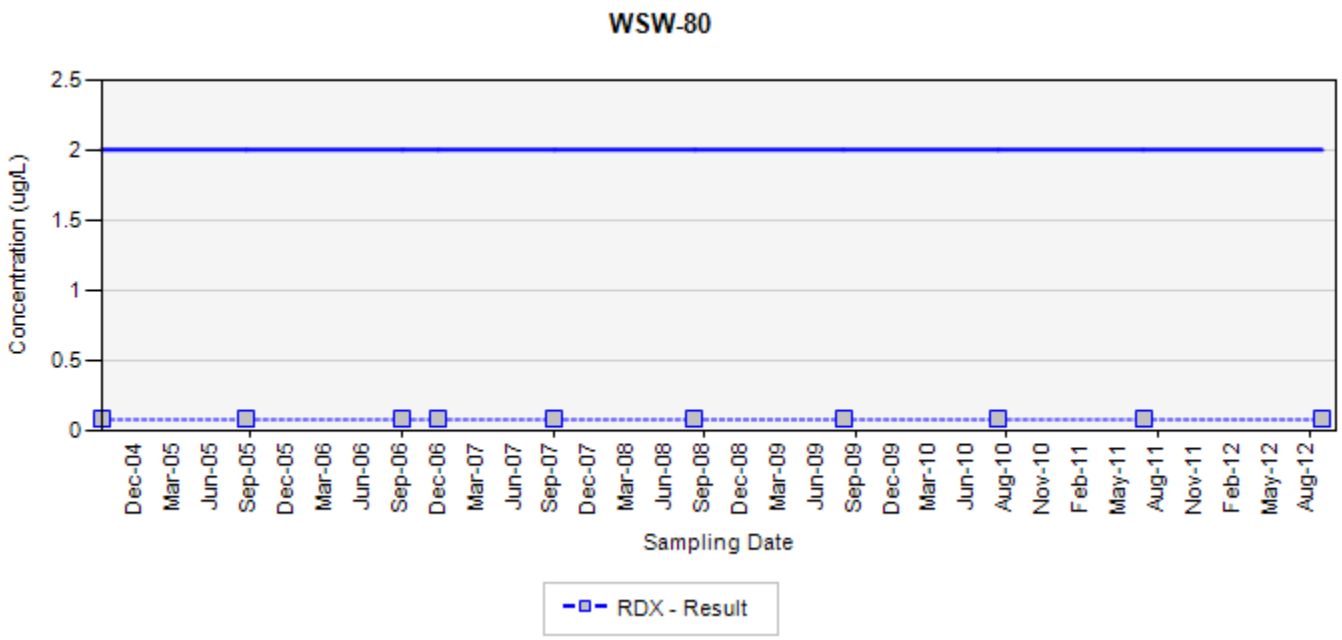

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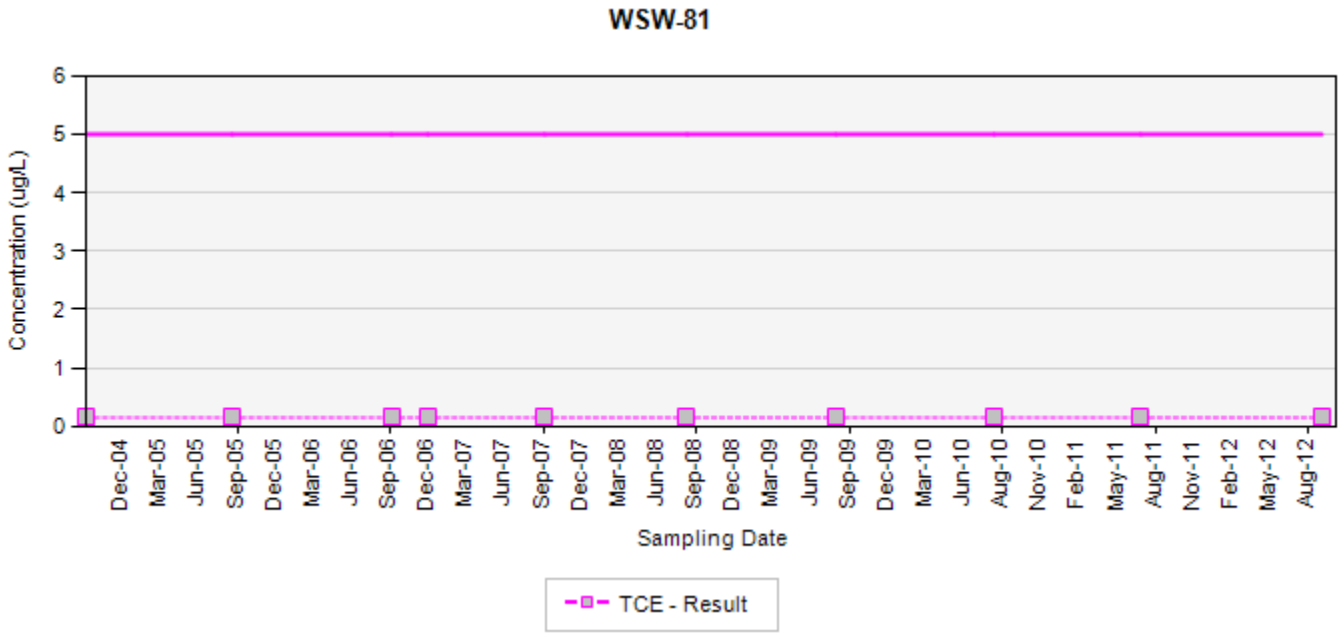

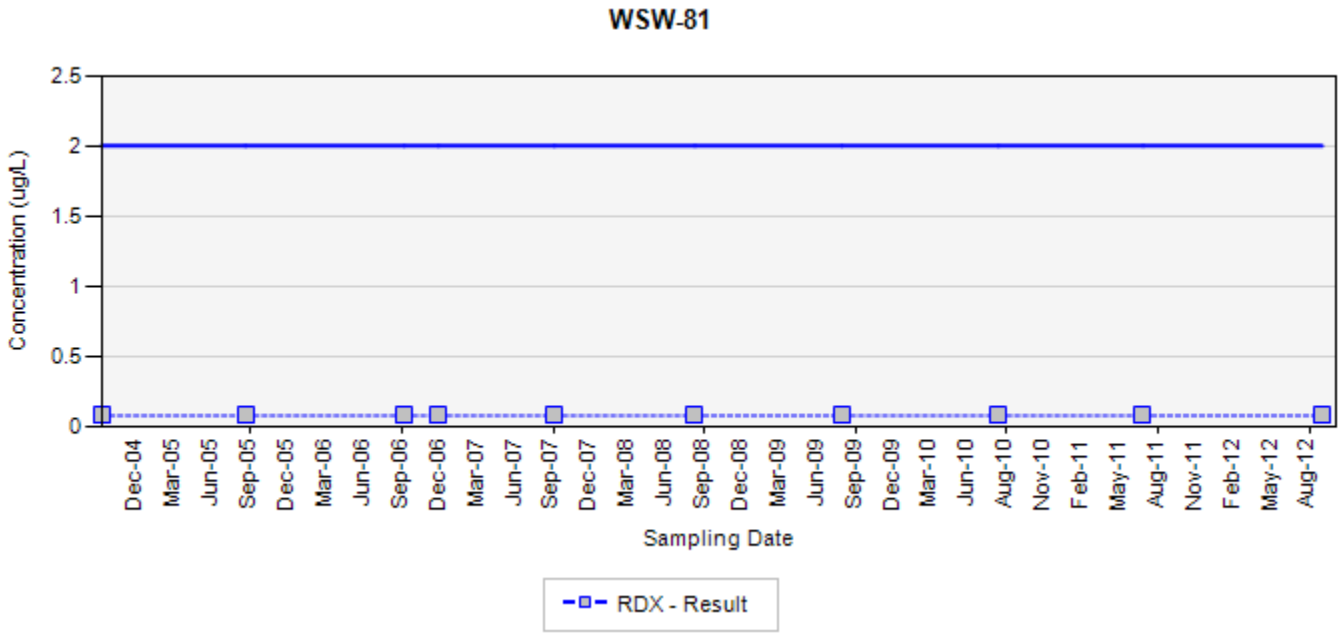

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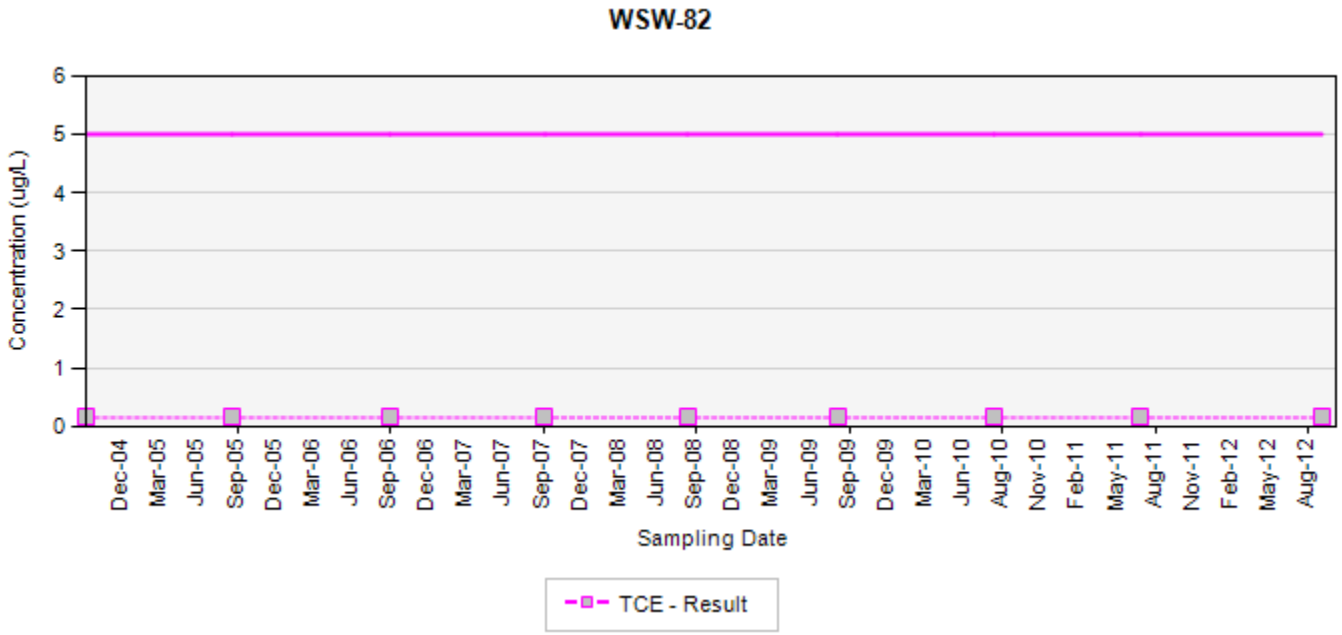

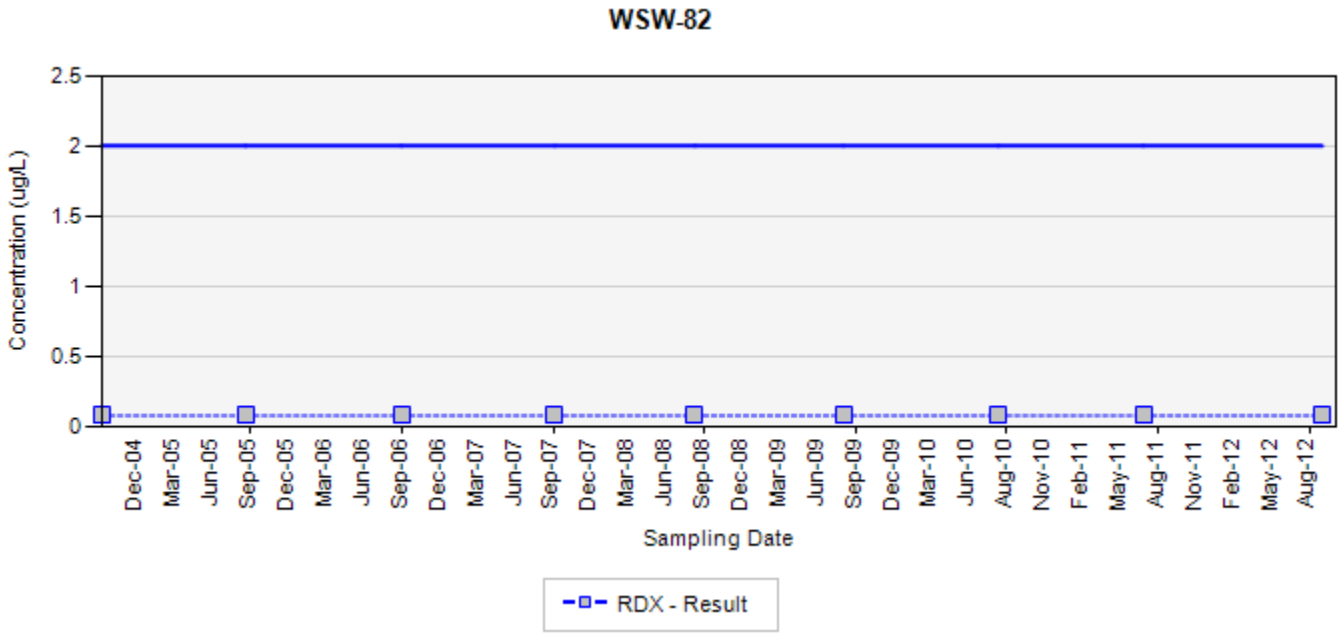

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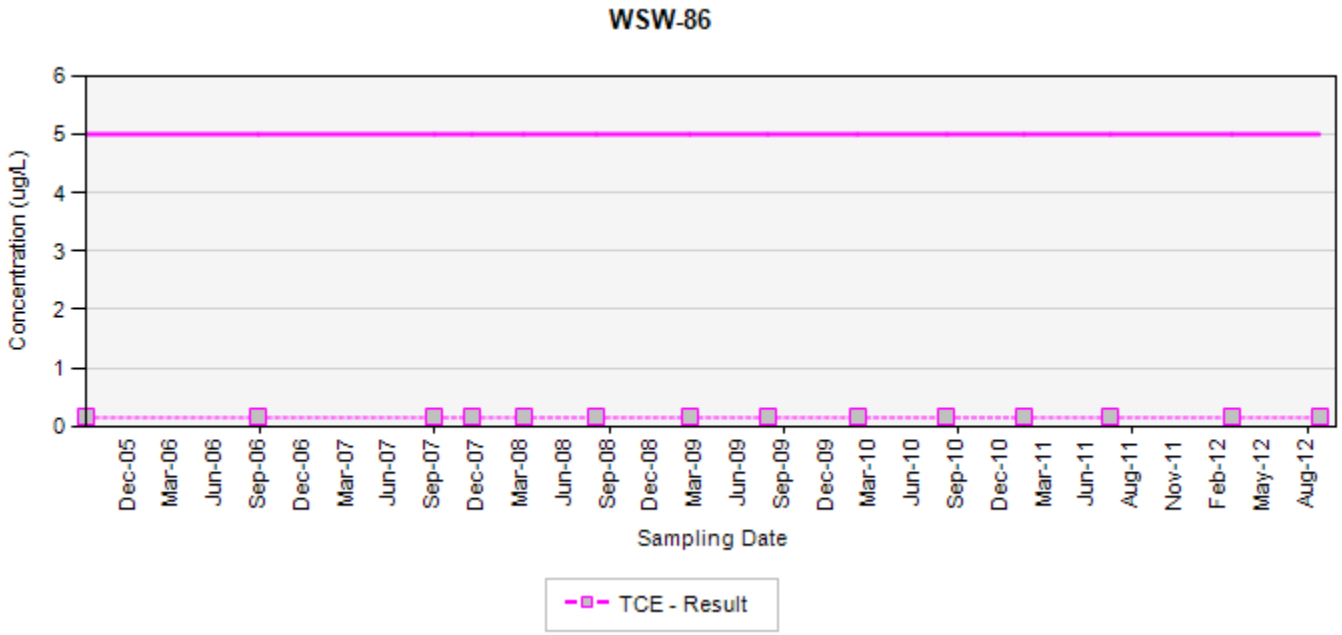

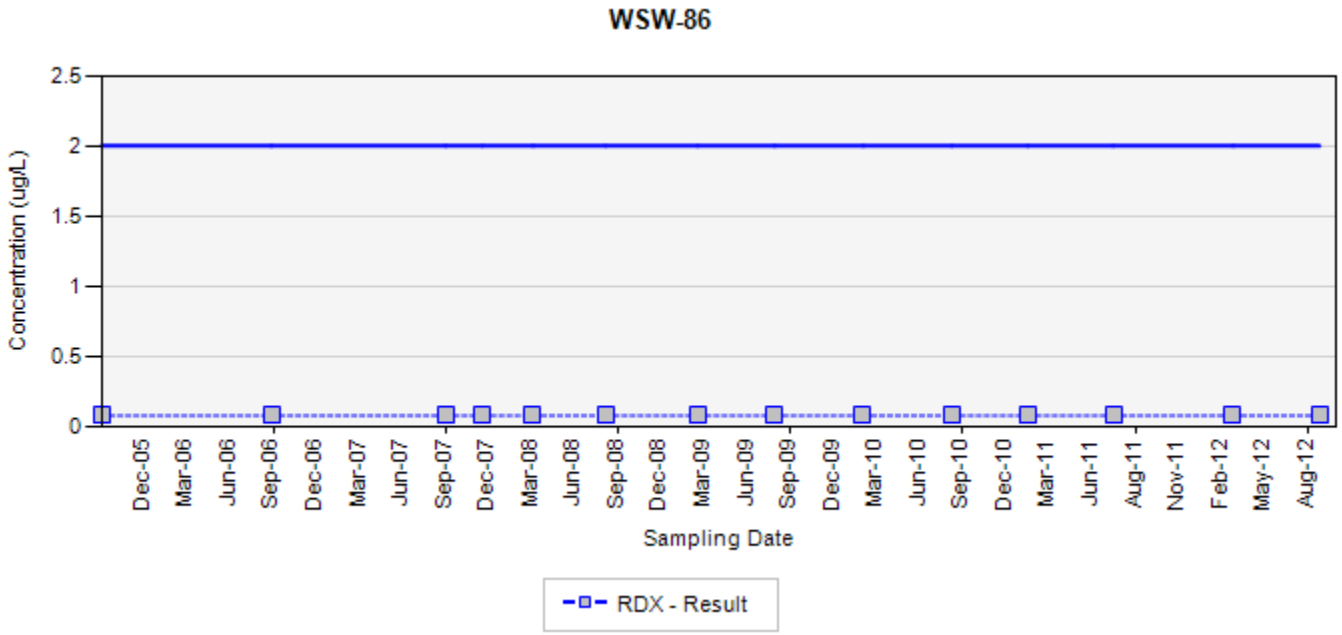

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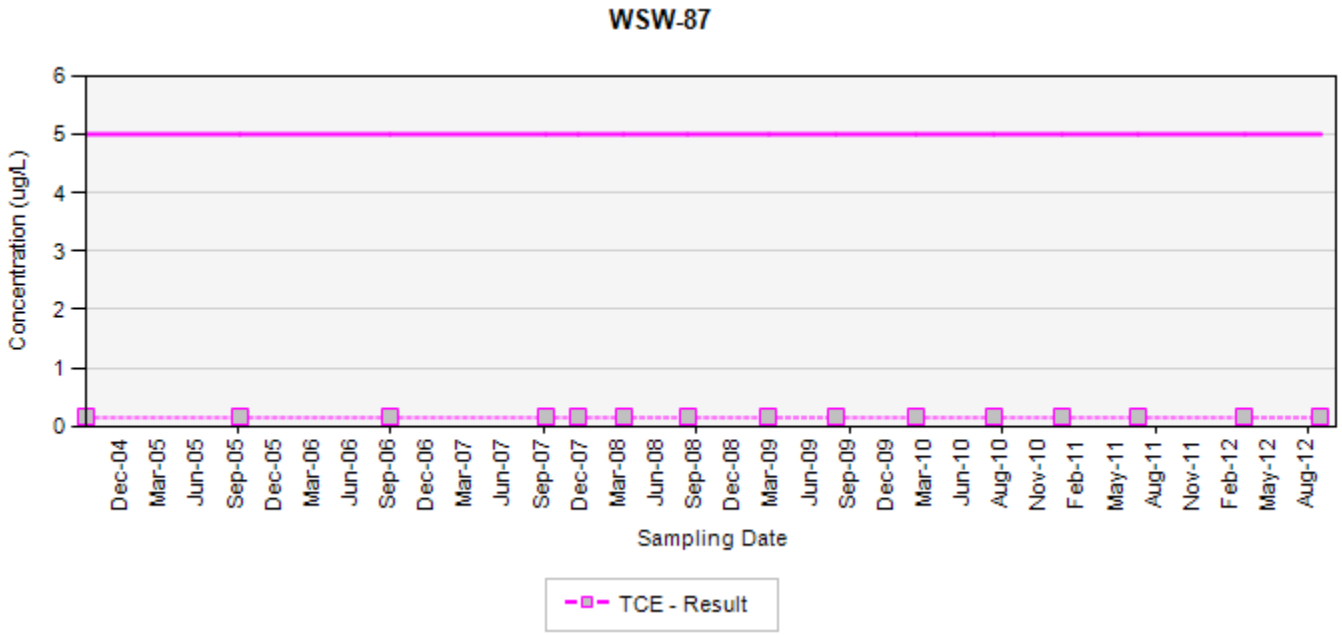

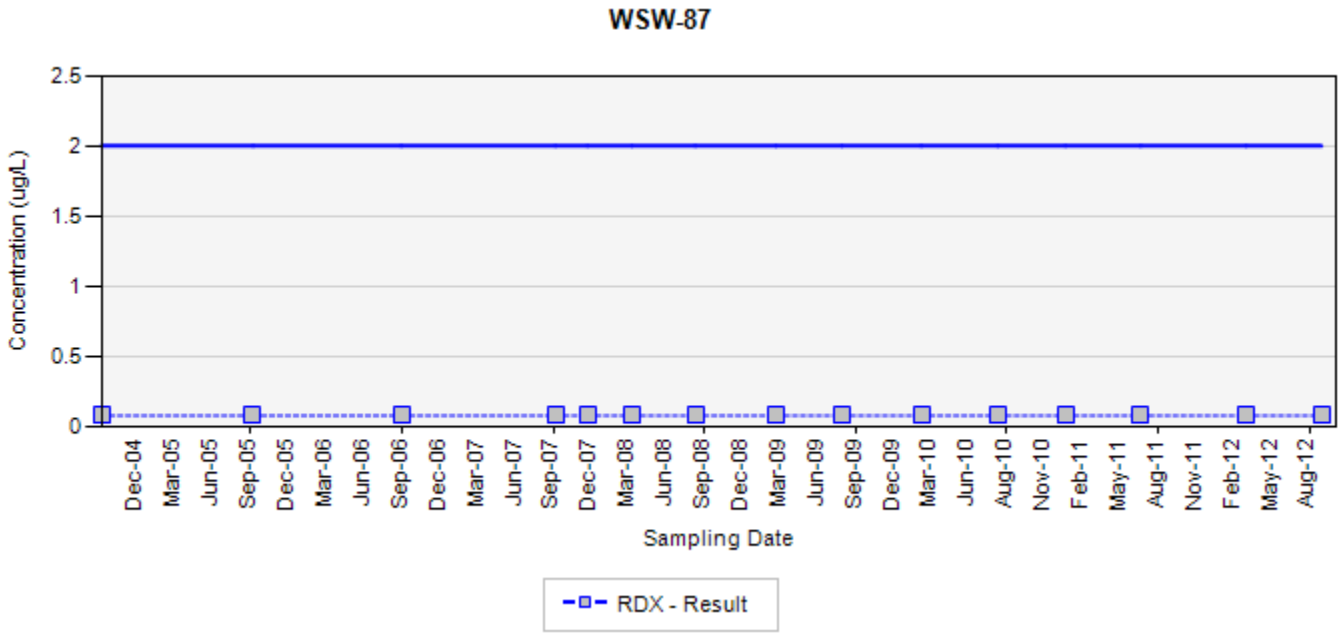

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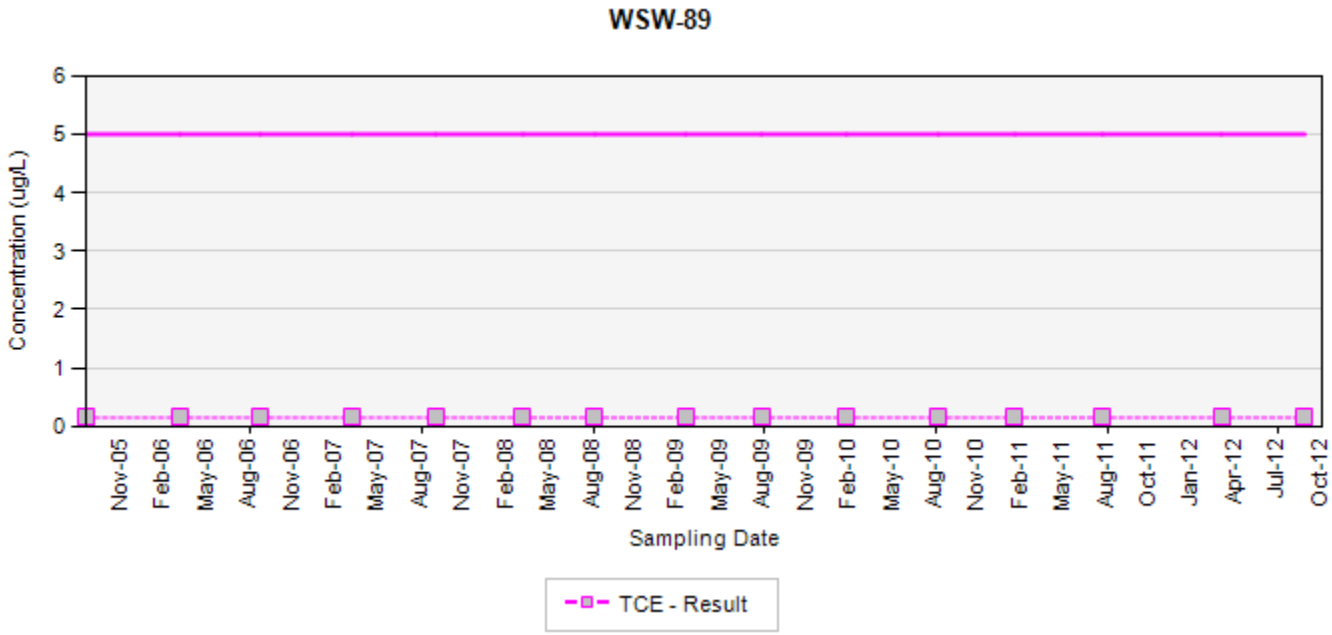

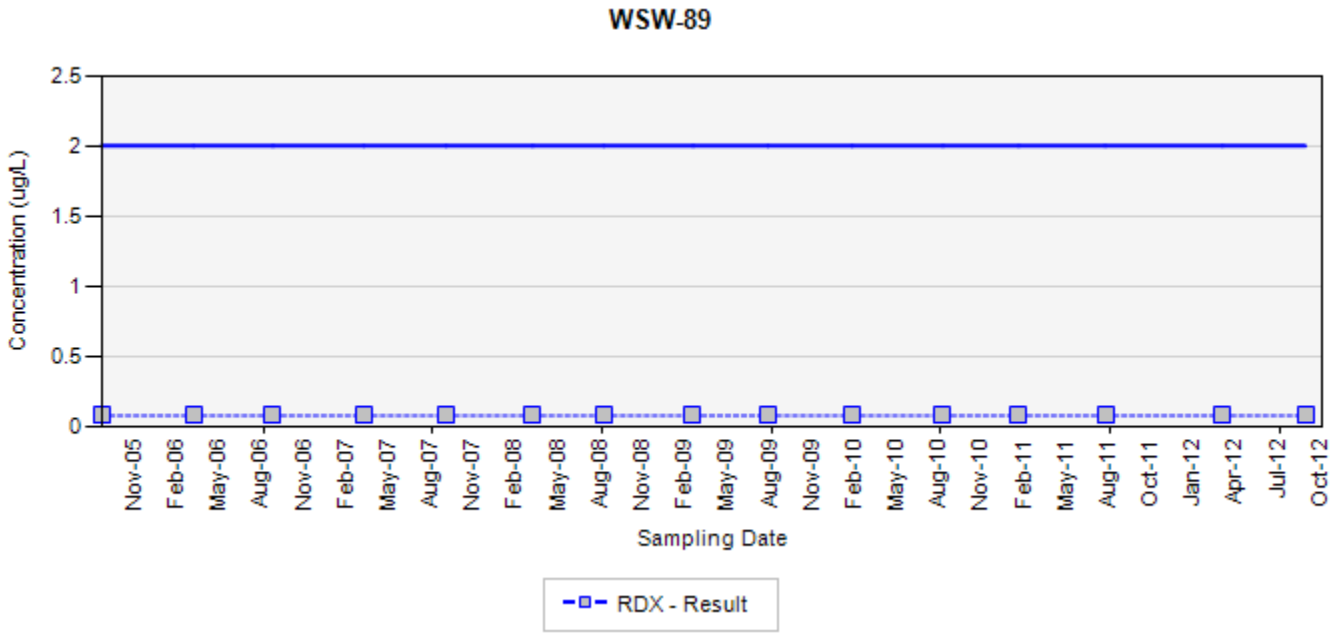

TCE - trichloroethene
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
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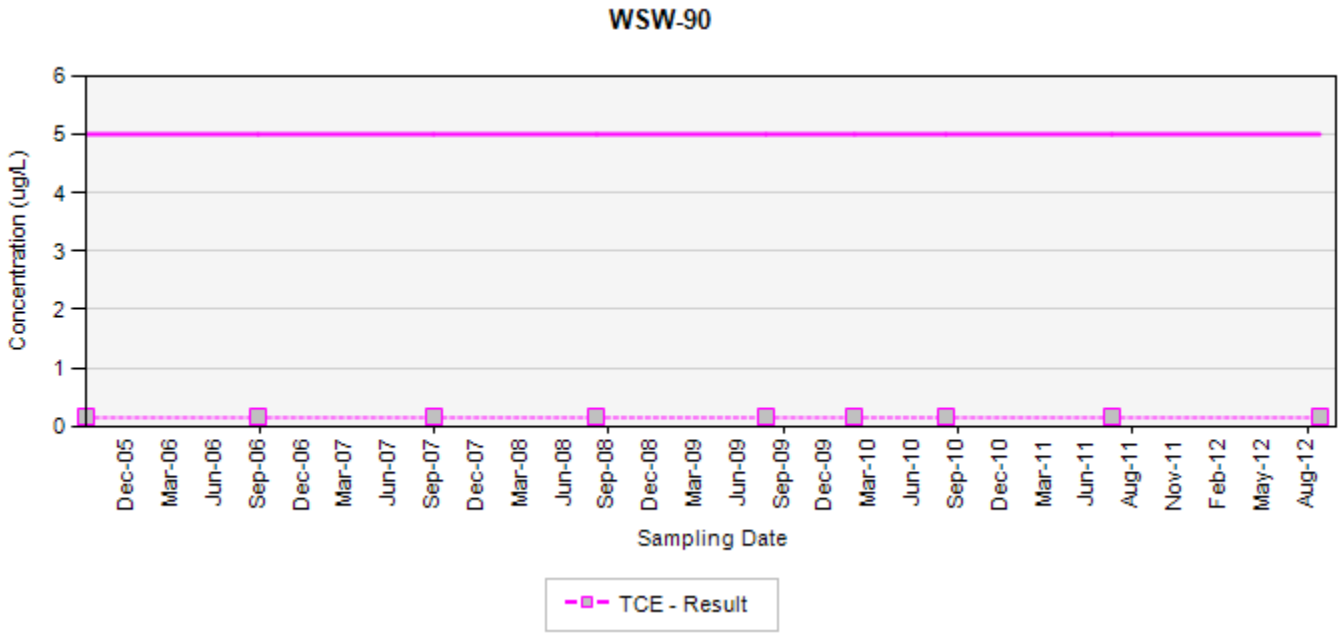

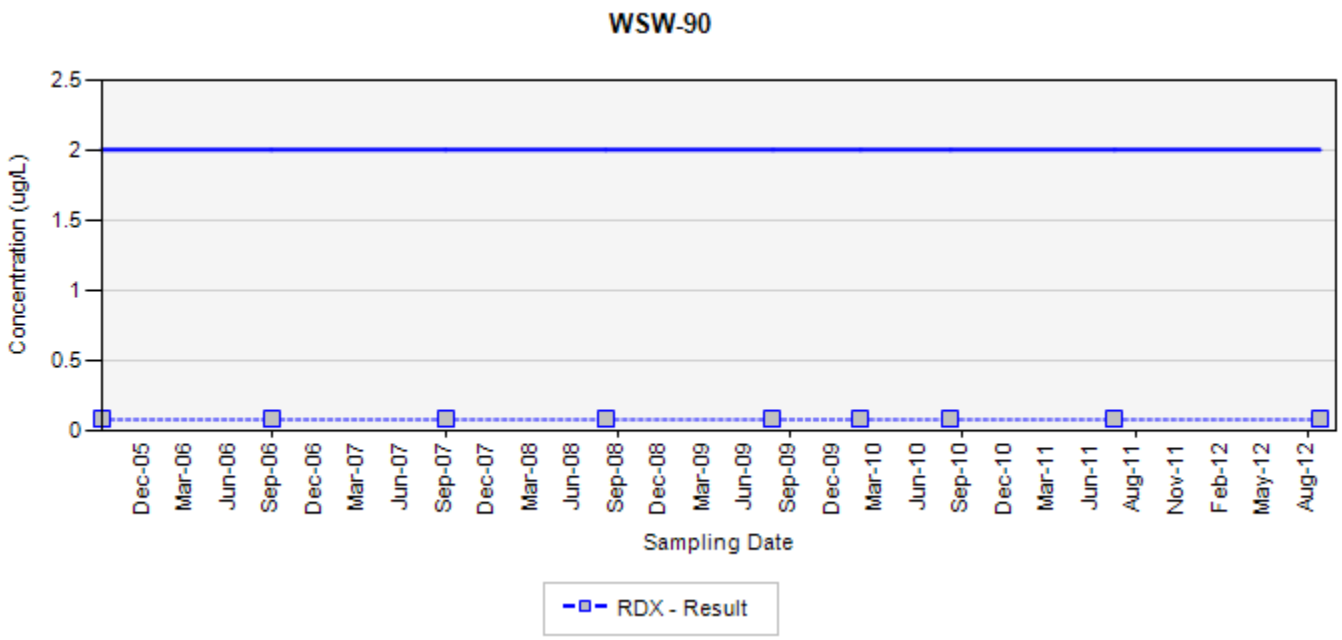

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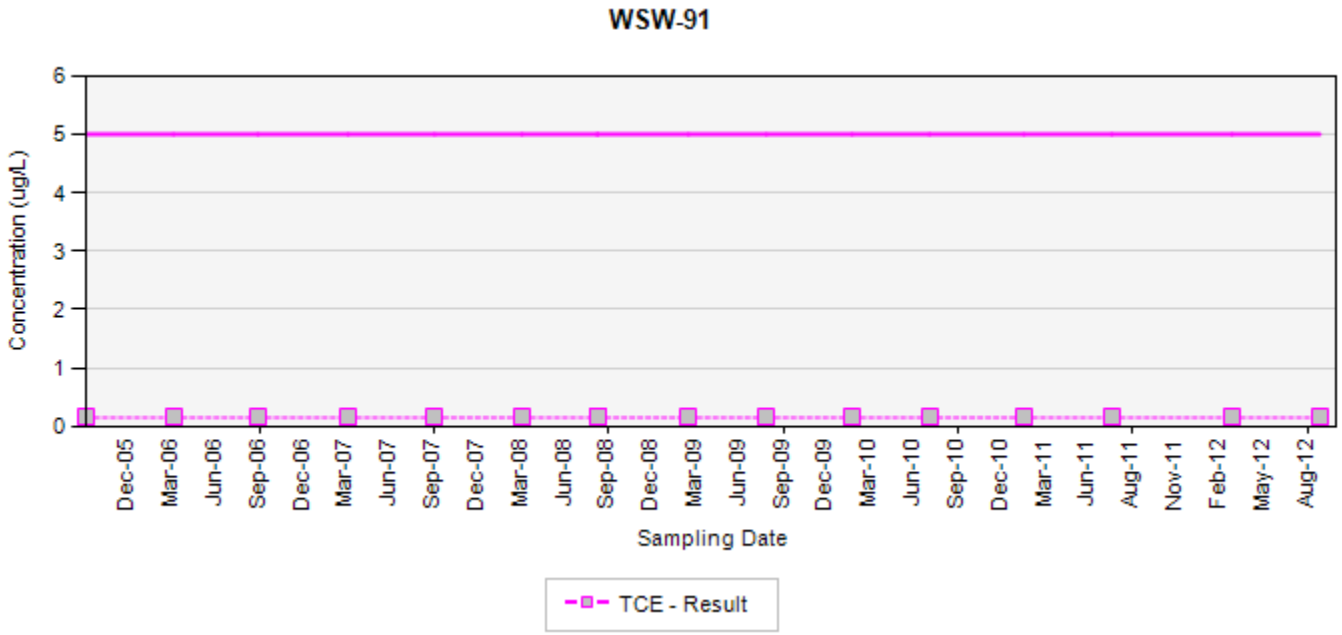

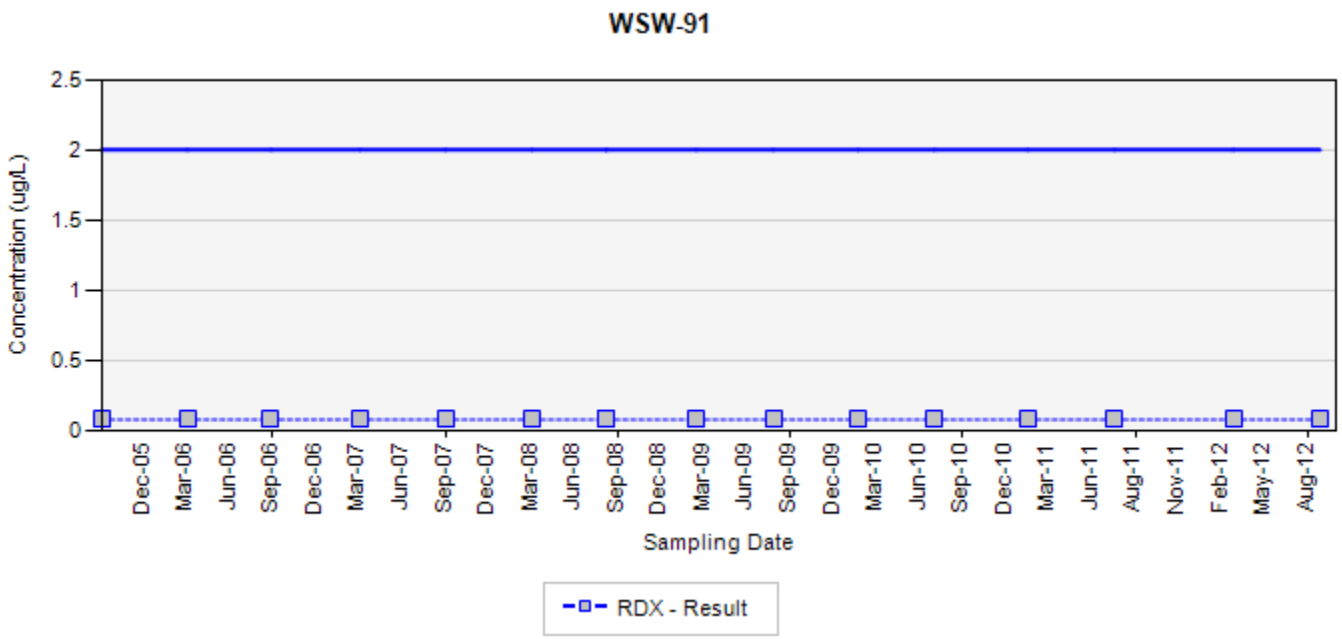

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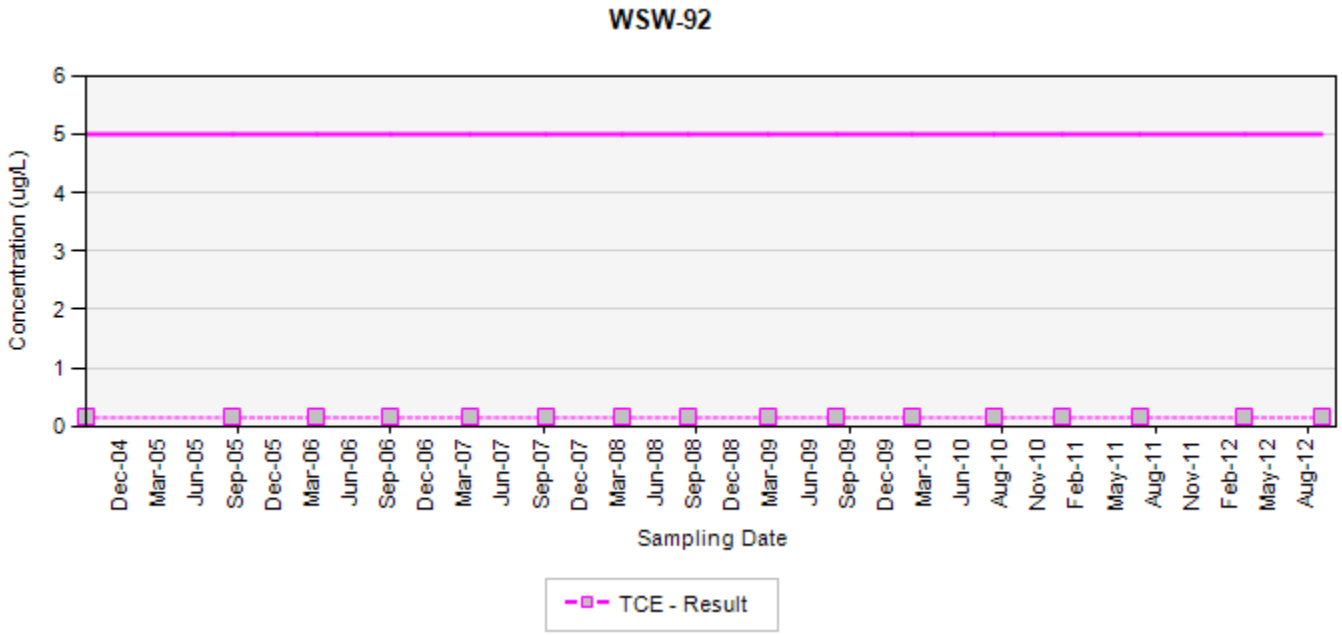

