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14. ABSTRACT

This document presents a summary of the facility-wide quarterly groundwater monitoring conducted during the October 2009 through July 2010 time frame. Included in the report are:

- Summary of the groundwater elevations and water level measurements taken for each of the wells sampled.
- Results of well inspections conducted in January 2010.
- Summary of well repair activities in 2010.
- Analytical summary tables.
- Discussion of analytes detected above the identified clean levels.

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FINAL
FACILITY-WIDE GROUNDWATER MONITORING PROGRAM

ANNUAL REPORT FOR 2010

RAVENNA ARMY AMMUNITION PLANT,
RAVENNA, OHIO

MARC Contract Number W912QR-04-D-0036
Delivery Order No. 0006

Prepared for:

U.S. Army Corps of Engineers
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FWGWMP Annual Report (Final) 2010 Distribution List

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EQM	1	1

Ohio EPA – Ohio EPA Twinsburg Office
OHARNG – Camp Ravenna/ENV – Ohio Army National Guard Site/Environmental
RVAAP – Ravenna Army Ammunition Plant
USACE – U.S. Army Corps of Engineers
USAEC – U.S. Army Environmental Center
NGB – National Guard Bureau
EQM – Environmental Quality Management, Inc.

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LIST OF GENERAL ACRONYMS

AGS	Above Ground Surface
amsl	Above Mean Sea Level
AOC	Area of Concern
BGS	Below Ground Surface
BTOC	Bottom of Casing
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DOD	Department of Defense
EPA	Environmental Protection Agency
EQM	Environmental Quality Management, Inc.
ºF	Degrees Fahrenheit
FWGWMP	Facility-wide Groundwater Monitoring Program
FWSAP	Facility-wide Sampling and Analysis Plan
GOCO	Government Owned, Contractor Operated
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LCG	Louisville Chemistry Guidelines
IDW	Investigation Derived Waste
µg/L	microgram per Liter
MARC	Multiple Award Remediation Contract
MCL	Maximum Contaminant Level
mw	Monitoring Well
NOAA	National Oceanographic and Atmospheric Administration
OHARNG	Ohio Army National Guard
PCB	Polychlorinated Biphenyl
PQLs	Practical Quantitation Limits
PRGs	Preliminary Remediation Goals
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RIs	Remedial Investigations
RLs	Reporting Limits
RTLS	Ravenna Training and Logistics Site
RVAAP	Ravenna Army Ammunition Plant
SCF	Sharon Conglomerate Formation
SVOC	Semi-volatile Organic Compound
TA	TestAmerica
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USP&FO	United States Property and Fiscal Officer
VOC	Volatile organic compound

LIST OF AREA OF CONCERN ACRONYMS

B12	Building 1200
BKG	Background
CBL	C-Block
CBP	Central Burn Pits
CP	Cobbs Pond
DA2	Demolition Area #2
EBG	Erie Burning Grounds
FBQ	Fuze and Booster Quarry
LNW	Landfill North of Winklepeck
LL	Load Line
MBS	Mustard Burial Site
NACA	National Advisory Committee for Aeronautics
NTA	NACA Test Area
RQL	Ramsdell Quarry Landfill
WBG	Winklepeck Burning Grounds

SECTION 1

INTRODUCTION

1.1 Facility Description

Past Department of Defense (DOD) activities at the Ravenna Army Ammunition Plant (RVAAP) date to 1940 and include the manufacturing, loading, handling and storage of military explosives and ammunition. Until 1999, the RVAAP was identified as a 21,419-acre installation. The property boundary was resurveyed by the Ohio Army National Guard (OHARNG) over a two year period from 2002 and 2003 and the actual total acreage of the property was found to be 21,683.289 acres. As of February 2006, a total of 20,403 acres of the former 21,683 acre RVAAP have been transferred to the United States Property and Fiscal Officer (USP&FO) for Ohio for use by the OHARNG as a military training site. The current RVAAP consists of 1,280 acres in several distinct parcels scattered throughout the confines of the OHARNG Camp Ravenna Joint Military Training Center (Camp Ravenna). The RVAAP and Camp Ravenna are collocated on contiguous parcels of property and Camp Ravenna perimeter fence completely encloses the remaining parcels of the RVAAP. Camp Ravenna is in northeastern Ohio within Portage and Trumbull Counties, approximately 4.8 kilometers (3 miles) east-northeast of the city of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the city of Newton Falls (Figure 1-1). The RVAAP portions of the property are solely located within Portage County. Camp Ravenna (inclusive of the RVAAP) is a parcel of property approximately 17.7 kilometers (11 miles) long and 5.6 kilometers (3.5 miles) wide bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east (see Figures 1-1 and 1-2). Camp Ravenna is surrounded by several communities: Windham on the north; Garrettsville 9.6 kilometers (6 miles) to the northwest; Newton Falls 1.6 kilometers (1 mile) to the southeast; Charlestown to the southwest; and Wayland 4.8 kilometers (3 miles) to the south. When the RVAAP was operational Camp Ravenna did not exist and the entire 21,683-acre parcel was a government-owned, contractor-operated (GOCO) industrial facility. The RVAAP Installation Restoration Program (IRP) encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP and therefore references to the RVAAP in this document are considered to be inclusive of the historical extent of the RVAAP, which is inclusive of the combined acreages of the current Camp Ravenna and RVAAP, unless otherwise specifically stated.

1.2 Project Description

In 2004 the U.S. Army and the Ohio EPA finalized the Facility-Wide Groundwater Monitoring Program (FWGWMP) Plan which details the requirements of the program. The FWGWMP was initiated in 2005 with three consecutive quarters of FWGWMP well sampling. Quarterly sampling has continued through the current monitoring event (October 2010).

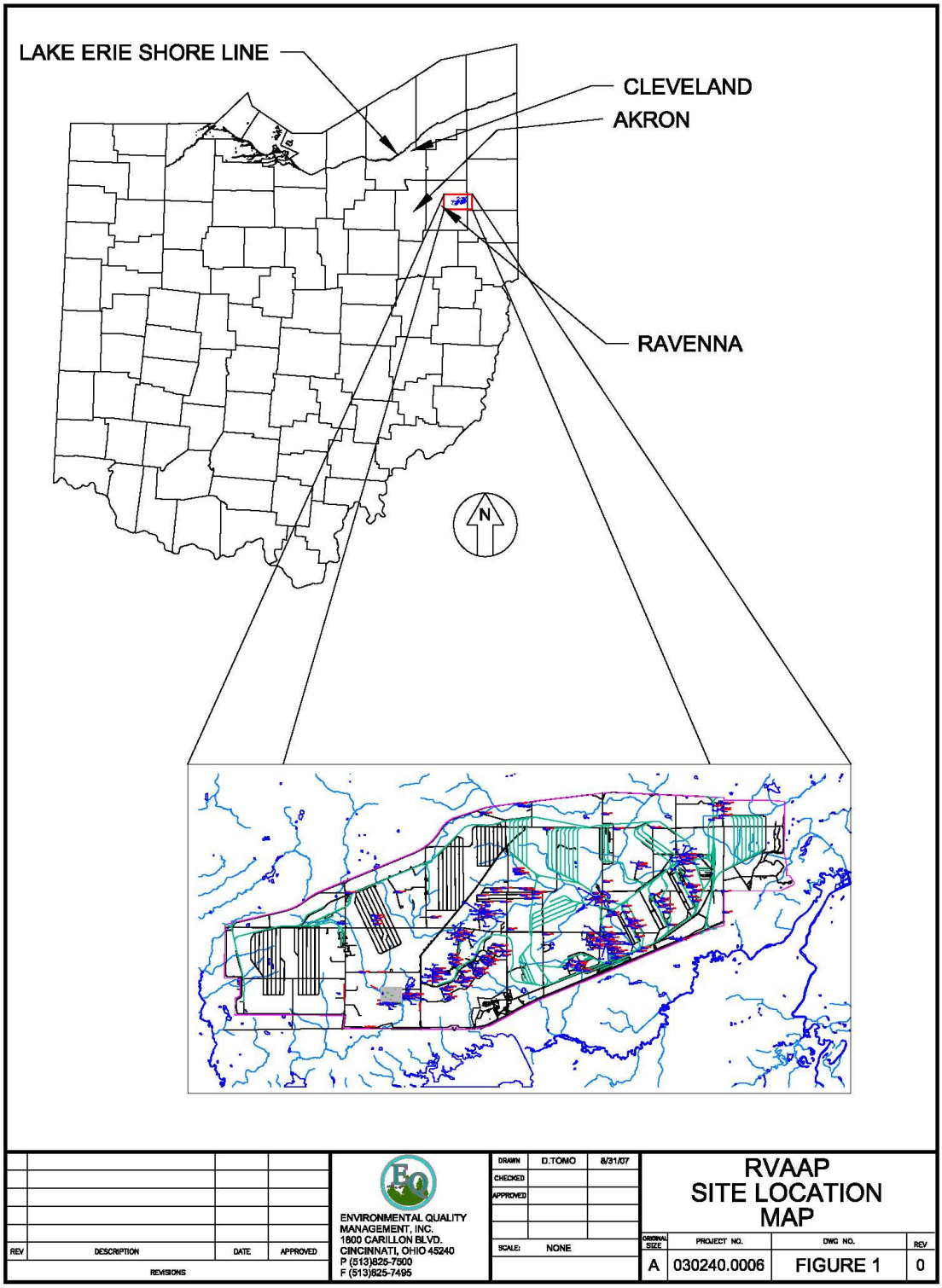
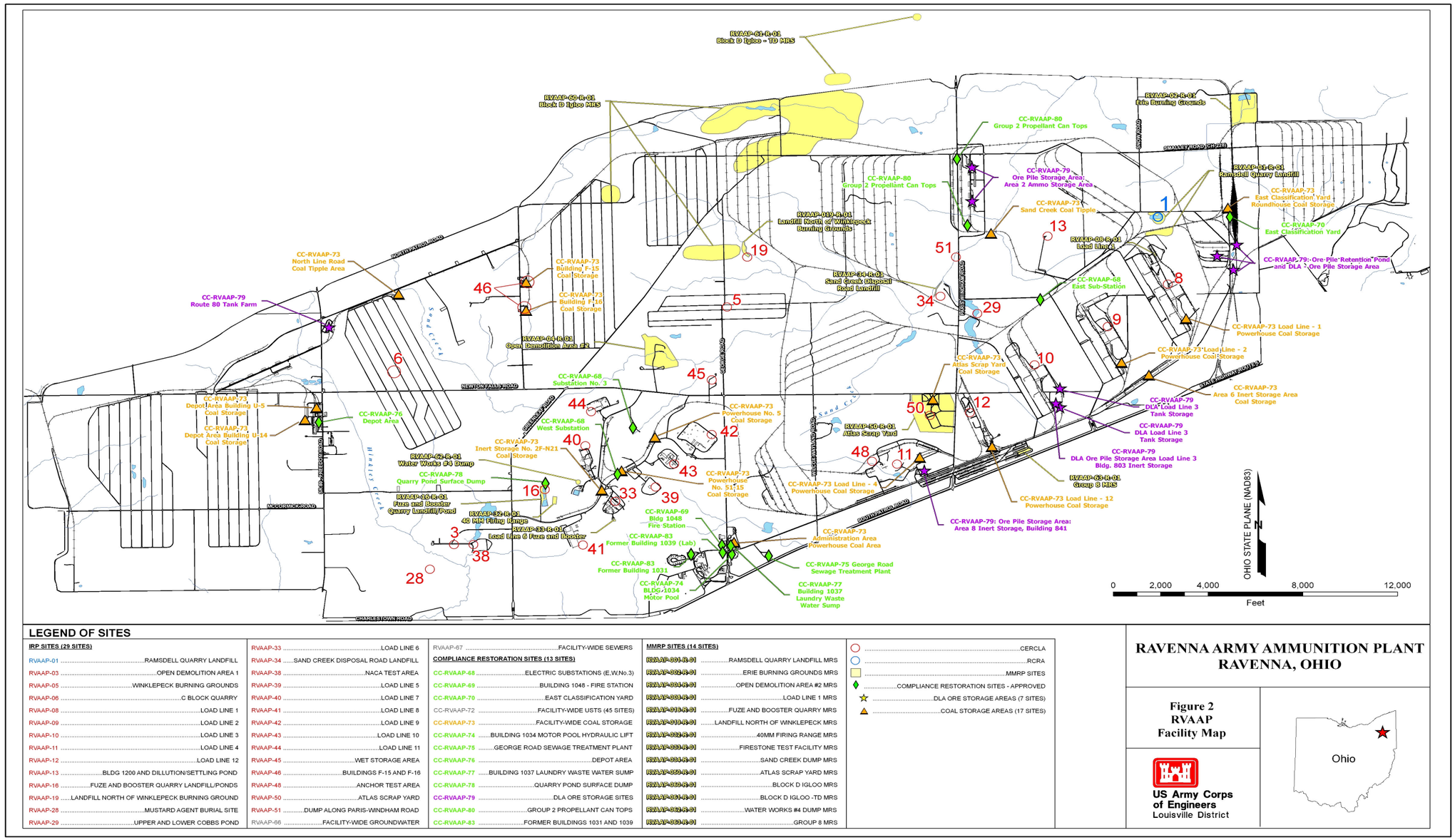


Figure 1-1. General Location Map



LEGEND OF SITES

IRP SITES (29 SITES)

- RVAAP-01 ..... RAMSDELL QUARRY LANDFILL
- RVAAP-03 ..... OPEN DEMOLITION AREA 1
- RVAAP-05 ..... WINKLEPECK BURNING GROUNDS
- RVAAP-06 ..... C BLOCK QUARRY
- RVAAP-08 ..... LOAD LINE 1
- RVAAP-09 ..... LOAD LINE 2
- RVAAP-10 ..... LOAD LINE 3
- RVAAP-11 ..... LOAD LINE 4
- RVAAP-12 ..... LOAD LINE 12
- RVAAP-13 ..... BLDG 1200 AND DILLUTION/SETTLING POND
- RVAAP-16 ..... FUZE AND BOOSTER QUARRY LANDFILL/PONDS
- RVAAP-19 ..... LANDFILL NORTH OF WINKLEPECK BURNING GROUND
- RVAAP-28 ..... MUSTARD AGENT BURIAL SITE
- RVAAP-29 ..... UPPER AND LOWER COBBS POND
- RVAAP-33 ..... LOAD LINE 6
- RVAAP-34 ..... SAND CREEK DISPOSAL ROAD LANDFILL
- RVAAP-38 ..... NACA TEST AREA
- RVAAP-39 ..... LOAD LINE 5
- RVAAP-40 ..... LOAD LINE 7
- RVAAP-41 ..... LOAD LINE 8
- RVAAP-42 ..... LOAD LINE 9
- RVAAP-43 ..... LOAD LINE 10
- RVAAP-44 ..... LOAD LINE 11
- RVAAP-45 ..... WET STORAGE AREA
- RVAAP-46 ..... BUILDINGS F-15 AND F-16
- RVAAP-48 ..... ANCHOR TEST AREA
- RVAAP-50 ..... ATLAS SCRAP YARD
- RVAAP-51 ..... DUMP ALONG PARIS-WINDHAM ROAD
- RVAAP-66 ..... FACILITY-WIDE GROUNDWATER
- RVAAP-67 ..... FACILITY-WIDE SEWERS

COMPLIANCE RESTORATION SITES (13 SITES)

- CC-RVAAP-68 ..... ELECTRIC SUBSTATIONS (E,W,No.3)
- CC-RVAAP-69 ..... BUILDING 1048 - FIRE STATION
- CC-RVAAP-70 ..... EAST CLASSIFICATION YARD
- CC-RVAAP-72 ..... FACILITY-WIDE USTS (45 SITES)
- CC-RVAAP-73 ..... FACILITY-WIDE COAL STORAGE
- CC-RVAAP-74 ..... BUILDING 1034 MOTOR POOL HYDRAULIC LIFT
- CC-RVAAP-75 ..... GEORGE ROAD SEWAGE TREATMENT PLANT
- CC-RVAAP-76 ..... DEPOT AREA
- CC-RVAAP-77 ..... BUILDING 1037 LAUNDRY WASTE WATER SUMP
- CC-RVAAP-78 ..... QUARRY POND SURFACE DUMP
- CC-RVAAP-79 ..... DLA ORE STORAGE SITES
- CC-RVAAP-80 ..... GROUP 2 PROPELLANT CAN TOPS
- CC-RVAAP-83 ..... FORMER BUILDINGS 1031 AND 1039

MMRP SITES (14 SITES)

- RVAAP-001-R-01 ..... RAMSDELL QUARRY LANDFILL MRS
- RVAAP-002-R-01 ..... ERIE BURNING GROUNDS MRS
- RVAAP-004-R-01 ..... OPEN DEMOLITION AREA #2 MRS
- RVAAP-005-R-01 ..... LOAD LINE 1 MRS
- RVAAP-010-R-01 ..... FUZE AND BOOSTER QUARRY MRS
- RVAAP-013-R-01 ..... LANDFILL NORTH OF WINKLEPECK MRS
- RVAAP-032-R-01 ..... 40MM FIRING RANGE MRS
- RVAAP-033-R-01 ..... FIRESTONE TEST FACILITY MRS
- RVAAP-034-R-01 ..... SAND CREEK DUMP MRS
- RVAAP-050-R-01 ..... ATLAS SCRAP YARD MRS
- RVAAP-060-R-01 ..... BLOCK D IGLOO MRS
- RVAAP-061-R-01 ..... BLOCK D IGLOO -TD MRS
- RVAAP-062-R-01 ..... WATER WORKS #4 DUMP MRS
- RVAAP-063-R-01 ..... GROUP 8 MRS

- ..... CERCLA
- ..... RCRA
- ..... MMRP SITES
- ..... COMPLIANCE RESTORATION SITES - APPROVED
- ..... DLA ORE STORAGE AREAS (7 SITES)
- ..... COAL STORAGE AREAS (17 SITES)

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

Figure 2
RVAAP
Facility Map

US Army Corps of Engineers
Louisville District

Ohio

Figure 1-2. RVAAP Facility Map

The initial FWGWMP wells identified for monitoring were sampled once every quarter, with the exception of the 5 Resource Conservation and Recovery Act (RCRA) wells that include Ramsdell Quarry Landfill (RQL) wells RQLmw-007, -008, and -009, and two Demolition (DA) Area 2 wells, DA2mw-DETmw-003 and DETmw-004. The RQL and DA2 wells are sampled twice a year.

Details of the program design and requirements are contained in the *RVAAP Facility-Wide Groundwater Monitoring Program Plan,* Portage Environmental, September 2004. This document contains the Facility-Wide Sampling and Analysis Plan (FWSAP), Site Safety and Health Plan, and Quality Assurance Project Plan addenda that pertain to the proposed work. Additional details pertaining to performance of field and laboratory activities are contained in the *RVAAP Facility-Wide Sampling and Analysis Plan/Quality Assurance Project Plan (FWSAP)*, SAIC, March 2001. As detailed in the FWGWMPP, the initial monitoring program consisted of the sampling of 36 wells specified in Table 4-1 of the FWGWMPP. Fourteen of these wells were "Background Wells"; the remainder were wells situated at various Areas of Concern (AOCs) at RVAAP. The first sampling event for this project was conducted in April 2005. The final assessment monitoring event for the initial well sampling and analysis was completed in October 2007. The current monitoring schedule and list of wells is presented in Section 1.5.

1.2.1 Annual Report

By agreement with the U.S. Army and the Ohio EPA and in accordance with Amendment No. 1 to the FWGWMP Plan, the Annual Report for 2010 summarizes the October 2009, as well as the January and July, 2010 sampling events. Note that the April 2010 event was not conducted. Per agreement between the Army and the Ohio EPA the April event was suspended while the new sampling and analysis schedule for 2010-2011 was finalized. Correspondence documenting this agreement, as well as the well sampling schedule, are presented in Appendix A.

Amendment No. 1 changed the annual reporting period from 1 January – 31 December to 1 October – 30 September. The change to the program was made so that the Annual Report for 2006 would include monitoring activities performed in the 4th quarter of 2005, and the 1st, 2nd, and 3rd quarters of 2006. Subsequent annual monitoring periods would also follow this pattern, such as the 2007 annual report, which covers the fourth quarter of 2006 and the first, second, and third quarters of 2007. This change was made because it was discovered that requiring the 4th quarter data to be included in the current years' Annual Report did not allow sufficient time to collect samples, analyze samples, verify and validate data, assess results and still make the December deadline (Milestone date) for including these results in the Annual Report.

The results of the sampling events covered under this Annual Report are presented in the following documents:

- *Facility- Wide Groundwater Monitoring Program, Report on the October 2009 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio* dated April 19, 2010.

- *Facility- Wide Groundwater Monitoring Program, Report on the January 2010 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio* dated July 6, 2010.

- *Facility- Wide Groundwater Monitoring Program, Report on the July 2010 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio* dated October 25, 2010.

The results for the October 2010 sampling event will be submitted in a separate document and will be summarized in the Annual Report for 2011.

1.3 Summary of the Scope of Work for 2009-10

Environmental Quality Management, Inc. (EQM) was contracted (MARC Contract Number W912QR-04-D-0036) by the U.S. Army Corps of Engineers, Louisville District (USACE) to conduct the 2007 FWGWMP monitoring program beginning in April 2007. The objective of this project is to continue quarterly monitoring under the RVAAP Facility-wide Groundwater Monitoring Program. The following tasks were performed in accordance with specifications contained in the FWGWMP Plan, the FWSAP, and the Scope of Work written by the USACE:

- Performed groundwater sampling of select wells for three quarters. The wells sampled are identified in Section 1.5.1 of this report. The wells were sampled by EQM. The RCRA wells at Ramsdell Quarry (RQLmw-007, RQLmw-008, and RQLmw-009), and Demolition Area 2 wells (DET-3 and DET-4) were also sampled during this timeframe.

- Water-level measurements from the 237 RVAAP monitoring wells were measured immediately prior to the January 2010 sampling event which were used to generate updated potentiometric maps. The next scheduled water level measurement event for all wells is October 2010 which will be reported in the 2011 Annual Report.

- Performed laboratory analyses and data validation for the collected samples.

- Reduced quarterly data and preparation of individual sampling event reports.

- Prepared the requisite Investigation Derived Waste (IDW) characterization, and disposal report.

- Prepared the 2010 Annual Report, including the overall program review requirement.

