FINAL

SUMMARY REPORT
2010 BASELINE MONITORING WELL SAMPLING EVENT

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

Prepared for

United States Army Corps of Engineers
Kansas City District

January 2011

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SUMMARY REPORT
2010 BASELINE MONITORING WELL SAMPLING EVENT

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

January 2011

I hereby certify that the enclosed *Summary Report 2010 Baseline Monitoring Well Sampling Event*, 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:

1-4-11

ECC Project Manager Date

Accepted as a submittal:

USACE Contracting Officer Date

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LIST OF ACRONYMS AND ABBREVIATIONS

CD	compact disc
COC	contaminant of concern
GMP	Groundwater Monitoring Program
MW	monitoring well
NOP	Nebraska Ordnance Plant
QCSR	Quality Control Summary Report
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
TCE	trichloroethene

1.0 INTRODUCTION

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

This report contains the following Appendices:

- Appendix A contains the Quality Control Summary Report 2010 Baseline Monitoring Well Sampling Event;
- Appendix B contains the historical spreadsheet of all trichloroethene (TCE) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) results for the groundwater sampling program sampling events.

1.1 Objectives

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

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

2.0 SUMMARY OF 2010 BASELINE MONITORING WELL SAMPLING EVENT

The following sections are a summary of the field activities and results of site specific compounds analyzed for during the 2010 Baseline monitoring well sampling event.

2.1 Field Sampling

Samples from 38 monitoring wells were collected during the 2010 Baseline monitoring well sampling event and are summarized below:

- Thirty-eight monitoring wells were sampled for volatile organic compounds and explosives;
- Five field duplicate samples were collected;
- Three matrix spike /matrix spike duplicate pairs were collected;

- One rinsate blank was collected from sampling equipment used to sample monitoring wells; and
- Two trip blanks were included with the volatile shipments.

Samples from all 38 monitoring wells were collected on September 23 and 24, 2010 using passive sampling technology. Low -flow sampling was also conducted at approximately 10% of the locations (monitoring well (MW) clusters MW-153 and MW-154) on September 21, 2010 for a comparison of the low flow sampling results versus passive sampling results.

2.2 Analytical Results

The validated analytical results for site specific compounds are presented in Tables 2-1. Figure 2-1 illustrates all monitoring wells sampled during the 2010 Baseline monitoring well sampling event.

RDX and TCE exceeded the Final Target Groundwater Cleanup Goals and additional COCs were detected below the Final Target Groundwater Cleanup Goals during the 2010 Baseline monitoring well sampling event.

Historical results are presented for all sampling locations in Appendix B.

3.0 DATA VALIDATION RESULTS

Data from the 2010 Baseline monitoring well sampling event 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 2010 Baseline Monitoring Well Sampling Event* is included as Appendix A. This Quality Control Summary Report (QCSR) presents 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. The QCSR contains appendices which include the sample Chain-of-Custody Records; field sampling documents, water quality parameter forms, and daily field logbook pages, data validation qualifiers reference sheet; and the complete analytical laboratory report for the associated sampling events.

4.0 CONCLUSION

Based on the results of the 2010 Baseline monitoring well sampling event, the 2010 Sampling Plans that were previously developed are sufficient and meet the following objectives:

- To monitor and evaluate potential changes in the concentrations of COCs defined in the *Record of Decision, Operable Unit No. 2, Former Nebraska Ordnance Plant, Mead, Nebraska* (Woodward-Clyde, 1996);

- To monitor and evaluate the concentration of groundwater plumes; and
- To provide data for evaluating whether the plume(s) are being contained by the groundwater extraction well network.

The 2010 GMP will continue as planned for the remaining 2010 quarterly sampling events.

5.0 REFERENCES

ECC, 2007. *Mead Validation Guidelines.* 2007

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

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

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

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

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

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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
CIS-1,2-DCE	cis-1,2-dichloroethene
J	estimated
MW	monitoring well
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
TCE	trichloroethene
TNB	1,3,5-trinitrobenzene
TNT	2,4,6-trinitrotoluene
Trans-1,2-DCE	trans-1,2-dichloroethene
U	not detected at laboratory limit of quantitation
UJ	qualified as estimated and not detected at laboratory limit of quantitation

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

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

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

ug/L = micrograms per liter
COC = contaminant of concern
TCE = trichloroethene
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine

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Table 2-1

Results for Baseline 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-141A	09/24/2010	0.40 U	0.40 U	0.40 U	**0.54 J**	0.40 U	0.40 U
MW-141B	09/24/2010	0.42 U	**3.2**	**9.7**	**58.0**	**0.20 J**	0.42 U
MW-141E	09/24/2010	0.40 U	**0.29 J**	**4.6 J**	**29.8**	0.40 U	0.40 U
MW-142A	09/24/2010	0.41 U	0.41 U	0.41 U	**0.49**	0.41 U	0.41 U
MW-142E	09/24/2010	0.41 U	0.41 U	0.41 U	**1.1**	0.41 U	0.41 U
MW-143B	09/24/2010	0.42 U	**0.39 J**	**3.1**	**16.2**	0.42 U	0.42 U
MW-144A	09/24/2010	0.42 U	**0.062 J**	**0.18 J**	**21.4**	0.42 U	0.42 U
MW-144E	09/24/2010	0.41 U	**2.7**	**0.93**	**47.3**	0.41 U	0.41 U
MW-145A	09/24/2010	0.41 U	0.41 U	**0.67 J**	**63.2**	0.41 U	0.41 U
MW-145E	09/24/2010	0.41 U	0.41 U	**1.5**	**97.0**	0.41 U	0.41 U
MW-146A	09/24/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-146B	09/24/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-147A	09/24/2010	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
MW-147B	09/24/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-147D	09/24/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-148B	09/24/2010	0.42 U	**0.048 J**	**5.4**	**49.8**	0.42 U	0.42 U
MW-149A	09/24/2010	0.41 U	0.41 U	**0.56**	**12.0**	0.41 U	0.41 U
MW-150A	09/24/2010	0.41 U	**0.16 J**	**1.4**	**12.8**	0.41 U	0.41 U
MW-150B	09/24/2010	0.41 U	**0.097 J**	**0.88**	**9.5**	0.41 U	0.41 U
MW-151A	09/24/2010	0.41 U	**0.061 J**	0.41 U	0.41 U	0.41 U	0.41 U
MW-151B	09/24/2010	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
MW-152B	09/23/2010	0.40 U	0.40 U	0.40 U	**1.5**	0.40 U	0.40 U
MW-153A	09/21/2010	0.40 U	**0.22 J**	**0.14 J**	**1.7 J**	0.40 U	**0.21 J**
MW-153A	09/23/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-153B	09/21/2010	0.40 U	0.40 U	0.40 U	**0.48 J**	0.40 U	0.40 U
MW-153B	09/23/2010	0.40 U	0.40 U	0.40 U	**0.38 J**	0.40 U	0.40 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1

Results for Baseline 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Explosives

	Sampling Date	2,4-DNT	2A-DNT	4A-DNT	RDX	TNB	TNT
MW-154A	09/21/2010	0.39 U	0.39 U	**0.13 J**	**4.5 J**	0.39 U	0.39 U
MW-154A	09/23/2010	0.41 U	**0.084 J**	**0.16 J**	**4.8**	0.41 U	0.41 U
MW-154B	09/21/2010	0.40 U	0.40 U	0.40 U	**3.1 J**	0.40 U	0.40 U
MW-154B	09/23/2010	0.41 U	0.41 U	**0.092 J**	**3.2**	0.41 U	0.41 U
MW-155A	09/23/2010	0.42 U	0.42 U	0.42 U	**0.13 J**	0.42 U	0.42 U
MW-155E	09/23/2010	0.42 U	0.42 U	0.42 U	**0.25 J**	0.42 U	0.42 U
MW-156A	09/23/2010	0.40 U	**0.17 J**	**0.91**	**9.5**	0.40 U	0.40 U
MW-156B	09/23/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-157A	09/23/2010	0.41 U	0.41 U	0.41 U	**1.5**	0.41 U	0.41 U
MW-157B	09/23/2010	0.40 U	0.40 U	0.40 U	**0.26 J**	0.40 U	0.40 U
MW-158A	09/23/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-158B	09/23/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-158D	09/23/2010	0.40 U	**0.082 J**	0.40 U	0.40 U	0.40 U	0.40 U
MW-159A	09/23/2010	**0.31 J**	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-159B	09/23/2010	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
MW-89E	09/24/2010	0.40 U	0.40 U	0.40 U	**0.32 J**	0.40 U	0.40 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1

Results for Baseline 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-141A	09/24/2010	11.0 U	**17.0**	11.0 U	**6300**	11.0 U	11.0 U
MW-141B	09/24/2010	15.0 U	**10.0 J**	15.0 U	**8800**	15.0 U	15.0 U
MW-141E	09/24/2010	18.0 U	**18.0**	18.0 U	**10000**	**3.5 J**	18.0 U
MW-142A	09/24/2010	5.0 U	**1.5 J**	5.0 U	**900**	5.0 U	5.0 U
MW-142E	09/24/2010	5.0 U	**2.3 J**	5.0 U	**1800**	5.0 U	5.0 U
MW-143B	09/24/2010	1.0 U	1.0 U	1.0 U	**0.22 J**	1.0 U	1.0 U
MW-144A	09/24/2010	1.0 U	1.0 U	1.0 U	**0.35 J**	1.0 U	1.0 U
MW-144E	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-145A	09/24/2010	1.0 U	1.0 U	1.0 U	**0.58 J**	1.0 U	1.0 U
MW-145E	09/24/2010	1.0 U	1.0 U	1.0 U	**0.23 J**	1.0 U	1.0 U
MW-146A	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-146B	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147A	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147B	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-147D	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-148B	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-149A	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-150A	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-150B	09/24/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-151A	09/24/2010	5.0 U	**6.6**	5.0 U	**1000**	5.0 U	5.0 U
MW-151B	09/24/2010	1.0 U	**6.4**	1.0 U	**960**	1.0 U	1.0 U
MW-152B	09/23/2010	1.0 U	**2.5**	1.0 U	**21.0**	1.0 U	1.0 U
MW-153A	09/21/2010	1.8 U	**0.81 J**	1.8 U	**140**	1.8 U	1.8 U
MW-153A	09/23/2010	5.0 U	**4.2 J**	5.0 U	**910**	5.0 U	5.0 U
MW-153B	09/21/2010	5.0 U	**2.0 J**	5.0 U	**370**	5.0 U	5.0 U
MW-153B	09/23/2010	5.0 U	**2.2 J**	5.0 U	**440**	5.0 U	5.0 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

Table 2-1

Results for Baseline 2010 Sampling Event

Groundwater Monitoring Program

Former Nebraska Ordnance Plant, Mead, Nebraska

Volatile Organic Compounds							
	Sampling Date	**1,2-DCP**	**CIS-1,2-DCE**	**Methylene Chloride**	**TCE**	**TRANS-1,2-DCE**	**Vinyl Chloride**
MW-154A	09/21/2010	1.0 U	**1.2**	1.0 U	**31.0**	1.0 U	1.0 U
MW-154A	09/23/2010	1.0 U	**1.2**	1.0 U	**24.0**	1.0 U	1.0 U
MW-154B	09/21/2010	1.0 U	**0.46 J**	1.0 U	**9.9**	1.0 U	1.0 U
MW-154B	09/23/2010	1.0 U	**0.55 J**	1.0 U	**15.0**	1.0 U	1.0 U
MW-155A	09/23/2010	5.0 U	**3.2 J**	5.0 U	**690**	5.0 U	5.0 U
MW-155E	09/23/2010	5.0 U	**2.7 J**	5.0 U	**630**	5.0 U	5.0 U
MW-156A	09/23/2010	1.0 U	**0.30 J**	1.0 U	**4.2**	1.0 U	1.0 U
MW-156B	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-157A	09/23/2010	1.0 U	**0.25 J**	1.0 U	**46.0**	1.0 U	1.0 U
MW-157B	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158A	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158B	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-158D	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.71 J**
MW-159A	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-159B	09/23/2010	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-89E	09/24/2010	2.9 U	2.9 U	2.9 U	**190**	2.9 U	2.9 U

Detects are displayed in bold font

Indicates that result exceeds Final Target Groundwater Cleanup Goals

FIGURES

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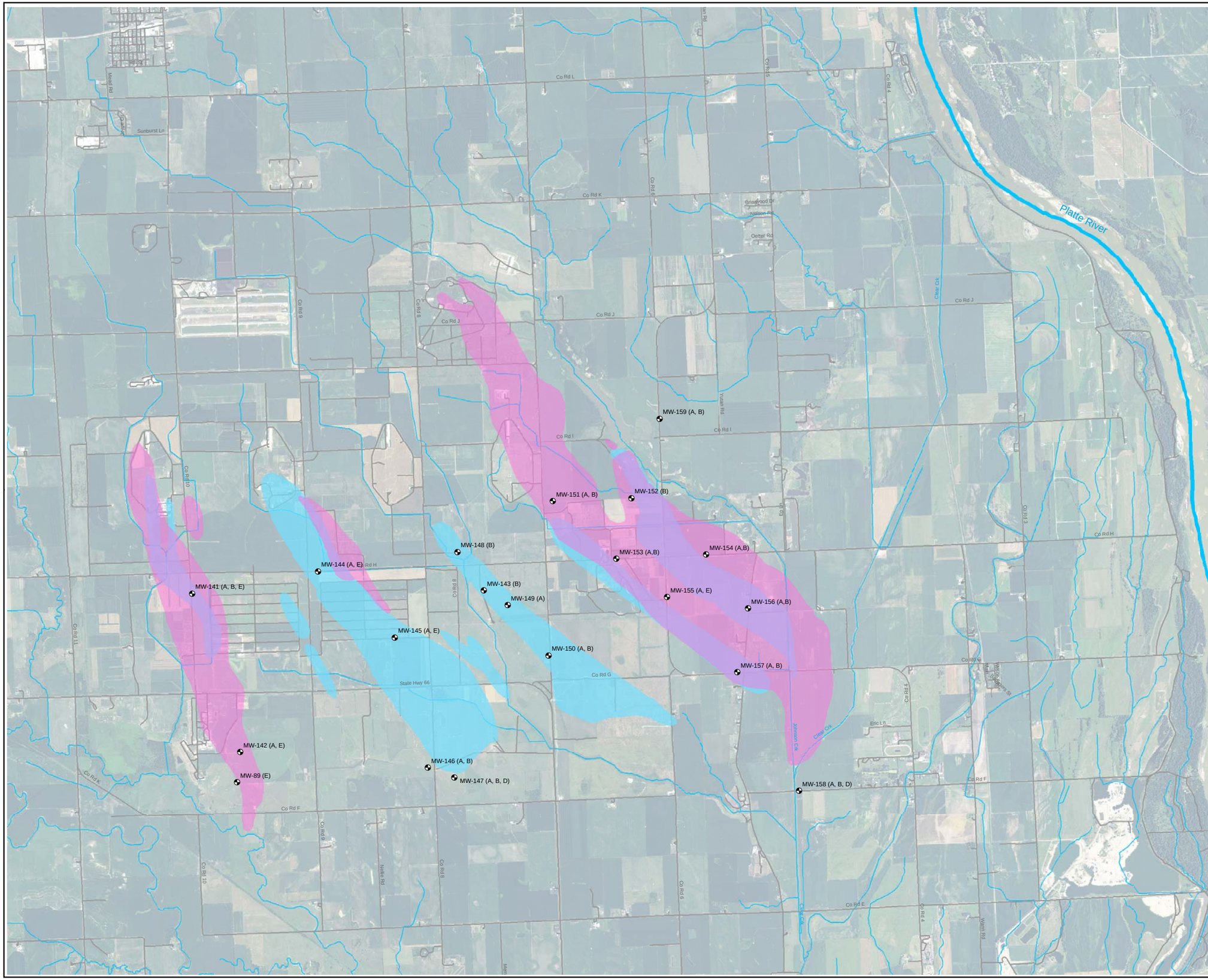

Legend

Monitoring Well

Contaminant Plumes

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

NOTE:

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

TCE - trichloroethene

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

ug/L - micrograms per liter

N

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

Feet

US Army Corps of Engineers ®
Kansas City District

Sample Locations
2010 Baseline Sampling Event

Drawn by: M Johanson		Reviewed by:	Notes and Sources Projection: North American Datum 1983 Nebraska State Plane Units: Feet
Date: 11/22/2010		Date:	
Version:		Revision Date / Initials:	

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Appendix A

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

(on CD)

FINAL
QUALITY CONTROL SUMMARY REPORT
THIRD QUARTER 2010

2010 BASELINE MONITORING WELL SAMPLING EVENT

FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA

Prepared for

United States Army Corps of Engineers
Kansas City District

November 2010

ECC
1746 Cole Boulevard, Building 21, Suite 350
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Quality Control Summary Report
2010 Baseline Monitoring Well Sampling Event
Former Nebraska Ordnance Plant
Mead, Nebraska

1.0 INTRODUCTION

Baseline monitoring well sampling was between September 21 and September 24, 2009 at the former Nebraska Ordnance Plant, near Mead, Nebraska. All sampling activities were performed in accordance with the *Site Wide Work Plan* (ECC, 2009). This Quality Control Summary Report presents a summary of the chemical data quality review for the 2010 baseline monitoring well sampling event.

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

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

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

Table 1-1 presents the monitoring wells planned for sample collection, the corresponding sample identifications (IDs), and the required analyses for the 2010 baseline monitoring well sampling event. The chain-of-custody (COC) and field notes are included as Appendices A and B, respectively. Appendix C presents an explanation of data validation qualifiers and drinking water standards. Appendix D contains a compact disc (CD) with all analytical data.

2.0 FIELD SAMPLING ACTIVITIES

Samples from thirty-eight (38) wells were collected during the 2010 baseline monitoring well sampling event. All wells were sampled for VOCs and explosives. Five field duplicate samples, three matrix spike (MS)/matrix spike duplicate (MSD) pairs, one rinsate blank, and two trip blanks were collected.

Samples from all 38 monitoring wells were collected using passive sampling technology. Low -flow sampling was also conducted at approximately 10% of the locations for a comparison of the low flow versus passive sampling results.

Table 2-1 provides the following sample collection information:

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

3.0 DATA QUALITY EVALUATION PROCEDURES

The following subsections present results of the data quality evaluation. This evaluation was performed in accordance with the *Mead Validation Guidelines*, (ECC, 2007, approved by United States Army Corps of Engineers [USACE] 2007). Qualifiers were assigned based on laboratory QC criteria. Data quality evaluation results are presented in Table 3-1 according to field sample ID. The QC outliers for the VOC and explosives analyses are presented in Table 3-2 and Table 3-3, respectively.

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.

The label for one of the collected samples did not match the chain of custody (COC) identification. The sample was logged in by the laboratory to correspond with the COC. Additionally, one of three volatile vials provided for one of the collected samples was received with an air bubble greater than 1/4 inches in size. This vial was not used for the analysis. All other samples were received in good condition.

3.2 Holding Times

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

3.3 Tuning and Calibration

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

3.4 Laboratory Method Blanks

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

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

There were no detections of target analytes in the 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 or 10 times the blank result do not require qualification.

Methylene chloride was detected in a trip blank; however, no qualification was required because this compound was not detected in the associated samples.

3.6 Rinsate Blanks

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

There were no detections of target analytes in the rinsate blank.

3.7 Surrogates

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

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

An elevated % REC for the explosive compound 1,2-dinitrobenzene on the primary column in five samples resulted in the qualification (J) of detected results in these samples. 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.

The % REC for 1,2-dinitrobenzene on the confirmation column in the explosive analysis of numerous samples exceeded the laboratory QC limits. However, no action was required because all associated results were reported from the primary column, which met all % REC criteria for these samples. Interference appeared to be present at the retention time of the surrogate compound in several samples.

All other % RECs were within criteria.

3.8 Laboratory Control Sample / Laboratory Control Sample Duplicate

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

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

All LCS % RECs were within laboratory QC limits.

3.9 Matrix Spike / Matrix Spike Duplicate

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

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

All % RECs were within laboratory QC limits and the RPDs were less than 30%.

3.10 Field Duplicates

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

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

- EMW-0144-092010 / EMW-2144-092010 (VOCs and Explosives)
- BMW-0148-092010 / BMW-2148-092010 (VOCs and Explosives)
- BMW-0151-092010 / BMW-2151-092010 (VOCs and Explosives)
- BMW-0154-092010 / BMW-2154-092010 (VOCs and Explosives)
- BMW-0156-092010 / BMW-2156-092010 (VOCs and Explosives)

All field duplicate precision was met, with the exception of trichloroethene (TCE) and cis-1,2-dichloroethene in one duplicate pair, and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) and 4-amino-2,6-dinitrotoluene in anther duplicate pair. In accordance with the *Mead Validation Guidelines* (ECC, 2007), data are not qualified based on field duplicate sample results. Field duplicate results are considered acceptable when one result is not detected and the other result is below the limit of quantitation (LOQ).

3.11 Dilutions and Re-analyses

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

Ten sample results for TCE and six sample results for RDX initially exceeded the calibration range and are considered estimated values. According to the *Mead Validation Guidelines* (ECC, 2007), results exceeding the calibrations range are not used for reporting or project decisions when acceptable results from dilutions are available. Therefore, the secondary diluted concentrations should be used for these compounds and the initial least dilute analysis should be used for all other results for these samples. The diluted results other than for the results listed above are not used. Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-2 and Table 3-3 present a detailed list of samples and compounds exceeding the calibration range and the associated diluted results for baseline monitoring wells. Qualifiers were not assigned as a result of calibration range exceedance.

Note: The VOC analyses for three samples were initially analyzed at dilutions greater than 5 times. Dilutions over 5 times resulted in elevated LOQ values for the other analytes of concern (methylene chloride and 1,2-dichloropropane). No action was taken because TCE was well above both the linear calibration range and the Final Groundwater Target Cleanup Goals for these samples.

3.12 Other Quality Control Parameters

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

Detected results with the intercolumn RPDs exceeding 40% are qualified as estimated (J). Refer to Table 3-1 for data quality evaluation results and qualified samples. Table 3-3 present the explosive QC outliers and associated samples for all assigned qualifiers.

3.13 Laboratory Qualifiers

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

4.0 OVERALL ASSESSMENT

The following subsections present the field completeness, analytical completeness, and project completeness determinations for the 2010 baseline monitoring well 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 2010 baseline monitoring well sampling event was 100% for both VOCs and explosives; therefore, the overall field completeness percentage was 100%. All field completeness percentages exceeded the field completeness goal of 95%. Section 2.0 presents the field sampling activities, including any deviations from planned sampling if applicable. Table 4-1 presents field completeness values for the 2010 baseline monitoring well sampling event.

4.2 Analytical Completeness

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

Acceptable data is a measure of laboratory contract compliance. Acceptable data includes data that have not been rejected or qualified as estimated (J). Qualified data are considered acceptable if appropriate corrective actions were taken by the laboratory. Acceptable data completeness percentages for VOCs (100%) and explosives (97%) met the acceptable data completeness goals for each analytical method of 90% for the 2010 baseline monitoring well sampling event. The overall acceptable data completeness at 98% for the 2010 baseline monitoring well sampling event met the goal of 95%.

Quality data is a measure of the percentage of usable data points. Usable data points include all non-rejected data. Rejected data points with replacement data do not count against the quality data completeness. No data were rejected for the 2010 baseline monitoring well sampling event. 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 baseline monitoring well sampling event. Table 4-2 presents analytical data completeness values for the baseline monitoring well sampling event.

4.3 Project Completeness

Project completeness combines sampling and analytical protocols to assess the project as a whole. Project completeness is assessed by comparing the percentage of samples/measurements that are determined to be usable to the total number of samples/measurements planned. Project completeness is calculated using field completeness and analytical completeness (quality data) percentages. Analytical completeness and field completeness for the 2010 baseline monitoring well sampling event was 100%. The baseline monitoring well project completeness percentage of 100% exceeded the project completeness goal of 90%. Table 4-3 presents project completeness values for the baseline monitoring well sampling event.

5.0 CONCLUSIONS

No data points were qualified as rejected (R). Data are valid for use, as qualified. Overall field completeness is 100%, acceptable data completeness is 98%, quality data completeness is 100%, and the overall project completeness is 100% for the 2010 baseline monitoring well sampling event. Detected explosive results in five samples were qualified due to elevated surrogate recoveries. Ten sample results for TCE and six sample results for RDX were reported from a secondary dilution due to calibration range exceedance, but do not effect analytical or project completeness. Detected results qualified as estimated for intercolumn RPDs exceedances do not effect analytical or project completeness.