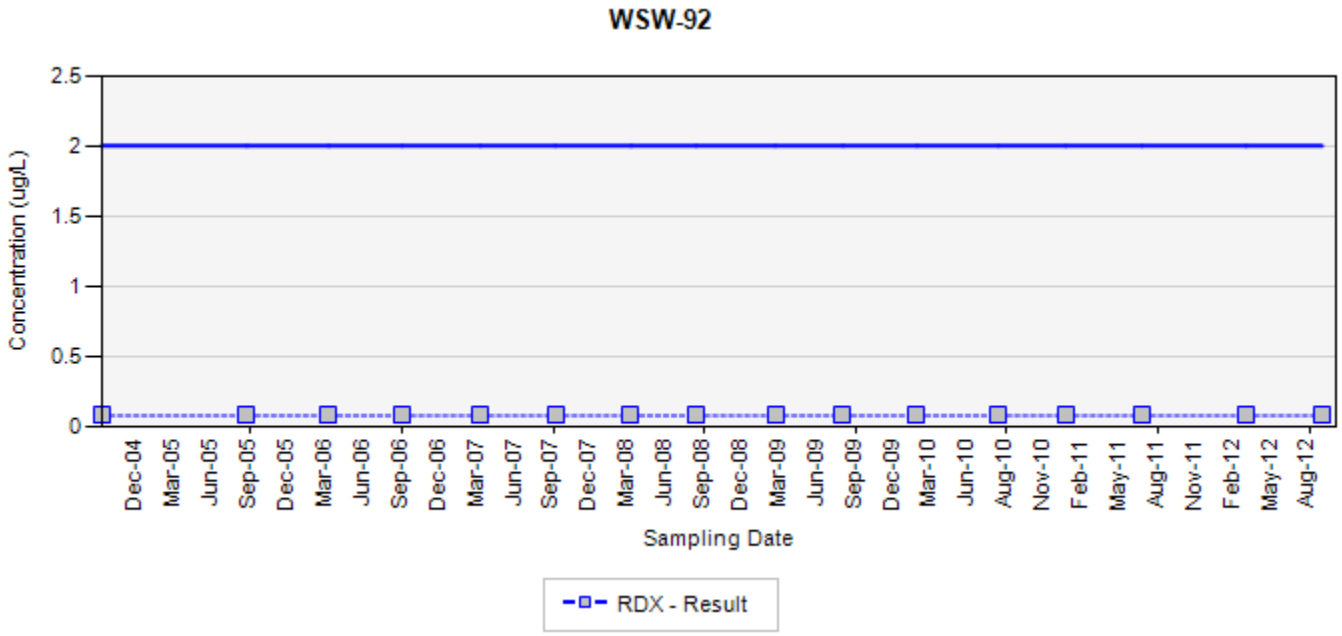

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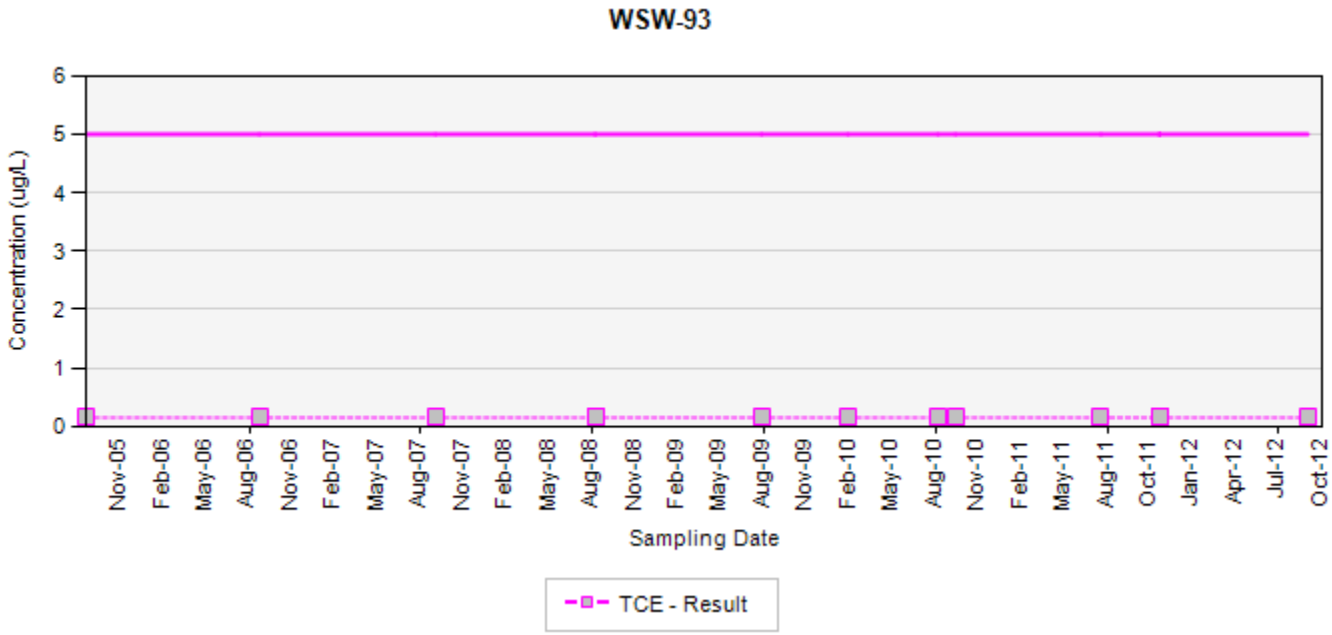

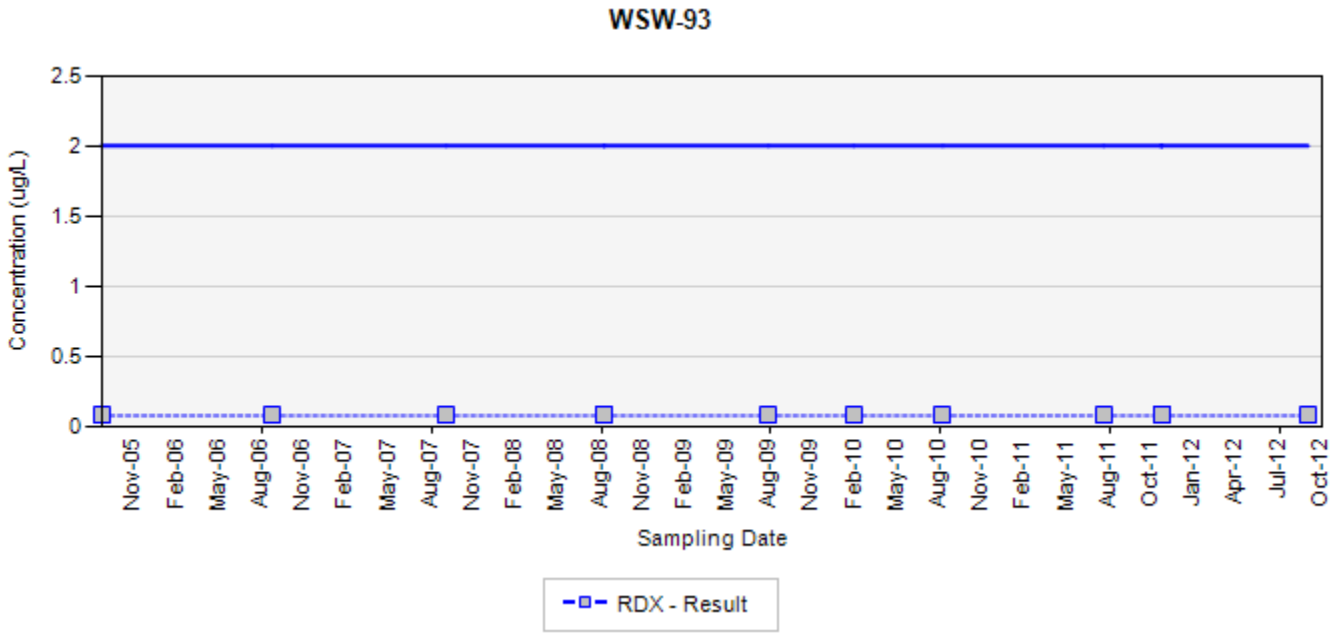

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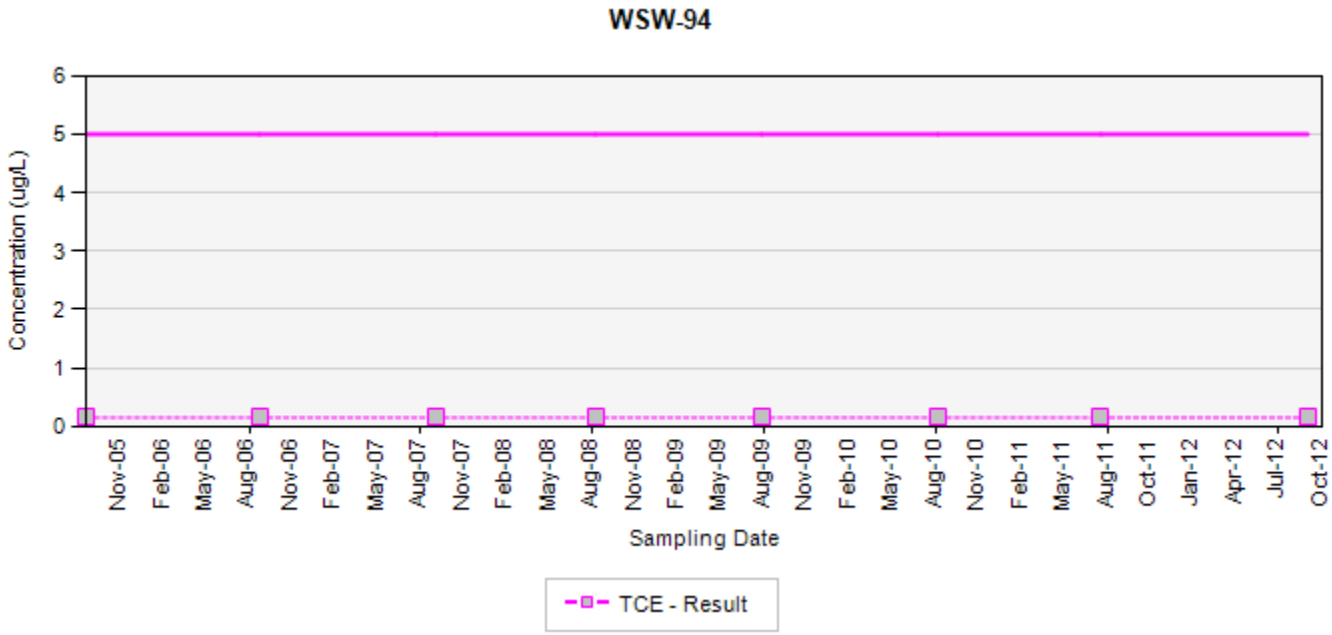

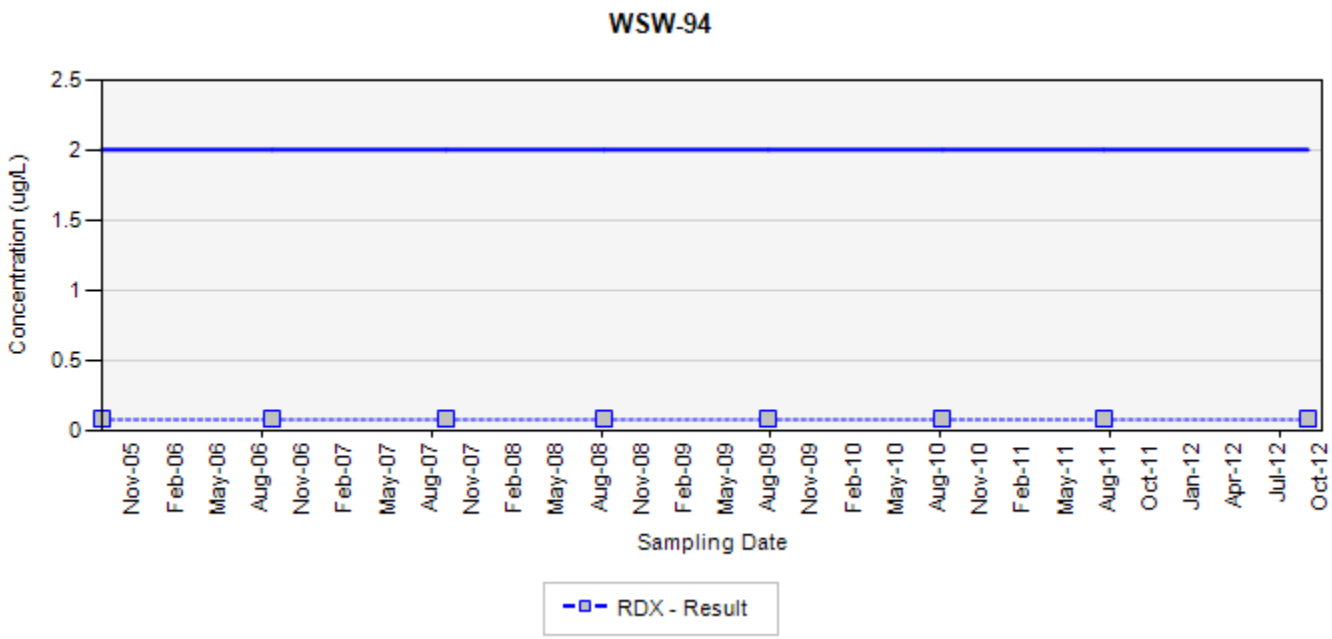

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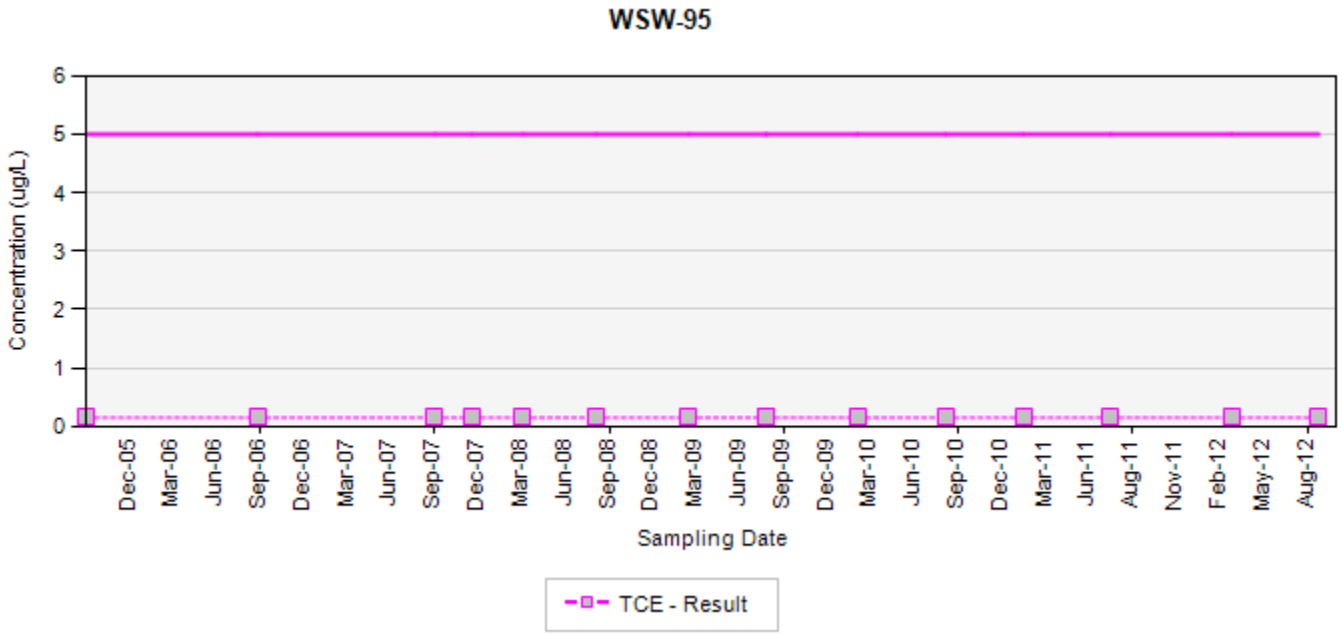

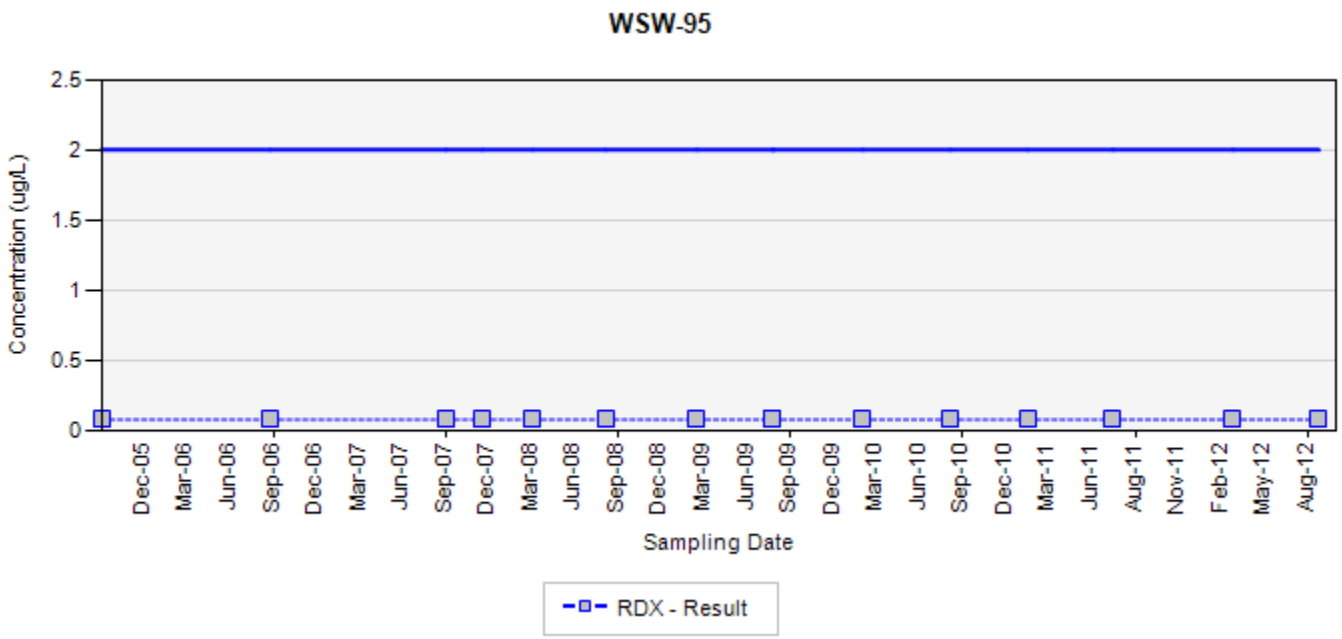

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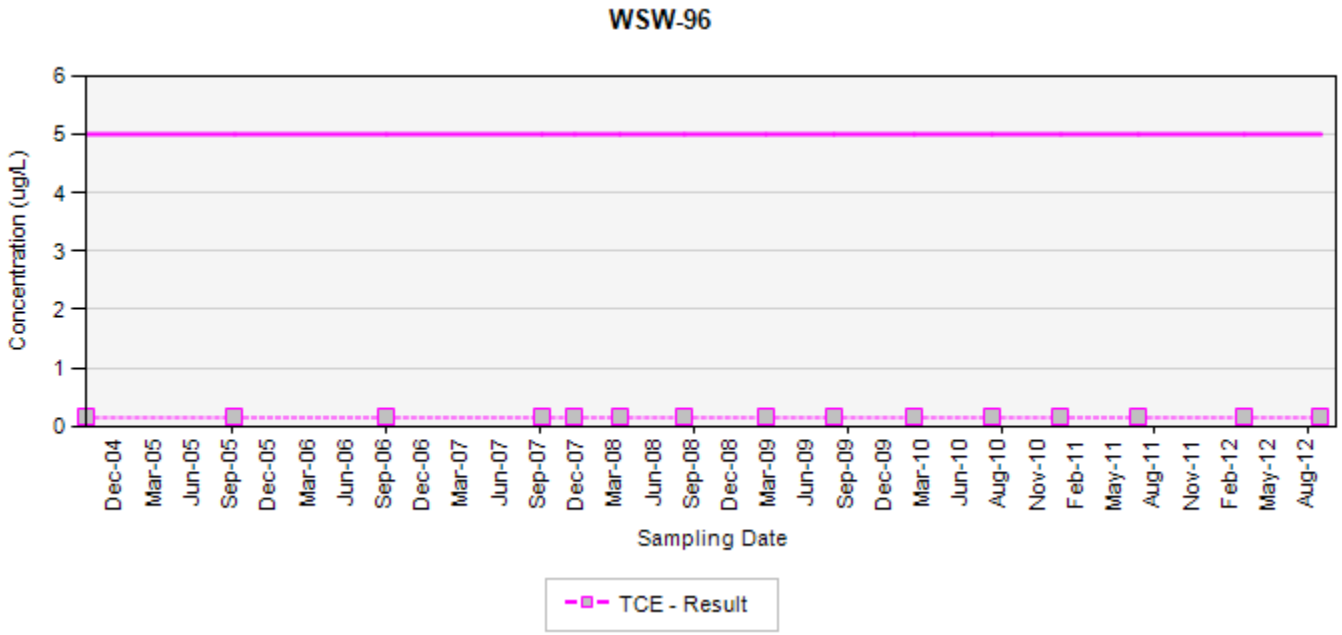

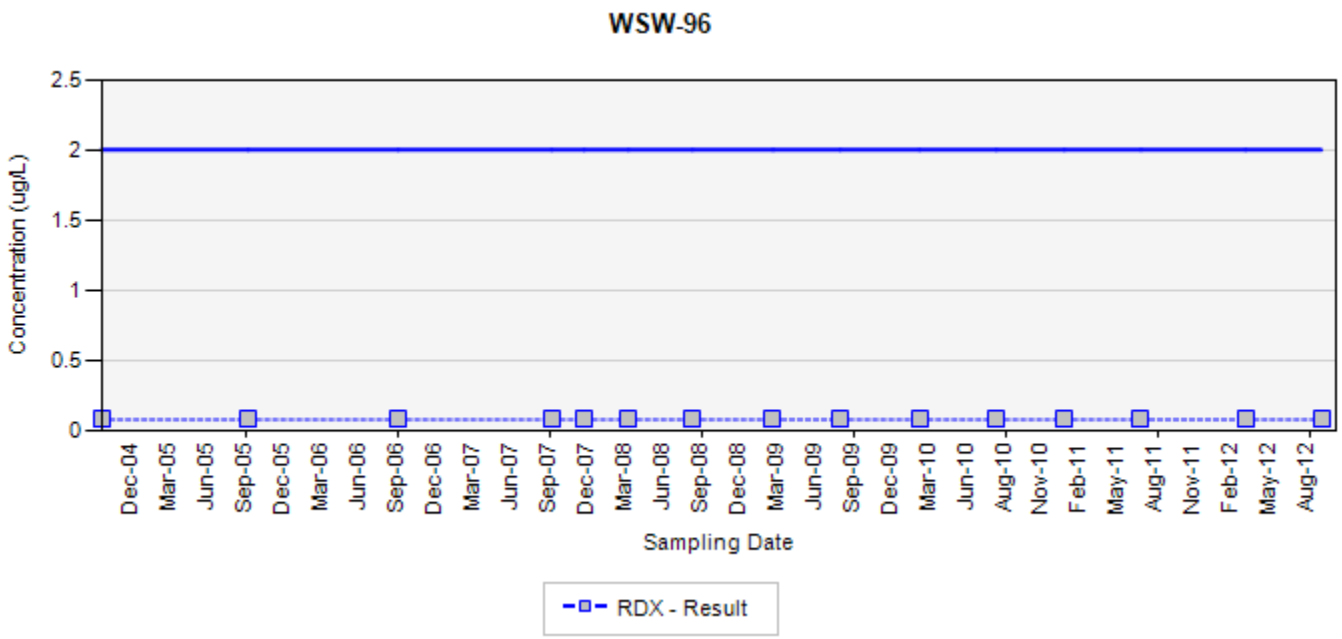

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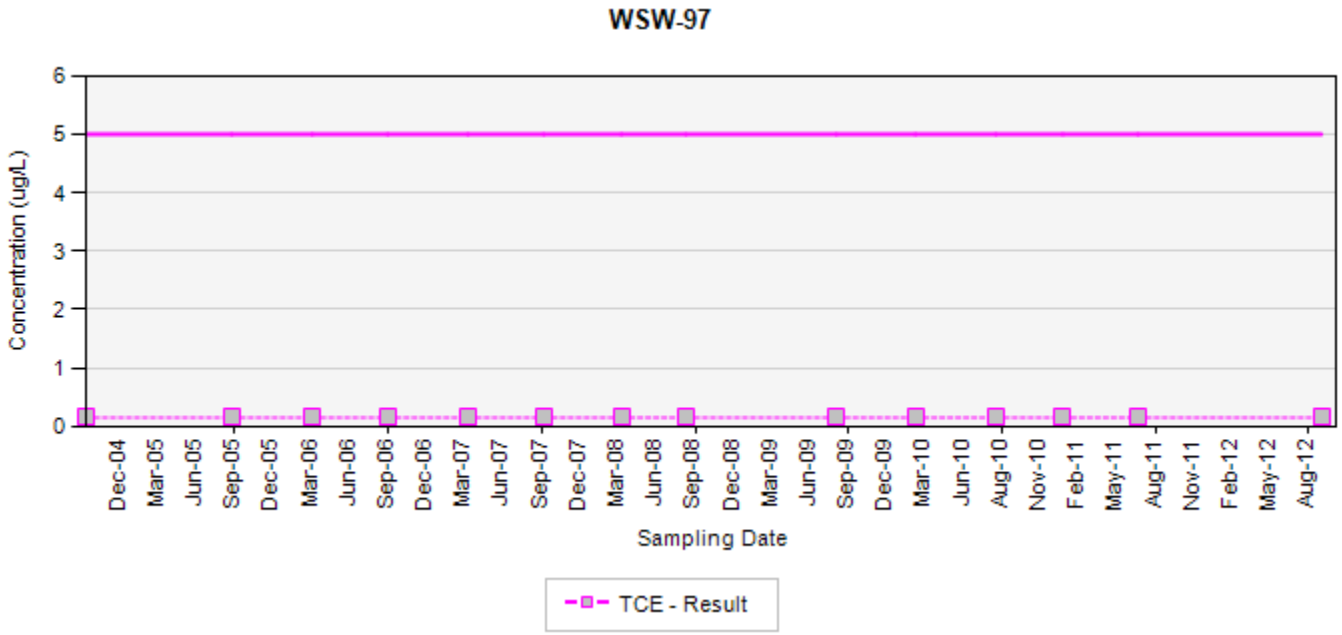

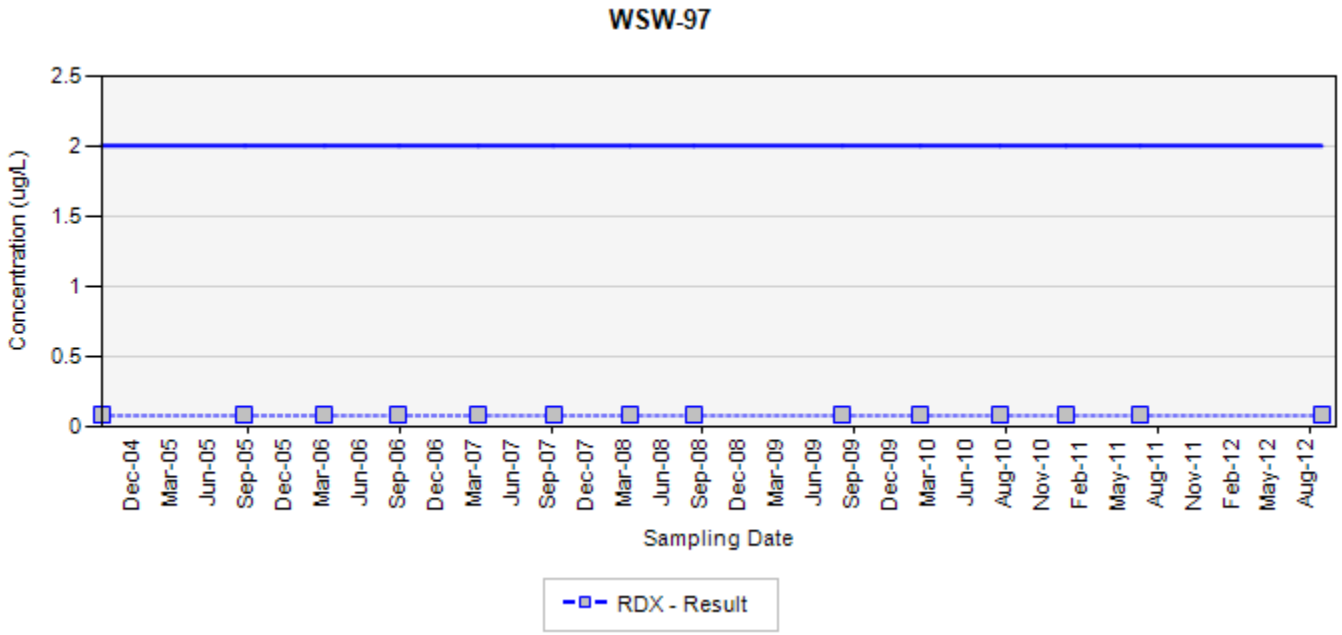

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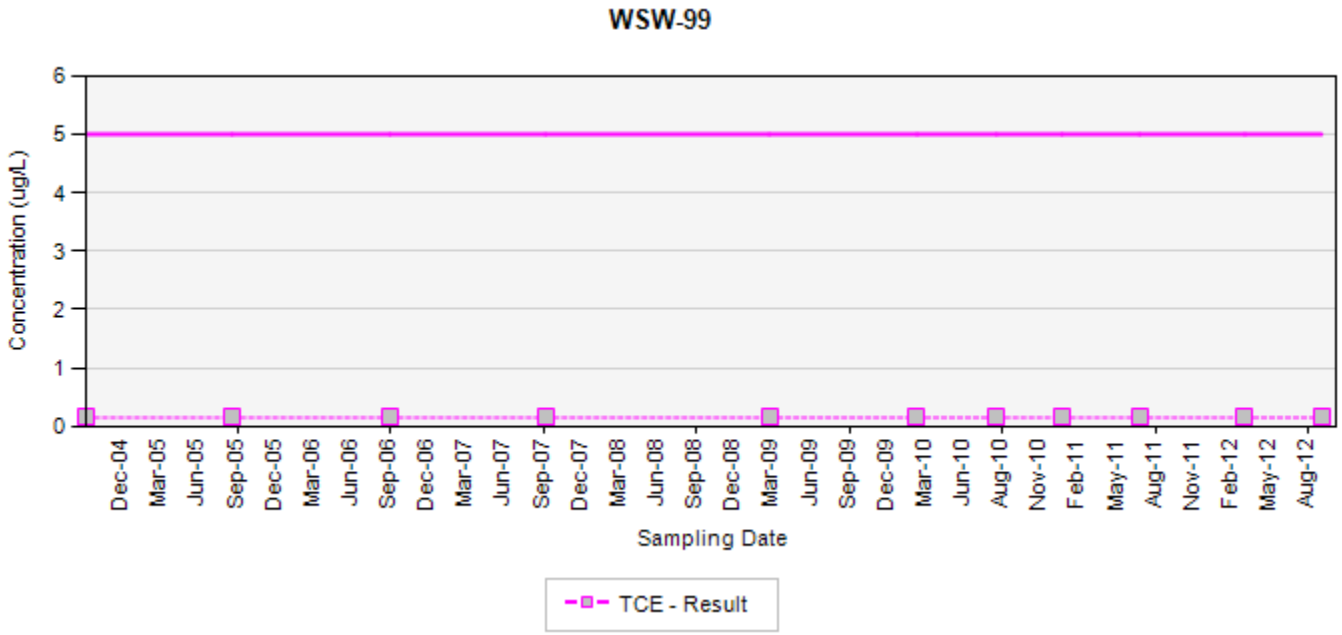

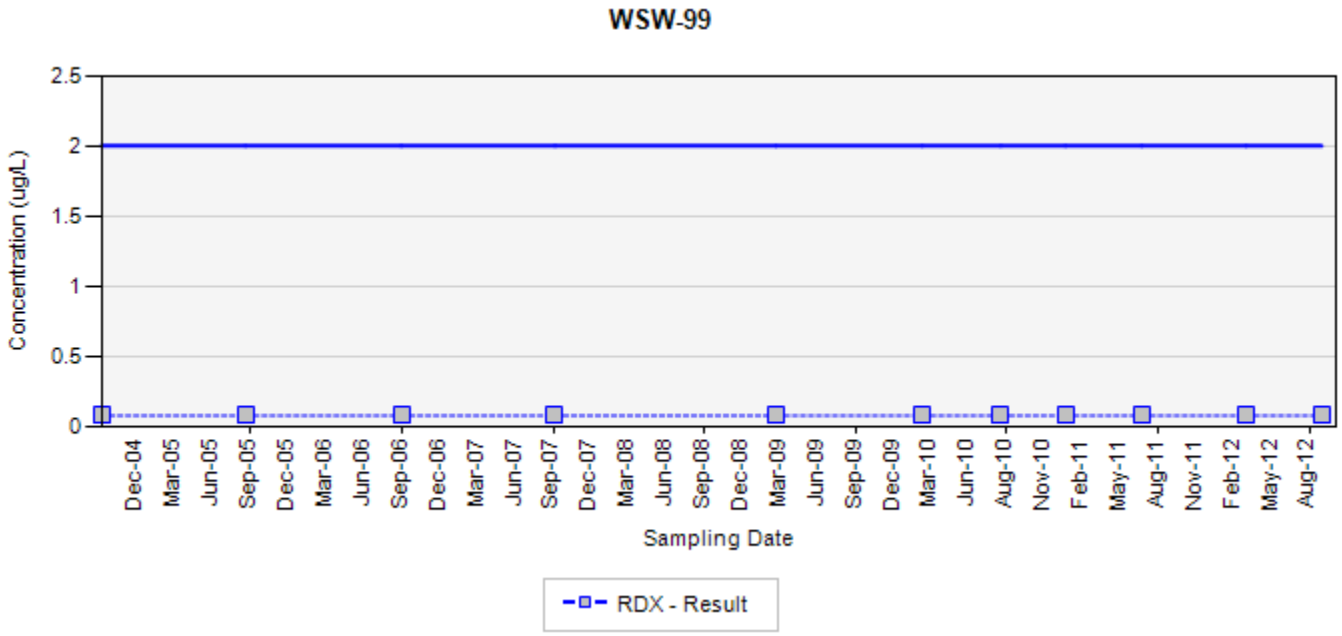

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Appendix C
Concentration Trend Charts for Select Surface Water Locations

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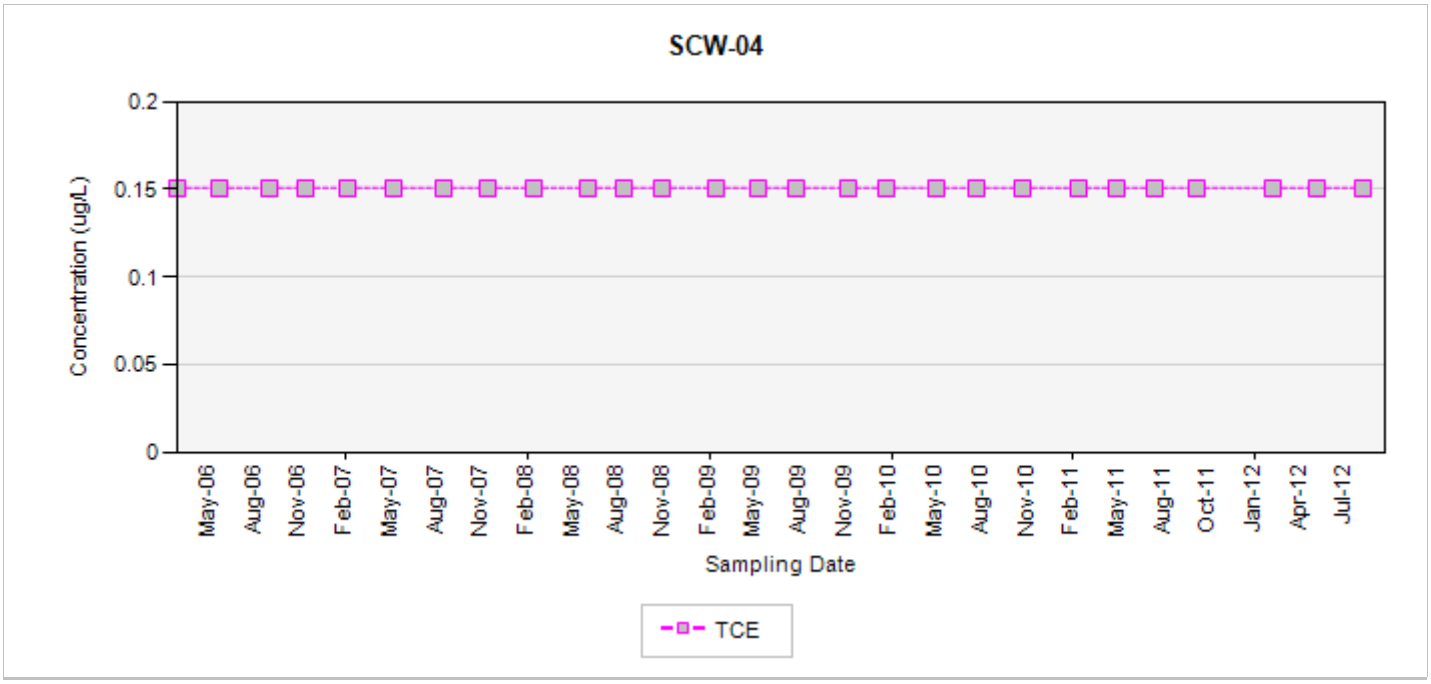
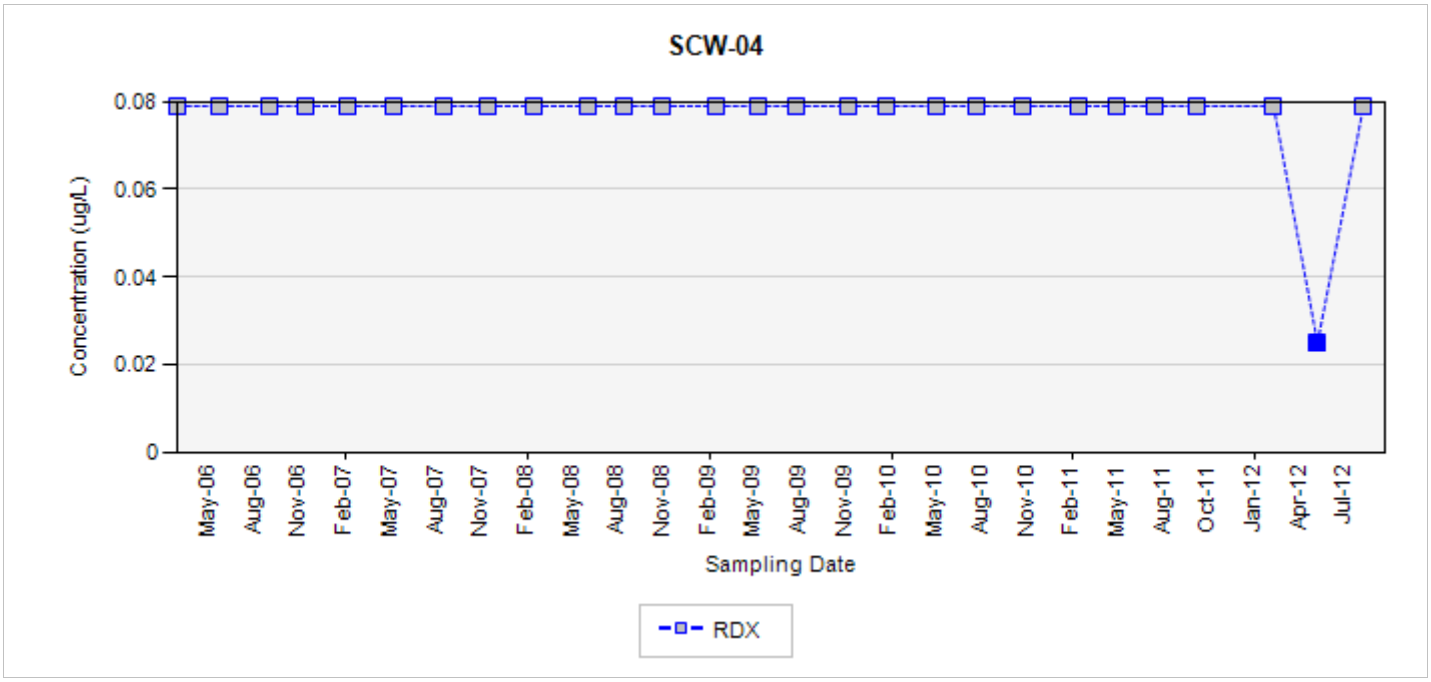
Appendix C
Concentration Trend Charts for Surface Water Locations





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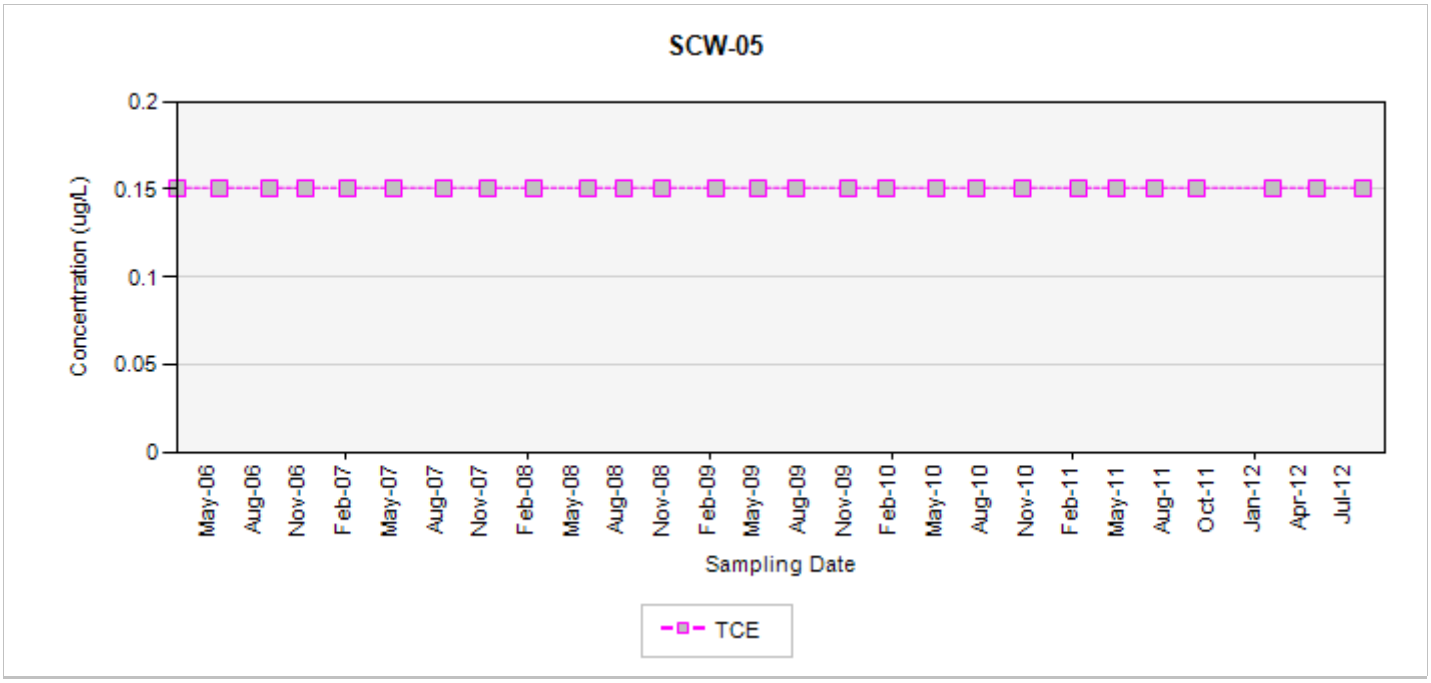
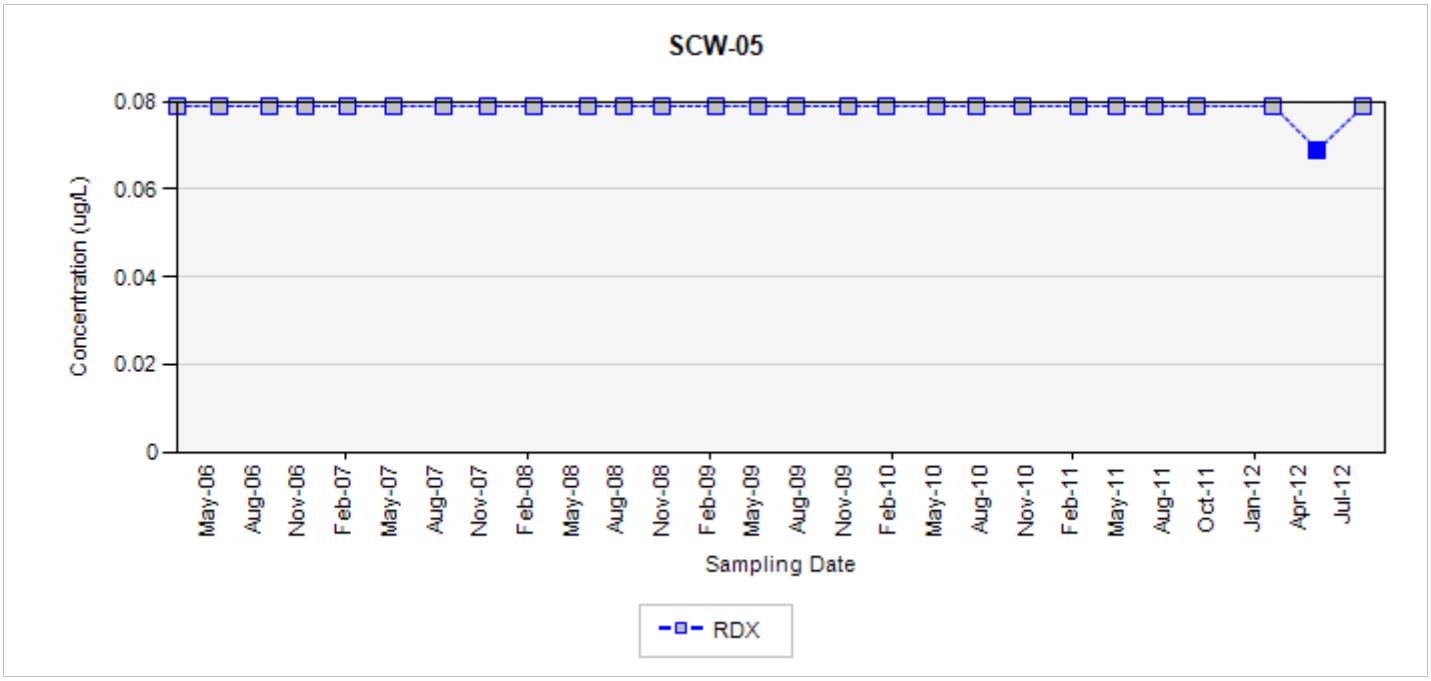
Concentration Trend Charts for Surface Water Locations