- Performed maintenance on selected groundwater monitoring wells.

1.4 Annual Report Requirements and Report Presentation

This report presents the FWGWMP 2010 Annual Report. The report is structured in the following way:

- Section 1 – Introduction
- Section 2 – Summary of Monitoring Wells Installed or Abandoned in 2010
- Section 3 – Summary of Annual FWGWMP Events
- Section 4 – Summary and Assessment of Annual FWGWMP Analytical Results
- Section 5 – FWGWMP Annual Recommendations/Review
- Section 6 – References

The appendices contain the following items:

- Appendix A – Correspondence Documenting the Change in Wells to be Sampled
- Appendix B – List of Wells Sampled
- Appendix C – Water Level Measurement Field Sheets
- Appendix D – Well Inspection Sheets
- Appendix E – Time-Trend Graphs
- Appendix F – Maps of FWGWMP Study Areas
- Appendix G - Reporting Limits that Currently Do Not Meet the RVAAP QAPP Practical Quantitation Limits (PQLs) and/or Region 9 Preliminary Remediation Goals (PRGs)
- Appendix H Correspondence & Comment/Response Table

The following lists the information required for the annual report as detailed in Section 5.2 of the FWGWMP Plan, as well as where this information is presented in this report:

- An evaluation of the current groundwater flow direction(s) based on water-level elevation data collected in January 2010 is discussed in Section 3.1.

- An evaluation of the trends of contamination detected in groundwater, as well as an assessment of the effectiveness of any groundwater remediation activities is presented in Section 4.0.

- The plots of concentration trends are presented in Appendix E, and are discussed in Section 4.0

- The facility map is presented in Section 1.0. The monitoring well network map and groundwater flow maps are presented in Plates 1, 2, 3, and 4. Additional FWGWMP monitoring well locations are shown in Appendix F.

- The results of the monitoring well inspections are presented in Appendix D and summarized in Section 3.2.

- FWGWMP annual recommendations and review are presented in Section 5.0.

1.5 Changes to the FWGWMP in 2010

The following changes were made to the FWGWMP during sampling and analysis for the 2010 reporting period.

1.5.1 Changes to Wells Being Monitored

On October 22, 2007 the United State Army Corps of Engineers (USACE) submitted to the Ohio Environmental Protection Agency (EPA) the *Draft Proposal to Update the Facility-Wide Ground Water Monitoring Program* (USACE October 2007) at the Ravenna Army Ammunition Plant. This proposal presented recommendations for modifications to the FWGWMP, the Director's Final Findings and Orders, and the Conceptual Plan in Appendix F of the Findings and Orders as presented below.

Section 3.1.2.2 of the FWGWMP Plan establishes a protocol for adding and removing wells from the FWGWMP: "Future wells installed as part of individual AOC investigations conducted under the ongoing Comprehensive Environmental Response Compensation and Liability Act (CERCLA) process at RVAAP will be evaluated for incorporation into the FWGWMP upon completion of at least four quarterly groundwater sampling events to be conducted as part of the Remedial Investigation (RI) phase at each AOC. The frequency of the initial sampling events may be other than quarterly if agreed upon by the Army and Ohio EPA". Based on this protocol the USACE notified the Ohio EPA on December 12, 2007 that the wells to be sampled would be changed effective with the January 2008 monitoring event. The Ohio EPA provided concurrence with this change in an email dated January 8, 2008. The Ohio EPA was notified of an additional change on February 27, 2008 increasing the number of wells to be sampled for the April 2008 event. The Ohio EPA was notified on March 21, 2008 that the number of FWGWMP wells to be sampled in April 2008 (and the July 2008, October 2008, and January 2009 events) would be increased to 132 plus the 5 RCRA wells sampled semi-annually (in order to complete 4 quarters of sampling for each of the 132 wells).

Beginning with the April 2009 sampling event the remaining wells on the list contained in the *Draft Proposal to Update the Facility-Wide Ground Water Monitoring Program* (USACE October 2007) were sampled. This sampling was completed with the January 2010 monitoring event.

A revised list of wells to be sampled during 2010-2011 was submitted to the Ohio EPA in early 2010. The lists of wells to be sampled, as well as scheduling issues were discussed with the Ohio EPA in a telephone conference verified in a subsequent email on 26 May

2010. A copy of the email and the well sampling schedule for 2010-2011 is presented in Appendix A.

The lists of FWGWMP wells monitored for each of the three quarters (October 2009, January 2010, and July 2010) are presented in Appendix B.

No other changes to the FWGWMP were implemented during the 2009-10 reporting period.

1.6 Changes to the FWGWMP for 2011

The existing well monitoring schedule as presented in Appendix A will be followed going into 2011 through the April 2011 monitoring event. A meeting between the USACE and RVAAP stakeholders was held on December 1-2, 2010 to present a revised groundwater monitoring well schedule for future groundwater monitoring at the facility. The proposed monitoring program includes a discussion of schedule, frequency, wells to be sampled, and constituents to be monitored. The proposed groundwater monitoring well schedule is currently subject to Ohio EPA review and approval.

SECTION 2

SUMMARY OF WELLS INSTALLED OR ABANDONED IN 2010

No FWGWMP wells were installed or abandoned during the 2010 reporting period

SECTION 3

SUMMARY OF 2009-10 FWGWMP EVENTS

3.1 Groundwater Elevation Monitoring

Groundwater elevations were measured at all 237 RVAAP monitoring wells between January 18 and 20, 2010. The locations of monitoring wells at RVAAP are shown on Plate 1. The water level measurement field sheets are presented in Appendix C. Additionally, groundwater elevation measurements are also collected each time a groundwater sample is collected as part of the FWGWMP, although those measurements from the quarterly sampling events are not used to produce the potentiomentric maps.

Water-level measurements were measured in accordance with procedures in Section 4.3.3.1 of the RVAAP Facility-Wide Sampling and Analysis Plan (SAIC, 2001). Water-level measurements were made from the top of the inner casing to the top of the groundwater surface using an electronic measuring tape. The depth to the bottom of the well from the top of the inner casing also was measured with the electronic measuring tape. Depth-to-water and groundwater elevations for the RVAAP wells are presented in Table 3-1. Well construction details and depth to well bottom are presented in Table 3-2. Note that on Table 3-2 the well at LL1mw-085 indicates that there was a possible obstruction in the well resulting in a well depth measurement of 40.06 feet as compared to the reported bottom depth of 44.70 feet. Subsequent to the well measurement it was determined that there was a bailer in the well. The well depth was re-measured during 2010 and determined to be 45.19 feet.

Each monitoring well was inspected at the time of water-level measurement and the results are discussed in Section 3.2. The monitoring well inspection sheets are presented in Appendix D**.**

The potentiometric maps created from groundwater measurements from all RVAAP monitoring wells in January 2010 are presented on Plates 2, 3, and 4. The potentiometric maps were generated from the January 2010 water level measurements taken from all 237 facility wells and the six deep Sharon Conglomerate wells. Additionally, the groundwater elevations from the new Sharon Conglomerate wells were evaluated and determined not to be representative of either the Homewood aquifer or the upper portion of the Sharon aquifer. These wells were installed with their screened intervals positioned at the basal portion of the Sharon Conglomerate sandstone. Therefore the groundwater elevations collected from these wells were used to determine the potentiometric contours for a separate map (Plate 4) as described below.

Plate 2 represents facility-wide groundwater flow in wells completed into the unconsolidated aquifer. The unconsolidated aquifer includes glacial till, glacial outwash, alluvium, and soil. Plate 2 illustrates that the potentiometric surface (i.e., water table) of the unconsolidated aquifer is a subdued expression of the surface topography of the RVAAP. Groundwater potentiometric elevation decreases approximately 207 ft from

Table 3-1. Depth to Water and Potentiometric Elevation (January 2010)

RVAAP Area	Well ID	Monitored Zone	TOC Elevation (ft, amsl)	January 2010 Depth to Water (ft, BTOC)	Potentiometric Elevation January 2010 (ft, amsl)
Background	BKGmw-004	Unconsolidated	967.66	14.70	952.96
	BKGmw-005	Unconsolidated	1151.94	11.52	1140.42
	BKGmw-006	Sharon	1028.88	24.43	1004.45
	BKGmw-008	Sharon	972.90	19.34	953.56
	BKGmw-010	Sharon	1006.18	15.55	990.63
	BKGmw-012	Sharon	1000.07	8.80	991.27
	BKGmw-013	Unconsolidated	989.09	12.64	976.45
	BKGmw-015	Sharon	1040.40	49.25	991.15
	BKGmw-016	Unconsolidated	1100.92	4.02	1096.90
	BKGmw-017	Unconsolidated	1135.30	16.56	1118.74
	BKGmw-018	Sharon	1045.56	21.62	1023.94
	BKGmw-019	Unconsolidated	1110.74	7.85	1102.89
	BKGmw-020	Unconsolidated	1067.50	20.14	1047.36
	BKGmw-021	Unconsolidated	974.66	17.38	957.28
Load Line 1	LL1mw-063	Sharon	994.84	30.06	964.78
	LL1mw-064	Unconsolidated	935.10	3.14	931.96
	LL1mw-065	Unconsolidated	944.41	13.26	931.15
	LL1mw-067	Sharon	980.36	22.35	958.01
	LL1mw-078	Sharon	995.84	35.83	960.01
	LL1mw-079	Sharon	997.87	36.19	961.68
	LL1mw-080	Sharon	996.27	12.71	983.56
	LL1mw-081	Sharon	998.92	33.66	965.26
	LL1mw-082	Sharon	1006.45	36.77	969.68
	LL1mw-083	Sharon	995.20	36.97	958.23
	LL1mw-084	Sharon	998.73	32.56	966.17
	LL1mw-085	Sharon	996.84	38.40	958.44
Load Line 2	LL2mw-059	Sharon	966.67	15.16	951.51
	LL2mw-060	Sharon	961.57	11.31	950.26
	LL2mw-261	Sharon	1011.40	7.04	1004.36
	LL2mw-262	Sharon	1012.62	9.63	1002.99
	LL2mw-263	Sharon	1011.47	8.52	1002.95
	LL2mw-264	Sharon	1011.88	6.81	1005.07
	LL2mw-265	Sharon	961.24	11.30	949.94
	LL2mw-266	Sharon	1016.28	12.44	1003.84
	LL2mw-267	Sharon	1014.81	9.59	1005.22
	LL2mw-268	Sharon	1017.28	14.70	1002.58
	LL2mw-269	Sharon	1011.62	16.89	994.73
	LL2mw-270	Sharon	1010.18	7.95	1002.23
Load Line 3	LL3mw-232	Sharon	1000.41	23.06	977.35
	LL3mw-233	Sharon	1004.36	27.77	976.59
	LL3mw-234	Sharon	1006.56	9.87	996.69
	LL3mw-235	Sharon	1009.94	20.05	989.89
	LL3mw-236	Sharon	1011.17	18.72	992.45
	LL3mw-237	Sharon	1005.57	17.09	988.48
	LL3mw-238	Sharon	1006.91	15.34	991.57
	LL3mw-239	Sharon	1003.50	26.61	976.89
	LL3mw-240	Sharon	1007.52	28.81	978.71
	LL3mw-241	Sharon	994.65	10.31	984.34
	LL3mw-242	Sharon	999.32	17.53	981.79
	LL3mw-243	Sharon	991.16	16.83	974.33

Table 3-1. Depth to Water and Potentiometric Elevation (January 2010)

RVAAP Area	Well ID	Monitored Zone	TOC Elevation (ft, amsl)	January 2010 Depth to Water (ft, BTOC)	Potentiometric Elevation January 2010 (ft, amsl)
Load Line 4	LL4mw-193	Unconsolidated	982.92	6.42	976.50
	LL4mw-194	Unconsolidated	983.76	8.22	975.54
	LL4mw-195	Unconsolidated	982.59	11.15	971.44
	LL4mw-196	Unconsolidated	984.55	13.57	970.98
	LL4mw-197	Unconsolidated	985.46	14.86	970.60
	LL4mw-198	Unconsolidated	983.42	9.82	973.60
	LL4mw-199	Unconsolidated	977.28	8.13	969.15
	LL4mw-200	Unconsolidated	987.93	18.81	969.12
Load Line 5	LL5mw-001	Homewood	1127.92	20.50	1107.42
	LL5mw-002	Homewood	1128.68	21.33	1107.35
	LL5mw-003	Unconsolidated	1127.70	20.32	1107.38
	LL5mw-004	Homewood	1125.81	18.33	1107.48
	LL5mw-005	Homewood	1129.42	22.03	1107.39
	LL5mw-006	Homewood	1128.00	20.61	1107.39
Load Line 6	LL6mw-001	Unconsolidated	1124.16	13.84	1110.32
	LL6mw-002	Unconsolidated	1129.36	21.25	1108.11
	LL6mw-003	Homewood	1125.38	16.89	1108.49
	LL6mw-004	Homewood	1125.39	17.48	1107.91
	LL6mw-005	Homewood	1120.47	12.25	1108.22
	LL6mw-006	Unconsolidated	1124.37	15.70	1108.67
	LL6mw-007	Homewood	1115.62	5.99	1109.63
Load Line 7	LL7mw-001	Homewood	1129.64	21.28	1108.36
	LL7mw-002	Homewood	1129.55	17.09	1112.46
	LL7mw-003	Homewood	1120.84	12.01	1108.83
	LL7mw-004	Homewood	1126.32	15.39	1110.93
	LL7mw-005	Homewood	1135.87	22.48	1113.39
	LL7mw-006	Homewood	1123.56	10.50	1113.06
Load Line 8	LL8mw-001	Unconsolidated	1121.46	11.99	1109.47
	LL8mw-002	Unconsolidated	1124.51	18.62	1105.89
	LL8mw-003	Unconsolidated	1119.05	13.09	1105.96
	LL8mw-004	Unconsolidated	1115.75	11.29	1104.46
	LL8mw-005	Homewood	1115.73	13.74	1101.99
	LL8mw-006	Homewood	1117.17	10.48	1106.69
Load Line 9	LL9mw-001	Homewood	1134.62	15.78	1118.84
	LL9mw-002	Homewood	1127.30	10.83	1116.47
	LL9mw-003	Homewood	1135.76	11.61	1124.15
	LL9mw-004	Homewood	1131.83	21.75	1110.08
	LL9mw-005	Homewood	1130.93	16.13	1114.80
	LL9mw-006	Homewood	1129.88	19.36	1110.52
	LL9mw-007	Homewood	1119.99	9.63	1110.36
Load Line 10	LL10mw-001	Homewood	1132.77	25.63	1107.14
	LL10mw-002	Homewood	1127.13	18.30	1108.83
	LL10mw-003	Homewood	1130.28	20.99	1109.29
	LL10mw-004	Homewood	1122.39	13.98	1108.41
	LL10mw-005	Homewood	1125.67	16.39	1109.28
	LL10mw-006	Unconsolidated	1123.83	12.78	1111.05

Table 3-1. Depth to Water and Potentiometric Elevation (January 2010)

RVAAP Area	Well ID	Monitored Zone	TOC Elevation (ft, amsl)	January 2010 Depth to Water (ft, BTOC)	Potentiometric Elevation January 2010 (ft, amsl)
Load Line 11	LL11mw-001	Unconsolidated	1100.16	8.43	1091.73
	L L11mw-002	Unconsolidated	1080.00	0.72	1079.28
	LL11mw-003	Unconsolidated	1088.48	0.08	1088.40
	LL11mw-004	Unconsolidated	1084.72	0.08	1084.64
	LL11mw-005	Unconsolidated	1079.40	6.78	1072.62
	LL11mw-006	Unconsolidated	1086.50	2.88	1083.62
	LL11mw-007	Unconsolidated	1082.00	13.60	1068.40
	LL11mw-008	Unconsolidated	1087.74	0.08	1087.66
	LL11mw-009	Unconsolidated	1091.54	2.10	1089.44
	LL11mw-010	Unconsolidated	1082.68	3.53	1079.15
Load Line 12	LL12mw-088	Unconsolidated	981.06	7.77	973.29
	LL12mw-107	Unconsolidated	980.15	10.51	969.64
	LL12mw-113	Sharon Shale	980.18	5.34	974.84
	LL12mw-128	Unconsolidated	978.24	11.89	966.35
	LL12mw-153	Unconsolidated	977.85	6.68	971.17
	LL12mw-154	Unconsolidated	979.06	9.66	969.40
	LL12mw-182	Unconsolidated	984.42	10.95	973.47
	LL12mw-183	Sharon Shale	982.98	13.52	969.46
	LL12mw-184	Unconsolidated	983.16	13.64	969.52
	LL12mw-185	Unconsolidated	981.31	8.99	972.32
	LL12mw-186	Sharon Shale	978.31	5.72	972.59
	LL12mw-187	Unconsolidated	979.94	10.41	969.53
	LL12mw-188	Unconsolidated	980.63	4.10	976.53
	LL12mw-189	Sharon Shale	978.04	3.25	974.79
	LL12mw-242	Unconsolidated	981.20	9.19	972.01
	LL12mw-243	Unconsolidated	980.79	10.03	970.76
	LL12mw-244	Unconsolidated	980.65	11.00	969.65
	LL12mw-245	Unconsolidated	980.04	8.88	971.16
	LL12mw-246	Unconsolidated	984.83	18.21	966.62
Atlas Scrap Yard	ASYmw-001	Sharon	981.13	13.14	967.99
	ASYmw-002	Sharon	985.24	16.97	968.27
	ASYmw-003	Sharon	982.21	14.18	968.03
	ASYmw-004	Sharon	979.66	10.46	969.20
	ASYmw-005	Sharon	979.80	8.51	971.29
	ASYmw-006	Sharon	983.01	15.29	967.72
	ASYmw-007	Unconsolidated	984.16	16.36	967.80
	ASYmw-008	Unconsolidated	978.85	5.22	973.63
	ASYmw-009	Sharon	982.70	13.86	968.84
	ASYmw-010	Unconsolidated	981.05	13.51	967.54
Building 1200	B12mw-010	Sharon	1005.92	18.59	987.33
	B12mw-011	Sharon	1006.70	22.34	984.36
	B12mw-012	Sharon	1006.32	23.55	982.77
C-Block Quarry	CBLmw-001	Homewood	1181.08	46.62	1134.46
	CBLmw-002	Homewood	1175.24	41.01	1134.23
	CBLmw-003	Homewood	1175.06	39.45	1135.61
	CBLmw-004	Homewood	1174.84	38.94	1135.90

Table 3-1. Depth to Water and Potentiometric Elevation (January 2010)

RVAAP Area	Well ID	Monitored Zone	TOC Elevation (ft, amsl)	January 2010 Depth to Water (ft, BTOC)	Potentiometric Elevation January 2010 (ft, amsl)
Central Burn Pits	CBPmw-001	Unconsolidated	975.84	14.03	961.81
	CBPmw-002	Unconsolidated	970.04	10.17	959.87
	CBPmw-003	Unconsolidated	974.67	12.74	961.93
	CBPmw-004	Unconsolidated	971.13	11.34	959.79
	CBPmw-005	Unconsolidated	971.59	12.53	959.06
	CBPmw-006	Unconsolidated	967.64	8.48	959.16
	CBPmw-007	Unconsolidated	976.37	16.45	959.92
	CBPmw-008	Unconsolidated	973.19	16.29	956.90
Cobbs Pond	CPmw-001	Unconsolidated	975.26	1.86	973.40
	CPmw-002	Unconsolidated	972.31	0.15	972.16
	CPmw-003	Unconsolidated	972.92	0.58	972.34
	CPmw-004	Unconsolidated	981.20	10.43	970.77
	CPmw-005	Unconsolidated	973.58	12.08	961.50
	CPmw-006	Unconsolidated	965.13	7.75	957.38
Demolition Area 2	DETmw-001B	Unconsolidated	1065.85	23.53	1042.32
	DETmw-002	Unconsolidated	1061.24	32.29	1028.95
	DETmw-003	Unconsolidated	1036.81	9.15	1027.66
	DETmw-004	Unconsolidated	1038.68	9.51	1029.17
	DA2mw-104	Unconsolidated	1073.89	22.23	1051.66
	DA2mw-105	Unconsolidated	1045.34	2.90	1042.44
	DA2mw-106	Unconsolidated	1043.79	7.75	1036.04
	DA2mw-107	Unconsolidated	1041.63	6.51	1035.12
	DA2mw-108	Unconsolidated	1032.36	5.78	1026.58
	DA2mw-109	Unconsolidated	1071.29	14.02	1057.27
	DA2mw-110	Unconsolidated	1063.78	7.61	1056.17
	DA2mw-111	Unconsolidated	1042.12	3.76	1038.36
	DA2mw-112	Unconsolidated	1037.44	6.55	1030.89
	DA2mw-113	Unconsolidated	1037.11	7.34	1029.77
Erie Burning Grounds	EBGmw-123	Unconsolidated	947.82	9.28	938.54
	EBGmw-124	Unconsolidated	941.39	2.90	938.49
	EBGmw-125	Unconsolidated	949.89	11.37	938.52
	EBGmw-126	Unconsolidated	940.61	1.91	938.70
	EBGmw-127	Unconsolidated	943.07	4.32	938.75
	EBGmw-128	Unconsolidated	945.13	6.21	938.92
	EBGmw-129	Unconsolidated	944.36	5.29	939.07
	EBGmw-130	Unconsolidated	944.00	5.93	938.07
Fuze and Booster Quarry	FBQmw-166	Unconsolidated	1108.86	5.57	1103.29
	FBQmw-167	Unconsolidated	1115.90	4.48	1111.42
	FBQmw-168	Homewood	1133.91	12.93	1120.98
	FBQmw-169	Homewood	1120.58	4.94	1115.64
	FBQmw-170	Homewood	1142.26	21.93	1120.33
	FBQmw-171	Homewood	1143.55	21.64	1121.91
	FBQmw-172	Homewood	1150.09	30.31	1119.78
	FBQmw-173	Homewood	1165.94	46.96	1118.98
	FBQmw-174	Homewood	1139.97	20.89	1119.08
	FBQmw-175	Homewood	1140.73	21.51	1119.22
	FBQmw-176	Unconsolidated	1131.91	10.45	1121.46
	FBQmw-177	Homewood	1128.57	13.88	1114.69

Table 3-1. Depth to Water and Potentiometric Elevation (January 2010)