6.0 REFERENCES

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

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

Tables

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

Monitoring Wells	Sample Identifications	Analyses[1]
MW-89E	EMW-089-092010	Explosives, Volatiles
MW-141A	AMW-0141-092010	Explosives, Volatiles
MW-141B	BMW-0141-092010	Explosives, Volatiles
MW-141E	EMW-0141-092010	Explosives, Volatiles
MW-142A	AMW-0142-092010	Explosives, Volatiles
MW-142B	BMW-0142-092010	Explosives, Volatiles
MW-143B	BMW-0143-092010	Explosives, Volatiles
MW-144A	AMW-0144-092010	Explosives, Volatiles
MW-144E	EMW-0144-092010	Explosives, Volatiles
MW-145A	AMW-0145-092010	Explosives, Volatiles
MW-145E	EMW-0145-092010	Explosives, Volatiles
MW-146A	AMW-0146-092010	Explosives, Volatiles
MW-146B	BMW-0146-092010	Explosives, Volatiles
MW-147A	AMW-0147-092010	Explosives, Volatiles
MW-147B	BMW-0147-092010	Explosives, Volatiles
MW-147D	DMW-0147-092010	Explosives, Volatiles
MW-148B	BMW-0148-092010	Explosives, Volatiles
MW-149A	AMW-0149-092010	Explosives, Volatiles
MW-150A	AMW-0150-092010	Explosives, Volatiles
MW-150B	BMW-0150-092010	Explosives, Volatiles
MW-151A	AMW-0151-092010	Explosives, Volatiles
MW-151B	BMW-0151-092010	Explosives, Volatiles
MW-152B	BMW-0152-092010	Explosives, Volatiles
MW-153A[2]	AMW-0153-092010	Explosives, Volatiles
MW-153B[2]	BMW-0153-092010	Explosives, Volatiles
MW-154A[2]	AMW-0154-092010	Explosives, Volatiles
MW-154B[2]	BMW-0154-092010	Explosives, Volatiles
MW-155A	AMW-0155-092010	Explosives, Volatiles
MW-155E	EMW-0155-092010	Explosives, Volatiles
MW-156A	AMW-0156-092010	Explosives, Volatiles
MW-156B	BMW-0156-092010	Explosives, Volatiles
MW-157A	AMW-0157-092010	Explosives, Volatiles
MW-157B	BMW-0157-092010	Explosives, Volatiles
MW-158A	AMW-0158-092010	Explosives, Volatiles
MW-158B	BMW-0158-092010	Explosives, Volatiles
MW-158D	DMW-0158-092010	Explosives, Volatiles
MW-159A	AMW-0159-092010	Explosives, Volatiles
MW-159B	BMW-0159-092010	Explosives, Volatiles

Notes:
[1] = Explosives by EPA Method 8330 and Volatiles by EPA Method 8260
[2] = These wells were collected using low-flow and passive sampling techniques
ID = identification
MW = monitoring well

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

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
Field Samples								
EMW-089-092010			9/24/2010	9/25/2010	200-1713-42	1713	●	●
		EMW-089-092010MS	9/24/2010	9/25/2010	200-1713-42MS	1713	●	●
		EMW-089-092010MSD	9/24/2010	9/25/2010	200-1713-42MSD	1713	●	●
AMW-0141-092010			9/24/2010	9/25/2010	200-1713-32	1713	●	●
BMW-0141-092010			9/24/2010	9/25/2010	200-1713-33	1713	●	●
EMW-0141-092010			9/24/2010	9/25/2010	200-1713-34	1713	●	●
AMW-0142-092010			9/24/2010	9/25/2010	200-1713-40	1713	●	●
BMW-0142-092010			9/24/2010	9/25/2010	200-1713-41	1713	●	●
BMW-0143-092010			9/24/2010	9/25/2010	200-1713-23	1713	●	●
AMW-0144-092010			9/24/2010	9/25/2010	200-1713-29	1713	●	●
EMW-0144-092010			9/24/2010	9/25/2010	200-1713-30	1713	●	●
	EMW-2144-092010		9/24/2010	9/25/2010	200-1713-31	1713	●	●
AMW-0145-092010			9/24/2010	9/25/2010	200-1713-27	1713	●	●
EMW-0145-092010			9/24/2010	9/25/2010	200-1713-28	1713	●	●
AMW-0146-092010			9/24/2010	9/25/2010	200-1713-38	1713	●	●
BMW-0146-092010			9/24/2010	9/25/2010	200-1713-39	1713	●	●
AMW-0147-092010			9/24/2010	9/25/2010	200-1713-35	1713	●	●
BMW-0147-092010			9/24/2010	9/25/2010	200-1713-36	1713	●	●
DMW-0147-092010			9/24/2010	9/25/2010	200-1713-37	1713	●	●
BMW-0148-092010			9/24/2010	9/25/2010	200-1713-25	1713	●	●
	BMW-2148-092010		9/24/2010	9/25/2010	200-1713-26	1713	●	●
AMW-0149-092010			9/24/2010	9/25/2010	200-1713-24	1713	●	●
AMW-0150-092010			9/24/2010	9/25/2010	200-1713-18	1713	●	●
BMW-0150-092010			9/24/2010	9/25/2010	200-1713-19	1713	●	●
AMW-0151-092010			9/24/2010	9/25/2010	200-1713-20	1713	●	●
BMW-0151-092010			9/24/2010	9/25/2010	200-1713-21	1713	●	●
	BMW-2151-092010		9/24/2010	9/25/2010	200-1713-22	1713	●	●
BMW-0152-092010			9/23/2010	9/25/2010	200-1713-17	1713	●	●
AMW-0153-092010			9/21/2010	9/22/2010	200-1653-3	1653	●	●
			9/23/2010	9/25/2010	200-1713-11	1713	●	●

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

Field ID	Quality Control Samples	MS/MSD Samples	Date Sampled	Date Received by Laboratory	Laboratory ID	SDG	Analyses	
							VOCs	Explosives
BMW-0153-092010			9/21/2010	9/22/2010	200-1653-2	1653	●	●
			9/23/2010	9/25/2010	200-1713-12	1713	●	●
AMW-0154-092010			9/21/2010	9/22/2010	200-1653-6	1653	●	●
			9/23/2010	9/25/2010	200-1713-9	1713	●	●
BMW-0154-092010			9/21/2010	9/22/2010	200-1653-4	1653	●	●
			9/23/2010	9/25/2010	200-1713-10	1713	●	●
		BMW-0154-092010MS	9/21/2010	9/22/2010	200-1653-4MS	1653	●	●
		BMW-0154-092010MSD	9/21/2010	9/22/2010	200-1653-4MSD	1653	●	●
	BMW-2154-092010		9/21/2010	9/22/2010	200-1653-5	1653	●	●
AMW-0155-092010			9/23/2010	9/25/2010	200-1713-13	1713	●	●
EMW-0155-092010			9/23/2010	9/25/2010	200-1713-14	1713	●	●
		EMW-0155-092010MS	9/23/2010	9/25/2010	200-1713-14MS	1713	●	●
		EMW-0155-092010MSD	9/23/2010	9/25/2010	200-1713-14MSD	1713	●	●
AMW-0156-092010			9/23/2010	9/25/2010	200-1713-6	1713	●	●
BMW-0156-092010			9/23/2010	9/25/2010	200-1713-7	1713	●	●
	BMW-2156-092010		9/23/2010	9/25/2010	200-1713-8	1713	●	●
AMW-0157-092010			9/23/2010	9/25/2010	200-1713-4	1713	●	●
BMW-0157-092010			9/23/2010	9/25/2010	200-1713-5	1713	●	●
AMW-0158-092010			9/23/2010	9/25/2010	200-1713-1	1713	●	●
BMW-0158-092010			9/23/2010	9/25/2010	200-1713-2	1713	●	●
DMW-0158-092010			9/23/2010	9/25/2010	200-1713-3	1713	●	●
AMW-0159-092010			9/23/2010	9/25/2010	200-1713-15	1713	●	●
BMW-0159-092010			9/23/2010	9/25/2010	200-1713-16	1713	●	●
Rinsate Blanks								
RIN-2153-092010			9/21/2010	9/22/2010	200-1653-7	1653	●	●
Trip Blanks								
TRB-2153-092010			9/21/2010	9/22/2010	200-1653-1	1653	●	
TRB-2158-092010			9/23/2010	9/25/2010	200-1713-43	1713	●	

Notes:

● = Requested for the indicated analyses.

ID = Identification

MS/MSD = Matrix Spike / Matrix Spike Duplicate

SDG = Sample Delivery Group

VOCs = Volatile Organic Compounds

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

Sample Identification	Date Sampled	SDG	Laboratory Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for Qualification			Comments	Final Result
										CR	SUR	RPD		
EMW-089-092010	9/24/2010	1713	200-1713-42	Explosives	RDX	µg/L	0.32	J	J			x	Intercolumn RPD > 40%	0.32 J
AMW-0141-092010	9/24/2010	1713	200-1713-32	VOC	TCE	µg/L	6300	D		x			Calibration Range Exceeded TCE Reported from Dilution	6300 D
				Explosives	RDX	µg/L	0.54		J			x	Intercolumn RPD > 40%	0.54 J
BMW-0141-092010	9/24/2010	1713	200-1713-33	VOC	TCE	µg/L	8800	D		x			Calibration Range Exceeded TCE Reported from Dilution	8800 D
				Explosives	RDX	µg/L	58	D		x			Calibration Range Exceeded RDX Reported from Dilution	58 D
					1,3,5-Trinitrobenzene	µg/L	0.20	J	J			x	Intercolumn RPD > 40%	0.2 J
EMW-0141-092010	9/24/2010	1713	200-1713-34	VOC	TCE	µg/L	10000	D		x			Calibration Range Exceeded TCE Reported from Dilution	10000 D
				Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.29	J	J			x	Intercolumn RPD > 40%	0.29 J
					4-Amino-2,6-dinitrotoluene	µg/L	4.6		J			x	Intercolumn RPD > 40%	4.6 J
AMW-0142-092010	9/24/2010	1713	200-1713-40	VOC	TCE	µg/L	900	D		x			Calibration Range Exceeded TCE Reported from Dilution	900 D
BMW-0142-092010	9/24/2010	1713	200-1713-41	VOC	TCE	µg/L	1800	D		x			Calibration Range Exceeded TCE Reported from Dilution	1800 D
AMW-0144-092010	9/24/2010	1713	200-1713-29	Explosives	4-Amino-2,6-dinitrotoluene	µg/L	0.18	J	J			x	Intercolumn RPD > 40%	0.18 J
EMW-2144-092010	9/24/2010	1713	200-1713-31	Explosives	RDX	µg/L	47.3	D		x			Calibration Range Exceeded RDX Reported from Dilution	47.3 D
AMW-0145-092010	9/24/2010	1713	200-1713-27	Explosives	RDX	µg/L	63.2	D		x			Calibration Range Exceeded RDX Reported from Dilution	63.2 D
					4-Amino-2,6-dinitrotoluene	µg/L	0.67		J			x	Intercolumn RPD > 40%	0.67 J
EMW-0145-092010	9/24/2010	1713	200-1713-28	Explosives	RDX	µg/L	97	D		x			Calibration Range Exceeded RDX Reported from Dilution	97 D
BMW-0148-092010	9/24/2010	1713	200-1713-25	Explosives	RDX	µg/L	49.8	D		x			Calibration Range Exceeded RDX Reported from Dilution	49.8 D
					2-Amino-4,6-dinitrotoluene	µg/L	0.032	J	J			x	Intercolumn RPD > 40%	0.032 J
BMW-2148-092010	9/24/2010	1713	200-1713-26	Explosives	RDX	µg/L	49.1	D		x			Calibration Range Exceeded RDX Reported from Dilution	49.1 D
					2-Amino-4,6-dinitrotoluene	µg/L	0.048	J	J			x	Intercolumn RPD > 40%	0.048 J
BMW-0150-092010	9/24/2010	1713	200-1713-19	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.097	J	J			x	Intercolumn RPD > 40%	0.097 J
AMW-0151-092010	9/24/2010	1713	200-1713-20	VOC	TCE	µg/L	1000	D		x			Calibration Range Exceeded TCE Reported from Dilution	1000 D
BMW-2151-092010	9/24/2010	1713	200-1713-22	VOC	TCE	µg/L	960	D		x			Calibration Range Exceeded TCE Reported from Dilution	960 D
AMW-0153-092010	9/21/2010	1653	200-1653-3	Explosives	RDX	µg/L	1.7		J		x	x	Elevated Surrogate Recovery and/or Intercolumn RPD > 40%	1.7 J
					2,4,6-Trinitrotoluene	µg/L	0.21	J	J		x			0.21 J
					4-Amino-2,6-dinitrotoluene	µg/L	0.14	J	J		x	x		0.14 J
					2-Amino-4,6-dinitrotoluene	µg/L	0.22	J	J		x	x		0.22 J
	9/23/2010	1713	200-1713-11	VOC	TCE	µg/L	910	D		x			Calibration Range Exceeded TCE Reported from Dilution	910 D
BMW-0153-092010	9/21/2010	1653	200-1653-2	Explosives	RDX	µg/L	0.48		J		x		Elevated Surrogate Recovery	0.48 J

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

Sample Identification	Date Sampled	SDG	Laboratory Number	Analysis	Parameter	Units	Laboratory Result		Data Review Qualifier	Reason for Qualification			Comments	Final Result
										CR	SUR	RPD		
AMW-0154-092010	9/21/2010	1653	200-1653-6	Explosives	RDX	µg/L	4.5		J		x		Elevated Surrogate Recovery	4.5 J
					4-Amino-2,6-dinitrotoluene	µg/L	0.13	J	J		x			0.13 J
AMW-0154-092010	9/23/2010	1713	200-1713-9	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.084	J	J			x	Intercolumn RPD > 40%	0.084 J
BMW-0154-092010	9/21/2010	1653	200-1653-4	Explosives	RDX	µg/L	3.0		J		x		Elevated Surrogate Recovery	3 J
AMW-0155-092010	9/23/2010	1713	200-1713-13	VOC	TCE	µg/L	690	D		x			Calibration Range Exceeded TCE Reported from Dilution	690 D
EMW-0155-092010	9/23/2010	1713	200-1713-14	VOC	TCE	µg/L	630	D		x			Calibration Range Exceeded TCE Reported from Dilution	630 D
DMW-0158-092010	9/23/2010	1713	200-1713-3	Explosives	2-Amino-4,6-dinitrotoluene	µg/L	0.082	J	J		x	x	Elevated Surrogate Recovery and Intercolumn RPD > 40%	0.082 J
AMW-0159-092010	9/23/2010	1713	200-1713-15	Explosives	2,4-Dinitrotoluene	µg/L	0.31	J	J			x	Intercolumn RPD > 40%	0.31 J

Notes:

CR = Calibration Range
D = Result from dilution
J = Qualified as estimated
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine
RPD = Relative Percent Difference
SDG = Sample Delivery Group
SUR = Surrogate
TCE = Trichloroethene
µg/L = micrograms per liter
VOCs = Volatile organic compounds

Table 3-2
VOC Quality Control Outliers
2010 Baseline Monitering Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Dilutions and Reanalyses (E flags are not used in completeness percentage when dilution available)					
AMW-0141-092010	1713	TCE	Calibration Range Exceedance	Linear Calibration Range	6300 D
BMW-0141-092010					8800 D
EMW-0141-092010					10000 D
AMW-0142-092010					900 D
BMW-0142-092010					1800 D
AMW-0151-092010					1000 D
BMW-2151-092010					960 D
AMW-0153-092010					910 D
AMW-0155-092010					690 D
EMW-0155-092010					630 D

Notes:

D = Result from dilution
ID = Identification
QC = Quality Control
SDG = Sample Delivery Group
TCE = Trichloroethene
VOCs = Volatile Organic Compounds

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

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Surrogates					
DMW-0158-092010	1713	1,2-Dinitrobenzene	Elevated Surrogate Recovery	70-115%	146%
AMW-0153-092010 BMW-0153-092010 AMW-0154-092010 BMW-0154-092010	1653				131% 116% 115.4% 116%
Dilutions and Reanalyses (E flags are not used in completeness percentage when dilution available)					
BMW-0141-092010 EMW-2144-092010 AMW-0145-092010 EMW-0145-092010 BMW-0148-092010 BMW-2148-092010	1713	RDX	Calibration Range Exceedance	Linear Calibration Range	58.0 D 47.3 D 63.2 D 97 D 49.8 D 49.1 D
Other QC (not used to determine analytical completeness or project completeness)					
EMW-089-092010 AMW-0141-092010	1713	RDX	RPD Between Column Results	< 40%	54.5% 54.1%
AMW-0153-092010	1653				174%
AMW-0159-092010	1713	2,4-Dinitrotoluene			104%
EMW-0141-092010 AMW-0144-092010 AMW-0145-092010	1713	4-Amino-2,6-dinitrotoluene			55.9% 57.1% 60.2%
AMW-0153-092010	1653				80.8%
BMW-0141-092010	1713	1,3,5-Trinitrobenzene			102%

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

Field Sample ID(s) Requiring Qualification	SDG	Compound	QC Outlier	QC Parameter Control Limit	QC Result
Other QC (not used to determine analytical completeness or project completeness)					
EMW-0141-092010	1713	2-Amino-4,6-dinitrotoluene	RPD Between Column Results	< 40%	156.5%
BMW-0148-092010					130%
BMW-2148-092010					92.1%
BMW-0150-092010					64.8%
AMW-0154-092010					62.5%
DMW-0158-092010					200%
AMW-0153-092010	1653				105%

Notes:

D = Result from dilution

QC = Quality Control

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

RPD = Relative Percent Difference

SDG = Sample Delivery Group

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

Analysis	Number of Samples Planned[1]	Number of Samples Collected	Field Completeness
Volatile Organic Compounds	47	47	100%
Explosives	47	47	100%
Totals =	94	94	100%
Goal =			95%

Notes:

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

Table 4-2
Analytical Completeness
2010 Baseline Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

Analysis	Total Number of Parameters[1]	Acceptable Data[2]	Acceptable Data Completeness	Acceptable Data Completeness Goals	Quality Data[3]	Quality Data Completeness	Quality Data Completeness Goals
Volatile Organic Compounds (6)	282	282	100%	90%	282	100%	80%
Explosives (6)	282	273	97%	90%	282	100%	80%
Totals =	564	555	98%	95%	564	100%	80%

Notes:

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

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

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

Table 4-3
Project Completeness
2010 Baseline Monitoring Well Sampling Event
Former Nebraska Ordnance Plant, Mead, Nebraska

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

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

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

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/23/10	COC No: 09240
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			SDG No.
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
BMW-0158-092010	9/23/10	1422	G	W	5	X	X									
AMW-0158-092010	↓	1429	↓	↓	5	X	X									
DMW-0158-092010		1433			5	X	X									
AMW-0157-092010		1455			5	X	X									
BMW-0157-092010		1459			5	X	X									
AMW-0156-092010		1520			5	X	X									
BMW-0156-092010		1530			5	X	X									
BMW-0156-092010		1530			5	X	X									
AMW-0154-092010		1550			5	X	X									
BMW-0154-092010		1555			5	X	X									
AMW-0153-092010		1612			5	X	X									
BMW-0153-092010	↓	1617	↓	↓	5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	Fedex 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/23 - 9/24/10	COC No: 0924/10
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			SDG No.
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0155-092010	9/23/10	1635	G	W	5	X	X									
EMW-0155-092010		1640			5	X	X									
EMW-0155-092010 MS		1640			3	X	X									
EMW-0155-092010 MSD		1640			3	X	X									
AMW-0159-092010		1705			5	X	X									
BMW-0159-092010		1710			5	X	X									
BMW-0152-092010		1725			5	X	X									
AMW-0150-092010	9/24/10	0745			5	X	X									
BMW-0150-092010		0750			5	X	X									
AMW-0151-092010		0810			5	X	X									
BMW-0151-092010		0815			5	X	X									
BMW-2151-092010		0815			5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	Fedex 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/24/10	COC No: 092410
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			SDG No.
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
BMW-0143-092010	9/24/10	0835	G	W	5	X	X									
AMW-0149-092010		0845			5	X	X									
BMW-0148-092010		0900			5	X	X									
BMW-2148-092010		0900			5	X	X									
AMW-0145-092010		0915			5	X	X									
EMW-0145-092010		0921			5	X	X									
AMW-0144-092010		0940			5	X	X									
EMW-0144-092010		0945			5	X	X									
EMW-2144-092010		0945			5	X	X									
AMW-0141-092010		1010			5	X	X									
BMW-0141-092010		1015			5	X	X									
EMW-0141-092010		1018			5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	FedEx 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/24/10	COC No: 0924/10
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			SDG No.
(303) 298-7607 Phone	TAT if different from Below			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0147-092010	9/24/10	1045	G	W	5	X	X									
BMW-0147-092010		1050			5	X	X									
DMW-0147-092010		1055			5	X	X									
AMW-0146-092010		1120			5	X	X									
BMW-0146-092010		1125			5	X	X									
AMW-0142-092010		1147			5	X	X									
BMW-0142-092010		1150			5	X	X									
EMW-089-092010		1220			5	X	X									
EMW-089-092010 MS		1220			3	X	X									
EMW-089-092010 MSD		1220			3	X	X									
TRB-2158-092010	9/23/10	1400			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 Hinz	ECC	9/24/10	Fedex 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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.

Baseline Sampling 2010

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9-21-10	COC No: 092110
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)			SDG No.
(303) 298-7607 Phone	TAT if different from Below			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-~~0153~~ 2153-092010	9-21-10	09:20	G	W	2	2										
BMW-0153-092010	9-21-10	10:35	G	W	5	3	2									
AMW-0153-092010	9-21-10	11:35	G	W	5	3	2									
BMW-0154-092010	9-21-10	13:00	G	W	5	3	2									
BMW-2154-092010	9-21-10	13:00	G	W	5	3	2									
BMW-0154-092010 MS	9-21-10	13:00	G	W	5	3	2									
BMW-0154-092010 MSD	9-21-10	13:00	G	W	5	3	2									
AMW-0154-092010	9-21-10	14:15	G	W	5	3	2									
RIN-2153-092010	9-21-10	14:45	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:
Mike Madson	ICR	9-21-10	Fedex 8730 0092 8406		
				TA	9/22/10 1030

Appendix B
Field Forms

Location ENOP Mead Date 8/25/10

Project / Client 5447.002/ECC (continued)

85°F Sunny

Aquifer Characterization
Slug testing

1525 At main plant. unload slug test equipment. Finalize paperwork

1530 End of Day

PLE

Location ENOP-Mead Date 9-21-10

Project / Client 5447.002/ECC

70°F Cloudy, rain

Baseline Sampling 2010

Aquifer Characterization

Mike MAXson - ICR

07:30 Safety meeting, calibrate YSI, Job prep and supplies.

07:45 Take personal vehicle to Linweld in Lincoln and pick up 2 - 20 lb. bottles of CO_2.

09:15 Back at Treatment plant load Gator with equipment.