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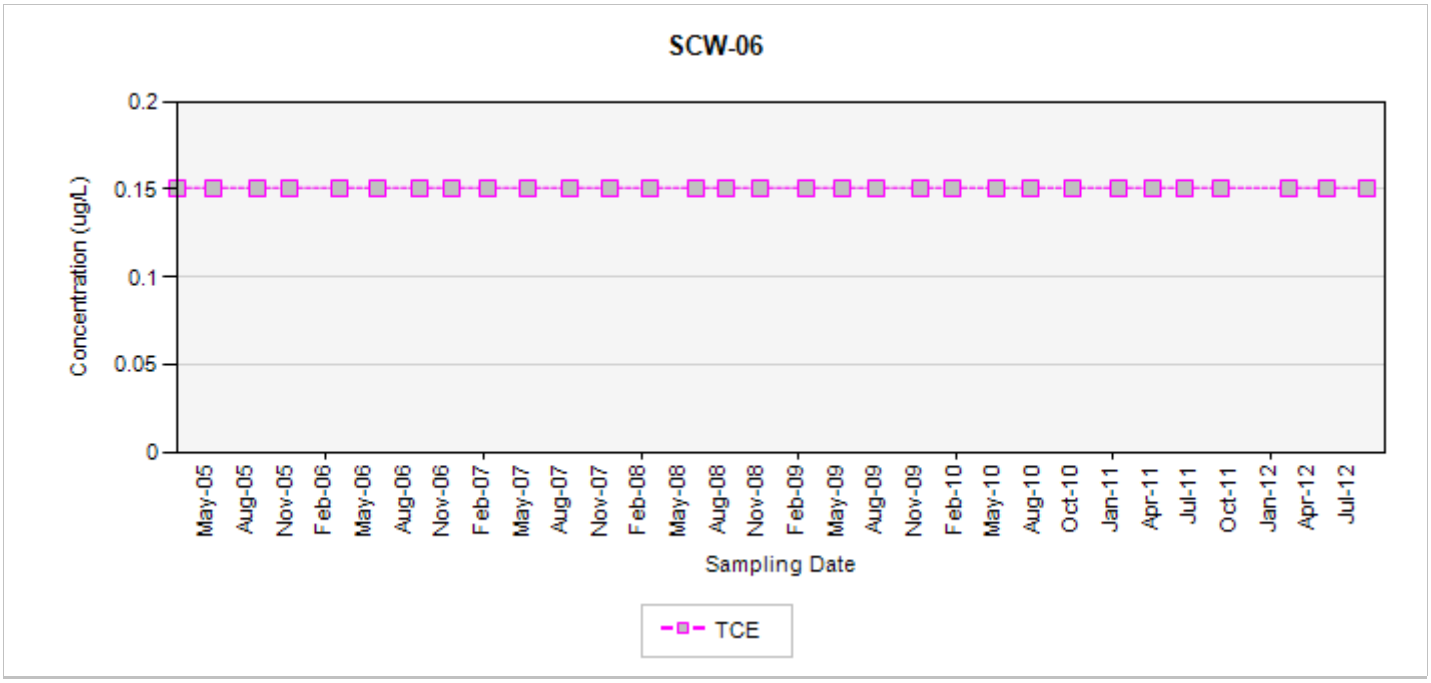

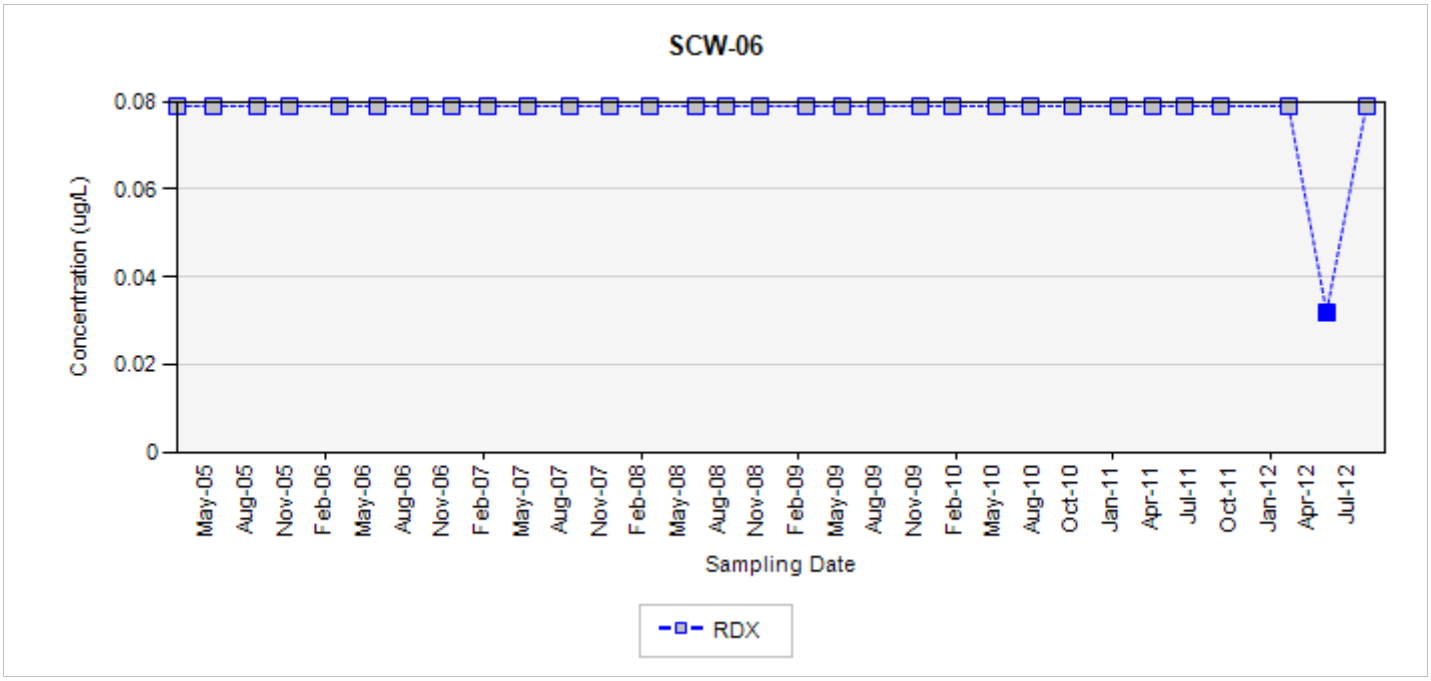

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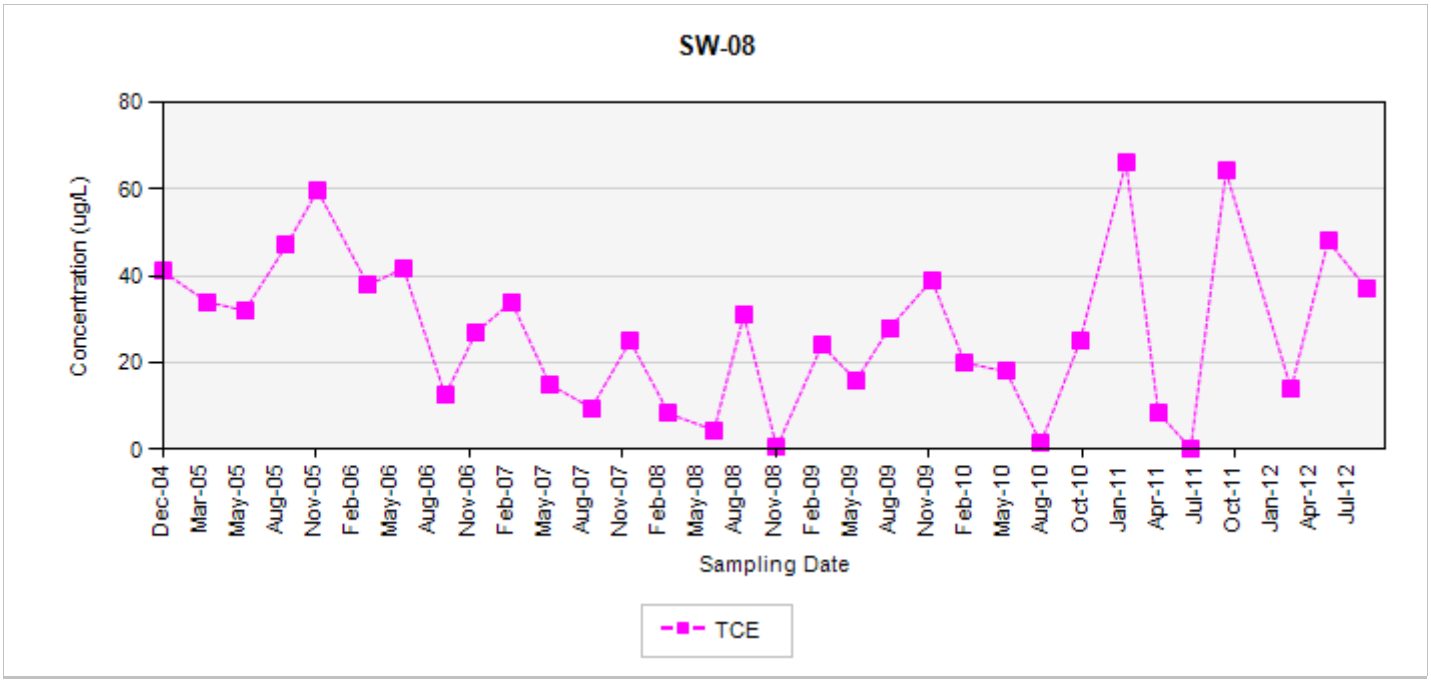

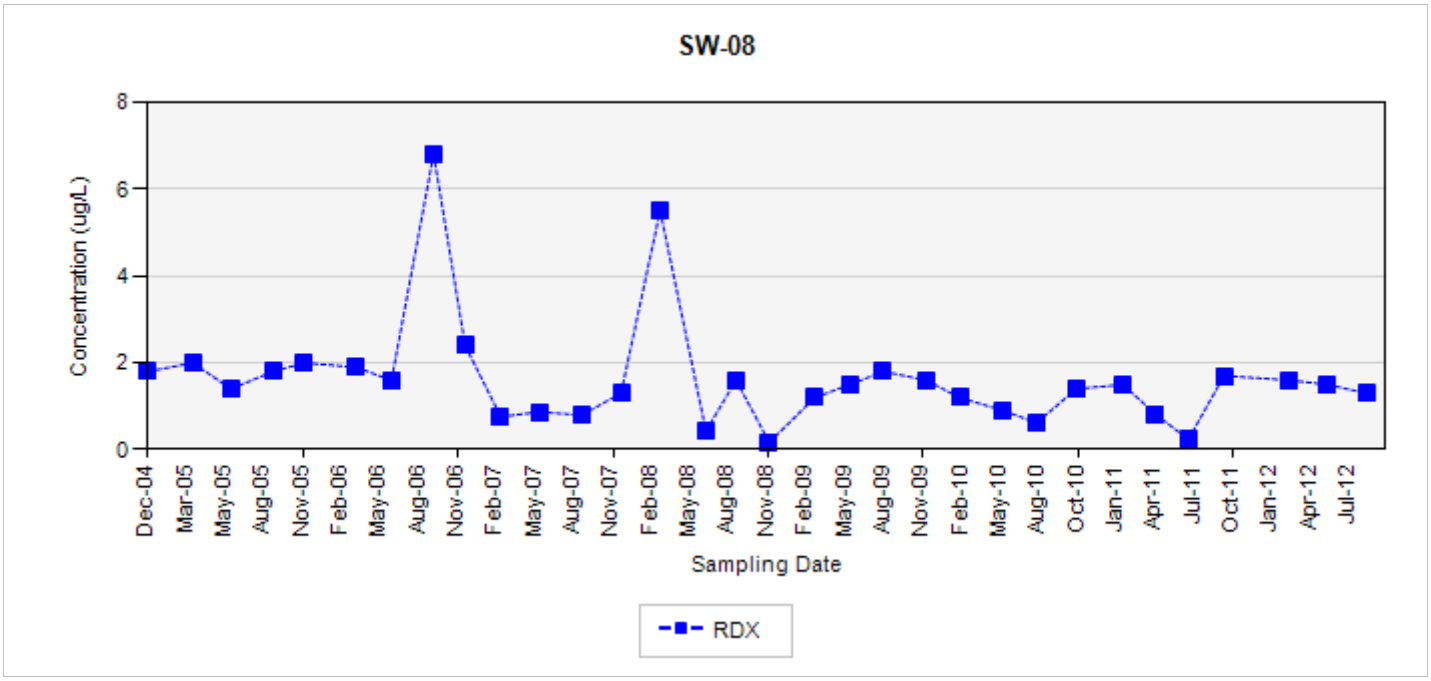

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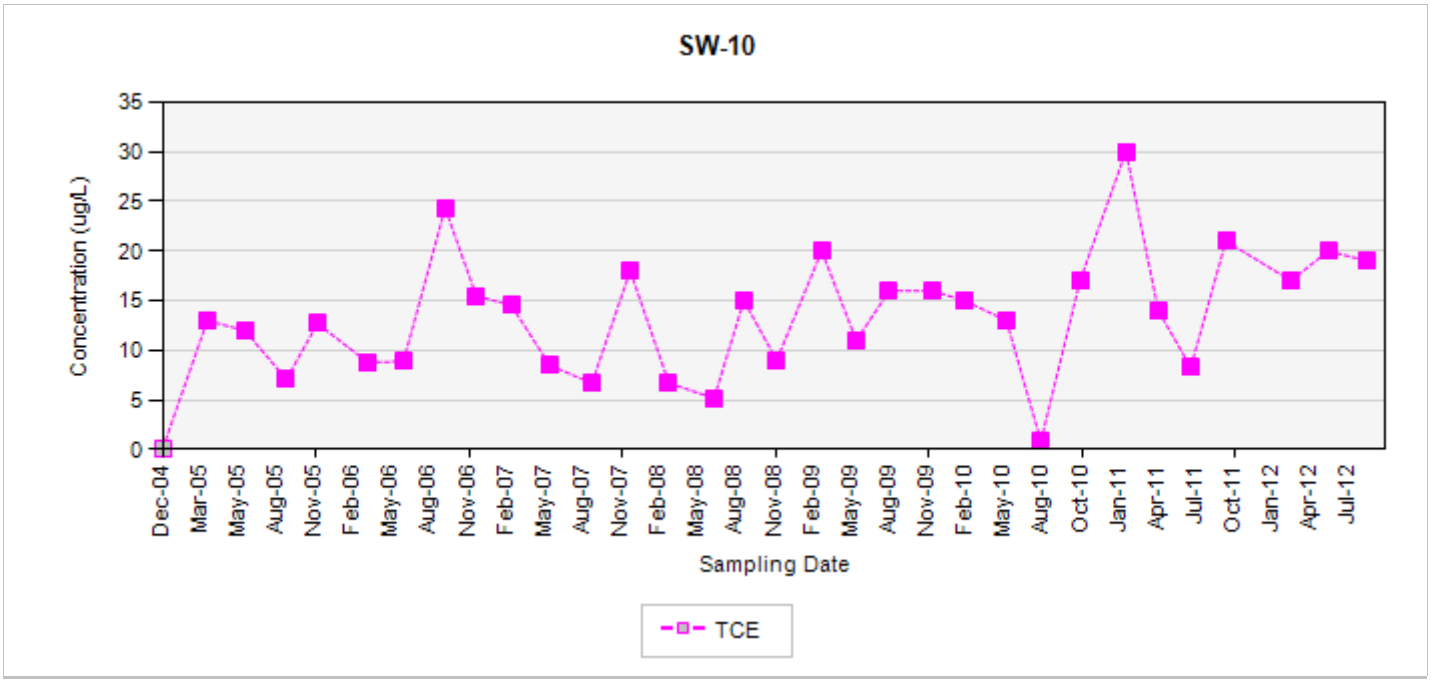

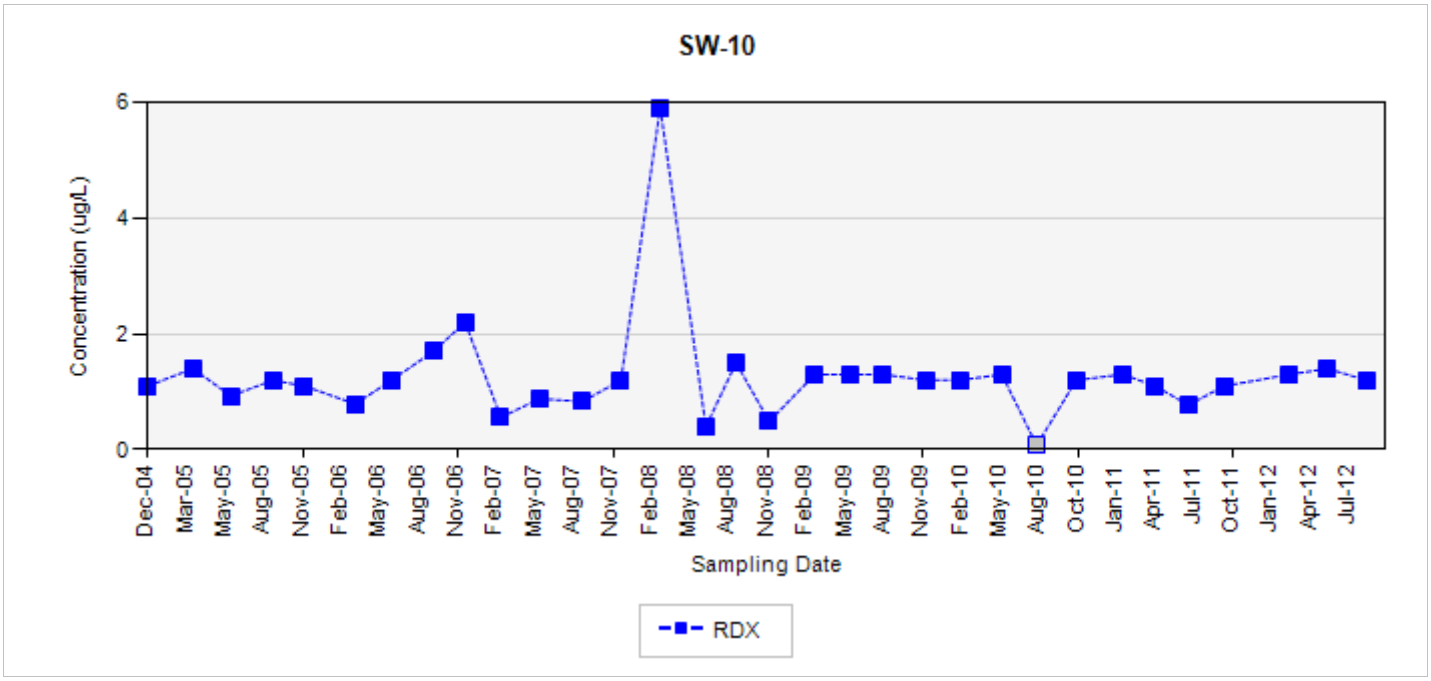

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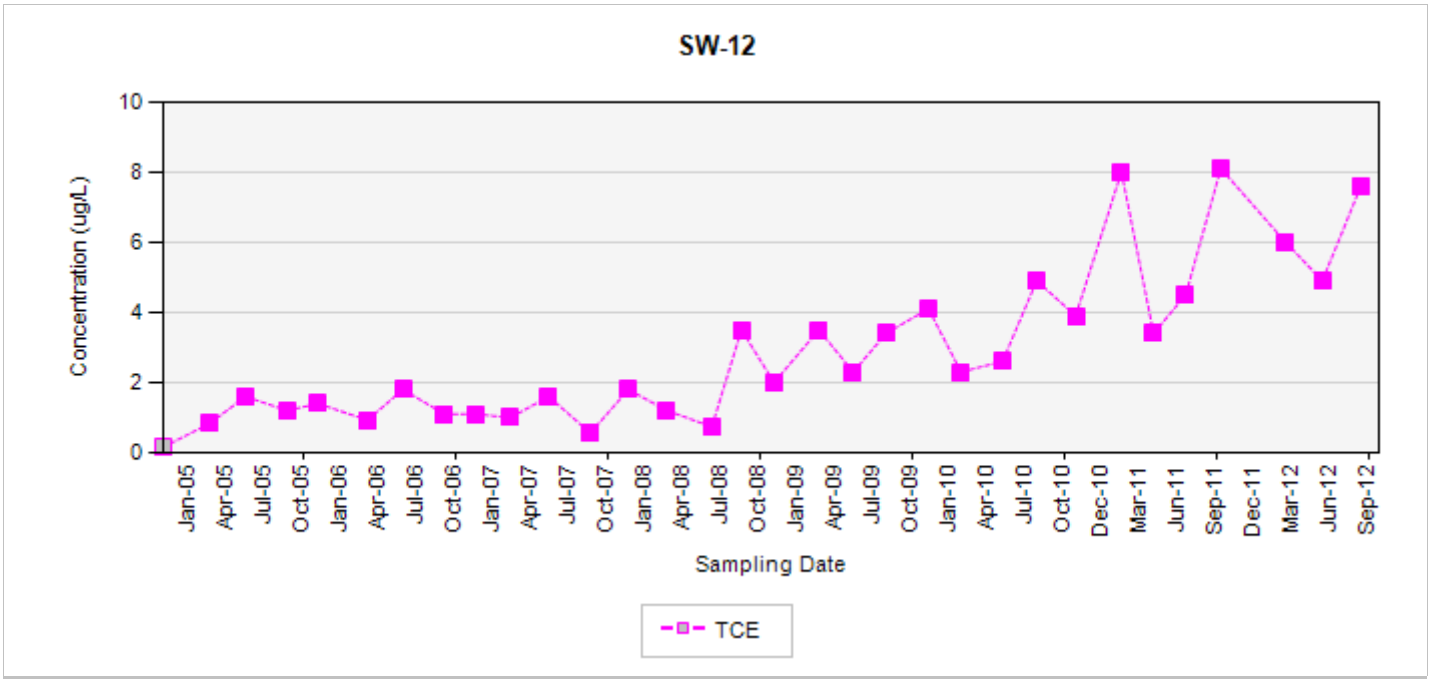

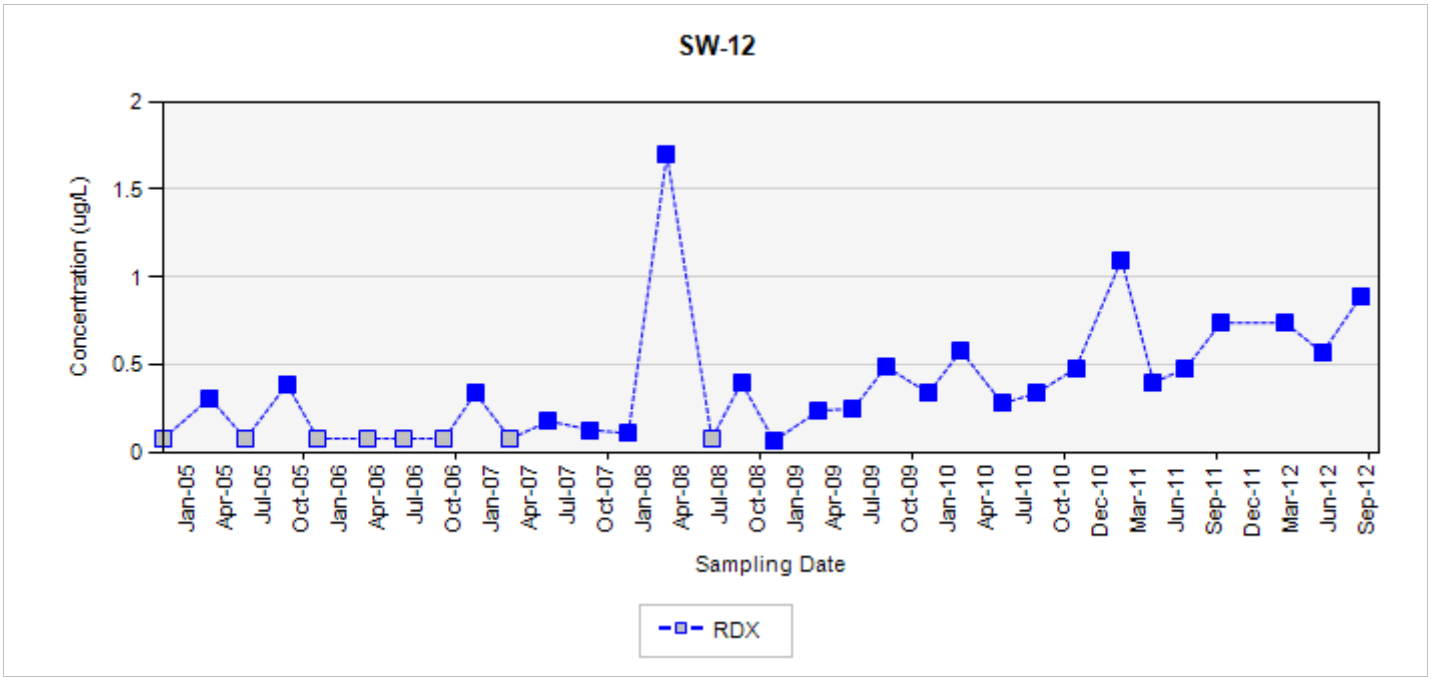

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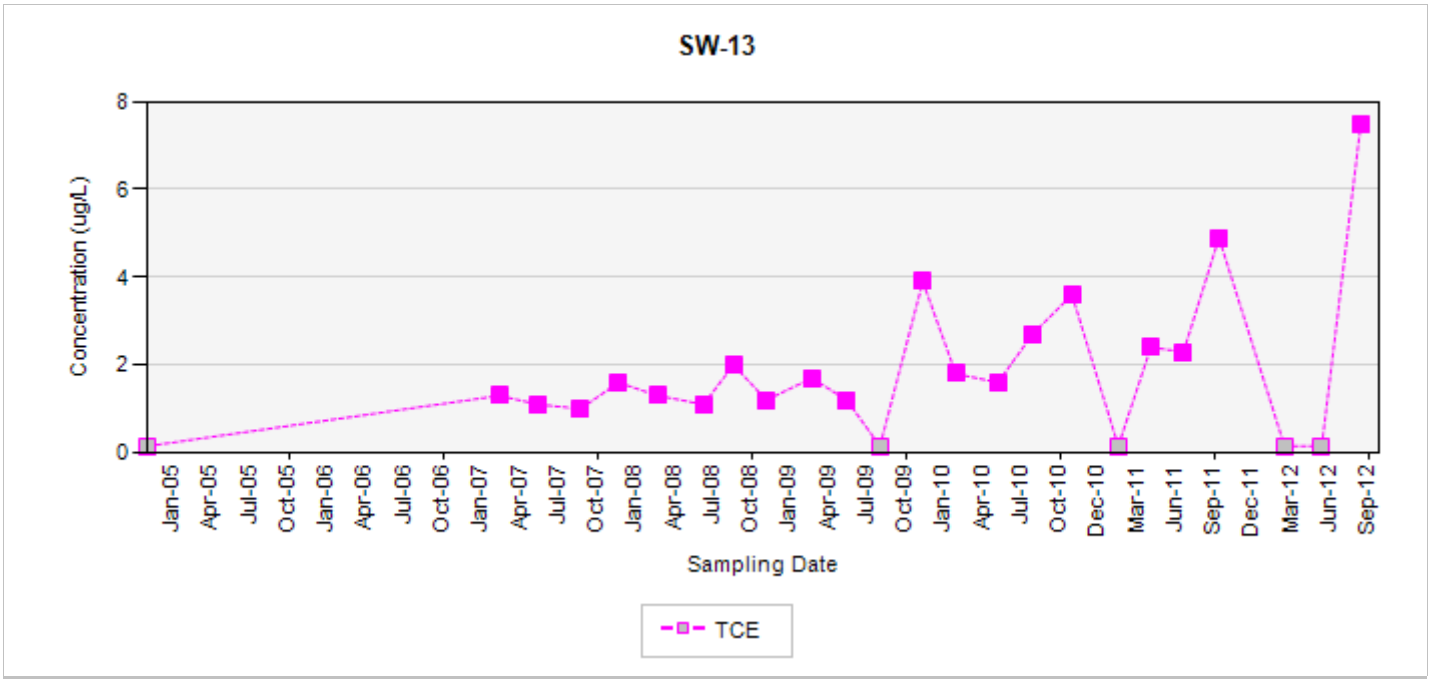

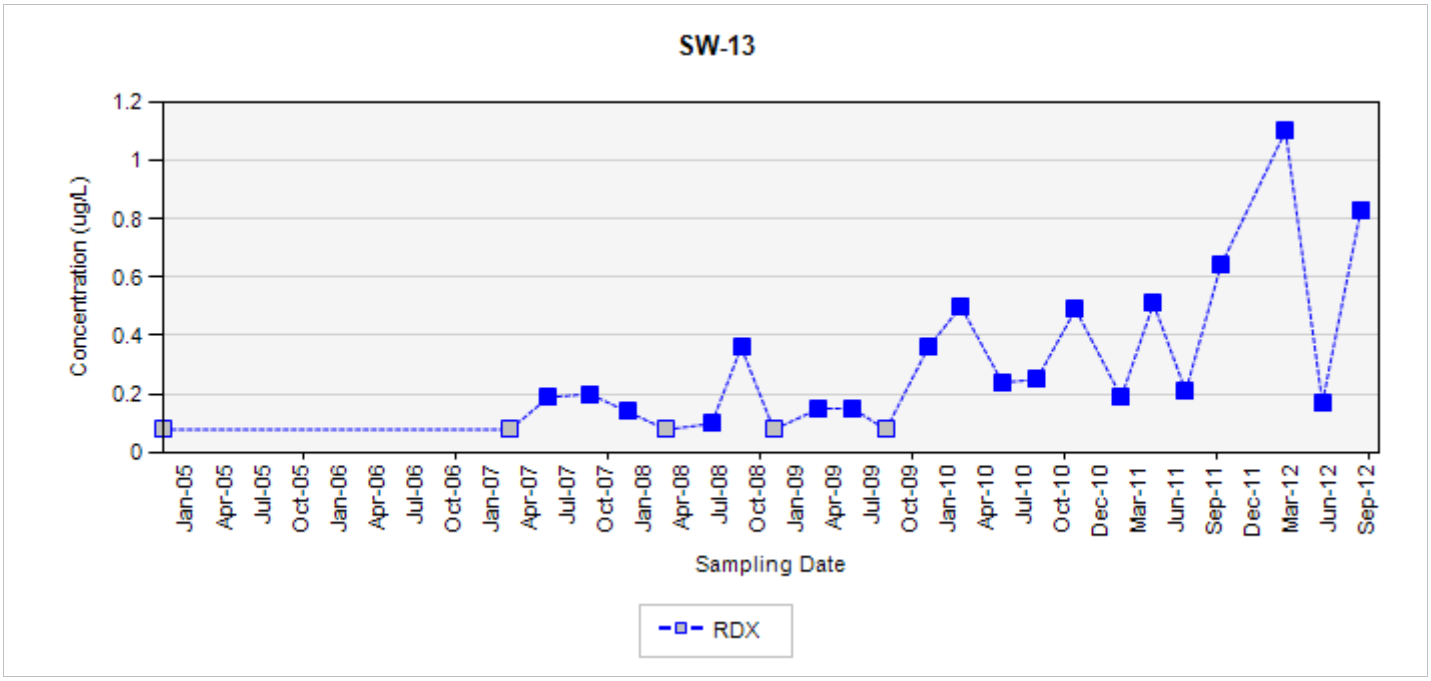

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Appendix D

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

(on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT
THIRD QUARTER 2012

GROUNDWATER MONITORING PROGRAM
SAMPLING EVENTS

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

October 2012

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

1.0 INTRODUCTION

Monitoring well and surface water sampling were conducted between August 10 and August 30, 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 Third 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 Third 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 Third 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 78 monitoring wells were collected during the Third Quarter 2012 monitoring well sampling event. VOCs were sampled in 55 of the wells and 75 wells were sampled for explosives. Ten field duplicate samples and four matrix spike (MS)/matrix spike duplicate (MSD) pairs were also collected with the monitoring well samples. Additionally, two trip blanks were included with the VOC sample shipments.

During the Third Quarter 2012 surface water sampling event, 7 surface water locations were sampled. Due to the lack of water, samples were not collected from 5 surface water locations. In addition, one field duplicate sample 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. 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 and VOC analyses are presented in Tables 3-5 and 3-6, respectively, 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. Sample 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. Evaluation of the calibration summary forms indicated that %D for 4-amino-2,6-dinitrotoluene in an intial calibration verification standard was above the QC limit. This analyte in all samples was qualified as estimated (J) for detects and (UJ) for nondetects. All other project criteria were met. Data quality evaluation results are presented in Table 3-1 for the monitoring well samples and in Table 3-2 for the surface water samples. The QC outliers for the explosives are presented in Table 3-3 for the monitoring wells and Table 3-5 for the surface water samples.

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 all method blanks; methylene chloride detected in the affected samples was qualified as (U).

Refer to Tables 3-1and 3-2 for data quality evaluation results and qualified samples for the monitoring well and surface water sampling events, respectively. Tables 3-4 and 3-6 present the VOC QC outliers and associated samples for all assigned qualifiers for the monitoring well and surface water sampling events, respectively.

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.

Methylene chloride was detected in both trip blank; however, these were determined to be the result of laboratory contamination. There were no other detections of target analytes in the VOC trip blanks. No sample qualifications were required.

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 surrogate 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 were outside QC limits and the TCE detections in one monitoring well 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 3-4 presents the 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 Third Quarter 2012 monitoring well sampling event:

- BMW-009-072012 / BMW-209-072012 (VOCs)
- AMW-021-072012 / AMW-221-072012 (VOCs and Explosives);
- BMW-035-072012 / BMW-235-072012 (Explosives);
- AMW-038-072012 / AMW-238-072012 (VOCs and Explosives);
- AMW-046-072012 / AMW-246-072012 (VOCs and Explosives);
- AMW-084-072012 / AMW-284-072012 (Explosives);
- AMW-085-072012 / AMW-285-072012 (Explosives);
- BMW-0106-072012 / BMW-2106-072012 (VOCs);
- AMW-0116-072012 / AMW-2116-072012 (VOCs and Explosives); and
- EMW-0120-072012 / EMW-2120-072012 (VOCs);

The following field duplicate pair was collected during the Third Quarter 2012 surface water sampling event:

- SCW-006-072012 / SCW-206-072012 (VOCs and Explosives)

The field duplicate precision criterion (RPD of < 50%) was met in the all duplicate pairs with the following exceptions:

- *1,3,5 trinitrobenzene (64.9%) and RDX (66.7%) in duplicate pair* AMW-0116-072012 / AMW-2116-072012
- *cis*-1,2-dichloroethene (64.7%) and trans-1,2-dichloroethene (70.3%) in duplicate pair AMW-021-072012 / AMW-221-AMW-221-042012.

Field duplicate results are considered acceptable when one result is not detected and the other result is detected below the limit of quantitation (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.

Four sample results for trichloroethene (TCE) 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.

3.12 Laboratory Qualifiers

Analytes detected below the LOQ, but above the detection limit 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 Third 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 57.1% for both VOCs and explosives. The overall field completeness percentage was 100% for the monitoring well and 57.1% for the surface water Third Quarter 2012 sampling events. The field completeness percentage for monitoring well sampling event exceed the field completeness goal of 95% but the surface water sampling event did not meet the field completeness goal. 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. The acceptable data completeness percentage for VOCs (99.7%) met the acceptable data completeness goal of 90% for each analytical method for the monitoring well sampling event. The acceptable data completeness percentage for explosives (82.5%) did not meet the acceptable data completeness goal for the monitoring well sampling event. Acceptable data completeness percentages for VOCs (100%) and explosives (100%) met the acceptable data completeness goal of 90% for each analytical method for the surface water sampling event. The overall acceptable data completeness is at 89.9% for the monitoring well sampling event which did not meet the completeness goal of 90%. The overall acceptable data completeness is at 91.7% for the surface water sampling event which met the completeness 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. No data were rejected for the Third Quarter 2012 monitoring well and surface water sampling events based on analytical data evaluation. The quality data completeness percentage for VOCs and explosives, considered separately, is 100%. Overall quality data completeness is therefore 100%, which exceeds the quality data completeness goal of 80% for the monitoring well and surface water sampling events. Table 4-3 and Table 4-4 present analytical data completeness values for monitoring well and surface water sampling

events, respectively.

4.3 Project Completeness

Project completeness combines sampling and analytical protocols to assess the project as a whole. Project completeness is assessed by comparing the percentage of samples/measurements that are determined to be usable to the total number of samples/measurements planned. Project completeness is calculated using field completeness and analytical completeness (quality data) percentages. Both the analytical completeness and field completeness for the monitoring well sampling event were 100%. The monitoring well project completeness percentage of 100% exceeded the project completeness goal of 90%. The field completeness for the surface water sampling event was 57.1% and the analytical completeness for the surface water sampling event was 100%. The surface water project completeness percentage of 57.1% was below 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 89.9%, quality data completeness is 100%, and the overall project completeness is 100% for the Third Quarter 2012 monitoring well sampling event. Overall field completeness is 57.1%, acceptable data completeness is 91.7%, quality data completeness is 100%, and the overall project completeness is 57.1% for the Third Quarter 2012 surface water sampling event.