RVAAP Area	Well ID	Monitored Zone	TOC Elevation (ft, amsl)	January 2010 Depth to Water (ft, BTOC)	Potentiometric Elevation January 2010 (ft, amsl)
Landfill North of Winklepeck	LNWmw-024	Unconsolidated	1038.00	12.50	1025.50
	LNWmw-025	Unconsolidated	1029.13	4.98	1024.15
	LNWmw-026	Unconsolidated	1027.80	3.73	1024.07
	LNWmw-027	Unconsolidated	1027.13	7.05	1020.08
NACA Test Area	NTAmw-107	Unconsolidated	1080.30	12.92	1067.38
	NTAmw-108	Unconsolidated	1085.62	18.06	1067.56
	NTAmw-109	Unconsolidated	1079.84	12.10	1067.74
	NTAmw-110	Unconsolidated	1082.62	14.39	1068.23
	NTAmw-111	Unconsolidated	1080.94	3.20	1077.74
	NTAmw-112	Unconsolidated	1078.33	9.08	1069.25
	NTAmw-113	Unconsolidated	1075.68	7.02	1068.66
	NTAmw-114	Unconsolidated	1078.71	6.11	1072.60
	NTAmw-115	Unconsolidated	1089.65	13.74	1075.91
	NTAmw-116	Unconsolidated	1094.33	4.23	1090.10
	NTAmw-117	Unconsolidated	1094.54	13.13	1081.41
	NTAmw-118	Unconsolidated	1081.44	8.79	1072.65
Ramsdell Quarry Landfill	RQLmw-006	Sharon	995.39	38.12	957.27
	RQLmw-007	Sharon	965.91	9.86	956.05
	RQLmw-008	Sharon	966.08	9.42	956.66
	RQLmw-009	Sharon	964.58	7.54	957.04
	RQLmw-010	Sharon	982.14	29.01	953.13
	RQLmw-011	Sharon	976.57	25.56	951.01
	RQLmw-012	Sharon	977.65	25.13	952.52
	RQLmw-013	Sharon	980.71	28.65	952.06
	RQLmw-014	Sharon	973.49	22.91	950.58
	RQLmw-015	Sharon	991.26	34.92	956.34
	RQLmw-016	Sharon	996.60	38.54	958.06
	RQLmw-017	Sharon	991.23	32.58	958.65
Winklepeck Burning Grounds	WBGmw-005	Unconsolidated	1054.70	5.42	1049.28
	WBGmw-006	Unconsolidated	1014.66	6.44	1008.22
	WBGmw-007	Unconsolidated	1000.59	17.83	982.76
	WBGmw-008	Unconsolidated	1008.21	14.37	993.84
	WBGmw-009	Unconsolidated	1047.53	13.20	1034.33
	WBGmw-010	Unconsolidated	1069.85	8.80	1061.05
	WBGmw-011	Unconsolidated	1072.38	11.40	1060.98
	WBGmw-012	Unconsolidated	1079.11	27.51	1051.60
	WBGmw-013	Unconsolidated	1071.70	12.91	1058.79
	WBGmw-014	Unconsolidated	996.78	16.40	980.38
	WBGmw-015	Unconsolidated	1011.60	11.10	1000.50
	WBGmw-016	Unconsolidated	997.03	17.70	979.33
	WBGmw-017	Unconsolidated	1006.62	8.16	998.46
Suspected Mustard Agent Burial Site	MBS-001	Unconsolidated	1082.20	17.51	1064.69
	MBS-002	Unconsolidated	1083.22	18.11	1065.11
	MBS-003	Unconsolidated	1084.45	18.71	1065.74
	MBS-004	Unconsolidated	1081.80	16.74	1065.06
	MBS-005	Unconsolidated	1082.42	17.75	1064.67
	MBS-006	Unconsolidated	1081.83	17.20	1064.63

TOC = top of casing
amsl = above mean sea level
BTOC = below top of casing

Table 3-2. Well Construction Details, Including January 2010 Depth to Bottom Measurements

RVAAP Area	Well ID	Ohio State Plane Easting	Ohio State Plane Northing	Ground Level Elevation[a]	Total Drilled Depth[b]	TOC Elevation[a]	Well Head Type[c]	Monitored Zone	Top of Screen (ft, BGS)	Bottom of Screen (ft, BGS)	Bottom of Inner Casing Plug or End Cap (ft, BGS)	Stickup height (ft, AGS)	Reported Bottom of Inner Casing (ft, BTOC)	Jan 2010 Measured Bottom of Inner Casing (ft, BTOC)	Sediment Accumulation (ft)	Description of Bottom
Background	BKGmw-004	2368852.97	569464.76	965.16	19.5	967.66	A	Unconsolidated	9.2	19.2	19.5	2.50	22.0	22.22	-0.22	Hard
	BKGmw-005	2340835.86	562288.45	1,149.44	19.0	1,151.94	A	Unconsolidated	8.2	18.2	18.5	2.50	21.0	20.88	0.12	Hard
	BKGmw-006	2358643.96	571910.47	1,026.38	35.1	1,028.88	A	Sharon	24.7	34.7	35.1	2.50	37.6	37.50	0.10	Hard
	BKGmw-008	2372741.08	569654.23	970.40	25.0	972.90	A	Sharon	14.7	24.7	25.0	2.50	27.5	27.35	0.15	Hard
	BKGmw-010	2371372.86	565540.54	1,003.80	22.0	1,006.18	A	Sharon	8.9	18.9	19.2	2.38	21.6	21.96	-0.36	Hard
	BKGmw-012	2367795.23	563918.86	997.57	59.8	1,000.07	A	Sharon	38.6	59.6	59.8	2.50	62.3	62.11	0.19	Soft
	BKGmw-013	2361627.39	558269.16	986.59	25.5	989.09	A	Unconsolidated	15.2	25.2	25.5	2.50	28.0	28.09	-0.09	Hard
	BKGmw-015	2361482.22	569339.87	1,037.90	51.0	1,040.40	A	Sharon	30.1	50.1	50.4	2.50	52.9	52.97	-0.07	Hard
	BKGmw-016	2342407.08	553983.50	1,098.42	19.0	1,100.92	A	Unconsolidated	8.4	18.5	18.6	2.50	21.1	21.14	-0.04	Hard
	BKGmw-017	2346115.35	562452.04	1,132.80	34.8	1,135.30	A	Unconsolidated	23.2	33.3	33.6	2.50	36.1	35.92	0.18	Hard
	BKGmw-018	2354993.91	570873.35	1,043.06	24.7	1,045.56	A	Sharon	14.5	24.5	24.7	2.50	27.2	27.53	-0.33	Hard
	BKGmw-019	2349882.14	559864.55	1,108.24	34.0	1,110.74	A	Unconsolidated	23.0	33.0	33.2	2.50	35.7	35.61	0.09	Hard
	BKGmw-020	2357856.24	558756.24	1,065.00	30.7	1,067.50	A	Unconsolidated	20.5	30.5	30.7	2.50	33.2	33.32	-0.12	Hard
	BKGmw-021	2367622.95	571016.75	972.16	19.0	974.66	A	Unconsolidated	7.7	17.8	18.1	2.50	20.6	21.43	-0.83	Hard
Load Line 1	LL1mw-063	2376841.36	563650.53	992.20	27.4	994.84	A	Sharon	17.1	27.1	27.4	2.64	30.0	30.19	-0.19	Hard
	LL1mw-064	2380286.97	563118.74	932.32	18.4	935.10	A	Unconsolidated	8.0	18.0	18.4	2.78	21.1	21.20	-0.10	Hard
	LL1mw-065	2380452.00	560916.92	941.53	20.5	944.41	A	Unconsolidated	10.2	20.2	20.5	2.88	23.4	23.20	0.20	Hard
	LL1mw-067	2376545.30	565201.14	977.55	22.8	980.36	A	Sharon	12.8	22.5	22.8	2.81	25.6	25.82	-0.22	Hard
	LL1mw-078	2376275.85	564623.87	993.40	38.7	995.84	A	Sharon	28.7	38.2	38.7	2.44	41.1	41.22	-0.12	Medium
	LL1mw-079	2376228.31	563739.63	995.30	29.5	997.87	A	Sharon	29.5	38.9	39.5	2.57	42.0	41.85	0.15	Hard
	LL1mw-080	2376845.07	562479.73	993.70	19.5	996.27	A	Sharon	9.5	19.0	19.5	2.57	22.0	22.47	-0.47	Hard
	LL1mw-081	2376672.66	563462.73	996.40	39.4	998.92	A	Sharon	29.4	38.9	39.4	2.52	41.9	42.10	-0.20	Hard
	LL1mw-082	2376977.38	562956.86	1,003.70	39.0	1,006.45	A	Sharon	28.9	38.5	39.0	2.75	41.8	41.67	0.13	Medium
	LL1mw-083	2377074.80	563612.75	992.80	39.3	995.20	A	Sharon	29.1	38.6	39.3	2.40	41.7	41.52	0.18	Hard
	LL1mw-084	2377316.02	563160.44	996.40	37.0	998.73	A	Sharon	26.7	36.3	37.0	2.33	39.3	39.18	0.12	Hard
	LL1mw-085	2377246.94	562046.25	994.30	42.1	996.84	A	Sharon	32.2	41.6	42.1	2.54	44.7	40.06	4.64	Obstruction?
Load Line 2	LL2mw-059	2375453.00	558020.00	964.33	19.5	966.67	A	Sharon	9.3	19.1	19.5	2.34	21.8	21.98	-0.18	Soft
	LL2mw-060	2375978.00	558022.00	958.93	18.3	961.57	A	Sharon	8.1	17.9	18.3	2.64	20.9	20.91	-0.01	Hard
	LL2mw-261	2373317.81	561898.25	1,009.55	22.5	1,011.40	A	Sharon	9.8	19.8	20.0	1.85	21.9	22.56	-0.66	Hard
	LL2mw-262	2373970.79	562219.87	1,011.12	21.2	1,012.62	A	Sharon	10.6	20.6	20.8	1.50	22.3	22.75	-0.45	Hard
	LL2mw-263	2374289.51	561591.19	1,009.42	22.2	1,011.47	A	Sharon	10.8	20.8	21.0	2.05	23.0	23.53	-0.53	Hard
	LL2mw-264	2374532.00	561173.60	1,010.10	20.5	1,011.88	A	Sharon	9.8	19.8	20.0	1.78	21.7	22.48	-0.78	Hard
	LL2mw-265	2375594.06	557972.91	959.47	22.5	961.24	A	Sharon	11.8	21.8	22.0	1.77	23.8	24.53	-0.73	Hard
	LL2mw-266	2373744.03	561981.86	1,014.09	20.5	1,016.28	A	Sharon	9.8	19.8	20.0	2.19	22.2	22.82	-0.62	Hard
	LL2mw-267	2373715.04	561393.22	1,012.81	20.5	1,014.81	A	Sharon	9.8	19.8	20.0	2.00	22.0	22.82	-0.82	Hard
	LL2mw-268	2374157.30	560831.04	1,015.47	28.8	1,017.28	A	Sharon	17.3	27.3	27.5	1.81	29.3	30.00	-0.70	Medium
	LL2mw-269	2374756.07	559484.12	1,009.49	28.0	1,011.62	A	Sharon	17.1	27.1	27.3	2.13	29.4	30.39	-0.99	Hard
	LL2mw-270	2372858.41	562655.93	1,009.93	20.5	1,010.18	A	Sharon	9.8	19.8	20.0	0.25	20.3	22.51	-2.21	Medium
Load Line 3	LL3mw-232	2369862.96	561365.91	998.59	37.8	1,000.41	A	Sharon	26.8	36.8	37.0	1.82	38.8	39.94	-1.14	Soft
	LL3mw-233	2369934.52	560750.41	1,002.47	31.1	1,004.36	A	Sharon	20.1	30.1	30.3	1.89	32.2	32.89	-0.69	Hard
	LL3mw-234	2370297.47	560058.89	1,004.47	20.5	1,006.56	A	Sharon	9.8	19.8	20.0	2.09	22.1	22.74	-0.64	Hard
	LL3mw-235	2370642.47	559812.63	1,008.05	21.2	1,009.94	A	Sharon	10.1	20.1	20.3	1.89	22.2	23.02	-0.82	Hard
	LL3mw-236	2371178.58	559866.75	1,008.94	25.5	1,011.17	A	Sharon	13.8	23.8	24.0	2.23	26.2	26.68	-0.48	Hard
	LL3mw-237	2371475.00	559328.09	1,003.57	23.9	1,005.57	A	Sharon	12.7	22.7	22.9	2.00	24.9	25.65	-0.75	Hard
	LL3mw-238	2370625.34	559569.06	1,004.75	20.7	1,006.91	A	Sharon	10.5	20.5	20.7	2.16	22.9	23.44	-0.54	Hard
	LL3mw-239	2370895.01	559101.39	1,001.70	35.7	1,003.50	A	Sharon	24.9	34.9	35.0	1.80	36.8	36.76	0.04	Soft
	LL3mw-240	2371309.57	558204.34	1,005.60	35.5	1,007.52	A	Sharon	24.4	34.4	34.6	1.92	36.5	36.78	-0.28	Soft
	LL3mw-241	2370332.80	559298.09	992.41	23.8	994.65	A	Sharon	12.7	22.7	22.9	2.24	25.1	25.67	-0.57	Hard
	LL3mw-242	2371993.30	557034.21	997.39	20.5	999.32	A	Sharon	9.8	19.8	20.0	1.93	21.9	22.61	-0.71	Hard
	LL3mw-243	2371532.61	556688.92	989.36	24.5	991.16	A	Sharon	13.8	23.8	24.0	1.80	25.8	26.42	-0.62	Hard

Table 3-2. Well Construction Details, Including January 2010 Depth to Bottom Measurements

RVAAP Area	Well ID	Ohio State Plane Easting	Ohio State Plane Northing	Ground Level Elevation[a]	Total Drilled Depth[b]	TOC Elevation[a]	Well Head Type[c]	Monitored Zone	Top of Screen (ft, BGS)	Bottom of Screen (ft, BGS)	Bottom of Inner Casing Plug or End Cap (ft, BGS)	Stickup height (ft, AGS)	Reported Bottom of Inner Casing (ft, BTOC)	Jan 2010 Measured Bottom of Inner Casing (ft, BTOC)	Sediment Accumulation (ft)	Description of Bottom
Load Line 4	LL4mw-193	2364237.44	554959.74	980.88	21.9	982.92	A	Unconsolidated	11.3	21.3	21.5	2.04	23.5	24.38	-0.88	Soft
	LL4mw-194	2364584.76	555088.18	981.87	22.0	983.76	A	Unconsolidated	11.3	21.3	21.5	1.89	23.4	23.61	-0.21	Medium
	LL4mw-195	2365198.84	555045.69	980.83	21.0	982.59	A	Unconsolidated	10.3	20.3	20.5	1.76	22.3	22.91	-0.61	Soft
	LL4mw-196	2365297.28	555212.59	982.56	20.0	984.55	A	Unconsolidated	9.2	19.2	19.4	1.99	21.4	21.89	-0.49	Hard
	LL4mw-197	2365385.95	555396.55	983.79	21.7	985.46	A	Unconsolidated	10.8	20.8	21.0	1.67	22.7	23.69	-0.99	Hard
	LL4mw-198	2364991.12	555440.99	981.61	22.0	983.42	A	Unconsolidated	10.3	20.3	20.5	1.81	22.3	22.06	0.24	Soft
	LL4mw-199	2365421.66	554621.06	975.20	22.0	977.28	A	Unconsolidated	10.3	20.3	20.5	2.08	22.6	23.27	-0.67	Medium
	LL4mw-200	2365904.12	554579.72	985.97	23.5	987.93	A	Unconsolidated	12.6	22.6	23.0	1.96	25.0	25.28	-0.28	Medium
Load Line 5	LL5mw-001	2354625.07	554319.25	1,125.00	24.0	1,127.92	A	Homewood	14.0	24.0	24.0	2.92	26.9	26.98	-0.08	Hard
	LL5mw-002	2354571.52	554604.01	1,125.80	25.0	1,128.68	A	Homewood	15.0	25.0	25.0	2.88	27.9	27.49	0.41	Hard
	LL5mw-003	2354964.47	554535.41	1,124.70	21.0	1,127.70	A	Unconsolidated	11.0	21.0	21.0	3.00	24.0	23.93	0.07	Hard
	LL5mw-004	2355006.44	554073.73	1,122.90	22.4	1,125.81	A	Homewood	12.0	22.0	22.0	2.91	24.9	25.27	-0.37	Medium
	LL5mw-005	2354422.02	554152.73	1,126.50	27.8	1,129.42	A	Homewood	17.0	27.0	27.0	2.92	29.9	29.65	0.25	Soft
	LL5mw-006	2354730.78	553984.82	1,125.10	24.5	1,128.00	A	Homewood	14.0	24.0	24.0	2.90	26.9	27.05	-0.15	Hard
Load Line 6	LL6mw-001	2353153.23	554214.84	NA	18.0	1,124.16	F	Unconsolidated	7.0	17.0	17.0	0.00	17.0	17.59	-0.59	Hard
	LL6mw-002	2353820.09	553589.88	NA	23.0	1,129.36	F	Unconsolidated	12.5	22.5	22.5	0.00	22.5	24.45	-1.95	Hard
	LL6mw-003	2353048.68	553544.34	NA	23.4	1,125.38	A	Homewood	12.5	22.5	22.5	3.35	25.9	25.64	0.26	Medium
	LL6mw-004	2353368.79	553431.82	NA	23.0	1,125.39	A	Homewood	12.5	22.5	22.5	2.58	25.1	24.50	0.60	Hard
	LL6mw-005	2353194.52	553170.76	NA	19.9	1,120.47	A	Homewood	9.5	19.5	19.5	2.96	22.5	22.14	0.36	Hard
	LL6mw-006	2352419.15	553165.28	NA	20.0	1,124.37	A	Unconsolidated	7.0	17.0	17.0	0.00	17.0	17.56	-0.56	Hard
	LL6mw-007	2353354.89	552677.17	NA	20.0	1,115.62	F	Homewood	9.5	19.5	19.5	0.00	19.5	19.33	0.17	Hard
Load Line 7	LL7mw-001	2352192.91	554925.77	1,126.90	30.0	1,129.64	A	Homewood	19.5	29.5	29.5	2.74	32.2	33.04	-0.84	Hard
	LL7mw-002	2351918.23	555126.55	1,126.70	26.5	1,129.55	A	Homewood	15.0	25.0	25.0	2.85	27.8	27.14	0.66	Hard
	LL7mw-003	2352351.04	555417.04	1,118.23	31.5	1,120.84	A	Homewood	21.0	31.0	31.0	2.61	33.6	33.53	0.07	Hard
	LL7mw-004	2352035.20	555581.14	1,123.30	29.5	1,126.32	A	Homewood	19.5	29.5	29.5	3.02	32.5	32.22	0.28	Hard
	LL7mw-005	2351741.47	555581.80	1,133.30	28.2	1,135.87	A	Homewood	18.0	28.0	28.0	2.57	30.6	30.32	0.28	Hard
	LL7mw-006	2351879.92	555990.59	1,120.70	28.0	1,123.56	A	Homewood	17.5	27.5	27.5	2.86	30.4	30.30	0.10	Hard
Load Line 8	LL8mw-001	2351666.10	552607.06	1,118.69	24.0	1,121.46	A	Unconsolidated	14.0	24.0	24.0	2.77	26.8	27.40	-0.60	Soft
	LL8mw-002	2351010.33	552408.18	1,121.67	30.4	1,124.51	A	Unconsolidated	20.0	30.0	30.0	2.84	32.8	32.55	0.25	Hard
	LL8mw-003	2351359.25	552231.14	1,116.30	21.0	1,119.05	A	Unconsolidated	10.5	20.5	20.5	2.75	23.3	23.00	0.30	Hard
	LL8mw-004	2351261.83	551807.58	1,112.73	20.5	1,115.75	A	Unconsolidated	10.0	20.0	20.0	3.02	23.0	22.70	0.30	Hard
	LL8mw-005	2351748.32	551522.48	1,112.51	24.0	1,115.73	A	Homewood	14.0	24.0	24.0	3.22	27.2	27.08	0.12	Medium
	LL8mw-006	2351483.58	551296.77	1,114.33	24.2	1,117.17	A	Homewood	14.0	24.0	24.0	2.84	26.8	27.00	-0.20	Hard
Load Line 9	LL9mw-001	2355817.04	556125.81	NA	21.6	1,134.62	A	Homewood	10.5	20.5	20.5	2.78	23.3	23.27	0.03	Hard
	LL9mw-002	2355907.76	556755.11	NA	21.0	1,127.30	A	Homewood	10.0	20.0	20.0	2.42	22.4	22.82	-0.42	Hard
	LL9mw-003	2356635.21	556445.31	NA	22.0	1,135.76	A	Homewood	11.5	21.5	21.5	2.30	23.8	24.26	-0.46	Hard
	LL9mw-004	2357338.76	556002.00	NA	33.0	1,131.83	A	Homewood	22.0	32.0	32.0	2.91	34.9	34.74	0.16	Hard
	LL9mw-005	2356505.95	557063.36	NA	20.6	1,130.93	A	Homewood	10.0	20.0	20.0	3.30	23.3	23.57	-0.27	Hard
	LL9mw-006	2357446.67	556434.79	NA	26.8	1,129.88	A	Homewood	16.0	26.0	26.0	2.90	28.9	28.88	0.02	Hard
	LL9mw-007	2357024.34	557000.56	NA	19.0	1,119.99	F	Homewood	8.5	18.5	18.5	0.00	18.5	18.23	0.27	Hard
Load Line 10	LL10mw-001	2355272.22	555816.25	1,130.00	28.0	1,132.77	A	Homewood	17.0	27.0	27.0	2.77	29.8	29.54	0.26	Hard
	LL10mw-002	2355710.51	555523.36	1,124.40	28.0	1,127.13	A	Homewood	17.0	27.0	27.0	2.73	29.7	29.75	-0.05	Hard
	LL10mw-003	2355389.92	555494.71	1,127.40	26.4	1,130.28	A	Homewood	16.0	26.0	26.0	2.88	28.9	28.59	0.31	Hard
	LL10mw-004	2355438.20	555236.59	1,119.60	31.2	1,122.39	A	Homewood	21.0	31.0	31.0	2.79	33.8	33.49	0.31	Hard
	LL10mw-005	2355943.55	555380.53	1,122.90	27.0	1,125.67	A	Homewood	16.5	26.5	26.5	2.77	29.3	29.19	0.11	Hard
	LL10mw-006	2355654.80	554995.25	1,121.20	24.0	1,123.83	A	Unconsolidated	13.5	23.5	23.5	2.63	26.1	26.45	-0.35	Hard