09:25 Mob to new location

09:35 Set up at MW-153 ~~A~~ B

10:20 Initiate purge IDTW - 43.83'

Final readings Sample time 10:35

DTW	PH	Temp	Cond.	Turb	ORP	DO
42.81	5.37	14.07	0.394	9.22	178.6	3.54

2" non dedicated pump

Collect Samples BMW-0153-09 2010

VOC/8260B, Explosives/8330

10:50 Set up at MW-153A

11:20 Initiate purge IDTW-43.73

Final readings Sample time 11:35

DTW	PH	Temp	Cond	Turb	ORP	DO
~~42.81~~	~~5.37~~	~~14~~	0.457	8.50	150.7	5.57
43.39	5.41	15.45				

Location FNOP-Mead Date 9-21-10

Project / Client 5447.002 / ECC

77°F Pt. Sunny

Baseline Sampling 2010
2" non dedicated pump
Collect Samples AMW-0153-092010
VOC's 8260B Explosives/8330
11:55 Mob to next location
12:00 Set up at MW-154B
12:45 Initiat purge IDTW-45.19
Final readings Sampletime-13:00

DTW	PH	Temp	Cond	Turb	ORP	DO
45.10	5.10	20.33	0.484	NA	132.0	0.99

2" non dedicated pump
Collect samples
BMW-0154-092010
BMW-2154-092010
BMW-0154-092010 MS
BMW-0154-092010 MSD
VOC's/8260B Explosives/8330
Set up at MW-154A
Initiate purge IDTW-45.85
Final readings Sampletime-14:15

DTW	PH	Temp	Cond	Turb	ORP	DO
45.71	5.65	15.48	0.353	7.31	260	0.77

2" non dedicated pump
Collect Samples

Location FNOP-Mead Date 9-21-10

Project / Client 5447.002 / ECC

77° F Cloudy

Baseline Sampling 2010
AMW-0154-092010
VOC's/8260B, Explosives/8330
14:30 Mob back to main plant
14:45 Back at Main plant
Take rinsates, Finalize
Paperwork
15:00 End of day

9/22/10 L. TURNER

1604 DEPLOY MW-159B AT TD BOTTOM

1607 AT MW-152B TAKE MEASUREMENTS

MW-152B WL= 39.37 TD= 69.16

1610 DEPLOY MW-152B AT TD BOTTOM

1614 AT MW-151 A,B TAKE MEASUREMENTS

MW-151A WL= 42.90 TD=

MW-151B WL= 42.99 TD= 79.25

1620 DEPLOY MW-151A AT TD BOTTOM

1622 DEPLOY MW-151B AT TD BOTTOM

1630 AT MW-150A,B TAKE MEASUREMENTS

MW-150A WL= 48.76 TD= 89.99

MW-150B WL= 48.60 TD= 74.80

1636 DEPLOY MW-150A AT TD BOTTOM

1638 DEPLOY MW-150B AT TD BOTTOM

1640 HEAD BACK TO PLANT

1645 AT PLANT UNLOAD EQUIP.

1650 MAKE LOGBOOK SCANS.

1655 TO HOTEL.

1730 AT HOTEL

LT 9/22/10

THURSDAY SEPTEMBER 23, 2010 L. TURNER

WEATHER: OVERCAST/RAIN 70's WIND 5-20 S

TASK: HYDRASLEEVE DEPLOY/SAMPLE

PERSONNEL: LEWIS TURNER, TOBY HINZ

0730 DEPART HOTEL

0755 AT PLANT, LOAD UP

0816 GO TO DEPLOY MORE HYDRASLEEVES

0825 ARRIVE AT MW-143B TAKE MEASUREMENTS

MW-143B WL= 46.19 TD= 62.35

0830 DEPLOY MW-143B AT TD BOTTOM

0835 ARRIVE AT MW-149A TAKE MEASUREMENTS

MW-149A WL= 45.89 TD= 90.51

0840 DEPLOY MW-149A AT TD BOTTOM

0847 AT MW-148B TAKE MEASUREMENTS

MW-148B WL= 43.41 TD= 74.86

0852 DEPLOY MW-148B AT TD BOTTOM

0857 AT MW-145 A,E TAKE MEASUREMENTS

MW-145A WL= 48.83 TD= 95.10

MW-145E WL= 48.99 TD= 81.82

0900 DEPLOY MW-145A AT TD BOTTOM

0901 DEPLOY MW-145E AT TD BOTTOM

0911 AT MW-144 A,E TAKE MEASUREMENTS

MW-144A WL= 40.49 TD= 100.00

MW-144E WL= 40.79 TD= 84.21

0915 DEPLOY MW-144A AT TD BOTTOM

0916 DEPLOY MW-144E AT TD BOTTOM

9/23/10 L. TURNER

0922 AT MW-141 A, B, E TAKE MEASUREMENTS

MW-141A WL= 37.81 TD= 115.00

MW-141B WL= 37.80 TD= 59.67

MW-141E WL= 37.79 TD= 89.26

0934 DEPLOY MW-141A AT BOTTOM TD

0935 DEPLOY MW-141B AT BOTTOM TD

0937 DEPLOY MW-141E AT BOTTOM TD

0942 AT MW-142 A, B TAKE MEASUREMENTS

MW-142A WL= 46.81 TD= 124.66

MW-142B WL= 46.56 TD= 103.45

0950 DEPLOY MW-142A AT TD BOTTOM

* DEPLOY MW-142B AT LATER TIME MISSING LANYARD WILL HAVE TO MAKE OUR OWN, TOP WEIGHT ALSO

1000 AT MW-89E TAKE MEASUREMENTS

MW-89E WL= 52.40 TD= 94.36

1005 DEPLOY MW-89E AT TD BOTTOM

1016 AT MW-147 A, B, D TAKE MEASUREMENTS

MW-147A WL= 51.57 TD= 98.99

MW-147B WL= 51.44 TD= 77.06

MW-147D WL= 51.17 TD=

1022 DEPLOY MW-147A AT TD BOTTOM

1023 DEPLOY MW-147B AT TD BOTTOM

1025 DEPLOY MW-147D AT TD BOTTOM

1036 AT MW-146 A, B TAKE MEASUREMENTS

MW-146A WL= 48.99 TD= 96.85

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MW-146B WL= 48.79 TD= 76.99

1040 DEPLOY MW-146A AT TD BOTTOM

1042 DEPLOY MW-146B AT TD BOTTOM

1045 GO TO LOAD LINE ONE FOR PARTS TO FILL MISSING ONES FROM THIS ORDER 2 TOP WEIGHTS AND ONE TETHER.

1057 GOT TWO WEIGHTS AND EXTRA TETHER FROM PREVIOUS EVENT LEFT OVERS.

GO TO MW-142 TO PUT IN

1110 AT MW-142B RIG AND DEPLOY HYDRASLEEVE

1116 FINISH DEPLOYMENT

1130 GO BACK TO PLANT TO PREPARE TO SAMPLE HYDRASLEEVES PLACED YESTERDAY AFTER 24 HRS.

1140 AT PLANT.

1150 GO GRAB LUNCH

~~1250~~ 1250 BACK AT PLANT LOAD SAMPLE BOTTLES

1400 GO TO MW-158 CLUSTER TO SAMPLE AT 1420

SETUP EQUIPMENT/BOTTLES

1422 COLLECT BMW-0158-092010 FOR VOC + EXP Non Turbid.

1429 COLLECT AMW-0158-092010 FOR VOC + EXP 4" Turbid at bottom isolate

1433 COLLECT DMW-0158-092010 FOR VOC + EXP 2" TURBID AT BOTTOM

1440 GO TO MW-157 CLUSTER

9/23/10 L. TURNER

1455 COLLECT AMW-0157 -092010 FOR VOC's + Exp
NON TURBID

1459 COLLECT BMW-0157-092010 FOR VOC's + Exp
NON TURBID

1510 GO TO MW-156 CLUSTER

1520 COLLECT AMW-0156-092010 FOR VOC's + Exp
NON TURBID

1530 COLLECT BMW-0156-092010 FOR VOC's + Exp

1530 COLLECT BMW-2156-092010 FOR VOC's + Exp (Dup)
NON TURBID

1545 GO TO MW-154 CLUSTER

1550 COLLECT AMW-0154-092010 FOR VOC's + Exp
NON TURBID

1555 COLLECT BMW-0154-092010 FOR Exp + VOC's
NON TURBID

1600 GO TO MW-153 A + B

1612 COLLECT AMW-0153 -092010 FOR VOC's + Exp
NON-TURBID

1617 COLLECT BMW-0153-092010 FOR VOC's + Exp
NON-TURBID

1626 GO TO MW-155 CLUSTER

1635 COLLECT AMW-0155 -092010 FOR VOC's + Exp
NON TURBID.

1640 COLLECT EMW-0155-092010 FOR VOC's + Exp

1640 COLLECT EMW-0155-092010 MS/MSD FOR VOC's + Exp

9/23/10 L. TURNER

NON TURBID

1656 GO TO MW-159 CLUSTER

1705 COLLECT AMW-0159-092010 FOR VOC's + Exp
NON TURBID

1710 COLLECT BMW-0159-092010 FOR Exp + VOC's
BOTTOM 6" TURBID ISOLATE.

1720 GO TO MW-152B

1725 COLLECT BMW-0152-092010 FOR VOC + Exp
NON-TURBID.

1731 LARGE RAIN STORM APPROACHING CAB UP IN TRUCK.

1740 GO BACK TO PLANT

1745 AT PLANT STORE SAMPLES + EQUIP

1755 GO TO HOTEL OPPSITE

1838 AT HOTEL

9/23/10

FRIDAY, SEPTEMBER 24, 2010 L. TURNER

14 WEATHER: CLEAR 50-85°F WIND 5-20 SW

TASK: SAMPLE HYDRASLEEVES

14 PERSONNEL: LEWIS TURNER, TOBY HINZ

0650 DEPART HOTEL

1 0715 AT MEAD PLANT LOAD up EQUIPMENT.

1 0736 AIR TIRES up

0737 GO TO MW-150 CLUSTER

1 0745 COLLECT AMW-0150-092010 FOR VOC's + Exp

1 NON-TURBID

0750 COLLECT BMW-0150-092010 FOR VOC's + Exp

15 NON TURBID

1 0757 GO TO MW-151 CLUSTER

0810 COLLECT AMW-0151-092010 FOR VOC's + Exp

1 NON-TURBID

0815 COLLECT BMW-0151-092010 FOR VOC's + Exp

1 0815 COLLECT BMW-2151-092010 FOR VOC's + Exp (Dup)

1 Bottom 6" TURBID - ISOLATE

0823 GO TO MW-143B

1 0835 COLLECT BMW-143B-092010 FOR VOC's + Exp

NON-TURBID

1 0839 GO TO MW-149 A

0845 COLLECT AMW-0149-092010 FOR VOC's + Exp

Bottom 6" Turbid - Isolate

1 0849 GO MW-148B

1 0900 COLLECT BMW-0148-092010 FOR VOC's + Exp

9/24/10 L. TURNER

0900 COLLECT BMW-2148-092010 FOR VOC's + Exp (Dup)

NOW TURBID

0910 GO TO MW-145 A, E

0915 COLLECT AMW-0145-092010 FOR VOC's + Exp

NON-TURBID.

0921 COLLECT EMW-0145-092010 FOR VOC's + Exp

NON-TURBID

0932 GO TO MW-144 A + B

0940 COLLECT AMW-0144-092010 FOR VOC's + Exp

NOW TURBID FOR BOTH

0945 COLLECT EMW-0144-092010 FOR VOC's + Exp

0945 COLLECT EMW-2144-092010 FOR VOC's + Exp (Dup)

0957 GO TO MW-141 CLUSTER

1010 COLLECT AMW-0141-092010 FOR VOC's + Exp

NON-TURBID

1015 COLLECT BMW-0141-092010 FOR VOC's + Exp

NON-TURBID

1018 COLLECT EMW-0141-092010 FOR VOC's + Exp

NON-TURBID

1025 GO TO MW-147 CLUSTER

1045 COLLECT AMW-0147-092010 FOR VOC's + Exp

NON-TURBID

1050 COLLECT BMW-0147-092010 FOR VOC's + Exp

NON-TURBID

1055 COLLECT DMW-0147-092010 FOR VOC's + Exp

9/24/10 L. TURNER

Green hue to water - Evenly throughout.

1110 GO TO MW-146 CLUSTER

1120 COLLECT AMW0146-092010 FOR VOC'S + EXP
NON-TURBID

1125 COLLECT BMW-0146-092010 FOR VOC'S + EXP
NON-TURBID

1130 GO TO MW-142 CLUSTER

1147 COLLECT AMW-0142-092010 FOR VOC'S + EXP
NON-TURBID

1150 COLLECT BMW-0142-092010 FOR VOC'S + EXP
NON-TURBID

1205 GO TO MW-89E

1220 COLLECT EMW-089-092010 FOR VOC + EXP.

1220 COLLECT EMW-089-092010 MS/MSD
NON TURBID

1225 FINISH SAMPLING GO TO PLANT

1245 AT PLANT FINISH CHAINS AND PACK COOLERS.

1341 FINISH CHAINS CONTINUE TO PACK SAMPLES.

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

AUTOMATED DATA REVIEW SUMMARY for 1653

Facility:	Former Nebraska Ordnance Plant, Mead, Nebraska
Event:	Baseline 2010
Guidance Document:	Groundwater Monitoring Program
Contract Laboratory:	SEVERN TRENT LABS, Colchester, VT
Field Contractor:	Environmental Chemical Corp, Denver, CO
Data Review Contractor:	
SDG:	1653, Certified - 10/15/201 AM by evinmckinney
QC Level:	
Project Manager:	
Data Reviewer:	
Data Reviewer Title:	
Date of Review Report:	15-Oct-2010

Samples Included in SDG 1653

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Groundwater Monitoring Program to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Environmental Chemical Corp, Denver, CO
; analyses were performed by SEVERN TRENT LABS, Colchester, VT and were reported under sample delivery group (SDG) 1653. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

Detected in the associated equipment rinsate blank.

Detected in the associated trip blank.

Field Duplicate RPD

Laboratory control recovery exceeded established limits

Matrix spike recovery exceeded establisted criteria.

Method Blank Contamination

Negative Blank

Percent difference of matrix spike duplicate exceeded established criteria.

Prep Hold Time

Surrogate recovery above the upper limit

Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

Ambient Blank (X)

Calibration Blank

Calibration Blank - Negative

Continuing Calibration Verification

Detected in the associated field (i.e., ambient) blank.

Initial Calibration Verification

Lab Replicate RPD

Material Blank

Negative Blank

AUTOMATED DATA REVIEW SUMMARY for 1653

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 10.00% (20 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

AUTOMATED DATA REVIEW SUMMARY for 1653

15-Oct-2010

Released by ,

Reason and Comment Code Definitions

Comments

Code	Definition
C1	Diluted Out
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank

Reasons

Code	Definition
A	Serial dilution
A1	Ambient Blank
B	The analyte was found in an associated blank as we
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
c	LCS Recovery
C	LCS Recovery
d	Field Duplicate RPD

Reason and Comment Code Definitions

D	MS RPD
D1	Lab Replicate RPD
D2	No precision available
E	BS RPD
F	Field Blank
F1	Hydrocarbon pattern does not match standard
G1	Initial Calibration RRF
G2	Initial Calibration RSD
h	Holding time exceeded by less than 2X.
H	Holding time exceeded by more than 2X.
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate
i	Surrogate recovery below the lower limit.
J	CRA/CRI Recovery
K	An analyte (non-common laboratory artifact) was de
L	Blank
L1	Blank - Negative
m	Low MS Recovery
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column Difference

Reason and Comment Code Definitions

P2	Improper preparation/extraction
q	Encore sample holding time exceeded by less than 2
Q	Encore sample holding time exceeded by more than 2
Q1	Material Blank
R	Exceeds LinearCalibration Range
S	Internal standard
T	Equipment Blank
TI	Tentatively Identified Compound
TR	Trace Level Detect
U	Receipt Temperature
V	Equipment Blank
V1	Initial Calibration Verification
V2	Continuing Calibration Verification
V3	Continuing Calibration Verification RRF
V4	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
Y	Cooler temperature greater than 10 degreec C.
y	Cooler temperature greater than 4 degrees C, but l
Y1	False Positive
Y2	Data rejected due to radiological anomolies
Z2	Analyte not confirmed on second column

AUTOMATED DATA REVIEW SUMMARY for 1653

Batch Report

Test Method: SW8260B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
7174	7174	NA	LABQC	WQ	LABQC	20071746		23-Sep-2010 11:25:00 AM	23-Sep-2010 11:25:00 AM	BS
	7174	NA	LABQC	WQ	LABQC	20071749		23-Sep-2010 1:20:00 PM	23-Sep-2010 1:20:00 PM	LB
	7174	NA	FIELDQC	WQ	TRB-2153-092010	20016531		21-Sep-2010 9:20:00 AM	23-Sep-2010 5:41:00 PM	TB
	7174	NA	FIELDQC	WQ	RIN-2153-092010	20016537		21-Sep-2010 2:45:00 PM	23-Sep-2010 6:13:00 PM	EB
	7174	NA	MW-154B	WG	BMW-0154-092010	20016534		21-Sep-2010 1:00:00 PM	23-Sep-2010 6:45:00 PM	N
	7174	NA	MW-154B	WG	BMW-0154-092010	20016534		21-Sep-2010 1:00:00 PM	23-Sep-2010 7:18:00 PM	MS
	7174	NA	MW-154B	WG	BMW-0154-092010	20016534		21-Sep-2010 1:00:00 PM	23-Sep-2010 7:50:00 PM	SD
7175	7175	NA	LABQC	WQ	LABQC	20071754		24-Sep-2010 8:45:00 AM	24-Sep-2010 8:45:00 AM	BS
	7175	NA	LABQC	WQ	LABQC	20071756		24-Sep-2010 9:49:00 AM	24-Sep-2010 9:49:00 AM	LB
	7175	NA	MW-154B	WG	BMW-2154-092010	20016535		21-Sep-2010 1:00:00 PM	24-Sep-2010 11:22:00 AM	FD
	7175	NA	MW-154A	WG	AMW-0154-092010	20016536		21-Sep-2010 2:15:00 PM	24-Sep-2010 11:54:00 AM	N
	7175	NA	MW-153B	WG	BMW-0153-092010	20016532		21-Sep-2010 10:35:00 AM	24-Sep-2010 12:26:00 PM	N
	7175	NA	MW-153A	WG	AMW-0153-092010	20016533		21-Sep-2010 11:35:00 AM	24-Sep-2010 1:31:00 PM	N

Test Method: SW8330; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
6968	6905	NA	LABQC	WQ	LABQC	20069051A		23-Sep-2010 1:12:00 PM	24-Sep-2010 1:08:00 PM	LB
	6905	NA	LABQC	WQ	LABQC	20069052A		23-Sep-2010 1:12:00 PM	24-Sep-2010 1:46:00 PM	BS

AUTOMATED DATA REVIEW SUMMARY for 1653

Batch Report

6968	6905	NA	MW-153B	WG	BMW-0153-092010	20016532	21-Sep-2010 10:35:00 AM	24-Sep-2010 2:23:00 PM	N
	6905	NA	MW-153A	WG	AMW-0153-092010	20016533	21-Sep-2010 11:35:00 AM	24-Sep-2010 3:01:00 PM	N
	6905	NA	MW-154B	WG	BMW-0154-092010	20016534	21-Sep-2010 1:00:00 PM	24-Sep-2010 3:38:00 PM	N
	6905	NA	MW-154B	WG	BMW-2154-092010	20016535	21-Sep-2010 1:00:00 PM	24-Sep-2010 4:16:00 PM	FD
	6905	NA	MW-154A	WG	AMW-0154-092010	20016536	21-Sep-2010 2:15:00 PM	24-Sep-2010 4:53:00 PM	N
	6905	NA	FIELDQC	WQ	RIN-2153-092010	20016537	21-Sep-2010 2:45:00 PM	24-Sep-2010 5:30:00 PM	EB
	6905	NA	MW-154B	WG	BMW-0154-092010	20016534	21-Sep-2010 1:00:00 PM	24-Sep-2010 6:08:00 PM	MS
	6905	NA	MW-154B	WG	BMW-0154-092010	20016534	21-Sep-2010 1:00:00 PM	24-Sep-2010 6:45:00 PM	SD

AUTOMATED DATA REVIEW SUMMARY for 1653

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW8260B / SW5030B	Equipment Blank	RIN-2153-092010 (EB)	1.00	Methylene Chloride	0.36	UG/L	U/None	< 0.25	< 1	V	
SW8330 / METHOD	Confirmation Column Difference	AMW-0153-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	105	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0153-092010 (N)	1.00	4-Amino-2,6-Dinitrotoluene	80.9	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0153-092010 (N)	1.00	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	174	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Surrogate	AMW-0153-092010 (N)	1.00	1,2-Dinitrobenzene	130	PERCENT	J/None	70 - 115	10 - 115	I	
SW8330 / METHOD	Surrogate	AMW-0154-092010 (N)	1.00	1,2-Dinitrobenzene	115	PERCENT	J/None	70 - 115	10 - 115	I	
SW8330 / METHOD	Surrogate	BMW-0153-092010 (N)	1.00	1,2-Dinitrobenzene	116	PERCENT	J/None	70 - 115	10 - 115	I	
SW8330 / METHOD	Surrogate	BMW-0154-092010 (MS)	1.00	1,2-Dinitrobenzene	117	PERCENT	J/None	70 - 115	10 - 115	I	
SW8330 / METHOD	Surrogate	BMW-0154-092010 (N)	1.00	1,2-Dinitrobenzene	116	PERCENT	J/None	70 - 115	10 - 115	I	
SW8330 / METHOD	Surrogate	BMW-0154-092010 (SD)	1.00	1,2-Dinitrobenzene	120	PERCENT	J/None	70 - 115	10 - 115	I	

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	AMW-0153-092010	N	cis-1,2-Dichloroethene	1.8	0.81 J	0.81 J	UG/L	TR
SW8260B/NONE	WG	BMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	2.0 J	2.0 J	UG/L	TR
SW8260B/NONE	WG	BMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	0.44 J	0.44 J	UG/L	TR
SW8260B/NONE	WG	BMW-2154-092010	FD	cis-1,2-Dichloroethene	1.0	0.46 J	0.46 J	UG/L	TR
SW8260B/NONE	WQ	RIN-2153-092010	EB	Methylene Chloride	1.0	0.36 J	0.36 J	UG/L	TR

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	AMW-0153-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.22 J	0.22 J	UG/L	P1/I/TR
SW8330/NONE	WG	AMW-0153-092010	N	4-Amino-2,6-Dinitrotoluene	0.40	0.14 J	0.14 J	UG/L	P1/I/TR
SW8330/NONE	WG	AMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	1.7	1.7 J	UG/L	P1/I
SW8330/NONE	WG	AMW-0153-092010	N	2,4,6-Trinitrotoluene	0.40	0.21 J	0.21 J	UG/L	I/TR
SW8330/NONE	WG	AMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.39	0.13 J	0.13 J	UG/L	I/TR
SW8330/NONE	WG	AMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.39	4.5	4.5 J	UG/L	I
SW8330/NONE	WG	BMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.48	0.48 J	UG/L	I
SW8330/NONE	WG	BMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	3.0	3.0 J	UG/L	I

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	AMW-0153-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.22 J	0.22 J	UG/L	P1/I/TR
SW8330/NONE	WG	AMW-0153-092010	N	4-Amino-2,6-Dinitrotoluene	0.40	0.14 J	0.14 J	UG/L	P1/I/TR
SW8330/NONE	WG	AMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	1.7	1.7 J	UG/L	P1/I
SW8330/NONE	WG	AMW-0153-092010	N	2,4,6-Trinitrotoluene	0.40	0.21 J	0.21 J	UG/L	I/TR
SW8330/NONE	WG	AMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.39	0.13 J	0.13 J	UG/L	I/TR
SW8330/NONE	WG	AMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.39	4.5	4.5 J	UG/L	I
SW8330/NONE	WG	BMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.48	0.48 J	UG/L	I
SW8330/NONE	WG	BMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	3.0	3.0 J	UG/L	I
SW8330/NONE	WG	BMW-2154-092010	FD	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	3.1	3.1	UG/L	

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	AMW-0153-092010	N	cis-1,2-Dichloroethene	1.8	0.81 J	0.81 J	UG/L	TR
SW8260B/NONE	WG	AMW-0153-092010	N	Trichloroethene (TCE)	1.8	140	140	UG/L	
SW8260B/NONE	WG	AMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	1.2	1.2	UG/L	
SW8260B/NONE	WG	AMW-0154-092010	N	Trichloroethene (TCE)	1.0	31.0	31.0	UG/L	
SW8260B/NONE	WG	BMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	2.0 J	2.0 J	UG/L	TR
SW8260B/NONE	WG	BMW-0153-092010	N	Trichloroethene (TCE)	5.0	370	370	UG/L	
SW8260B/NONE	WG	BMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	0.44 J	0.44 J	UG/L	TR
SW8260B/NONE	WG	BMW-0154-092010	N	Trichloroethene (TCE)	1.0	9.9	9.9	UG/L	

AUTOMATED DATA REVIEW SUMMARY for 1653

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	BMW-2154-092010	FD	cis-1,2-Dichloroethene	1.0	0.46 J	0.46 J	UG/L	TR
SW8260B/NONE	WG	BMW-2154-092010	FD	Trichloroethene (TCE)	1.0	9.9	9.9	UG/L	
SW8260B/NONE	WQ	RIN-2153-092010	EB	Methylene Chloride	1.0	0.36 J	0.36 J	UG/L	TR

Rejected Results

DATA VALIDATION REPORT

To: ECC
From: Bill Fear – TLI Solutions, Inc.
Report Date: October 15, 2010
Project/Site: Baseline 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant Mead, Nebraska
Laboratory No.: 200-1653-1

This memo presents the organic data validation report for the data obtained during the field activities for the above referenced work assignment. The purpose of this review is to provide a technical validation of the volatile organic compounds (VOC) results by SW-846 Method 8260B and the explosive results by Method 8330 for Laboratory No. 200-1653-1 from TestAmerica South Burlington, Vermont. This report consists of the validation of five water samples and one rinsate for VOC analysis and explosives analysis and one trip blank for VOC analysis collected on September 21, 2010. The field sample numbers and corresponding laboratory numbers are presented below:

Field Sample Number	Laboratory Sample Number	Analysis
AMW-0153-092010	200-1653-3	VOC and Explosives
BMW-0153-092010	200-1653-2	
AMW-0154-092010	200-1653-6	
BMW-0154-092010	200-1653-4	
BMW-2154-092010	200-1653-5	
RIN-2153-092010	200-1653-7	
TRB-2153-092010	200-1653-1	VOC

Data validation was conducted in accordance with the *Mead Validation Guidelines*, (ECC, 2007, approved by USACE 2007).

Data Completeness

All data necessary to complete data validation on the samples were provided.

Sample Receipt at the Laboratory

The samples were properly preserved and the sample coolers were received within the recommended temperature range of 4 ± 2° C. All samples were received in good condition.

Holding Times

Analytical holding times were assessed to determine whether the holding time requirements were met by the laboratory. The preserved VOC water samples were analyzed within 14 days of sample collection. The water samples were extracted within seven days of sample collection and the extracts were analyzed within 40 days of extraction for the explosive analysis.

Tuning and Calibration

According to the *Mead Validation Guidelines*, 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.