Results for 4-amino-2,6-dinitrotoluene in all samples were qualified as estimated due to ICV %D outlier. All results for explosives in one sample were qualified as estimated detect due to surrogate %REC outliers. One TCE was qualified as estimated detect due to MS or MSD %REC outliers. All methylene chloride results were qualified as non-detect due to a laboratory blank detection. Results qualified for blank detections do not effect analytical or project completeness. Two sample results for TCE and two sample results for hexahydro-1,3,5-trinitro-1,3,5-triazine (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
CAL	calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
C-RPD	column relative percent difference
GC/MS	gas chromatography–mass spectrometry
HPLC	high-performance liquid chromatography
ICV	initial calibration verification
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
RRF	relative response factor
RSD	relative standard deivation
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

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

Sample Locations	Sample IDs	Analyses
MW-09A	AMW-009-072012	Volatiles
MW-09B	BMW-009-072012	Volatiles
MW-09D	DMW-009-072012	Volatiles
MW-106A	AMW-0106-072012	Explosives, Volatiles
MW-106B	BMW-0106-072012	Explosives, Volatiles
MW-106D	DMW-0106-072012	Explosives, Volatiles
MW-107A	AMW-0107-072012	Explosives, Volatiles
MW-107B	BMW-0107-072012	Explosives, Volatiles
MW-107D	DMW-0107-072012	Explosives, Volatiles
MW-108A	AMW-0108-072012	Explosives, Volatiles
MW-108B	BMW-0108-072012	Explosives, Volatiles
MW-108D	DMW-0108-072012	Explosives, Volatiles
MW-110A	AMW-0110-072012	Explosives, Volatiles
MW-110B	BMW-0110-072012	Explosives, Volatiles
MW-110D	DMW-0110-072012	Explosives, Volatiles
MW-112A	AMW-0112-072012	Explosives, Volatiles
MW-112B	BMW-0112-072012	Explosives, Volatiles
MW-113A	AMW-0113-072012	Explosives, Volatiles
MW-113B	BMW-0113-072012	Explosives, Volatiles
MW-113D	DMW-0113-072012	Explosives, Volatiles
MW-114A	AMW-0114-072012	Explosives, Volatiles
MW-114B	BMW-0114-072012	Explosives, Volatiles
MW-114D	DMW-0114-072012	Explosives, Volatiles
MW-115A	AMW-0115-072012	Explosives, Volatiles
MW-115B	BMW-0115-072012	Explosives, Volatiles
MW-115D	DMW-0115-072012	Explosives, Volatiles
MW-116A	AMW-0116-072012	Explosives, Volatiles
MW-116B	BMW-0116-072012	Explosives, Volatiles
MW-116D	DMW-0116-072012	Explosives, Volatiles
MW-117A	AMW-0117-072012	Explosives
MW-117B	BMW-0117-072012	Explosives
MW-117D	DMW-0117-072012	Explosives
MW-118A	AMW-0118-072012	Explosives
MW-118B	BMW-0118-072012	Explosives
MW-120D	DMW-0120-072012	Explosives, Volatiles
MW-120E	EMW-0120-072012	Explosives, Volatiles
MW-147A	AMW-0147-072012	Explosives
MW-147B	BMW-0147-072012	Explosives
MW-147D	DMW-0147-072012	Explosives
MW-158A	AMW-0158-072012	Explosives, Volatiles
MW-158B	BMW-0158-072012	Explosives, Volatiles
MW-158D	DMW-0158-072012	Explosives, Volatiles
MW-159A	AMW-0159-072012	Explosives, Volatiles
MW-159B	BMW-0159-072012	Explosives, Volatiles
MW-21A	AMW-021-072012	Explosives, Volatiles
MW-21B	BMW-021-072012	Explosives, Volatiles
MW-21D	DMW-021-072012	Explosives, Volatiles
MW-24A	AMW-024-072012	Explosives, Volatiles
MW-24B	BMW-024-072012	Explosives, Volatiles

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

MW-35A	AMW-035-072012	Explosives
MW-35B	BMW-035-072012	Explosives
MW-35D	DMW-035-072012	Explosives
MW-38A	AMW-038-072012	Explosives, Volatiles
MW-38D	DMW-038-072012	Explosives, Volatiles
MW-46A	AMW-046-072012	Explosives, Volatiles
MW-46B	BMW-046-072012	Explosives, Volatiles
MW-46D	DMW-046-072012	Explosives, Volatiles
MW-80A	AMW-080-072012	Explosives, Volatiles
MW-80B	BMW-080-072012	Explosives, Volatiles
MW-80D	DMW-080-072012	Explosives, Volatiles
MW-81A	AMW-081-072012	Explosives, Volatiles
MW-81B	BMW-081-072012	Explosives, Volatiles
MW-81D	DMW-081-072012	Explosives, Volatiles
MW-83A	AMW-083-072012	Explosives
MW-83B	BMW-083-072012	Explosives
MW-83D	DMW-083-072012	Explosives
MW-84A	AMW-084-072012	Explosives
MW-84B	BMW-084-072012	Explosives
MW-84D	DMW-084-072012	Explosives
MW-85A	AMW-085-072012	Explosives
MW-85B	BMW-085-072012	Explosives
MW-85D	DMW-085-072012	Explosives
MW-88A	AMW-088-072012	Explosives, Volatiles
MW-88B	BMW-088-072012	Explosives, Volatiles
MW-88D	DMW-088-072012	Explosives, Volatiles
MW-95A	AMW-095-072012	Explosives
MW-95B	BMW-095-072012	Explosives
MW-95D	DMW-095-072012	Explosives

Notes:

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

Table 1-2

Sample Locations, Sample IDs, and Analyses

Third Quarter 2012 Surface Water Sampling Event

Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Locations	Sample IDs	Analyses
SCW-04	SCW-004-072012	Explosives, Volatiles
SCW-05	SCW-005-072012	Explosives, Volatiles
SCW-06	SCW-006-072012	Explosives, Volatiles
SW-08	SW-008-072012	Explosives, Volatiles
SW-10	SW-010-072012	Explosives, Volatiles
SW-12	SW-012-072012	Explosives, Volatiles
SW-13	SW-013-072012	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
Third Quarter 2012 Monitoring 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								
AMW-0116-072012			8/10/2012	8/11/2012	200-12200-1	12200	•	•
		AMW-2116-072012	8/10/2012	8/11/2012	200-12200-2	12200	•	•
BMW-0116-072012			8/10/2012	8/11/2012	200-12200-3	12200	•	•
DMW-0116-072012			8/10/2012	8/11/2012	200-12200-4	12200	•	•
AMW-080-072012			8/22/2012	8/24/2012	200-12402-2	12402-1	•	•
BMW-080-072012			8/22/2012	8/24/2012	200-12402-3	12402-1	•	•
DMW-080-072012			8/22/2012	8/24/2012	200-12402-4	12402-1	•	•
AMW-081-072012			8/22/2012	8/24/2012	200-12402-5	12402-1	•	•
BMW-081-072012			8/22/2012	8/24/2012	200-12402-6	12402-1	•	•
DMW-081-072012			8/22/2012	8/24/2012	200-12402-7	12402-1	•	•
AMW-038-072012			8/22/2012	8/24/2012	200-12402-8	12402-1	•	•
		AMW-238-072012	8/22/2012	8/24/2012	200-12402-9	12402-1	•	•
DMW-038-072012	DMW-038-072012		8/22/2012	8/24/2012	200-12402-10	12402-1	•	•
AMW-0114-072012			8/22/2012	8/24/2012	200-12402-11	12402-1	•	•
BMW-0114-072012			8/22/2012	8/24/2012	200-12402-12	12402-1	•	•
DMW-0114-072012			8/22/2012	8/24/2012	200-12402-13	12402-1	•	•
AMW-088-072012			8/22/2012	8/24/2012	200-12402-14	12402-1	•	•
BMW-088-072012			8/22/2012	8/24/2012	200-12402-15	12402-1	•	•
DMW-088-072012			8/22/2012	8/24/2012	200-12402-16	12402-1	•	•
AMW-0115-072012			8/22/2012	8/24/2012	200-12402-17	12402-1	•	•
BMW-0115-072012			8/22/2012	8/24/2012	200-12402-18	12402-1	•	•
DMW-0115-072012			8/22/2012	8/24/2012	200-12402-19	12402-1	•	•
AMW-0158-072012			8/22/2012	8/24/2012	200-12402-20	12402-1	•	•
BMW-0158-072012			8/22/2012	8/24/2012	200-12402-21	12402-2	•	•
DMW-0158-072012			8/22/2012	8/24/2012	200-12402-22	12402-2	•	•
AMW-0110-072012			8/22/2012	8/24/2012	200-12402-23	12402-2	•	•
BMW-0110-072012			8/22/2012	8/24/2012	200-12402-24	12402-2	•	•
DMW-0110-072012			8/22/2012	8/24/2012	200-12402-25	12402-2	•	•
AMW-0159-072012			8/23/2012	8/24/2012	200-12402-26	12402-2	•	•
BMW-0159-072012			8/23/2012	8/24/2012	200-12402-27	12402-2	•	•
AMW-0106-072012			8/23/2012	8/24/2012	200-12402-28	12402-2	•	•

Table 2-1
Sample Collection Summary
Third Quarter 2012 Monitoring 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
BMW-0106-072012			8/23/2012	8/24/2012	200-12402-29	12402-2	•	•
		BMW-2106-072012	8/23/2012	8/24/2012	200-12402-30	12402-2		•
DMW-0106-072012			8/23/2012	8/24/2012	200-12402-31	12402-2	•	•
AMW-0107-072012			8/23/2012	8/24/2012	200-12402-32	12402-2	•	•
BMW-0107-072012			8/23/2012	8/24/2012	200-12402-33	12402-2	•	•
DMW-0107-072012			8/23/2012	8/24/2012	200-12402-34	12402-2	•	•
AMW-0108-072012			8/23/2012	8/24/2012	200-12402-35	12402-2	•	•
BMW-0108-072012			8/23/2012	8/24/2012	200-12402-36	12402-2	•	•
DMW-0108-072012			8/23/2012	8/24/2012	200-12402-37	12402-2	•	•
AMW-0112-072012			8/23/2012	8/24/2012	200-12402-38	12402-2	•	•
BMW-0112-072012			8/23/2012	8/24/2012	200-12402-39	12402-2	•	•
AMW-0113-072012			8/23/2012	8/24/2012	200-12402-40	12402-3	•	•
BMW-0113-072012			8/23/2012	8/24/2012	200-12402-41	12402-3	•	•
DMW-0113-072012			8/23/2012	8/24/2012	200-12402-42	12402-3	•	•
AMW-046-072012			8/23/2012	8/24/2012	200-12402-43	12402-3	•	•
		AMW-246-072012	8/23/2012	8/24/2012	200-12402-44	12402-3	•	•
BMW-046-072012	BMW-046-072012		8/23/2012	8/24/2012	200-12402-45	12402-2	•	•
DMW-046-072012			8/23/2012	8/24/2012	200-12402-46	12402-3	•	•
AMW-035-072012			8/23/2012	8/24/2012	200-12402-47	12402-3	•	
BMW-035-072012			8/23/2012	8/24/2012	200-12402-48	12402-3	•	
		BMW-235-072012	8/23/2012	8/24/2012	200-12402-49	12402-3	•	
DMW-035-072012			8/23/2012	8/24/2012	200-12402-50	12402-3	•	
AMW-085-072012			8/23/2012	8/24/2012	200-12402-51	12402-3	•	
		AMW-285-072012	8/23/2012	8/24/2012	200-12402-52	12402-3	•	
BMW-085-072012	BMW-085-072012		8/23/2012	8/24/2012	200-12402-53	12402-3	•	
DMW-085-072012			8/23/2012	8/24/2012	200-12402-54	12402-3	•	
AMW-0117-072012			8/23/2012	8/24/2012	200-12402-57	12402-3	•	
BMW-0117-072012			8/23/2012	8/24/2012	200-12402-58	12402-3	•	
DMW-0117-072012			8/23/2012	8/24/2012	200-12402-59	12402-3	•	
AMW-0118-072012			8/23/2012	8/24/2012	200-12402-60	12402-3	•	
BMW-0118-072012			8/23/2012	8/24/2012	200-12402-61	12402-4	•	
AMW-095-072012			8/23/2012	8/24/2012	200-12402-62	12402-4	•	
BMW-095-072012			8/23/2012	8/24/2012	200-12402-63	12402-4	•	

Table 2-1
Sample Collection Summary
Third Quarter 2012 Monitoring 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
DMW-095-072012			8/23/2012	8/24/2012	200-12402-64	12402-4	•	
AMW-0147-072012			8/23/2012	8/24/2012	200-12402-65	12402-4	•	
BMW-0147-072012			8/23/2012	8/24/2012	200-12402-66	12402-4	•	
DMW-0147-072012			8/23/2012	8/24/2012	200-12402-67	12402-4	•	
AMW-083-072012			8/23/2012	8/24/2012	200-12402-68	12402-4	•	
BMW-083-072012			8/23/2012	8/24/2012	200-12402-55	12402-3	•	
DMW-083-072012			8/23/2012	8/24/2012	200-12402-56	12402-3	•	
AMW-024-072012			8/24/2012	8/25/2012	200-12416-9	12416	•	•
BMW-024-072012			8/24/2012	8/25/2012	200-12416-10	12416	•	•
AMW-021-072012			8/24/2012	8/25/2012	200-12416-11	12416	•	•
		AMW-221-072012	8/24/2012	8/25/2012	200-12416-12	12416	•	•
BMW-021-072012	BMW-021-072012		8/24/2012	8/25/2012	200-12416-13	12416	•	•
DMW-021-072012			8/24/2012	8/25/2012	200-12416-14	12416	•	•
AMW-009-072012			8/24/2012	8/25/2012	200-12416-15	12416		•
BMW-009-072012			8/24/2012	8/25/2012	200-12416-16	12416		•
		BMW-209-072012	8/24/2012	8/25/2012	200-12416-17	12416		•
DMW-009-072012			8/24/2012	8/25/2012	200-12416-18	12416		•
AMW-084-072012			8/24/2012	8/25/2012	200-12416-1	12416	•	
		AMW-284-072012	8/24/2012	8/25/2012	200-12416-8	12416	•	
BMW-084-072012			8/24/2012	8/25/2012	200-12416-2	12416	•	
DMW-084-072012			8/24/2012	8/25/2012	200-12416-3	12416	•	
DMW-0120-072012			8/24/2012	8/25/2012	200-12416-4	12416	•	•
EMW-0120-072012			8/24/2012	8/25/2012	200-12416-5	12416	•	•
		EMW-2120-072012	8/24/2012	8/25/2012	200-12416-6	12416		•
Trip Blanks								
TRB-280-072012			8/22/2012	8/24/2012	200-12402-1	12402-1		•
TRB-224-072012			8/24/2012	8/25/2012	200-12416-7	12416		•

Notes:

Volatiles — Volatile Organic Compounds by Capillary GC/MS

Explosives — Nitroaromatics and Nitramines by HPLC

Table 2-2
Sample Collection Summary
Third Quarter 2012 Surface Water 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								
SCW-004-072012			8/30/2012	8/31/2012	200-12525-2	12525	•	•
SCW-005-072012			8/30/2012	8/31/2012	200-12525-3	12525	•	•
SCW-006-072012			8/30/2012	8/31/2012	200-12525-4	12525	•	•
		SCW-206-072012	8/30/2012	8/31/2012	200-12525-5	12525	•	•
SW-012-072012			8/30/2012	8/31/2012	200-12525-6	12525	•	•
SW-013-072012			8/30/2012	8/31/2012	200-12525-7	12525	•	•
SW-008-072012	SW-008-072012		8/30/2012	8/31/2012	200-12525-8	12525	•	•
SW-010-072012			8/30/2012	8/31/2012	200-12525-9	12525	•	•
Trip Blank								
TRB-204-072012			8/30/2012	8/31/2012	200-12525-1	12525		•

Notes:

Volatiles — Volatile Organic Compounds by Capillary GC/MS

Explosives — Nitroaromatics and Nitramines by HPLC

Table 3-1
Data Quality Evaluation Results
Third 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	CAL	IS_Surr	Comments	Final Result
AMW-009-072012	8/24/2012	12416	200-12416-15	Volatiles	methylene chloride	µg/L	1.5	U		X				Lab Blank	3.7 U
AMW-0106-072012	8/23/2012	12402-2	200-12402-28	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0106-072012	8/23/2012	12402-2	200-12402-28	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
AMW-0107-072012	8/23/2012	12402-2	200-12402-32	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0107-072012	8/23/2012	12402-2	200-12402-32	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
AMW-0108-072012	8/23/2012	12402-2	200-12402-35	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0108-072012	8/23/2012	12402-2	200-12402-35	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
AMW-0110-072012	8/22/2012	12402-2	200-12402-23	Explosives	2,4,6-trinitrotoluene	µg/L	0.11	J			X			Column RPD	0.11 J
AMW-0110-072012	8/22/2012	12402-2	200-12402-23	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
AMW-0110-072012	8/22/2012	12402-2	200-12402-23	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
AMW-0112-072012	8/23/2012	12402-2	200-12402-38	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0112-072012	8/23/2012	12402-2	200-12402-38	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
AMW-0113-072012	8/23/2012	12402-3	200-12402-40	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0113-072012	8/23/2012	12402-3	200-12402-40	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
AMW-0114-072012	8/22/2012	12402-1	200-12402-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0114-072012	8/22/2012	12402-1	200-12402-11	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
AMW-0115-072012	8/22/2012	12402-1	200-12402-17	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0115-072012	8/22/2012	12402-1	200-12402-17	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
AMW-0116-072012	8/10/2012	12200	200-12200-1	Explosives	1,3,5-trinitrobenzene	µg/L	0.49	J			X			Column RPD	0.49 J
AMW-0116-072012	8/10/2012	12200	200-12200-1	Explosives	2,4,6-trinitrotoluene	µg/L	0.10	J			X			Column RPD	0.10 J
AMW-0116-072012	8/10/2012	12200	200-12200-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.15	J				X		ICV	0.15 J
AMW-0116-072012	8/10/2012	12200	200-12200-1	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	2.0	J			X			Column RPD	2.0 J
AMW-0116-072012	8/10/2012	12200	200-12200-1	Volatiles	methylene chloride	µg/L	0.52	U		X				Lab Blank	1.0 U
AMW-0117-072012	8/23/2012	12402-3	200-12402-57	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
AMW-0118-072012	8/23/2012	12402-3	200-12402-60	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
AMW-0147-072012	8/23/2012	12402-4	200-12402-65	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0158-072012	8/22/2012	12402-1	200-12402-20	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-0158-072012	8/22/2012	12402-1	200-12402-20	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
AMW-0159-072012	8/23/2012	12402-2	200-12402-26	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
AMW-0159-072012	8/23/2012	12402-2	200-12402-26	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
AMW-021-072012	8/24/2012	12416	200-12416-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.075	J			X	X		Column RPD,ICV	0.075 J
AMW-021-072012	8/24/2012	12416	200-12416-11	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
AMW-024-072012	8/24/2012	12416	200-12416-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.066	J			X	X		Column RPD,ICV	0.066 J
AMW-024-072012	8/24/2012	12416	200-12416-9	Volatiles	methylene chloride	µg/L	2.0	U		X				Lab Blank	5.0 U
AMW-035-072012	8/23/2012	12402-3	200-12402-47	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-035-072012	8/23/2012	12402-3	200-12402-47	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.40	J			X			Column RPD	0.40 J
AMW-038-072012	8/22/2012	12402-1	200-12402-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ

Table 3-1
Data Quality Evaluation Results
Third 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	CAL	IS_Surr	Comments	Final Result
AMW-038-072012	8/22/2012	12402-1	200-12402-8	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
AMW-046-072012	8/23/2012	12402-3	200-12402-43	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
AMW-046-072012	8/23/2012	12402-3	200-12402-43	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
AMW-080-072012	8/22/2012	12402-1	200-12402-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
AMW-080-072012	8/22/2012	12402-1	200-12402-2	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
AMW-081-072012	8/22/2012	12402-1	200-12402-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
AMW-081-072012	8/22/2012	12402-1	200-12402-5	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
AMW-083-072012	8/23/2012	12402-4	200-12402-68	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.48 UJ
AMW-083-072012	8/23/2012	12402-4	200-12402-68	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.33	J			X			Column RPD	0.33 J
AMW-084-072012	8/24/2012	12416	200-12416-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.41 UJ
AMW-085-072012	8/23/2012	12402-3	200-12402-51	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
AMW-088-072012	8/22/2012	12402-1	200-12402-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-088-072012	8/22/2012	12402-1	200-12402-14	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
AMW-095-072012	8/23/2012	12402-4	200-12402-62	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
AMW-2116-072012	8/10/2012	12200	200-12200-2	Explosives	2,4,6-trinitrotoluene	µg/L	0.11	J			X			Column RPD	0.11 J
AMW-2116-072012	8/10/2012	12200	200-12200-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.16	J			X	X		Column RPD,ICV	0.16 J
AMW-2116-072012	8/10/2012	12200	200-12200-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	1.0	J			X			Column RPD	1.0 J
AMW-2116-072012	8/10/2012	12200	200-12200-2	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
AMW-221-072012	8/24/2012	12416	200-12416-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.075	J			X	X		Column RPD,ICV	0.075 J
AMW-221-072012	8/24/2012	12416	200-12416-12	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
AMW-238-072012	8/22/2012	12402-1	200-12402-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
AMW-238-072012	8/22/2012	12402-1	200-12402-9	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
AMW-246-072012	8/23/2012	12402-3	200-12402-44	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
AMW-246-072012	8/23/2012	12402-3	200-12402-44	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
AMW-284-072012	8/24/2012	12416	200-12416-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
AMW-285-072012	8/23/2012	12402-3	200-12402-52	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-009-072012	8/24/2012	12416	200-12416-16	Volatiles	methylene chloride	µg/L	0.45	U		X				Lab Blank	1.0 U
BMW-0106-072012	8/23/2012	12402-2	200-12402-29	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0106-072012	8/23/2012	12402-2	200-12402-29	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
BMW-0107-072012	8/23/2012	12402-2	200-12402-33	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0107-072012	8/23/2012	12402-2	200-12402-33	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
BMW-0108-072012	8/23/2012	12402-2	200-12402-36	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0108-072012	8/23/2012	12402-2	200-12402-36	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
BMW-0110-072012	8/22/2012	12402-2	200-12402-24	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0110-072012	8/22/2012	12402-2	200-12402-24	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
BMW-0112-072012	8/23/2012	12402-2	200-12402-39	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0112-072012	8/23/2012	12402-2	200-12402-39	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U

Table 3-1
Data Quality Evaluation Results
Third 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	CAL	IS_Surr	Comments	Final Result
BMW-0113-072012	8/23/2012	12402-3	200-12402-41	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
BMW-0113-072012	8/23/2012	12402-3	200-12402-41	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
BMW-0114-072012	8/22/2012	12402-1	200-12402-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0114-072012	8/22/2012	12402-1	200-12402-12	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
BMW-0115-072012	8/22/2012	12402-1	200-12402-18	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.41 UJ
BMW-0115-072012	8/22/2012	12402-1	200-12402-18	Volatiles	methylene chloride	µg/L	0.47	U		X				Lab Blank	1.0 U
BMW-0116-072012	8/10/2012	12200	200-12200-3	Explosives	2,4-dinitrotoluene	µg/L	0.069	J			X			Column RPD	0.069 J
BMW-0116-072012	8/10/2012	12200	200-12200-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.41 UJ
BMW-0116-072012	8/10/2012	12200	200-12200-3	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
BMW-0117-072012	8/23/2012	12402-3	200-12402-58	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
BMW-0118-072012	8/23/2012	12402-4	200-12402-61	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.18	J			X	X		Column RPD,ICV	0.18 J
BMW-0147-072012	8/23/2012	12402-4	200-12402-66	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0158-072012	8/22/2012	12402-2	200-12402-21	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0158-072012	8/22/2012	12402-2	200-12402-21	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
BMW-0159-072012	8/23/2012	12402-2	200-12402-27	Explosives	2,4-dinitrotoluene	µg/L	0.48	J			X			Column RPD	0.48 J
BMW-0159-072012	8/23/2012	12402-2	200-12402-27	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
BMW-0159-072012	8/23/2012	12402-2	200-12402-27	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
BMW-021-072012	8/24/2012	12416	200-12416-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	7.6	J				X		ICV	7.6 J
BMW-021-072012	8/24/2012	12416	200-12416-13	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
BMW-021-072012	8/24/2012	12416	200-12416-13	Volatiles	trichloroethene	µg/L	87	J	X					MS Recovery	87 J
BMW-024-072012	8/24/2012	12416	200-12416-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	3.8	J				X		ICV	3.8 J
BMW-024-072012	8/24/2012	12416	200-12416-10	Volatiles	methylene chloride	µg/L	0.34	U		X				Lab Blank	1.0 U
BMW-035-072012	8/23/2012	12402-3	200-12402-48	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
BMW-035-072012	8/23/2012	12402-3	200-12402-48	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.28	J			X			Column RPD	0.28 J
BMW-046-072012	8/23/2012	12402-2	200-12402-45	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
BMW-046-072012	8/23/2012	12402-2	200-12402-45	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
BMW-080-072012	8/22/2012	12402-1	200-12402-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
BMW-080-072012	8/22/2012	12402-1	200-12402-3	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
BMW-081-072012	8/22/2012	12402-1	200-12402-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
BMW-081-072012	8/22/2012	12402-1	200-12402-6	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
BMW-083-072012	8/23/2012	12402-3	200-12402-55	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
BMW-084-072012	8/24/2012	12416	200-12416-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.41 UJ
BMW-085-072012	8/23/2012	12402-3	200-12402-53	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
BMW-088-072012	8/22/2012	12402-1	200-12402-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
BMW-088-072012	8/22/2012	12402-1	200-12402-15	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
BMW-095-072012	8/23/2012	12402-4	200-12402-63	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.48 UJ
BMW-209-072012	8/24/2012	12416	200-12416-17	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
BMW-2106-072012	8/23/2012	12402-2	200-12402-30	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U

Table 3-1
Data Quality Evaluation Results
Third 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	CAL	IS_Surr	Comments	Final Result
BMW-235-072012	8/23/2012	12402-3	200-12402-49	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
DMW-009-072012	8/24/2012	12416	200-12416-18	Volatiles	methylene chloride	µg/L	1.8	U		X				Lab Blank	5.0 U
DMW-0106-072012	8/23/2012	12402-2	200-12402-31	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
DMW-0106-072012	8/23/2012	12402-2	200-12402-31	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.31	J			X			Column RPD	0.31 J
DMW-0106-072012	8/23/2012	12402-2	200-12402-31	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
DMW-0107-072012	8/23/2012	12402-2	200-12402-34	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
DMW-0107-072012	8/23/2012	12402-2	200-12402-34	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
DMW-0108-072012	8/23/2012	12402-2	200-12402-37	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
DMW-0108-072012	8/23/2012	12402-2	200-12402-37	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
DMW-0110-072012	8/22/2012	12402-2	200-12402-25	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
DMW-0110-072012	8/22/2012	12402-2	200-12402-25	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
DMW-0113-072012	8/23/2012	12402-3	200-12402-42	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
DMW-0113-072012	8/23/2012	12402-3	200-12402-42	Volatiles	methylene chloride	µg/L	0.36	U		X				Lab Blank	1.0 U
DMW-0114-072012	8/22/2012	12402-1	200-12402-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-0114-072012	8/22/2012	12402-1	200-12402-13	Volatiles	methylene chloride	µg/L	0.41	U		X				Lab Blank	1.0 U
DMW-0115-072012	8/22/2012	12402-1	200-12402-19	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
DMW-0115-072012	8/22/2012	12402-1	200-12402-19	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
DMW-0116-072012	8/10/2012	12200	200-12200-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.40 UJ
DMW-0116-072012	8/10/2012	12200	200-12200-4	Volatiles	methylene chloride	µg/L	0.45	U		X				Lab Blank	1.0 U
DMW-0117-072012	8/23/2012	12402-3	200-12402-59	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-0120-072012	8/24/2012	12416	200-12416-4	Explosives	2,4,6-trinitrotoluene	µg/L	1.1	J			X		X	Column RPD,Surrogate recovery outside project limits.	1.1 J
DMW-0120-072012	8/24/2012	12416	200-12416-4	Explosives	2,4-dinitrotoluene	µg/L	29	J			X		X	Column RPD,Surrogate recovery outside project limits.	29 J
DMW-0120-072012	8/24/2012	12416	200-12416-4	Explosives	2-amino-4,6-dinitrotoluene	µg/L	1.3	J					X	Surrogate recovery outside project limits.	1.3 J
DMW-0120-072012	8/24/2012	12416	200-12416-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	1.7	J			X	X	X	Column RPD,ICV,Surrogate recovery outside project limits.	1.7 J
DMW-0120-072012	8/24/2012	12416	200-12416-4	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	13	J			X		X	Column RPD,Surrogate recovery outside project limits.	13 J
DMW-0120-072012	8/24/2012	12416	200-12416-4	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
DMW-0147-072012	8/23/2012	12402-4	200-12402-67	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
DMW-0158-072012	8/22/2012	12402-2	200-12402-22	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-0158-072012	8/22/2012	12402-2	200-12402-22	Volatiles	methylene chloride	µg/L	0.37	U		X				Lab Blank	1.0 U
DMW-021-072012	8/24/2012	12416	200-12416-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.062	J			X	X		Column RPD,ICV	0.062 J

Table 3-1
Data Quality Evaluation Results
Third 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	CAL	IS_Surr	Comments	Final Result
DMW-021-072012	8/24/2012	12416	200-12416-14	Volatiles	methylene chloride	µg/L	0.38	U		X				Lab Blank	1.0 U
DMW-035-072012	8/23/2012	12402-3	200-12402-50	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-038-072012	8/22/2012	12402-1	200-12402-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.47 UJ
DMW-038-072012	8/22/2012	12402-1	200-12402-10	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
DMW-046-072012	8/23/2012	12402-3	200-12402-46	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
DMW-046-072012	8/23/2012	12402-3	200-12402-46	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
DMW-080-072012	8/22/2012	12402-1	200-12402-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-080-072012	8/22/2012	12402-1	200-12402-4	Volatiles	methylene chloride	µg/L	0.42	U		X				Lab Blank	1.0 U
DMW-081-072012	8/22/2012	12402-1	200-12402-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.43 UJ
DMW-081-072012	8/22/2012	12402-1	200-12402-7	Volatiles	methylene chloride	µg/L	0.39	U		X				Lab Blank	1.0 U
DMW-083-072012	8/23/2012	12402-3	200-12402-56	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.45 UJ
DMW-084-072012	8/24/2012	12416	200-12416-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
DMW-085-072012	8/23/2012	12402-3	200-12402-54	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.44 UJ
DMW-088-072012	8/22/2012	12402-1	200-12402-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
DMW-088-072012	8/22/2012	12402-1	200-12402-16	Volatiles	methylene chloride	µg/L	0.40	U		X				Lab Blank	1.0 U
DMW-095-072012	8/23/2012	12402-4	200-12402-64	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		ICV	0.42 UJ
EMW-0120-072012	8/24/2012	12416	200-12416-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.69	J			X	X		Column RPD,ICV	0.69 J
EMW-0120-072012	8/24/2012	12416	200-12416-5	Volatiles	methylene chloride	µg/L	18	U		X				Lab Blank	44 U
EMW-2120-072012	8/24/2012	12416	200-12416-6	Volatiles	methylene chloride	µg/L	18	U		X				Lab Blank	44 U

	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
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV
IS_Surr	Internal standard, Surrogate recovery outside project limits.

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

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	BLK	C_RPD	CAL	Comments	Final Result
SCW-004-072012	8/30/2012	12525	200-12525-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X	ICV	0.20 UJ
SCW-004-072012	8/30/2012	12525	200-12525-2	Volatiles	methylene chloride	µg/L	0.38	U	X			Lab Blank	1.0 U
SCW-005-072012	8/30/2012	12525	200-12525-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X	ICV	0.20 UJ
SCW-005-072012	8/30/2012	12525	200-12525-3	Volatiles	methylene chloride	µg/L	0.37	U	X			Lab Blank	1.0 U
SCW-006-072012	8/30/2012	12525	200-12525-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X	ICV	0.20 UJ
SCW-006-072012	8/30/2012	12525	200-12525-4	Volatiles	methylene chloride	µg/L	0.39	U	X			Lab Blank	1.0 U
SCW-206-072012	8/30/2012	12525	200-12525-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X	ICV	0.20 UJ
SCW-206-072012	8/30/2012	12525	200-12525-5	Volatiles	methylene chloride	µg/L	0.39	U	X			Lab Blank	1.0 U
SW-008-072012	8/30/2012	12525	200-12525-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.071	J		X	X	Column RPD,ICV	0.071 J
SW-008-072012	8/30/2012	12525	200-12525-8	Volatiles	methylene chloride	µg/L	0.51	U	X			Lab Blank	1.0 U
SW-010-072012	8/30/2012	12525	200-12525-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X	ICV	0.20 UJ
SW-010-072012	8/30/2012	12525	200-12525-9	Volatiles	methylene chloride	µg/L	0.50	U	X			Lab Blank	1.0 U
SW-012-072012	8/30/2012	12525	200-12525-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.056	J			X	ICV	0.056 J
SW-012-072012	8/30/2012	12525	200-12525-6	Volatiles	methylene chloride	µg/L	0.53	U	X			Lab Blank	1.0 U
SW-013-072012	8/30/2012	12525	200-12525-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.038	J		X	X	Column RPD,ICV	0.038 J
SW-013-072012	8/30/2012	12525	200-12525-7	Volatiles	methylene chloride	µg/L	0.50	U	X			Lab Blank	1.0 U

Reason for Qualification	
BLK	Ambient Blank, Lab Blank, CCB, CCB - Neg, Trip Blank, Equipment Blank, Field Blank, Material Blank, Lab Blank - Neg
C_RPD	Column RPD
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV

Table 3-3
Explosive Quality Control Outliers
Third 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
Calibration					
AMW-0106-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0107-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0108-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0110-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0112-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0113-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0114-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0115-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0116-072012	12200	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-2116-072012	12200	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0117-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0118-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0147-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0158-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-0159-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-021-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-221-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-024-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-035-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-038-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-238-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-046-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-246-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-080-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-081-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-083-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-084-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-284-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-085-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-285-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-088-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
AMW-095-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0106-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0107-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0108-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%

Table 3-3
Explosive Quality Control Outliers
Third 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-0110-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0112-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0113-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0114-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0115-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0116-072012	12200	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0117-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0118-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0147-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0158-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-0159-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-021-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-024-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-035-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-235-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-046-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-080-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-081-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-083-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-084-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-085-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-088-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
BMW-095-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0106-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0107-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0108-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0110-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0113-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0114-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0115-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0116-072012	12200	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0117-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0120-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0147-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-0158-072012	12402-2	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-021-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%

Table 3-3
Explosive Quality Control Outliers
Third 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
DMW-035-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-038-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-046-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-080-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-081-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-083-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-084-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-085-072012	12402-3	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-088-072012	12402-1	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
DMW-095-072012	12402-4	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
EMW-0120-072012	12416	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
Confirmation Column Difference					
AMW-0110-072012	12402-2	2,4,6-Trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	127 RPD
AMW-0116-072012	12200	1,3,5-Trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	121 RPD
AMW-0116-072012	12200	2,4,6-Trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	169 RPD
AMW-0116-072012	12200	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	148 RPD
AMW-021-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	53.7 RPD
AMW-024-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	191 RPD
AMW-035-072012	12402-3	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	41.6 RPD
AMW-083-072012	12402-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	75.0 RPD
AMW-2116-072012	12200	2,4,6-Trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	132 RPD
AMW-2116-072012	12200	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	62.3 RPD
AMW-2116-072012	12200	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	136 RPD
AMW-221-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	77.6 RPD

Table 3-3
Explosive Quality Control Outliers
Third 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-0116-072012	12200	2,4-Dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	180 RPD
BMW-0118-072012	12402-4	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	113 RPD
BMW-0159-072012	12402-2	2,4-Dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	115 RPD
BMW-035-072012	12402-3	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	97.1 RPD
DMW-0106-072012	12402-2	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	104 RPD
DMW-0120-072012	12416	2,4,6-Trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	176 RPD
DMW-0120-072012	12416	2,4-Dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	153 RPD
DMW-0120-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	104 RPD
DMW-0120-072012	12416	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	131 RPD
DMW-021-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	165 RPD
EMW-0120-072012	12416	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	198 RPD
Field Duplicate RPD					
AMW-0116-072012	12200	1,3,5-Trinitrobenzene	Field Duplicate exceeds UCL	< 40 RPD	64.9 RPD
AMW-0116-072012	12200	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Field Duplicate exceeds UCL	< 40 RPD	66.7 RPD
AMW-2116-072012	12200	1,3,5-Trinitrobenzene	Field Duplicate exceeds UCL	< 40 RPD	64.9 RPD
AMW-2116-072012	12200	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Field Duplicate exceeds UCL	< 40 RPD	66.7 RPD
Surrogate					
DMW-0120-072012	12416	1,3,5-Trinitrobenzene	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %
DMW-0120-072012	12416	2,4,6-Trinitrotoluene	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %
DMW-0120-072012	12416	2,4-Dinitrotoluene	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %
DMW-0120-072012	12416	2-Amino-4,6-dinitrotoluene	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %
DMW-0120-072012	12416	4-Amino-2,6-dinitrotoluene	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %
DMW-0120-072012	12416	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds UCL	1,2-Dinitrobenzene 70 - 115 %	241 %

Table 3-4
Volatile Organic Compounds Quality Control Outliers
Third 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
Blank					
AMW-009-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
AMW-0106-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-0107-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
AMW-0108-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
AMW-0110-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-0112-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
AMW-0113-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
AMW-0114-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-0115-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-0116-072012	12200	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
AMW-0158-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-0159-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-021-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
AMW-024-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
AMW-038-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
AMW-046-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
AMW-080-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
AMW-081-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
AMW-088-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
AMW-2116-072012	12200	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
AMW-221-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
AMW-238-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
AMW-246-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
BMW-009-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
BMW-0106-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
BMW-0107-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
BMW-0108-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
BMW-0110-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
BMW-0112-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
BMW-0113-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
BMW-0114-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
BMW-0115-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
BMW-0116-072012	12200	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
BMW-0158-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
BMW-0159-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L

Table 3-4
Volatile Organic Compounds Quality Control Outliers
Third 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-021-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
BMW-024-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
BMW-046-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
BMW-080-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
BMW-081-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
BMW-088-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
BMW-209-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
BMW-2106-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
DMW-009-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
DMW-0106-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
DMW-0107-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
DMW-0108-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
DMW-0110-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
DMW-0113-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.45 µg/L
DMW-0114-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
DMW-0115-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
DMW-0116-072012	12200	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
DMW-0120-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
DMW-0158-072012	12402-2	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
DMW-021-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
DMW-038-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
DMW-046-072012	12402-3	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
DMW-080-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
DMW-081-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.50 µg/L
DMW-088-072012	12402-1	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.48 µg/L
EMW-0120-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
EMW-2120-072012	12416	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.43 µg/L
MS Recovery					
BMW-021-072012	12416	Trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	76.0 %
Field Duplicate RPD					
AMW-021-072012	12416	cis-1,2-dichloroethene	Field Duplicate exceeds UCL	< 40 RPD	64.7 RPD
AMW-021-072012	12416	trans-1,2-dichloroethene	Field Duplicate exceeds UCL	< 40 RPD	70.3 RPD
AMW-221-072012	12416	cis-1,2-dichloroethene	Field Duplicate exceeds UCL	< 40 RPD	64.7 RPD
AMW-221-072012	12416	trans-1,2-dichloroethene	Field Duplicate exceeds UCL	< 40 RPD	70.3 RPD

Table 3-5
Explosive Quality Control Outliers
Third 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
Calibration					
SCW-004-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SCW-005-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SCW-006-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SCW-006-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SW-008-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SW-010-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SW-012-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
SW-013-072012	12525	4-Amino-2,6-dinitrotoluene	ICV % D exceeds UCL	< 15 %	17.4%
Confirmation Column Difference					
SW-008-072012	12525	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	136 RPD
SW-013-072012	12525	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	48 RPD

Table 3-6
Volatile Organic Compound Quality Control Outliers
Third 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
Blank					
SCW-004-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
SCW-005-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
SCW-006-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
SCW-206-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
SW-008-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SW-010-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SW-012-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SW-013-072012	12525	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L

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

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	82	82	100%
Volatiles	62	62	100%
Totals =	144	144	100.0%
Goal =			95%

Notes:

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

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

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	14	8	57.1%
Volatiles	14	8	57.1%
Totals =	28	16	57.1%
Goal =			95%

Notes:

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

Table 4-3
Analytical Completeness
Third 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)	492	406	82.5%	90%	492	100%	80%
Volatiles (Analyte Count - 6)	372	371	99.7%	90%	372	100%	80%
Totals =	864	777	89.9%	95%	864	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 4-4
Analytical Completeness
Third 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)	48	40	83.3%	90%	48	100%	80%
Volatiles (Analyte Count - 6)	48	48	100%	90%	48	100%	80%
Totals =	96	88	91.7%	90%	96	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
Third Quarter 2012 Monitoring 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.

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

Field	Analytical	Project Completeness
57.1%	100.0%	57.1%
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

Groundwater samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-7-12	COC No: 080712
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			
(303) 298-7837 FAX	☐ 3 weeks			SDG No.
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
A mw-0116-072012	8-10-12	1000	G	w	5	X	X									VOCs 24 HR TAT
A mw-2116-072012	8-10-12	1000	G	w	5	X	X									VOCs 24 HR. TAT
B mw-0116-072012	8-10-12	1015	G	w	5	X	X									
D mw-0116-072012	8-10-12	1030	G	w	5	X	X									
TH-EW-017-080712	8-7-12	1445	G	w	3	X										
TH-EW-217-080712	8-7-12	1445	G	w	3	X										
TRB-TH-EW-217-080712	8-7-12	1445	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 D. Hinz	ECC	8-10-12	Fed-ex 7987 2109		5657
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAB	8/13/12 0950
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

3rd QTR Monitor Well 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: 8-22-12	COC No. 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 7 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:
TRB-080-072012	8-22-12	1018	G	W	2	2 ✓		
AMW-080-072012	8-22	1018	G	W	5	3	2	
BMW-080-072012	8-22	1040	G	W	5	3	2	
DMW-080-072012	8-22	1050	G	W	5	3	2	
AMW-081-072012	8-22	1120	G	W	5	3	2	
BMW-081-072012	8-22	1135	G	W	5	3	2	
DMW-081-072012	8-22	1145	G	W	5	3	2	
AMW-038-072012	8-22	1215	G	W	5	3	2	
AMW-238-072012	8-22	1215	G	W	5	3	2	
DMW-038-072012	8-22	1245	G	W	5	3	2	
DMW-038-072012 MSD	8-22	1245	G	W	5	3	2	
DMW-038-072012 MS	8-22	1245	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:
[signature]	ECC	8-23-12	Fed-ex 7988	1391 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA Bur	8/24/12 0845
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

3rd QTR Monitor Well 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: 8-22-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 7 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-0114-072012	8-22	1315	G	W	5	3	2	
BMW-0114-072012	8-22	1325	G	W	5	3	2	
DMW-0114-072012	8-22	1340	G	W	5	3	2	
AMW-088-072012	8-22	1355	G	W	5	3	2	
BMW-088-072012	8-22	1410	G	W	5	3	2	
DMW-088-072012	8-22	1420	G	W	5	3	2	
AMW-0115-072012	8-22	1430	G	W	5	3	2	
BMW-0115-072012	8-22	1440	G	W	5	3	2	
DMW-0115-072012	8-22	1450	G	W	5	3	2	
AMW-0158-072012	8-22	1505	G	W	5	3	2	
BMW-0158-072012	8-22	1515	G	W	5	3	2	
DMW-0158-072012	8-22	1525	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 D Hz	ECC	8-23-12 1800	Fed-ex 7988	1311 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TACBUR	8/24/12 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

3rd QTR Monitor Well 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: 8-22-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 7 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 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:
AMW-0110-072012	8-22	1535	G	W	5	3	2	
BMW-0110-072012	8-22	1550	G	W	5	3	2	
DMW-0110-072012	8-22	1600	G	W	5	3	2	

Page 757 of 763

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	8-23-12 1800	Fed-ex 7988 1391 0497		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAB	8/24/12 0945
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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 7 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:
AMW-0159-072012	8-23-12	0800	G	W	5	3	2	
BMW-0159-072012	8-23	0815	G	W	5	3	2	
AMW-0106-072012	8-23	0830	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	3	3		
DMW-0106-072012	8-23	0900	G	W	5	3	2	
AMW-0107-072012	8-23	0910	G	W	5	3	2	
BMW-0107-072012	8-23	0925	G	W	5	3	2	
DMW-0107-072012	8-23	0935	G	W	5	3	2	
AMW-0108-072012	8-23	0945	G	W	5	3	2	
BMW-0108-072012	8-23	0955	G	W	5	3	2	
DMW-0108-072012	8-23	1005	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:
[signature]	ECC	8-23-12	Fed-ex 7988	1391 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TASBUR	8/24/12 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

3rd QTR Monitor Well 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: 8-23-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 7 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-0112-072012	8-23-12	1025	G	W	5	3	2	
BMW-0112-072012	8-23	1035	G	W	5	3	2	
AMW-0113-072012	8-23	1045	G	W	5	3	2	
BMW-0113-072012	8-23	1050	G	W	5	3	2	
DMW-0113-072012	8-23	1055	G	W	5	3	2	
AMW-046-072012	8-23	1110	G	W	5	3	2	
AMW-246-072012	8-23	1110	G	W	5	3	2	
BMW-046-072012	8-23	1120	G	W	5	3	2	
BMW-046-072012 MS	8-23	1120	G	W	5	3	2	
BMW-046-072012 MSD	8-23	1120	G	W	5	3	2	
DMW-046-072012	8-23	1140	G	W	5	3	2	
AMW-035-072012	8-23	1155	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. H	ECC	8-23-12	Fed-ex 7988	1390 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASBUR	8/24/12 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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	6 of 7 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-035-072012	8-23	1200	G	W	2		2	
BMW-235-072012	8-23	1200	G	W	2		2	
DMW-035-072012	8-23	1210	G	W	2		2	
AMW-085-072012	8-23	1220	G	W	2		2	
AMW-285-072012	8-23	1220	G	W	2		2	
BMW-085-072012	8-23	1230	G	W	2		2	
BMW-085-072012 MS	8-23	1230	G	W	2		2	
BMW-085-072012 MSD	8-23	1230	G	W	2		2	
DMW-085-072012	8-23	1245	G	W	2		2	
BMW-083-072012	8-23	1520	G	W	2		2	
DMW-083-072012	8-23	1523	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 D. K	ECC	8-23-12	Fed-ex 7088	1391 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASUR	8/24/12 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

3rd QTR Monitor Well 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: 8-23-12	COC No: 082312
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.
AMW-0117-072012	8-23-12	1330	G	W	2	●	2	
BMW-0117-072012	8-23	1340	G	W	2	●	2	
DMW-0117-072012	8-23	1350	G	W	2		2	
AMW-0118-072012	8-23	1405	G	W	2		2	
BMW-0118-072012	8-23	1410	G	W	2		2	
AMW-095-072012	8-23	1430	G	W	2		2	
BMW-095-072012	8-23	1440	G	W	2		2	
DMW-095-072012	8-23	1445	G	W	2		2	
AMW-0147-072012	8-23	1450	G	W	2		2	
BMW-0147-072012	8-23	1455	G	W	2		2	
DMW-0147-072012	8-23	1500	G	W	2		2	
AMW-083-072012	8-23	1515	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 Hinz	ECC	8-23-12 1800	Fed-ex 7988	1391 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASBUR	8/24/12 0948
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
0 Community Drive
uite 11
outh Burlington, VT 5403
hone 802.660.1990 fax 802.660 1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 7 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W) _____			
03) 298-7607 Phone	TAT if different from Below _____			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
roject Name: FNOP 5447.002	☐ 2 weeks			
te: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
TRB-080-072012	8-22-12	1018	G	W	2	2 ✓		
AMW-080-072012	8-22	1018	G	W	5	3	2	
BMW-080-072012	8-22	1040	G	W	5	3	2	
DMW-080-072012	8-22	1050	G	W	5	3	2	
AMW-081-072012	8-22	1120	G	W	5	3	2	
BMW-081-072012	8-22	1135	G	W	5	3	2	
DMW-081-072012	8-22	1145	G	W	5	3	2	
AMW-038-072012	8-22	1215	G	W	5	3	2	
BMW-238-072012	8-22	1215	G	W	5	3	2	
DMW-038-072012	8-22	1245	G	W	5	3	2	
DMW-038-072012 MSD	8-22	1245	G	W	5	3	2	
MW-038-072012 MS	8-22	1245	G	W	5	3	2	

Page 83 of 85

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

ssible 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*

ecial Instructions/QC Requirements & Comments:

nquished by:	Company: ECC	Date/Time: 8-23-12 1800	Received by: Fed-ex 7988	Company: 1391 0197	Date/Time:
nquished by:	Company:	Date/Time:	Received by:	Company: TASUR	Date/Time: 8/24/12 0845
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
) Community Drive
ite 11
outh Burlington, VT 5403
hone 802.660.1990 fax 802.660 1919

3rd QTR Monitor Well SE 2012

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 7 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
roject Name: FNOP 5447.002	☐ 2 weeks			
te: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0114-072012	8-22	1315	G	W	5	3	2	
BMW-0114-072012	8-22	1325	G	W	5	3	2	
DMW-0114-072012	8-22	1340	G	W	5	3	2	
AMW-088-072012	8-22	1355	G	W	5	3	2	
BMW-088-072012	8-22	1410	G	W	5	3	2	
DMW-088-072012	8-22	1420	G	W	5	3	2	
AMW-0115-072012	8-22	1430	G	W	5	3	2	
BMW-0115-072012	8-22	1440	G	W	5	3	2	
DMW-0115-072012	8-22	1450	G	W	5	3	2	
AMW-0158-072012	8-22	1505	G	W	5	3	2	
BMW-0158-072012	8-22	1515	G	W	5	3	2	
DMW-0158-072012	8-22	1525	G	W	5	3	2	

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

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

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

ecial Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby R Hinz	ECC	8-23-12 1800	Fed-ex 7988	TAL 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAL	8/24/12 0945
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

estAmerica Burlington
Community Drive
ite 11
uth Burlington, VT 5403
one 802.660.1990 fax 802.660 1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W) _____			
03) 298-7607 Phone	TAT if different from Below _____			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
oject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0110-072012	8-22	1535	G	W	5	3	2	
BMW-0110-072012	8-22	1550	G	W	5	3	2	
DMW-0110-072012	8-22	1600	G	W	5	3	2	

Page 845 of 851

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

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

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

ial Instructions/QC Requirements & Comments:

1800

	Company:	Date/Time:	Received by:	Company:	Date/Time:
nquished by: Toby Hinz	ECC	8-23-12	Fed-ex 7988 1391 0197		
nquished by:				TRISTAR	8/24/12 0945
nquished by:					

stAmerica Burlington
Community Drive
e 11
th Burlington, VT 5403
nc 802.660.1990 fax 802.660 1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0159-072012	8-23-12	0800	G	W	5	3	2	
BMW-0159-072012	8-23	0815	G	W	5	3	2	
AMW-0106-072012	8-23	0830	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	3	3		
DMW-0106-072012	8-23	0900	G	W	5	3	2	
AMW-0107-072012	8-23	0910	G	W	5	3	2	
BMW-0107-072012	8-23	0925	G	W	5	3	2	
DMW-0107-072012	8-23	0935	G	W	5	3	2	
AMW-0108-072012	8-23	0945	G	W	5	3	2	
BMW-0108-072012	8-23	0955	G	W	5	3	2	
DMW-0108-072012	8-23	1005	G	W	5	3	2	

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

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

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

cial Instructions/QC Requirements & Comments:

nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	8-23-12	Fed-Ex 7488	1391 0147	
nquished by:	Company:	Date/Time:	Received by: [signature]	Company: TASWR	Date/Time: 8/24/12 0945
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

stAmerica Burlington
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e 11
h Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

3rd QTR Monitor Well 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: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0112-072012	8-23-12	1025	G	W	5	3	2	
BMW-0112-072012	8-23	1035	G	W	5	3	2	
AMW-0113-072012	8-23	1045	G	W	5	3	2	
BMW-0113-072012	8-23	1050	G	W	5	3	2	
DMW-0113-072012	8-23	1055	G	W	5	3	2	
AMW-046-072012	8-23	1110	G	W	5	3	2	
AMW-246-072012	8-23	1110	G	W	5	3	2	
BMW-046-072012	8-23	1120	G	W	5	3	2	
BMW-046-072012MS	8-23	1120	G	W	5	3	2	
BMW-046-072012MSD	8-23	1120	G	W	5	3	2	
DMW-046-072012	8-23	1140	G	W	5	3	2	
AMW-035-072012	8-23	1155	G	W	2		2	

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

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

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

ecial Instructions/QC Requirements & Comments:

1800

	Company	Date/Time		Company	Date/Time
inquished by: Toby D.	ECC	8-23-12	Received by: Fed-ex 7988 1390 0197		
inquished by:			Received by:	TASUR	8/24/12 0945
inquished by:			Received by:		

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

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	6 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W) _____			
) 298-7607 Phone	TAT if different from Below _____			
) 298-7837 FAX	☐ 3 weeks			SDG No.
ect Name: FNOP 5447.002	☐ 2 weeks			
Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
BMW-035-072012	8-23	1200	G	W	2		2	
BMW-235-072012	8-23	1200	G	W	2		2	
OMW-035-072012	8-23	1210	G	W	2		2	
AMW-085-072012	8-23	1220	G	W	2		2	
AMW-285-072012	8-23	1220	G	W	2		2	
BMW-085-072012	8-23	1230	G	W	2		2	
BMW-085-072012 MS	8-23	1230	G	W	2		2	
BMW-085-072012 MSD	8-23	1230	G	W	2		2	
OMW-085-072012	8-23	1245	G	W	2		2	
BMW-083-072012	8-23	1520	G	W	2		2	
OMW-083-072012	8-23	1523	G	W	2		2	

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

ible 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

ial Instructions/QC Requirements & Comments:

	Company	Date/Time		Company	Date/Time
nquished by: Toby D. K	ECC	8-23-12	Received by: Fed-ex 7988	1391 0197	
nquished by:			Received by:	TASUR	8/24/12 0945
nquished by:			Received by:		

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

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
5 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
) 298-7607 Phone	TAT if different from Below			
) 298-7837 FAX	☐ 3 weeks			SDG No.
ect Name: FNOP 5447.002	☐ 2 weeks			
Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes.
AMW-0117-072012	8-23-12	1330	G	W	2	*	2	
BMW-0117-072012	8-23	1340	G	W	2	*	2	
DMW-0117-072012	8-23	1350	G	W	2		2	
AMW-0118-072012	8-23	1405	G	W	2		2	
BMW-0118-072012	8-23	1410	G	W	2		2	
AMW-095-072012	8-23	1430	G	W	2		2	
BMW-095-072012	8-23	1440	G	W	2		2	
DMW-095-072012	8-23	1445	G	W	2		2	
AMW-0147-072012	8-23	1450	G	W	2		2	
BMW-0147-072012	8-23	1455	G	W	2		2	
DMW-0147-072012	8-23	1500	G	W	2		2	
AMW-083-072012	8-23	1515	G	W	2		2	

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

ble 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

al Instructions/QC Requirements & Comments:

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	8-23-12 1800	Fed-ex 7178	1391 0197	
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TMBUR	8/24/12 0948
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

~~3rd QTR Monitor Well SE 2012~~

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-28-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 7 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
oject Name: FNOP 5447.002	☐ 2 weeks			
te: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
TRB-080-072012	8-22-12	1018	G	W	2	2 ✓		
4MW-080-072012	8-22	1018	G	W	5	3	2	
3MW-080-072012	8-22	1040	G	W	5	3	2	
0MW-080-072012	8-22	1050	G	W	5	3	2	
4MW-081-072012	8-22	1120	G	W	5	3	2	
8MW-081-072012	8-22	1135	G	W	5	3	2	
0MW-081-072012	8-22	1145	G	W	5	3	2	
4MW-038-072012	8-22	1215	G	W	5	3	2	
MW-238-072012	8-22	1215	G	W	5	3	2	
0MW-038-072012	8-22	1245	G	W	5	3	2	
0MW-038-072012 MSD	8-22	1245	G	W	5	3	2	
MW-038-072012 MS	8-22	1245	G	W	5	3	2	

Page 6 of 6

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

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

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

ecial Instructions/QC Requirements & Comments:

nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
1 04 12	ECC	8-23-12 1800	Fed-ex 7988	1391 0197	
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TABur	8/24/12 0845
nquished 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

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 7 COCs
7746 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:
AMW-0114-072012	8-22	1315	G	W	5	3	2	
BMW-0114-072012	8-22	1325	G	W	5	3	2	
DMW-0114-072012	8-22	1340	G	W	5	3	2	
AMW-088-072012	8-22	1355	G	W	5	3	2	
BMW-088-072012	8-22	1410	G	W	5	3	2	
DMW-088-072012	8-22	1420	G	W	5	3	2	
AMW-0115-072012	8-22	1430	G	W	5	3	2	
BMW-0115-072012	8-22	1440	G	W	5	3	2	
DMW-0115-072012	8-22	1450	G	W	5	3	2	
AMW-0158-072012	8-22	1505	G	W	5	3	2	
BMW-0158-072012	8-22	1515	G	W	5	3	2	
DMW-0158-072012	8-22	1525	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	8-23-12 1800	Fed-ex 7988	TA 0197	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA Bur	8/24/12 0945
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

estAmerica Burlington
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ne 802.660.1990 fax 802.660.1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0110-072012	8-22	1535	G	W	5	3	2	
BMW-0110-072012	8-22	1550	G	W	5	3	2	
CMW-0110-072012	8-22	1600	G	W	5	3	2	

Page 640 of 646

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

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

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

cial Instructions/QC Requirements & Comments:

1800

	Company	Date/Time	Received by	Company	Date/Time
nquished by: Toby Hinz	ECC	8-23-12	Fed-ex 7988 1391 0497		
nquished by:				TAB	8/24/12 0945
nquished by:					

estAmerica Burlington
Community Drive
te 11
th Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0159-072012	8-23-12	0800	G	W	5	3	2	
BMW-0159-072012	8-23	0815	G	W	5	3	2	
AMW-0106-072012	8-23	0830	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	3	3		
DMW-0106-072012	8-23	0900	G	W	5	3	2	
AMW-0107-072012	8-23	0910	G	W	5	3	2	
BMW-0107-072012	8-23	0925	G	W	5	3	2	
DMW-0107-072012	8-23	0935	G	W	5	3	2	
AMW-0108-072012	8-23	0945	G	W	5	3	2	
BMW-0108-072012	8-23	0955	G	W	5	3	2	
DMW-0108-072012	8-23	1005	G	W	5	3	2	

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

ible 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

ial Instructions/QC Requirements & Comments:

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	8-23-12	Fed-ex 7988	1391 0197	
quished by:	Company:	Date/Time:	Received by: [signature]	Company: TASWR	Date/Time: 8/24/12 0945
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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ite 11
uth Burlington, VT 5403
one 802.660.1990 fax 802.660.1919

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 08231 2
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W) _____			
03) 298-7607 Phone	TAT if different from Below _____			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
bject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0112-072012	8-23-12	1025	G	W	5	3	2	
BMW-0112-072012	8-23	1035	G	W	5	3	2	
AMW-0113-072012	8-23	1045	G	W	5	3	2	
BMW-0113-072012	8-23	1050	G	W	5	3	2	
DMW-0113-072012	8-23	1055	G	W	5	3	2	
AMW-046-072012	8-23	1110	G	W	5	3	2	
AMW-246-072012	8-23	1110	G	W	5	3	2	
BMW-046-072012	8-23	1120	G	W	5	3	2	
BMW-046-072012MS	8-23	1120	G	W	5	3	2	
BMW-046-072012MSD	8-23	1120	G	W	5	3	2	
DMW-046-072012	8-23	1140	G	W	5	3	2	
AMW-035-072012	8-23	1155	G	W	2		2	

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

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

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

ecial Instructions/QC Requirements & Comments:

1800

inquished by: Toby D.	Company: ECC	Date/Time: 8-23-12	Received by: Fed-ex 7988 1390 0197	Company:	Date/Time:
inquished by:	Company:	Date/Time:	Received by:	Company: TASUR	Date/Time: 8/24/12 0945
inquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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th Burlington, VT 5403
ne 802.660.1990 fax 802.660.1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	6 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
BMW-035-072012	8-23	1200	G	W	2		2	
BMW-035-072012	8-23	1200	G	W	2		2	
DMW-035-072012	8-23	1210	G	W	2		2	
AMW-085-072012	8-23	1220	G	W	2		2	
AMW-285-072012	8-23	1220	G	W	2		2	
BMW-085-072012	8-23	1230	G	W	2		2	
BMW-085-072012 MS	8-23	1230	G	W	2		2	
BMW-085-072012 MSD	8-23	1230	G	W	2		2	
DMW-085-072012	8-23	1245	G	W	2		2	
BMW-083-072012	8-23	1520	G	W	2		2	
DMW-083-072012	8-23	1523	G	W	2		2	

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

ible 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

ial Instructions/QC Requirements & Comments:

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. K	ECC	8-23-12	Fed-ex 7488	1391 0197	
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASUR	8/24/12 0945
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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ne 802.660.1990 fax 802.660.1919

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	7 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W) _____			
3) 298-7607 Phone	TAT if different from Below _____			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ect Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0117-072012	8-23-12	1330	G	W	2	•	2	
BMW-0117-072012	8-23	1340	G	W	2	•	2	
DMW-0117-072012	8-23	1350	G	W	2		2	
AMW-0118-072012	8-23	1405	G	W	2		2	
BMW-0118-072012	8-23	1410	G	W	2		2	
AMW-095-072012	8-23	1430	G	W	2		2	
BMW-095-072012	8-23	1440	G	W	2		2	
DMW-095-072012	8-23	1445	G	W	2		2	
AMW-0147-072012	8-23	1450	G	W	2		2	
BMW-0147-072012	8-23	1455	G	W	2		2	
DMW-0147-072012	8-23	1500	G	W	2		2	
AMW-083-072012	8-23	1515	G	W	2		2	

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

ble 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

al Instructions/QC Requirements & Comments:

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby A. K	ECC	8-23-12 1800	Fed-ex 7988	1391 0197	
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAB	8/24/12 0948
quished 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

3rd QTR Monitor Well SE 2012

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Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 7 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
akewood, CO 80401	Calendar (C) or Work Days (W) _____			
03) 298-7607 Phone	TAT if different from Below _____			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
roject Name: FNOP 5447.002	☐ 2 weeks			
te: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
TRB-080-072012	8-22-12	1018	G	W	2	2 ✓		
AMW-080-072012	8-22	1018	G	W	5	3	2	
BMW-080-072012	8-22	1040	G	W	5	3	2	
DMW-080-072012	8-22	1050	G	W	5	3	2	
AMW-081-072012	8-22	1120	G	W	5	3	2	
BMW-081-072012	8-22	1135	G	W	5	3	2	
DMW-081-072012	8-22	1145	G	W	5	3	2	
AMW-038-072012	8-22	1215	G	W	5	3	2	
BMW-238-072012	8-22	1215	G	W	5	3	2	
DMW-038-072012	8-22	1245	G	W	5	3	2	
DMW-038-072012 MSD	8-22	1245	G	W	5	3	2	
MW-038-072012 MS	8-22	1245	G	W	5	3	2	

Page 26 of 27

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

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

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

cial Instructions/QC Requirements & Comments:

	Company:	Date/Time:	Received by:	Company:	Date/Time:
nquished by:	ECC	8-23-12 1800	Fed-ex 7988	1391 0197	
nquished by:				TASBur	8/24/12 0845
nquished by:					

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Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
CC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 7 COCs
746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
03) 298-7607 Phone	TAT if different from Below			
03) 298-7837 FAX	☐ 3 weeks			SDG No.
oject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0114-072012	8-22	1315	G	W	5	3	2	
BMW-0114-072012	8-22	1325	G	W	5	3	2	
DMW-0114-072012	8-22	1340	G	W	5	3	2	
AMW-088-072012	8-22	1355	G	W	5	3	2	
BMW-088-072012	8-22	1410	G	W	5	3	2	
DMW-088-072012	8-22	1420	G	W	5	3	2	
AMW-0115-072012	8-22	1430	G	W	5	3	2	
BMW-0115-072012	8-22	1440	G	W	5	3	2	
DMW-0115-072012	8-22	1450	G	W	5	3	2	
AMW-0158-072012	8-22	1505	G	W	5	3	2	
BMW-0158-072012	8-22	1515	G	W	5	3	2	
DMW-0158-072012	8-22	1525	G	W	5	3	2	

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

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

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

cial Instructions/QC Requirements & Comments:

nquished by: Toby R Hz	Company: ECC	Date/Time: 8-23-12 1800	Received by: Fed-ex 7988	Company: 1341 0197	Date/Time:
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time: 8/24/12 0945
nquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-22-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0110-072012	8-22	1535	G	W	5	3	2	
BMW-0110-072012	8-22	1550	G	W	5	3	2	
DMW-0110-072012	8-22	1600	G	W	5	3	2	

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

ible 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

ial Instructions/QC Requirements & Comments:

1800

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby H.	ECC	8-23-12	Fed-ex 7988 1391 0197		
quished by	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TRANSER	8/24/12 0945
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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uth Burlington, VT 5403
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TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W) _____			
3) 298-7607 Phone	TAT if different from Below _____			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
) #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes
AMW-0159-072012	8-23-12	0800	G	W	5	3	2	
BMW-0159-072012	8-23	0815	G	W	5	3	2	
AMW-0106-072012	8-23	0830	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	5	3	2	
BMW-0106-072012	8-23	0845	G	W	3	3		
DMW-0106-072012	8-23	0900	G	W	5	3	2	
AMW-0107-072012	8-23	0910	G	W	5	3	2	
BMW-0107-072012	8-23	0925	G	W	5	3	2	
DMW-0107-072012	8-23	0935	G	W	5	3	2	
AMW-0108-072012	8-23	0945	G	W	5	3	2	
BMW-0108-072012	8-23	0955	G	W	5	3	2	
DMW-0108-072012	8-23	1005	G	W	5	3	2	

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

ible 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

ial Instructions/QC Requirements & Comments:

	Company	Date/Time	Received by	Company	Date/Time
quished by:	ECC	8-23-12	Fed-ex 7988	1391 0197	
quished by:				TASLVT	8/24/12 0945
quished by:					

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THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	5 of 7 COCs
46 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
kewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ject Name: FNOP 5447.002	☐ 2 weeks			
e: Former NOP	☐ 1 week			
D #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0112-072012	8-23-12	1025	G	W	5	3	2	
BMW-0112-072012	8-23	1035	G	W	5	3	2	
AMW-0113-072012	8-23	1045	G	W	5	3	2	
BMW-0113-072012	8-23	1050	G	W	5	3	2	
DMW-0113-072012	8-23	1055	G	W	5	3	2	
AMW-046-072012	8-23	1110	G	W	5	3	2	
AMW-246-072012	8-23	1110	G	W	5	3	2	
BMW-046-072012	8-23	1120	G	W	5	3	2	
BMW-046-072012 MS	8-23	1120	G	W	5	3	2	
BMW-046-072012 MSD	8-23	1120	G	W	5	3	2	
DMW-046-072012	8-23	1140	G	W	5	3	2	
AMW-035-072012	8-23	1155	G	W	2		2	

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

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

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

cial Instructions/QC Requirements & Comments:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D.	ECC	8-23-12	Fed-ex 7988 1390 0197		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASUR	8/24/12 0945
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

stAmerica Burlington
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ne 802.660.1990 fax 802.660.1919

3rd QTR Monitor Well SE 2012

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	6 of 7 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
3) 298-7607 Phone	TAT if different from Below			
3) 298-7837 FAX	☐ 3 weeks			SDG No.
ect Name: FNOP 5447.002	☐ 2 weeks			
: Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes.
BMW-035-072012	8-23	1200	G	W	2		2	
BMW-235-072012	8-23	1200	G	W	2		2	
DMW-035-072012	8-23	1210	G	W	2		2	
AMW-085-072012	8-23	1220	G	W	2		2	
AMW-285-072012	8-23	1220	G	W	2		2	
BMW-085-072012	8-23	1230	G	W	2		2	
BMW-085-072012 MS	8-23	1230	G	W	2		2	
BMW-085-072012 MSD	8-23	1230	G	W	2		2	
DMW-085-072012	8-23	1245	G	W	2		2	
BMW-083-072012	8-23	1520	G	W	2		2	
DMW-083-072012	8-23	1523	G	W	2		2	

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

ible 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

ial Instructions/QC Requirements & Comments:

quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D	ECC	8-23-12	Fed-ex 7988	1391 0197	
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASUR	8/24/12 0945
quished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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ne 802.660.1990 fax 802.660.1919

3rd QTR Monitor Well SE 2012

TestAmerica

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-23-12	COC No: 082312
C	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
6 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
ewood, CO 80401	Calendar (C) or Work Days (W)			
) 298-7607 Phone	TAT if different from Below			
) 298-7837 FAX	☐ 3 weeks			SDG No.
ect Name: FNOP 5447.002	☐ 2 weeks			
Former NOP	☐ 1 week			
#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-0117-072012	8-23-12	1330	G	W	2	●	2	
BMW-0117-072012	8-23	1340	G	W	2	●	2	
DMW-0117-072012	8-23	1350	G	W	2		2	
AMW-0118-072012	8-23	1405	G	W	2		2	
BMW-0118-072012	8-23	1410	G	W	2		2	
AMW-095-072012	8-23	1430	G	W	2		2	
BMW-095-072012	8-23	1440	G	W	2		2	
DMW-095-072012	8-23	1445	G	W	2		2	
AMW-0147-072012	8-23	1450	G	W	2		2	
BMW-0147-072012	8-23	1455	G	W	2		2	
DMW-0147-072012	8-23	1500	G	W	2		2	
AMW-083-072012	8-23	1515	G	W	2		2	

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

ble 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

al Instructions/QC Requirements & Comments:

quished by: Toby D. Kin	Company: ECC	Date/Time: 8-23-12 1800	Received by: Fed-ex 7988	Company: 1391 0197	Date/Time:
quished by:	Company:	Date/Time:	Received by:	Company: TASBUR	Date/Time: 8/24/12 0945
quished 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

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-24-12	COC No. 082412
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:
AMW-084-072012	8-24-12	1025	G	W	2		2	
BMW-084-072012	8-24-12	1047	G	W	2		2	
DMW-084-072012	8-24	1057	G	W	2		2	
DMW-0120-072012	8-24-12	1210	G	W	5	3	2	
EMW-0120-072012	8-24-12	1255	G	W	5	3	2	
EMW-2120-072012	8-24-12	1255	G	W	3	3		
~~TRB-072012~~	~~8-24-12~~	~~1330~~	~~G~~	~~W~~	~~1~~	~~1~~		
TRB-224-072012	8-24-12	0837	G	W	2	2		
AMW-224-072012	8-24-12	1025	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	ECC	8-24-12	Fed-Ex 7988	2344 2031	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TASUR	8/25/12 0935
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

3rd QTR Monitor Well SE 2012

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-24-2012	COC No: 082412
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			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	Sample Specific Notes:
AMW-024-072012	8-24	0837	G	W	5	3	2	
BMW-024-072012	8-24	0848	G	W	5	3	2	
AMW-021-072012	8-24	0900	G	W	5	3	2	
AMW-221-072012	8-24	0900	G	W	5	3	2	
BMW-021-072012	8-24	0915	G	W	5	3	2	
BMW-021-072012MS	8-24	0915	G	W	5	3	2	
BMW-021-072012MSD	8-24	0915	G	W	5	3	2	
DMW-021-072012	8-24	0930	G	W	5	3	2	
AMW-009-072012	8-24	0955	G	W	3	3		
BMW-009-072012	8-24	1005	G	W	3	3		
BMW-209-072012	8-24	1005	G	W	3	3		
DMW-009-072012	8-24	1010	G	W	3	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:
Toby D. H	ECC	8-24-12 1700	Fed-ex 7988 2344		2031
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASUR	8/25/12 0935
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

Surface Water Samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-30-2012	COC No: 083012
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 _____			
(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-204-072012	8/30/2012	1040	G	W	2	X		
SCW-004-072012	8/30/2012	1040	G	W	5	X	X	
SCW-005-072012	8/30/2012	1050	G	W	5	X	X	
SCW-006-072012	8/30/2012	1100	G	W	5	X	X	
SCW-206-072012	8/30/2012	1100	G	W	5	X	X	
SW-012-072012	8/30/2012	1130	G	W	5	X	X	
SW-013-072012	8/30/2012	1140	G	W	5	X	X	
SW-008-072012	8/30/2012	1230	G	W	5	X	X	
SW-008-072012 MS	8/30/2012	1230	G	W	5	X	X	
SW-008-072012 MSD	8/30/2012	1230	G	W	5	X	X	
SW-010-072012	8/30/2012	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: ECC	Date/Time: 8-30-12 1700	Received by: FED-EX 7988 6808 3822	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: TASL	Date/Time: 8/31/12 1025
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Appendix B
Field Forms

Location Mead FNOP Date 08-21-12

Project / Client Quarter monitoring well sampling 2012 (Daryl ICR)

0800 Safety meeting main treatment plant load sampling supplies prepare to set bags

0920 Set 1L sampling bag at MW 80 - A - B - D wells

0940 Set 1L sampling bag at MW 81 - A - B - D wells

1000 Set 1L sampling bag at MW 95 - A - B - D wells

1040 Set 1.5L sampling bag at MW 38 - A - D wells

1100 Set 1.5L sampling bag at MW 46 - A - B wells
Set 1L sampling bag at MW 46 D well

1115 Set 1L sampling bag at MW 88 A - B - D wells

1135 Set 1L sampling bag at MW 115 A - B - D wells

1150 Set 1L sampling bag at MW 114 A - B - D wells

1220 Set 1L sampling bag at MW 106 A-B-D wells

1235 Set 1L sampling bag at MW 107 A - B - D wells

Location Mead FNOP Date 08-21-12

Project / Client Quarter monitoring well sampling 2012 (Daryl ICR)

Load sampling supplies at main treatment plant

1255 - Set 1L sampling bags at MW 108 A - B - D wells

1310 - Set 1L sampling bags at MW 110 A - B - D wells

1350 - Set 1L sampling bags at MW 112 A - B wells

1405 - Set 1L sampling bags at MW 113 A - B - D wells

1425 - Set 1L sampling bags at MW 159 A - B wells

1450 - Set 1L sampling bags at MW 158 A - B - D wells

1510 - Set 1L sampling bag at MW 85 D well
Set 1.5L sampling bag at MW 85 A - B wells

1530 - Set 1L sampling bags at MW 118 A - B wells

1545 - Set 1L sampling bags at MW 84 A - B - D wells

1605 - Set 1L sampling bags at MW 83 A - B - D wells

Location Mead FNOP Date 08-21-12

Project / Client Quarter Monitoring Well Sampling 2012 Daryl ICR

1625	Set	1L	Sampling	bags at
	MW	117	A - B - D	Wells
1650	Set	1L	Sampling	bags at
	MW	24	A - B	Wells
1710	Set	1.5L	sampling	bag at
	MW	21	A	Well
	Set	1L	sampling	bags at
	MW	21	B - D	Wells
1730	Finish for the day			

Daryl B

Location Mead FNOP Date 08-22-12

Project / Client Quarter Monitoring Well Sampling 2012 BDE Charles, Daryl ICR

0745	Safety Meeting and load supplies at Main Treatment Plant.
0800	Set 1L sampling bags at MW-09A Well and MW-09D
	Set 1.5L Sampling bag at MW-09 B
0825	Set 1L Sampling bags at MW 35 A - D Wells
	Set 1.5L Sampling bags at MW 35 B Well
0845	Set 1L Sampling bags at MW 117A - B - D Wells

Location Meed FNOP Date 08-21-12

Project / Client Quarter monitoring well Sampling 2012 Daryl ICR

1625 Set 1L sampling bags at MW 147 A-B-D wells

1650 Set 1L sampling bags at MW 24 A-B wells

1710 Set 1.5L sampling bag at MW 21 A well

Set 1L sampling bags at MW 21 B-D wells

1730 Finish for the day

Daryl B

Location Meed FNOP Date 08-22-12

Project / Client Quarterly Monitoring Well Sampling 2012 BDE Charles, Daryl ICR

0745 Safety Meeting and load supplies at Main Treatment Plant

0800 Set 1L sampling bags at MW-09A Well and MW-09D

Set 1.5L Sampling bag at MW-09 B

0825 Set 1L Sampling bags at MW 35 A-D Wells

Set 1.5L Sampling bags at MW 35 B Well

0845 Set 1L Sampling bags at MW 147A-B-D Wells

0945 Load sampling equipment at main Treatment Plant

~~1005~~ 1018 AMW-080-072012

3 VOC, 2 Expl

1018 Trip Blank Collected

2 VOC

1040 BMW-080-072012

3 VOC's, 2 Expl.

1050 DMW-080-072012

3 VOC's, 2 Expl.

1120 AMW-081-072012

3 VOC's, 2 Expl

Location Meed FNOP Date 8-22-12

Project / Client Quarterly Monitoring Well Samples 2012 Charles, Daryl

1135 BMW-081-072012
3 VOC's, 2 Expl.
1145 DMW-081-072012
3 VOC's, 2 Expl
1215 AMW-038-072012
3 VOC's, 2 Expl
AMW-238-072012
3 VOC's, 2 Expl
1245 DMW-038-072012
3 VOC's, 2 Expl
DMW-038-072012 MSD
3 VOC's, 2 Expl
DMW-038-072012 MS
3 VOC's, 2 Expl.
1315 AMW-0114-072012
3 VOC's, 2 Expl.
1325 BMW-0114-072012
3 VOC's, 2 Expl.
1340 DMW-0114-072012
3 VOC's, 2 Expl.
1355 AMW-088-072012
3 VOC's, 2 Expl.
1410 BMW-088-072012
3 VOC's, 2 Expl

Location Meed FNOP Date 8-22-12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles, Daryl

1420 DMW-088-072012
3 VOC's, 2 Expl.
1430 AMW-0115-072012
3 VOC's, 2 Expl
1440 BMW-0115-072012
3 VOC's, 2 Expl
1450 DMW-0115-072012
3 VOC's, 2 Expl.
1505 AMW-0158-072012
3 VOC's, 2 Expl
1515 BMW-0158-072012
3 VOC's, 2 Expl
1525 DMW-0158-072012
3 VOC's, 2 Expl.
1535 AMW-0110 072012
3 VOC's, 2 Expl.
1550 BMW-0110-072012
3 VOC's, 2 Expl.
1600 DMW-0110-072012
3 VOC's, 2 Expl.

1630

Location Meed FNOP Date 08-21-12

Project / Client Quarter monitoring well Sampling 2012 Daryl ICR

1625 Set 1L sampling bags at MW 147 A-B-D wells

1650 Set 1L sampling bags at MW 24 A-B wells

1710 Set 1.5L sampling bag at MW 21 A well

Set 1L sampling bags at MW 21 B-D wells

1730 Finish for the day

Daryl B

Location Meed FNOP Date 08-22-12

Project / Client Quarterly Monitoring Well Sampling 2012 BDE Charles, Daryl ICR

0745 Safety Meeting and load supplies at Main Treatment Plant

0800 Set 1L sampling bags at MW-09A Well and MW-09D

Set 1.5L Sampling bag at MW-09 B

0825 Set 1L Sampling bags at MW 35 A-D Wells

Set 1.5L Sampling bags at MW 35 B Well

0845 Set 1L Sampling bags at MW 147A-B-D Wells

0945 Load sampling equipment at main Treatment Plant

~~1005~~ 1018 AMW-080-072012

3 VOC, 2 Expl

1018 Trip Blank Collected

2 VOC

1040 BMW-080-072012

3 VOC's, 2 Expl.

1050 DMW-080-072012

3 VOC's, 2 Expl.

1120 AMW-081-072012

3 VOC's, 2 Expl

Location Meed FNOP Date 8-22-12

Project / Client Quarterly Monitoring Well Samples 2012 Charles, Daryl

1135 BMW-081-072012
3 VOC's, 2 Expl.
1145 DMW-081-072012
3 VOC's, 2 Expl
1215 AMW-038-072012
3 VOC's, 2 Expl
AMW-238-072012
3 VOC's, 2 Expl
1245 DMW-038-072012
3 VOC's, 2 Expl
DMW-038-072012 MSD
3 VOC's, 2 Expl
DMW-038-072012 MS
3 VOC's, 2 Expl.
1315 AMW-0114-072012
3 VOC's, 2 Expl.
1325 BMW-0114-072012
3 VOC's, 2 Expl.
1340 DMW-0114-072012
3 VOC's, 2 Expl.
1355 AMW-088-072012
3 VOC's, 2 Expl.
1410 BMW-088-072012
3 VOC's, 2 Expl

Location Meed FNOP Date 8-22-12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles, Daryl

1420 DMW-088-072012
3 VOC's, 2 Expl.
1430 AMW-0115-072012
3 VOC's, 2 Expl
1440 BMW-0115-072012
3 VOC's, 2 Expl
1450 DMW-0115-072012
3 VOC's, 2 Expl.
1505 AMW-0158-072012
3 VOC's, 2 Expl
1515 BMW-0158-072012
3 VOC's, 2 Expl
1525 DMW-0158-072012
3 VOC's, 2 Expl.
1535 AMW-0110 072012
3 VOC's, 2 Expl.
1550 BMW-0110-072012
3 VOC's, 2 Expl.
1600 DMW-0110-072012
3 VOC's, 2 Expl.

1630

Location Meed FNOP Date 8-23-12

Project / Client Quarterly Monitoring Well Sampling, 2012 Charles V., Darryl

0740 Safety Meeting and load supplies at Main Treatment Plant

0800 AMW-0159-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0815 BMW-0159-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

0830 AMW-0106-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0845 BMW-0106-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0845 QC BMW-2106-072012
3 VOC's, 2" PVC, Hydrosleeve

0900 DMW-0106-072012
2 Expl. 3 VOC's, 2" PVC, Hydrosleeve

0910 AMW-0107-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

0925 BMW-0107-072012
2 Expl 3 VOC's, 2" PVC, Hydrosleeve

0935 DMW-0107-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

0945 AMW-0108-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8-23-12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Darryl

1005 DMW-0108-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1025 AMW-0112-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1035 BMW-0112-072012
2 Expl., 3 VOC's, 2" PVC, Hydrosleeve

1045 AMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1050 BMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1055 DMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1110 AMW-046-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1110 QC AMW-246-072012
2 Expl., 3 VOC's, 2" PVC, Hydrosleeve

1120 BMW-046-072012
CW ~~2 Expl~~ 2 Expl, 3 VOC's, 2" PVC, Hydrosleeve
BMW-046-072012 MS
CW ~~2 Expl~~, 3 VOC's, 2" PVC, Hydrosleeve
BMW-046-072012 MSD
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1140 DMW-046-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8/23/12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Daryl

1155 AMW-035-072012
2 Expl., 2" PVC, Hydrosleeve
1200 BMW-035-072012
2 Expl. 2" PVC, Hydrosleeve
BMW-235-072012
2 Expl, 2" PVC, Hydrosleeve
1210 DMW-035-072012
2 Expl. 2" PVC, Hydrosleeve
1220 AMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
AMW-285-072012
2 Expl, 2" PVC, Hydrosleeve
1230 BMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
BMW-085-072012 M.S.
2 Expl, 2" PVC, Hydrosleeve
BMW-085-072012-M.S.D
2 Expl, 2" PVC, Hydrosleeve
1245 DMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
1300 Stop at Main Treatment plant to reload supplies and cool down samples.

Location Meed FNOP Date 8/23/12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Daryl

1330 AMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1340 BMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1350 DMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1405 AMW-0118-072012
2 Expl, 2" PVC, Hydrosleeve
1410 BMW-0118-072012
2 Expl, 2" PVC, Hydrosleeve
1430 AMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1440 BMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1445 DMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1450 AMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1455 BMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1500 DMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1515 AMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8-23-12

Project / Client Quarterly Monitoring Well Sampling 2012 Charles V. Daryl

1500 BMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

1523 OMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

Location Date

Project / Client

Location Meed FNOP Date 8-23-12

Project / Client Quarterly Monitoring Well Sampling, 2012 Charles V., Darryl

0740 Safety Meeting and load supplies at Main Treatment Plant

0800 AMW-0159-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0815 BMW-0159-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

0830 AMW-0106-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0845 BMW-0106-072012
3 VOC's, 2 Expl., 2" PVC, Hydrosleeve

0845 QC BMW-2106-072012
3 VOC's, 2" PVC, Hydrosleeve

0900 DMW-0106-072012
2 Expl. 3 VOC's, 2" PVC, Hydrosleeve

0910 AMW-0107-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

0925 BMW-0107-072012
2 Expl 3 VOC's, 2" PVC, Hydrosleeve

0935 DMW-0107-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

0945 AMW-0108-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8-23-12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Darryl

1005 DMW-0108-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1025 AMW-0112-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1035 BMW-0112-072012
2 Expl., 3 VOC's, 2" PVC, Hydrosleeve

1045 AMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1050 BMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1055 DMW-0113-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1110 AMW-046-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1110 QC AMW-246-072012
2 Expl., 3 VOC's, 2" PVC, Hydrosleeve

1120 BMW-046-072012
CW ~~2 Expl~~ 2 Expl, 3 VOC's, 2" PVC, Hydrosleeve
BMW-046-072012 MS
CW ~~2 Expl~~, 3 VOC's, 2" PVC, Hydrosleeve
BMW-046-072012 MSD
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

1140 DMW-046-072012
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8/23/12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Daryl

1155 AMW-035-072012
2 Expl., 2" PVC, Hydrosleeve
1200 BMW-035-072012
2 Expl. 2" PVC, Hydrosleeve
BMW-235-072012
2 Expl, 2" PVC, Hydrosleeve
1210 DMW-035-072012
2 Expl. 2" PVC, Hydrosleeve
1220 AMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
AMW-285-072012
2 Expl, 2" PVC, Hydrosleeve
1230 BMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
BMW-085-072012 M.S.
2 Expl, 2" PVC, Hydrosleeve
BMW-085-072012-M.S.D
2 Expl, 2" PVC, Hydrosleeve
1245 DMW-085-072012
2 Expl, 2" PVC, Hydrosleeve
1300 Stop at Main Treatment plant to reload supplies and cool down samples.

Location Meed FNOP Date 8/23/12

Project / Client Qtrly Monitoring Well Sampling 2012 Charles V., Daryl

1330 AMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1340 BMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1350 DMW-0117-072012
2 Expl, 2" PVC, Hydrosleeve
1405 AMW-0118-072012
2 Expl, 2" PVC, Hydrosleeve
1410 BMW-0118-072012
2 Expl, 2" PVC, Hydrosleeve
1430 AMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1440 BMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1445 DMW-095-072012
2 Expl, 2" PVC, Hydrosleeve
1450 AMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1455 BMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1500 DMW-0147-072012
2 Expl, 2" PVC, Hydrosleeve
1515 AMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

Location Meed FNOP Date 8-23-12

Project / Client Quarterly Monitoring Well Sampling 2012 Charles V. Daryl

1500 BMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

1523 OMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

Location Date

Project / Client

Location: Meed FNOP Date: 8-23-12

Project/Client: Quarterly Monitoring Well Sampling 2012 Charles V. Daryl

1500 BMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

1523 DMW-083-072012
2 Expl, 2" PVC, Hydrosleeve

Location: Meed FNOP Date: 8-24-12

Project/Client: Quarterly Monitoring Well Sampling Event 2012 Charles V. Daryl

0745 Load supplies and coolers at Main Treatment plant

0837 AMW-024-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

0848 BMW-024-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

0900 AMW-021-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

AMW-021-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

0915 BMW-021-072012
3 VOC's, 2 Expl, 2" PVC, Hydrosleeve

BMW-021-072012 MS
3 VOC's, 3 Expl, 2" PVC, Hydrosleeve

BMW-021-072012 MSD
2 Expl, 3 VOC's, 2" PVC, Hydrosleeve

0930 DMW-021-072012
3 VOC's, 2 Expl, 2" PVC
Hydrosleeve

0955 AMW-009-072012
3 VOC's, 3" PVC, Hydrosleeve

Location: Meed FNOP Date: 8/24/12

Project/Client: Quarterly Monitoring Well Sampling Event 2012 Charles V

1005 BMW-009-072012
3" PVC, Hydrosleeve, 3 VOC's
BMW-209-072012
3" PVC, Hydrosleeve, 3 VOC's
1010 DMW-009-072012
2" PVC, Hydrosleeve, 3 VOC's
1025 AMW-084-072012
2 Expl, Hydrosleeve
AMW-284-072012
Expl, Hydrosleeve
1047 BMW-084-072012
2Expl, 2" PVC Hydrosleeve
1057 DMW-084-072012
2 Expl, 2" PVC, Hydrosleeve

Location: Meed FNOP Date: 08-24-12

Project/Client: Quarterly Monitoring Well Sampling event 2012 Daryl B.

1240 - DMW-0120-072012
2" MW PVC hydrosleeve
3-VOC 2-Expl
1255 - EMW-0120-072012
2" PVC hydrosleeve
3-VOC 2-Expl
EMW-2120-072012
3-VOC
1330 Trip Blank ~~collected~~ Labeled (TB)
unload Sampling Supplies
1350 Finish for the day

Location Mead FRAP Date 8-30-12

Project / Client USACE

3rd QTR SWS

Toby V. Hisz (Falk)

0655 On Site

0900 Preparing for SWS.

1040 Sw-04

Sw-004-072012

2 Exp's / 3 voc's

8260B / 8330

1050 Sw-05

Sw-005-072012

2 Exp's / 3 voc's

8260B / 8330

1100 Sw-06

Sw-006-072012 / Sw-206-072012

6 voc's / 4 Exp's

8330 / 8260B

1170 Sw-12

Sw-012-072012

3 voc's / 2 Exp's

8330 / 8260B

1140 Sw-13

Sw-013-072012

3 voc's / 8260B,

2 Exp's / 8330

Location Date 8-30-12

Project / Client USACE

Continued

1155 Sw-11 Dry Creek

Sw-011-072012

3 voc's / 2 Exp's

8260B / 8330 No Sample

1210 Sw-09 Dry also

Sw-009-072012

8260B / 8330

3 voc's / 2 Exp's

1225 Sw-006-072012 Dry

Sw-06

3 voc's / 2 Exp's

8260B / 8330

1230 Sw-08

Sw-008-072012

3 voc's / 2 Exp's

8260B / 8330

1250 Sw-010-072012

3 voc's / 2 Exp's

8330 / 8260B

1315 OART- Dry

OART-072012

3 voc's / 2 Exp's

8260B / 8330

Location Mead FNOP Date 8-30-12

Project / Client MSAGE

Continued

1130 SW-005 1/m

SW-005-072012

SW-205-072012

SW-005-072012 MS

SW-005-072012 MSD

moved to SW-08

Location Date

Project / Client

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 Third Quarter 2012 Water Supply Well Sampling Event, Former Nebraska Ordnance Plant (on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT
THIRD 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

November 2012

1.0 INTRODUCTION

Water supply well sampling was conducted between September 17 and 24, 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 Third 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; and
- Total suspended solids (TSS) by Method SM2540D.

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 Third Quarter 2012 water supply well sampling event.

2.0 SAMPLING ACTIVITIES

Seventy-five locations were sampled for chemical analyses during the Third Quarter 2012 water supply well sampling event. In addition, nine field duplicate samples, four matrix spike (MS) / matrix spike duplicate (MSD) sample pairs, and three trip blanks were collected.

The sampling locations at water supply well (WSW)-75 and WSW-116 were not accessible to the field crew at the time of sampling and a sample compliant with work plan requirements could not be obtained.

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 United States. 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 Tables 3-2 and 3-3.

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 indicate 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.

For the explosives analysis, the initial calibration verification percent difference exceeded validation criteria for 4-Amino-2,6-dinitrotoluene. This analyte was qualified as estimated (J or UJ) in all associated samples. No other deviations for the calibration and tuning of pertinent instrumentation were identified.

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 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. 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.

Low % REC for the VOC surrogate compound 1,2-dichlorobenzene-d4 in three samples resulted in the qualification of all VOC results for the samples. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-3 presents the VOC QC outliers and associated samples for all assigned qualifiers.

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:

- 034-072012 / 234-072012 (VOC and explosives)
- 056-072012 / 256-072012 (VOCs and Explosives);
- 068-072012 / 268-072012 (VOCs and Explosives);
- 087-072012 / 287-072012 (VOCs and Explosives);
- 093-072012 / 293-072012 (VOCs and Explosives);
- 096-072012 / 296-072012 (VOCs and Explosives);
- 0104-072012 / 2104-072012 (VOCs and Explosives);
- 0113-072012 / 2113-072012 (VOCs and Explosives); and
- 0115-072012 / 2115-072012 (VOCs and Explosives).

The field duplicate precision criteria (RPD of < 50%) was met in the duplicate pairs.

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 Third 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. Seventy-seven sample locations were scheduled for VOC and explosive analysis sampling this quarter. A sample compliant with work plan requirements could not be obtained from WSW-75 and WSW-116. As a result, the field completeness for the VOCs and explosives was determined to be 97.7%. TSS was not affected and the field completeness for TSS was 100%. The overall field completeness percentage is 97.7%, 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. Acceptable data completeness percentages for VOCs (96.4%) and TSS (100%) exceed the acceptable data completeness goals of 90% for each analytical method. Acceptable data completeness percentage of explosives is 83.3% which is below the completeness goal of 90%. Overall acceptable data completeness is 89.9%, which is below the overall acceptable data completeness goal of 90%.

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 97.7%. 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 89.9% and overall field completeness is 97.7%; the acceptable data completeness is below the project goal and field completeness exceeds the project goal. The overall project completeness at 97.7% exceeds the project goal of 90%.

Results for 4-amino-2,6-dinitrotoluene in all samples were qualified as estimated due to an initial calibration verification percent difference outlier. All results for VOCs in three samples were qualified as estimated detect due to surrogate %REC outliers. Seven explosives were qualified as estimated for inter-column RPD exceedances. Detected results qualified as estimated for inter-column RPD exceedances do not affect analytical or project completeness.