Table 3-2. Well Construction Details, Including January 2010 Depth to Bottom Measurements

RVAAP Area	Well ID	Ohio State Plane Easting	Ohio State Plane Northing	Ground Level Elevation[a]	Total Drilled Depth[b]	TOC Elevation[a]	Well Head Type[c]	Monitored Zone	Top of Screen (ft, BGS)	Bottom of Screen (ft, BGS)	Bottom of Inner Casing Plug or End Cap (ft, BGS)	Stickup height (ft, AGS)	Reported Bottom of Inner Casing (ft, BTOC)	Jan 2010 Measured Bottom of Inner Casing (ft, BTOC)	Sediment Accumulation (ft)	Description of Bottom
Load Line 11	LL11mw-001	2352778.89	557505.03	1,097.46	23.0	1,100.16	A	Unconsolidated	11.4	21.4	21.4	2.70	24.1	23.31	0.79	Medium
	L L11mw-002	2353354.28	558310.52	1,080.29	20.0	1,080.00	F	Unconsolidated	6.3	16.3	16.3	-0.29	16.0	16.39	-0.39	Hard
	LL11mw-003	2352737.87	557999.62	1,088.45	17.0	1,088.48	F	Unconsolidated	5.9	15.9	15.9	0.03	15.9	16.05	-0.15	Hard
	LL11mw-004	2352737.24	558164.36	1,084.60	17.0	1,084.72	F	Unconsolidated	6.1	16.1	16.1	0.12	16.2	16.15	0.05	Hard
	LL11mw-005	2352847.56	558501.02	1,079.60	17.0	1,079.40	F	Unconsolidated	6.2	16.2	16.2	-0.20	16.0	16.37	-0.37	Hard
	LL11mw-006	2352521.36	558263.28	1,086.61	17.0	1,086.50	F	Unconsolidated	5.6	15.6	15.6	-0.11	15.5	15.68	-0.18	Hard
	LL11mw-007	2352094.81	558189.71	1,079.22	23.0	1,082.00	A	Unconsolidated	12.4	22.4	22.4	2.78	25.2	25.26	-0.06	Hard
	LL11mw-008	2352388.60	557981.17	1,087.90	17.0	1,087.74	F	Unconsolidated	5.6	15.6	15.6	-0.16	15.4	15.67	-0.27	Hard
	LL11mw-009	2352577.18	557901.18	1,088.38	17.0	1,091.54	F	Unconsolidated	6.7	16.7	16.7	-0.10	16.6	19.48	-2.88	Hard
	LL11mw-010	2352039.00	557675.43	1,080.22	22.0	1,082.68	A	Unconsolidated	10.9	20.9	20.9	2.46	23.4	23.42	-0.02	Hard
Load Line 12	LL12mw-088	2368667.75	556393.79	978.94	29.0	981.06	A	Unconsolidated	14.8	24.8	25.0	2.12	27.1	27.50	-0.40	Hard
	LL12mw-107	2368595.67	556759.02	978.03	33.0	980.15	A	Unconsolidated	20.7	30.7	31.0	2.12	33.1	33.78	-0.68	Hard
	LL12mw-113	2368223.73	558345.37	977.67	23.0	980.18	A	Sharon Shale	12.3	22.3	22.5	2.51	25.0	21.56	3.44	Soft
	LL12mw-128	2368293.20	557371.54	976.21	34.0	978.24	A	Unconsolidated	21.1	31.1	31.3	2.03	33.3	34.16	-0.86	Soft
	LL12mw-153	2368138.87	557823.23	975.34	26.0	977.85	A	Unconsolidated	12.3	22.3	22.5	2.51	25.0	25.18	-0.18	Hard
	LL12mw-154	2368183.88	557754.56	977.00	29.0	979.06	A	Unconsolidated	16.4	26.4	26.6	2.06	28.7	28.72	-0.02	Hard
	LL12mw-182	2368853.20	555890.35	982.20	36.1	984.42	A	Unconsolidated	25.2	35.2	35.5	2.22	37.7	38.09	-0.39	Hard
	LL12mw-183	2369224.36	556068.15	980.59	36.0	982.98	A	Sharon Shale	23.3	33.3	33.6	2.39	36.0	36.41	-0.41	Hard
	LL12mw-184	2368997.48	556399.46	980.96	29.5	983.16	A	Unconsolidated	18.8	28.8	29.0	2.20	31.2	31.16	0.04	Hard
	LL12mw-185	2368829.86	556946.75	979.09	24.0	981.31	A	Unconsolidated	10.8	20.8	21.0	2.22	23.2	23.35	-0.15	Hard
	LL12mw-186	2367912.39	559065.95	976.34	23.0	978.31	A	Sharon Shale	8.8	18.8	19.0	1.97	21.0	20.82	0.18	Hard
	LL12mw-187	2368524.14	557633.10	977.90	29.0	979.94	A	Unconsolidated	17.2	27.2	27.4	2.04	29.4	29.71	-0.31	Hard
	LL12mw-188	2367908.82	558132.59	978.46	20.5	980.63	A	Unconsolidated	9.8	19.8	20.0	2.17	22.2	22.19	0.01	Soft
	LL12mw-189	2367945.92	558569.27	976.17	18.5	978.04	A	Sharon Shale	7.5	17.5	17.7	1.87	19.6	20.08	-0.48	Soft
	LL12mw-242	2368545.29	558020.51	978.40	26.3	981.20	A	Unconsolidated	15.5	25.5	25.5	2.80	28.3	28.81	-0.51	Soft
	LL12mw-243	2368190.04	557376.32	978.10	24.0	980.79	A	Unconsolidated	13.0	23.0	23.0	2.69	25.7	25.52	0.18	Soft
	LL12mw-244	2368751.42	557377.17	978.10	30.0	980.65	A	Unconsolidated	19.5	29.5	29.5	2.55	32.1	32.08	0.02	Soft
	LL12mw-245	2368370.74	557044.55	977.50	29.0	980.04	A	Unconsolidated	18.0	28.0	28.0	2.54	30.5	30.29	0.21	Soft
	LL12mw-246	2369432.17	556658.89	982.00	32.0	984.83	A	Unconsolidated	21.5	31.5	31.5	2.83	34.3	35.10	-0.80	Hard
Atlas Scrap Yard	ASYmw-001	2366260.85	558404.04	978.40	22.0	981.13	A	Sharon	11.0	21.0	21.0	2.73	23.7	23.05	0.65	Hard
	ASYmw-002	2366170.86	557887.86	982.00	20.0	985.24	A	Sharon	10.0	19.5	19.5	3.24	22.7	22.88	-0.18	Hard
	ASYmw-003	2366651.49	558015.94	979.70	21.5	982.21	A	Sharon	11.0	21.0	21.0	2.51	23.5	23.45	0.05	Hard
	ASYmw-004	2367166.04	557640.81	977.10	27.8	979.66	A	Sharon	17.0	27.0	27.0	2.56	29.6	29.73	-0.13	Hard
	ASYmw-005	2367448.16	557783.01	977.60	25.0	979.80	A	Sharon	14.0	24.0	24.0	2.20	26.2	27.12	-0.92	Hard
	ASYmw-006	2366746.73	557257.72	980.20	27.0	983.01	A	Sharon	16.0	26.0	26.0	2.81	28.8	28.83	-0.03	Hard
	ASYmw-007	2366834.49	556818.08	981.40	28.0	984.16	A	Unconsolidated	16.0	26.0	26.0	2.76	28.8	28.82	-0.02	Hard
	ASYmw-008	2367475.07	557087.66	976.20	26.0	978.85	A	Unconsolidated	15.0	25.0	25.0	2.65	27.7	26.25	1.45	Soft
	ASYmw-009	2366631.94	557603.68	979.90	22.0	982.70	A	Sharon	11.5	21.5	21.5	2.80	24.3	24.30	0.00	Soft
	ASYmw-010	2366985.37	557270.61	978.20	28.0	981.05	A	Unconsolidated	17.0	27.0	27.0	2.85	29.8	31.05	-1.25	Hard
Building 1200	B12mw-010	2371292.81	565827.43	1,002.72	21.0	1,005.92	A	Sharon	10.0	20.0	20.0	3.20	23.2	22.80	0.40	Hard
	B12mw-011	2371416.15	565687.82	1,003.76	24.7	1,006.70	A	Sharon	14.0	24.0	24.0	2.94	26.9	26.70	0.20	Hard
	B12mw-012	2371430.41	565828.01	1,003.43	22.3	1,006.32	A	Sharon	12.0	22.0	22.0	2.89	24.9	24.80	0.10	Hard
C-Block Quarry	CBLmw-001	2343657.08	559403.12	1,178.50	50.0	1,181.08	A	Homewood	39.0	49.0	49.0	2.58	51.6	51.60	0.00	Medium
	CBLmw-002	2343845.22	559044.48	1,172.50	45.3	1,175.24	A	Homewood	34.5	44.5	44.5	2.74	47.2	47.32	-0.12	Hard
	CBLmw-003	2343970.00	559695.52	1,172.22	44.0	1,175.06	A	Homewood	33.0	43.0	43.0	2.84	45.8	44.67	1.13	Medium
	CBLmw-004	2343688.76	559951.58	1,172.08	45.0	1,174.84	A	Homewood	34.0	44.0	44.0	2.76	46.8	47.01	-0.21	Hard
Central Burn Pits	CBPmw-001	2367095.37	561616.01	972.71	32.3	975.84	A	Unconsolidated	21.8	31.8	31.8	3.13	34.9	34.24	0.66	Soft
	CBPmw-002	2367295.66	561865.83	967.33	30.0	970.04	A	Unconsolidated	19.5	29.5	29.5	2.71	32.2	31.83	0.37	Soft
	CBPmw-003	2366768.68	561944.14	972.04	25.0	974.67	A	Unconsolidated	14.5	24.5	24.5	2.63	27.1	30.18	-3.08	Hard
	CBPmw-004	2366978.80	562123.80	968.58	27.5	971.13	A	Unconsolidated	17.0	27.0	27.0	2.55	29.5	29.61	-0.11	Medium
	CBPmw-005	2366919.66	562311.88	968.83	25.0	971.59	A	Unconsolidated	14.5	24.5	24.5	2.76	27.3	27.37	-0.07	Soft
	CBPmw-006	2367243.68	562311.87	965.01	23.0	967.64	A	Unconsolidated	12.5	22.5	22.5	2.63	25.1	25.20	-0.10	Soft
	CBPmw-007	2366512.62	562006.41	973.47	30.0	976.37	A	Unconsolidated	19.5	29.5	29.5	2.90	32.4	31.73	0.67	Hard
	CBPmw-008	2366757.21	562668.84	970.57	25.5	973.19	A	Unconsolidated	15.0	25.0	25.0	2.62	27.6	27.89	-0.29	Hard

Table 3-2. Well Construction Details, Including January 2010 Depth to Bottom Measurements

RVAAP Area	Well ID	Ohio State Plane Easting	Ohio State Plane Northing	Ground Level Elevation[a]	Total Drilled Depth[b]	TOC Elevation[a]	Well Head Type[c]	Monitored Zone	Top of Screen (ft, BGS)	Bottom of Screen (ft, BGS)	Bottom of Inner Casing Plug or End Cap (ft, BGS)	Stickup height (ft, AGS)	Reported Bottom of Inner Casing (ft, BTOC)	Jan 2010 Measured Bottom of Inner Casing (ft, BTOC)	Sediment Accumulation (ft)	Description of Bottom
Cobbs Pond	CPmw-001	2368948.81	560440.91	975.46	16.0	975.26	F	Unconsolidated	5.5	15.5	15.5	-0.20	15.3	14.85	0.45	Hard
	CPmw-002	2368239.23	560311.26	972.72	16.0	972.31	F	Unconsolidated	5.5	15.5	15.5	-0.41	15.1	14.99	0.11	Hard
	CPmw-003	2368796.49	560676.30	973.27	18.5	972.92	F	Unconsolidated	8.0	18.0	18.0	-0.35	17.6	17.83	-0.23	Hard
	CPmw-004	2368674.31	561843.46	978.51	20.0	981.20	A	Unconsolidated	9.5	19.5	19.5	2.69	22.2	22.53	-0.33	Hard
	CPmw-005	2367900.41	561846.78	970.71	40.0	973.58	A	Unconsolidated	29.5	39.5	39.5	2.87	42.4	43.15	-0.75	Hard
	CPmw-006	2367727.13	562830.13	962.97	18.5	965.13	A	Unconsolidated	8.0	18.0	18.0	2.16	20.2	20.61	-0.41	Hard
Demolition Area 2	DET-001B	2354959.47	560820.03	1,064.35	39.0	1,065.85	A	Unconsolidated	34.0	39.0	39.0	1.50	40.5	38.50	2.00	Hard
	DET-002	2355360.33	560664.71	1,060.24	39.0	1,061.24	A	Unconsolidated	34.0	39.0	39.0	1.00	40.0	41.93	-1.93	Soft
	DET-003	2355204.94	560456.10	1,035.81	15.0	1,036.81	A	Unconsolidated	7.0	12.0	12.0	1.00	13.0	16.01	-3.01	Hard
	DET-004	2355072.36	560454.22	1,037.68	11.0	1,038.68	A	Unconsolidated	6.0	11.0	11.0	1.00	12.0	13.80	-1.80	Hard
	DA2mw-104	2354773.79	561129.59	1,070.82	27.0	1,073.89	A	Unconsolidated	16.3	26.3	26.5	3.07	29.6	29.19	0.41	Hard
	DA2mw-105	2354557.62	560572.58	1,042.66	14.0	1,045.34	A	Unconsolidated	8.3	13.3	13.5	2.68	16.2	16.20	0.00	Hard
	DA2mw-106	2354848.85	560560.49	1,041.19	16.0	1,043.79	A	Unconsolidated	8.3	15.3	15.5	2.60	18.1	16.76	1.34	Hard
	DA2mw-107	2354924.29	560480.05	1,039.18	15.0	1,041.63	A	Unconsolidated	8.8	13.8	14.0	2.45	16.5	16.82	-0.32	Hard
	DA2mw-108	2355604.43	560181.78	1,029.92	15.0	1,032.36	A	Unconsolidated	9.3	14.3	14.5	2.44	16.9	17.13	-0.23	Hard
	DA2mw-109	2354793.14	559897.89	1,068.66	24.0	1,071.29	A	Unconsolidated	11.3	21.3	21.5	2.63	24.1	24.24	-0.14	Soft
	DA2mw-110	2355195.91	559927.02	1,061.39	20.0	1,063.78	A	Unconsolidated	9.3	19.3	19.5	2.39	21.9	22.34	-0.44	Hard
	DA2mw-111	2354728.33	560222.94	1,039.63	12.6	1,042.12	A	Unconsolidated	7.1	12.1	12.3	2.49	14.8	14.78	0.02	Hard
	DA2mw-112	2355018.98	560378.36	1,034.87	15.0	1,037.44	A	Unconsolidated	8.8	13.8	14.0	2.57	16.6	17.04	-0.44	Hard
	DA2mw-113	2355153.13	560394.81	1,034.51	14.0	1,037.11	A	Unconsolidated	8.3	13.3	13.5	2.60	16.1	16.28	-0.18	Hard
Erie Burning Grounds	EBGmw-123	2380049.21	571747.04	945.59	32.0	947.82	A	Unconsolidated	21.0	31.0	31.5	2.23	33.7	34.73	-1.03	Hard
	EBGmw-124	2380030.24	571618.07	939.02	32.0	941.39	A	Unconsolidated	20.0	30.0	30.5	2.37	32.9	32.63	0.27	Soft
	EBGmw-125	2379679.20	571655.63	947.55	25.0	949.89	A	Unconsolidated	14.0	24.0	24.5	2.34	26.8	27.43	-0.63	Hard
	EBGmw-126	2380307.31	572348.81	938.20	28.0	940.61	A	Unconsolidated	15.2	25.2	25.5	2.41	27.9	27.80	0.10	Medium
	EBGmw-127	2380172.16	571083.61	940.21	30.0	943.07	A	Unconsolidated	19.0	29.0	29.5	2.86	32.4	32.82	-0.42	Medium
	EBGmw-128	2379892.79	570970.32	942.47	28.0	945.13	A	Unconsolidated	15.0	25.0	25.3	2.66	28.0	28.19	-0.19	Hard
	EBGmw-129	2379240.52	572035.68	941.97	29.0	944.36	A	Unconsolidated	16.0	26.0	26.0	2.39	28.4	30.90	-2.50	Hard
	EBGmw-130	2379220.69	570695.61	941.18	26.0	944.00	A	Unconsolidated	15.2	25.2	25.5	2.82	28.3	28.38	-0.08	Hard
Fuze and Booster Quarry	FBQmw-166	2349584.33	553123.86	1,104.87	16.0	1,108.86	A	Unconsolidated	5.5	15.5	15.5	3.99	19.5	19.69	-0.19	Hard
	FBQmw-167	2349675.45	553556.12	1,112.05	18.0	1,115.90	A	Unconsolidated	5.0	15.0	15.0	3.85	18.9	18.95	-0.05	Hard
	FBQmw-168	2350066.87	553620.85	1,131.27	19.5	1,133.91	A	Homewood	9.0	19.0	19.0	2.64	21.6	21.21	0.39	Hard
	FBQmw-169	2349730.90	553681.21	1,117.36	16.0	1,120.58	A	Homewood	5.0	15.0	15.0	3.22	18.2	18.05	0.15	Hard
	FBQmw-170	2350102.41	553975.40	1,139.67	30.5	1,142.26	A	Homewood	20.0	30.0	30.0	2.59	32.6	32.66	-0.06	Hard
	FBQmw-171	2350072.44	554230.93	1,140.49	30.0	1,143.55	A	Homewood	18.0	28.0	28.0	3.06	31.1	31.38	-0.28	Hard
	FBQmw-172	2349907.37	554322.17	1,145.71	33.0	1,150.09	A	Homewood	20.0	30.0	30.0	4.38	34.4	34.36	0.04	Medium
	FBQmw-173	2350449.01	554491.35	1,162.43	50.0	1,165.94	A	Homewood	29.5	49.5	49.5	3.51	53.0	52.95	0.05	Medium
	FBQmw-174	2350289.81	554142.44	1,135.78	22.5	1,139.97	A	Homewood	12.0	22.0	22.0	4.19	26.2	22.99	3.21	Soft
	FBQmw-175	2350297.98	553989.24	1,137.16	22.5	1,140.73	A	Homewood	12.0	22.0	22.0	3.57	25.6	25.78	-0.18	Soft
	FBQmw-176	2350219.45	553273.33	1,129.57	21.5	1,131.91	A	Unconsolidated	11.0	21.0	21.0	2.34	23.3	23.60	-0.30	Soft
	FBQmw-177	2350112.18	553321.94	1,125.73	22.5	1,128.57	A	Homewood	12.0	22.0	22.0	2.84	24.8	24.74	0.06	Soft
Landfill North of Winklepeck	LNWmw-024	2358403.21	564825.89	1,035.30	24.0	1,038.00	A	Unconsolidated	10.0	20.0	20.0	2.70	22.7	22.51	0.19	Hard
	LNWmw-025	2358417.06	565071.92	1,027.20	19.0	1,029.13	A	Unconsolidated	8.0	18.0	18.0	1.93	19.9	20.30	-0.40	Hard
	LNWmw-026	2358952.24	564658.16	1,025.00	24.0	1,027.80	A	Unconsolidated	13.0	23.0	23.0	2.80	25.8	25.94	-0.14	Hard
	LNWmw-027	2358628.75	564517.41	1,024.40	25.0	1,027.13	A	Unconsolidated	14.0	24.0	24.0	2.73	26.7	28.85	-2.15	Hard
NACA Test Area	NTAmw-107	2345433.40	551697.29	1,077.65	23.0	1,080.30	A	Unconsolidated	12.0	22.0	22.0	2.65	24.6	24.01	0.59	Soft
	NTAmw-108	2345781.60	551916.22	1,083.22	23.0	1,085.62	A	Unconsolidated	12.0	22.0	22.0	2.40	24.4	24.43	-0.03	Medium
	NTAmw-109	2345997.72	551293.25	1,076.89	19.0	1,079.84	A	Unconsolidated	8.0	18.0	18.0	2.95	20.9	20.88	0.02	Soft
	NTAmw-110	2346438.94	551351.46	1,080.03	28.0	1,082.62	A	Unconsolidated	17.0	27.0	27.0	2.59	29.6	29.74	-0.14	Hard
	NTAmw-111	2346638.01	551538.60	1,078.07	20.0	1,080.94	A	Unconsolidated	9.5	19.5	19.5	2.87	22.4	22.05	0.35	Hard
	NTAmw-112	2346889.48	551712.14	1,075.36	23.9	1,078.33	A	Unconsolidated	13.9	23.9	23.9	2.97	26.9	26.60	0.30	Hard
	NTAmw-113	2347082.83	551488.52	1,072.61	27.5	1,075.68	A	Unconsolidated	17.0	27.0	27.5	3.07	30.6	29.60	1.00	Hard
	NTAmw-114	2347301.57	551592.94	1,075.61	20.0	1,078.71	A	Unconsolidated	9.5	19.5	19.5	3.10	22.6	22.75	-0.15	Hard
	NTAmw-115	2347581.16	551791.78	1,086.91	24.0	1,089.65	A	Unconsolidated	12.5	22.5	22.5	2.74	25.2	25.25	-0.05	Hard
	NTAmw-116	2348196.39	551748.00	1,091.68	22.0	1,094.33	A	Unconsolidated	10.0	20.0	20.0	2.65	22.6	22.55	0.05	Hard
	NTAmw-117	2347994.83	551584.57	1,091.67	25.0	1,094.54	A	Unconsolidated	14.5	24.5	24.5	2.87	27.4	27.49	-0.09	Hard
	NTAmw-118	2347609.41	551335.04	1,078.86	22.5	1,081.44	A	Unconsolidated	12.0	22.0	22.0	2.58	24.6	24.69	-0.09	Hard