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*, detections were qualified as non-detect (U) if the concentration in the sample was less than five 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 ten times the concentration in the associated blank.

There were no detections of target analytes in the method blanks.

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*, detections were qualified as non-detect (U) if the concentration in the sample was less than five 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 ten times the concentration in the associated blank.

Methylene chloride was detected in the trip blank TRB-2153-092010, at 0.36 ug/L. No action was required as this compound was not detected in the samples.

Rinsate Blanks

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

There were no detections of target analytes in the rinsate blank.

Surrogate

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.

In accordance with the *Mead Validation Guidelines*, 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*, results for associated analytes in the affected samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects.

The % REC for 1,2-dinitrobenzene on the primary column for the explosive analysis of samples AMW-0153-092010 (131%), BMW-0153-092010 (116%), AMW-0154-092010 (115.4%), and BMW-0154-092010 (116%) exceeded the laboratory QC limits of 70-115%. As a result of the elevated %RECs on the primary column, the following detected results were qualified as estimated (J):

- RDX in samples BMW-0153-092010, BMW-0154-092010
- RDX, 2,4,6-trinitrotoluene, 4-amino-2,6-dinitrotoluene, and 2-amino-4,6-dinitrotoluene in sample AMW-0153-092010
- RDX and 4-amino-2,6-dinitrotoluene in sample AMW-0154-092010

[Note: The recovery also exceeded QC limits on the primary column for the MS/MSD analyses of sample BMW-0154-092010. No additional action was taken on the QC samples.

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

All other % RECs were within criteria.

[Note: The laboratory inadvertently transcribed the QC limits for toluene-d8 and 4-bromofluorobenzene. The limits for toluene –d8 should be 85-120% and the limits for 4-bromofluorobenzene should be 80-115%.]

Internal Standard Criteria

Volatile analyses were quantitated using the Internal Standard method. The internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard.

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. LCS samples were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines*, 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*, 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 % RECs were within laboratory QC limits.

Matrix Spike/Matrix Spike Duplicate Analyses

MS and MSD samples are analyzed for the organic 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 relative percent difference (RPD). These results are also compared against the un-spiked portion of the sample for % REC of the spiked analytes.

In accordance with the *Mead Validation Guidelines*, 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*, 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 analyses were performed on samples BMW-0154-092010 as requested on the COC. All % RECs were within laboratory QC limits and the RPDs were less than 30%.

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.

The field duplicate pair listed below is included with this SDG.

- BMW-0154-092010 / BMW-2154-092010 (VOCs and Explosives)

The field duplicate data were acceptable. In accordance with the *Mead Validation Guidelines*, data are not qualified based on field duplicate sample results.

Laboratory Duplicate Results

Laboratory duplicates were not analyzed for these methods. Refer to the MS/MSD for precision.

Dilutions and Reanalyses

No secondary dilutions or analyses were analyzed for this SSDG.

Laboratory Qualifiers

Analytes detected below the limit of quantitation (LOQ), but above the limit of detection (LOD) were quantified and results were assigned an estimated (J) qualifier by the laboratory.

The following detected results were qualified as estimated (J):

- All detected results less than the LOQ

These qualifiers are not used to determine analytical or project completeness.

Other QC Parameters

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

The following results had RPDs greater than 40% and the results were qualified as estimated (J):

- 2-Amino-4,6-dinitrotoluene in sample AMW-0153-092010 (105%)
- 4-Amino-2,6-dinitrotoluene in sample AMW-0153-092010 (80.8%)
- RDX in sample AMW-0153-092010 (174%),

These qualifiers are not used to determine analytical or project completeness.

Overall Assessment

The detected explosive results in four samples were qualified as estimated due to an elevated surrogate recovery on the primary column.

Detected results less than the reporting limits were qualified as estimated. Additionally, three detected explosive results were qualified as estimated because the intercolumn RPD exceeded 40%. These qualifiers are not used to determine analytical or project completeness.

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.

Baseline

GC/MS WORKSHEETS **TLI Solutions**

HOLDING TIMES

Method #: WA \ 8330 Validator/Date: [illegible]

Client & Batch #: 200-16531 Reviewer/Date:

Include samples, dilutions & reanalyses

#	SAMPLE NUMBER (per COC)	(If Applicable) COC # = Form I Y/N	(If Applicable) SAMPLE PRE-SERVED Y/N	TEMP. 4°C (±2°C) Y/N	CONC. LEVEL/ MATRIX	DATE COLLECTED	Extractables DATE EXTRACTED	DATE ANALYZED	Extractables EXT. DATE - COLL. DATE	Extractables ANAL. DATE - EXT. DATE	ANAL. DATE - COLL. DATE	Action Taken VOA Aromatic J(+) UJ (U)	Action Taken J ALL	Action Taken J (+) R (U)	COMMENTS (ANY PROBLEMS ESP. WITH SHIPPING, RECEIPT & SAMPLING CONDITION)
1	1 TRB				TRB	9/21		9/23			2				
2	2			(U)	H2O			9/24			3				
3	3										3				
4	4							9/23			2				<14
5	5							9/24			3				
6	6										3				
7	7 Rinsate				RIN			9/23			2				
8															
9															
10															
11															
12															
13	2		none	DC	H2O	9/21	9/23	9/24	2	1					
14	3											(U)			<7/40
15	4														
16	5														
17	6														
18	7														
19					RIN										
20															
21															
22															
23															
24															
25															

For all worksheets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators.

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INITIAL CALIBRATION

Include samples, dilutions, reanalyses, spikes & blanks

INITIAL CALIBRATION	DATE CALIBRATED	INSTRU-MENT ID	AVG RRF ≥ 0.05 Y/N	RSD ≤ ____% Y/N	1ST ORD. CORR. COEF. r or r^2 ≥ 0.99 Y/N	2ND ORD. VALUES TRACE-ABLE Y/N	CALCULATIONS CHECKS 1 RRF PER I-CAL STND.	MIN 1 AVG. RRF & %RSD	MIN. 1 CORR. COEF-FICIENT	COMMENTS & COMPOUNDS FAILING CRITERIA (Note if compounds are SPCC or CCC)
I-CAL 1:			1)	2)	3)	4)				ICAL ✓ CCAL ✓
Associated samples: Tunes ✓										
I-CAL 2:			5)	6)	7)	8)				
Associated samples:										
I-CAL 3:			9)	10)	11)	12)				
Associated samples:										
I-CAL 4:			13)	14)	15)	16)				
Associated samples:										
I-CAL 5:			17)	18)	19)	20)				
Associated samples:										
I-CAL 6:			21)	22)	23)	24)				
Associated samples:										

BLANKS

Include method, trip, equipment & field blanks

BLANK NUMBER & TYPE (Method, Trip, Equipment, Field)	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	CORRECT MATRIX & LEVEL Y/N	FREQ-UENCY MET Y/N	ENTER BLANK CONTAMINANTS FOLLOWED BY CONCENTRATION	COMMENTS
BLK #/TYPE 7174-MB	/	9/23	—	—	ND	
Associated samples: TRB, Rin, 4						
BLK #/TYPE 7175-MB	/	9/24	—	—	ND.	
Associated samples: 2, 3, 5, 6						
BLK #/TYPE TRB	9/23	—			All ND	
Associated samples:						
BLK #/TYPE Rinsate	9/23	—			mecl 0.36 ug/L	- not in the Samples
Associated samples:						
BLK #/TYPE MB-6608	9/23	9/24			All ND 0.40	
Associated samples:						
BLK #/TYPE Rinsate	8/30	—			All ND	
Associated samples:						

SURROGATES & INTERNAL STANDARDS

Include samples, dilutions, reanalyses, spikes & blanks which do not meet criteria.

#	SAMPLE NUMBER (Include sample number if limits not met)	SURROGATES: RECOVERIES WITHIN LIMITS FORM II Y/N	SURROGATES: IF NOT, RE-EXT./ RE-ANAL Y/N	SURROGATES: RE-EXT/ RE-ANAL WITHIN LIMITS Y/N	INTERNAL STDS.: AREAS WITHIN LIMITS MET Y/N	INTERNAL STDS.: R.T.S. WITHIN LIMITS Y/N	SURR & IS: CALC. OK	SURROGATES OUTSIDE QC LIMITS*	INTERNAL STANDARDS OUTSIDE QC LIMITS*	ACTIONS/COMMENTS
1	VOC	y	—		y	y		none	none	
2								out	out	
3										
4	B-153	no						C1-~~239~~ 234		J detects
5	A-153	no						C1-228		
6	B-154	no						C1-125	C2 J	
7	B2-154	no						C1-128		
8	A-154	no						C1 140		
9										
10		Several	out	in	three	or	C2			
11										
12		Also	out	C1-	MS	B-154	✓			
13						MSD				
14										
15	B-153							C1-116		
16	A-153							C1-131		
17	B-154							C1-116		
18										
19										
20										
21										
22										
23										
24										
25										

*Indicate whether surrogate recovery (or internal standard area) was above or below QC limits. Use for extremely low surrogate recoveries (<10%) or internal standard areas (<2x the lower limit)

SPIKES ,LFBs, & LCSs

Include matrix spikes & laboratory fortified blanks which do not met spiking criteria

TYPE OF SPIKE (Circle One) & ID NUMBER	DATE & TIME ANALYZED	FREQUENCY CRITERIA MET Y/N	SPIKED AT CORRECT LEVEL Y/N	CALC. & TRANS. OK Y/N	LIST SPIKING COMPOUNDS OUTSIDE PERCENT RECOVERY CRITERIA (Followed by percent recovery)	LIST MS/MSD SPIKING COMPOUNDS OUTSIDE RPD CRITERIA (Followed by RPD)	ACTIONS/COMMENTS
LFB / MS / MSD / LCS # ~~7653~~ 7174	9/23	—	✓	✓	None out		
Associated samples:							
LFB / MS / MSD / LCS # 7175		✓	✓	✓	none out		
Associated samples:							
LFB / MS / MSD / LCS # B-154	9/23	—	—	✓	None out	RPD < 30%.	
Associated samples:							
LFB / MS / MSD / LCS #							
Associated samples:							
LFB / MS / MSD / LCS # 8330	9/23	Ex —	—	✓	none out	/	
Associated samples:							
LFB / MS / MSD / LCS # B-157	—				None out →		
Associated samples:							

COMPOUND IDENTIFICATION, QUANTITATION LIMITS

Include samples, dilutions, reanalyses & blanks

#	SAMPLE NUMBER (Include if problems exist)	ID CRITERIA: RRT (0.06) MET Y/N	ID CRITERIA: MASS SPECTRAL MET Y/N	COMMENTS & COMPOUNDS FAILING ID CRITERIA	SPECTRA PRESENT (TCL & TIC) Y/N	CALC. CHECKS: RLs CORRECT Y/N	CALC. CHECKS: CHECK 1-3 HIT(S) PER SAMPLE	TRANS-CRIPTION ERRORS Y/N	ACTIONS/COMMENTS
1									
2									
3	no secondary								
4	RLs								Judge
5									
6									
7									
8	several samples								
9									
10	e 5x or 2 initially			3 BPPS out					
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

For all worksheets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators.

SAMPLE SUMMARY

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-1653-1	TRB-2153-092010	Water	09/21/2010 0920	09/22/2010 1030
200-1653-2	BMW-0153-092010	Water	09/21/2010 1035	09/22/2010 1030
200-1653-3	AMW-0153-092010	Water	09/21/2010 1135	09/22/2010 1030
200-1653-4	BMW-0154-092010	Water	09/21/2010 1300	09/22/2010 1030
200-1653-4MS	BMW-0154-092010	Water	09/21/2010 1300	09/22/2010 1030
200-1653-4MSD	BMW-0154-092010	Water	09/21/2010 1300	09/22/2010 1030
200-1653-5	BMW-2154-092010	Water	09/21/2010 1300	09/22/2010 1030
200-1653-6	AMW-0154-092010	Water	09/21/2010 1415	09/22/2010 1030
200-1653-7	RIN-2153-092010	Water	09/21/2010 1445	09/22/2010 1030

Job Narrative
200-1653-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

General Report Information
This data report has two distinct sections. The initial section contains sample results and QC summary information presented by the laboratories LIMS system. The second section contains the same information, presented on EPA CLP-Like reporting forms. For dual column GC methods, a separate reporting form is provided for each analytical column, showing the results obtained from that column. The final results that the laboratory selected to report are listed in normal font on the CLP forms. The confirming result is listed in italic font on the CLP forms. The LIMS reports at the front of the package do not include italics.

GC/MS Volatiles Method 8260
The analyses of samples BMW-0153-092010 and AMW-0153-092010 were accomplished at slight dilutions to provide for quantification of all target compounds from concentrations within calibration range. Project action limits were met for all compounds.

No analytical or quality issues were noted.

HPLC Method 8330
All explosives by method 8330 are reported from the C18 column, which is listed in the LIMS system result section as the Primary result. The confirmation results are from the Biphenyl column, and are listed in italic font on the CLP reporting forms. Results with greater than 40% RPD between the two columns are qualified with either a capital P or small p. Although the qualifier definition page states that the capitol P flag indicates the higher value between columns was reported, and the small p flag indicates the lower value was reported, all 8330 results are reported from the C18 column. The laboratory is in the process of establishing a new qualifier in the TestAmerica LIMS system to reflect this situation.

The analyses of samples AMW-0153-092010, AMW-0154-092010, BMW-0153-092010, BMW-0154-092010 and BMW-2154-092010 yielded elevated surrogate recoveries on one or both analytical columns due to apparent matrix interference.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec	DCZ %Rec
200-1653-1	TRB-2153-092010	97	98	102	101
200-1653-2	BMW-0153-092010	99	99	103	100
200-1653-3	AMW-0153-092010	102	98	103	101
200-1653-4	BMW-0154-092010	101	100	103	102
200-1653-5	BMW-2154-092010	99	98	101	99
200-1653-6	AMW-0154-092010	99	100	103	100
200-1653-7	RIN-2153-092010	100	100	101	101
MB 200-7174/9		99	97	100	99
MB 200-7175/6		96	98	102	99
LCS 200-7174/6		97	101	100	101
LCS 200-7175/4		96	98	98	100
200-1653-4 MS	BMW-0154-092010 MS	99	101	100	103
200-1653-4 MSD	BMW-0154-092010 MSD	97	100	99	100

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4	80-115
TOL = Toluene-d8	80-115
BFB = 4-Bromofluorobenzene	85-120
DCZ = 1,2-Dichlorobenzene-d4	80-115

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Surrogate Recovery Report

8330B Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

C1

Lab Sample ID	Client Sample ID	12DNB2 %Rec	12DNB1 %Rec
200-1653-2	BMW-0153-092010		116p X
200-1653-2	BMW-0153-092010	289p X	
200-1653-3	AMW-0153-092010		131p X
200-1653-3	AMW-0153-092010	228p X	
200-1653-4	BMW-0154-092010		116X
200-1653-4	BMW-0154-092010	125X	
200-1653-5	BMW-2154-092010		112
200-1653-5	BMW-2154-092010	122X	
200-1653-6	AMW-0154-092010		115 115.4
200-1653-6	AMW-0154-092010	140X	
200-1653-7	RIN-2153-092010		114
MB 200-6905/1-A			105
MB 200-6905/1-A		104	
LCS 200-6905/2-A			109
LCS 200-6905/2-A		112	
200-1653-4 MS	BMW-0154-092010 MS		117X — QC
200-1653-4 MS	BMW-0154-092010 MS	122X	
200-1653-4 MSD	BMW-0154-092010 MSD		120X — QC
200-1653-4 MSD	BMW-0154-092010 MSD	131X	

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

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.

Baseline Sampling 2010

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9-21-10	COC No: 092110
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.
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			5447.002
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
TRB-~~0153~~ 2153-092010	9-21-10	09:20	G	W	2	2										
BMW-0153-092010	9-21-10	10:35	G	W	5	3	2									
AMW-0153-092010	9-21-10	11:35	G	W	5	3	2									
BMW-0154-092010	9-21-10	13:00	G	W	5	3	2									
BMW-2154-092010	9-21-10	13:00	G	W	5	3	2									
BMW-0154-092010 MS	9-21-10	13:00	G	W	5	3	2									
BMW-0154-092010 MSD	9-21-10	13:00	G	W	5	3	2									
AMW-0154-092010	9-21-10	14:15	G	W	5	3	2									
RIN-2153-092010	9-21-10	14:45	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:
Mike Madison	ICR	9-21-10	Fedex 8730 0092 8406		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TA	9/22/10 1030
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Check List

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
SDG Number: 1653

Login Number: 1653
Creator: Keeton, Jamie
List Number: 1

List Source: TestAmerica Burlington

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9, 3.8°C IR gun ID 96, CF= -1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

FD.

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Client Sample ID: **BMW-2154-092010**

Lab Sample ID: 200-1653-5
Client Matrix: Water

Date Sampled: 09/21/2010 1300
Date Received: 09/22/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 200-7175	Instrument ID:	L.i
Preparation:	5030B		Lab File ID:	lexd08.d
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	09/24/2010 1122		Final Weight/Volume:	5 mL
Date Prepared:	09/24/2010 1122			

Analyte		Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride		1.0	U	0.34	1.0
Methylene Chloride		1.0	U	0.25	1.0
trans-1,2-Dichloroethene		1.0	U	0.14	1.0
cis-1,2-Dichloroethene	0.44 J	0.46	J	0.18	1.0
Trichloroethene	9.4	9.9		0.17	1.0
1,2-Dichloropropane		1.0	U	0.21	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4	99		80 - 115
Toluene-d8	98		80 - 115
1,2-Dichlorobenzene-d4	99		80 - 115
4-Bromofluorobenzene	101		85 - 120

OK

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Client Sample ID: **AMW-0154-092010**

Lab Sample ID: 200-1653-6
Client Matrix: Water

Date Sampled: 09/21/2010 1415
Date Received: 09/22/2010 1030

8330B Nitroaromatics and Nitramines (HPLC)

Method:	8330B	Analysis Batch: 200-6968		Instrument ID:	CH1208
Preparation:	8330-Prep	Prep Batch: 200-6905		Initial Weight/Volume:	255 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Date Analyzed:	09/24/2010 1653			Injection Volume:	150 uL
Date Prepared:	09/23/2010 1312			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
RDX	4.52 J		0.073	0.39
1,3,5-Trinitrobenzene	0.39	U	0.027	0.39
2,4,6-Trinitrotoluene	0.39	U	0.11	0.39
4-Amino-2,6-dinitrotoluene	0.13 J	J	0.063	0.39
2-Amino-4,6-dinitrotoluene	0.39	U	0.029	0.39
2,4-Dinitrotoluene	0.39	U	0.045	0.39

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dinitrobenzene	115		70 - 115

115.4

ADR

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Client Sample ID: **AMW-0153-092010**

Lab Sample ID: 200-1653-3
Client Matrix: Water

Date Sampled: 09/21/2010 1135
Date Received: 09/22/2010 1030

8330B Nitroaromatics and Nitramines (HPLC)

Method:	8330B	Analysis Batch: 200-6968		Instrument ID:	CH1208
Preparation:	8330-Prep	Prep Batch: 200-6905		Initial Weight/Volume:	250 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Date Analyzed:	09/24/2010 1501			Injection Volume:	150 uL
Date Prepared:	09/23/2010 1312			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
RDX	1.74	p	0.074	0.40
1,3,5-Trinitrobenzene	0.40	U	0.028	0.40
2,4,6-Trinitrotoluene	0.21	J	0.12	0.40
4-Amino-2,6-dinitrotoluene	0.14	J p	0.064	0.40
2-Amino-4,6-dinitrotoluene	0.22	J p	0.030	0.40
2,4-Dinitrotoluene	0.40	U	0.046	0.40

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dinitrobenzene	131	p X	70 - 115

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Client Sample ID: **BMW-0153-092010**

Lab Sample ID: 200-1653-2
Client Matrix: Water

Date Sampled: 09/21/2010 1035
Date Received: 09/22/2010 1030

8330B Nitroaromatics and Nitramines (HPLC)

Method:	8330B	Analysis Batch: 200-6968		Instrument ID:	CH1208
Preparation:	8330-Prep	Prep Batch: 200-6905		Initial Weight/Volume:	250 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Date Analyzed:	09/24/2010 1423			Injection Volume:	150 uL
Date Prepared:	09/23/2010 1312			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
RDX	0.48	J	0.074	0.40
1,3,5-Trinitrobenzene	0.40	U	0.028	0.40
2,4,6-Trinitrotoluene	0.40	U	0.12	0.40
4-Amino-2,6-dinitrotoluene	0.40	U	0.064	0.40
2-Amino-4,6-dinitrotoluene	0.40	U	0.030	0.40
2,4-Dinitrotoluene	0.40	U	0.046	0.40

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dinitrobenzene	116	p X	70 - 115

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1653-1
Sdg Number: 1653

Client Sample ID: **BMW-0154-092010**

Lab Sample ID: 200-1653-4
Client Matrix: Water

Date Sampled: 09/21/2010 1300
Date Received: 09/22/2010 1030

8330B Nitroaromatics and Nitramines (HPLC)

Method:	8330B	Analysis Batch: 200-6968		Instrument ID:	CH1208
Preparation:	8330-Prep	Prep Batch: 200-6905		Initial Weight/Volume:	250 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Date Analyzed:	09/24/2010 1538			Injection Volume:	150 uL
Date Prepared:	09/23/2010 1312			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
RDX	2.98 J		0.074	0.40
1,3,5-Trinitrobenzene	0.40	U	0.028	0.40
2,4,6-Trinitrotoluene	0.40	U	0.12	0.40
4-Amino-2,6-dinitrotoluene	0.40	U	0.064	0.40
2-Amino-4,6-dinitrotoluene	0.40	U	0.030	0.40
2,4-Dinitrotoluene	0.40	U	0.046	0.40

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dinitrobenzene	116	X	70 - 115

B-2154 - Surr ✓

RDX 3.0 ✓

D/P ✓

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1653-1

SDG No.: 1653

Client Sample ID: AMW-0153-092010 Lab Sample ID: 200-1653-3

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/24/2010 15:01 Date Analyzed (2): 09/24/2010 14:44

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.42	14.23	14.43	1.74		173.4
	2		6.59	6.42	6.62	0.12		
2,4,6-Trinitrotoluene	1		19.62	19.55	19.75	0.21		32.3
	2		21.80	21.72	21.92	0.30		
4-Amino-2,6-dinitrotoluene	1		20.10	20.03	20.23	0.14		78.7
	2		11.80	11.85	12.05	0.33		
2-Amino-4,6-dinitrotoluene	1		20.58	20.40	20.60	0.22		106.2
	2		12.30	12.07	12.27	0.71		

174

ok

80.8

105.4

12/93

19/23.5

49/46.5

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1653-1

SDG No.: 1653

Client Sample ID: BMW-0153-092010 Lab Sample ID: 200-1653-2

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/24/2010 14:23 Date Analyzed (2): 09/24/2010 14:10

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	0.48		4.9
	2		6.58	6.42	6.62	0.50		

6.44

010

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1653-1

SDG No.: 1653

Client Sample ID: BMW-0154-092010 Lab Sample ID: 200-1653-4

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/24/2010 15:38 Date Analyzed (2): 09/24/2010 15:19

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	2.98		0.5
	2		6.57	6.42	6.62	2.97		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1653-1

SDG No.: 1653

Client Sample ID: BMW-2154-092010 Lab Sample ID: 200-1653-5

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/24/2010 16:16 Date Analyzed (2): 09/24/2010 15:53

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	3.05		4.3
	2		6.56	6.42	6.62	2.92		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1653-1

SDG No.: 1653

Client Sample ID: AMW-0154-092010 Lab Sample ID: 200-1653-6

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/24/2010 16:53 Date Analyzed (2): 09/24/2010 16:27

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	4.52		0.6
	2		6.57	6.42	6.62	4.49		
4-Amino-2,6-dinitrotoluene	1		20.14	20.03	20.23	0.13		10.5
	2		11.91	11.85	12.05	0.11		

FORM X 8330B

AUTOMATED DATA REVIEW SUMMARY for 1713

Facility:	Former Nebraska Ordnance Plant, Mead, Nebraska
Event:	Baseline 2010
Guidance Document:	Groundwater Monitoring Program
Contract Laboratory:	SEVERN TRENT LABS, Colchester, VT
Field Contractor:	Environmental Chemical Corp, Denver, CO
Data Review Contractor:	
SDG:	1713, Certified - 10/12/201 AM by KarenChirgwin
QC Level:	
Project Manager:	
Data Reviewer:	
Data Reviewer Title:	
Date of Review Report:	15-Oct-2010

Samples Included in SDG 1713

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Groundwater Monitoring Program to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Environmental Chemical Corp, Denver, CO
; analyses were performed by SEVERN TRENT LABS, Colchester, VT and were reported under sample delivery group (SDG) 1713. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

Detected in the associated trip blank.

Field Duplicate RPD

Laboratory control recovery exceeded established limits

Matrix spike recovery exceeded establisted criteria.