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
CAL	calibration
CCV	continuing calibration verification
C_RPD	column relative percent difference
% D	percent difference
GC/MS	Gas chromatography–mass spectrometry
HPLC	high-performance liquid chromatography
ICV	initial calibration verification
ID	identification/identifier
IS	Internal standard
J	estimated
Lab	laboratory
LWL	lower control limit
MS/MSD	matrix spike/matrix spike duplicate
QC	Quality Control
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deivation
SDG	sample delivery group
SURR	surrogate
TSS	total suspended solids
U	not detected at laboratory limit of detection
UCL	upper control limit
UNFL	University of Nebraska - Lincoln Field Laboratory
WSW	water supply well

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

Water Supply Well Locations	Sample IDs	Analyses
UNFL-09A	UNFL-9A-072012	Explosives, Volatiles
UNFL-10A	UNFL-10A-072012	Explosives, Volatiles
UNFL-12	UNFL-12-072012	Explosives, Volatiles
UNFL-23	UNFL-023-072012	Explosives, Volatiles
UNFL-27	UNFL-27-072012	Explosives, Volatiles
WSW-100	0100-072012	Explosives, Volatiles
WSW-101	0101-072012	Explosives, Volatiles
WSW-102	0102-072012	Explosives, Volatiles
WSW-103	0103-072012	Explosives, Volatiles
WSW-104	0104-072012	Explosives, Volatiles
WSW-105	0105-072012	Explosives, Volatiles
WSW-106	0106-072012	Explosives, Volatiles
WSW-107	0107-072012	Explosives, Volatiles
WSW-108	0108-072012	Explosives, Volatiles
WSW-109	0109-072012	Explosives, Volatiles
WSW-110	0110-072012	Explosives, Volatiles
WSW-111	0111-072012	Explosives, Volatiles
WSW-112	0112-072012	Explosives, Volatiles
WSW-113	0113-072012	Explosives, Volatiles
WSW-114	0114-072012	Explosives, Volatiles
WSW-115	0115-072012	Explosives, Volatiles
WSW-117	0117-072012	Explosives, Volatiles
WSW-27	027-072012	Explosives, Volatiles
WSW-29	029-072012	Explosives, Volatiles
WSW-29A	029A-072012	Explosives, Volatiles
WSW-32	032-072012	Explosives, Volatiles
WSW-34	034-072012	Explosives, Volatiles
WSW-36	036-072012	Explosives, Volatiles
WSW-50A	050A-072012	Explosives, Volatiles
WSW-50B	050B-072012	Explosives, Volatiles
WSW-51	051-072012	Explosives, Volatiles
WSW-51A	051A-072012	Explosives, Volatiles
WSW-52A	052A-072012	Explosives, Volatiles
WSW-52A-B	052A-B-072012	Explosives, TSS, Volatiles
WSW-52B	052B-072012	Explosives, Volatiles
WSW-52C	052C-072012	Explosives, Volatiles
WSW-52C-B	052C-B-072012	Explosives, TSS, Volatiles
WSW-53	053-072012	Explosives, Volatiles
WSW-53-B	053-B-072012	Explosives, TSS, Volatiles
WSW-54	054-072012	Explosives, Volatiles
WSW-54-B	054-B-072012	Explosives, TSS, Volatiles
WSW-55	055-072012	Explosives, Volatiles
WSW-56	056-072012	Explosives, Volatiles
WSW-57	057-072012	Explosives, Volatiles
WSW-58	058-072012	Explosives, Volatiles
WSW-59	059-072012	Explosives, Volatiles
WSW-60	060-072012	Explosives, Volatiles
WSW-61	061-072012	Explosives, Volatiles
WSW-62	062-072012	Explosives, Volatiles

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

Water Supply Well Locations	Sample IDs	Analyses
WSW-63	063-072012	Explosives, Volatiles
WSW-64	064-072012	Explosives, Volatiles
WSW-65	065-072012	Explosives, Volatiles
WSW-66	066-072012	Explosives, Volatiles
WSW-67	067-072012	Explosives, Volatiles
WSW-68	068-072012	Explosives, Volatiles
WSW-73	073-072012	Explosives, Volatiles
WSW-74	074-072012	Explosives, Volatiles
WSW-76	076-072012	Explosives, Volatiles
WSW-77	077-072012	Explosives, Volatiles
WSW-79	079-072012	Explosives, Volatiles
WSW-80	080-072012	Explosives, Volatiles
WSW-81	081-072012	Explosives, Volatiles
WSW-82	082-072012	Explosives, Volatiles
WSW-86	086-072012	Explosives, Volatiles
WSW-87	087-072012	Explosives, Volatiles
WSW-89	089-072012	Explosives, Volatiles
WSW-90	090-072012	Explosives, Volatiles
WSW-91	091-072012	Explosives, Volatiles
WSW-92	092-072012	Explosives, Volatiles
WSW-93	093-072012	Explosives, Volatiles
WSW-94	094-072012	Explosives, Volatiles
WSW-95	095-072012	Explosives, Volatiles
WSW-96	096-072012	Explosives, Volatiles
WSW-97	097-072012	Explosives, Volatiles
WSW-99	099-072012	Explosives, Volatiles

Notes:

TSS	A2540D	Total Suspended Solids Dried at 103-105 C
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
Third Quarter 2012 Water Supply Well Sampling Event
Formern Nebraska Ordnance Plant, Mead, Nebraska

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	TSS	Volatiles
Field Samples									
0101-072012			9/17/2012	9/19/2012	200-12771-1	12771-1	•		•
065-072012			9/17/2012	9/19/2012	200-12771-2	12771-1	•		•
0100-072012			9/17/2012	9/19/2012	200-12771-3	12771-1	•		•
066-072012			9/17/2012	9/19/2012	200-12771-4	12771-1	•		•
067-072012			9/17/2012	9/19/2012	200-12771-5	12771-1	•		•
068-072012			9/17/2012	9/19/2012	200-12771-6	12771-1	•		•
		268-072012	9/17/2012	9/19/2012	200-12771-7	12771-1	•		•
036-072012			9/17/2012	9/19/2012	200-12771-8	12771-1	•		•
034-072012			9/17/2012	9/19/2012	200-12771-9	12771-1	•		•
		234-072012	9/17/2012	9/19/2012	200-12771-10	12771-1	•		•
032-072012			9/17/2012	9/19/2012	200-12771-11	12771-1	•		•
027-072012			9/17/2012	9/19/2012	200-12771-12	12771-1	•		•
029-072012			9/17/2012	9/19/2012	200-12771-13	12771-1	•		•
029A-072012			9/17/2012	9/19/2012	200-12771-14	12771-1	•		•
050A-072012			9/17/2012	9/19/2012	200-12771-15	12771-1	•		•
050B-072012			9/17/2012	9/19/2012	200-12771-16	12771-1	•		•
052B-072012			9/17/2012	9/19/2012	200-12771-17	12771-1	•		•
051-072012			9/17/2012	9/19/2012	200-12771-18	12771-1	•		•
051A-072012			9/17/2012	9/19/2012	200-12771-19	12771-2	•		•
055-072012			9/17/2012	9/19/2012	200-12771-20	12771-2	•		•
0113-072012	0113-072012		9/17/2012	9/19/2012	200-12771-21	12771-1	•		•
		2113-072012	9/17/2012	9/19/2012	200-12771-22	12771-1	•		•
0107-072012			9/17/2012	9/19/2012	200-12771-23	12771-2	•		•
095-072012			9/17/2012	9/19/2012	200-12771-24	12771-2	•		•
0104-072012			9/17/2012	9/19/2012	200-12771-25	12771-2	•		•
		2104-072012	9/17/2012	9/19/2012	200-12771-26	12771-2	•		•
0103-072012			9/17/2012	9/19/2012	200-12771-27	12771-2	•		•
087-072012	087-072012		9/17/2012	9/19/2012	200-12771-28	12771-2	•		•
		287-072012	9/17/2012	9/19/2012	200-12771-29	12771-2	•		•
0105-072012			9/17/2012	9/19/2012	200-12771-30	12771-2	•		•
079-072012			9/17/2012	9/19/2012	200-12771-31	12771-2	•		•

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

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	TSS	Volatiles
0109-072012			9/17/2012	9/19/2012	200-12771-32	12771-2	•		•
096-072012	096-072012		9/17/2012	9/19/2012	200-12771-33	12771-2	•		•
		296-072012	9/17/2012	9/19/2012	200-12771-34	12771-2	•		•
074-072012			9/18/2012	9/19/2012	200-12771-35	12771-2	•		•
073-072012			9/18/2012	9/19/2012	200-12771-36	12771-2	•		•
097-072012			9/18/2012	9/19/2012	200-12771-37	12771-2	•		•
086-072012			9/18/2012	9/19/2012	200-12771-38	12771-2	•		•
0106-072012			9/18/2012	9/19/2012	200-12771-39	12771-2	•		•
099-072012			9/18/2012	9/19/2012	200-12771-40	12771-2	•		•
0110-072012			9/18/2012	9/19/2012	200-12771-41	12771-3	•		•
077-072012			9/18/2012	9/19/2012	200-12771-42	12771-3	•		•
076-072012			9/18/2012	9/19/2012	200-12771-43	12771-3	•		•
056-072012			9/18/2012	9/19/2012	200-12771-44	12771-3	•		•
		256-072012	9/18/2012	9/19/2012	200-12771-45	12771-3	•		•
059-072012			9/18/2012	9/19/2012	200-12771-46	12771-3	•		•
057-072012			9/18/2012	9/19/2012	200-12771-47	12771-3	•		•
0112-072012			9/18/2012	9/19/2012	200-12771-48	12771-3	•		•
0114-072012			9/18/2012	9/19/2012	200-12771-49	12771-3	•		•
058-072012			9/18/2012	9/19/2012	200-12771-50	12771-3	•		•
089-072012			9/18/2012	9/19/2012	200-12771-51	12771-3	•		•
054-072012			9/18/2012	9/19/2012	200-12771-52	12771-3	•		•
054-B-072012			9/18/2012	9/19/2012	200-12771-53	12771-3	•	•	•
0115-072012	0115-072012		9/18/2012	9/19/2012	200-12771-54	12771-3	•		•
		2115-072012	9/18/2012	9/19/2012	200-12771-55	12771-3	•		•
0108-072012			9/19/2012	9/21/2012	200-12804-2	12804	•		•
081-072012			9/19/2012	9/21/2012	200-12804-3	12804	•		•
082-072012			9/19/2012	9/21/2012	200-12804-4	12804	•		•
080-072012			9/19/2012	9/21/2012	200-12804-5	12804	•		•
092-072012			9/19/2012	9/21/2012	200-12804-6	12804	•		•
0117-072012			9/19/2012	9/21/2012	200-12804-7	12804	•		•

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

Field Samples	MS/MSD Samples	Field Duplicate Samples	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	TSS	Volatiles
091-072012			9/19/2012	9/21/2012	200-12804-8	12804	•		•
0111-072012			9/19/2012	9/21/2012	200-12804-9	12804	•		•
0102-072012			9/19/2012	9/21/2012	200-12804-10	12804	•		•
062-072012			9/19/2012	9/21/2012	200-12804-11	12804	•		•
061-072012			9/19/2012	9/21/2012	200-12804-12	12804	•		•
060-072012			9/19/2012	9/21/2012	200-12804-13	12804	•		•
090-072012			9/19/2012	9/21/2012	200-12804-14	12804	•		•
064-072012			9/19/2012	9/21/2012	200-12804-15	12804	•		•
063-072012			9/19/2012	9/21/2012	200-12804-16	12804	•		•
053-072012			9/19/2012	9/21/2012	200-12804-17	12804	•		•
053-B-072012			9/19/2012	9/21/2012	200-12804-18	12804	•	•	•
052A-072012			9/19/2012	9/21/2012	200-12804-19	12804	•		•
052A-B-072012			9/19/2012	9/21/2012	200-12804-20	12804	•	•	•
UNFL-023-072012			9/24/2012	9/25/2012	200-12839-1	12839	•		•
UNFL-10A-072012			9/24/2012	9/25/2012	200-12839-2	12839	•		•
UNFL-12-072012			9/24/2012	9/25/2012	200-12839-3	12839	•		•
UNFL-9A-072012			9/24/2012	9/25/2012	200-12839-4	12839	•		•
UNFL-27-072012			9/24/2012	9/25/2012	200-12839-5	12839	•		•
093-072012			9/24/2012	9/25/2012	200-12839-6	12839	•		•
		293-072012	9/24/2012	9/25/2012	200-12839-7	12839	•		•
094-072012			9/24/2012	9/25/2012	200-12839-8	12839	•		•
052C-072012			9/24/2012	9/25/2012	200-12839-9	12839	•		•
052C-B-072012			9/24/2012	9/25/2012	200-12839-10	12839	•	•	•
Trip Blanks									
TRB-2101-072012			9/17/2012	9/19/2012	200-12771-56	12771-1			•
TRB-2108-072012			9/19/2012	9/21/2012	200-12804-1	12804			•
TRB-UNFL-223-072012			9/24/2012	9/25/2012	200-12839-11	12839			•

Notes:

TSS	A2540D	Total Suspended Solids Dried at 103-105 C
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
Third Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	CAL	IS_Surr	Comments	Final Result
0100-072012	9/17/2012	12771-1	200-12771-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0101-072012	9/17/2012	12771-1	200-12771-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0102-072012	9/19/2012	12804	200-12804-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0103-072012	9/17/2012	12771-2	200-12771-27	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0104-072012	9/17/2012	12771-2	200-12771-25	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0105-072012	9/17/2012	12771-2	200-12771-30	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0106-072012	9/18/2012	12771-2	200-12771-39	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0107-072012	9/17/2012	12771-2	200-12771-23	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0108-072012	9/19/2012	12804	200-12804-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0109-072012	9/17/2012	12771-2	200-12771-32	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0110-072012	9/18/2012	12771-3	200-12771-41	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
0111-072012	9/19/2012	12804	200-12804-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0112-072012	9/18/2012	12771-3	200-12771-48	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0112-072012	9/18/2012	12771-3	200-12771-48	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.20	J	X			Column RPD	0.20 J
0113-072012	9/17/2012	12771-1	200-12771-21	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0114-072012	9/18/2012	12771-3	200-12771-49	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0114-072012	9/18/2012	12771-3	200-12771-49	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.44	J	X			Column RPD	0.44 J
0115-072012	9/18/2012	12771-3	200-12771-54	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
0117-072012	9/19/2012	12804	200-12804-7	Explosives	2,4,6-trinitrotoluene	µg/L	0.2094	J	X			Column RPD	0.094 J
0117-072012	9/19/2012	12804	200-12804-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
027-072012	9/17/2012	12771-1	200-12771-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
029-072012	9/17/2012	12771-1	200-12771-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
029A-072012	9/17/2012	12771-1	200-12771-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
032-072012	9/17/2012	12771-1	200-12771-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
034-072012	9/17/2012	12771-1	200-12771-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
036-072012	9/17/2012	12771-1	200-12771-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	1,2-dichloropropane	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	cis-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	methylene chloride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ

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

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	CAL	IS_Surr	Comments	Final Result
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	trans-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	trichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
050A-072012	9/17/2012	12771-1	200-12771-15	Volatiles	vinyl choride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
050B-072012	9/17/2012	12771-1	200-12771-16	Explosives	1,3,5-trinitrobenzene	µg/L	0.2042	J	X			Column RPD	0.042 J
050B-072012	9/17/2012	12771-1	200-12771-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
051-072012	9/17/2012	12771-1	200-12771-18	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
051A-072012	9/17/2012	12771-2	200-12771-19	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
052A-072012	9/19/2012	12804	200-12804-19	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
052A-B-072012	9/19/2012	12804	200-12804-20	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
052B-072012	9/17/2012	12771-1	200-12771-17	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
052C-072012	9/24/2012	12839	200-12839-9	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	1,2-dichloropropane	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	cis-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	methylene chloride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	trans-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	trichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-072012	9/24/2012	12839	200-12839-9	Volatiles	vinyl choride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
052C-B-072012	9/24/2012	12839	200-12839-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.204	J	X	X		Column RPD,ICV	0.040 J
053-072012	9/19/2012	12804	200-12804-17	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
053-B-072012	9/19/2012	12804	200-12804-18	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.19	J		X		ICV	0.19 J
054-072012	9/18/2012	12771-3	200-12771-52	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
054-B-072012	9/18/2012	12771-3	200-12771-53	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.2073	J	X			Column RPD	0.073 J
054-B-072012	9/18/2012	12771-3	200-12771-53	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.16	J		X		ICV	0.16 J
055-072012	9/17/2012	12771-2	200-12771-20	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
056-072012	9/18/2012	12771-3	200-12771-44	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
057-072012	9/18/2012	12771-3	200-12771-47	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
058-072012	9/18/2012	12771-3	200-12771-50	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ

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

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	CAL	IS_Surr	Comments	Final Result
059-072012	9/18/2012	12771-3	200-12771-46	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
060-072012	9/19/2012	12804	200-12804-13	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
061-072012	9/19/2012	12804	200-12804-12	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
062-072012	9/19/2012	12804	200-12804-11	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
063-072012	9/19/2012	12804	200-12804-16	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
064-072012	9/19/2012	12804	200-12804-15	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
065-072012	9/17/2012	12771-1	200-12771-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
065-072012	9/17/2012	12771-1	200-12771-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.2053	J	X			Column RPD	0.053 J
066-072012	9/17/2012	12771-1	200-12771-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
067-072012	9/17/2012	12771-1	200-12771-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
068-072012	9/17/2012	12771-1	200-12771-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
073-072012	9/18/2012	12771-2	200-12771-36	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
074-072012	9/18/2012	12771-2	200-12771-35	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
076-072012	9/18/2012	12771-3	200-12771-43	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
077-072012	9/18/2012	12771-3	200-12771-42	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
079-072012	9/17/2012	12771-2	200-12771-31	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
080-072012	9/19/2012	12804	200-12804-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
081-072012	9/19/2012	12804	200-12804-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
082-072012	9/19/2012	12804	200-12804-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
086-072012	9/18/2012	12771-2	200-12771-38	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
087-072012	9/17/2012	12771-2	200-12771-28	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
089-072012	9/18/2012	12771-3	200-12771-51	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
090-072012	9/19/2012	12804	200-12804-14	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
091-072012	9/19/2012	12804	200-12804-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
092-072012	9/19/2012	12804	200-12804-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
093-072012	9/24/2012	12839	200-12839-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
093-072012	9/24/2012	12839	200-12839-6	Volatiles	1,2-dichloropropane	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
093-072012	9/24/2012	12839	200-12839-6	Volatiles	cis-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
093-072012	9/24/2012	12839	200-12839-6	Volatiles	methylene chloride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
093-072012	9/24/2012	12839	200-12839-6	Volatiles	trans-1,2-dichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ

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

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	C_RPD	CAL	IS_Surr	Comments	Final Result
093-072012	9/24/2012	12839	200-12839-6	Volatiles	trichloroethene	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
093-072012	9/24/2012	12839	200-12839-6	Volatiles	vinyl choride	µg/L	0.20	UJ			X	Surrogate recovery outside project limits.	0.50 UJ
094-072012	9/24/2012	12839	200-12839-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
095-072012	9/17/2012	12771-2	200-12771-24	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
096-072012	9/17/2012	12771-2	200-12771-33	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
097-072012	9/18/2012	12771-2	200-12771-37	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
099-072012	9/18/2012	12771-2	200-12771-40	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
2104-072012	9/17/2012	12771-2	200-12771-26	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
2113-072012	9/17/2012	12771-1	200-12771-22	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
2115-072012	9/18/2012	12771-3	200-12771-55	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
234-072012	9/17/2012	12771-1	200-12771-10	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.21 UJ
256-072012	9/18/2012	12771-3	200-12771-45	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
268-072012	9/17/2012	12771-1	200-12771-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
287-072012	9/17/2012	12771-2	200-12771-29	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
293-072012	9/24/2012	12839	200-12839-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
296-072012	9/17/2012	12771-2	200-12771-34	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
UNFL-023-072012	9/24/2012	12839	200-12839-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
UNFL-10A-072012	9/24/2012	12839	200-12839-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
UNFL-12-072012	9/24/2012	12839	200-12839-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
UNFL-27-072012	9/24/2012	12839	200-12839-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ
UNFL-9A-072012	9/24/2012	12839	200-12839-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	UJ		X		ICV	0.20 UJ

Reason for Qualification	
C_RPD	Column RPD
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV
IS_Surr	Internal standard, Surrogate recovery outside project limits.

Table 3-2
Explosives Quality Control Outliers
Third 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
Calibration					
0100-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0101-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0103-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0104-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
2104-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0105-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0106-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0107-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0109-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0110-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0112-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0113-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
2113-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0114-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0115-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
2115-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
027-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
029-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
029A-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
032-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
034-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
234-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
036-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
050A-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
050B-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
051-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
051A-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
052B-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
052C-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
052C-B-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
054-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
054-B-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%

Table 3-2
Explosives Quality Control Outliers
Third 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
055-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
056-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
256-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
057-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
058-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
059-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
065-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
066-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
067-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
068-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
268-072012	12771-1	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
073-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
074-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
076-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
077-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
079-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
086-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
087-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
287-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
089-072012	12771-3	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
093-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
293-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
094-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
095-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
096-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
296-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
097-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
099-072012	12771-2	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0102-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0108-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0111-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
0117-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
052A-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%

Table 3-2
Explosives Quality Control Outliers
Third 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
052A-B-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
053-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
053-B-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
060-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
061-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
062-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
063-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
064-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
080-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
081-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
082-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
090-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
091-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
092-072012	12804	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
UNFL-023-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
UNFL-10A-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
UNFL-12-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
UNFL-27-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
UNFL-9A-072012	12839	4-Amino-2,6-dinitrotoluene	ICV %D > UCL	15%	17.4%
Confirmation Column Difference					
0112-072012	12771-3	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	82.7 RPD
0114-072012	12771-3	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	85.7 RPD
0117-072012	12804	2,4,6-Trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	57.6 RPD
050B-072012	12771-1	1,3,5-Trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	96.3 RPD
052C-B-072012	12839	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	193 RPD
054-B-072012	12771-3	2-Amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	51.7 RPD
065-072012	12771-1	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	43.0 RPD

Table 3-3
Volatile Organic Compounds Quality Control Outliers
Third 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
Surrogate					
050A-072012	12771-1	1,2-Dichloropropane	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
050A-072012	12771-1	cis-1,2-Dichloroethylene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
050A-072012	12771-1	Methylene Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
050A-072012	12771-1	trans-1,2-Dichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
050A-072012	12771-1	Trichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
050A-072012	12771-1	Vinyl Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	1,2-Dichloropropane	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	cis-1,2-Dichloroethylene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	Methylene Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	trans-1,2-Dichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	Trichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
052C-072012	12839	Vinyl Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	69.0 %
093-072012	12839	1,2-Dichloropropane	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %
093-072012	12839	cis-1,2-Dichloroethylene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %
093-072012	12839	Methylene Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %
093-072012	12839	trans-1,2-Dichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %
093-072012	12839	Trichloroethene	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %
093-072012	12839	Vinyl Chloride	Surrogate < minimum LWL	1,2-Dichlorobenzene-d4 70 - 130 %	68.0 %

Table 4-1
Field Completeness
Third 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	86	84	97.7%
TSS	4	4	100%
Volatiles	86	84	97.7%
Totals =	176	172	97.7%
Goal =			95%

Notes:

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

Table 4-2
Analytical Completeness
Third 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)	504	420	83.3%	90%	504	100%	80%
TSS (Analyte Count - 1)	4	4	100%	90%	4	100%	80%
Volatiles (Analyte Count - 6)	504	486	96.4%	90%	504	100%	80%
Totals =	1012	910	89.9%	90%	1012	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
Third Quarter 2012 Water Supply Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
97.7%	100.0%	97.7%
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.

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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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 _____			
(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:
0100-072012	9/17/2012	0830	G	W	2		X	
065-072012	9/17/2012	0840	G	W	2		X	
0100-072012	9/17/2012	0855	G	W	2		X	
066-072012	9/17/2012	0905	G	W	2		X	
067-072012	9/17/2012	0915	G	W	2		X	
068-072012	9/17/2012	0930	G	W	2		X	
268-072012	9/17/2012	0930	G	W	2		X	
036-072012	9/17/2012	0950	G	W	2		X	
034-072012	9/17/2012	1005	G	W	2		X	
234-072012	9/17/2012	1005	G	W	2		X	
032-072012	9/17/2012	1020	G	W	2		X	
027-072012	9/17/2012	1050	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7979 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Paulsen	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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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:
029-072012	9/17/2012	1100	G	W	2		X	
029A-072012	9/17/2012	1110	G	W	2		X	
050A-072012	9/17/2012	1120	G	W	2		X	
050B-072012	9/17/2012	1130	G	W	2		X	
052B-072012	9/17/2012	1140	G	W	2		X	
~~050~~ 051-072012	9/17/2012	1150	G	W	2		X	
051A-072012	9/17/2012	1200	G	W	2		X	
055-072012	9/17/2012	1215	G	W	2		X	
0113-072012	9/17/2012	1240	G	W	2		X	
2113-072012	9/17/2012	1240	G	W	2		X	
0113-072012 MS	9/17/2012	1240	G	W	2		X	
0113-072012 MSD	9/17/2012	1240	G	W	2		X	

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

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Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. Hinz	ECC	9-18-12	Fed-ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Fowler	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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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 _____			
(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:
0107-072012	9/17/2012	1310	G	W	2		X	
095-072012	9/17/2012	1320	G	W	2		X	
0104-072012	9/17/2012	1340	G	W	2		X	
2104-072012	9/17/2012	1340	G	W	2		X	
0103-072012	9/17/2012	1350	G	W	2		X	
087-072012	9/17/2012	1410	G	W	2		X	
287-072012	9/17/2012	1410	G	W	2		X	
087-072012 MS	9/17/2012	1410	G	W	2		X	
087-072012 MSD	9/17/2012	1410	G	W	2		X	
0105-072012	9/17/2012	1430	G	W	2		X	
079-072012	9/17/2012	1440	G	W	2		X	
0109-072012	9/17/2012	1455	G	W	2		X	

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

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Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Poucher	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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Water Supply Well Samples 3rd QTR SE 2012

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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 _____			
(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:
096-072012	9/17/2012	1550	G	W	2		X	
296-072012	9/17/2012	1550	G	W	2		X	
096-072012 MS	9/17/2012	1550	G	W	2		X	
096-072012 MSD	9/17/2012	1550	G	W	2		X	
074-072012	9/18/2012	0810	G	W	2		X	
073-072012	9/18/2012	0820	G	W	2		X	
097-072012	9/18/2012	0830	G	W	2		X	
086-072012	9/18/2012	0840	G	W	2		X	
0106-072012	9/18/2012	0855	G	W	2		X	
099-072012	9/18/2012	0910	G	W	2		X	
0110-072012	9/18/2012	0925	G	W	2		X	
077-072012	9/18/2012	0935	G	W	2		X	

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

Possible Hazard Identification
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Special Instructions/QC Requirements & Comments:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7829 9474 74		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Pouchon	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9-18-12	COC No: 091712
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	TSS / SM2540D														Sample Specific Notes:
076-072012	9/18/2012	0950	G	W	2		X															
056-072012	9/18/2012	1030	G	W	2		X															
256-072012	9/18/2012	1030	G	W	2		X															
059-072012	9/18/2012	1055	G	W	2		X															
057-072012	9/18/2012	1105	G	W	2		X															
0112-072012	9/18/2012	1115	G	W	2		X															
0114-072012	9/18/2012	1130	G	W	2		X															
058-072012	9/18/2012	1140	G	W	2		X															
089-072012	9/18/2012	1150	G	W	2		X															
054-072012	9/18/2012	~~1200~~ 1220	G	W	2		X															
054-B-072012	9/18/2012	1225	G	W	~~2~~ 3		X	X														
0115-072012	9/18/2012	1300	G	W	~~2~~ 2		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:
[signature]	ECC	9-18-12	[signature] 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TABLV	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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30 Community Drive
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South Burlington, VT 5403
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Water Supply Well Samples 3rd QTR SE 2012

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TestAmerica
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Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9-18-12	COC No: 091712
ECC	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:
2115-072012	9/18/2012	1300	G	W	2		X	
0115-072012 MS	9/18/2012	1300	G	W	2		X	
0115-072012 MSD	9/18/2012	1300	G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	

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

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Special Instructions/QC Requirements & Comments:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[illegible]	ECC	9-18-12	FedEx 7989 9474 1267		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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0100-072012	9/17/2012	0855	G	W	2		X	
066-072012	9/17/2012	0905	G	W	2		X	
067-072012	9/17/2012	0915	G	W	2		X	
068-072012	9/17/2012	0930	G	W	2		X	
268-072012	9/17/2012	0930	G	W	2		X	
036-072012	9/17/2012	0950	G	W	2		X	
034-072012	9/17/2012	1005	G	W	2		X	
234-072012	9/17/2012	1005	G	W	2		X	
032-072012	9/17/2012	1020	G	W	2		X	
027-072012	9/17/2012	1050	G	W	2		X	

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

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055-072012	9/17/2012	1215	G	W	2		X	
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2113-072012	9/17/2012	1240	G	W	2		X	
0113-072012 MS	9/17/2012	1240	G	W	2		X	
0113-072012 MSD	9/17/2012	1240	G	W	2		X	

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

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			Steph Fowler	TABUR	9/19/12 1000
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095-072012	9/17/2012	1320	G	W	2		X	
0104-072012	9/17/2012	1340	G	W	2		X	
2104-072012	9/17/2012	1340	G	W	2		X	
0103-072012	9/17/2012	1350	G	W	2		X	
087-072012	9/17/2012	1410	G	W	2		X	
287-072012	9/17/2012	1410	G	W	2		X	
087-072012 MS	9/17/2012	1410	G	W	2		X	
087-072012 MSD	9/17/2012	1410	G	W	2		X	
0105-072012	9/17/2012	1430	G	W	2		X	
079-072012	9/17/2012	1440	G	W	2		X	
0109-072012	9/17/2012	1455	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Poucher	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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 _____			
(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:
096-072012	9/17/2012	1550	G	W	2		X	
296-072012	9/17/2012	1550	G	W	2		X	
096-072012 MS	9/17/2012	1550	G	W	2		X	
096-072012 MSD	9/17/2012	1550	G	W	2		X	
074-072012	9/18/2012	0810	G	W	2		X	
073-072012	9/18/2012	0820	G	W	2		X	
097-072012	9/18/2012	0830	G	W	2		X	
086-072012	9/18/2012	0840	G	W	2		X	
0106-072012	9/18/2012	0855	G	W	2		X	
099-072012	9/18/2012	0910	G	W	2		X	
0110-072012	9/18/2012	0925	G	W	2		X	
077-072012	9/18/2012	0935	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby H.	ECC	9-18-12	Fed-ex	7829 9474	1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Pouchon	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-18-12	COC No: 091712
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	TSS / SM4250 B														Sample Specific Notes:
076-072012	9/18/2012	0950	G	W	2		X															
056-072012	9/18/2012	1030	G	W	2		X															
256-072012	9/18/2012	1030	G	W	2		X															
059-072012	9/18/2012	1055	G	W	2		X															
057-072012	9/18/2012	1105	G	W	2		X															
0112-072012	9/18/2012	1115	G	W	2		X															
0114-072012	9/18/2012	1130	G	W	2		X															
058-072012	9/18/2012	1140	G	W	2		X															
089-072012	9/18/2012	1150	G	W	2		X															
054-072012	9/18/2012	~~1200~~ 1220	G	W	2		X															
054-B-072012	9/18/2012	1225	G	W	~~2~~ 3		X	X														
0115-072012	9/18/2012	1300	G	W	~~2~~ 2		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:
1 Toby N. [illegible]	ECC	9-18-12 1800	Fed-Ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steven Pauchan	TABLV	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-18-12	COC No: 091712
ECC	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:
2115-072012	9/18/2012	1300	G	W	2		X	
0115-072012 MS	9/18/2012	1300	G	W	2		X	
0115-072012 MSD	9/18/2012	1300	G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	

Page 872 of 876

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]	ECC	9-18-12	[signature] 7989 9474 1267		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TABUR	9/19/12 1000
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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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 _____			
(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:
0100-072012	9/17/2012	0830	G	W	2		X	
065-072012	9/17/2012	0840	G	W	2		X	
0100-072012	9/17/2012	0855	G	W	2		X	
066-072012	9/17/2012	0905	G	W	2		X	
067-072012	9/17/2012	0915	G	W	2		X	
068-072012	9/17/2012	0930	G	W	2		X	
268-072012	9/17/2012	0930	G	W	2		X	
036-072012	9/17/2012	0950	G	W	2		X	
034-072012	9/17/2012	1005	G	W	2		X	
234-072012	9/17/2012	1005	G	W	2		X	
032-072012	9/17/2012	1020	G	W	2		X	
027-072012	9/17/2012	1050	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7979 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Paulsen	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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:
029-072012	9/17/2012	1100	G	W	2		X	
029A-072012	9/17/2012	1110	G	W	2		X	
050A-072012	9/17/2012	1120	G	W	2		X	
050B-072012	9/17/2012	1130	G	W	2		X	
052B-072012	9/17/2012	1140	G	W	2		X	
~~050~~ 051-072012	9/17/2012	1150	G	W	2		X	
051A-072012	9/17/2012	1200	G	W	2		X	
055-072012	9/17/2012	1215	G	W	2		X	
0113-072012	9/17/2012	1240	G	W	2		X	
2113-072012	9/17/2012	1240	G	W	2		X	
0113-072012 MS	9/17/2012	1240	G	W	2		X	
0113-072012 MSD	9/17/2012	1240	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. Hinz	ECC	9-18-12	Fed-ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Fowler	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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 _____			
(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:
0107-072012	9/17/2012	1310	G	W	2		X	
095-072012	9/17/2012	1320	G	W	2		X	
0104-072012	9/17/2012	1340	G	W	2		X	
2104-072012	9/17/2012	1340	G	W	2		X	
0103-072012	9/17/2012	1350	G	W	2		X	
087-072012	9/17/2012	1410	G	W	2		X	
287-072012	9/17/2012	1410	G	W	2		X	
087-072012 MS	9/17/2012	1410	G	W	2		X	
087-072012 MSD	9/17/2012	1410	G	W	2		X	
0105-072012	9/17/2012	1430	G	W	2		X	
079-072012	9/17/2012	1440	G	W	2		X	
0109-072012	9/17/2012	1455	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-18-12	Fed-ex 7989 9474		1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Poucher	TABUR	9/19/12 1000
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

Water Supply Well Samples 3rd QTR 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: 9-17-12	COC No: 091712
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 _____			
(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:
096-072012	9/17/2012	1550	G	W	2		X	
296-072012	9/17/2012	1550	G	W	2		X	
096-072012 MS	9/17/2012	1550	G	W	2		X	
096-072012 MSD	9/17/2012	1550	G	W	2		X	
074-072012	9/18/2012	0810	G	W	2		X	
073-072012	9/18/2012	0820	G	W	2		X	
097-072012	9/18/2012	0830	G	W	2		X	
086-072012	9/18/2012	0840	G	W	2		X	
0106-072012	9/18/2012	0855	G	W	2		X	
099-072012	9/18/2012	0910	G	W	2		X	
0110-072012	9/18/2012	0925	G	W	2		X	
077-072012	9/18/2012	0935	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby H.	ECC	9-18-12	Fed-ex	7829 9474	1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Pouchon	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
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Water Supply Well Samples 3rd QTR 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: 9-18-12	COC No: 091712
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	TSS / SM4250 B	Sample Specific Notes:
076-072012	9/18/2012	0950	G	W	2		X		
056-072012	9/18/2012	1030	G	W	2		X		
256-072012	9/18/2012	1030	G	W	2		X		
059-072012	9/18/2012	1055	G	W	2		X		
057-072012	9/18/2012	1105	G	W	2		X		
0112-072012	9/18/2012	1115	G	W	2		X		
0114-072012	9/18/2012	1130	G	W	2		X		
058-072012	9/18/2012	1140	G	W	2		X		
089-072012	9/18/2012	1150	G	W	2		X		
054-072012	9/18/2012	~~1200~~ 1220	G	W	2		X		
054-B-072012	9/18/2012	1225	G	W	~~2~~ 3		X	X	
0115-072012	9/18/2012	1300	G	W	~~2~~ 2		X	~~X~~	

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	FCL	9-18-12 1800	[signature]	7989 9474	1267
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TABLE	9/19/12 1000
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

Water Supply Well Samples 3rd QTR 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: 9-18-12	COC No: 091712
ECC	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:
2115-072012	9/18/2012	1300	G	W	2		X	
0115-072012 MS	9/18/2012	1300	G	W	2		X	
0115-072012 MSD	9/18/2012	1300	G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	
	9/18/2012		G	W	2		X	

Page 654 of 658

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]	ECC	9-18-12	[signature] 7989 9474 1267		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TABUR	9/19/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-19-12	COC No: 091912
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:
0108-07 2012	9/19/2012	0830	G	W	2		X	
081-07 2012	9/19/2012	0845	G	W	2		X	
082-07 2012	9/19/2012	0855	G	W	2		X	
080-07 2012	9/19/2012	0910	G	W	2		X	
092-07 2012	9/19/2012	0930	G	W	2		X	
0117-07 2012	9/19/2012	0940	G	W	2		X	
091-07 2012	9/19/2012	0950	G	W	2		X	
0111-07 2012	9/19/2012	1000	G	W	2		X	
0102-07 2012	9/19/2012	1010	G	W	2		X	
062-07 2012	9/19/2012	1025	G	W	2		X	
061-07 2012	9/19/2012	1035	G	W	2		X	
060-07 2012	9/19/2012	1045	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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9-20-12	Fed-ex 7990 1093 1570		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TASVR	9/21/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-19-12	COC No: 091912
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 2 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	TSS/SM2540D	Sample Specific Notes:
090-072012	9/19/2012	1100	G	W	2		X		
064-072012	9/19/2012	1110	G	W	2		X		
063-072012	9/19/2012	1125	G	W	2		X		
053-072012	9/19/2012	1425	G	W	2		X		
053-B-072012	9/19/2012	1430	G	W	3		X	X	
052A-072012	9/19/2012	1500	G	W	2		X		
052A-B-072012	9/19/2012	1505	G	W	3		X	X	
	9/19/2012		G	W	2		X		
	9/19/2012		G	W	2		X		
	9/19/2012		G	W	2		X		
	9/19/2012		G	W	2		X		
	9/19/2012		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:

1800

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	FEC	9-20-12	Fed-Ex 2440	1093	1570
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TABOR	9/21/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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

Water Supply Well Samples 3rd QTR 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: 9-24-12	COC No: 092412
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Abbie Yant	Carrier: FedEx	___ of ___ 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-44FL-223-072012	9/24/2012	0835	G	W	2	X	
44FL-023-072012	9/24/2012	0835	G	W	3	X	
44FL-10A-072012	9/24/2012	0850	G	W	3	X	
44FL-12-072012	9/24/2012	0945	G	W	3	X	
44FL-9A-072012	9/24/2012	0950	G	W	3	X	
44FL-27-072012	9/24/2012	1015	G	W	3	X	
093-072012	9/24/2012	1100	G	W	3	X	
293-072012	9/24/2012	1100	G	W	3	X	
094-072012	9/24/2012	1115	G	W	3	X	
052C-072012	9/24/2012	1200	G	W	3	X	
052C-B-072012	9/24/2012	1205	G	W	3	X	
~~[illegible]~~	9/24/2012		~~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:

1.8°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby D. Hinz	ECC	9-24-12 1600	Fed-ex 7990	3529 9033	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[illegible]	TA SV	9/25/12 0925

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

Water Supply Well Samples 3rd QTR 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: 9-24-12	COC No: 092412
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			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	TSS/Sm 2540D	Sample Specific Notes:
44FL-023-072012	9/24/2012	0835	G	W	2		X		
44FL-10A-072012	9/24/2012	0850	G	W	2		X		
44FL-12-072012	9/24/2012	0915	G	W	2		X		
44FL-9A-072012	9/24/2012	0950	G	W	2		X		
44FL-27-072012	9/24/2012	1015	G	W	2		X		
093-072012	9/24/2012	1100	G	W	2		X		
293-072012	9/24/2012	1100	G	W	2		X		
094-072012	9/24/2012	~~1100~~ 1115	G	W	2		X		
052C-072012	9/24/2012	1200	G	W	2		X		
052C-B-072012	9/24/2012	1205	G	W	~~2~~ 3		X	X	
~~[illegible]~~	~~9/24/2012~~		G	W	2		X		
[illegible]	9/24/2012		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:
[illegible]	ECC	9-24-12	Fed-Ex 7990	3532 6166	
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Pauchu	TABLK	9/25/12 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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 Third Quarter 2012 Operations and Maintenance Sampling Events, Former Nebraska Ordnance Plant (on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT
THIRD 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

November 2012

Quality Control Summary Report
Third 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. In addition, sampling was conducted to confirm influent tank water overflow did not impact the ponded area. 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 Third Quarter 2012 O&M monthly sampling events and for the 2012 Main GTP bypass sampling event.

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; 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.

Tables 1-1 and 1-2 present lists of the locations planned for sample collection, the corresponding sample identifications (IDs), and the requested analyses for the Third Quarter 2012 O&M sampling event and 2012 Main GTP bypass event, respectively.

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

- During August 2012, water samples were collected from extraction wells (EW) and focused extraction wells (FEW): EW-1R, EW-3, EW-4, EW-6, EW-7, EW-9, FEW-11, FEW-14, and EW-16.
- During August 2012, water samples were collected from a test hole for extraction well EW-17.
- During July 2012, one water sample was collected from each of the following granular activated carbon (GAC) units: 320, 340, and 360.
- During August 2012, one water sample was collected from the following GAC units: 320, 340, and 360.
- During September 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 August 2012.
- One influent water sample and one effluent water sample were collected from GCW-1 during September 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 August 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 each was collected at the LL4 GTP during July and August 2012. One influent air sample was collected at the LL4 GTP during September 2012.
- One influent water sample and one effluent water sample were collected from the AOP GTP during July 2012. Only the effluent water sample was collected in August because the associated water sample was collected from FEW-11. Since the AOP GTP was down until August 13, the sample was collected on August 24, no samples were collected during September 2012.
- During the 2012 Main GTP bypass sampling event, three water samples and four soil samples were collected.

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 was 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. One water and one soil QC field duplicate sample was

collected for each parameter for the Main GTP bypass event. MS/MSD samples were not collected for the bypass event. The required field QC frequency was met overall for the Third Quarter 2012 O&M sampling events.

Tables 2-1 and 2-2 provide the sample collection information for the O&M sampling events and Main GTP bypass sampling event 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 Tables 3-1 and 3-2. The QC outliers are presented in Tables 3-3, 3-4, 3-5, and 3-6.

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.

For the explosives analysis, the initial calibration verification percent difference exceeded the QC limit for 4-A-2,6-dinitrotoluene. This analyte was qualified as estimated (J or UJ) in all

associated samples. No other deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case narratives.

For the Main GTP bypass sampling event, the laboratory reported that the initial calibration percent relative standard deviation for methylene chloride was outside the criteria for the VOC analysis. Methylene chloride results in all water samples were qualified as estimated non-detect (UJ). No other deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case narratives. Refer to Tables 3-1 and 3-2 for data quality evaluation results and qualified samples. Tables 3-3, 3-4, 3-5, and 3-6 present the C QC outliers and associated samples for all assigned qualifiers.

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.

Methylene chloride was detected in several method blanks below the limit of quantitation (LOQ). The associated sample detects for methylene chloride were qualified as non-detect (U). Refer to Tables 3-1 and 3-2 for data quality evaluation results and qualified samples. Tables 3-4 and 3-6 presents the VOC QC outliers and associated samples for all assigned qualifiers. These qualifiers were not used to determine analytical completeness or project completeness (Section 4.0).

3.5 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.

Methylene chloride was detected in all trip blanks; however, methylene chloride was determined to be a laboratory blank contaminant and was qualified as a non-detect (U) in the 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.

Low surrogate %RECs were reported in water samples SOUTH 1 and SOUTH 2 for the explosives analysis. All results in these samples were qualified as (UJ) for non-detects. Refer to Table 3-2 for data quality evaluation results and qualified samples. Table 3-5 presents the explosive QC outliers and associated samples for all assigned qualifiers.

Elevated surrogate %RECs were reported in soil samples NORTH 1, SOUTH 1, and SOUTH 2 for the VOC analysis; however, no qualifications were required since there were no detects in the samples.

3.7 Laboratory Control Sample / Laboratory Control Sample Duplicate

A laboratory control sample (LCS) consists of a matrix, similar to that of the field sample, which is spiked with known concentrations of analytes. The LCS % REC is a measure of the accuracy of the preparation and analytical methods. The laboratory control sample duplicate (LCSD) is a duplicate preparation and analysis of the LCS. The differences between the LCS and LCSD recoveries are used to calculate the relative percent difference (RPD), which is a measure of the precision of the preparation and analytical methods. LCS samples were analyzed for each sample batch for all analyses. LCSD samples were requested for analysis with each analytical batch that did not contain an MS/MSD.

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

All LCS and LCSD % RECs were within laboratory QC limits with the exception of one LCS %REC above the QC limit. No qualifications were required since vinyl chloride was not detected in the associated samples. 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 except for %REC for TCE in MSD performed on sample 5447-0812-LL1-INF-082. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-4 presents the VOC QC outliers and associated samples for all assigned qualifiers.