Table 3-2. Well Construction Details, Including January 2010 Depth to Bottom Measurements

RVAAP Area	Well ID	Ohio State Plane Easting	Ohio State Plane Northing	Ground Level Elevation[a]	Total Drilled Depth[b]	TOC Elevation[a]	Well Head Type[c]	Monitored Zone	Top of Screen (ft, BGS)	Bottom of Screen (ft, BGS)	Bottom of Inner Casing Plug or End Cap (ft, BGS)	Stickup height (ft, AGS)	Reported Bottom of Inner Casing (ft, BTOC)	Jan 2010 Measured Bottom of Inner Casing (ft, BTOC)	Sediment Accumulation (ft)	Description of Bottom
Ramsdell Quarry Landfill	RQLmw-006	2375927.71	566091.26	993.52	42.1	995.39	A	Sharon	19.4	39.4	39.6	1.87	41.4	41.96	-0.56	Hard
	RQLmw-007	2375872.56	566544.36	963.86	18.7	965.91	A	Sharon	6.0	16.0	16.2	2.05	18.2	18.56	-0.36	Hard
	RQLmw-008	2376011.08	566327.94	963.82	18.7	966.08	A	Sharon	6.0	16.0	16.2	2.26	18.5	18.60	-0.10	Hard
	RQLmw-009	2376253.65	566351.20	962.60	18.8	964.58	A	Sharon	5.9	15.9	16.4	1.98	18.4	18.76	-0.36	Hard
	RQLmw-010	2376048.58	566857.39	980.04	35.4	982.14	A	Sharon	12.5	32.5	33.0	2.10	35.1	35.25	-0.15	Hard
	RQLmw-011	2376398.19	566819.66	974.60	35.4	976.57	A	Sharon	12.4	32.4	32.6	1.97	34.6	35.29	-0.69	Hard
	RQLmw-012	2376558.19	566551.95	975.12	30.5	977.65	A	Sharon	19.8	29.8	30.0	2.53	32.5	32.60	-0.10	Hard
	RQLmw-013	2376204.93	566928.09	978.04	34.4	980.71	A	Sharon	23.7	33.7	33.9	2.67	36.6	36.40	0.20	Soft
	RQLmw-014	2376519.38	566941.29	970.83	29.4	973.49	A	Sharon	18.6	28.6	28.9	2.66	31.6	31.48	0.12	Hard
	RQLmw-015	2375490.96	566560.90	989.19	40.1	991.26	A	Sharon	29.2	39.2	39.5	2.07	41.6	41.96	-0.36	Hard
	RQLmw-016	2375649.55	566177.68	994.02	39.5	996.60	A	Sharon	28.5	38.5	39.0	2.58	41.6	41.63	-0.03	Hard
	RQLmw-017	2376124.18	565931.38	988.69	30.5	991.23	A	Sharon	19.8	29.8	30.0	2.54	32.5	32.84	-0.34	Hard
Winklepeck Burning Grounds	WBGmw-005	2357163.55	563037.18	1,052.20	19.0	1,054.70	A	Unconsolidated	8.3	18.3	18.6	2.50	21.1	21.25	-0.15	Hard
	WBGmw-006	2359087.79	563008.87	1,012.16	19.0	1,014.66	A	Unconsolidated	7.6	17.6	17.9	2.50	20.4	20.14	0.26	Hard
	WBGmw-007	2360420.44	562479.87	998.09	24.0	1,000.59	A	Unconsolidated	13.5	23.5	23.8	2.50	26.3	26.52	-0.22	Hard
	WBGmw-008	2359700.57	562010.35	1,005.71	18.5	1,008.21	A	Unconsolidated	8.1	18.2	18.5	2.50	21.0	20.95	0.05	Hard
	WBGmw-009	2357159.20	561603.54	1,045.03	24.0	1,047.53	A	Unconsolidated	11.4	21.4	21.5	2.50	24.0	24.41	-0.41	Hard
	WBGmw-010	2356051.96	562893.20	1,067.10	21.0	1,069.85	A	Unconsolidated	10.5	20.5	20.8	2.75	23.6	23.45	0.15	Soft
	WBGmw-011	2356187.29	562609.18	1,069.70	22.0	1,072.38	A	Unconsolidated	11.0	21.0	21.3	2.68	24.0	23.99	0.01	Soft
	WBGmw-012	2354810.65	562240.90	1,076.50	30.0	1,079.11	A	Unconsolidated	19.0	29.0	29.4	2.61	32.0	31.75	0.25	Hard
	WBGmw-013	2355223.25	561518.27	1,069.10	22.0	1,071.70	A	Unconsolidated	11.0	21.0	21.3	2.60	23.9	24.15	-0.25	Soft
	WBGmw-014	2360439.22	562061.26	994.10	23.0	996.78	A	Unconsolidated	12.0	22.0	22.3	2.68	25.0	25.13	-0.13	Soft
	WBGmw-015	2359182.41	562340.12	1,009.10	22.0	1,011.60	A	Unconsolidated	11.0	21.0	21.3	2.50	23.8	23.65	0.15	Hard
	WBGmw-016	2360645.88	562709.13	994.90	24.0	997.03	A	Unconsolidated	13.0	23.0	23.3	2.13	25.4	25.35	0.05	Soft
	WBGmw-017	2359603.84	562913.24	1,004.00	22.0	1,006.62	A	Unconsolidated	11.0	21.0	21.3	2.62	23.9	23.64	0.26	Soft
Suspected Mustard Agent Burial Site	MBS-001	2345323.00	550759.50	1,079.68	30.0	1,082.20	A	Unconsolidated	19	28.7	29	2.52	31.5	30.98	0.52	Hard
	MBS-002	2345322.30	550886.20	1,080.50	30.0	1,083.22	A	Unconsolidated	18	27.3	28	2.72	30.7	31.13	-0.43	Hard
	MBS-003	2345172.40	550922.80	1,082.45	30.0	1,084.45	A	Unconsolidated	18.5	28.2	28.5	2.00	30.5	30.70	-0.20	Hard
	MBS-004	2345134.20	550767.90	1,079.55	26.0	1,081.80	A	Unconsolidated	14.7	24.4	24.7	2.25	27.0	27.16	-0.16	Hard
	MBS-005	2345354.10	550800.70	1,080.50	30.0	1,082.42	A	Unconsolidated	18	28	28.08	1.92	30.2	30.00	0.20	Soft
	MBS-006	2345282.30	550726.10	1,080.29	28.0	1,081.83	A	Unconsolidated	16.5	26.5	26.56	1.54	28.2	28.10	0.10	Medium

a elevations are in feet above mean sea level (amsl)
b total drilled well borehole depth relative to ground surface.
c A = above grade completion; F = flush-mount completion
NA = Not available
AGS = above ground surface
BGS = below ground surface
BTOC = below top of casing
It was determined that there was a bailer at the bottom of well LL1mw-085. The total well depth measurement for this well in July 2010 was recorded at 45.19 with a hard bottom

west to east across RVAAP; with a maximum measured elevation of 1,140.72 ft above mean sea level (amsl) at well BKGmw-005 in the northwest portion of the facility and a minimum measured elevation of 932.47 ft amsl southeast of Load Line 1 (well LL1mw-065). At the watershed scale (e.g., Hinkley Creek, Sand Creek, and Eagle Creek),groundwater flow patterns are influenced by topography and the drainage patterns of the streams. The influence of surface topography on groundwater flow is especially observed within the Hinkley Creek watershed (e.g., NACA Test Area, Suspected Mustard Agent Burial Site, and Demolition Area 1 vicinity) where groundwater flow is toward the southwestern RVAAP boundary.

Plate 3 represents facility-wide groundwater flow in wells completed into bedrock. Pre-glacial erosion has resulted in bedrock highs (i.e., islands) surrounded and topped by glacial and recent deposits (i.e., unconsolidated aquifer). At least three such islands have been interpreted to exist at RVAAP. Two are topped by the Homewood Member and one by the Sharon Member. These islands may not be in hydraulic communication with each other but there is hydraulic communication with the unconsolidated aquifer. Plate 3 illustrates that groundwater in bedrock of the Sharon Member flows radially outward from bedrock into the surrounding unconsolidated aquifer. The potentiometric high is located beneath Load Line 2. Plate 3 indicates that groundwater in bedrock of the Homewood Member flows through these bedrock islands from and to the unconsolidated aquifer. Groundwater flow of the Homewood member is to the southeast toward the Michael J. Kerwin Reservoir on the Mahoning River, which is a regional hydraulic sink.

Table 3-3 presents the water-level elevations taken between the October 2009 and July 2010 quarterly sampling events for all wells that have been sampled as a part of the FWGWMP.

To determine if groundwater elevations of Sharon Conglomerate wells (as determined in January 2010) are representative of the Sharon or Homewood Aquifers, the groundwater elevation data are compared as indicated on Table 3-4.

As the table indicates the groundwater elevation of water in the Homewood Aquifer (well LL10mw-003) is more than 78 feet higher than the Sharon Conglomerate well (well SCFmw-1). This demonstrates that the Homewood Aquifer and Sharon Conglomerate are not representative of the same hydraulic unit. If in the same hydraulic unit, the water levels would be expected to be much the same.

There are five Sharon Conglomerate wells that are located through the Sharon (Sandstone) Aquifer. The groundwater elevations of the five Sharon Aquifer wells are 1.28 to 24.57 feet higher than the Sharon Conglomerate groundwater elevations at the same locations. The average elevation difference is over 9 feet. Again this groundwater elevation difference indicates that the Sharon Conglomerate and the Sharon Aquifer are not the same hydraulic unit.

It should be noted that the groundwater elevations from the deep wells are used for purging and sampling purposes and not necessarily for deep aquifer flow direction,

Table 3-3 Groundwater Elevations

Well	Monitoring Zone	Top of Casing (TOC) Elevation[a] (ft)	2009 4th Quarter Groundwater Elevation (Oct/2009) (ft)	2010 1st Quarter Groundwater Elevation (Jan/2010) (ft)	2010 Quarterly Groundwater Elevation (Jul/2010) (ft)
LL1mw-064	Unconsolidated	935.1	NM	NM	932.61
LL1mw-065	Unconsolidated	944.41	NM	NM	931.62
LL1mw-067	Sharon	980.36	NM	NM	960.66
LL1mw-078	Sharon	995.84	NM	NM	962.60
LL1mw-080	Sharon	996.27	NM	NM	984.31
LL1mw-081	Sharon	998.92	NM	NM	968.48
LL1mw-082	Sharon	1006.45	NM	NM	977.76
LL1mw-083	Sharon	995.2	NM	NM	961.29
LL1mw-084	Sharon	998.73	NM	NM	969.30
LL1mw-085	Sharon	996.84	NM	NM	960.51
Loadline 2					
LL2mw-059	Sharon	966.67	NM	NM	952.74
LL2mw-060	Sharon	961.57	NM	NM	950.66
LL2mw-261	Sharon	1,011.40	NM	NM	1004.07
LL2mw-262	Sharon	1,012.62	NM	NM	1,003.71
LL2mw-263	Sharon	1,011.47	NM	NM	1,002.16
LL2mw-265	Sharon	961.24	NM	NM	950.70
LL2mw-266	Sharon	1,016.28	NM	NM	1,003.89
LL2mw-267	Sharon	1,014.81	NM	NM	1,004.43
LL2mw-269	Sharon	1,011.62	NM	NM	994.07
LL2mw-270	Sharon	1,010.18	NM	NM	1000.47
Loadline 3					
LL3mw-232	Sharon	1,000.41	NM	NM	980.88
LL3mw-234	Sharon	1,006.56	NM	NM	995.87
LL3mw-235	Sharon	1,009.94	NM	989.89	NM
LL3mw-236	Sharon	1,011.17	NM	NM	994.73
LL3mw-239	Sharon	1,003.50	NM	NM	978.28
Loadline 4					
LL4mw-196	Unconsolidated	984.55	NM	NM	970.77
LL4mw-197	Unconsolidated	985.46	NM	NM	970.72
Loadline 6					
LL6mw-005	Homewood	1120.47	1,106.67	NM	NM
LL6mw-006	Unconsolidated	1124.37	1107.58	NM	NM
LL6mw-007	Homewood	1115.62	1,105.85	NM	NM
Loadline 7					
LL7mw-001	Homewood	1129.64	1,105.91	NM	NM
LL7mw-002	Homewood	1129.55	1,110.02	NM	NM
LL7mw-003	Homewood	1120.84	1,107.19	NM	NM
LL7mw-004	Homewood	1126.32	1,109.21	NM	NM
LL7mw-005	Homewood	1135.87	1,111.68	NM	NM
LL7mw-006	Homewood	1123.56	1110.07	NM	NM
Loadline 8					
LL8mw-001	Unconsolidated	1121.46	1,107.26	NM	NM
LL8mw-002	Unconsolidated	1124.51	1,102.80	NM	NM
LL8mw-003	Unconsolidated	1119.05	1,103.11	NM	NM
LL8mw-004	Unconsolidated	1115.75	1,101.33	NM	NM
LL8mw-005	Homewood	1115.73	1,099.63	NM	NM
LL8mw-006	Homewood	1117.17	1095.56	NM	NM
Loadline 9					
LL9mw-001	Homewood	1134.62	1,117.30	NM	NM
LL9mw-002	Homewood	1127.30	1,110.55	NM	NM
LL9mw-003	Homewood	1135.76	1,119.27	NM	NM
LL9mw-004	Homewood	1131.83	1,108.88	NM	NM
LL9mw-005	Homewood	1130.93	1,112.13	NM	NM
LL9mw-006	Homewood	1129.88	1108.25	NM	NM
LL9mw-007	Homewood	1119.99	1,108.31	NM	NM
Loadline 10					
LL10mw-001	Homewood	1132.77	1,106.42	NM	NM
LL10mw-002	Homewood	1127.13	1,107.59	NM	NM
LL10mw-003	Homewood	1130.28	1,108.58	NM	NM
LL10mw-004	Homewood	1122.39	1,106.90	NM	NM
LL10mw-005	Homewood	1125.67	1,107.85	NM	NM
LL10mw-006	Unconsolidated	1123.83	1108.63	NM	NM

Table 3-3 Groundwater Elevations

Well	Monitoring Zone	Top of Casing (TOC) Elevation[a] (ft)	2009 4th Quarter Groundwater Elevation (Oct/2009) (ft)	2010 1st Quarter Groundwater Elevation (Jan/2010) (ft)	2010 Quarterly Groundwater Elevation (Jul/2010) (ft)
Loadline 11					
LL11mw-001	Unconsolidated	1100.16	1,088.45	NM	NM
LL11mw-003	Unconsolidated	1088.48	1,085.56	NM	NM
LL11mw-004	Unconsolidated	1084.72	1,081.94	NM	NM
LL11mw-005	Unconsolidated	1079.40	1,068.42	NM	NM
LL11mw-006	Unconsolidated	1086.50	1,079.92	NM	NM
LL11mw-008	Unconsolidated	1087.74	1083.49	NM	NM
LL11mw-009	Unconsolidated	1091.54	1,086.83	1,089.44	NM
LL11mw-010	Unconsolidated	1082.68	1,076.38	NM	NM
Loadline 12					
LL12mw-088	Unconsolidated	981.06	NM	NM	974.64
LL12mw-107	Unconsolidated	980.15	NM	NM	971.26
LL12mw-113	Sharon Shale	980.18	NM	NM	973.47
LL12mw-128	Unconsolidated	978.24	NM	NM	968.50
LL12mw-153	Unconsolidated	977.85	NM	NM	971.85
LL12mw-154	Unconsolidated	979.06	NM	NM	970.35
LL12mw-182	Unconsolidated	984.42	NM	NM	974.44
LL12mw-183	Sharon Shale	982.98	NM	NM	970.80
LL12mw-184	Unconsolidated	983.16	NM	NM	970.80
LL12mw-185	Unconsolidated	981.31	NM	NM	974.36
LL12mw-186	Sharon Shale	978.31	NM	NM	971.06
LL12mw-187	Unconsolidated	979.94	NM	NM	970.29
LL12mw-188	Unconsolidated	980.63	NM	NM	974.94
LL12mw-189	Sharon Shale	978.04	NM	NM	971.84
LL12mw-242	Unconsolidated	981.20	NM	NM	971.95
LL12mw-243	Unconsolidated	980.79	NM	NM	972.29
LL12mw-244	Unconsolidated	980.65	NM	NM	970.40
LL12mw-245	Unconsolidated	980.04	NM	NM	972.40
LL12mw-246	Unconsolidated	984.83	NM	NM	968.49
Atlas Scrap Yard					
ASYmw-001	Sharon	981.13	967.29	967.99	NM
ASYmw-002	Sharon	985.24	968.78	968.27	NM
ASYmw-003	Sharon	982.21	957.46	968.03	NM
ASYmw-004	Sharon	979.66	967.73	969.20	NM
ASYmw-005	Sharon	979.8	968.75	971.29	NM
ASYmw-006	Sharon	983.01	967.47	967.72	NM
ASYmw-007	Unconsolidated	984.16	967.92	967.80	NM
ASYmw-008	Unconsolidated	978.85	972.24	973.63	NM
ASYmw-009	Sharon	982.7	968.31	968.84	NM
ASYmw-010	Unconsolidated	981.05	967.25	967.54	NM
Building 1200					
B12mw-012	Unconsolidated	1,006.32	985.57	NM	NM
Detonation Area 2					
DETmw-003	Unconsolidated	1036.81	1,027.03	NM	NM
DETmw-004	Unconsolidated	1038.68	1,027.71	NM	NM
Ramsdell Quarry					
RQLmw-007	Sharon	965.91	955.15	NM	NM
RQLmw-008	Sharon	966.08	955.68	NM	NM
RQLmw-009	Sharon	964.58	955.13	NM	NM
Sharon Congolmerate					
SCFmw-001	Sharon Congolmerate	1120.71	1,027.01	1,030.94	1,031.65
SCFmw-002	Sharon Congolmerate	984.56	963.38	964.17	965.39
SCFmw-003	Sharon Congolmerate	958.47	948.42	948.98	949.68
SCFmw-004	Sharon Congolmerate	944.17	942.47	943.47	943.46
SCFmw-005	Sharon Congolmerate	960.8	947.55	947.85	949.32
SCFmw-006	Sharon Congolmerate	965.92	946.98	947.43	957.92

a = Elevations are in feet above mean sea level (amsl)
NM = New wells added to the sampling schedule, not measured in all quarters

however a separate potentiometric map has been produced to show flow direction for the deep wells. This potentiometric map for the Sharon Conglomerate wells is included as Plate 4.

Table 3.4 Comparison of Groundwater Elevation, Sharon Conglomerate and Sharon and Homewood Aquifers

Well ID	Monitored Zone Groundwater Elevation (ft, msl)			Difference (ft)
	Sharon Conglomerate	Sharon Sandstone	Homewood	
SCFmw-1	1030.94	-	1109.29	+ 78.35
SCFmw-2	964.16	969.20	-	+ 5.04
SCFmw-3	948.98	950.26	-	+ 1.28
SCFmw-4	943.47	955.00 *	-	+ 11.53
SCFmw-5	947.85	952.52	-	+ 4.67
SCFmw-6	947.43	972.00 *	-	+ 24.57

All water-level elevations (ft, msl) are January 2010. Sharon Sandstone and Homewood water-level elevations are nearest well to physical location of Sharon Conglomerate Well except as noted (*). Elevation is from potentiometric map (Plate 3).
" + " indicates that Sharon Sandstone or Homewood elevation is higher

3.2 Monitoring Well Inspection/Repair Results

3.2.1 Inspection Results – January 2010

All Facility-Wide Groundwater Monitoring Program (FWGWMP) monitoring wells at RVAAP were inspected during the period January 18-20, 2010. Inspection of the physical condition of all existing facility monitoring wells was conducted at the same time potentiometric surface measurements were collected. During the inspection of the wells there was some snow on the ground at the facility (approximately 3-4 inches); however the temperatures just prior to and during the inspection period were reaching into the 30s ^{0} F during the day and much of the snow on the well pads and surrounding the wells had melted. The wells that still had snow on the pad during the inspection were cleared using either a shovel or a broom. Weather conditions were not a limiting factor to complete the well inspections during January 2010.The well inspection survey consisted of the following elements:

- Following collection of water level measurements at each well, the total depth of each monitoring well was sounded using the water level indicator. This data allows a determination of the degree of siltation and comparison of the constructed depths recorded in the well construction logs.

- Visual examination of the condition of the above-ground components of each well was performed. The examination included the condition of access roads to the well, well identification tags or markings, protective casing condition, traffic guard posts, protective covers and locks, protective pads, weep holes, and watertight inner casing caps.

- Recording of well inspection data and any maintenance needs were done using a well inspection/maintenance checklist.

The well inspections did not reveal irreparable damage to any specific monitoring wells. General well conditions include:

- Many of the outer well casings and guard posts are showing signs of rust and peeling paint. The following areas had a majority of the wells in need of painting:
  - Background Wells
  - LL's 5, 6, 7, 8, 9, 10
  - Atlas Scrap Yard
  - C-Block
  - Detonation Area 2
  - Landfill North of Winklepeck
  - NACA Test Area

  Additionally several of the wells were identified as needing to have the well identification numbers reapplied due to weathering of the paint.

- All of the FWGWMP wells should be considered for repainting within the next 2 years. It should be noted that while a majority of the wells will require repainting the most recent inspection (January 2010) revealed no issues related to the paint that would affect the integrity of the wells (i.e. excessive rusting of the outer casing). It is suggested that repainting of the wells be delayed until the current monitoring regimen is completed. At that time it is anticipated that decisions may be made to close certain wells not used for long-term monitoring. Only wells used for continued monitoring would then be repainted.

- The vegetation around the wells was cleared in late June early July of 2009 [the Winklepeck Burning Ground wells were not cleared of vegetation at the request of the USACE, and the immediate (<3-foot area only) around the Demolition 2 Area wells were cleared]. Access roads were passable from a vegetation standpoint, however there was considerable snow (>1-foot) on the ground during the inspection period.

- At many of the wells (e.g., BKG 20, Central Burn Pit wells, Building 1200 wells, and Winklepeck Burning Ground wells) the guard posts were missing the concrete plugs at the top of the post. This does not appear to affect the integrity or life of the posts. Additionally as presented in the attached Table 1 several well posts were loose or leaning although stable.