Method Blank Contamination

Negative Blank

Percent difference of matrix spike duplicate exceeded established criteria.

Prep Hold Time

Surrogate recovery above the upper limit

Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

Ambient Blank (X)

Calibration Blank

Calibration Blank - Negative

Continuing Calibration Verification

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Initial Calibration Verification

Lab Replicate RPD

Material Blank

Negative Blank

AUTOMATED DATA REVIEW SUMMARY for 1713

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 1.37% (13 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

AUTOMATED DATA REVIEW SUMMARY for 1713

15-Oct-2010

Released by ,

Reason and Comment Code Definitions

Comments

Code	Definition
C1	Diluted Out
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank

Reasons

Code	Definition
A	Serial dilution
A1	Ambient Blank
B	The analyte was found in an associated blank as we
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
c	LCS Recovery
C	LCS Recovery
d	Field Duplicate RPD

Reason and Comment Code Definitions

D	MS RPD
D1	Lab Replicate RPD
D2	No precision available
E	BS RPD
F	Field Blank
F1	Hydrocarbon pattern does not match standard
G1	Initial Calibration RRF
G2	Initial Calibration RSD
h	Holding time exceeded by less than 2X.
H	Holding time exceeded by more than 2X.
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate
i	Surrogate recovery below the lower limit.
J	CRA/CRI Recovery
K	An analyte (non-common laboratory artifact) was de
L	Blank
L1	Blank - Negative
m	Low MS Recovery
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column Difference

Reason and Comment Code Definitions

P2	Improper preparation/extraction
q	Encore sample holding time exceeded by less than 2
Q	Encore sample holding time exceeded by more than 2
Q1	Material Blank
R	Exceeds LinearCalibration Range
S	Internal standard
T	Equipment Blank
TI	Tentatively Identified Compound
TR	Trace Level Detect
U	Receipt Temperature
V	Equipment Blank
V1	Initial Calibration Verification
V2	Continuing Calibration Verification
V3	Continuing Calibration Verification RRF
V4	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
Y	Cooler temperature greater than 10 degreec C.
y	Cooler temperature greater than 4 degrees C, but l
Y1	False Positive
Y2	Data rejected due to radiological anomolies
Z2	Analyte not confirmed on second column

AUTOMATED DATA REVIEW SUMMARY for 1713

Batch Report

Test Method: SW8260B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
7246	7246	NA	LABQC	WQ	LABQC	200724615		28-Sep-2010 4:16:00 PM	28-Sep-2010 4:16:00 PM	LB
	7246	NA	MW-158B	WG	BMW-0158-092010	20017131		23-Sep-2010 2:22:00 PM	28-Sep-2010 6:38:00 PM	N
	7246	NA	MW-158A	WG	AMW-0158-092010	20017132		23-Sep-2010 2:29:00 PM	28-Sep-2010 7:11:00 PM	N
	7246	NA	MW-158D	WG	DMW-0158-092010	20017133		23-Sep-2010 2:33:00 PM	28-Sep-2010 7:43:00 PM	N
	7246	NA	MW-157A	WG	AMW-0157-092010	20017134		23-Sep-2010 2:55:00 PM	28-Sep-2010 8:15:00 PM	N
	7246	NA	MW-157B	WG	BMW-0157-092010	20017135		23-Sep-2010 2:59:00 PM	28-Sep-2010 8:48:00 PM	N
7295	7295	NA	LABQC	WQ	LABQC	20072953		29-Sep-2010 9:42:00 AM	29-Sep-2010 9:42:00 AM	BS
	7295	NA	LABQC	WQ	LABQC	20072955		29-Sep-2010 10:47:00 AM	29-Sep-2010 10:47:00 AM	LB
	7295	NA	MW-156A	WG	AMW-0156-092010	20017136		23-Sep-2010 3:20:00 PM	29-Sep-2010 11:32:00 AM	N
	7295	NA	MW-156B	WG	BMW-0156-092010	20017137		23-Sep-2010 3:30:00 PM	29-Sep-2010 12:04:00 PM	N
	7295	NA	MW-156B	WG	BMW-2156-092010	20017138		23-Sep-2010 3:30:00 PM	29-Sep-2010 12:36:00 PM	FD
	7295	NA	MW-154A	WG	AMW-0154-092010	20017139		23-Sep-2010 3:50:00 PM	29-Sep-2010 1:09:00 PM	N
	7295	NA	MW-154B	WG	BMW-0154-092010	200171310		23-Sep-2010 3:55:00 PM	29-Sep-2010 1:41:00 PM	N
	7295	NA	MW-153A	WG	AMW-0153-092010	200171311		23-Sep-2010 4:12:00 PM	29-Sep-2010 2:14:00 PM	N
	7295	NA	MW-153B	WG	BMW-0153-092010	200171312		23-Sep-2010 4:17:00 PM	29-Sep-2010 2:46:00 PM	N
	7295	NA	MW-155A	WG	AMW-0155-092010	200171313		23-Sep-2010 4:35:00 PM	29-Sep-2010 3:19:00 PM	N
	7295	NA	MW-155E	WG	EMW-0155-092010	200171314		23-Sep-2010 4:40:00 PM	29-Sep-2010 3:51:00 PM	N
	7295	NA	MW-159A	WG	AMW-0159-092010	200171315		23-Sep-2010 5:05:00 PM	29-Sep-2010 4:23:00 PM	N

Batch Report

7295	7295	NA	MW-159B	WG	BMW-0159-092010	200171316	23-Sep-2010 5:10:00 PM	29-Sep-2010 4:56:00 PM	N
	7295	NA	MW-152B	WG	BMW-0152-092010	200171317	23-Sep-2010 5:25:00 PM	29-Sep-2010 5:28:00 PM	N
	7295	NA	MW-150A	WG	AMW-0150-092010	200171318	24-Sep-2010 7:45:00 AM	29-Sep-2010 6:01:00 PM	N
	7295	NA	MW-153A	WG	AMW-0153-092010	200171311	23-Sep-2010 4:12:00 PM	29-Sep-2010 6:33:00 PM	N
	7295	NA	MW-155A	WG	AMW-0155-092010	200171313	23-Sep-2010 4:35:00 PM	29-Sep-2010 7:06:00 PM	N
	7295	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	29-Sep-2010 7:38:00 PM	N
	7295	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	29-Sep-2010 8:10:00 PM	MS
	7295	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	29-Sep-2010 8:43:00 PM	SD
7296	7296	NA	LABQC	WQ	LABQC	20072963	30-Sep-2010 8:10:00 AM	30-Sep-2010 8:10:00 AM	BS
	7296	NA	LABQC	WQ	LABQC	20072965	30-Sep-2010 9:15:00 AM	30-Sep-2010 9:15:00 AM	LB
	7296	NA	MW-150B	WG	BMW-0150-092010	200171319	24-Sep-2010 7:50:00 AM	30-Sep-2010 9:47:00 AM	N
	7296	NA	MW-151A	WG	AMW-0151-092010	200171320	24-Sep-2010 8:10:00 AM	30-Sep-2010 10:20:00 AM	N
	7296	NA	MW-151B	WG	BMW-0151-092010	200171321	24-Sep-2010 8:15:00 AM	30-Sep-2010 10:53:00 AM	N
	7296	NA	MW-151B	WG	BMW-2151-092010	200171322	24-Sep-2010 8:15:00 AM	30-Sep-2010 11:25:00 AM	FD
	7296	NA	MW-143B	WG	BMW-0143-092010	200171323	24-Sep-2010 8:35:00 AM	30-Sep-2010 11:58:00 AM	N
	7296	NA	MW-149A	WG	AMW-0149-092010	200171324	24-Sep-2010 8:45:00 AM	30-Sep-2010 12:30:00 PM	N
	7296	NA	MW-148B	WG	BMW-0148-092010	200171325	24-Sep-2010 9:00:00 AM	30-Sep-2010 1:03:00 PM	N
	7296	NA	MW-148B	WG	BMW-2148-092010	200171326	24-Sep-2010 9:00:00 AM	30-Sep-2010 1:35:00 PM	FD
	7296	NA	MW-145A	WG	AMW-0145-092010	200171327	24-Sep-2010 9:15:00 AM	30-Sep-2010 2:08:00 PM	N
	7296	NA	MW-145E	WG	EMW-0145-092010	200171328	24-Sep-2010 9:21:00 AM	30-Sep-2010 2:40:00 PM	N

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7296	7296	NA	MW-144A	WG	AMW-0144-092010	200171329	24-Sep-2010 9:40:00 AM	30-Sep-2010 3:13:00 PM	N
	7296	NA	MW-144E	WG	EMW-0144-092010	200171330	24-Sep-2010 9:45:00 AM	30-Sep-2010 3:45:00 PM	N
	7296	NA	MW-144E	WG	EMW-2144-092010	200171331	24-Sep-2010 9:45:00 AM	30-Sep-2010 4:18:00 PM	FD
	7296	NA	MW-141A	WG	AMW-0141-092010	200171332	24-Sep-2010 10:10:00 AM	30-Sep-2010 4:51:00 PM	N
	7296	NA	MW-141B	WG	BMW-0141-092010	200171333	24-Sep-2010 10:15:00 AM	30-Sep-2010 5:23:00 PM	N
	7296	NA	MW-141E	WG	EMW-0141-092010	200171334	24-Sep-2010 10:18:00 AM	30-Sep-2010 5:56:00 PM	N
	7296	NA	MW-151A	WG	AMW-0151-092010	200171320	24-Sep-2010 8:10:00 AM	30-Sep-2010 6:28:00 PM	N
	7296	NA	MW-151B	WG	BMW-2151-092010	200171322	24-Sep-2010 8:15:00 AM	30-Sep-2010 7:00:00 PM	FD
7454	7454	NA	LABQC	WQ	LABQC	20074543	01-Oct-2010 8:24:00 AM	01-Oct-2010 8:24:00 AM	BS
	7454	NA	LABQC	WQ	LABQC	20074545	01-Oct-2010 9:29:00 AM	01-Oct-2010 9:29:00 AM	LB
	7454	NA	FIELDQC	WQ	TRB-2158-092010	200171343	23-Sep-2010 2:00:00 PM	01-Oct-2010 10:02:00 AM	TB
	7454	NA	MW-147A	WG	AMW-0147-092010	200171335	24-Sep-2010 10:45:00 AM	01-Oct-2010 10:35:00 AM	N
	7454	NA	MW-147B	WG	BMW-0147-092010	200171336	24-Sep-2010 10:50:00 AM	01-Oct-2010 11:07:00 AM	N
	7454	NA	MW-147D	WG	DMW-0147-092010	200171337	24-Sep-2010 10:55:00 AM	01-Oct-2010 11:40:00 AM	N
	7454	NA	MW-146A	WG	AMW-0146-092010	200171338	24-Sep-2010 11:20:00 AM	01-Oct-2010 12:12:00 PM	N
	7454	NA	MW-146B	WG	BMW-0146-092010	200171339	24-Sep-2010 11:25:00 AM	01-Oct-2010 12:45:00 PM	N
	7454	NA	MW-142A	WG	AMW-0142-092010	200171340	24-Sep-2010 11:47:00 AM	01-Oct-2010 1:17:00 PM	N
	7454	NA	MW-142B	WG	BMW-0142-092010	200171341	24-Sep-2010 11:50:00 AM	01-Oct-2010 1:50:00 PM	N
	7454	NA	MW-89E	WG	EMW-089-092010	200171342	24-Sep-2010 12:20:00 PM	01-Oct-2010 2:22:00 PM	N
	7454	NA	MW-89E	WG	EMW-089-092010	200171342	24-Sep-2010 12:20:00 PM	01-Oct-2010 2:55:00 PM	MS

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7454	7454	NA	MW-89E	WG	EMW-089-092010	200171342		24-Sep-2010 12:20:00 PM	01-Oct-2010 3:27:00 PM	SD
	7454	NA	MW-141A	WG	AMW-0141-092010	200171332		24-Sep-2010 10:10:00 AM	01-Oct-2010 4:00:00 PM	N
	7454	NA	MW-141B	WG	BMW-0141-092010	200171333		24-Sep-2010 10:15:00 AM	01-Oct-2010 4:32:00 PM	N
	7454	NA	MW-141E	WG	EMW-0141-092010	200171334		24-Sep-2010 10:18:00 AM	01-Oct-2010 5:05:00 PM	N
	7454	NA	MW-142A	WG	AMW-0142-092010	200171340		24-Sep-2010 11:47:00 AM	01-Oct-2010 5:37:00 PM	N
	7454	NA	MW-142B	WG	BMW-0142-092010	200171341		24-Sep-2010 11:50:00 AM	01-Oct-2010 6:09:00 PM	N

Test Method: SW8330; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
7051	7046	NA	LABQC	WQ	LABQC	20070461A		27-Sep-2010 9:21:00 AM	27-Sep-2010 10:36:00 PM	LB
	7046	NA	LABQC	WQ	LABQC	20070462A		27-Sep-2010 9:21:00 AM	27-Sep-2010 11:13:00 PM	BS
	7046	NA	MW-158B	WG	BMW-0158-092010	20017131		23-Sep-2010 2:22:00 PM	27-Sep-2010 11:51:00 PM	N
	7046	NA	MW-158A	WG	AMW-0158-092010	20017132		23-Sep-2010 2:29:00 PM	28-Sep-2010 12:28:00 AM	N
	7046	NA	MW-158D	WG	DMW-0158-092010	20017133		23-Sep-2010 2:33:00 PM	28-Sep-2010 1:06:00 AM	N
	7046	NA	MW-157A	WG	AMW-0157-092010	20017134		23-Sep-2010 2:55:00 PM	28-Sep-2010 1:43:00 AM	N
	7046	NA	MW-157B	WG	BMW-0157-092010	20017135		23-Sep-2010 2:59:00 PM	28-Sep-2010 2:20:00 AM	N
	7046	NA	MW-156A	WG	AMW-0156-092010	20017136		23-Sep-2010 3:20:00 PM	28-Sep-2010 3:35:00 AM	N
	7046	NA	MW-156B	WG	BMW-0156-092010	20017137		23-Sep-2010 3:30:00 PM	28-Sep-2010 4:13:00 AM	N
	7046	NA	MW-156B	WG	BMW-2156-092010	20017138		23-Sep-2010 3:30:00 PM	28-Sep-2010 4:50:00 AM	FD
	7046	NA	MW-154A	WG	AMW-0154-092010	20017139		23-Sep-2010 3:50:00 PM	28-Sep-2010 5:28:00 AM	N
	7046	NA	MW-154B	WG	BMW-0154-092010	200171310		23-Sep-2010 3:55:00 PM	28-Sep-2010 6:05:00 AM	N

Batch Report

7051	7046	NA	MW-153A	WG	AMW-0153-092010	200171311	23-Sep-2010 4:12:00 PM	28-Sep-2010 6:43:00 AM	N
	7046	NA	MW-153B	WG	BMW-0153-092010	200171312	23-Sep-2010 4:17:00 PM	28-Sep-2010 7:20:00 AM	N
	7046	NA	MW-155A	WG	AMW-0155-092010	200171313	23-Sep-2010 4:35:00 PM	28-Sep-2010 7:57:00 AM	N
	7046	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	28-Sep-2010 8:35:00 AM	N
	7046	NA	MW-159A	WG	AMW-0159-092010	200171315	23-Sep-2010 5:05:00 PM	28-Sep-2010 9:12:00 AM	N
	7046	NA	MW-159B	WG	BMW-0159-092010	200171316	23-Sep-2010 5:10:00 PM	28-Sep-2010 10:27:00 AM	N
	7046	NA	MW-152B	WG	BMW-0152-092010	200171317	23-Sep-2010 5:25:00 PM	28-Sep-2010 11:05:00 AM	N
	7046	NA	MW-150A	WG	AMW-0150-092010	200171318	24-Sep-2010 7:45:00 AM	28-Sep-2010 11:42:00 AM	N
	7046	NA	MW-150B	WG	BMW-0150-092010	200171319	24-Sep-2010 7:50:00 AM	28-Sep-2010 12:20:00 PM	N
	7046	NA	MW-151A	WG	AMW-0151-092010	200171320	24-Sep-2010 8:10:00 AM	28-Sep-2010 12:57:00 PM	N
	7046	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	28-Sep-2010 1:34:00 PM	MS
	7046	NA	MW-155E	WG	EMW-0155-092010	200171314	23-Sep-2010 4:40:00 PM	28-Sep-2010 2:12:00 PM	SD
7169	7074	NA	LABQC	WQ	LABQC	20070741A	27-Sep-2010 5:17:00 PM	28-Sep-2010 4:04:00 PM	LB
	7074	NA	LABQC	WQ	LABQC	20070742A	27-Sep-2010 5:17:00 PM	28-Sep-2010 4:41:00 PM	BS
	7074	NA	MW-151B	WG	BMW-0151-092010	200171321	24-Sep-2010 8:15:00 AM	28-Sep-2010 5:19:00 PM	N
	7074	NA	MW-151B	WG	BMW-2151-092010	200171322	24-Sep-2010 8:15:00 AM	28-Sep-2010 5:56:00 PM	FD
	7074	NA	MW-143B	WG	BMW-0143-092010	200171323	24-Sep-2010 8:35:00 AM	28-Sep-2010 6:33:00 PM	N
	7074	NA	MW-149A	WG	AMW-0149-092010	200171324	24-Sep-2010 8:45:00 AM	28-Sep-2010 7:11:00 PM	N
	7074	NA	MW-148B	WG	BMW-0148-092010	200171325	24-Sep-2010 9:00:00 AM	28-Sep-2010 7:48:00 PM	N
	7074	NA	MW-148B	WG	BMW-2148-092010	200171326	24-Sep-2010 9:00:00 AM	28-Sep-2010 8:26:00 PM	FD

Batch Report

7169	7074	NA	MW-145A	WG	AMW-0145-092010	200171327	24-Sep-2010 9:15:00 AM	28-Sep-2010 9:03:00 PM	N
	7074	NA	MW-145E	WG	EMW-0145-092010	200171328	24-Sep-2010 9:21:00 AM	28-Sep-2010 9:40:00 PM	N
	7074	NA	MW-144A	WG	AMW-0144-092010	200171329	24-Sep-2010 9:40:00 AM	28-Sep-2010 10:55:00 PM	N
	7074	NA	MW-144E	WG	EMW-0144-092010	200171330	24-Sep-2010 9:45:00 AM	28-Sep-2010 11:33:00 PM	N
	7074	NA	MW-144E	WG	EMW-2144-092010	200171331	24-Sep-2010 9:45:00 AM	29-Sep-2010 12:10:00 AM	FD
	7074	NA	MW-141A	WG	AMW-0141-092010	200171332	24-Sep-2010 10:10:00 AM	29-Sep-2010 12:47:00 AM	N
	7076	NA	LABQC	WQ	LABQC	20070761A	27-Sep-2010 7:44:00 PM	29-Sep-2010 1:25:00 AM	LB
	7076	NA	LABQC	WQ	LABQC	20070762A	27-Sep-2010 7:44:00 PM	29-Sep-2010 2:02:00 AM	BS
	7076	NA	MW-141B	WG	BMW-0141-092010	200171333	24-Sep-2010 10:15:00 AM	29-Sep-2010 2:39:00 AM	N
	7076	NA	MW-141E	WG	EMW-0141-092010	200171334	24-Sep-2010 10:18:00 AM	29-Sep-2010 3:17:00 AM	N
	7076	NA	MW-147A	WG	AMW-0147-092010	200171335	24-Sep-2010 10:45:00 AM	29-Sep-2010 3:54:00 AM	N
	7076	NA	MW-147B	WG	BMW-0147-092010	200171336	24-Sep-2010 10:50:00 AM	29-Sep-2010 4:32:00 AM	N
	7076	NA	MW-147D	WG	DMW-0147-092010	200171337	24-Sep-2010 10:55:00 AM	29-Sep-2010 5:46:00 AM	N
	7076	NA	MW-146A	WG	AMW-0146-092010	200171338	24-Sep-2010 11:20:00 AM	29-Sep-2010 6:24:00 AM	N
	7076	NA	MW-146B	WG	BMW-0146-092010	200171339	24-Sep-2010 11:25:00 AM	29-Sep-2010 7:01:00 AM	N
	7076	NA	MW-142A	WG	AMW-0142-092010	200171340	24-Sep-2010 11:47:00 AM	29-Sep-2010 7:38:00 AM	N
	7076	NA	MW-142B	WG	BMW-0142-092010	200171341	24-Sep-2010 11:50:00 AM	29-Sep-2010 8:16:00 AM	N
	7076	NA	MW-89E	WG	EMW-089-092010	200171342	24-Sep-2010 12:20:00 PM	29-Sep-2010 8:53:00 AM	N
	7076	NA	MW-89E	WG	EMW-089-092010	200171342	24-Sep-2010 12:20:00 PM	29-Sep-2010 9:31:00 AM	MS
	7076	NA	MW-89E	WG	EMW-089-092010	200171342	24-Sep-2010 12:20:00 PM	29-Sep-2010 10:08:00 AM	SD

AUTOMATED DATA REVIEW SUMMARY for 1713

Batch Report

7167	7074	NA	MW-148B	WG	BMW-0148-092010	200171325	24-Sep-2010 9:00:00 AM	29-Sep-2010 3:26:00 PM	N
	7074	NA	MW-148B	WG	BMW-2148-092010	200171326	24-Sep-2010 9:00:00 AM	29-Sep-2010 4:04:00 PM	FD
	7074	NA	MW-145A	WG	AMW-0145-092010	200171327	24-Sep-2010 9:15:00 AM	29-Sep-2010 4:41:00 PM	N
	7074	NA	MW-145E	WG	EMW-0145-092010	200171328	24-Sep-2010 9:21:00 AM	29-Sep-2010 5:18:00 PM	N
	7074	NA	MW-144E	WG	EMW-2144-092010	200171331	24-Sep-2010 9:45:00 AM	29-Sep-2010 5:56:00 PM	FD
	7076	NA	MW-141B	WG	BMW-0141-092010	200171333	24-Sep-2010 10:15:00 AM	29-Sep-2010 6:33:00 PM	N

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW8260B / SW5030B	Field Duplicate RPD	200171322 (N)	5.00	cis-1,2-Dichloroethene	141	RPD	None/None	< 40	< 40	d	
SW8260B / SW5030B	Field Duplicate RPD	200171322 (N)	15.00	Trichloroethene (TCE)	181	RPD	None/None	< 40	< 40	d	
SW8330 / METHOD	Confirmation Column Difference	AMW-0141-092010 (N)	1.00	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	54.1	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0144-092010 (N)	1.00	4-Amino-2,6-Dinitrotoluene	57.1	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0145-092010 (N)	1.00	4-Amino-2,6-Dinitrotoluene	60.2	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0154-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	62.5	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	AMW-0159-092010 (N)	1.00	2,4-Dinitrotoluene	104	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	BMW-0141-092010 (N)	1.00	1,3,5-Trinitrobenzene	102	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	BMW-0148-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	130	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	BMW-0150-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	64.8	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	BMW-2148-092010 (FD)	1.00	2-Amino-4,6-Dinitrotoluene	92.1	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	DMW-0158-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	200	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	EMW-0141-092010 (N)	1.00	2-Amino-4,6-Dinitrotoluene	157	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	EMW-0141-092010 (N)	1.00	4-Amino-2,6-Dinitrotoluene	55.9	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Confirmation Column Difference	EMW-089-092010 (N)	1.00	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	54.5	RPD	J/None	< 40	< 40	P1	
SW8330 / METHOD	Field Duplicate RPD	200171331 (N)	1.00	4-Amino-2,6-Dinitrotoluene	88.4	RPD	None/None	< 40	< 40	d	
SW8330 / METHOD	Field Duplicate RPD	200171331 (N)	2.00	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	122	RPD	None/None	< 40	< 40	d	
SW8330 / METHOD	Surrogate	DMW-0158-092010 (N)	1.00	1,2-Dinitrobenzene	146	PERCENT	J/None	70 - 115	10 - 115	I	