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. Six field duplicate pairs were collected during the Third Quarter 2012 monthly O&M sampling events, and one field duplicate pair was collected for the 2012 Main GTP bypass

sampling event. The field duplicate pairs are listed below:

- 5447-0812-INF-138 / 5447-0812-2INF-138 (VOC, Explosives);
- 5447-0812-EFF-138 / 5447-0812-2EFF-138 (Nitrate);
- 5447-0812-LL1-EFF-082 / 5447-0812-LL1-2EFF-082 (Nitrate);
- 5447-0812-LL1-INF-082 / 5447-0812-LL1-2INF-082 (VOC, Explosives);
- 5447-0812-EW09-138 / 5447-0812-EW09-138-A (Explosives);
- 5447-0812-LL1-AIR-EFF-082 / 5447-0812-LL1-2AIR-EFF-082 (VOC);
- TH-EW-017-080712 / TH-EW-217-080712 (VOC); and
- SOUTH 1 / SOUTH 2 for water and soil (VOC, Explosives)

All field duplicate pairs met the precision criteria except for the field duplicate pair 5447-0812-EW09-138 / 5447-0812-EW09-138-A with an RPD of 96.3% for RDX. 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 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.

One sample required a secondary dilution analysis due to concentrations of RDX 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 RDX and the initial analysis should be used for all other sample results.

Five air samples and ten water samples were analyzed at a dilution due to high level of TCE. The laboratory only reported the results from the dilution analysis except for one water sample. One of the ten dilution analyses for VOCs required a further secondary dilution due to high level of TCE. No qualifiers were assigned as a result of exceeded calibration ranges because acceptable results from diluted sample analyses were provided.

For the Main GTP bypass sampling, the three water samples for VOCs were analyzed at a dilution due to matrix interference resulting in elevated reporting limits.

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 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 3-3 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).

Main GTP bypass sampling event

A reported detection for 2-amino-4,6-dinitrotoluene in water sample NORTH 1 was changed to a non-detect. The laboratory narrative indicated the detection to be a possible false positive. Upon evaluation of the raw data, it was determined that the compound identified on the primary column did not meet the identification retention time criteria. It was qualified as estimated non-detect (UJ) due to closely eluting interference.

Two reported detections for 2,4,6-trinitrotoluene in water samples SOUTH 1 and SOUTH 2 were changed to non-detect. Due to significant matrix interference the samples were both analyzed at five-fold dilutions. Although a large interference was still present in the diluted sample analysis, 2,4,6-trinitrotoluene was detected in the SOUTH 1 and SOUTH 2 water samples. The detections did confirm on a second column, however the detections did not confirm on a photo-diode array detector that is a component of the primary instrumentation. The detections of 2,4,6-trinitrotoluene are believed to be part of the sample matrix interference and are being qualified as estimated, non-detect (UJ) based on professional judgment.

A detected result with the inter-column RPD exceeding 40% is qualified as estimated (J). Refer to Table 3-2 for data quality evaluation results and qualified samples. Table 3-5 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).

3.12 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 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 Third Quarter 2012 O&M sampling events. An evaluation of field, analytical, and project completeness is presented in Tables 4-1 through 4-6.

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 and Table 4-2 for the Main GTP bypass sampling event.

Field completeness for the O&M sampling events was 100% for nitrate and volatiles air analyes which exceeds the field completeness goal of 95%. Field completeness for explosives was 94.3% which was below the completeness goal of 95% and VOCs was 96% which exceeds the completeness goal. AOP GTP was down and one influent and one effluent samples scheduled were not collected during plant downtime. The overall field completeness percentage is therefore 96% for the O&M Third Quarter 2012 sampling events which exceed the field completeness goal of 95%. Section 2.0 presents the field sampling activities, including any deviations from planned sampling.

4.2 Analytical Completeness

Analytical completeness was calculated as both acceptable data completeness and quality data completeness. Analytical completeness is presented in Tables 4-3 and 4-4. 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 for the O&M sampling events are as follows:

- VOCs: 99.1%
- VOC-Air 100%
- Explosives: 86.9%
- Nitrate: 100%

Acceptable data completeness percentages for the Main GTP bypass sampling event are as follows:

- VOCs: 92.9%
- Explosives: 71.4%

All analyses exceed the 90% criteria for the individual methods except explosives analysis which was below the criteria for both O&M sampling events and the Main GTP bypass sampling event. The overall acceptable data completeness is 93.5% for the monthly O&M sampling events which exceeds the 90% criteria and 82.1% for the Main GTP bypass sampling event which is below the criteria for the sampling event,

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 Third 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 and Main GTP bypass sampling event

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 96% and Main GTP bypass project completeness percentage is 100%, which exceed the project completeness goal of 90%. Tables 4-5 and 4-6 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%.

For O & M sampling events, two VOC results were qualified due to low MSD %REC and 26 explosive results were qualified due to an ICV %D above the QC limit. Twenty five VOC results were qualified due to method blank contamination. One result for RDX was reported from a secondary dilution, and one result for TCE were reported from a secondary dilution due to calibration range exceedance. Sixteen explosive results were qualified as estimated for inter-column RPDs exceedances. The qualifiers as a result of method blanks and inter-column RPDs were not used to determine analytical completeness or project completeness.

For Main GTP bypass sampling event, ten explosive results were qualified due to low surrogate %RECs and three VOC results were qualified due to calibration outlier. Three reported detection were changed to non-detects as false positives qualified as estimated, non-detect (UJ) and due to the sample matrix interference based on professional judgment.

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
µg/kg	micrograms per kilogram
AOP	Advanced Oxidation Process
BLK	blank
CAL	calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
C-RPD	column relative percent difference
%D	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
ICV	initial calibration verification
ID	identification/identifier
INF	influent
J	estimated
Lab	laboratory
LCL	lower control limit
LCS	laboratory control sample
LL	Load Line
LWL	lower warning limit
MDL	minimum detection limit
MS/MSD	matrix spike/matrix spike duplicate
MS	mass-spectrometry
QC	quality control
%REC	percent recovery
RPD	relative percent difference
RRF	relative response factor
RT	retention time
RSD	relative standard deivation
SDG	sample delivery group
U	not detected at laboratory limit of detection
UCL	upper control limit

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

Sampling Locations	Sample IDs	Analyses
AOP-EFF	5447-0712-AOP-EFF2-137	Explosives, Volatiles
AOP-EFF	5447-0812-AOP-EFF2-138	Explosives, Volatiles
AOP-INF	5447-0712-AOP-INF-137	Explosives, Volatiles
EW-16	5447-0812-EW16-138	Explosives
EW-1R	5447-0812-EW1R-138	Volatiles
EW-3	5447-0812-EW03-138	Explosives
EW-4	5447-0812-EW04-138	Explosives
EW-6	5447-0812-EW06-138	Explosives
EW-7	5447-0812-EW07-138	Explosives
EW-9	5447-0812-EW09-138	Explosives
FEW-11	5447-0812-EW11-138	Explosives, Volatiles
FEW-14	5447-0812-EW14-138	Explosives
GCW1-EFF	GCW1-EFF-092012	Volatiles
GCW1-INF	GCW1-INF-092012	Volatiles
GTP-320	5447-0712-320-137	Explosives, Volatiles
GTP-320	5447-0812-320-138	Explosives, Volatiles
GTP-320	5447-0912-320-139	Explosives, Volatiles
GTP-340	5447-0712-340-137	Explosives, Volatiles
GTP-340	5447-0812-340-138	Explosives, Volatiles
GTP-340	5447-0912-340-139	Explosives, Volatiles
GTP-360	5447-0712-360-137	Explosives, Volatiles
GTP-360	5447-0812-360-138	Explosives, Volatiles
GTP-360	5447-0912-360-139	Explosives, Volatiles
GTP-EFF	5447-0712-EFF-137	Anions, Explosives, Volatiles
GTP-EFF	5447-0812-EFF-138	Anions, Explosives, Volatiles
GTP-EFF	5447-0912-EFF-139	Anions, Explosives, Volatiles
GTP-INF	5447-0712-INF-137	Explosives, Volatiles
GTP-INF	5447-0812-INF-138	Explosives, Volatiles
GTP-INF	5447-0912-INF-139	Explosives, Volatiles
LL1_AIR_EF	5447-0812-LL1-AIR-EFF-082	Volatiles-Air
LL1-EFF	5447-0712-LL1-EFF-081	Anions, Volatiles
LL1-EFF	5447-0812-LL1-EFF-082	Anions, Explosives, Volatiles
LL1-EFF	5447-0912-LL1-EFF-083	Anions, Volatiles
LL1-INF	5447-0712-LL1-INF-081	Volatiles
LL1-INF	5447-0812-LL1-INF-082	Explosives, Volatiles
LL1-INF	5447-0912-LL1-INF-083	Volatiles
LL4_AIR_EF	5447-0712-LL4-AIR-EFF	Volatiles-Air
LL4_AIR_EF	5447-0812-LL4-AIR-EFF	Volatiles-Air
LL4_AIR_IN	5447-0912-LL4-AIR-INF	Volatiles-Air
LL4-EFF	5447-0712-LL4-EFF	Anions, Volatiles
LL4-EFF	5447-0812-LL4-EFF	Anions, Explosives, Volatiles
LL4-EFF	5447-0912-LL4-EFF	Anions, Volatiles
LL4-INF	5447-0712-LL4-INF	Volatiles
LL4-INF	5447-0812-LL4-INF	Explosives, Volatiles
LL4-INF	5447-0912-LL4-INF	Volatiles
TH-EW-17	TH-EW-017-080712	Volatiles

Notes:

Volatiles	SW8260B	Volatile Organic Compounds by Capillary GC/MS
Explosives	SW8330	Nitroaromatics and Nitramines by HPLC
Anions	SW9056	Ion Chromatography
Volatiles-Air	TO15	The Determination fo Volatile Organic Compounds in Air Collected in Special

Table 1-2
Sample Locations, Sample IDs, and Analyses
2012 Main Groundwater Treatment Plant Bypass Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Locations	Sample IDs	Analyses
NORTH 1	NORTH 1 (S)	Explosives
	NORTH 1 (S)	Volatiles
NORTH 1	NORTH 1 (W)	Explosives, Volatiles
NORTH 2	NORTH 2 (S)	Explosives
	NORTH 2 (S)	Volatiles
SOUTH 1	SOUTH 1(S)	Explosives
	SOUTH 2(S)	Explosives
	SOUTH 1 (S)	Volatiles
	SOUTH 2 (S)	Volatiles
SOUTH 1	SOUTH 1(W)	Explosives, Volatiles
	SOUTH 2 (W)	Explosives, Volatiles

Notes:

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

S = soil, W = water

Table 2-1
Sample Collection Summary
Third 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	Volatiles	Volatiles-Air
Field Samples										
5447-0712-INF-137			7/2/2012	7/3/2012	200-11588-1	11588		•	•	
		5447-0812-2INF-138	8/2/2012	8/3/2012	200-12074-2	12074		•	•	
5447-0812-INF-138	5447-0812-INF-138		8/2/2012	8/3/2012	200-12074-1	12074		•	•	
5447-0912-INF-139			9/12/2012	9/13/2012	200-12662-1	12662		•	•	
5447-0712-320-137			7/2/2012	7/3/2012	200-11588-2	11588		•	•	
5447-0812-320-138			8/2/2012	8/3/2012	200-12074-3	12074		•	•	
5447-0912-320-139			9/12/2012	9/13/2012	200-12662-2	12662		•	•	
5447-0712-340-137			7/2/2012	7/3/2012	200-11588-3	11588		•	•	
5447-0812-340-138			8/2/2012	8/3/2012	200-12074-4	12074		•	•	
5447-0912-340-139			9/12/2012	9/13/2012	200-12662-3	12662		•	•	
5447-0712-360-137			7/2/2012	7/3/2012	200-11588-4	11588		•	•	
5447-0812-360-138			8/2/2012	8/3/2012	200-12074-5	12074		•	•	
5447-0912-360-139			9/12/2012	9/13/2012	200-12662-4	12662		•	•	
5447-0712-EFF-137			7/2/2012	7/3/2012	200-11588-5	11588	•	•	•	
		5447-0812-2EFF-138	8/2/2012	8/3/2012	200-12074-9	12074	•			
5447-0812-EFF-138	5447-0812-EFF-138		8/2/2012	8/3/2012	200-12074-6	12074	•	•	•	
5447-0912-EFF-139			9/12/2012	9/13/2012	200-12662-5	12662	•	•	•	
5447-0712-LL1-EFF-081			7/2/2012	7/3/2012	200-11587-2	11587	•		•	
		5447-0812-LL1-2EFF-082	8/2/2012	8/3/2012	200-12066-5	12066	•			
5447-0812-LL1-EFF-082	5447-0812-LL1-EFF-082		8/2/2012	8/3/2012	200-12066-3	12066	•	•	•	
5447-0912-LL1-EFF-083			9/12/2012	9/13/2012	200-12664-2	12664	•		•	
5447-0712-LL1-INF-081			7/2/2012	7/3/2012	200-11587-1	11587			•	
		5447-0812-LL1-2INF-082	8/2/2012	8/3/2012	200-12066-2	12066		•	•	
5447-0812-LL1-INF-082	5447-0812-LL1-INF-082		8/2/2012	8/3/2012	200-12066-1	12066		•	•	
5447-0912-LL1-INF-083			9/12/2012	9/13/2012	200-12664-1	12664			•	
5447-0712-AOP-EFF2-137			7/2/2012	7/3/2012	200-11588-7	11588		•	•	
5447-0812-AOP-EFF2-138			8/23/2012	8/24/2012	200-12397-2	12397		•	•	
5447-0712-AOP-INF-137			7/2/2012	7/3/2012	200-11588-6	11588		•	•	
5447-0712-LL4-INF			7/2/2012	7/3/2012	200-11586-1	11586			•	
5447-0812-LL4-INF			8/2/2012	8/3/2012	200-12072-1	12072		•	•	
5447-0912-LL4-INF			9/12/2012	9/13/2012	200-12659-1	12659			•	
5447-0712-LL4-EFF			7/2/2012	7/3/2012	200-11586-2	11586	•		•	

Table 2-1
Sample Collection Summary
Third 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	Volatiles	Volatiles-Air
5447-0812-LL4-EFF			8/2/2012	8/3/2012	200-12072-2	12072	•	•	•	
5447-0912-LL4-EFF			9/12/2012	9/13/2012	200-12659-2	12659	•		•	
5447-0712-LL4-AIR-EFF			7/2/2012	7/3/2012	200-11599-1	11599				•
5447-0812-LL4-AIR-EFF			8/2/2012	8/3/2012	200-12086-1	12086				•
5447-0812-EW1R-138			8/1/2012	8/3/2012	200-12074-8	12074			•	
5447-0812-EW14-138			8/1/2012	8/2/2012	200-12030-7	12030		•		
5447-0812-EW04-138			8/1/2012	8/2/2012	200-12030-2	12030		•		
5447-0812-EW16-138			8/1/2012	8/2/2012	200-12030-8	12030		•		
5447-0812-EW03-138			8/1/2012	8/2/2012	200-12030-1	12030		•		
5447-0812-EW09-138			8/1/2012	8/2/2012	200-12030-5	12030		•		
		5447-0812-EW09-138-A	8/1/2012	8/2/2012	200-12030-6	12030		•		
5447-0812-EW07-138			8/1/2012	8/2/2012	200-12030-4	12030		•		
5447-0812-EW06-138			8/1/2012	8/2/2012	200-12030-3	12030		•		
		5447-0812-LL1-2AIR-EFF-082	8/2/2012	8/3/2012	200-12088-2	12088				•
5447-0812-LL1-AIR-EFF-082			8/2/2012	8/3/2012	200-12088-1	12088				•
5447-0812-EW11-138			8/23/2012	8/24/2012	200-12397-1	12397		•	•	
TH-EW-017-080712			8/7/2012	8/11/2012	200-12201-1	12201			•	
		TH-EW-217-080712	8/7/2012	8/11/2012	200-12201-2	12201			•	
GCW1-INF-092012			9/12/2012	9/13/2012	200-12662-6	12662			•	
GCW1-EFF-092012			9/12/2012	9/13/2012	200-12662-7	12662			•	
5447-0912-LL4-AIR-INF			9/12/2012	9/13/2012	200-12675-1	12675				•
Trip Blanks										
TRB-2INF-072012			7/2/2012	7/3/2012	200-11588-8	11588			•	
TRB-LL1-2INF-072012			7/2/2012	7/3/2012	200-11587-3	11587			•	
TRB-LL4-2INF-072012			7/2/2012	7/3/2012	200-11586-3	11586			•	
TRB-TH-EW-217-080712			8/7/2012	8/11/2012	200-12201-3	12201			•	
TRB-2EW01-082012			8/1/2012	8/3/2012	200-12074-7	12074			•	
TRB-LL1-2INF-082012			8/2/2012	8/3/2012	200-12066-4	12066			•	
TRB-LL4-2INF-082012			8/2/2012	8/3/2012	200-12072-3	12072			•	
TRB-2EW11-082012			8/23/2012	8/24/2012	200-12397-3	12397			•	
TRB-2INF-092012			9/12/2012	9/13/2012	200-12662-8	12662			•	
TRB-LL1-2INF-092012			9/12/2012	9/13/2012	200-12664-3	12664			•	
TRB-LL4-2INF-092012			9/12/2012	9/13/2012	200-12659-3	12659			•	

Notes:

Anions	Ion Chromatography
Volatiles	Volatile Organic Compounds by Capillary GC/MS
Explosives	Nitroaromatics and Nitramines by HPLC
Volatiles-Air	The Determination fo Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS

Table 2-2
Sample Collection Summary
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample IDs	MS/MSD Samples	Field Duplicate	Matrix	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
Field Samples									
NORTH 1			Water	9/7/2012	9/8/2012	200-12605-1	12605	•	•
NORTH 1			Soil	9/7/2012	9/8/2012	200-12605-4	12605	•	
NORTH 2			Soil	9/7/2012	9/8/2012	200-12605-7	12605	•	
SOUTH 1			Water	9/7/2012	9/8/2012	200-12605-2	12605	•	•
		SOUTH 2	Water	9/7/2012	9/8/2012	200-12605-3	12605	•	•
SOUTH 1			Soil	9/7/2012	9/8/2012	200-12605-5	12605	•	
		SOUTH 2	Soil	9/7/2012	9/8/2012	200-12605-6	12605	•	
SOUTH1			Soil	9/10/2012	9/11/2012	200-12620-4	12620		•
		SOUTH 2	Soil	9/10/2012	9/11/2012	200-12620-5	12620		•
NORTH1			Soil	9/10/2012	9/11/2012	200-12620-2	12620		•
NORTH2			Soil	9/10/2012	9/11/2012	200-12620-3	12620		•
Trip Blanks									
TRB-2NORTH-092012				9/7/2012	9/8/2012	200-12605-8	12605		•
TRB-2NORTH-091012				9/10/2012	9/11/2012	200-12620-1	12620		•

Notes:

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

Table 3-1
Data Quality Evaluation Results
Third 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	%REC	BLK	C_RPD	CAL	Comments	Final Result
5447-0712-340-137	7/2/2012	11588	200-11588-3	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.030	J			X		Column RPD	0.030 J
5447-0712-AOP-EFF2-137	7/2/2012	11588	200-11588-7	Explosives	1,3,5-trinitrobenzene	µg/L	0.020	J			X		Column RPD	0.020 J
5447-0712-AOP-INF-137	7/2/2012	11588	200-11588-6	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.037	J			X		Column RPD	0.037 J
5447-0712-AOP-INF-137	7/2/2012	11588	200-11588-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.88	J			X		Column RPD	0.88 J
5447-0812-2INF-138	8/2/2012	12074	200-12074-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.21	J				X	ICV	0.21 J
5447-0812-2INF-138	8/2/2012	12074	200-12074-2	Volatiles	methylene chloride	µg/L	0.56	U		X			Lab Blank	1.0 U
5447-0812-320-138	8/2/2012	12074	200-12074-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-320-138	8/2/2012	12074	200-12074-3	Volatiles	methylene chloride	µg/L	0.46	U		X			Lab Blank	1.0 U
5447-0812-340-138	8/2/2012	12074	200-12074-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-340-138	8/2/2012	12074	200-12074-4	Volatiles	methylene chloride	µg/L	0.43	U		X			Lab Blank	1.0 U
5447-0812-360-138	8/2/2012	12074	200-12074-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-360-138	8/2/2012	12074	200-12074-5	Volatiles	methylene chloride	µg/L	0.46	U		X			Lab Blank	1.0 U
5447-0812-AOP-EFF2-138	8/23/2012	12397	200-12397-2	Explosives	1,3,5-trinitrobenzene	µg/L	0.037	J			X		Column RPD	0.037 J
5447-0812-AOP-EFF2-138	8/23/2012	12397	200-12397-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-AOP-EFF2-138	8/23/2012	12397	200-12397-2	Volatiles	methylene chloride	µg/L	0.40	U		X			Lab Blank	1.0 U
5447-0812-EFF-138	8/2/2012	12074	200-12074-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-EFF-138	8/2/2012	12074	200-12074-6	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.039	J			X		Column RPD	0.039 J
5447-0812-EFF-138	8/2/2012	12074	200-12074-6	Volatiles	methylene chloride	µg/L	0.44	U		X			Lab Blank	1.0 U
5447-0812-EW03-138	8/1/2012	12030	200-12030-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.070	J				X	ICV	0.070 J
5447-0812-EW04-138	8/1/2012	12030	200-12030-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.52	J				X	ICV	0.52 J
5447-0812-EW06-138	8/1/2012	12030	200-12030-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.21	J				X	ICV	0.21 J
5447-0812-EW07-138	8/1/2012	12030	200-12030-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.063	J				X	ICV	0.063 J
5447-0812-EW09-138	8/1/2012	12030	200-12030-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.15	J				X	ICV	0.15 J
5447-0812-EW09-138-A	8/1/2012	12030	200-12030-6	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.086	J				X	ICV	0.086 J
5447-0812-EW11-138	8/23/2012	12397	200-12397-1	Explosives	1,3,5-trinitrobenzene	µg/L	0.013	J			X		Column RPD	0.013 J
5447-0812-EW11-138	8/23/2012	12397	200-12397-1	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.047	J			X		Column RPD	0.047 J
5447-0812-EW11-138	8/23/2012	12397	200-12397-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.96	J			X	X	Column RPD,ICV	0.96 J
5447-0812-EW11-138	8/23/2012	12397	200-12397-1	Volatiles	methylene chloride	µg/L	11	U		X			Lab Blank	24 U
5447-0812-EW14-138	8/1/2012	12030	200-12030-7	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.067	J			X		Column RPD	0.067 J
5447-0812-EW14-138	8/1/2012	12030	200-12030-7	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.77	J				X	ICV	0.77 J
5447-0812-EW16-138	8/1/2012	12030	200-12030-8	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	J				X	ICV	0.20 J
5447-0812-EW1R-138	8/1/2012	12074	200-12074-8	Volatiles	methylene chloride	µg/L	0.44	U		X			Lab Blank	1.0 U
5447-0812-INF-138	8/2/2012	12074	200-12074-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.20	J				X	ICV	0.20 J
5447-0812-INF-138	8/2/2012	12074	200-12074-1	Volatiles	methylene chloride	µg/L	0.52	U		X			Lab Blank	1.0 U
5447-0812-LL1-2INF-082	8/2/2012	12066	200-12066-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.036	J			X	X	Column RPD,ICV	0.036 J
5447-0812-LL1-2INF-082	8/2/2012	12066	200-12066-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.057	J			X		Column RPD	0.057 J
5447-0812-LL1-2INF-082	8/2/2012	12066	200-12066-2	Volatiles	methylene chloride	µg/L	0.76	U		X			Lab Blank	1.4 U

Table 3-1
Data Quality Evaluation Results
Third 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	%REC	BLK	C_RPD	CAL	Comments	Final Result
5447-0812-LL1-2INF-082	8/2/2012	12066	200-12066-2	Volatiles	trichloroethene	µg/L	110	J	X				MS Recovery	110 J
5447-0812-LL1-EFF-082	8/2/2012	12066	200-12066-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-LL1-EFF-082	8/2/2012	12066	200-12066-3	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.071	J			X		Column RPD	0.071 J
5447-0812-LL1-EFF-082	8/2/2012	12066	200-12066-3	Volatiles	methylene chloride	µg/L	0.45	U		X			Lab Blank	1.0 U
5447-0812-LL1-INF-082	8/2/2012	12066	200-12066-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.030	J			X	X	Column RPD,ICV	0.030 J
5447-0812-LL1-INF-082	8/2/2012	12066	200-12066-1	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.066	J			X		Column RPD	0.066 J
5447-0812-LL1-INF-082	8/2/2012	12066	200-12066-1	Volatiles	methylene chloride	µg/L	0.91	U		X			Lab Blank	2.0 U
5447-0812-LL1-INF-082	8/2/2012	12066	200-12066-1	Volatiles	trichloroethene	µg/L	120	J	X				MS Recovery	120 J
5447-0812-LL4-EFF	8/2/2012	12072	200-12072-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0812-LL4-EFF	8/2/2012	12072	200-12072-2	Volatiles	methylene chloride	µg/L	0.44	U		X			Lab Blank	1.0 U
5447-0812-LL4-INF	8/2/2012	12072	200-12072-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.033	J			X	X	Column RPD,ICV	0.033 J
5447-0812-LL4-INF	8/2/2012	12072	200-12072-1	Volatiles	methylene chloride	µg/L	3.3	U		X			Lab Blank	5.0 U
5447-0912-320-139	9/12/2012	12662	200-12662-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0912-320-139	9/12/2012	12662	200-12662-2	Volatiles	methylene chloride	µg/L	0.51	U		X			Lab Blank	1.0 U
5447-0912-340-139	9/12/2012	12662	200-12662-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0912-340-139	9/12/2012	12662	200-12662-3	Volatiles	methylene chloride	µg/L	0.52	U		X			Lab Blank	1.0 U
5447-0912-360-139	9/12/2012	12662	200-12662-4	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0912-360-139	9/12/2012	12662	200-12662-4	Volatiles	methylene chloride	µg/L	0.51	U		X			Lab Blank	1.0 U
5447-0912-EFF-139	9/12/2012	12662	200-12662-5	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X	ICV	0.20 UJ
5447-0912-EFF-139	9/12/2012	12662	200-12662-5	Volatiles	methylene chloride	µg/L	0.49	U		X			Lab Blank	1.0 U
5447-0912-INF-139	9/12/2012	12662	200-12662-1	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.16	J				X	ICV	0.16 J
5447-0912-INF-139	9/12/2012	12662	200-12662-1	Volatiles	methylene chloride	µg/L	0.56	U		X			Lab Blank	1.0 U
5447-0912-LL1-EFF-083	9/12/2012	12664	200-12664-2	Volatiles	methylene chloride	µg/L	0.49	U		X			Lab Blank	1.0 U
5447-0912-LL1-INF-083	9/12/2012	12664	200-12664-1	Volatiles	methylene chloride	µg/L	0.79	U		X			Lab Blank	1.5 U
5447-0912-LL4-EFF	9/12/2012	12659	200-12659-2	Volatiles	methylene chloride	µg/L	0.49	U		X			Lab Blank	1.0 U
5447-0912-LL4-INF	9/12/2012	12659	200-12659-1	Volatiles	methylene chloride	µg/L	2.3	U		X			Lab Blank	4.4 U
GCW1-EFF-092012	9/12/2012	12662	200-12662-7	Volatiles	methylene chloride	µg/L	0.51	U		X			Lab Blank	1.0 U
GCW1-INF-092012	9/12/2012	12662	200-12662-6	Volatiles	methylene chloride	µg/L	2.0	U		X			Lab Blank	4.0 U
TH-EW-017-080712	8/7/2012	12201	200-12201-1	Volatiles	methylene chloride	µg/L	0.42	U		X			Lab Blank	1.0 U
TH-EW-217-080712	8/7/2012	12201	200-12201-2	Volatiles	methylene chloride	µg/L	0.41	U		X			Lab Blank	1.0 U

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
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV

Table 3-2
Data Quality Evaluation Results
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	BLK	CAL	IS_Surr	OTHER	Comments	Final Result
NORTH 1	9/7/2012	12605	200-12605-1	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.25	UJ				X	False Positive	0.25 UJ
NORTH 1	9/7/2012	12605	200-12605-1	Volatiles	methylene chloride	µg/L	0.51	UJ	X	X			Lab Blank,Initial Calibration RSD	0.51 UJ
NORTH 1	9/10/2012	12620	200-12620-2	Volatiles	methylene chloride	µg/kg	0.79	U	X				Lab Blank	0.79 U
NORTH 2	9/10/2012	12620	200-12620-3	Volatiles	methylene chloride	µg/kg	0.74	U	X				Lab Blank	0.74 U
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2,4,6-trinitrotoluene	µg/L	0.23	UJ				X	Professional Judgement	0.23 J
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2,4-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Volatiles	methylene chloride	µg/L	0.48	UJ	X	X			Lab Blank,Initial Calibration RSD	1.0 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2,4,6-trinitrotoluene	µg/L	0.23	UJ				X	Professional Judgement	0.23 J
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2,4-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.0	UJ			X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Volatiles	methylene chloride	µg/L	0.51	UJ	X	X			Lab Blank,Initial Calibration RSD	0.51 UJ
SOUTH 1	9/10/2012	12620	200-12620-4	Volatiles	methylene chloride	µg/kg	0.63	U	X				Lab Blank	0.63 U
SOUTH 2	9/10/2012	12620	200-12620-5	Volatiles	methylene chloride	µg/kg	0.62	U	X				Lab Blank	0.62 U

Reason for Qualification	
BLK	Ambient Blank, Lab Blank, CCB, CCB - Neg, Trip Blank, Equipment Blank, Field Blank, Material Blank, Lab Blank - Neg
C_RPD	Column RPD
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV
IS_Surr	Internal standard, Surrogate recovery outside project limits.
OTHER	An analyte (non-common laboratory artifact) was detected in the sample at a concentration less than 5X the concentration detected in the associated method blank., Analyte not confirmed on

Table 3-3
Explosives Quality Control Outliers
Third 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
Confirmation Column Difference					
5447-0712-340-137	11588	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	53.7 RPD
5447-0712-AOP-EFF2-137	11588	1,3,5-Trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	78.8 RPD
5447-0712-AOP-INF-137	11588	2-Amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	194 RPD
5447-0712-AOP-INF-137	11588	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	182 RPD
5447-0812-AOP-EFF2-138	12397	1,3,5-Trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	44.2 RPD
5447-0812-EFF-138	12074	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	50.0 RPD
5447-0812-EW11-138	12397	1,3,5-Trinitrobenzene	Confirmation Column Difference exceeds UCL	< 40 RPD	51.4 RPD
5447-0812-EW11-138	12397	2-Amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	127 RPD
5447-0812-EW11-138	12397	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	74.5 RPD
5447-0812-EW14-138	12030	2-Amino-4,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	45.9 RPD
5447-0812-LL1-2INF-082	12066	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	186 RPD
5447-0812-LL1-2INF-082	12066	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	126 RPD
5447-0812-LL1-EFF-082	12066	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	106 RPD
5447-0812-LL1-INF-082	12066	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	191 RPD
5447-0812-LL1-INF-082	12066	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Confirmation Column Difference exceeds UCL	< 40 RPD	108 RPD
5447-0812-LL4-INF	12072	4-Amino-2,6-dinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	196 RPD
Calibration					
5447-0812-2INF-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-320-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-340-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%

Table 3-3
Explosives Quality Control Outliers
Third 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
5447-0812-360-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-AOP-EFF2-138	12397	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EFF-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW03-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW04-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW06-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW07-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW09-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW09-138-A	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW11-138	12397	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW14-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-EW16-138	12030	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-INF-138	12074	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-LL1-INF-082	12066	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-LL1-2INF-082	12066	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-LL1-EFF-082	12066	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-LL4-EFF	12072	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0812-LL4-INF	12072	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-912-320-139	12662	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0912-340-139	12662	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0912-360-139	12662	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0912-EFF-139	12662	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
5447-0912-INF-139	12662	4-Amino-2,6-dinitrotoluene	ICV %D exceeds UCL	< 15 %	17.4%
Field Duplicate RPD					
5447-0812-EW09-138	12030	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Field Duplicate exceeds UCL	< 40 RPD	96.3 RPD
5447-0812-EW09-138-A	12030	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Field Duplicate exceeds UCL	< 40 RPD	96.3 RPD

Table 3-4
Volative Organic Compound Quality Control Outliers
Third 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
Blank					
5447-0812-2INF-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-320-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-340-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-360-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-AOP-EFF2-138	12397	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
5447-0812-EFF-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-EW11-138	12397	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.47 µg/L
5447-0812-EW1R-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-INF-138	12074	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-LL1-2INF-082	12066	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-LL1-EFF-082	12066	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-LL1-INF-082	12066	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.46 µg/L
5447-0812-LL4-EFF	12072	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0812-LL4-INF	12072	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-320-139	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-340-139	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-360-139	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-EFF-139	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-INF-139	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-LL1-EFF-083	12664	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.56 µg/L
5447-0912-LL1-INF-083	12664	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.56 µg/L
5447-0912-LL4-EFF	12659	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
5447-0912-LL4-INF	12659	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
GCW1-EFF-092012	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
GCW1-INF-092012	12662	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.53 µg/L
TH-EW-017-080712	12201	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.52 µg/L
TH-EW-217-080712	12201	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.52 µg/L
LCS Recovery					
5447-0712-320-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-340-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-360-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-AOP-EFF2-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-AOP-INF-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-EFF-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
5447-0712-INF-137	11588	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %

Table 3-4
Volative Organic Compound Quality Control Outliers
Third 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
5447-0712-LL4-INF	11586	Vinyl Chloride	Laboratory Control Sample exceeds UCL	75 - 135 %	140 %
MS Recovery					
5447-0812-LL1-2INF-082	12066	Trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	58.0 %
5447-0812-LL1-INF-082	12066	Trichloroethene	Matrix Spike < minimum LWL	80 - 120 %	58.0 %

Table 3-5
Explosives Quality Control Outliers
2012 Main Groundwater Treatment Plan Bypass 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
Surrogate					
SOUTH 1	12605	hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	1,3,5-Trinitrobenzene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2,4,6-trinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	4-amino-2,6-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2-amino-2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	1,3,5-trinitrobenzene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2,4,6-trinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	4-amino-2,6-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2-amino-2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
Identification					
NORTH 1	12605	2-amino-2,4-dinitrotoluene	RT outside the RT window	20.38-20.58	20.30 min

Table 3-6
Volatile Organic Compounds Quality Control Outliers
2012 Main Groundwater Treatment Plant Bypass 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
Blank					
NORTH 1	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SOUTH 1	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SOUTH 2	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
NORTH 1	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
NORTH 2	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
SOUTH 1	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
SOUTH 2	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
Calibration					
NORTH 1	12605	Methylene Chloride	%RSD > UCL	15%	16.3%
SOUTH 1	12605	Methylene Chloride	%RSD > UCL	15%	16.3%
SOUTH 2	12605	Methylene Chloride	%RSD > UCL	15%	16.3%

Table 4-1
Field Completeness
Third 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	35	33	94.3%
Volatiles	50	48	96.0%
Volatiles-Air	5	5	100%
Totals =	101	97	96.0%
Goal =			95%

Notes:

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

Table 4-2
Field Completeness
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	7	7	100%
Volatiles	7	7	100%
Totals =	14	14	100.0%
Goal =			95%

Notes:

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

Table 4-3
Analytical Completeness
Third 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)	198	172	86.9%	90%	198	100%	80%
Volatiles (Analyte Count - 6)	228	226	99.1%	90%	228	100%	80%
Volatiles-Air (Analyte Count - 1)	5	5	100%	90%	5	100%	80%
Totals =	442	414	93.5%	90%	430	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 4-4
Analytical Completeness
2012 Main Groundwater Treatment Plant Bypass 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
Explosives (Analyte Count - 6)	42	30	71.4%	90%	42	100%	80%
Volatiles (Analyte Count - 6)	42	39	92.9%	90%	42	100%	80%
Totals =	84	69	82.1%	95%	84	100%	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
Third Quarter 2012 Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field	Analytical	Project Completeness
96.0%	100.0%	96.0%
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.

Table 4-6
Project Completeness
2012 Main Groundwater Treatment Plant Bypass 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 Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Groundwater samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 8-7-12	COC No: 080712
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.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
A mw-0116-072012	8-10-12	1000	G	W	5	X	X									VOCs 24 HR. TAT
A mw-2116-072012	8-10-12	1000	G	W	5	X	X									VOCs 24 HR. TAT
B mw-0116-072012	8-10-12	1015	G	W	5	X	X									
D mw-0116-072012	8-10-12	1030	G	W	5	X	X									
TH-EW-017-080712	8-7-12	1445	G	W	3	X										
TH-EW-217-080712	8-7-12	1445	G	W	3	X										
TRB-TH-EW-217-080712	8-7-12	1445	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 D. Hinz	ECC	8-10-12	Fed-ex 7987 2109		5657
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TAB	8/11/12 09:50
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

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 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: EW09 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=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0812-EW03-138	8-1-12	0952	G	W			2		
5447-0812-EW04-138	8-1-12	0942	G	W			2		
5447-0812-EW06-138	8-1-12	1040	G	W			2		
5447-0812-EW07-138	8-1-12	1033	G	W			2		
5447-0812-EW09-138	8-1-12	1025	G	W			2		
5447-0812-EW09-138-A	8-1-12	1025	G	W			2		
5447-0812-EW14-138	8-1-12	0936	G	W			2		
5447-0812-EW16-138	8-1-12	0947	G	W			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]	8-1-12 1500	ECC	Fed Ex 8625 3615 7 0530	8-1-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: Steph Buchan	Date/Time: 8/2/12 1030	Company TA BUR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ 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

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNOU Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

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 8260B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0712-221-INF-081	7-2-12	0730	G	W			3		
5447-0712-221-EFF-081	7-2-12	0733	G	W			3		
TRB-221-2INF-072012	7-2-12	0730	G	W			2		

Preservation Codes:

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

Other:

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]	7-2-12 1500	ECC	Fed Ex 8675 3615-0460	7-2-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 7-3-12 1015	Company TA BVR
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

Chain of Custody Record

5.4

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: Enviro Med	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)	Nitrate 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0712-221-EFA-081	7-2-12	0733	G	W			2		

Page 199 of 202

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]	7-2-12 - 1500	ECC	Fed Ex 8695-3615-0471	7-2-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7/3/12 900	Company TAD
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: 5.4°C

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNOP 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)	VOC 8260 Suite	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0812-LL1-EFF-082	8-2-12	0830	G	W			2		
5447-0812-LL1-2EFF-082	8-2-12	0830	G	W			2		
5447-0812-LL1-EFF-MS	8-2-12	0830	G	W			2		
5447-0812-LL1-EFF-MSD	8-2-12	0830	G	W			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]	8-2-12 - 1500	ECC	Fed Ex 8475-3415-0519	8-2-12 / 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 0900	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.2°C

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

Client Contact: John Ryder
Company: ECC
Address: 1746 Cole Blvd Bld 21 S-1350
City: Lakewood
State, Zip: Co 80401
Phone: 303-298-7601
Email:
Project Name: FNUP Mead
Site:

Sampler:
Phone:
Lab PM:
E-Mail:
Carrier Tracking No(s):
COC No:
Page: 1 of 1
Job #:

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
Project #: 5447.002
SSOW#:

Analysis Requested

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 8260B	Explosives 8330	Total Number of containers
			Preservation Code:						
5447-0812-LL1-INF-082	8-2-12	0820	G	W			3	2	
5447-0812-LL1-2INF-082	8-2-12	0820	G	W			3	2	
5447-0812-LL1-INF-MS	8-2-12	0820	G	W			3	2	
5447-0812-LL1-INF-MSD	8-2-12	0820	G	W			3	2	
5447-0812-LL1-EFF-082	8-2-12	0830	G	W			3	2	
TRB-LL1-2INF-082012	8-2-12	0820	G	W			3	2	

12

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:

Special Instructions/Note:

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]	8-2-12 1500	ECC	Fed Ex 8635-3615-0520		Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 1000	Company TASBL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ 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 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 Bldg 1 Suite 350	Email:		
City/State/Zip Lakewood CO 80401			
Phone: 303-298-7600	Site Contact: Tim Thomas		
FAX: 303-298-7837	TA Contact:		
Project Name: FNDP Maint	Analysis Turnaround Time		
Site: 5447-002	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)
5447-0812-LL4-AIR-EFF	8/2/12	0915		30	0		3661	X											

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (Inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 8-2-12 1500	Samples Received by: Fed Ex 8675-3615-0493
Samples Relinquished by:	Date/Time:	Received by: BK TAEUR 8/3/12 1000
Relinquished by:	Date/Time:	Received by:

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 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNUP 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)	VOCs 8260B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0912-LLI-INF-083	9-12-12	0853	G	W			3		
5447-0912-LLI-EFF-083	9-12-12	0855	G	W			3		
TRB-LLI-2INF-092012	9-12-12	0853	G	W			2		

Page 231 of 255

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]	9-12-12 1500	ECC	FedEx 8605 3615 0574	9-12-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	9/13/12 950	TABUR
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

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 Ste 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENNP Mead	Project #: 5440002			
Site:	SSOW#:			

Analysis Requested: Nitrate 9056

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)	Nitrate 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5440-0912-221-EFF-083	9-12-12	0853	G	W			2		

Possible Hazard Identification: [X] 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 [X] 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]	9-12-12 1500	ECC	Fed Ex 8603-3415-0563	9-12-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	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

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNUP 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)	VOCs 8260B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5440-0712-LL4-INF	7-2-12	0750	G	W			3		
5440-0712-LL4-EFF	7-2-12	0752	G	W			3		
TRB-LL4-2INF-072012	7-2-12	0750	G	W			2		
(11)									

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]	7-2-12 1500	ECC	Fed Ex 867536150440	7-2-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 7-3-12 1015	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:

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 Jacus	1 of 1 COCs
Company: ECC	Phone:		
Address: 1746 Cole Blvd Bldg 21 Suite 350	Email:		
City/State/Zip Lakewood CO 80401			
Phone: 303-298-7602	Site Contact: Tim Jacus		
FAX: 303-298-7837	TA Contact:		
Project Name: FNDP Mach	Analysis Turnaround Time		
Site: 5447-002	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)
5447-0712-LLY-AIR-EFF	7-2-12	0755			-0-		4849	1											

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments: No solid cap for Before pressure

Samples Shipped by:	Date/Time: 7-2-12 - 15000	Samples Received by: Fed Ex 8675 3615 - 0450
Samples Relinquished by:	Date/Time:	Received by: 7-3-12 815
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENVO Mead	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)	Nitrates 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0812-LL4-EFF	8-2-12	0913	G	W			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]	8-2-12-1500	ECC	FedEx 8633-3415-9519	8-2-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 0900	Company TA
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: 3.2°C

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

Client Contact: John Ryder
Company: ECC
Address: 1746 Cole Blvd Bld 21 Suite 350
City: Lakewood
State, Zip: Co 80401
Phone: 303-298-7607
Email:
Project Name: FNUP Mead
Site:

Sampler:
Phone:
Lab PM:
E-Mail:
Carrier Tracking No(s):
COC No:
Page: 1 of 1
Job #:

Due Date Requested:
TAT Requested (days):
PO #:
WO #:
Project #: 5447.002
SSOW#:

Analysis Requested

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 8260B	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
5447-0812-LL4-INF	8-2-12	0907	G	W			3	2		
5447-0812-LL4-EFF	8-2-12	0913	G	W			3	2		
TRB-LL4-2INF-080212	8-2-12	0907	G	W			2			

Preservation Codes:

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

Other:

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

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

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:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	8-2-12 1520	ECC	FedEx 8675-3615-0520	8-2-12 1520	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 1000	Company TASUN
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

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 #: 200-12072-1
Address: 1746 Cole Blvd Bld 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 Mead	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)	Nitrates 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0812-224-EFF	8-2-12	0913	G	W			2		

Page 411 of 414

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]	8-2-12-1500	ECC	Fed Ex 8675-3415-0519	8-2-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	8/3/12 0900	TAD
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: 3.2°C

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	
Company: ECC	
Address: 1746 Cole Blvd B(42) Suite 350	
City/State/Zip Lakewood CO 80401	
Phone: 303.298.7602	
FAX: 303.298.7837	
Project Name: FNDP Mach	
Site: 5447-002	
PO #	

Project Manager: John Ryder
Phone:
Email:
Site Contact: Tim Thomas
TA Contact:

Analysis Turnaround Time
Standard (Specify)
Rush (Specify)

Samples Collected By: Tim Thomas

1 of 1 COCs

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)
5447-0812-LL1-AIR-EFF-082	8-2-12	0840		28	0		2871	1											
5447-0812-LL1-2A12-EFF-082	8-2-12	0540		30	0		2597	1											

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (Inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 8-2-12 1500	Samples Received by: FedEx 8675-3615-0493
Samples Relinquished by:	Date/Time:	Received by: TABun 8/3/12 1000
Relinquished by:	Date/Time:	Received by:

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNDP Mod	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

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)	1,4-Dioxane 8260B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0912-LL4-INF	9-12-12	0909	G	W			3		
5447-0912-LL4-EFF	9-12-12	0911	G	W			3		
TRB-LL4-2INF-092012	9-12-12	0909	G	W			2		

Preservation Codes:

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

Other:

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]	9-12-12 1500	ECC	Fed Ex 8675-3615-0574	9-12-12 1500	FEDEX
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 9/13/12 950	Company TABUR
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

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 Ste 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7602	PO #:			
Email:	WO #:			
Project Name: FNDD 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)	Nitrates 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-09-02-LLV-EFF	9-12-12	0728	G	W			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]	9-12-12 1500	ECC	Fed Ex 8675-3615-0563	9-12-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ 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 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	
Company:	ECC
Address:	1246 Cole Blvd Bldg 1 Suite 350
City/State/Zip	Lakewood CO 80401
Phone:	303-298-7602
FAX:	303-298-7837
Project Name:	FNDP Mach
Site:	5442-002
PO #	

Project Manager:	John Ryder
Phone:	
Email:	
Site Contact:	Tim Thomas
TA Contact:	
Analysis Turnaround Time	
Standard (Specify)	
Rush (Specify)	

Samples Collected By: Tim Thomas

1 of 1 COCs

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)
5442-0912-LL4-AIR-INF	9-12-12	0915		27	0		3688	X											

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (Inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9-12-12 1500	Samples Received by:	FedEx 8625-3615-0558
Samples Relinquished by:	Date/Time:	Received by:	Steph Pauline TABLR 0950 9/13/12
Relinquished by:	Date/Time:	Received by:	

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 Ste 350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: Enviro Metal	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

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)	1,4-Dioxane 8260B	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
5447-0712-INF-137	7-2-12	0700	G	W			3	2		
5447-0712-320-137	7-2-12	0702	G	W			3	2		
5447-0712-340-137	7-2-12	0705	G	W			3	2		
5447-0712-360-137	7-2-12	0708	G	W			3	2		
5447-0712-EFF-137	7-2-12	0712	G	W			3	2		
5447-0712-AUP-INF-137	7-2-12	0747	G	W			3	2		
5447-0712-AUP-EFF2-137	7-2-12	0742	G	W			3	2		
TRB-2 INF-072012	7-2-12	0700	G	W			2			

Preservation Codes:

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

Other:

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]	7-2-12 1500	ECC	Fed Ex 8675-3615-0460	7-2-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 7-3-12 1015	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:

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 B12 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: Co 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENDO Mead	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)	Nitrate 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5447-0812-EFF-138	8-2-12	0749	G	W			2		
5447-0812-2EFF-138	8-2-12	0749	G	W			2		
5447-0812-EFF-MS	8-2-12	0749	G	W			2		
5447-0812-EFF-MSD	8-2-12	0749	G	W			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]	8-2-12 1500	ECC	FedEx 8675-3615-0019	8-2-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 0900	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 3.6+1 8-3-12

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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNDD Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	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 8260B	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
5447-0812-INF-138	8-2-12	0728	G	W			3	2		
5447-0812-2INF-138	8-2-12	0728	G	W			3	2		
5447-0812-INF-MS	8-2-12	0728	G	W			3	2		
5447-0812-INF-MSD	8-2-12	0728	G	W			3	2		
5447-0812-320-138	8-2-12	0736	G	W			3	2		
5447-0812-340-138	8-2-12	0743	G	W			3	2		
5447-0812-360-138	8-2-12	0746	G	W			3	2		
5447-0812-EFF-138	8-2-12	0749	G	W			3	2		← 48 hr TAT for Explosives
TRB-EWO1-080212	8-1-12	0924	G	W			2			
5447-0812-EWIR-138	8-1-12	0924	G	W			3			

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]	8-2-12 1500	ECC	FedEx 8675-3615-0520	8-2-12 1500	FedEx
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/3/12 1000	Company TABUR
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

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 215-1350	Due Date Requested:			
City: Lakewood	TAT Requested (days):			
State, Zip: CO 80401				
Phone: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENDP Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

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	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
5447-0912-INF-139	9-12-12	0716	G	W			3	2		
5447-0912-320-139	9-12-12	0719	G	W			3	2		
5447-0912-340-139	9-12-12	0721	G	W			3	2		
5447-0912-360-139	9-12-12	0723	G	W			3	2		
5447-0912-EFF-139	9-12-12	0728	G	W			3	2		
~~5~~ GCW-INF-092012	9-12-12	0829	G	W			3			
GCW-EFF-092012	9-12-12	0831	G	W			3			
TRB-2INF-092012	9-12-12	0716	G	W			2			

Preservation Codes:

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

Other:

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]	9-12-12 1550	ECC	Fed Ex 8675-3615-0574	9-12-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 9/13/12 950	Company TABUR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

26 oz 9/13/12 FP

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: Robin 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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: FNWR Mod	Project #: 5442002			
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)	Nitrates 9056	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5442-0912-EFF-139	9-12-12	0911	G	W			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]	9-12-12 1500	ECC	Fed Ex 8475-3615-0563	9-12-12 1500	Fed Ex
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Appendix B
Field Notes

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. 137

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

Description and Location of Work: Sampled main plant

Weather Information:
Sky: Sunny
Precipitation: None
Humidity: 80%

Temp. Max/Min: 72 degrees
Wind Speed/Direction: S. @ 6 mph

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity		pH	Temp	Scond
0700	Sampled Influent	5447-0712-INF-137	7.1	14.9	600
	Influent samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0702	Sampled GAC Vessel 320 Lead	5447-0712-320-137	7.2	14.1	595
0705	Sampled GAC Vessel 340 Lead	5447-0712-340-137	7.2	13.8	593
0708	Sampled GAC Vessel 360 Lead	5447-0712-360-137	7.2	13.4	595
	All GAC Vessel samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0712	Sampled Effluent	5447-0712-EFF-137	7.2	13.2	592
	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				

0747	Sampled AOP Influent 5447-0712-AOP-INF-137	7.1	14.7	660
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0742	Sampled AOP Effluent 5447-0712-AOP-EFF2-137	7.1	15.4	660
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			

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

Calibration: 0764– 0650 Calibrate pH and S cond meters
pH 7.0 = 6.9/7.0 S cond. 1409 = 1438/1409

Remarks: Samples shipped to Test America Burlington
Nitrate samples shipped to Test America Denver
GAC 380 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.