- Overall the locks associated with the wells were in good condition with the few exceptions noted on the attached table. Lock caps on some of the wells were missing. The lock cap is the small rubber covering at the bottom of the lock over the locking mechanism where the key is inserted. Over time some of these covers have been broken off. There is no way to replace the cover without replacing the lock. There is no structural or operating damage to the locks without covers. Since there is no damage to the lock as a result of the missing lock caps no action is planned at this time to replace the missing lock caps. The working condition of all locks at the facility is closely monitored and any locks not in good working condition will be replaced.

- As detailed in Table 3-5 several wells had pads that were either cracked or had stability issues (wobbling). The integrity of the wells did not appear to be compromised however replacement of several of the concrete pads is recommended.

Table 3-5 presents a list of specific wells that had conditions potentially requiring attention.

3.2.2 Well Repair and Maintenance - 2010

The following well maintenance/repair activities were conducted between July and October 2010 based on the January 2010 well inspections:

- Locks for several wells were replaced because they were becoming difficult to open.

- Well caps for several of the wells were replaced.

- Cracks in the pad at LL8mw-006, LL10mw-006 were repaired using caulk. Commercial concrete patch and crack sealer were applied to seal the cracks and prevent further deterioration. It should be noted that these pads had originally been identified on Table 3-5 for replacement. However during the maintenance activities conducted it was noted that although cracked, the pads are still stable and the integrity of the well casing was not compromised. Therefore it was decided to seal the cracks and re-inspect the pads in the spring of 2011.

- The top of the outer casing at RQLmw-006, was replaced with a new square top. The original top had become rusted and the hinge was broken. The top of the outer casing for BKGmw-021 was had also been identified for replacement however it was found to be rusted but functional. Therefore no action was taken.

- Soil has eroded away at the concrete pads surrounding several of the wells other pads were wobbly. The pads at RQLmw-011 and CPmw-002 were stabilized using a combination of gravel, concrete and soil.

Table 3-5. Well Inspection Summary (January 2010)

Area	Well Number	Well Condition/Issue	Recommendation
Background	BKGmw-004	Lock cap is missing.	Lock is in good working condition. No action at this time.
	BKGmw-012	Lock cap is missing.	Lock is in good working condition. No action at this time.
	BKGmw-016	Well cap is hard to close - no seal.	Replace well cap.
	BKGmw-015	1. Seal around outer casing is cracked. 2. Lock cap is missing	1. Repair cracked seal with silicone caulking. 2. Lock is in good working condition. No action at this time.
	BKGmw-019	1. One of guard posts is leaning, but secure. 2. Outer casing is badly corroded but still structurally sound.	1. No action at this time. Monitor guard post in future inspections. 2. Monitor during future inspections.
	BKGgmw-021	Hinge on the top of the outer casing is badly corroded.	Replace top of outer casing.
Load Line 1	LL1mw-084	Lock cap is missing.	Lock is in good working condition. No action at this time.
	Ll1mw-080	Lock cap is missing.	Lock is in good working condition. No action at this time.
Load Line 3	LL3mw-233	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LL3mw-238	Lock cap is missing.	Lock is in good working condition. No action at this time.
Load Line 5	LL5mw-003	Lock cap is missing.	Lock is in good working condition. No action at this time.
Load Line 6	LL6mw-003	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LL6mw-004	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LL6mw-006	1. Flush mount well - one of the bolts to the casing lid is missing. 2. Well number on casing has chipped away.	1. Install new bolt in lid. 2. Repaint well number on the post.
	LL6mw-007	Flush mount well - one of the bolts to the casing lid is missing.	Install new bolt in lid.
Load Line 8	LL8mw-003	The steel outer casing is dented but does not appear to be damaged. One of the guard posts has damaged concrete. The concrete is cracked and wobbles but is still stable.	There does not appear to be any structural damage to the inner casing or well - no action at this time.
Load Line 8	LL8mw-005	Concrete around one of the guard posts is broken. Post is stable.	Monitor post during subsequent inspections.
	LL8mw0006	Concrete pad is cracked. Pad was repaired in 2009 but has cracked again.	Replace concrete pad.
Load Line 9	LL9mw-001	No Packing (sand) between inner and outer casings.	Replace the packing.
Load Line 10	LL10mw-006	Concrete pad cracked.	Replace concrete pad.
Load Line 11	LL11mw-004	No lock on well - flush mount.	Install new lock.
	LL11mw-007	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LL11mw-010	Lock cap is missing.	Lock is in good working condition. No action at this time.

Table 3-5. Well Inspection Summary (January 2010)

Area	Well Number	Well Condition/Issue	Recommendation
Load Line 12	LL12mw-246	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LL12mw-186	Lock cap is missing.	Lock is in good working condition. No action at this time.
Building 1200	B12mw-012	Well number number on casing has chipped away.	Repaint well number on the well casing.
C-Block	CBLmw-004	Concrete pad is spalling.	Monitor at future inspections for further signs of deterioration.
Central Burn Pits	CBPmw-001	No Packing (sand) between inner and outer casings.	Replace the packing.
	CBPmw-002	1. No Packing (sand) between inner and outer casings. 2. Lock cap is missing	1. Replace the packing. 2. Lock is in good working condition. No action at this time.
	CBPmw-003	Well cap is hard to open.	Replace well cap
	CBPmw-004	No Packing (sand) between inner and outer casings.	Replace the packing.
	CBPmw-005	Lock cap is missing.	Lock is in good working condition. No action at this time.
	CBPmw-008	No Packing (sand) between inner and outer casings.	Replace the packing.
	CPmw-001	1. Flush mount well - one of the bolts to the casing lid is missing. 2. No lock.	1. Install new bolt in lid. 2. Replace lock.
Cobbs Pond	CPmw-002	Concrete pad is not secure (wobbles).	Stabilize pad using bentonite/gravel/concrete as necessary.
	CPmw-003	1. Flush mount well - one of the bolts to the casing lid is missing. 2. No lock.	1. Install new bolt in lid. 2. Replace lock.
	CPmw-005	Soil is eroded away from the concrete pad. Pad is stable at this time.	Monitor pad during future inspections for signs of instability.
	CPmw-006	Lock cap is missing.	Lock is in good working condition. No action at this time.
Detonation Area 2	DA2mw-104	Lock cap is missing.	Lock is in good working condition. No action at this time.
	DA2mw-110	Lock cap is missing.	Lock is in good working condition. No action at this time.
	DA2mw-112	Well number number on casing has chipped away.	Repaint well number on the well casing.
Erie Burning Grounds	EBGmw-126	This well is consistently under water due to low topography and marshy conditions. The integrity of the pad and casing do not appear to be compromised.	Monitor the water during subsequent inspections for signs of deterioration of the pad. Additionally, monitor water levels inside the casing for evidence of infiltration of surface water.
Atlas Scrap Yard	ASYmw-004	Lock cap is missing.	Lock is in good working condition. No action at this time.
Fuze and Booster Quarry	FBQmw-167	Well number on casing has chipped away.	Repaint well number on the well casing.
	FBQmw-176	Concrete around one of the guard posts is broken. Post is stable.	Monitor post during subsequent inspections.

Table 3-5. Well Inspection Summary (January 2010)

Area	Well Number	Well Condition/Issue	Recommendation
Winklepeck Burning Grounds	WBGmw-006	Lock cap is missing.	Lock is in good working condition. No action at this time.
	WBGmw-012	One of the guard posts is leaning and appears to have been hit.	Post is secure. Monitor during future inspections.
Landfill North of Winklepeck	LNWmw-024	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LNWmw-025	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LNWmw-026	Lock cap is missing.	Lock is in good working condition. No action at this time.
	LNWmw-027	Lock cap is missing.	Lock is in good working condition. No action at this time.
Ramsdell Quarry Landfill	RQLmw-007	Lock cap is missing.	Lock is in good working condition. No action at this time.
	RQLmw-006	1. Lock cap is missing. 2. Hinge on the top of the outer casing is corroded.	1. Lock is in good working condition. No action at this time. 2. Replace top of outer casing.
	RQLmw-008	Seal around outer casing is cracked.	Repair cracked seal with silicone caulking.
	RQLmw-009	1. Seal around outer casing is cracked. 2. Well number on casing has chipped away. 3. Lock cap is missing.	1. Repair cracked seal with silicone caulking. 2. Repaint well number on the well casing. 3. Lock is in good working condition. No action at this time.
	RQLmw-011	Pad is "wobbly" evidence of some soil erosion around pad.	Stabilize pad using bentonite/gravel/concrete as necessary.
	RQLmw-012	Lock cap is missing.	Lock is in good working condition. No action at this time.
Mustard Agent Burial Site	MBSmw-001	This well is consistently under water due to low topography and marshy conditions. The integrity of the pad and casing do not appear to be compromised.	Monitor the water during subsequent inspections for signs of deterioration of the pad. Additionally, monitor water levels inside the casing for evidence of infiltration of surface water.
	MBSmw-002	This well was under water during the January 2010 inspection. It is not usually under water. The integrity of the pad and casing do not appear to be compromised.	Monitor the water during subsequent inspections for signs of deterioration of the pad. Additionally, monitor water levels inside the casing for evidence of infiltration of surface water.

- Several wells had the seal around the outer casing and the pad repaired by sealing with silicone caulk.

- Two of the flush mount wells were missing bolts for the outer casing. New bolts were installed at CPmw-001 LL6mw-006, and LL6mw-007.

- The numbers painted on the wells were reapplied at RQLmw-009, FBQmw-167, B12mw-012, and LL6mw-006.

- The sand packing between the inner and outer casing was replaced at LL9mw-001, CBPmw-001, CBPmw-002, CBPmw-004, and CBPmw-008

- The pads at three wells have been noted as being consistently under water. These wells (EBGmw-126, MBSmw-001, and MBSmw-002) are monitored for signs of deterioration. The pads for the wells that are underwater will be visually inspected during sampling/well inspection events to confirm that they are still intact and that the integrity of the wells is not compromised. Additionally, the water levels in the well will be closely monitored. If the water levels are found to be at ground surface it may be indicative of water entering the casing. Currently the water levels in these wells range between 2- and 7-feet below ground surface. It should also be noted that neither of these wells are flush-mounts, and the risers are well above the water level.

3.3 Sedimentation/Turbidity and Redevelopment of Wells - 2010

EQM has reviewed the historical sediment accumulation footages and the description of bottom for the wells currently being sampled. The majority of wells at RVAAP indicate a <0.20-foot accumulation of sediment with a hard well bottom indicated. However, some wells indicated a >0.20-foot of sediment accumulation and/or soft well bottoms. Based on this evaluation a number of wells were identified for redevelopment. There were two different redevelopment events during 2010 – one in July and one in October. Redevelopment activities included surging and pumping using a surge block, and a centrifugal and/or submersible pump. This was performed to remove fines accumulating as sediment in the bottom well cap. Each well was developed by at least two methods (surge and pump) with the attempt to reach stability of hydraulic conditions according to the *Technical Guidance Manual for Hydraulic Investigations and Groundwater Monitoring OEPA*, February 1995.

It should be noted that in order to minimize turbid samples, low flow purging and sampling techniques are used. The pumps are suspended at least one foot above the bottom of the well to avoid agitation of the sediment potentially accumulating in the well sump. EQM will continue to monitor any high turbidity readings and make a determination for future redevelopment and other evaluation of any affected wells.

3.3.1 July 2010 Redevelopment

The following wells were redeveloped during the during the July 2010 timeframe (LL12mw-113, Ll12mw-245, LL12mw-186, LL12mw-243, LL12mw-244).

The results of the redevelopment activities are presented in Table 3-6. The wells never visibly cleared or had turbidity readings less than 999 ntu. However the sediment levels in the wells were reduced such that the well depths were restored to the reported construction depths. The problem of high turbidity is an ongoing issue at Load Line 12. Several of the wells have been redeveloped more than once. While the wells continue to exhibit high turbidity even after redevelopment it should be noted that high turbidity readings are not necessarily an indicator of nonrepresentative (i.e., formation) groundwater as stated in the Ohio EPA Technical Guidance Manual for groundwater "***Turbidity****, which is the visible presence of suspended mineral and organic particles in a ground water sample, also is not an indicator of ground water chemical stabilization and does not distinguish between stagnant casing water and formation water*."

3.3.2 October 2010 Redevelopment

During the October 2010 timeframe the following wells were redeveloped:

LL4mw-198	LL11mw-001	CBLmw-001
CBLmw-003	CBPmw-001	CBPmw-007
FBQmw-174	NACAmw-113	DETmw-001
DA2mw-106	ASYmw-008	

The results of the redevelopment activities are presented in Table 3-6. The following summarizes the results of the redevelopment activities:

- Five wells were redeveloped to remove significant (>0.10 feet) of sediment from the bottom of the wells. Of these two of them were redeveloped to depths equal to or greater than the reported construction depth (LL4mw-198 and CBPmw-001). The other well s(LL11mw-001, CBPmw-007, and ASYmw-008) were redeveloped and reported to have a hard bottoms, but the current (post redevelopment) depth of these wells were all shallower than the reported construction depth. Based on the redevelopment activities conducted and the presence of hard well bottoms following redevelopment EQM believes there is no significant sediment accumulation in these wells.

- Five of the wells (C-Blockmw-003, FBQmw-174, NACAmw-113, ASYmw-008, DETmw-001, DA2mw-106) were redeveloped with no significant change in the well depth measurement, and with reported hard bottoms. These wells were all 0.48 to 3.15 feet shallower than the reported construction depth. Based on the lack of sediment removed, and the reported hard bottom of the wells, EQM believes there is no significant sediment accumulation in those wells.

Table 3-6 Well Redevelopment

July 2010 Redevelopment Results

Well ID	Reported Construction Depth (ft)	January 2009 Well Depth Measurement (ft)	January 2010 Well Depth Measurement (ft)	July 2010 Well Depth Measurement Pre-Redevelopment (ft)	July 2010 Well Depth Measurement Post-Redevelopment (ft)	Current Description of Bottom/Comments
LL12mw-113	25.0	19.62	21.42	21.41	25.15	gray silt, high turbidity
LL12mw-186	21.0	20.99	20.68	20.8	21.11	brown then gray silt, pumps dry but fast recharge
LL12mw-243	25.7	24.65	25.38	25.54	25.86	hard, pumps dry, gray silt, high turbidity
LL12mw-244	32.1	29.34	31.94	31.92	32.2	gray silt, high turbidity
LL12mw-245	30.5	29.98	30.15	30.1	30.48	pumps dry, gray silt, high turbidity

October 2010 Redevelopment Results

Well ID	Reported Construction Depth (ft)	January 2009 Well Depth Measurement (ft)	January 2010 Well Depth Measurement (ft)	October 2010 Well Depth Measurement Pre-Redevelopment (ft)	October 2010 Well Depth Measurement Post-Redevelopment (ft)	Current Description of Bottom/Comments
LL4mw-198	22.3	20.72	21.92	22.02	22.36	brown silt, high turbidity, hard bottom
LL11mw-001	24.1	21.45	23.31	23.31	23.43	hard bottom, tan , sandy high turbidity
CBLmw-001	51.6	51.14	51.6	51.14	50.45	soft bottom,purging appeared to be pulling sand into casing - purging discontinued
CBLmw-003	45.8	44.71	44.67	44.86	44.86	water was clear, low turbidity, hard bottom
CBPmw-001	34.9	32.68	34.24	34.16	34.9	water started out turbid, cleared hard bottom
CBPmw-007	32.4	31.74	31.73	31.82	32.01	hard bottom, gray silt initially turned clear/low turbidity
FBQmw-174	26.2	22.84	22.99	23.05	23.05	clear water low turbidity, hard bottom
NACAmw-113	30.1	29.30	29.60	29.60	29.62	water started out turbidity, gray silt, cleared hard bottom
ASYmw-008	27.7	27.49	26.25	26.34	27.32	gray silt, high turbidity, water never cleared, hard bottom
DETmw-001	40.5	38.48	38.5	38.51	38.51	hard bottom, water clear/low turbidity
DA2mw-106	18.1	16.78	16.76	16.78	16.78	hard bottom, water clear/low turbidity

- One well, (C-Blockmw-001) was redeveloped with the result being that the well began to become shallower as the redevelopment activities progressed. It appeared that the well redevelopment was pulling sand into the well casing, therefore redevelopment activities were discontinued. The depth of the well will be monitored during future monitoring events.

3.4 Summary of Groundwater Sampling Results

Section 1.5.1 of this report addresses the wells sampled during this reporting period. The list of FWGWMP wells monitored for the October 2009 through July 2010 events are presented in Appendix B.

3.4.1 October 2009

The October 2009 FWGWMP sampling event was performed between October 12 through 15, 2009. Fifty-one wells, including the 5 RCRA wells, were sampled for this event. The results of this sampling event are reported in the *Facility-Wide Groundwater Monitoring Program, Report on the October 2009 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio*, dated April 19 2010 (EQM). The results of this sampling event are summarized in Section 4.0 of this report.

Groundwater pH values of less than 5 have been noted in several wells over the past four sampling events. EQM has reviewed the historical purge records for these wells. The pH readings are presented below for these wells. The low pH in some of the wells could be indicative of groundwater contamination, however a full evaluation of the conditions at these wells will be conducted once all of the wells have been sampled.

pH Levels for Selected Wells

Well ID	January 2009 pH Range	April 2009 pH Range	July 2009 pH Range	October 2009 pH Range
LL11mw-005	5.09 – 5.76	4.91 - 4.97	4.52 – 4.62	5.03 – 5.83
LL6mw-007	7.85 – 8.05	4.12 - 4.13	6.34 – 7.39	6.57 – 6.95
LL9mw-006	4.6 – 5.21	4.73 – 6.61	4.30 – 5.57	4.41 – 4.64
LL7mw-006	5.20 – 5.40	5.37 – 5.60	4.69 – 4.75	5.27 – 5.31
LL9mw-007	4.8 – 5.6	5.74 - 8.31	4.78 – 5.28	5.83 – 5.88
LL9mw-002	4.9 – 5.1	5.0 – 5.05	4.75 – 4.87	5.27 – 5.4

As noted above, there does not seem to be a trend toward decreasing pH levels in these wells. A complete discussion of the pH values can be found in the *Facility-Wide Groundwater Monitoring Program, Report on the October 2009 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio*, dated April 2010 (EQM).

In conjunction with the October 2009 groundwater monitoring event, metals sampling was conducted at the remaining 186 additional wells at the facility. These wells were each sampled for filtered and unfiltered metals in support of a future geochemical evaluation to be conducted to further evaluate groundwater conditions at the facility. The data collected from this sampling was presented in a separate, stand alone document entitled *Report on the 2009 Metals Sampling Event* and is not discussed in this report.

3.4.2 January 2010

The January 2010 FWGWMP sampling event was performed on January 20 and 21, 2010. Eleven wells were sampled for this event. The results of this sampling event are reported in the *Facility-Wide Groundwater Monitoring Program, Report on the January 2009 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio*, dated July 6 2010 (EQM). The results of this sampling event are summarized in Section 4.0 of this report.

Additionally during this event depth to water from the top of the inner casing was measured in the 237 FWGWMP wells during January18-20, 2010. Water level measurements were taken with a Herron Dipper-T or Enviro Inspector electronic water-level indicator. The depth to the bottom of the well from the top of the inner casing was also measured with the electronic water level indicator. The results of the well inspections and the associated potentiometric map are included in this report as discussed in Section 3.2.

3.4.3 July 2010

The July 2009 FWGWMP sampling event was performed between July 8 and 15, 2010. Fifty-one wells were sampled for this event. The results of this sampling event are reported in the Draft *Facility-Wide Groundwater Monitoring Program, Report on the July 2010 Sampling Event, Ravenna Army Ammunition Plant, Ravenna, Ohio,* dated October 25, 2010 (EQM). The results of this sampling event are summarized in Section 4.0 of this report.

SECTION 4

SUMMARY/ASSESSMENT OF ANNUAL FWGWMP ANALYTICAL RESULTS

4.1 Introduction

A summary of the constituents detected above background levels or above RLs at each of the FWGWMP wells during the 2009-10 monitoring period is discussed in the following subsections. Table 4-1 presents the Chemicals of Potential Concern (COPCs) at the RVAAP Facility. Samples were collected on the following dates:

- October 12 through 15, 2009
- January 20 and 21, 2010
- July 5 through 15, 2010

A summary of all compounds detected in 2009 are presented in Tables 4-2 and 4-3. The Sharon Conglomerate wells were separated out in a separate table (Table 4-3) in order to present all 5 quarters of data collected prior to the 2010Annual Report preparation (April 2009, July 2009, October 2009, January 2010, and July 2010). The Maximum Contaminant Levels (MCLs) are provided, where applicable, in the following sections. MCLs and United States EPA Region 9 Preliminary Remediation Goals (PRGs) are also provided where applicable in Tables 4-2 and 4-3. RVAAP facility-wide background levels are presented in Table 4-4.