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	AMW-0142-092010	N	cis-1,2-Dichloroethene	5.0	1.5 J	1.5 J	UG/L	TR
SW8260B/NONE	WG	AMW-0144-092010	N	Trichloroethene (TCE)	1.0	0.35 J	0.35 J	UG/L	TR
SW8260B/NONE	WG	AMW-0145-092010	N	Trichloroethene (TCE)	1.0	0.58 J	0.58 J	UG/L	TR
SW8260B/NONE	WG	AMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	4.2 J	4.2 J	UG/L	TR
SW8260B/NONE	WG	AMW-0155-092010	N	cis-1,2-Dichloroethene	5.0	3.2 J	3.2 J	UG/L	TR
SW8260B/NONE	WG	AMW-0156-092010	N	cis-1,2-Dichloroethene	1.0	0.30 J	0.30 J	UG/L	TR
SW8260B/NONE	WG	AMW-0157-092010	N	cis-1,2-Dichloroethene	1.0	0.25 J	0.25 J	UG/L	TR
SW8260B/NONE	WG	BMW-0141-092010	N	cis-1,2-Dichloroethene	15.0	10.0 J	10.0 J	UG/L	TR
SW8260B/NONE	WG	BMW-0142-092010	N	cis-1,2-Dichloroethene	5.0	2.3 J	2.3 J	UG/L	TR
SW8260B/NONE	WG	BMW-0143-092010	N	Trichloroethene (TCE)	1.0	0.22 J	0.22 J	UG/L	TR
SW8260B/NONE	WG	BMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	2.2 J	2.2 J	UG/L	TR
SW8260B/NONE	WG	BMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	0.55 J	0.55 J	UG/L	TR
SW8260B/NONE	WG	DMW-0158-092010	N	Vinyl Chloride	1.0	0.71 J	0.71 J	UG/L	TR
SW8260B/NONE	WG	EMW-0141-092010	N	trans-1,2-Dichloroethene	18.0	3.5 J	3.5 J	UG/L	TR
SW8260B/NONE	WG	EMW-0145-092010	N	Trichloroethene (TCE)	1.0	0.23 J	0.23 J	UG/L	TR
SW8260B/NONE	WG	EMW-0155-092010	N	cis-1,2-Dichloroethene	5.0	2.7 J	2.7 J	UG/L	TR
Test Leach	**Matrix**	**FieldSample ID**	**Type**	**Analyte**	**RL**	**Lab Result**	**Qualified Result**	**Units**	**Reason**
SW8330/NONE	WG	AMW-0141-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.54	0.54 J	UG/L	P1

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	AMW-0144-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.062 J	0.062 J	UG/L	TR
SW8330/NONE	WG	AMW-0144-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	0.18 J	0.18 J	UG/L	P1/TR
SW8330/NONE	WG	AMW-0145-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.67	0.67 J	UG/L	P1
SW8330/NONE	WG	AMW-0150-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.16 J	0.16 J	UG/L	TR
SW8330/NONE	WG	AMW-0151-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.061 J	0.061 J	UG/L	TR
SW8330/NONE	WG	AMW-0154-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.084 J	0.084 J	UG/L	P1/TR
SW8330/NONE	WG	AMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.16 J	0.16 J	UG/L	TR
SW8330/NONE	WG	AMW-0155-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	0.13 J	0.13 J	UG/L	TR
SW8330/NONE	WG	AMW-0156-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.17 J	0.17 J	UG/L	TR
SW8330/NONE	WG	AMW-0159-092010	N	2,4-Dinitrotoluene	0.40	0.31 J	0.31 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0141-092010	N	1,3,5-Trinitrobenzene	0.42	0.20 J	0.20 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0143-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.39 J	0.39 J	UG/L	TR
SW8330/NONE	WG	BMW-0148-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.032 J	0.032 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0150-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.097 J	0.097 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.38 J	0.38 J	UG/L	TR
SW8330/NONE	WG	BMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.092 J	0.092 J	UG/L	TR
SW8330/NONE	WG	BMW-0157-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.26 J	0.26 J	UG/L	TR
SW8330/NONE	WG	BMW-2148-092010	FD	2-Amino-4,6-Dinitrotoluene	0.42	0.048 J	0.048 J	UG/L	P1/TR
SW8330/NONE	WG	DMW-0158-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.082 J	0.082 J	UG/L	P1/I/TR

AUTOMATED DATA REVIEW SUMMARY for 1713

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	EMW-0141-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.29 J	0.29 J	UG/L	P1/TR
SW8330/NONE	WG	EMW-0141-092010	N	4-Amino-2,6-Dinitrotoluene	0.40	4.6	4.6 J	UG/L	P1
SW8330/NONE	WG	EMW-0144-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	0.36 J	0.36 J	UG/L	TR
SW8330/NONE	WG	EMW-0155-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	0.25 J	0.25 J	UG/L	TR
SW8330/NONE	WG	EMW-089-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.32 J	0.32 J	UG/L	P1/TR

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	AMW-0141-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.54	0.54 J	UG/L	P1
SW8330/NONE	WG	AMW-0142-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	0.49	0.49	UG/L	
SW8330/NONE	WG	AMW-0144-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.062 J	0.062 J	UG/L	TR
SW8330/NONE	WG	AMW-0144-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	0.18 J	0.18 J	UG/L	P1/TR
SW8330/NONE	WG	AMW-0144-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	21.4	21.4	UG/L	
SW8330/NONE	WG	AMW-0145-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.67	0.67 J	UG/L	P1
SW8330/NONE	WG	AMW-0145-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.82	63.2	63.2	UG/L	
SW8330/NONE	WG	AMW-0149-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.56	0.56	UG/L	
SW8330/NONE	WG	AMW-0149-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	12.0	12.0	UG/L	
SW8330/NONE	WG	AMW-0150-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.16 J	0.16 J	UG/L	TR
SW8330/NONE	WG	AMW-0150-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	1.4	1.4	UG/L	
SW8330/NONE	WG	AMW-0150-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	12.8	12.8	UG/L	
SW8330/NONE	WG	AMW-0151-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.061 J	0.061 J	UG/L	TR
SW8330/NONE	WG	AMW-0154-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.084 J	0.084 J	UG/L	P1/TR
SW8330/NONE	WG	AMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.16 J	0.16 J	UG/L	TR
SW8330/NONE	WG	AMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	4.8	4.8	UG/L	
SW8330/NONE	WG	AMW-0155-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	0.13 J	0.13 J	UG/L	TR
SW8330/NONE	WG	AMW-0156-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.17 J	0.17 J	UG/L	TR

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	AMW-0156-092010	N	4-Amino-2,6-Dinitrotoluene	0.40	0.91	0.91	UG/L	
SW8330/NONE	WG	AMW-0156-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	9.5	9.5	UG/L	
SW8330/NONE	WG	AMW-0157-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	1.5	1.5	UG/L	
SW8330/NONE	WG	AMW-0159-092010	N	2,4-Dinitrotoluene	0.40	0.31 J	0.31 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0141-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	3.2	3.2	UG/L	
SW8330/NONE	WG	BMW-0141-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	9.7	9.7	UG/L	
SW8330/NONE	WG	BMW-0141-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.83	58.0	58.0	UG/L	
SW8330/NONE	WG	BMW-0141-092010	N	1,3,5-Trinitrobenzene	0.42	0.20 J	0.20 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0142-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	1.1	1.1	UG/L	
SW8330/NONE	WG	BMW-0143-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.39 J	0.39 J	UG/L	TR
SW8330/NONE	WG	BMW-0143-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	3.1	3.1	UG/L	
SW8330/NONE	WG	BMW-0143-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	16.2	16.2	UG/L	
SW8330/NONE	WG	BMW-0148-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	0.032 J	0.032 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0148-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	5.4	5.4	UG/L	
SW8330/NONE	WG	BMW-0148-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.83	49.8	49.8	UG/L	
SW8330/NONE	WG	BMW-0150-092010	N	2-Amino-4,6-Dinitrotoluene	0.41	0.097 J	0.097 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-0150-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.88	0.88	UG/L	
SW8330/NONE	WG	BMW-0150-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	9.5	9.5	UG/L	

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	BMW-0152-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	1.5	1.5	UG/L	
SW8330/NONE	WG	BMW-0153-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.38 J	0.38 J	UG/L	TR
SW8330/NONE	WG	BMW-0154-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	0.092 J	0.092 J	UG/L	TR
SW8330/NONE	WG	BMW-0154-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.41	3.2	3.2	UG/L	
SW8330/NONE	WG	BMW-0157-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.26 J	0.26 J	UG/L	TR
SW8330/NONE	WG	BMW-2148-092010	FD	2-Amino-4,6-Dinitrotoluene	0.42	0.048 J	0.048 J	UG/L	P1/TR
SW8330/NONE	WG	BMW-2148-092010	FD	4-Amino-2,6-Dinitrotoluene	0.42	5.3	5.3	UG/L	
SW8330/NONE	WG	BMW-2148-092010	FD	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.83	49.1	49.1	UG/L	
SW8330/NONE	WG	DMW-0158-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.082 J	0.082 J	UG/L	P1/I/TR
SW8330/NONE	WG	EMW-0141-092010	N	2-Amino-4,6-Dinitrotoluene	0.40	0.29 J	0.29 J	UG/L	P1/TR
SW8330/NONE	WG	EMW-0141-092010	N	4-Amino-2,6-Dinitrotoluene	0.40	4.6	4.6 J	UG/L	P1
SW8330/NONE	WG	EMW-0141-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	29.8	29.8	UG/L	
SW8330/NONE	WG	EMW-0144-092010	N	2-Amino-4,6-Dinitrotoluene	0.42	2.3	2.3	UG/L	
SW8330/NONE	WG	EMW-0144-092010	N	4-Amino-2,6-Dinitrotoluene	0.42	0.36 J	0.36 J	UG/L	TR
SW8330/NONE	WG	EMW-0144-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	11.5	11.5	UG/L	
SW8330/NONE	WG	EMW-0145-092010	N	4-Amino-2,6-Dinitrotoluene	0.41	1.5	1.5	UG/L	
SW8330/NONE	WG	EMW-0145-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.6	97.0	97.0	UG/L	
SW8330/NONE	WG	EMW-0155-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.42	0.25 J	0.25 J	UG/L	TR

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8330/NONE	WG	EMW-089-092010	N	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40	0.32 J	0.32 J	UG/L	P1/TR
SW8330/NONE	WG	EMW-2144-092010	FD	2-Amino-4,6-Dinitrotoluene	0.41	2.7	2.7	UG/L	
SW8330/NONE	WG	EMW-2144-092010	FD	4-Amino-2,6-Dinitrotoluene	0.41	0.93	0.93	UG/L	
SW8330/NONE	WG	EMW-2144-092010	FD	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.82	47.3	47.3	UG/L	

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	AMW-0141-092010	N	cis-1,2-Dichloroethene	11.0	17.0	17.0	UG/L	
SW8260B/NONE	WG	AMW-0141-092010	N	Trichloroethene (TCE)	80.0	6300	6300	UG/L	
SW8260B/NONE	WG	AMW-0142-092010	N	cis-1,2-Dichloroethene	5.0	1.5 J	1.5 J	UG/L	TR
SW8260B/NONE	WG	AMW-0142-092010	N	Trichloroethene (TCE)	12.0	900	900	UG/L	
SW8260B/NONE	WG	AMW-0144-092010	N	Trichloroethene (TCE)	1.0	0.35 J	0.35 J	UG/L	TR
SW8260B/NONE	WG	AMW-0145-092010	N	Trichloroethene (TCE)	1.0	0.58 J	0.58 J	UG/L	TR
SW8260B/NONE	WG	AMW-0151-092010	N	cis-1,2-Dichloroethene	5.0	6.6	6.6	UG/L	
SW8260B/NONE	WG	AMW-0151-092010	N	Trichloroethene (TCE)	15.0	1000	1000	UG/L	
SW8260B/NONE	WG	AMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	4.2 J	4.2 J	UG/L	TR
SW8260B/NONE	WG	AMW-0153-092010	N	Trichloroethene (TCE)	13.0	910	910	UG/L	
SW8260B/NONE	WG	AMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	1.2	1.2	UG/L	
SW8260B/NONE	WG	AMW-0154-092010	N	Trichloroethene (TCE)	1.0	24.0	24.0	UG/L	
SW8260B/NONE	WG	AMW-0155-092010	N	cis-1,2-Dichloroethene	5.0	3.2 J	3.2 J	UG/L	TR

AUTOMATED DATA REVIEW SUMMARY for 1713

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	AMW-0155-092010	N	Trichloroethene (TCE)	12.0	690	690	UG/L	
SW8260B/NONE	WG	AMW-0156-092010	N	cis-1,2-Dichloroethene	1.0	0.30 J	0.30 J	UG/L	TR
SW8260B/NONE	WG	AMW-0156-092010	N	Trichloroethene (TCE)	1.0	4.2	4.2	UG/L	
SW8260B/NONE	WG	AMW-0157-092010	N	cis-1,2-Dichloroethene	1.0	0.25 J	0.25 J	UG/L	TR
SW8260B/NONE	WG	AMW-0157-092010	N	Trichloroethene (TCE)	1.0	46.0	46.0	UG/L	
SW8260B/NONE	WG	BMW-0141-092010	N	cis-1,2-Dichloroethene	15.0	10.0 J	10.0 J	UG/L	TR
SW8260B/NONE	WG	BMW-0141-092010	N	Trichloroethene (TCE)	110	8800	8800	UG/L	
SW8260B/NONE	WG	BMW-0142-092010	N	cis-1,2-Dichloroethene	5.0	2.3 J	2.3 J	UG/L	TR
SW8260B/NONE	WG	BMW-0142-092010	N	Trichloroethene (TCE)	28.0	1800	1800	UG/L	
SW8260B/NONE	WG	BMW-0143-092010	N	Trichloroethene (TCE)	1.0	0.22 J	0.22 J	UG/L	TR
SW8260B/NONE	WG	BMW-0151-092010	N	cis-1,2-Dichloroethene	1.0	1.1	1.1	UG/L	
SW8260B/NONE	WG	BMW-0151-092010	N	Trichloroethene (TCE)	1.0	47.0	47.0	UG/L	
SW8260B/NONE	WG	BMW-0152-092010	N	cis-1,2-Dichloroethene	1.0	2.5	2.5	UG/L	
SW8260B/NONE	WG	BMW-0152-092010	N	Trichloroethene (TCE)	1.0	21.0	21.0	UG/L	
SW8260B/NONE	WG	BMW-0153-092010	N	cis-1,2-Dichloroethene	5.0	2.2 J	2.2 J	UG/L	TR
SW8260B/NONE	WG	BMW-0153-092010	N	Trichloroethene (TCE)	5.0	440	440	UG/L	
SW8260B/NONE	WG	BMW-0154-092010	N	cis-1,2-Dichloroethene	1.0	0.55 J	0.55 J	UG/L	TR
SW8260B/NONE	WG	BMW-0154-092010	N	Trichloroethene (TCE)	1.0	15.0	15.0	UG/L	

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW8260B/NONE	WG	BMW-2151-092010	FD	cis-1,2-Dichloroethene	5.0	6.4	6.4	UG/L	
SW8260B/NONE	WG	BMW-2151-092010	FD	Trichloroethene (TCE)	15.0	960	960	UG/L	
SW8260B/NONE	WG	DMW-0158-092010	N	Vinyl Chloride	1.0	0.71 J	0.71 J	UG/L	TR
SW8260B/NONE	WG	EMW-0141-092010	N	cis-1,2-Dichloroethene	18.0	18.0	18.0	UG/L	
SW8260B/NONE	WG	EMW-0141-092010	N	trans-1,2-Dichloroethene	18.0	3.5 J	3.5 J	UG/L	TR
SW8260B/NONE	WG	EMW-0141-092010	N	Trichloroethene (TCE)	130	10000	10000	UG/L	
SW8260B/NONE	WG	EMW-0145-092010	N	Trichloroethene (TCE)	1.0	0.23 J	0.23 J	UG/L	TR
SW8260B/NONE	WG	EMW-0155-092010	N	cis-1,2-Dichloroethene	5.0	2.7 J	2.7 J	UG/L	TR
SW8260B/NONE	WG	EMW-0155-092010	N	Trichloroethene (TCE)	9.8	630	630	UG/L	
SW8260B/NONE	WG	EMW-089-092010	N	Trichloroethene (TCE)	2.9	190	190	UG/L	

Rejected Results

DATA VALIDATION REPORT

To: ECC
From: Bill Fear – TLI Solutions, Inc.
Report Date: October 14, 2010
Project/Site: Baseline 2010 Monitoring Well Sampling Event
Former Nebraska Ordnance Plant Mead, Nebraska
Laboratory No.: 200-1713-1

This memo presents the organic data validation report for the data obtained during the field activities for the above referenced work assignment. The purpose of this review is to provide a technical validation of the volatile organic compounds (VOC) results by SW-846 Method 8260B and the explosive results by Method 8330 for Laboratory No. 200-1713-1 from TestAmerica South Burlington, Vermont. This report consists of the validation of 42 water samples and one trip blank for VOC analysis and explosives analysis collected on September 23 and 24, 2010. The field sample numbers and corresponding laboratory numbers are presented below:

Field Sample Number	Laboratory Sample Number	Analysis
EMW-089-092010	200-1713-42	VOC and Explosives
AMW-0141-092010	200-1713-32	
BMW-0141-092010	200-1713-33	
EMW-0141-092010	200-1713-34	
AMW-0142-092010	200-1713-40	
BMW-0142-092010	200-1713-41	
BMW-0143-092010	200-1713-23	
AMW-0144-092010	200-1713-29	
EMW-0144-092010	200-1713-30	
EMW-2144-092010	200-1713-31	
AMW-0145-092010	200-1713-27	
EMW-0145-092010	200-1713-28	
AMW-0146-092010	200-1713-38	
BMW-0146-092010	200-1713-39	
AMW-0147-092010	200-1713-35	
BMW-0147-092010	200-1713-36	
DMW-0147-092010	200-1713-37	
BMW-0148-092010	200-1713-25	
BMW-2148-092010	200-1713-26	
AMW-0149-092010	200-1713-24	
AMW-0150-092010	200-1713-18	
BMW-0150-092010	200-1713-19	
AMW-0151-092010	200-1713-20	

Field Sample Number	Laboratory Sample Number	Analysis
BMW-0151-092010	200-1713-21	VOC and Explosives
BMW-2151-092010	200-1713-22	
BMW-0152-092010	200-1713-17	
AMW-0153-092010	200-1713-11	
BMW-0153-092010	200-1713-12	
AMW-0154-092010	200-1713-9	
BMW-0154-092010	200-1713-10	
AMW-0155-092010	200-1713-13	
EMW-0155-092010	200-1713-14	
AMW-0156-092010	200-1713-6	
BMW-0156-092010	200-1713-7	
BMW-2156-092010	200-1713-8	
AMW-0157-092010	200-1713-4	
BMW-0157-092010	200-1713-5	
AMW-0158-092010	200-1713-1	
BMW-0158-092010	200-1713-2	
DMW-0158-092010	200-1713-3	
AMW-0159-092010	200-1713-15	
BMW-0159-092010	200-1713-16	
TRB-2158-092010	200-1713-43	VOC

Data validation was conducted in accordance with the *Mead Validation Guidelines*, (ECC, 2007, approved by USACE 2007).

Data Completeness

All data necessary to complete data validation on the samples were provided.

Sample Receipt at the Laboratory

The samples were properly preserved and the sample coolers were received within the recommended temperature range of 4 ± 2° C.

The label for sample BMW-2151-092010 did not match the chain of custody (COC) identification. The sample was logged in as BMW-2151-092 to correspond with the COC.

One of the three volatile vials provided for sample AMW-0149-092010 was received with an air bubble greater than 1/4 inches in size. This vial was not used for the analysis. All other samples were received in good condition.

Holding Times

Analytical holding times were assessed to determine whether the holding time requirements were met by the laboratory. The preserved VOC water samples were analyzed within 14 days of sample collection. The water samples were extracted within seven days of sample collection and the extracts were analyzed within 40 days of extraction for the explosive analysis.

Tuning and Calibration

According to the *Mead Validation Guidelines*, 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.

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*,

detections were qualified as non-detect (U) if the concentration in the sample was less than five 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 ten times the concentration in the associated blank.

There were no detections of target analytes in the method blanks.

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*, detections were qualified as non-detect (U) if the concentration in the sample was less than five 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 ten times the concentration in the associated blank.

There were no detections of target analytes in the trip blank.

Surrogate

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.

In accordance with the *Mead Validation Guidelines*, 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*, results for associated analytes in the affected samples are J-coded for detects if the % RECs are greater than the QC limits. No action is required for non-detects.

The % REC for 1,2-dinitrobenzene at 146% on the primary column for the explosive analysis of sample DMW-0158-092010 exceeded the laboratory QC limits of 70-115%. As a result of the elevated %REC on the primary column, the following detected result was qualified as estimated (J):

- 2-Amino-4,6-dinitrotoluene in sample DMW-0158-092010

The % REC for 1,2-dinitrobenzene on the confirmation column in the explosive analysis of numerous samples exceeded the laboratory QC limits. However, no action was required because all associated results were reported from the primary column, which met all % REC criteria for these samples. Interference appeared to be present at the retention time of the surrogate compound in several samples.

All other % RECs were within criteria.

[Note: The laboratory inadvertently transcribed the QC limits for toluene-d8 and 4-bromofluorobenzene. The limits for toluene –d8 should be 85-120% and the limits for 4-bromofluorobenzene should be 80-115%.]

Internal Standard Criteria

Volatile analyses were quantitated using the Internal Standard method. The internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard.

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. LCS samples were analyzed for each sample batch for all analyses.

In accordance with the *Mead Validation Guidelines*, 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*, 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 % RECs were within laboratory QC limits.

[Note: For the September 28, 2010 analysis, QC batch 7426, the samples were analyzed immediately after the initial calibration and the initial calibration verification standard (ICV). Therefore the ICV was used in lieu of the LCS and all recoveries were within QC limits.]

Matrix Spike/Matrix Spike Duplicate Analyses

MS and MSD samples are analyzed for the organic 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 relative percent difference (RPD). These results are also compared against the un-spiked portion of the sample for % REC of the spiked analytes.

In accordance with the *Mead Validation Guidelines*, 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*, 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 analyses were performed on samples EMW-089-092010 and EMW-0155-092010 as requested on the COC. All % RECs were within laboratory QC limits and the RPDs were less than 30%.

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.

The field duplicate pairs listed below are included with this SDG.

- EMW-0144-092010 / EMW-2144-092010 (VOCs and Explosives)
- BMW-0148-092010 / BMW-2148-092010 (VOCs and Explosives)
- BMW-0151-092010 / BMW-2151-092010 (VOCs and Explosives)
- BMW-0156-092010 / BMW-2156-092010 (VOCs and Explosives)

The field duplicate data were acceptable, with the following exceptions. In accordance with the *Mead Validation Guidelines*, data are not qualified based on field duplicate sample results.

The RPDs for trichloroethene (TCE) and cis-1,2-dichloroethene in samples BMW-0151-092010 / BMW-2151-092010 and for RDX and 4-amino-2,6-dinitrotoluene in samples BMW-0144-092010 / BMW-2144-092010 at exceeded the field duplicate criteria and the

results did not demonstrate precision. In accordance with the *Mead Validation Guidelines*, data are not qualified based on field duplicate sample results.

Laboratory Duplicate Results

Laboratory duplicates were not analyzed for these methods. Refer to the MS/MSD for precision.

Dilutions and Reanalyses

The following samples required diluted analyses due to an analyte concentration above the calibration range:

- AMW-0141-092010 for TCE
- BMW-0141-092010 for TCE
- BMW-0141-092010 for RDX
- EMW-0141-092010 for TCE
- AMW-0142-092010 for TCE
- BMW-0142-092010 for TCE
- EMW-2144-092010 for RDX
- AMW-0145-092010 for RDX
- EMW-0145-092010 for RDX
- BMW-0148-092010 for RDX
- BMW-2148-092010 for RDX
- AMW-0151-092010 for TCE
- BMW-2151-092010 for TCE
- AMW-0153-092010 for TCE
- AMW-0155-092010 for TCE
- EMW-0155-092010 for TCE

According to the *Mead Validation Guidelines*, results exceeding the calibration range are not to be used for reporting or project decisions when acceptable results from dilutions are available. The original sample results for TCE and RDX in the above samples initially exceeded the calibration range and are reported from a secondary dilution.

[Note: The VOC analyses for samples AMW-0141-092010, BMW-0141-092010, and EMW-0141-092010 were initially analyzed at 11x, 14.7x and 17.6x dilutions, respectively. Dilutions over 5X resulted in elevated LOQ values for the other analytes of concern (methylene chloride and 1,2-dichloropropane). No action was taken because

TCE was well above both the linear calibration range and the Final Groundwater Target Cleanup Goals for these samples.]

Laboratory Qualifiers

Analytes detected below the limit of quantitation (LOQ), but above the limit of detection (LOD) were quantified and results were assigned an estimated (J) qualifier by the laboratory.

The following detected results were qualified as estimated (J):

- All detected results less than the LOQ

These qualifiers are not used to determine analytical or project completeness.

Other QC Parameters

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

The following results had RPDs greater than 40% and the results were qualified as estimated (J):

- 1,3,5-Trinitrobenzene in sample BMW-0141-092010 (102%)
- 2-Amino-4,6-dinitrotoluene in samples EMW-0141-092010 (156.5%), BMW-0148-092010 (130%), BMW-2148-092010 (92.1%), BMW-0150-092010 (64.8%), AMW-0154-092010 (62.5%), DMW-0158-092010 (200%)
- 4-Amino-2,6-dinitrotoluene in samples EMW-0141-092010 (55.9%), AMW-0144-092010 (57.1%), AMW-0145-092010 (60.2%)
- RDX in sample AMW-0141-092010 (54.1%), EMW-089-092010 (54.5%)
- 2,4-Dinitrotoluene in sample AMW-0159-092010 (104%)

These qualifiers are not used to determine analytical or project completeness.