7-2-12 Sampling Event # 137

Time Calibrate pH & Cond Meters

0645 pH 7.0 = 6.98/7.00 Cond 1409 = 1438/1409

0700 Sample plant Influent 5447-0712-INF-137

0702 Sample GAC 320 5447-0712-320-137

0705 Sample GAC 340 5447-0712-340-137

0708 Sample GAC 360 5447-0712-360-137

0712 Sample plant Effluent 5447-0712-EFF-137

0747 Sample AOP Influent 5447-0712-AOP-INF-137

0742 Sample AOP-Effluent 5447-0712-AOP-EFF-137

72° Sunny

5 @ 6 mph

50% Humidity

7-2-12 Sample Event # 137

Sampling Summary Bottles Filled

ID	Time	pH	Sond	Temp	Vols	Explosives	Nitrates
INF	0700	7.1	600	14.9	3	2	—
320	0702	7.2	595	14.1	3	2	—
340	0705	7.2	593	13.8	3	2	—
360	0708	7.2	595	13.4	3	2	—
EFF	0712	7.2	592	13.2	3	2	2
AOP-INF	0747	7.1	660	14.7	3	2	—
AOP EFF2	0742	7.1	640	15.4	3	2	—

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0460

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-0471

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
Leader: _____
Report: _____
Date: July 2, 2012
Client: _____
Contract No: 5447-002
Report No. 081
Site: Mead NOP

Description and Location of Work: Sampled LL1 Plant

Weather Information:
Sky: Sunny
Temp. Max/Min: 72 degrees
Precipitation: None
Wind Speed/Direction: S. @ 6 MPH
Humidity: 80%

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0730	Sampled Influent 5447-0712-LL1-INF-081	6.9	14.0	563
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0733	Sampled Effluent 5447-0712-LL1-EFF-081	8.2	14.3	569
	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: 0645– 0650 Calibrate pH and S cond meters
pH 7.0 =6.9/7.0 S cond. 1409 = 1438/1409

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.

7-2-12 Sample Event # 81

Time Calibrate pH & Scond meters

0645 pH 7.0 = 6.98/7.00 Scond 1409 = 1438/1409

0730 Sampled plant Influent 5447-0712-LL1-INF-081

0733 Sampled plant Effluent 5447-0712-LL1-EFF-081

Sampling Summary Bottles filled

ID	Time	pH	Scond	Temp	Jars	Vials
INF	0730	6.94	563	14.0	3	-
EFF	0733	8.2	549	14.3	3	2

Samples shipped overnight to Test America Burlington via FedEx Air Bill # 8625-3615-0460

Nitrate samples shipped overnight to Test America Denver via FedEx Air Bill # 8625-3615-0417

72° Sunny
SE 6 mph
80% 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
Leader:
Report:
Date: July 2, 2012
Client:
Contract No: 5447-002
Report No. 0
Site: Mead NOP

Description and Location of Work: Sampled LL4 Plant

Weather Information:
Sky: Sunny
Temp. Max/Min: 72 degrees
Precipitation: None
Wind Speed/Direction: S @ 6 mph
Humidity: 80%

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0750	Sampled Influent 5447-0712-LL4-INF	7.2	14.1	590
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0752	Sampled Effluent 5447-0712-LL4-EFF	8.2	14.1	584
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			
0755	Sampled Air Influent 5447-0712-LL4-AIR- INF			
	Influent sample – 1 – 1 Lt Canister – No Preservative – Air Sample			

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

Calibration: 0645– 0650 Calibrate pH and S cond meters
pH 7.0 =6.9/7.0 S cond. 1409 = 1438/1409

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.

7-2-12 Sample LL4

Time Calibrate pH + Cond Meters

0645 pH 7.0 = 6.98/7.00 Cond 1409 = 1438/1409

0750 Sampled plant Influent 5447.0712.LL4.INF

0752 Sampled plant Effluent 5447.0712.LL4-EFF

0755 Sampled Carbon Air 5447.0712.LL4-AIR-EFF

Sampling Summary Bottles Filled

ID	Time	pH	Cond	Temp	VOC	Nitrate	[illegible]
INF	0750	7.2	590	14.1	3	-	-
EFF	0752	8.2	584	14.1	3	2	-
AIR	0755	-	-	-	-	-	1

VOC Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675 3615 0460

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675 3615 0471

Air sample shipped overnight to Test America Burlington via FedEx Air Bill # 8675 3615 0450

72° Sunny
5 @ 6mph
80% 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
Leader:
Report:
Date: August 1, 2012
Client:
Contract No: 5447-002
Report No. 138
Site: Mead NOP

Description and Location of Work: Sampled Extraction Wells

Weather Information:
Sky: Sunny
Temp. Max/Min: 72 degrees
Precipitation: None
Wind Speed/Direction: Calm
Humidity: 92%

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity		pH	Temp	Scond
0924	Sampled EW-1R	5447-0812-EW01-138	7.0	16.1	768
0952	Sampled EW-3	5447-0812-EW03-138	7.2	13.3	632
0942	Sampled EW-4	5447-0812-EW04-138	7.1	14.3	463
1040	Sampled EW-6	5447-0812-EW06-138	7.1	13.8	489
1033	Sampled EW-7	5447-0812-EW07-138	7.2	14.1	506
1025	Sampled EW-9	5447-0812-EW09-138	7.1	14.6	423
1025	Sampled EW-9	5447-0812-EW09-138 A	7.1	14.6	423
0936	Sampled EW-14	5447-0812-EW14-138	7.1	14.1	470
0947	Sampled EW-16	5447-0812-EW16-138	7.2	14.0	510

EW-1R only 3 – 40ml bottles –HCL – VOC'S
All other wells 2 – 1Lt amber glass bottle – no preservative – Explosives

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

Calibration: 0910 – 0915 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 1409

Remarks: Samples shipped to Test America Burlington

Total Hours Worked: 3

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 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for TCE .
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
0924	7.0	16.1	768
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 -3 Total 3 glass
Analytes/parameters requested: -- Voc's,
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/02/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny.
Client/Site Mead NOP Purpose of sampling Test for 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
0952	7.2	13.3	632
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 -2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny.
Client/Site Mead NOP Purpose of sampling Test for 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
0942	7.1	14.3	463
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 -2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for 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
1040	7.1	13.8	489
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 -2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for 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
1033	7.2	14.1	506
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 -2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for 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
1025	7.1	14.6	423
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 - 4 Total 4 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for 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
0936	7.1	14.1	470
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 - 2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by _____ Reviewed by _____

Date 08/01/12 Date _____

ENVIRONMENTAL CHEMICAL CORPORATION

FIELD WATER QUALITY RECORD
GROUNDWATER EXTRACTION WELL

Date 08-01-12 ECC Project # 5447-002 Weather 72 & Sunny .
Client/Site Mead NOP Purpose of sampling Test for 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
0947	7.2	14.0	510
Instrument ID			
Calibration Date	08/01/12	08/01/12	08/01/12

*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 - 2 Total 2 glass
Analytes/parameters requested: -- Explosives
Receiving Laboratory: Test America Shipping Method Fed Ex. Over night
Holding Time in Field 15 minutes Date Shipped 08/01/12
Chain of Custody Form completed for these samples? **Yes** No

Recorded by: _____ Reviewed by _____

Date 08/01/12 Date _____

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. 138

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

Description and Location of Work: Sampled main plant

Weather Information:
Sky: Partly Cloudy
Precipitation: None
Humidity: 90%

Temp. Max/Min: 72 degrees
Wind Speed/Direction: NNW. @ 3 MPH

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity		pH	Temp	Scond
0728	Sampled Influent	5447-0812-INF-138	7.1	15.9	575
0728	Sampled Influent	5447-0812-2INF-138	7.1	15.9	575
0728	Sampled Influent	5447-0812-INF-MS	7.1	15.9	575
0728	Sampled Influent	5447-0812-INF-MSD	7.1	15.9	575
	Influent samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0736	Sampled GAC Vessel 320 Lead	5447-0812-320-138	7.1	14.3	559
0743	Sampled GAC Vessel 340 Lead	5447-0812-340-138	7.1	13.6	558
0746	Sampled GAC Vessel 360 Lead	5447-0812-360-138	7.1	13.5	560
	All GAC Vessel samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0749	Sampled Effluent	5447-0812-EFF-138	7.1	13.2	555
0749	Sampled Effluent	5447-0812-2EFF-138	7.1	13.2	555
0749	Sampled Effluent	5447-0812-EFF-MS	7.1	13.2	555
0749	Sampled Effluent	5447-0812-EFF-MSD	7.1	13.2	555
	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				
	QC/MS/MSD nitrates only.				

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

Calibration: 0715– 0720 Calibrate pH and S cond meters
pH 7.0 = 7.1/7.0 S cond. 1409 = 1432/1409

Remarks: Samples shipped to Test America Burlington
Nitrate samples shipped to Test America Denver

Total Hours Worked: 7

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

8-1-12 Sampling Event # 138 cont.

Time		
	calibrate pH & Cond meter	
0910	pH 7.0 = 7.0	Cond 1409 = 1409
0924	Sample EW-1R	5447-0812-EW1R-138
0952	Sample EW-3	5447-0812-EW03-138
0942	Sample EW-4	5447-0812-EW04-138
1040	Sample EW-6	5447-0812-EW-06-138
1033	Sample EW-7	5447-0812-EW-07-138
1025	Sample EW-9	5447-0812-EW09-138
1025	Sample EW-9 UV	5447-0812-EW09-138-A
0934	Sample EW-14	5447-0812-EW14-138
0947	Sample EW-16	5447-0812-EW16-138

72° Sunny
calm
92% Humidity

8-1-12 Sampling Event # 138 cont
Sampling Summary Bottles Filled

ID	Time	pH	Sond	Temp	VOCs	Explosives
EW1R	0924	7.0	768	16.1	3	–
EW3	0952	7.2	632	13.3	–	2
EW4	0942	7.1	463	14.3	–	2
EW6	1040	7.1	489	13.8	–	2
EW7	1033	7.2	506	14.1	–	2
EW9	1025	7.1	423	14.6	–	2
EW9A	1025	7.1	423	14.6	–	2
EW-14	0936	7.1	470	14.1	–	2
EW16	0949	7.2	510	14.0	–	2

VOCs shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0520

Explosives shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0530

5-2-12 Sampling Event # 138

Time Calibrate pH & Sond meters

0715 pH 7.0 = 7.1/7.0 Sond 1405 = 1432/1409

0728 Sampled plant Influent 5447-0812-INF-138

0728 Sampled plant Influent 5447-0812-2INF-138

0728 Sampled plant Influent 5447-0812-INF-MS

0728 Sample plant Influent 5447-0812-INF-MSD

0736 Sampled EAC 320 5447-0812-320-138

0743 Sampled EAC 340 5447-0812-340-138

0746 Sample EAC 360 5447-0812-360-138

0749 Sampled plant Effluent 5447-0812-EFF-138

0749 Sampled plant Effluent 5447-0812-2EFF-138

0749 Sampled plant Effluent 5447-0812-EFF-MS

0749 Sampled plant Effluent 5447-0812-EFF-MSD

72° partly Cloudy

NNW @ 3 mph

80% Humidity

8-2-12

Sampling Event #138
Sampling Summary Bottles Filled

ID	Time	pH	Scan	Temp	Volt	Ext Pesticides	Nitrates
INF	0728	7.1	575	15.9	3	2	-
2INF	0728	7.1	575	15.9	3	2	-
INFMS	0728	7.1	575	15.9	3	2	-
INFMSD	0728	7.1	575	15.9	3	2	-
320	0736	7.1	559	14.8	3	2	-
340	0743	7.1	558	13.6	3	2	-
360	0746	7.1	560	13.5	3	2	-
EFF	0749	7.1	555	13.2	3	2	2
2EFF	0749	7.1	555	13.2	-	-	2
EFFMS	0749	7.1	555	13.2	-	-	2
EFFMSD	0749	7.1	555	13.2	-	-	2

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675 3615-0520

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675 3615-0519

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. 082

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

Description and Location of Work: Sampled LL1 Plant

Weather Information:
Sky: Partly Cloudy
Precipitation: None
Humidity: 90%

Temp. Max/Min: 72 degrees
Wind Speed/Direction: NNW. @ 3 MPH

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity		pH	Temp	Scond
0820	Sampled Influent	5447-0812-LL1-INF-082	6.9	14.3	569
0820	Sampled Influent	5447-0812-LL1-2INF-082	6.9	14.3	569
0820	Sampled Influent	5447-0812-LL1-INF-MS	6.9	14.3	569
0820	Sampled Influent	5447-0812-LL1-INF-MSD	6.9	14.3	569
	Influent samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0830	Sampled Effluent	5447-0812-LL1-Eff-082	8.2	15.6	568
0830	Sampled Effluent	5447-0812-LL1-2Eff-082	8.2	15.6	568
0830	Sampled Effluent	5447-0812-LL1-Eff-MS	8.2	15.6	568
0830	Sampled Effluent	5447-0812-LL1-Eff-MSD	8.2	15.6	568
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative - Explosives				
	1 – 1Lt poly bottle – no preservative – Nitrates				
	1 – 250ml poly bottle – H2SO4 – Nitrates				
	QC and MS/MSD Nitrates only				
0840	Sampled Carbon Air Effluent	5447-0812-LL1-AIR-EFF-082			
0840	Sampled Carbon Air Effluent	5447-0812-LL1-2AIR-EFF-082			
	Air sample – 1 – 1 Lt Canister no preservative Air sample				

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

Calibration: 0715– 0720 Calibrate pH and S cond meters
pH 7.0 =7.1/7.0 S cond. 1409 = 1432/1409

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

Total Hours Worked: 6

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

8.2.12 Sample Event #82

Time	Calibrate pH & Cond meters
0715	pH 7.0 = 7.1/7.0 Cond 1409 = 1432/1409
0820	Sample plant Influent 5447-0812-LL1-INF-082
0820	Sample plant Influent 5447-0812-LL1-2INF-082
0820	Sample plant Influent 5447-0812-LL1-INF-MS
0820	Sample plant Influent 5447-0812-LL1-INF-MSD
0830	Sample plant Effluent 5447-0812-LL1-EFF-082
0830	Sample plant Effluent 5447-0812-LL1-2EFF-082
0830	Sample Plant Effluent 5447-0812-LL1-EFF-MS
0830	Sample plant Effluent 5447-0812-LL1-EFF-MSD
0840	Sample Carbon Air 5447-0812-LL1-AIR-EFF-082
0840	Sample Carbon AIR 5447-0812-LL1-2AIR-EFF-082

72° Partly cloudy
NNW 3 mph
90% Humidity

8.2.12 Sample Event #82

Sampling Summary Bottles Filled

ID	Time	pH	Sound	Temp	VOCs	Explosives	Nitrates	TCE
INF	0820	6.9	569	14.3	3	2	-	-
2INF	0820	6.9	569	14.3	3	2	-	-
INFMS	0820	6.9	569	14.3	3	2	-	-
INFMSD	0820	6.9	569	14.3	3	2	-	
EFF	0830	8.2	568	15.6	3	2	2	-
2EFF	0830	8.2	568	15.6	-	-	2	-
EFFMS	0830	8.2	568	15.6	-	-	2	-
EFFMSD	0830	8.2	568	15.4	-	-	2	-
AIR	0840	-	-	-	-	-	-	1
2AIR	0840	-	-	-	-	-	-	1

Samples shipped overnight to Test America Burlington via FedEx Air Bill # 8675-3615-0520

Nitrate samples shipped overnight to Test America Denver via FedEx Air Bill # 8675-3615-0519

Air samples shipped overnight to Test America Burlington via FedEx Air Bill # 8675-3615-0493

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: August 2, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL4 Plant

Weather Information:
Sky: Partly Cloudy
Precipitation: None
Humidity: 90%

Temp. Max/Min: 72 degrees
Wind Speed/Direction: NNW. @ 3 MPH

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0907	Sampled Influent 5447-0812-LL4-INF	7.1	15.6	587
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1LT amber bottles – No preservative			
0913	Sampled Effluent 5447-0812-LL4-EFF	8.2	14.4	584
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1LT amber bottles – No preservative			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			
0915	Sampled Air Influent 5447-0812-LL4-AIR- INF			
	Influent sample – 1 – 1 Lt Canister – No Preservative – Air Sample			

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

Calibration: 0715– 0720 Calibrate pH and S cond meters
pH 7.0 =7.1/7.0 S cond. 1409 = 1432/1409

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.

8-2-12 Sample LL4

Time Calibrate pH & Cond Meters

0915 pH 7.0 = 7.1/7.0 Cond 1409 = 1432/1409

0907 Sample plant Influent 5447-0812-LL4-INF

0913 Sample plant Effluent 5447-0812-LL4-EFF

0915 Sample Carbon Air 5447-0812-LL4-AIR-EFF

Sample Summary Bottles Filled

ID	Time	pH	Cond	Temp	VOCs	Extractables	Nitrates	TCE
INF	0907	7.1	587	15.6	3	2	-	-
EFF	0913	8.2	584	14.4	3	2	2	-
AIR	0915	-	-	-	-	-	-	1

Samples shipped overnight To Test America Burlington via FedEx Air Bill # 8675-3615-0528

Nitrate samples shipped overnight to Test America Denver via FedEx Air Bill # 8675-3615-0519

Air Samples shipped overnight to Test America Burlington via FedEx Air Bill # 8675-3615-0493

72° Partly cloudy
NNW @ 3mph
90% 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
Leader:
Report:
Date: August 23, 2012
Client:
Contract No: 5447-002
Report No. 138/139
Site: Mead NOP

Description and Location of Work: Sampled main plant

Weather Information:
Sky: Partly Cloudy
Temp. Max/Min: 75 degrees
Precipitation: None
Wind Speed/Direction: S. @ 10 mph
Humidity: 48%

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0736	Sampled AOP Influent 5447-0812-AOP-INF-138	7.3	14.4	677
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			
0747	Sampled AOP Effluent 5447-0812-AOP-EFF2-138	7.1	15.0	683
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	2 – 1Lt amber glass bottle – no preservative - Explosives			

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

Calibration: 0620– 0625 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 1366/1409

Remarks: 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.

8-23-12 Aug./Sept. Sample 138/139

Time calibrate pH & Sond meter

0620 pH 7.0 = 7.0 Sond 1409 = 1366/1409

0736 Sample EW-11 · 5447-0812-EW11-138

0747 Sample AOP Effluent 5447-0812-AOP-Eff2 138

Sample Summary Bottles Filled

ID	Time	pH	Sond	Temp	VOCs	Explosives
EW-11	0736	7.3	679	14.4	3	2
AOP Eff2	0747	7.1	683	15.0	3	2

Samples shipped overnight to Test America Burlington on Fed Ex Air, Bill # 8675-3615-0552

25° Partly cloudy
SE 10 mph
48% 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. 139

Leader:
Date: September 12, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled main plant

Weather Information:
Sky: Cloudy
Precipitation: Showers
Humidity: 63%

Temp. Max/Min: 68 degrees
Wind Speed/Direction: ENE. @ 3 mph

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity		pH	Temp	Scond
0716	Sampled Influent	5447-0912-INF-139	7.3	14.6	599
	Influent samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0719	Sampled GAC Vessel 320 Lead	5447-0912-320-139	7.3	13.6	598
0721	Sampled GAC Vessel 340 Lead	5447-0912-340-139	7.2	13.4	598
0723	Sampled GAC Vessel 360 Lead	5447-0912-360-139	7.2	13.3	597
	All GAC Vessel samples – 3 – 40ml bottles –HCL – VOC'S				
	2 – 1Lt amber glass bottle – no preservative – Explosives				
0728	Sampled Effluent	5447-0912-EFF-139	7.1	13.2	595
	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				

0829	Sampled Influent GCW1-INF-092012	7.2	14.4	457
	Influent sample – 3 – 40ml bottles –HCL – VOC'S			
0831	Sampled Effluent GCW1-EFF-092012	8.1	14.5	465
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			

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

Calibration: 0600– 0605 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 1409

Remarks: Samples shipped to Test America Burlington
Nitrate samples shipped to Test America Denver
GAC 380 not sample due to being off line

Total Hours Worked: 5

Prepared by: (Signature) (Print) Tim Thares

Chain of Custody's on file at the plant.

9-12-12 Sample Event #139

Time	Calibrate pH & Sond Meters	
0600	pH 7.0 = 7.0	Sond 1409 = 1409
0716	Sampled Plant Influent	5447-0912-INF-139
0719	Sampled GAC 320	5447-0912-320-139
0721	Sampled GAC 340	5447-0912-340-139
0723	Sampled GAC 360	5447-0912-360-139
0728	Sampled Plant Effluent	5447-0912-EFF-139
0829	Sampled GCW-1 Influent	GCW1-INF-092012
0831	Sampled GCW-1 Effluent	GCW1-EFF-092012

68° Cloudy
ENE 3 mph
63% Humidity (showers)

9-12-12 Sample Event # 139

Sampling Summary Bottles Filled

ID	Time	pH	Sound	Temp	VOCs	Explosives	Nitrates
Inf	0716	7.3	599	14.6	3	2	-
320	0719	7.3	598	13.6	3	2	-
340	0721	7.2	598	13.4	3	2	-
360	0723	7.2	597	13.3	3	2	-
Eff	0728	7.1	595	13.2	3	2	2
Gewl-Inf	0829	7.2	457	14.4	3	-	-
Gewl Eff	0831	8.1	465	14.5	3	-	-

Samples shipped overnight to Test America Burlington Via Fed Ex Air Bill # 8675-3615-0574

Nitrate samples shipped overnight to Test America Denver Via Fed Ex Air Bill # 8675-3615-0563

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. 083

Leader:
Date: September 12, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL1 Plant

Weather Information:
Sky: Cloudy
Precipitation: None
Humidity: 63%

Temp. Max/Min: 68 degrees
Wind Speed/Direction: ENE @ 3 MPH

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0853	Sampled Influent 5447-0912-LL1-INF-083	7.0	13.4	578
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0855	Sampled Effluent 5447-0912-LL1-EFF-083	8.2	13.5	573
	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: 0600– 0605 Calibrate pH and S cond meters
pH 7.0 = 7.0 S cond. 1409 = 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.

9-12-12 Sample Event # 83

Time Calibrate pH + Scond Meters

0600 pH 7.0 = 7.0 Scond 1409 = 1409

0853 Sampled plant Influent 5447-0912-LL1-INF-083

0855 Sampled plant Effluent 5447-0912-LL1-EFF-083

Sample Summary Bottles Filled

ID	Time	pH	Scond	Temp	Jars	Nitrate
INF	0853	7.0	578	13.4	3	-
EFF	0855	8.2	573	13.5	3	2

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill # 8675-3615-0574

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8675-3615-0563

68° Cloudy
ENE @ 3 mph
63% Humidity (shower)

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: September 12, 2012
Contract No: 5447-002
Site: Mead NOP

Description and Location of Work: Sampled LL4 Plant

Weather Information:
Sky: Cloudy
Precipitation: Showers
Humidity: 68%

Temp. Max/Min: 68 degrees
Wind Speed/Direction: ENE. @ 3 MPH

Contractor/Subcontractor and Area of Responsibility:

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

Time	Activity	pH	Temp	Scond
0909	Sampled Influent 5447-0912-LL4-INF	7.1	13.8	598
	Influent samples – 3 – 40ml bottles –HCL – VOC'S			
0911	Sampled Effluent 5447-0912-LL4-EFF	8.2	13.6	592
	Effluent sample – 3 – 40ml bottles –HCL – VOC'S			
	1 – 1Lt poly bottle – no preservative – Nitrates			
	1 – 250ml poly bottle – H2SO4 – Nitrates			
0915	Sampled Air Influent 5447-0912-LL4-AIR- INF			
	Influent sample – 1 – 1 Lt Canister – No Preservative – Air Sample			

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

Calibration: 0600– 0605 Calibrate pH and S cond meters
pH 7.0 =7.0 S cond. 1409 = 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.

9-12-12 Sample LL4

Time Calibrate pH + Cond Meters

0600 pH 7.0 = 7.0 Cond 1409 = 1409

0909 Sample plant Influent 5447-0912-LL4-INF

0911 Sample plant Effluent 5447-0912-LL4-EFF

0915 Sample Air Influent 5447-0912-LL4-AIR-INF

Sampling Summary Bottles Filled.

ID	Time	pH	Cond	Temp	40 ml	Nitrate	LLE
INF	0909	7.1	598	13.8	3	–	–
EFF	0911	8.2	592	13.6	3	2	–
AIR-INF	0915	–	–	–	–	–	1

Samples shipped overnight to Test America Burlington via Fed Ex Air Bill #8625 3615 0574

Nitrate samples shipped overnight to Test America Denver via Fed Ex Air Bill # 8625 3615 0563

Air Sample shipped overnight to Test America Burlington via Fed Ex Air Bill # 8625 3615 0585

68° Cloudy
ENE 3 mph
63% Humidity (showers)

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

Quality Control Summary Report 2012 Main Groundwater Treatment Plant Bypass Sampling Event, Former Nebraska Ordnance Plant (on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT

2012 MAIN GROUNDWATER TREATMENT PLANT BYPASS SAMPLING EVENT

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

October 2012

Quality Control Summary Report
2012 Main Groundwater Treatment Plant Bypass Sampling Event
Former Nebraska Ordnance Plant
Mead, Nebraska

1.0 INTRODUCTION

Sampling was conducted to confirm influent tank water overflow did not impact the ponded area. 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 2012 Main Groundwater Treatment Plant (GTP) bypass sampling event.

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 and
- Explosives by EPA SW-846 Method 8330.

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

Table 1-1 presents a complete list of the locations planned for sample collection, the corresponding sample identifications (IDs), and the requested analyses.

The chain-of-custody 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.

2.0 FIELD SAMPLING ACTIVITIES

During the 2012 Main GTP bypass sampling event, three water samples and four soil samples were collected.

A trip blank was included in each shipment that contained field samples scheduled for analysis of VOCs. One water and one soil quality control (QC) field duplicate samples were collected for each analysis. Matrix spike/matrix spike duplicate (MS/MSD) samples were not collected.

Table 2-1 provides the sample collection information for the 2012 Main GTP bypass sampling event listed by date sampled and laboratory sample ID for comparison to laboratory data packages and field notes:

- QC split 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 and the QC outliers are presented in Tables 3-2 and 3-3.

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. The laboratory reported that the initial calibration percent relative standard deviation for methylene chloride was outside the criteria. Methylene chloride results in all water samples were qualified as estimated nondetect (UJ). No other deviations for the calibration and tuning of pertinent instrumentation were reported by the laboratory in the case narratives. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-3 presents the VOC QC outliers and associated samples for all assigned qualifiers.

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.

Methylene chloride was detected in method blanks below the limit of quantitation (LOQ). All methylene chloride detections in samples were qualified as nondetects (U). Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-3 presents the VOC QC outliers and associated samples for all assigned qualifiers. These qualifiers were not used to determine analytical completeness or project completeness (Section 4.0).

3.5 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.

Methylene chloride was detected in both trip blanks; however, methylene chloride was determined to be a laboratory blank contamination and was qualified as a nondetect (U) in the 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.

Low surrogate %RECs were reported in water samples SOUTH 1 and SOUTH 2 for explosives analysis. All results in these samples were qualified as (J) for detects or (UJ) for nondetects. 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.

Elevated surrogate %RECs were reported in soil samples NORTH 1, SOUTH 1, and SOUTH 2 for VOC analysis; however, no qualifications were required since there were no detects in the samples.

3.7 Laboratory Control Sample / Laboratory Control Sample Duplicate

A laboratory control sample (LCS) consists of a matrix, similar to that of the field sample, which

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

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 % RECs were within laboratory QC limits. No MS/MSD samples were required or collected. LCSDs not were analyzed by the laboratory. The precision evaluation was done based on field duplicate results only.

3.8 Matrix Spike / Matrix Spike Duplicate Analyses

No MS/MSD samples were collected.

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. One field duplicate pair (SOUTH 1 / SOUTH 2 or SOUTH 1 / SOUTH 2), for each analysis and matrix was collected during the 2012 Main GTP bypass sampling event. All field duplicate pairs met the precision criteria. 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 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.

All three water samples for VOCs were analyzed at a dilution due to matrix interference.

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 inter-column RPDs.

A reported detection for 2-amino-4,6-dinitrotoluene in water sample NORTH 1 was changed to a nondetect. The laboratory narrative indicated the detection to be a possible false positive. Upon evaluation of the raw data, it was determined that the compound identified on the primary column did not meet the identification retention time criteria. It was qualified as estimated nondetect (UJ) due to closely eluting interference.

Two reported detections for 2,4,6-trinitrotoluene in water samples SOUTH 1 and SOUTH 2 were changed to nondetect. Due to significant matrix interference the samples were both analyzed at five-fold dilutions. Although a large interference was still present in the diluted sample analysis, 2,4,6-trinitrotoluene was detected in the SOUTH 1 and SOUTH 2 water samples. The detections did confirm on a second column, however the detections did not confirm on a photo-diode array detector that is a component of the primary instrumentation. The detections of 2,4,6-trinitrotoluene are believed to be part of the sample matrix interference and are being qualified as estimated, nondetect (UJ) based on professional judgment.

A detected result with the inter-column RPD exceeding 40% is 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).

3.12 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 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 2012 Main GTP bypass sampling event. An evaluation of field, analytical, and project completeness is presented in Tables 4-1 and 4-2.

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 2012 Main GTP bypass sampling event.

Field completeness for this sampling event was considered 100% since all planned samples were

collected. 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: 92.9%
- Explosives: 71.4%

VOC analysis exceeds the 90% criteria for the individual methods but explosives analysis was below the criteria. The overall acceptable data completeness is 82.1% which is below the 95% criteria for the sampling event.

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 2012 Main GTP bypass sampling event. The quality data completeness percentage for VOCs and explosives, considered separately, is 100% and overall quality data completeness is 100% for the MTP bypass sampling event.

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 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%.

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
µg/kg	micrograms per kilogram
BLK	blank
CAL	calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
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
LCL	lower control limit
MDL	minimum detection limit
MS/MSD	matrix spike/matrix spike duplicate
QC	quality control
%REC	percent recovery
RPD	relative standard deviation
RT	retention time
SDG	sample delivery group
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

Table 1-1

Sample Locations, Sample IDs, and Analyses
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Locations	Sample IDs	Analyses
NORTH 1	NORTH 1 (S)	Explosives
	NORTH1 (S)	Volatiles
NORTH 1	NORTH 1 (W)	Explosives, Volatiles
NORTH 2	NORTH 2 (S)	Explosives
	NORTH2 (S)	Volatiles
SOUTH 1	SOUTH 1(S)	Explosives
	SOUTH 2(S)	Explosives
	SOUTH1 (S)	Volatiles
	SOUTH2 (S)	Volatiles
SOUTH 1	SOUTH 1(W)	Explosives, Volatiles
	SOUTH 2 (W)	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
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Sample IDs	MS/MSD Samples	Field Duplicate	Matrix	Date Sampled	Date Received by Lab	Lab ID	SDG	Explosives	Volatiles
Field Samples									
NORTH 1			Water	9/7/2012	9/8/2012	200-12605-1	12605	•	•
NORTH 1			Soil	9/7/2012	9/8/2012	200-12605-4	12605	•	
NORTH 2			Soil	9/7/2012	9/8/2012	200-12605-7	12605	•	
SOUTH 1			Water	9/7/2012	9/8/2012	200-12605-2	12605	•	•
		SOUTH 2	Water	9/7/2012	9/8/2012	200-12605-3	12605	•	•
SOUTH 1			Soil	9/7/2012	9/8/2012	200-12605-5	12605	•	
		SOUTH 2	Soil	9/7/2012	9/8/2012	200-12605-6	12605	•	
SOUTH1			Soil	9/10/2012	9/11/2012	200-12620-4	12620		•
		SOUTH 2	Soil	9/10/2012	9/11/2012	200-12620-5	12620		•
NORTH1			Soil	9/10/2012	9/11/2012	200-12620-2	12620		•
NORTH2			Soil	9/10/2012	9/11/2012	200-12620-3	12620		•
Trip Blanks									
TRB-2NORTH-092012				9/7/2012	9/8/2012	200-12605-8	12605		•
TRB-2NORTH-091012				9/10/2012	9/11/2012	200-12620-1	12620		•

Notes:

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

Table 3-1
Data Quality Evaluation Results
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant

Sample Identification	Date Sampled	SDG	Lab Number	Analysis	Parameter	Units	Lab Result	Data Review Qualifier	BLK	C_RPD	CAL	IS_Surr	OTHER	Comments	Final Result
NORTH 1	9/7/2012	12605	200-12605-1	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.25	UJ					X	False Positive	0.25 UJ
NORTH 1	9/7/2012	12605	200-12605-1	Volatiles	methylene chloride	µg/L	0.51	UJ	X		X			Lab Blank,Initial Calibration RSD	1.0 UJ
NORTH 1	9/10/2012	12620	200-12620-2	Volatiles	methylene chloride	µg/kg	0.79	U	X					Lab Blank	3.5 U
NORTH 2	9/10/2012	12620	200-12620-3	Volatiles	methylene chloride	µg/kg	0.74	U	X					Lab Blank	3.3 U
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2,4,6-trinitrotoluene	µg/L	0.23	UJ					X	Professional Judgement	0.23 J
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2,4-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 1	9/7/2012	12605	200-12605-2	Volatiles	methylene chloride	µg/L	0.48	UJ	X		X			Lab Blank,Initial Calibration RSD	1.0 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	1,3,5-trinitrobenzene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2,4,6-trinitrotoluene	µg/L	0.23	UJ					X	Professional Judgement	0.23 J
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2,4-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	2-amino-4,6-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.24 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	4-amino-2,6-dinitrotoluene	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Explosives	hexahydro-1,3,5-trinitro-1,3,5-triazine	µg/L	0.0	UJ				X		Surrogate recovery outside project limits.	0.12 UJ
SOUTH 2	9/7/2012	12605	200-12605-3	Volatiles	methylene chloride	µg/L	0.51	UJ	X		X			Lab Blank,Initial Calibration RSD	1.0 UJ
SOUTH 1	9/10/2012	12620	200-12620-4	Volatiles	methylene chloride	µg/kg	0.63	U	X					Lab Blank	3.0 U
SOUTH 2	9/10/2012	12620	200-12620-5	Volatiles	methylene chloride	µg/kg	0.62	U	X					Lab Blank	2.6 U

Reason for Qualification	
BLK	Ambient Blank, Lab Blank, CCB, CCB - Neg, Trip Blank, Equipment Blank, Field Blank, Material Blank, Lab Blank - Neg
C_RPD	Column RPD
CAL	CCV, CCV RRF, Initial Calibration RRF, Initial Calibration RSD, ICV
IS_Surr	Internal standard, Surrogate recovery outside project limits.
OTHER	An analyte (non-common laboratory artifact) was detected in the sample at a concentration less than 5X the concentration detected in the associated method blank., Analyte not confirmed on second

Table 3-2
Explosives Quality Control Outliers
2012 Main Groundwater Treatment Plan Bypass 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
Confirmation Column Difference					
SOUTH 1	12605	2,4,6-trinitrotoluene	Confirmation Column Difference exceeds UCL	< 40 RPD	51.6 RPD
Surrogate					
SOUTH 1	12605	hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	1,3,5-Trinitrobenzene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2,4,6-trinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	4-amino-2,6-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2-amino-2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 1	12605	2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	hexahydro-1,3,5-trinitro-1,3,5-triazine	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	1,3,5-trinitrobenzene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2,4,6-trinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	4-amino-2,6-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2-amino-2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
SOUTH 2	12605	2,4-dinitrotoluene	Surrogate exceeds LCL	1,2-Dinitrobenzene	69%
Identification					
NORTH 1	12605	2-amino-2,4-dinitrotoluene	RT outside the RT window	20.38-20.58	20.30 min

Table 3-3
Volatile Organic Compounds Quality Control Outliers
2012 Main Groundwater Treatment Plant Bypass 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
Blank					
NORTH 1	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SOUTH 1	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
SOUTH 2	12605	Methylene Chloride	Lab Blank > MDL	< 0.21 µg/L	0.60 µg/L
NORTH 1	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
NORTH 2	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
SOUTH 1	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
SOUTH 2	12620	Methylene Chloride	Lab Blank > MDL	< 0.4 µg/kg	1.1 µg/kg
Calibration					
NORTH 1	12605	Methylene Chloride	%RSD > UCL	15%	16.3%
SOUTH 1	12605	Methylene Chloride	%RSD > UCL	15%	16.3%
SOUTH 2	12605	Methylene Chloride	%RSD > UCL	15%	16.3%

Table 4-1
Field Completeness
2012 Main Groundwater Treatment Plant Bypass Operations and Maintenance Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Number of Samples Planned	Number of Samples Collected	Field Completeness
Explosives	7	7	100%
Volatiles	7	7	100%
Totals =	14	14	100.0%
Goal =			95%

Notes:

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

Table 4-2
Analytical Completeness
2012 Main Groundwater Treatment Plant Bypass 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
Explosives (Analyte Count - 6)	42	30	71.4%	90%	42	100%	80%
Volatiles (Analyte Count - 6)	42	39	92.9%	90%	42	100%	80%
Totals =	84	445	97.2%	95%	458	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
2012 Main Groundwater Treatment Plant Bypass 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 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: 303-298-7607	PO #:			
Email:	WO #:			
Project Name: ENOU Mead	Project #: 5447002			
Site:	SSOW#:			

Analysis Requested

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 8260B	Explosives 8330	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
North 1	5-7-12	1545	G	W			3	2		
South 1		1614	G	W			3	2		
South 2		1618	G	W			3	2		48 Hour TAT
North 1		1555	G	S				2		For All
South 1		1600	G	S				2		Samples
South 2		1605	G	S				2		
North 2		1610	G	S				2		
TRB-2North-090212		1545	G	W			3			

Preservation Codes:

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

Other:

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]	5-7-12 1700	ECC	8075-3615-0596	5-7-12	1700
Relinquished by:	Date/Time:	Company	Received by: [signature]	05/12 1040	TMBU
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

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

Soil Samples

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9-10-12	COC No: 091012
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			
(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	% MOISTURE	Sample Specific Notes:
TRB-2NORTH-091012	9/10/2012	1200	G	W	2	2		
NORTH1	9/10/2012	1215	G	S	4	3	1	
NORTH2	9/10/2012	1200	G	S	4	3	1	
SOUTH1	9/10/2012	1230	G	S	4	3	1	
SOUTH2	9/10/2012	1230	G	S	4	3	1	

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 D. Hinz	ECC	9-10-12	Fed-ex 7989 2752		1814
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Steph Fauchon	TA BUR	9/11/12 1025
Relinquished by	Company:	Date/Time:	Received by:	Company:	Date/Time:

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 H

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