Table 4-1 Primary COPCs at the RVAAP Facility	
Dinitrotoluene-2,4	Dinitrotoluene-2,6
Trinitrotoluene-2,4,6	RDX (cyclotrimethylenetrinitramine)
Composition B [RDX + Trinitrotoluene (TNT)]	HMX [high melting point explosive (octogen)]
Nitrocellulose	Nitroglycerine
Nitroguanidine	Perchlorate
Aluminum	Arsenic
Barium	Cadmium
Chromium	Lead
Mercury	Selenium
Silver	Zinc
Other COPCs at the Facility	
1,3,5-trinitrobenzene	1,3-Dinitrobenzene
Nitrobenzene	o-Nitrotoluene
n-nitrotoluene	p-Nitrotoluene
Manganese	VOCs
SVOCs	PCBs

Table 4-2 Summary of Constituents Detected October 2009-July 2010

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Atlas Scrap Yard	ASYmw-001	Bedrock	Aluminum	**46.1**	J	50.0	U	NT		200	36000	0
			Barium	*15.7*		*16.6*		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	10	U	1.0	J	NT		NS	4.8	*
			Calcium	**144000**		**170000**		NT		NS	NS	53100
			Iron	*631*	*J*	50.0	U	NT		300	11000	1430
			Magnesium	**47100**		**55400**		NT		NS	NS	15000
			Manganese	*1040*		*1140*		NT		50	880	1340
			Nickel	2.8	J	10.0	U	NT		NS	730	83.4
			Potassium	*1190*		*1120*		NT		NS	NS	5770
			Sodium	*6340*		*7020*		NT		NS	NS	51400
			Zinc	*7.6*	*JB*	10.0	U	NT		5000	11000	52.3
Atlas Scrap Yard	ASYmw-002	Bedrock	Acetone	1.7	JB	10.0	UJ	NT		NS	5500	*
			Aluminum	50.0	U	**67.3**		NT		200	36000	0
			Barium	*12.3*		*14.7*		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	10	U	0.97	J	NT		NS	4.8	*
			Calcium	**94800**		**96800**		NT		NS	NS	53100
			Magnesium	**19800**		**20000**		NT		NS	NS	15000
			Manganese	10	U	4	J	NT		50	880	1340
			Sodium	*2260*		*2130*		NT		NS	NS	51400
			Zinc	*3.3*	*JB*	10.0	U	NT		5000	11000	52.3
Atlas Scrap Yard	ASYmw-003	Bedrock	Acetone	2.1	JB	10.0	UJ	NT		NS	5500	*
			Arsenic	**8.6**		5.0	U	NT		10	0.045	0
			Barium	*15.4*		*18.9*		NT		2000	2600	256
			Calcium	**196000**		**175000**		NT		NS	NS	53100
			Iron	**2580**		50.0	U	NT		300	11000	1430
			Magnesium	**68900**		**55800**		NT		NS	NS	15000
			Manganese	*529*		*45*		NT		50	880	1340
			Potassium	*1730*		*1070*		NT		NS	NS	5770
			Sodium	*21700*		*29000*		NT		NS	NS	51400
			Zinc	*2.4*	*JB*	10.0	U	NT		5000	11000	52.3
Atlas Scrap Yard	ASYmw-004	Bedrock	Acetone	10	U	1.2	JB	NT		NS	5500	*
			Arsenic	**28**		**23.2**		NT		10	0.045	0
			Barium	*12.7*		*12.7*		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	1.3	J	0.9	J	NT		NS	4.8	*
			Calcium	**163000**		**157000**		NT		NS	NS	53100
			Iron	**1940**	**J**	**1490**	**J**	NT		300	11000	1430
			Magnesium	**81600**		**79600**		NT		NS	NS	15000
			Manganese	*201*		*211*		NT		50	880	1340
			Potassium	*3480*		*2850*		NT		NS	NS	5770
			Sodium	**52300**		**51600**		NT		NS	NS	51400
			Zinc	*7*	*JB*	10.0	U	NT		5000	11000	52.3
Atlas Scrap Yard	ASYmw-005	Bedrock	2,6-Dinitrotoluene	5.0	U	0.06	J	NT		NS	36	*
			Acetone	1.5	JB	10	UJ	NT		NS	5500	*
			Aluminum	**43.6**	**J**	50.0	U	NT		200	36000	0
			Barium	*32.7*		*28.5*		NT		2000	2600	256
			beta-BHC	0.017	J	0.030	UJ	NT		NS	0.037	*
			bis(2-Ethylhexyl) phthalate	10	U	1	J	NT		NS	4.8	*
			Calcium	**153000**		**146000**		NT		NS	NS	53100
			Cobalt	**3.4**	**J**	5.0	U	NT		NS	730	0
			Iron	*289*		50.0	U	NT		300	11000	1430
			Magnesium	**45100**		**42600**		NT		NS	NS	15000
			Manganese	*618*		*207*		NT		50	880	1340
			Nickel	*2.2*	*J*	10.0	U	NT		NS	730	83.4
			Potassium	*2580*		*1740*		NT		NS	NS	5770
			Sodium	*42100*		*32300*		NT		NS	NS	51400

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Atlas Scrap Yard	ASYmw-006	Bedrock	1,3,5-Trinitrobenzene	0.099	U	0.032	JB	NT		NS	1100	*
			Acetone	2.3	JB	10	UJ	NT		NS	5500	*
			Arsenic	**17**		**16.1**		NT		10	0.045	0
			Barium	*14.3*		*14.8*		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	1.6	J	1.1	J	NT		NS	4.8	*
			Calcium	**113000**		**116000**		NT		NS	NS	53100
			Iron	*1360*		*1120*	*J*	NT		300	11000	1430
			Magnesium	**71500**		**72300**		NT		NS	NS	15000
			Manganese	*177*		*169*		NT		50	880	1340
			Potassium	*3240*		*2860*		NT		NS	NS	5770
			Sodium	*38000*		*39900*		NT		NS	NS	51400
			Zinc	*3*	*JB*	10.0	U	NT		5000	11000	52.3
Atlas Scrap Yard	ASYmw-007	Unconsolidated	Barium	*20.6*		*18.5*		NT		2000	2600	82.1
			Calcium	**138000**		**126000**		NT		NS	NS	115000
			Magnesium	**54500**		**47300**		NT		NS	NS	43300
			Manganese	*205*		*188*		NT		50	880	1020
			Potassium	*1450*		*1170*		NT		NS	NS	2890
			Sodium	*36400*		*33500*		NT		NS	NS	45700
			Zinc	*4.1*	*JB*	10.0	U	NT		5000	11000	60.9
Atlas Scrap Yard	ASYmw-008	Unconsolidated	1,3,5-Trinitrobenzene	0.098	JB	0.033	JB	NT		NS	1100	*
			3-Nitrotoluene	0.49	U	0.16	J	NT		NS	120	*
			Acetone	1.2	JB	10	UJ	NT		NS	5500	*
			Aluminum	**6300**		**1160**	**J**	NT		200	36000	0
			Arsenic	**26.4**		*10.3*	J	NT		10	0.045	11.7
			Barium	*45.3*		*18.8*		NT		2000	2600	82.1
			Calcium	**208000**		**167000**		NT		NS	NS	115000
			Chromium	**9.3**		*2.1*	*J*	NT		100	110	7.3
			Cobalt	**8.7**		1.6	UJ	NT		NS	730	0
			Copper	**15**		5.0	U	NT		1300	1500	0
			Iron	**17000**	**J**	**3210**	**J**	NT		300	11000	279
			Lead	**5.8**		3.0	U	NT		15	NS	0
			Magnesium	**97900**		**78100**		NT		NS	NS	43300
			Manganese	*412*		*64.7*		NT		50	880	1020
			Nickel	**16.9**	**B**	**4.4**	**J**	NT		NS	730	0
			Phenol	1.0	U	1.1		NT		NS	11000	*
			Potassium	**5410**		**3660**		NT		NS	NS	2890
			Sodium	*36300*		*31000*		NT		NS	NS	45700
			Vanadium	**10.7**		10.0	U	NT		NS	36	0
			Zinc	*36.5*	*J*	*11.5*	*B*	NT		5000	11000	60.9
Atlas Scrap Yard	ASYmw-009	Bedrock	1,3,5-Trinitrobenzene	0.10	U	0.033	JB	NT		NS	1100	*
			Aluminum	**142**		**496**		NT		200	36000	0
			Barium	*26.9*		*27.1*		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	10	U	0.95	J	NT		NS	4.8	*
			Calcium	**196000**		**188000**		NT		NS	NS	53100
			Iron	*323*	*J*	*811*	*J*	NT		300	11000	1430
			Magnesium	**72700**		**69900**		NT		NS	NS	15000
			Manganese	*607*		*624*		NT		50	880	1340
			Potassium	*1560*		*1500*		NT		NS	NS	5770
			Sodium	*23400*		*22500*		NT		NS	NS	51400
			Zinc	*3.5*	*JB*	*5*	*JB*	NT		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Atlas Scrap Yard	ASYmw-010	Unconsolidated	1,3,5-Trinitrobenzene	0.1	U	0.044	JB	NT		NS	1100	*
			Aluminum	50.0	U	**1160**		NT		200	36000	0
			Arsenic	**49.8**		**148**		NT		10	0.045	11.7
			Barium	*56.1*		*56.4*		NT		2000	2600	82.1
			beta-BHC	0.014	J	0.030	UJ	NT		NS	0.037	*
			bis(2-Ethylhexyl) phthalate	10.0	U	1.2	J	NT		NS	4.8	*
			Calcium	**119000**		*94400*		NT		NS	NS	115000
			Iron	**2530**		**6760**	**J**	NT		300	11000	279
			Magnesium	**86700**		**80300**		NT		NS	NS	43300
			Manganese	*139*		*96.2*		NT		50	880	1020
			Nickel	10.0	U	**2.6**	**J**	NT		NS	730	0
			Potassium	**2730**		**2760**		NT		NS	NS	2890
			Sodium	**45900**		*43800*		NT		NS	NS	45700
			Zinc	*2.6*	*JB*	*12.3*	*B*	NT		5000	11000	60.9
Demolition Area 2	DETmw-003	Unconsolidated	1,3,5-Trinitrobenzene	0.099	JB	NT		NT		NS	1100	*
			Arsenic	*11.5*		NT		NT		10	0.045	11.7
			Barium	*48.5*		NT		NT		2000	2600	82.1
			Calcium	*87900*		NT		NT		NS	NS	115000
			Iron	**1440**		NT		NT		300	11000	279
			Magnesium	*32800*		NT		NT		NS	NS	43300
			Manganese	*266*		NT		NT		50	880	1020
			Potassium	*1780*		NT		NT		NS	NS	2890
			Sodium	*12000*		NT		NT		NS	NS	45700
			Zinc	*5.4*	*JB*	NT		NT		5000	11000	60.9
Demolition Area 2	DETmw-004	Unconsolidated	Acetone	2.2	JB	NT		NT		NS	5500	*
			Barium	*63.4*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	0.9	J	NT		NT		NS	4.8	*
			Calcium	**145000**		NT		NT		NS	NS	115000
			HMX	1.5		NT		NT		NS	1800	*
			Magnesium	*28600*		NT		NT		NS	NS	43300
			Manganese	*21.9*		NT		NT		50	880	1020
			Potassium	*1820*		NT		NT		NS	NS	2890
			RDX	0.43	J	NT		NT		NS	0.61	*
			Sodium	*3100*		NT		NT		NS	NS	45700
			Zinc	*10.6*	*B*	NT		NT		5000	11000	60.9
Load Line 10	LL10mw-001	Bedrock	Aluminum	**53.7**		NT		NT		200	36000	0
			Calcium	**66100**		NT		NT		NS	NS	53100
			Carbon tetrachloride	1.6	J	NT		NT		5	0.17	*
			Chloroform	0.26	J	NT		NT		NS	0.17	*
			Iron	*133*		NT		NT		300	11000	1430
			Magnesium	**23800**		NT		NT		NS	NS	15000
			Manganese	*2.6*	*J*	NT		NT		50	880	1340
			Potassium	*1030*		NT		NT		NS	NS	5770
			RDX	0.078	J	NT		NT		NS	0.61	*
			Sodium	*8320*		NT		NT		NS	NS	51400
			Zinc	*3*	*JB*	NT		NT		5000	11000	52.3
Load Line 10	LL10mw-002	Bedrock	Barium	*17.3*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	8.1	J	NT		NT		NS	4.8	*
			Calcium	*36300*		NT		NT		NS	NS	53100
			Magnesium	*10700*		NT		NT		NS	NS	15000
			Potassium	*910*	*J*	NT		NT		NS	NS	5770
			Sodium	*6320*		NT		NT		NS	NS	51400

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 10	LL10mw-003	Bedrock	Calcium	*51200*		NT		NT		NS	NS	53100
			Carbon tetrachloride	2.8		NT		NT		5	0.17	*
			Chloroform	0.26	J	NT		NT		NS	0.17	*
			Magnesium	*14500*		NT		NT		NS	NS	15000
			Nitrocellulose	0.13	JB	NT		NT		NS	4.8	*
			Sodium	*10300*		NT		NT		NS	NS	51400
Load Line 10	LL10mw-004	Bedrock	Barium	*3.1*	*J*	NT		NT		2000	2600	256
			Calcium	**68400**		NT		NT		NS	NS	53100
			Magnesium	**20200**		NT		NT		NS	NS	15000
			Manganese	*24.4*		NT		NT		50	880	1340
			Sodium	*4210*		NT		NT		NS	NS	51400
			Zinc	*4.2*	*JB*	NT		NT		5000	11000	52.3
Load Line 10	LL10mw-005	Bedrock	Barium	*3.3*	*J*	NT		NT		2000	2600	256
			Calcium	**62200**		NT		NT		NS	NS	53100
			Magnesium	*14500*		NT		NT		NS	NS	15000
			Manganese	*15.8*		NT		NT		50	880	1340
			Sodium	*3400*		NT		NT		NS	NS	51400
			Zinc	*2.5*	*JB*	NT		NT		5000	11000	52.3
Load Line 10	LL10mw-006	Unconsolidated	Barium	*12.2*		NT		NT		2000	2600	82.1
			Calcium	**17800**		NT		NT		NS	NS	115000
			Magnesium	*6980*		NT		NT		NS	NS	43300
			Manganese	*4.5*	*J*	NT		NT		50	880	1020
			Potassium	*1020*		NT		NT		NS	NS	2890
			Sodium	*2730*		NT		NT		NS	NS	45700
			Zinc	*3.9*	*JB*	NT		NT		5000	11000	60.9
Load Line 11	LL11mw-001	Unconsolidated	Barium	*76.1*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	350		NT		NT		NS	4.8	*
			Calcium	**88500**		NT		NT		NS	NS	115000
			Magnesium	*29000*		NT		NT		NS	NS	43300
			Manganese	*960*		NT		NT		50	880	1020
			Potassium	*954*	*J*	NT		NT		NS	NS	2890
			Sodium	*12400*		NT		NT		NS	NS	45700
			Zinc	*2.9*	*JB*	NT		NT		5000	11000	60.9
Load Line 11	LL11mw-003	Unconsolidated	Barium	*29.9*		NT		NT		2000	2600	82.1
			beta-BHC	0.012	J	NT		NT		NS	0.037	*
			bis(2-Ethylhexyl) phthalate	8.6	J	NT		NT		NS	4.8	*
			Calcium	*101000*		NT		NT		NS	NS	115000
			Iron	*143*	*J*	NT		NT		300	11000	279
			Magnesium	*30500*		NT		NT		NS	NS	43300
			Manganese	*498*		NT		NT		50	880	1020
			Potassium	*981*	*J*	NT		NT		NS	NS	2890
			Sodium	*10800*		NT		NT		NS	NS	45700
			Zinc	*5.6*	*JB*	NT		NT		5000	11000	60.9
Load Line 11	LL11mw-004	Unconsolidated	Barium	*53.3*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	1.8	J	NT		NT		NS	4.8	*
			Cadmium	**1.7**		NT		NT		5	18	0
			Calcium	*78900*		NT		NT		NS	NS	115000
			Magnesium	*25700*		NT		NT		NS	NS	43300
			Manganese	*272*		NT		NT		50	880	1020
			Potassium	*1100*		NT		NT		NS	NS	2890
			Sodium	*12700*		NT		NT		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 11	LL11mw-005	Unconsolidated	Aluminum	**102**		NT		NT		200	36000	0
			Barium	*28.1*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	1.5	J	NT		NT		NS	4.8	*
			Cadmium	**0.26**	**J**	NT		NT		5	18	0
			Calcium	*8580*		NT		NT		NS	NS	115000
			Cobalt	**1.5**	**J**	NT		NT		NS	730	0
			Iron	*225*		NT		NT		300	11000	279
			Magnesium	*4510*		NT		NT		NS	NS	43300
			Manganese	*43.8*		NT		NT		50	880	1020
			Nickel	**12.2**		NT		NT		NS	730	0
			Sodium	*3030*		NT		NT		NS	NS	45700
			Zinc	*22.4*	*B*	NT		NT		5000	11000	60.9
Load Line 11	LL11mw-006	Unconsolidated	Barium	*28.3*		NT		NT		2000	2600	82.1
			Calcium	*81100*		NT		NT		NS	NS	115000
			Magnesium	*17300*		NT		NT		NS	NS	43300
			Potassium	*860*	*J*	NT		NT		NS	NS	2890
			Selenium	**5.3**		NT		NT		50	180	0
			Sodium	*7890*		NT		NT		NS	NS	45700
Load Line 11	LL11mw-008	Unconsolidated	Aluminum	**25.3**	**J**	NT		NT		200	36000	0
			Barium	*49.4*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	0.83	J	NT		NT		NS	4.8	*
			Calcium	**115000**		NT		NT		NS	NS	115000
			Iron	*26.6*	*J*	NT		NT		300	11000	279
			Magnesium	*33800*		NT		NT		NS	NS	43300
			Manganese	*29.4*		NT		NT		50	880	1020
			Potassium	*1130*		NT		NT		NS	NS	2890
			Sodium	*4920*		NT		NT		NS	NS	45700
			Zinc	*3.7*	*JB*	NT		NT		5000	11000	60.9
Load Line 11	LL11mw-009	Unconsolidated	1,3,5-Trinitrobenzene	0.098	U	0.036	JB	NT		NS	1100	*
			2,6-Dinitrotoluene	0.098	JB	0.1	U	NT		NS	36	*
			Aluminum	**41.7**	**J**	**26**		NT		200	36000	0
			Barium	*66.3*		*76.4*		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	0.95	J	10		NT		NS	4.8	*
			Calcium	*82400*		*85400*		NT		NS	NS	115000
			Magnesium	*28500*		*27800*		NT		NS	NS	43300
			Manganese	*706*		*856*		NT		50	880	1020
			Nickel	**2.3**	**J**	10.0	U	NT		NS	730	0
			Nitrobenzene	0.098	U	0.064	J	NT		NS	3.4	*
			Potassium	*956*	*J*	*905*	*J*	NT		NS	NS	2890
			Sodium	*12800*		*11600*		NT		NS	NS	45700
			Tetrachloroethene	4.1		3.8		NT		5	0.1	*
			Zinc	*2.9*	*JB*	10.0	U	NT		5000	11000	60.9
Load Line 11	LL11mw-010	Unconsolidated	Aluminum	**26.3**	**J**	NT		NT		200	36000	0
			Barium	*66.3*		NT		NT		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	0.88	J	NT		NT		NS	4.8	*
			Calcium	*80200*		NT		NT		NS	NS	115000
			Chromium	*1.7*	*J*	NT		NT		100	110	7.3
			Iron	*249*	*J*	NT		NT		300	11000	279
			Magnesium	*31300*		NT		NT		NS	NS	43300
			Manganese	*430*		NT		NT		50	880	1020
			Potassium	*1380*		NT		NT		NS	NS	2890
			Sodium	*27600*		NT		NT		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 6	LL6mw-005	Bedrock	1,3,5-Trinitrobenzene	0.039	J	NT		NT		NS	1100	*
			Arsenic	**14.4**		NT		NT		10	0.045	0
			Barium	*64.2*		NT		NT		2000	2600	256
			Calcium	**78300**		NT		NT		NS	NS	53100
			Iron	*946*	J	NT		NT		300	11000	1430
			Magnesium	**24400**		NT		NT		NS	NS	15000
			Manganese	*501*		NT		NT		50	880	1340
			Potassium	*1040*		NT		NT		NS	NS	5770
			Sodium	*8640*		NT		NT		NS	NS	51400
Load Line 6	LL6mw-006	Unconsolidated	1,3,5-Trinitrobenzene	**0.037**	**J**	NT		NT		NS	1100	*
			2,6-Dinitrotoluene	**0.09**	**J**	NT		NT		NS	36	*
			Aluminum	**180**	**J**	NT		NT		200	36000	0
			Barium	*26.5*		NT		NT		2000	2600	82.1
			Cadmium	**0.47**	**J**	NT		NT		5	18	0
			Calcium	*73100*		NT		NT		NS	NS	115000
			Iron	**363**	**J**	NT		NT		300	11000	279
			Magnesium	*29100*		NT		NT		NS	NS	43300
			Manganese	*72.4*		NT		NT		50	880	1020
			Potassium	*1850*		NT		NT		NS	NS	2890
			Sodium	*8220*		NT		NT		NS	NS	45700
			Zinc	*3.9*	*JB*	NT		NT		5000	11000	60.9
Load Line 6	LL6mw-007	Bedrock	Aluminum	**117**	**J**	NT		NT		200	36000	0
			Barium	*15.4*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	1	J	NT		NT		NS	4.8	*
			Cadmium	**0.46**	**J**	NT		NT		5	18	0
			Calcium	**55400**		NT		NT		NS	NS	53100
			Iron	*185*	*J*	NT		NT		300	11000	1430
			Magnesium	**22700**		NT		NT		NS	NS	15000
			Manganese	*394*		NT		NT		50	880	1340
			Potassium	*869*	*J*	NT		NT		NS	NS	5770
			Sodium	*7790*		NT		NT		NS	NS	51400
			Zinc	*2.4*	*JB*	NT		NT		5000	11000	52.3
Load Line 7	LL7mw-001	Bedrock	1,1,1-Trichloroethane	11		NT		NT		NS	3200	*
			1,1-Dichloroethane	3.3		NT		NT		NS	810	*
			1,1-Dichloroethene (total)	8.4		NT		NT		7	340	*
			Barium	*22.1*		NT		NT		2000	2600	256
			Calcium	*33600*		NT		NT		NS	NS	53100
			Cobalt	**7**		NT		NT		NS	730	0
			Iron	**8360**	**J**	NT		NT		300	11000	1430
			Magnesium	*11600*		NT		NT		NS	NS	15000
			Manganese	*460*		NT		NT		50	880	1340
			Nickel	*9.6*	*J*	NT		NT		NS	730	83.4
			Potassium	*1020*		NT		NT		NS	NS	5770
			Sodium	*5800*		NT		NT		NS	NS	51400
			Zinc	*50.2*	*J*	NT		NT		5000	11000	52.3
Load Line 7	LL7mw-002	Bedrock	Barium	*51.7*		NT		NT		2000	2600	256
			Cadmium	**0.4**	**J**	NT		NT		5	18	0
			Calcium	*37100*		NT		NT		NS	NS	53100
			Magnesium	*7830*		NT		NT		NS	NS	15000
			Manganese	*311*		NT		NT		50	880	1340
			Nickel	*8.4*	*J*	NT		NT		NS	730	83.4
			Potassium	*1830*		NT		NT		NS	NS	5770
			Sodium	*2590*		NT		NT		NS	NS	51400
			Zinc	*8*	*JB*	NT		NT		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 7	LL7mw-003	Bedrock	1,3,5-Trinitrobenzene	0.042	J	NT		NT		NS	1100	*
			Barium	*48.1*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	10		NT		NT		NS	4.8	*
			Calcium	*15800*	*J*	NT		NT		NS	NS	53100
			Cobalt	**4.6**	**J**	NT		NT		NS	730	0
			Iron	**17200**		NT		NT		300	11000	1430
			Magnesium	*5700*		NT		NT		NS	NS	15000
			Manganese	*1340*		NT		NT		50	880	1340
			Nickel	*5.8*	*J*	NT		NT		NS	730	83.4
			Nitrobenzene	0.13	J	NT		NT		NS	3.4	*
			Potassium	*1160*		NT		NT		NS	NS	5770
			Sodium	*5240*		NT		NT		NS	NS	51400
			Thallium	0.41	JB	NT		NT		2	2.4	0
			Zinc	*14.3*	*B*	NT		NT		5000	11000	52.3
Load Line 7	LL7mw-004	Bedrock	1,3,5-Trinitrobenzene	0.035	J	NT		NT		NS	1100	*
			Barium	*40.5*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	2.3	J	NT		NT		NS	4.8	*
			Calcium	*8400*		NT		NT		NS	NS	53100
			Cobalt	**5.5**		NT		NT		NS	730	0
			HMX	0.048	J	NT		NT		NS	1800	*
			Iron	*17000*	*J*	NT		NT		300	11000	1430
			Magnesium	*6260*		NT		NT		NS	NS	15000
			Manganese	*1230*		NT		NT		50	880	1340
			Nickel	*5.3*	*J*	NT		NT		NS	730	83.4
			Potassium	*1390*		NT		NT		NS	NS	5770
			Sodium	*15100*		NT		NT		NS	NS	51400
			Zinc	*14.4*	*B*	NT		NT		5000	11000	52.3
Load Line 7	LL7mw-005	Bedrock	1,3,5-Trinitrobenzene	0.032	J	NT		NT		NS	1100	*
			Aluminum	**81.1**	**J**	NT		NT		200	36000	0
			Barium	*150*		NT		NT		2000	2600	256
			beta-BHC	0.014	J	NT		NT		NS	0.037	*
			bis(2-Ethylhexyl) phthalate	1.9	J	NT		NT		NS	4.8	*
			Calcium	*9040*		NT		NT		NS	NS	53100
			Cobalt	**8.2**		NT		NT		NS	730	0
			Iron	*1290*	*J*	NT		NT		300	11000	1430
			Magnesium	*5150*		NT		NT		NS	NS	15000
			Manganese	**2320**		NT		NT		50	880	1340
			Nickel	*10.6*		NT		NT		NS	730	83.4
			Nitrobenzene	0.051	J	NT		NT		NS	3.4	*
			Potassium	*1120*		NT		NT		NS	NS	5770
			Sodium	*2070*		NT		NT		NS	NS	51400
			Zinc	*8.9*	*JB*	NT		NT		5000	11000	52.3
Load Line 7	LL7mw-006	Bedrock	1,3,5-Trinitrobenzene	0.039	J	NT		NT		NS	1100	*
			Barium	*15.5*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	2.2	J	NT		NT		NS	4.8	*
			Cadmium	**0.3**	**J**	NT		NT		5	18	0
			Calcium	*8010*		NT		NT		NS	NS	53100
			HMX	0.085	J	NT		NT		NS	1800	*
			Iron	**2880**	**J**	NT		NT		300	11000	1430
			Magnesium	*5070*		NT		NT		NS	NS	15000
			Manganese	*1240*		NT		NT		50	880	1340
			Nickel	*7.3*	*J*	NT		NT		NS	730	83.4
			Potassium	*902*	*J*	NT		NT		NS	NS	5770
			RDX	0.78	J	NT		NT		NS	0.61	*
			Sodium	*7650*		NT		NT		NS	NS	51400
			Zinc	*12.6*	*B*	NT		NT		5000	11000	52.3