Overall Assessment

The detected explosive results in one sample were qualified as estimated due to an elevated surrogate recovery on the primary column.

The results for TCE in ten samples and for RDX in six samples were reported from a secondary diluted analysis.

Detected results less than the reporting limits were qualified as estimated. Additionally, 13 detected explosive results were qualified as estimated because the intercolumn RPD exceeded 40%. These qualifiers are not used to determine analytical or project completeness.

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.

HOLDING TIMES

Method #: 10A 1 Explosive

Client & Batch #: ECL 1713

Validator/Date: Bill Fred

Reviewer/Date: [illegible]

Include samples, dilutions & reanalyses

#	SAMPLE NUMBER (per COC)	(If Applicable) COC # = Form I Y/N	(If Applicable) SAMPLE PRE-SERVED Y/N	TEMP. 4°C (±2°C) Y/N	CONC. LEVEL/ MATRIX	DATE COLLECTED	Extractables DATE EXTRACTED	DATE ANALYZED	Extractables EXT. DATE - COLL. DATE	Extractables ANAL. DATE - EXT. DATE	ANAL. DATE - COLL. DATE	Action Taken VOA Aromatic J(+) UJ (U)	Action Taken J ALL	Action Taken J (+) R (U)	COMMENTS (ANY PROBLEMS ESP. WITH SHIPPING, RECEIPT & SAMPLING CONDITION)
1	1-5				H2O	9/23		9/28			5				
2															
3	6-18					9/23		9/29			6				
4	+ DLs 11,12,14				18-	9/24					5			≤ 14	
5															
6	19-31					9/24		9/30			6				
7															
8	32-42	DLs 40,41				9/24		10/1			7				
9	43					9/23		10/1			8				
10															
11															
12															
13	1-17					9/23	9/27	9/27,28							
14									4	<40					
15	18-20					9/24	9/27	9/28	3	1					
16															
17	21-32					9/24	9/27	9/28,29	3	<40				≤ 7/40	
18															
19															
20	32-42					9/22	9/27	9/29	3	2					
21															
22															
23															
24															
25															

For all worksheets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators.

Incl HS 1 label incorrect

INITIAL CALIBRATION

Include samples, dilutions, reanalyses, spikes & blanks

INITIAL CALIBRATION	DATE CALIBRATED	INSTRU-MENT ID	AVG RRF ≥ 0.05 Y/N	RSD ≤ ___% Y/N	1ST ORD. CORR. COEF. r or r^2 ≥ 0.99 Y/N	2ND ORD. VALUES TRACE-ABLE Y/N	CALCULATIONS CHECKS 1 RRF PER I-CAL STND.	MIN 1 AVG. RRF & %RSD	MIN. 1 CORR. COEF-FICIENT	COMMENTS & COMPOUNDS FAILING CRITERIA (Note if compounds are SPCC or CCC)
I-CAL 1:			1)	2)	3)	4)				I CAL RSD>30% ICV ✓ CCV ✓
Associated samples: TJ ✓										
I-CAL 2:			5)	6)	7)	8)				
Associated samples:										
I-CAL 3:			9)	10)	11)	12)				
Associated samples:										8270 R2 ✓ C1, C2
I-CAL 4:			13)	14)	15)	16)				
Associated samples:										
I-CAL 5:			17)	18)	19)	20)				
Associated samples:										
I-CAL 6:			21)	22)	23)	24)				
Associated samples:										

VC, meCl, cis, trans TCE 1,2DCP

VOC

BLANKS

Include method, trip, equipment & field blanks

BLANK NUMBER & TYPE (Method, Trip, Equipment, Field)	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	CORRECT MATRIX & LEVEL Y/N	FREQ-UENCY MET Y/N	ENTER BLANK CONTAMINANTS FOLLOWED BY CONCENTRATION	COMMENTS
BLK #/TYPE MB-7246	/	9/28	—	—	All ND (No LCS ?)	All ND VOCs
Associated samples: 1-5						
BLK #/TYPE MB-7295	/	9/29	—	-	All ND	
Associated samples: 6-18 & DLs 11,12,14						
BLK #/TYPE MB-7296	—	9/30	—	—	All ND	
Associated samples: 19-31, 32DL 33DL 37DL						
BLK #/TYPE MB-7459	/	10/1	—	—	All ND	
Associated samples: 32-43 DLs 40,41						
BLK #/TYPE TB	TB -2158 -		092010		All ND	
Associated samples:						
BLK #/TYPE						
Associated samples:						

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TLI Solutions

BLANKS

Include method, trip, equipment & field blanks

BLANK NUMBER & TYPE (Method, Trip, Equipment, Field)	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	CORRECT MATRIX & LEVEL Y/N	FREQ-UENCY MET Y/N	ENTER BLANK CONAMINANTS FOLLOWED BY CONCENTRATION	COMMENTS
BLK #/TYPE MB-7046	9/27	9/27	–	–	All ND (0.4 U)	No hits no qual
Associated samples: 1-20						
BLK #/TYPE MB-~~1713~~ 7074	9/27	9/27	–	–	All ND.	
Associated samples: 21-32						
BLK #/TYPE MB-7076	9/27	9/28	–	–	All ND.	
Associated samples: 33-42						
BLK #/TYPE						
Associated samples:						
BLK #/TYPE						
Associated samples:						
BLK #/TYPE						
Associated samples:						

SURROGATES & INTERNAL STANDARDS

Include samples, dilutions, reanalyses, spikes & blanks which do not meet criteria.

#	SAMPLE NUMBER (Include sample number if limits not met)	SURROGATES: RECOVERIES WITHIN LIMITS FORM II Y/N	SURROGATES: IF NOT, RE-EXT./ RE-ANAL Y/N	SURROGATES: RE-EXT/ RE-ANAL WITHIN LIMITS Y/N	INTERNAL STDS.: AREAS WITHIN LIMITS MET Y/N	INTERNAL STDS.: R.T.S. WITHIN LIMITS Y/N	SURR & IS: CALC. OK	SURROGATES OUTSIDE QC LIMITS*	INTERNAL STANDARDS OUTSIDE QC LIMITS*	ACTIONS/COMMENTS
1	VOC	y	—	—	y	y		none	none	lck surr. 2 limits for BBB + C1
2	All							out	out	
3										
4										
5	D-158	no	8370					12DNB7	M6-1.	J-2 omits
6								both C2 + C1 out		
7										
8	— Numerous outliers on C2 column							no actions —		
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

*Indicate whether surrogate recovery (or internal standard area) was above or below QC limits. Use for extremely low surrogate recoveries (<10%) or internal standard areas (<2x the lower limit)

Jan

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GC WORKSHEETS

TLI Solutions

none out

SPIKES, LFBs, & LCS's

Include matrix spikes & laboratory fortified blanks which do not met spiking criteria.

TYPE OF SPIKE (Circle One) & ID NUMBER	DATE & TIME ANALYZED	FREQUENCY CRITERIA MET Y/N	SPIKED AT CORRECT LEVEL Y/N	CALC. & TRANS. OK Y/N	LIST SPIKING COMPOUNDS OUTSIDE PERCENT RECOVERY CRITERIA (Followed by percent recovery)	LIST MS/MSD SPIKING COMPOUNDS OUTSIDE RPD CRITERIA (Followed by RPD)	ACTIONS/COMMENTS
LFB/MS/MSD/LCS# 7046	9/27	✓	7	✓	none out	✓	
Associated samples:							
LFB/MS/MSD/LCS# 7074	9/28	✓		✓	none out	✓	
Associated samples:							
LFB/MS/MSD/LCS# 7076	9/29	✓		✓	none out	✓	
Associated samples:							
14 LFB/MS/MSD/LCS# E-155	9/28	✓		✓	none out	→	
Associated samples:							
42 LFB/MS/MSD/LCS# E 089	9/29	✓		✓	none out	→	
Associated samples:							
LFB/MS/MSD/LCS#							
Associated samples:							

VOC

SPIKES ,LFBs, & LCSs

none out

Include matrix spikes & laboratory fortified blanks which do not met spiking criteria

TYPE OF SPIKE (Circle One) & ID NUMBER	DATE & TIME ANALYZED	FREQUENCY CRITERIA MET Y/N	SPIKED AT CORRECT LEVEL Y/N	CALC. & TRANS. OK Y/N	LIST SPIKING COMPOUNDS OUTSIDE PERCENT RECOVERY CRITERIA (Followed by percent recovery)	LIST MS/MSD SPIKING COMPOUNDS OUTSIDE RPD CRITERIA (Followed by RPD)	ACTIONS/COMMENTS
LFB / MS / MSD / LCS # 7295 7294	9/29 9/30	✓	✓		none out	—	no LCS 7246 LCS used ICV
Associated samples:							
LFB / MS / MSD / LCS # 7454,	10/1	✓	✓			—	as bracket samples
Associated samples:							
LFB / MS / MSD / LCS # #14	9/29	✓	✓		VOC OK	<30%	
Associated samples: (7295)							
LFB / MS / MSD / LCS # #12	10/1	✓	✓		VOC ✓	<30%	
Associated samples:							
LFB / MS / MSD / LCS # ICV	9/28				within acceptance SP		ICV used as LCS.
Associated samples:	(1-5)						
LFB / MS / MSD / LCS #							
Associated samples:							

COMPOUND IDENTIFICATION, QUANTITATION LIMITS

Include samples, dilutions, reanalyses & blanks

#	SAMPLE NUMBER (Include if problems exist)	ID CRITERIA: RRT (0.06) MET Y/N	ID CRITERIA: MASS SPECTRAL MET Y/N	COMMENTS & COMPOUNDS FAILING ID CRITERIA	SPECTRA PRESENT (TCL & TIC) Y/N	CALC. CHECKS: RLs CORRECT Y/N	CALC. CHECKS: CHECK 1-3 HIT(S) PER SAMPLE	TRANS-CRIPTION ERRORS Y/N	ACTIONS/COMMENTS
1	A-153 TCE	910	D						
2	A-155 TCE	690	D						
3	E-155 TCE	630	D						
4	A-151 TCE	1200	D						
5	B-2151 TCE	960	D	- not match see pre. 47					
6									
7	A-141 TCE	6300	D		initially	e	11 x		~~[illegible]~~ not [illegible]
8	B-141 TCE	8800	D		initially	e	147 x		
9	E-141 TCE	10,000	D			e	17.6 x		
10									
11	A-142 TCE	900	D						
12	B-142 TCE	1800	D						
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

For all worksheets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators.

COMPOUND IDENTIFICATION, QUANTITATION LIMITS

Include samples, dilutions, reanalyses & blanks

#	SAMPLE NUMBER (Include if problems exist)	ID CRITERIA		COMMENTS & COMPOUNDS FAILING ID CRITERIA	CALC. CHECKS		TRANS-CRIPTION ERRORS Y/N	ACTIONS/COMMENTS
		1ST COL. RT IN WINDOW Y/N	2ND COL. RT IN WINDOW Y/N		RLs CORRECT Y/N	CHECK 1-3 HIT(S) PER SAMPLE		
1	B-148 ROX	49.8	D					2x
2								
3	B-2148 ROX	49.1	D					
4								
5	A-145 ROX	63.2	D					
6	E-145 ROX	97	D					
7								
8	E-2144 ROX	47.3	D					
9								
10								
11	B-141 ROX	58.0	D					
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

For all worksheets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators.

FD

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

0154
All ND

Client Sample ID: **BMW-2156-092010**

Lab Sample ID: 200-1713-8
Client Matrix: Water

Date Sampled: 09/23/2010 1530
Date Received: 09/25/2010 0930

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 200-7295	Instrument ID:	L.i
Preparation:	5030B		Lab File ID:	leza08.d
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	09/29/2010 1236		Final Weight/Volume:	5 mL
Date Prepared:	09/29/2010 1236			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	1.0	U	0.34	1.0
Methylene Chloride	1.0	U	0.25	1.0
trans-1,2-Dichloroethene	1.0	U	0.14	1.0
cis-1,2-Dichloroethene	1.0	U	0.18	1.0
Trichloroethene	1.0	U	0.17	1.0
1,2-Dichloropropane	1.0	U	0.21	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4	97		80 - 115
Toluene-d8	96		80 - 115
1,2-Dichlorobenzene-d4	98		80 - 115
4-Bromofluorobenzene	100		85 - 120

PW

→ B 1 4 8 / B 2 1 4 8

All ND

E 1 4 4 / E 2 1 4 4

All ND.

Analytical Data

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Client Sample ID: **BMW-0151-092010**

B-2151 (-22)

Lab Sample ID: 200-1713-21
Client Matrix: Water

Date Sampled: 09/24/2010 0815
Date Received: 09/25/2010 0930

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 200-7296	Instrument ID:	L.i
Preparation:	5030B		Lab File ID:	lezb08.d
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	09/30/2010 1053		Final Weight/Volume:	5 mL
Date Prepared:	09/30/2010 1053			

Dup

Analyte	Result (ug/L)	Qualifier	MDL	RL	
Vinyl chloride	1.0	U	0.34	1.0	
Methylene Chloride	1.0	U	0.25	1.0	
trans-1,2-Dichloroethene	1.0	U	0.14	1.0	
cis-1,2-Dichloroethene	1.1 6.4		0.18	1.0	— out
Trichloroethene	47 960		0.17	1.0	— out ↑
1,2-Dichloropropane	1.0	U	0.21	1.0	

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4	98		80 - 115
Toluene-d8	97		80 - 115
1,2-Dichlorobenzene-d4	98		80 - 115
4-Bromofluorobenzene	100		85 - 120

913
503.5

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-089-092010 Lab Sample ID: 200-1713-42

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 08:53 Date Analyzed (2): 09/29/2010 05:05

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.35	14.23	14.43	0.32		54.1
	2		6.63	6.44	6.64	0.56		

54-5

JY/JY

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0141-092010 Lab Sample ID: 200-1713-32

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 00:47 Date Analyzed (2): 09/28/2010 21:40

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	0.54		54.7
	2		6.58	6.44	6.64	0.31		

54.1

23/42

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0141-092010 Lab Sample ID: 200-1713-33

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 02:39 Date Analyzed (2): 09/28/2010 23:23

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	58.4	50	8.3
	2		6.56	6.44	6.64	63.5		
1,3,5-Trinitrobenzene	1		16.16	16.00	16.20	0.20		100.3
	2		18.67	18.41	18.61	0.065		
4-Amino-2,6-dinitrotoluene	1		20.16	20.03	20.23	9.65		24.6
	2		11.89	11.87	12.07	12.4		
2-Amino-4,6-dinitrotoluene	1		20.53	20.41	20.61	3.19		25.4
	2		12.15	12.08	12.28	4.12		

135 / 132.5 = 102 101.5

93 / 365.5

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-0141-092010 Lab Sample ID: 200-1713-34

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 03:17 Date Analyzed (2): 09/28/2010 23:57

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	29.8		7.3
	2		6.56	6.44	6.64	32.0		
4-Amino-2,6-dinitrotoluene	1		20.17	20.03	20.23	4.59		55.9
	2		11.89	11.87	12.07	8.15		
2-Amino-4,6-dinitrotoluene	1		20.54	20.41	20.61	0.29		156.8
	2		12.15	12.08	12.28	2.38		

156.8

209 / 137.5 = 156.8 APPROX 157

356 / 637 = 55.9

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0144-092010 Lab Sample ID: 200-1713-29

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 22:55 Date Analyzed (2): 09/28/2010 19:58

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	21.4		4.4
	2		6.56	6.44	6.64	22.3		
4-Amino-2,6-dinitrotoluene	1		20.16	20.03	20.23	0.18		55.2
	2		11.94	11.87	12.07	0.10		
2-Amino-4,6-dinitrotoluene	1		20.56	20.41	20.61	0.062		33.5
	2		12.27	12.08	12.28	0.087		

57.1

8/14 = 57.1

25/74.6

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0145-092010 Lab Sample ID: 200-1713-27

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 21:03 Date Analyzed (2): 09/28/2010 18:15

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	61.8	63.2	2.6
	2		6.56	6.44	6.64	63.4		
4-Amino-2,6-dinitrotoluene	1		20.17	20.03	20.23	0.67		59.9
	2		12.00	11.87	12.07	0.36		

E

31/54 = 60.2

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0148-092010 Lab Sample ID: 200-1713-25

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 19:48 Date Analyzed (2): 09/28/2010 17:07

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	49.6	45.8	4.7
	2		6.56	6.44	6.64	52.0		
4-Amino-2,6-dinitrotoluene	1		20.15	20.03	20.23	5.42		0.2
	2		11.98	11.87	12.07	5.41		
2-Amino-4,6-dinitrotoluene	1		20.43	20.41	20.61	0.032		130.8
	2		12.24	12.08	12.28	0.15		

130

45/91

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-2148-092010 Lab Sample ID: 200-1713-26

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 20:26 Date Analyzed (2): 09/28/2010 17:41

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	~~MEAN~~	
RDX	1		14.34	14.23	14.43	49.2	48.1	3.6
	2		6.55	6.44	6.64	51.0		
4-Amino-2,6-dinitrotoluene	1		20.15	20.03	20.23	5.30		0.4
	2		11.98	11.87	12.07	5.32		
2-Amino-4,6-dinitrotoluene	1		20.42	20.41	20.61	0.048		92.5
	2		12.25	12.08	12.28	0.13		

a2.1

82/59

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0150-092010 Lab Sample ID: 200-1713-19

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 12:20 Date Analyzed (2): 09/28/2010 10:17

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	9.50		0.4
	2		6.56	6.44	6.64	9.54		
4-Amino-2,6-dinitrotoluene	1		20.15	20.04	20.24	0.88		0.9
	2		11.99	11.87	12.07	0.87		
2-Amino-4,6-dinitrotoluene	1		20.50	20.41	20.61	0.097		64.5
	2		12.15	12.09	12.29	0.19		

64.8

a3
143.5

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0154-092010 Lab Sample ID: 200-1713-9

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 05:28 Date Analyzed (2): 09/28/2010 04:00

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	4.84		6.2
	2		6.55	6.44	6.64	4.55		
4-Amino-2,6-dinitrotoluene	1		20.16	20.04	20.24	0.16		7.4
	2		11.97	11.87	12.07	0.15		
2-Amino-4,6-dinitrotoluene	1		20.43	20.41	20.61	0.084		61.8
	2		12.23	12.09	12.29	0.044		

62.5

40/61

62.5

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: DMW-0158-092010 Lab Sample ID: 200-1713-3

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 01:06 Date Analyzed (2): 09/28/2010 00:01

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2-Amino-4,6-dinitrotoluene	1		20.58	20.41	20.61	0.082		199.7
	2		12.55	12.09	12.29	113		

200

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0159-092010 Lab Sample ID: 200-1713-15

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 09:12 Date Analyzed (2): 09/28/2010 07:26

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-Dinitrotoluene	1		21.08	21.02	21.22	0.31		103.8
	2		19.62	19.46	19.66	0.098		

Jw(w)

104

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0157-092010 Lab Sample ID: 200-1713-4

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 01:43 Date Analyzed (2): 09/28/2010 00:35

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	1.51		9.8
	2		6.57	6.44	6.64	1.67		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0157-092010 Lab Sample ID: 200-1713-5

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 02:20 Date Analyzed (2): 09/28/2010 01:09

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.35	14.23	14.43	0.26	J	31.7
	2		6.63	6.44	6.64	0.19		

value

7/22.5 311

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0156-092010 Lab Sample ID: 200-1713-6

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 03:35 Date Analyzed (2): 09/28/2010 02:18

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	9.48		3.6
	2		6.55	6.44	6.64	9.83		
4-Amino-2,6-dinitrotoluene	1		20.15	20.04	20.24	0.91		4.7
	2		11.98	11.87	12.07	0.96		
2-Amino-4,6-dinitrotoluene	1		20.53	20.41	20.61	0.17		2.2
	2		12.19	12.09	12.29	0.16		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0154-092010 Lab Sample ID: 200-1713-10

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 06:05 Date Analyzed (2): 09/28/2010 04:35

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	3.17		7.2
	2		6.56	6.44	6.64	2.95		
4-Amino-2,6-dinitrotoluene	1		20.17	20.04	20.24	0.092		11.1
	2		11.86	11.87	12.07	0.082		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0153-092010 Lab Sample ID: 200-1713-12

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 07:20 Date Analyzed (2): 09/28/2010 05:43

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	0.38		20.6
	2		6.56	6.44	6.64	0.46		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0155-092010 Lab Sample ID: 200-1713-13

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 07:57 Date Analyzed (2): 09/28/2010 06:17

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.37	14.23	14.43	0.13		25.2
	2		6.55	6.44	6.64	0.17		

25.8

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-0155-092010 Lab Sample ID: 200-1713-14

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 08:35 Date Analyzed (2): 09/28/2010 06:51

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	0.25		20.0
	2		6.55	6.44	6.64	0.31		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0152-092010 Lab Sample ID: 200-1713-17

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 11:05 Date Analyzed (2): 09/28/2010 09:08

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	1.48		8.1
	2		6.55	6.44	6.64	1.61		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0150-092010 Lab Sample ID: 200-1713-18

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 11:42 Date Analyzed (2): 09/28/2010 09:42

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	12.8		3.2
	2		6.56	6.44	6.64	13.2		
4-Amino-2,6-dinitrotoluene	1		20.16	20.04	20.24	1.35		2.6
	2		11.99	11.87	12.07	1.39		
2-Amino-4,6-dinitrotoluene	1		20.52	20.41	20.61	0.16		22.8
	2		12.17	12.09	12.29	0.21		22

S/ 1d.! 2x

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0151-092010 Lab Sample ID: 200-1713-20

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 12:57 Date Analyzed (2): 09/28/2010 10:51

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2-Amino-4,6-dinitrotoluene	1		20.62	20.41	20.61	0.061		19.2
	2		12.33	12.09	12.29	0.073		18

12/67

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0143-092010 Lab Sample ID: 200-1713-23

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 18:33 Date Analyzed (2): 09/28/2010 15:59

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	16.2		3.4
	2		6.56	6.44	6.64	16.8		
4-Amino-2,6-dinitrotoluene	1		20.16	20.03	20.23	3.07		6.0
	2		11.98	11.87	12.07	2.89		
2-Amino-4,6-dinitrotoluene	1		20.54	20.41	20.61	0.39		18.7
	2		12.16	12.08	12.28	0.47		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0149-092010 Lab Sample ID: 200-1713-24

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 19:11 Date Analyzed (2): 09/28/2010 16:33

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	12.0		1.5
	2		6.56	6.44	6.64	12.2		
4-Amino-2,6-dinitrotoluene	1		20.15	20.03	20.23	0.56		37.2
	2		11.95	11.87	12.07	0.38		

38

18/42

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0148-092010 DL Lab Sample ID: 200-1713-25 DL

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 15:26 Date Analyzed (2): 09/29/2010 15:20

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	49.8		4.6
	2		6.55	6.43	6.63	52.2		
4-Amino-2,6-dinitrotoluene	1		20.13	20.03	20.23	5.51		2.8
	2		11.96	11.86	12.06	5.67		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-2148-092010 DL Lab Sample ID: 200-1713-26 DL

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 16:04 Date Analyzed (2): 09/29/2010 15:55

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	49.1		3.2
	2		6.55	6.43	6.63	50.7		
4-Amino-2,6-dinitrotoluene	1		20.14	20.03	20.23	5.33		1.6
	2		11.97	11.86	12.06	5.41		

FORM X 8330B

FORM X

IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington | Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0145-092010 DL | Lab Sample ID: 200-1713-27 DL

Instrument ID (1): CH1208 | Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 16:41 | Date Analyzed (2): 09/29/2010 16:29

GC Column (1): C-18 ID: 4.6(mm) | GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	63.2		0.5
	2		6.55	6.43	6.63	62.9		
4-Amino-2,6-dinitrotoluene	1		20.15	20.03	20.23	0.69		57.7
	2		11.97	11.86	12.06	0.38		

57.9

31/53.5

D/L

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-0145-092010 Lab Sample ID: 200-1713-28

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 21:40 Date Analyzed (2): 09/28/2010 18:49

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	100		4.3
	2		6.56	6.44	6.64	105		
4-Amino-2,6-dinitrotoluene	1		20.17	20.03	20.23	1.49		7.1
	2		12.00	11.87	12.07	1.60		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-0145-092010 DL Lab Sample ID: 200-1713-28 DL

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 17:18 Date Analyzed (2): 09/29/2010 17:03

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	97.0		5.4
	2		6.55	6.43	6.63	102		
4-Amino-2,6-dinitrotoluene	1		20.14	20.03	20.23	1.73		3.2
	2		11.95	11.86	12.06	1.68		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-0144-092010 Lab Sample ID: 200-1713-30

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/28/2010 23:33 Date Analyzed (2): 09/28/2010 20:32

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	11.5		4.4
	2		6.56	6.44	6.64	12.1		
4-Amino-2,6-dinitrotoluene	1		20.16	20.03	20.23	0.36		13.6
	2		12.05	11.87	12.07	0.31		
2-Amino-4,6-dinitrotoluene	1		20.53	20.41	20.61	2.29		8.9
	2		12.23	12.08	12.28	2.10		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-2144-092010 Lab Sample ID: 200-1713-31

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 00:10 Date Analyzed (2): 09/28/2010 21:06

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	47.7	47.3	2.7
	2		6.55	6.44	6.64	49.0		
4-Amino-2,6-dinitrotoluene	1		20.17	20.03	20.23	0.93		22.2
	2		12.00	11.87	12.07	0.74		
2-Amino-4,6-dinitrotoluene	1		20.53	20.41	20.61	2.74		7.9
	2		12.23	12.08	12.28	2.54		

22.7

19/83.6

FP

36.2/29.6

47.7 / 11.5

0.93 / 0.76

2.29 / 2.74

RDX

4

2.

57/44.5

44.5/2.54 ✓

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: EMW-2144-092010 DL Lab Sample ID: 200-1713-31 DL

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 17:56 Date Analyzed (2): 09/29/2010 17:37

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.33	14.23	14.43	47.3		3.7
	2		6.55	6.43	6.63	49.0		
2-Amino-4,6-dinitrotoluene	1		20.51	20.40	20.60	2.62		22.2
	2		12.23	12.07	12.27	3.27		

65
297-5

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0141-092010 DL Lab Sample ID: 200-1713-33 DL

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 18:33 Date Analyzed (2): 09/29/2010 18:11

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.32	14.23	14.43	58.0		8.1
	2		6.55	6.43	6.63	62.9		

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: AMW-0142-092010 Lab Sample ID: 200-1713-40

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 07:38 Date Analyzed (2): 09/29/2010 03:56

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.34	14.23	14.43	0.49		32.4
	2		6.58	6.44	6.64	0.68		

22.1

19/58.5

FORM X 8330B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-1713-1

SDG No.: 1713

Client Sample ID: BMW-0142-092010 Lab Sample ID: 200-1713-41

Instrument ID (1): CH1208 Instrument ID (2): CH1488

Date Analyzed (1): 09/29/2010 08:16 Date Analyzed (2): 09/29/2010 04:31

GC Column (1): C-18 ID: 4.6(mm) GC Column (2): Biphenyl ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
RDX	1		14.35	14.23	14.43	1.05		4.5
	2		6.58	6.44	6.64	1.09		

FORM X 8330B

SAMPLE SUMMARY

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-1713-1	BMW-0158-092010	Water	09/23/2010 1422	09/25/2010 0930
200-1713-2	AMW-0158-092010	Water	09/23/2010 1429	09/25/2010 0930
200-1713-3	DMW-0158-092010	Water	09/23/2010 1433	09/25/2010 0930
200-1713-4	AMW-0157-092010	Water	09/23/2010 1455	09/25/2010 0930
200-1713-5	BMW-0157-092010	Water	09/23/2010 1459	09/25/2010 0930
200-1713-6	AMW-0156-092010	Water	09/23/2010 1520	09/25/2010 0930
200-1713-7	BMW-0156-092010	Water JNO -8323	09/23/2010 1530	09/25/2010 0930
200-1713-8	BMW-2156-092010	Water	09/23/2010 1530	09/25/2010 0930
200-1713-9	AMW-0154-092010	Water	09/23/2010 1550	09/25/2010 0930
200-1713-10	BMW-0154-092010	Water	09/23/2010 1555	09/25/2010 0930
200-1713-11	AMW-0153-092010	Water	09/23/2010 1612	09/25/2010 0930
200-1713-12	BMW-0153-092010	Water	09/23/2010 1617	09/25/2010 0930
200-1713-13	AMW-0155-092010	Water	09/23/2010 1635	09/25/2010 0930
200-1713-14	EMW-0155-092010	Water	09/23/2010 1640	09/25/2010 0930
200-1713-14MS	EMW-0155-092010	Water	09/23/2010 1640	09/25/2010 0930
200-1713-14MSD	EMW-0155-092010	Water	09/23/2010 1640	09/25/2010 0930
200-1713-15	AMW-0159-092010	Water	09/23/2010 1705	09/25/2010 0930
200-1713-16	BMW-0159-092010	Water	09/23/2010 1710	09/25/2010 0930
200-1713-17	BMW-0152-092010	Water	09/23/2010 1725	09/25/2010 0930
200-1713-18	AMW-0150-092010	Water	09/24/2010 0745	09/25/2010 0930
200-1713-19	BMW-0150-092010	Water	09/24/2010 0750	09/25/2010 0930
200-1713-20	AMW-0151-092010	Water	09/24/2010 0810	09/25/2010 0930
200-1713-21	BMW-0151-092010	Water NO-8330	09/24/2010 0815	09/25/2010 0930
200-1713-22	BMW-2151-092010	Water	09/24/2010 0815	09/25/2010 0930
200-1713-23	BMW-0143-092010	Water	09/24/2010 0835	09/25/2010 0930
200-1713-24	AMW-0149-092010	Water	09/24/2010 0845	09/25/2010 0930
200-1713-25	BMW-0148-092010	Water	09/24/2010 0900	09/25/2010 0930
200-1713-26	BMW-2148-092010	Water	09/24/2010 0900	09/25/2010 0930
200-1713-27	AMW-0145-092010	Water	09/24/2010 0915	09/25/2010 0930
200-1713-28	EMW-0145-092010	Water	09/24/2010 0921	09/25/2010 0930
200-1713-29	AMW-0144-092010	Water	09/24/2010 0940	09/25/2010 0930
200-1713-30	EMW-0144-092010	Water	09/24/2010 0945	09/25/2010 0930
200-1713-31	EMW-2144-092010	Water	09/24/2010 0945	09/25/2010 0930
200-1713-32	AMW-0141-092010	Water	09/24/2010 1010	09/25/2010 0930
200-1713-33	BMW-0141-092010	Water	09/24/2010 1015	09/25/2010 0930
200-1713-34	EMW-0141-092010	Water	09/24/2010 1018	09/25/2010 0930
200-1713-35	AMW-0147-092010	Water	09/24/2010 1045	09/25/2010 0930
200-1713-36	BMW-0147-092010	Water	09/24/2010 1050	09/25/2010 0930
200-1713-37	DMW-0147-092010	Water	09/24/2010 1055	09/25/2010 0930
200-1713-38	AMW-0146-092010	Water	09/24/2010 1120	09/25/2010 0930
200-1713-39	BMW-0146-092010	Water	09/24/2010 1125	09/25/2010 0930
200-1713-40	AMW-0142-092010	Water	09/24/2010 1147	09/25/2010 0930
200-1713-41	BMW-0142-092010	Water	09/24/2010 1150	09/25/2010 0930
200-1713-42	EMW-089-092010	Water	09/24/2010 1220	09/25/2010 0930
200-1713-42MS	EMW-089-092010	Water	09/24/2010 1220	09/25/2010 0930
200-1713-42MSD	EMW-089-092010	Water	09/24/2010 1220	09/25/2010 0930

SAMPLE SUMMARY

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-1713-43TB	TRB-2158-092010	Water	09/23/2010 1400	09/25/2010 0930

Job Narrative
200-1713-1

Comments
No additional comments.

Receipt
The Chain of Custody listed sample BMW-2151-092010, however the container labels list an ID of BMW-2152-092 (2152 instead of 2151). The sample was logged as BMW-2151-092 following the COC.

One of the three volatile vials provided for sample AMW-0149-092010 was received with an air bubble greater than 1/4 inches in size. That vials waswas not used for the analysis.

All other samples were received in good condition within temperature requirements.

General Report Information
This data report has two distinct sections. The initial section contains sample results and QC summary information presented by the laboratories LIMS system. The second section contains the same information, presented on EPA CLP-Like reporting forms. For dual column GC methods, a separate reporting form is provided for each analytical column, showing the results obtained from that column. The final results that the laboratory selected to report are listed in normal font on the CLP forms. The confirming result is listed in italic font on the CLP forms. The LIMS reports at the front of the package do not include italics.

GC/MS VOA Method 8260
Although multiple blank spike samples were analyzed in association with the samples in this delivery group, an LCS was not specifically analyzed in batch 7246. That window was acquired immediately following a calibration and an ICV standard, which has the same formulation as an LCS. Although the ICV is reported on a Form 7 with percent difference rather than percent recovery, the six target compounds for this project all recovered within 98-101 percent, within the LCS limits of 75-120%

Samples BMW-0157-092010, AMW-0155-092010, EMW-0155-092010, AMW-0151-092010 and BMW-2151-092010 were analyzed at dilutions to provide for quantification of trichloroethene from concentrations within calibration range. More concentrated analyses were also performed for these samples and project action limits were met for all compounds.

No other analytical or quality issues were noted.

HPLC Method 8330
All explosives by method 8330 are reported from the C18 column, which is listed in the LIMS system result section as the Primary result. The confirmation results are from the Biphenyl column, and are listed in italic font on the CLP reporting forms. Results with greater than 40% RPD between the two columns are qualified with either a capital P or small p. Although the qualifier definition page states that the capitol P flag indicates the higher value between columns was reported, and the small p flag indicates the lower value was reported, all 8330 results are reported from the C18 column. The laboratory is in the process of establishing a new qualifier in the TestAmerica LIMS system to reflect this situation.

The explosives analysis of sample DMW-0158-092010 yielded elevated surrogate recoveries on both columns due to apparent matrix interference. Surrogate recoverieswere elevated on the biphenyl column only in select samples, all of which exhibited acceptable recoveries on the C18 column, from which results were reported.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/23/10	COC No: 092410
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	1 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W)			SDG No.
(303) 298-7607 Phone	TAT if different from Below			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
BMW-0158-092010	9/23/10	1422	G	W	5	X	X									
AMW-0158-092010		1429			5	X	X									
DMW-0158-092010		1433			5	X	X									
AMW-0157-092010		1455			5	X	X									
BMW-0157-092010		1459			5	X	X									
AMW-0156-092010		1520			5	X	X									
BMW-0156-092010		1530			5	X	X									
BMW-0156-092010		1530			5	X	X									
AMW-0154-092010		1550			5	X	X									
BMW-0154-092010		1555			5	X	X									
AMW-0153-092010		1612			5	X	X									
BMW-0153-092010		1617			5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	Fedex 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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TestAmerica Burlington
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Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/23 - 9/24/10	COC No: 0924/10
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	2 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			5447.002
(303) 298-7607 Phone	TAT if different from Below _____			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0155-092010	9/23/10	1635	G	W	5	X	X									
EMW-0155-092010		1640			5	X	X									
EMW-0155-092010 MS		1640			3	X	X									
EMW-0155-092010 MSD		1640			3	X	X									
AMW-0159-092010		1705			5	X	X									
BMW-0159-092010		1710			5	X	X									
BMW-0152-092010		1725			5	X	X									
AMW-0150-092010	9/24/10	0745			5	X	X									
BMW-0150-092010		0750			5	X	X									
AMW-0151-092010		0810			5	X	X									
BMW-0151-092010		0815			5	X	X									
BMW-2151-092010		0815			5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	Fedex 8730 0092 8417		9/24/10 1600

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	9/25/10 - 0950

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/24/10	COC No: 0924/0
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	3 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No. 5447.002
Lakewood, CO 80401	Calendar (C) or Work Days (W) _____			SDG No.
(303) 298-7607 Phone	TAT if different from Below _____			
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
BMW - 0143 - 092010	9/24/10	0835	G	W	5	X	X									
AMW - 0149 - 092010		0845			5	X	X									
BMW - 0148 - 092010		0900			5	X	X									
BMW - 2148 - 092010		0900			5	X	X									
AMW - 0145 - 092010		0915			5	X	X									
EMW - 0145 - 092010		0921			5	X	X									
AMW - 0144 - 092010		0940			5	X	X									
EMW - 0144 - 092010		0945			5	X	X									
EMW - 2144 - 092010		0945			5	X	X									
AMW - 0141 - 092010		1010			5	X	X									
BMW - 0141 - 092010		1015			5	X	X									
EMW - 0141 - 092010		1018			5	X	X									

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

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Toby Hinz	ECC	9/24/10 1600	Fedex 8730 0092 8417		9/24/10 1600
				TA	9/25/10 - 0930

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

Groundwater samples

Baseline Sampling

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: John Ryder	Site Contact: Toby Hinz	Date: 9/24/10	COC No: 09240
ECC	Tel/Fax: (720) 232-6425	Lab Contact: Jim Madison	Carrier: FedEx	4 of 4 COCs
1746 Cole Blvd Building 21, Suite 350	Analysis Turnaround Time			Job No.
Lakewood, CO 80401	Calendar (C) or Work Days (W)			5447.002
(303) 298-7607 Phone	TAT if different from Below			SDG No.
(303) 298-7837 FAX	☐ 3 weeks			
Project Name: FNOP 5447.002	☐ 2 weeks			
Site: Former NOP	☐ 1 week			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	8260 - VOCs	8330 - Explosives	6010B - Metals	6010B - Dissolved Metals	9060 - TOC	9060 - DOC	RSK175 - Dissolved Gases (CO_2)	RSK175 - Ethane, Ethene, Methane	SM 4500B+C Ammonia	9030B/9034 - Anions (Sulfide)	Sample Specific Notes:
AMW-0147-092010	9/24/10	1045	G	W	5	X	X									
BMW-0147-092010		1050			5	X	X									
DMW-0147-092010		1055			5	X	X									
AMW-0146-092010		1120			5	X	X									
BMW-0146-092010		1125			5	X	X									
AMW-0142-092010		1147			5	X	X									
BMW-0142-092010		1150			5	X	X									
EMW-089-092010		1220			5	X	X									
EMW-089-092010 MS		1220			3	X	X									
EMW-089-092010 MSD		1220			3	X	X									
TRB-2158-092010	9/23/10	1400			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 Hinz	ECC	9/24/10	Fedex 8730 0092 8417		9/24/10 1600

Login Sample Receipt Check List

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
SDG Number: 1713

Login Number: 1713
Creator: Marion, Greg T
List Number: 1

List Source: TestAmerica Burlington

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	NO SEAL NUMBERS
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4,2.7.3.5,4.4°C IR GUN ID 96/CF= -1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	coc:BMW-2151-092 Label:BMW-2152-092.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	1 of 3 vials for AMW-0149-092010 (used to screen)
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec	DCZ %Rec
200-1713-1	BMW-0158-092010	107	104	110	107
200-1713-2	AMW-0158-092010	103	100	103	104
200-1713-3	DMW-0158-092010	100	99	100	99
200-1713-4	AMW-0157-092010	99	97	99	99
200-1713-5	BMW-0157-092010	101	98	100	101
200-1713-6	AMW-0156-092010	98	96	101	98
200-1713-7	BMW-0156-092010	98	96	100	99
200-1713-8	BMW-2156-092010	97	96	100	98
200-1713-9	AMW-0154-092010	103	101	104	103
200-1713-10	BMW-0154-092010	99	96	99	97
200-1713-11 DL	AMW-0153-092010 DL	99D	99D	100D	99D
200-1713-11	AMW-0153-092010	100	98	101	100
200-1713-12	BMW-0153-092010	97	96	99	98
200-1713-13 DL	AMW-0155-092010 DL	101D	98D	101D	100D
200-1713-13	AMW-0155-092010	98	97	102	101
200-1713-14 DL	EMW-0155-092010 DL	100D	99D	102D	100D
200-1713-14	EMW-0155-092010	97	96	97	97
200-1713-15	AMW-0159-092010	99	98	100	100
200-1713-16	BMW-0159-092010	100	98	101	101
200-1713-17	BMW-0152-092010	102	98	102	100
200-1713-18	AMW-0150-092010	100	98	100	99
200-1713-19	BMW-0150-092010	95	98	101	98
200-1713-20 DL	AMW-0151-092010 DL	101D	101D	106D	103D
200-1713-20	AMW-0151-092010	101	97	101	100
200-1713-21	BMW-0151-092010	98	97	100	98
200-1713-22 DL	BMW-2151-092010 DL	96D	98D	102D	98D
200-1713-22	BMW-2151-092010	99	97	99	98

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4	80-115
TOL = Toluene-d8	80-115
BFB = 4-Bromofluorobenzene	85-120
DCZ = 1,2-Dichlorobenzene-d4	80-115

85-120
80-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec	DCZ %Rec
200-1713-23	BMW-0143-092010	98	97	101	99
200-1713-24	AMW-0149-092010	99	96	99	96
200-1713-25	BMW-0148-092010	97	97	101	99
200-1713-26	BMW-2148-092010	98	97	101	99
200-1713-27	AMW-0145-092010	98	96	101	99
200-1713-28	EMW-0145-092010	99	99	101	100
200-1713-29	AMW-0144-092010	103	99	103	103
200-1713-30	EMW-0144-092010	100	98	100	99
200-1713-31	EMW-2144-092010	97	97	99	99
200-1713-32 DL	AMW-0141-092010 DL	99D	97D	102D	100D
200-1713-32	AMW-0141-092010	94	96	98	98
200-1713-33 DL	BMW-0141-092010 DL	100D	98D	103D	102D
200-1713-33	BMW-0141-092010	100	98	102	101
200-1713-34 DL	EMW-0141-092010 DL	101D	98D	102D	101D
200-1713-34	EMW-0141-092010	96	97	99	99
200-1713-35	AMW-0147-092010	96	98	103	100
200-1713-36	BMW-0147-092010	97	98	101	99
200-1713-37	DMW-0147-092010	99	100	104	102
200-1713-38	AMW-0146-092010	99	98	102	100
200-1713-39	BMW-0146-092010	99	99	101	99
200-1713-40 DL	AMW-0142-092010 DL	98D	98D	103D	101D
200-1713-40	AMW-0142-092010	100	98	101	101
200-1713-41 DL	BMW-0142-092010 DL	100D	98D	102D	100D
200-1713-41	BMW-0142-092010	95	95	98	97
200-1713-42	EMW-089-092010	102	102	105	103
200-1713-43	TRB-2158-092010	101	102	104	101
MB 200-7246/15		107	107	113	111

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4	80-115
TOL = Toluene-d8	80-115
BFB = 4-Bromofluorobenzene	85-120
DCZ = 1,2-Dichlorobenzene-d4	80-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8260B_Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec	DCZ %Rec
MB 200-7295/5		101	100	103	99
MB 200-7296/5		99	99	102	100
MB 200-7454/5		97	99	101	98
LCS 200-7295/3		97	99	99	99
LCS 200-7296/3		96	99	98	100
LCS 200-7454/3		98	99	97	98
200-1713-14 MS	EMW-0155-092010 MS	97	97	96	98
200-1713-42 MS	EMW-089-092010 MS	107	100	101	101
200-1713-14 MSD	EMW-0155-092010 MSD	98	100	99	99
200-1713-42 MSD	EMW-089-092010 MSD	99	102	101	101

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4	80-115
TOL = Toluene-d8	80-115
BFB = 4-Bromofluorobenzene	85-120
DCZ = 1,2-Dichlorobenzene-d4	80-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8330B Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

C1

Lab Sample ID	Client Sample ID	12DNB1 %Rec	12DNB2 %Rec
200-1713-1	BMW-0158-092010	102	
200-1713-1	BMW-0158-092010		107
200-1713-2	AMW-0158-092010	109	
200-1713-2	AMW-0158-092010		113
200-1713-3	DMW-0158-092010	146X p	
200-1713-3	DMW-0158-092010		467X p
200-1713-4	AMW-0157-092010	107	
200-1713-4	AMW-0157-092010		114
200-1713-5	BMW-0157-092010	112	
200-1713-5	BMW-0157-092010		119X
200-1713-6	AMW-0156-092010	107	
200-1713-6	AMW-0156-092010		111
200-1713-7	BMW-0156-092010	101	
200-1713-7	BMW-0156-092010		114
200-1713-8	BMW-2156-092010	114	
200-1713-8	BMW-2156-092010		128X
200-1713-9	AMW-0154-092010	110	
200-1713-9	AMW-0154-092010		121X
200-1713-10	BMW-0154-092010	105	
200-1713-10	BMW-0154-092010		111
200-1713-11	AMW-0153-092010	96p	
200-1713-11	AMW-0153-092010		304X p
200-1713-12	BMW-0153-092010	100p	
200-1713-12	BMW-0153-092010		222X p
200-1713-13	AMW-0155-092010	102p	
200-1713-13	AMW-0155-092010		299X p
200-1713-14	EMW-0155-092010	104p	
200-1713-14	EMW-0155-092010		250X p
200-1713-15	AMW-0159-092010	100	

J test.

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8330B Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DNB1 %Rec	12DNB2 %Rec
200-1713-15	AMW-0159-092010		114
200-1713-16	BMW-0159-092010	101	
200-1713-17	BMW-0152-092010	102	
200-1713-17	BMW-0152-092010		112
200-1713-18	AMW-0150-092010	102	
200-1713-18	AMW-0150-092010		107
200-1713-19	BMW-0150-092010	104	
200-1713-19	BMW-0150-092010		111
200-1713-20	AMW-0151-092010	106	
200-1713-20	AMW-0151-092010		125X
200-1713-21	BMW-0151-092010	98	
200-1713-22	BMW-2151-092010	90	
200-1713-23	BMW-0143-092010	101	
200-1713-23	BMW-0143-092010		105
200-1713-24	AMW-0149-092010	102	
200-1713-24	AMW-0149-092010		100
200-1713-25	BMW-0148-092010	107	
200-1713-25 DL	BMW-0148-092010 DL	106D	
200-1713-25	BMW-0148-092010		115
200-1713-25 DL	BMW-0148-092010 DL		117D X
200-1713-26	BMW-2148-092010	107	
200-1713-26 DL	BMW-2148-092010 DL	105D	
200-1713-26	BMW-2148-092010		113
200-1713-26 DL	BMW-2148-092010 DL		112D
200-1713-27	AMW-0145-092010	100	
200-1713-27 DL	AMW-0145-092010 DL	102D	
200-1713-27	AMW-0145-092010		115

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8330B Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DNB1 %Rec	12DNB2 %Rec
200-1713-27 DL	AMW-0145-092010 DL		114D
200-1713-28	EMW-0145-092010	101	
200-1713-28 DL	EMW-0145-092010 DL	97D	
200-1713-28	EMW-0145-092010		105
200-1713-28 DL	EMW-0145-092010 DL		107D
200-1713-29	AMW-0144-092010	105	
200-1713-29	AMW-0144-092010		123X
200-1713-30	EMW-0144-092010	105	
200-1713-30	EMW-0144-092010		121X
200-1713-31	EMW-2144-092010	108	
200-1713-31 DL	EMW-2144-092010 DL	110D	
200-1713-31	EMW-2144-092010		114
200-1713-31 DL	EMW-2144-092010 DL		113D
200-1713-32	AMW-0141-092010	99p	
200-1713-32	AMW-0141-092010		1984X p
200-1713-33	BMW-0141-092010	102p	
200-1713-33 DL	BMW-0141-092010 DL	105D p	
200-1713-33	BMW-0141-092010		2432X p
200-1713-33 DL	BMW-0141-092010 DL		2956X D p
200-1713-34	EMW-0141-092010	107p	
200-1713-34	EMW-0141-092010		2627X p
200-1713-35	AMW-0147-092010	102	
200-1713-36	BMW-0147-092010	100	
200-1713-37	DMW-0147-092010	96	
200-1713-37	DMW-0147-092010		108

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8330B_Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DNB1 %Rec	12DNB2 %Rec
200-1713-38	AMW-0146-092010	99	
200-1713-38	AMW-0146-092010		111
200-1713-39	BMW-0146-092010	100	
200-1713-40	AMW-0142-092010	100p	
200-1713-40	AMW-0142-092010		391X p
200-1713-41	BMW-0142-092010	102p	
200-1713-41	BMW-0142-092010		576X p
200-1713-42	EMW-089-092010	101p	
200-1713-42	EMW-089-092010		165X p
MB 200-7046/1-A		104	
MB 200-7046/1-A			106
MB 200-7074/1-A		101	
MB 200-7074/1-A			105
MB 200-7076/1-A		97	
MB 200-7076/1-A			102
LCS 200-7046/2-A		106	
LCS 200-7046/2-A			106
LCS 200-7074/2-A		110	
LCS 200-7074/2-A			113
LCS 200-7076/2-A		102	
LCS 200-7076/2-A			103
200-1713-14 MS	EMW-0155-092010 MS	108p	
200-1713-14 MS	EMW-0155-092010 MS		308X p
200-1713-42 MS	EMW-089-092010 MS	104p	
200-1713-42 MS	EMW-089-092010 MS		157X p
200-1713-14 MSD	EMW-0155-092010 MSD	102p	
200-1713-14 MSD	EMW-0155-092010 MSD		230X p

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

Client: Environmental Chemical Corp.

Job Number: 200-1713-1
Sdg Number: 1713

Surrogate Recovery Report

8330B Nitroaromatics and Nitramines (HPLC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DNB1 %Rec	12DNB2 %Rec
200-1713-42 MSD	EMW-089-092010 MSD	104	
200-1713-42 MSD	EMW-089-092010 MSD		152X

Surrogate	Acceptance Limits
12DNB = 1,2-Dinitrobenzene	70-115

Appendix B

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