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Load Line 8	LL8mw-001	Unconsolidated	Aluminum	**65**		NT		NT		200	36000	0
			Barium	*33.6*		NT		NT		2000	2600	82.1
			Calcium	*81900*		NT		NT		NS	NS	115000
			Iron	*942*		NT		NT		300	11000	279
			Magnesium	**43600**		NT		NT		NS	NS	43300
			Manganese	*125*		NT		NT		50	880	1020
			Potassium	*1670*		NT		NT		NS	NS	2890
			Sodium	*29100*		NT		NT		NS	NS	45700
Load Line 8	LL8mw-002	Unconsolidated	Arsenic	*6.6*	*J*	NT		NT		10	0.045	11.7
			Barium	*38.9*		NT		NT		2000	2600	82.1
			Calcium	*95300*		NT		NT		NS	NS	115000
			Iron	**3850**		NT		NT		300	11000	279
			Magnesium	*38600*		NT		NT		NS	NS	43300
			Manganese	*333*		NT		NT		50	880	1020
			Potassium	*2070*		NT		NT		NS	NS	2890
			Sodium	*29400*		NT		NT		NS	NS	45700
Load Line 8	LL8mw-003	Unconsolidated	Aluminum	**47.5**	**J**	NT		NT		200	36000	0
			Arsenic	*4.1*	*J*	NT		NT		10	0.045	11.7
			Barium	*24.3*		NT		NT		2000	2600	82.1
			Calcium	**129000**		NT		NT		NS	NS	115000
			Iron	**929**		NT		NT		300	11000	279
			Magnesium	**46000**		NT		NT		NS	NS	43300
			Manganese	*677*		NT		NT		50	880	1020
			Nitrocellulose	0.15	JB	NT		NT		NS	4.8	*
			Potassium	*2520*		NT		NT		NS	NS	2890
			Sodium	*45400*		NT		NT		NS	NS	45700
Load Line 8	LL8mw-004	Unconsolidated	Aluminum	**23.3**	**J**	NT		NT		200	36000	0
			Arsenic	*3.3*	*J*	NT		NT		10	0.045	11.7
			Barium	*10.7*		NT		NT		2000	2600	82.1
			Calcium	*88900*		NT		NT		NS	NS	115000
			Chromium	*1.4*	*J*	NT		NT		100	110	7.3
			Magnesium	**43500**		NT		NT		NS	NS	43300
			Manganese	*31.5*		NT		NT		50	880	1020
			Potassium	*1290*		NT		NT		NS	NS	2890
			Sodium	*23300*		NT		NT		NS	NS	45700
Load Line 8	LL8mw-005	Bedrock	Aluminum	**170**		NT		NT		200	36000	0
			Barium	*11.7*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	2.8	J	NT		NT		NS	4.8	*
			Calcium	**64400**		NT		NT		NS	NS	53100
			Iron	*1180*		NT		NT		300	11000	1430
			Magnesium	**21600**		NT		NT		NS	NS	15000
			Manganese	**2690**		NT		NT		50	880	1340
			Nickel	*2.6*	*J*	NT		NT		NS	730	83.4
			Sodium	*11000*		NT		NT		NS	NS	51400
			Zinc	*3*	*JB*	NT		NT		5000	11000	52.3
Load Line 8	LL8mw-006	Bedrock	Barium	*15.5*		NT		NT		2000	2600	256
			Calcium	**70700**		NT		NT		NS	NS	53100
			Magnesium	**28800**		NT		NT		NS	NS	15000
			Nitrocellulose	0.13	JB	NT		NT		NS	4.8	*
			Potassium	*1620*		NT		NT		NS	NS	5770
			Sodium	*4760*		NT		NT		NS	NS	51400

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 9	LL9mw-001	Bedrock	Acetone	1.7	JB	NT		NT		NS	5500	*
			Barium	*8.1*	*J*	NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	5.3	J	NT		NT		NS	4.8	*
			Calcium	*37100*		NT		NT		NS	NS	53100
			Magnesium	*11300*		NT		NT		NS	NS	15000
			Manganese	*3.6*	*J*	NT		NT		50	880	1340
			Potassium	*888*	*J*	NT		NT		NS	NS	5770
			Sodium	*2940*		NT		NT		NS	NS	51400
Load Line 9	LL9mw-002	Bedrock	Aluminum	**38**	**J**	NT		NT		200	36000	0
			Barium	*3.3*	*J*	NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	**5.6**	**J**	NT		NT		NS	4.8	*
			Calcium	*17400*		NT		NT		NS	NS	53100
			Magnesium	*7520*		NT		NT		NS	NS	15000
			Manganese	*9.2*	*J*	NT		NT		50	880	1340
			Nickel	*5.5*	*J*	NT		NT		NS	730	83.4
			Potassium	*1300*		NT		NT		NS	NS	5770
			Sodium	*1940*		NT		NT		NS	NS	51400
			Zinc	*4.5*	*JB*	NT		NT		5000	11000	52.3
Load Line 9	LL9mw-003	Bedrock	Aluminum	**357**		NT		NT		200	36000	0
			Barium	*12.9*		NT		NT		2000	2600	256
			Calcium	*18100*		NT		NT		NS	NS	53100
			Iron	**3240**		NT		NT		300	11000	1430
			Magnesium	*5220*		NT		NT		NS	NS	15000
			Manganese	*111*		NT		NT		50	880	1340
			Nickel	*6.6*	*J*	NT		NT		NS	730	83.4
			Potassium	*2180*		NT		NT		NS	NS	5770
			Sodium	*2770*		NT		NT		NS	NS	51400
			Zinc	*21.2*	*B*	NT		NT		5000	11000	52.3
Load Line 9	LL9mw-004	Bedrock	Barium	*31*		NT		NT		2000	2600	256
			Calcium	*12000*		NT		NT		NS	NS	53100
			Cobalt	**4.9**	**J**	NT		NT		NS	730	0
			Iron	**10600**		NT		NT		300	11000	1430
			Magnesium	*9850*		NT		NT		NS	NS	15000
			Manganese	*2290*		NT		NT		50	880	1340
			Nickel	*6.9*	*J*	NT		NT		NS	730	83.4
			Sodium	*4650*		NT		NT		NS	NS	51400
			Thallium	**0.33**	**J**	NT		NT		2	2.4	0
			Zinc	*12.9*	*B*	NT		NT		5000	11000	52.3
Load Line 9	LL9mw-005	Bedrock	Aluminum	**50.5**		NT		NT		200	36000	0
			Calcium	*9220*		NT		NT		NS	NS	53100
			Iron	*157*		NT		NT		300	11000	1430
			Magnesium	*4710*		NT		NT		NS	NS	15000
			Manganese	*24.8*		NT		NT		50	880	1340
			Nickel	*5.3*	*J*	NT		NT		NS	730	83.4
			Sodium	*3870*		NT		NT		NS	NS	51400
			Zinc	*58.1*	*J*	NT		NT		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 9	LL9mw-006	Bedrock	Aluminum	**23.5**	**J**	NT		NT		200	36000	0
			Barium	*43.6*		NT		NT		2000	2600	256
			bis(2-Ethylhexyl) phthalate	1.7	J	NT		NT		NS	4.8	*
			Calcium	*5280*		NT		NT		NS	NS	53100
			Iron	**1930**		NT		NT		300	11000	1430
			Magnesium	*5800*		NT		NT		NS	NS	15000
			Manganese	*677*		NT		NT		50	880	1340
			Nickel	*11.2*		NT		NT		NS	730	83.4
			Potassium	*1130*		NT		NT		NS	NS	5770
			Sodium	*2660*		NT		NT		NS	NS	51400
			Zinc	*10.8*	*B*	NT		NT		5000	11000	52.3
Load Line 9	LL9mw-007	Bedrock	2,6-Dinitrotoluene	0.098	JB	NT		NT		NS	36	*
			Barium	*14.8*		NT		NT		2000	2600	256
			Calcium	*12000*		NT		NT		NS	NS	53100
			Cobalt	**9.3**		NT		NT		NS	730	0
			Iron	**9900**		NT		NT		300	11000	1430
			Magnesium	*6450*		NT		NT		NS	NS	15000
			Manganese	*1050*		NT		NT		50	880	1340
			Nickel	*19.2*		NT		NT		NS	730	83.4
			Potassium	*1270*		NT		NT		NS	NS	5770
			Sodium	*3090*		NT		NT		NS	NS	51400
			Zinc	*25.9*	*B*	NT		NT		5000	11000	52.3
Ramsdell Quarry Landfill	RQLmw-007	Bedrock	Arsenic	**71.4**		NT		NT		10	0.045	0
			Barium	*51.8*		NT		NT		2000	2600	256
			beta-BHC	0.015	J	NT		NT		NS	0.037	*
			Calcium	**144000**		NT		NT		NS	NS	53100
			Cobalt	**6.2**		NT		NT		NS	730	0
			HMX	1.5		NT		NT		NS	1800	*
			Iron	**23900**	**J**	NT		NT		300	11000	1430
			Magnesium	**86600**		NT		NT		NS	NS	15000
			Manganese	**1740**		NT		NT		50	880	1340
			Nickel	*12.6*		NT		NT		NS	730	83.4
			Potassium	**7220**		NT		NT		NS	NS	5770
			RDX	0.43	J	NT		NT		NS	0.61	*
			Sodium	*9590*		NT		NT		NS	NS	51400
			Zinc	*16.8*	*B*	NT		NT		5000	11000	52.3
Ramsdell Quarry Landfill	RQLmw-008	Bedrock	alpha-BHC	0.023	J	NT		NT		NS	0.011	*
			Arsenic	**29.9**		NT		NT		10	0.045	0
			Barium	*89*		NT		NT		2000	2600	256
			beta-BHC	0.0095	J	NT		NT		NS	0.037	*
			Calcium	**57700**		NT		NT		NS	NS	53100
			Chromium	**1.5**	**J**	NT		NT		100	110	0
			delta-BHC	0.025	J	NT		NT		NS	NS	*
			Iron	**49600**	**J**	NT		NT		300	11000	1430
			Magnesium	**62900**		NT		NT		NS	NS	15000
			Manganese	*408*		NT		NT		50	880	1340
			Potassium	*3690*		NT		NT		NS	NS	5770
			Sodium	*8350*		NT		NT		NS	NS	51400
			Zinc	*18.5*	*B*	NT		NT		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Ramsdell Quarry Landfill	RQLmw-009	Bedrock	1,3,5-Trinitrobenzene	0.1	JB	NT		NT		NS	1100	*
			Arsenic	**8.9**		NT		NT		10	0.045	0
			Barium	*36.1*		NT		NT		2000	2600	256
			Calcium	*22600*		NT		NT		NS	NS	53100
			Chromium	**1.8**	J	NT		NT		100	110	0
			Cobalt	**4.6**	J	NT		NT		NS	730	0
			Iron	**5280**	J	NT		NT		300	11000	1430
			Magnesium	**20200**		NT		NT		NS	NS	15000
			Manganese	*1260*		NT		NT		50	880	1340
			Potassium	*3900*		NT		NT		NS	NS	5770
			Sodium	*1870*		NT		NT		NS	NS	51400
			Zinc	*6.9*	*JB*	NT		NT		5000	11000	52.3
Load Line 1	LL1mw-064	Unconsolidated	Barium	NT		NT		*44.5*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		0.88	JB	NS	4.8	*
			Calcium	NT		NT		*54300*		NS	NS	115000
			Iron	NT		NT		**517**		300	11000	279
			Magnesium	NT		NT		*9330*		NS	NS	43300
			Manganese	NT		NT		*112*		50	880	1020
			PETN	NT		NT		1.3		NS	NS	*
			Sodium	NT		NT		*4890*		NS	NS	45700
Load Line 1	LL1mw-065	Unconsolidated	Barium	NT		NT		*48.6*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.4	JB	NS	4.8	*
			Calcium	NT		NT		*79300*		NS	NS	115000
			Iron	NT		NT		*127*		300	11000	279
			Magnesium	NT		NT		*19900*		NS	NS	43300
			Manganese	NT		NT		*256*		50	880	1020
			Potassium	NT		NT		*845*	*J*	NS	NS	2890
			Sodium	NT		NT		*10700*		NS	NS	45700
Load Line 1	LL1mw-067	Bedrock	1,3,5-Trinitrobenzene	NT		NT		0.038	JB	NS	1100	*
			Barium	NT		NT		*11.2*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		2.1	JB	NS	4.8	*
			Calcium	NT		NT		*29400*		NS	NS	53100
			Magnesium	NT		NT		*10400*		NS	NS	15000
			Manganese	NT		NT		*13.1*		50	880	1340
			Nickel	NT		NT		*21.5*		NS	730	83.4
			Sodium	NT		NT		*1590*		NS	NS	45700
Load Line 1	LL1mw-078	Bedrock	1,3,5-Trinitrobenzene	NT		NT		0.047	JB	NS	1100	*
			Aluminum	NT		NT		**110**		200	36000	0
			Barium	NT		NT		*16.2*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		1.5	JB	NS	4.8	*
			Calcium	NT		NT		*47300*		NS	NS	53100
			Di-n-butyl phthalate	NT		NT		0.8	J	NS	NS	*
			Magnesium	NT		NT		*7390*		NS	NS	15000
			Manganese	NT		NT		*71*		50	880	1340
			Nickel	NT		NT		*4.5*	*J*	NS	730	83.4
			Potassium	NT		NT		*3100*		NS	NS	5770
			RDX	NT		NT		0.095	J	NS	0.61	*
			Sodium	NT		NT		*3770*		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 1	LL1mw-080	Bedrock	1,3,5-Trinitrobenzene	NT		NT		1.3	J	NS	1100	*
			1,3-Dinitrobenzene	NT		NT		0.93		NS	3.6	*
			2,4,6-Trinitrolouene	NT		NT		0.92		NS	2.2	*
			2,4-Dinitrotoluene	NT		NT		0.71		NS	73	*
			2,6-Dinitrotoluene	NT		NT		0.89		NS	36	*
			2-Amino-4,6-dinitrotoluene	NT		NT		5.6		NS		*
			4-Amino-2,6-Dinitrotoluene	NT		NT		7.9		NS		*
			Aluminum	NT		NT		**45.2**	**J**	200	36000	0
			Barium	NT		NT		*26.5*		2000	2600	256
			beta-BHC	NT		NT		0.048	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		4.2	JB	NS	4.8	*
			Calcium	NT		NT		**130000**		NS	NS	53100
			delta-BHC	NT		NT		0.019	J	NS	NS	*
			HMX	NT		NT		14		NS	1800	*
			Magnesium	NT		NT		*9180*		NS	NS	15000
			Manganese	NT		NT		*25.5*		50	880	1340
			Potassium	NT		NT		*3310*		NS	NS	5770
			RDX	NT		NT		88	J	NS	0.61	*
			Sodium	NT		NT		*4320*		NS	NS	51400
Load Line 1	LL1mw-081	Bedrock	2,4-Dinitrotoluene	NT		NT		0.058	JB	NS	73	*
			2-Amino-4,6-dinitrotoluene	NT		NT		1.6		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		2.2		NS	NS	*
			Barium	NT		NT		*18.2*		2000	2600	256
			beta-BHC	NT		NT		0.011	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		1.6	JB	NS	4.8	*
			Calcium	NT		NT		**54300**		NS	NS	53100
			Cobalt	NT		NT		**6.2**		NS	730	0
			HMX	NT		NT		0.44	B	NS	1800	*
			Iron	NT		NT		**4200**		300	11000	1430
			Magnesium	NT		NT		*12000*		NS	NS	15000
			Manganese	NT		NT		**1830**		50	880	1340
			Nickel	NT		NT		*11*		NS	730	83.4
			Potassium	NT		NT		*2350*		NS	NS	5770
			RDX	NT		NT		1		NS	0.61	*
			Sodium	NT		NT		*2050*		NS	NS	51400
			Zinc	NT		NT		*48.5*		5000	11000	52.3
Load Line 1	LL1mw-082	Bedrock	Barium	NT		NT		*9.9*	*J*	2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		2	JB		4.8	*
			Cadmium	NT		NT		**0.18**	**J**	5	18	0
			Calcium	NT		NT		*29800*		NS	NS	53100
			Cobalt	NT		NT		**8.2**		NS	730	0
			Iron	NT		NT		**5150**		300	11000	1430
			Magnesium	NT		NT		*12300*		NS	NS	15000
			Manganese	NT		NT		*1080*		50	880	1340
			Nickel	NT		NT		*17.9*		NS	730	83.4
			Potassium	NT		NT		*1460*		NS	NS	5770
			Sodium	NT		NT		*1190*		NS	NS	51400
			Zinc	NT		NT		*49.1*		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 1	LL1mw-083	Bedrock	1,3,5-Trinitrobenzene	NT		NT		9.2	J	NS	1100	*
			2,4,6-Trinitrolouene	NT		NT		5	J	NS	2.2	*
			2,4-Dinitrotoluene	NT		NT		3.1	J	NS	73	*
			2,4-Dinitrotoluene	NT		NT		1.5	J	NS	73	*
			2,6-Dinitrotoluene	NT		NT		1.3	J	NS	36	*
			2-Amino-4,6-dinitrotoluene	NT		NT		16	J	NS	NS	*
			2-Nitrotoluene	NT		NT		0.18	J	NS	0.049	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		36	J	NS	NS	*
			Aluminum	NT		NT		**813**		200	36000	0
			Barium	NT		NT		*15.8*		2000	2600	256
			Beryllium	NT		NT		**0.33**	**J**	4	73	0
			bis(2-Ethylhexyl) phthalate	NT		NT		0.96	JB	NS	4.8	*
			Cadmium	NT		NT		**0.7**		5	18	0
			Calcium	NT		NT		*23200*		NS	NS	53100
			Cobalt	NT		NT		**11.1**		NS	730	0
			HMX	NT		NT		0.061	JB	NS	1800	*
			Magnesium	NT		NT		*4910*		NS	NS	15000
			Manganese	NT		NT		*497*		50	880	1340
			Nickel	NT		NT		*34.1*		NS	730	83.4
			Potassium	NT		NT		*2230*		NS	NS	5770
			Sodium	NT		NT		*9730*		NS	NS	51400
			Zinc	NT		NT		*40.1*		5000	11000	52.3
Load Line 1	LL1mw-084	Bedrock	1,3,5-Trinitrobenzene	NT		NT		5.9	J	NS	1100	*
			1,3-Dinitrobenzene	NT		NT		0.37	J	NS	3.6	*
			2,4,6-Trinitrolouene	NT		NT		9.2	J	NS	2.2	*
			2,4-Dinitrotoluene	NT		NT		1.8	J	NS	73	*
			2,6-Dinitrotoluene	NT		NT		0.82	J	NS	36	*
			2-Amino-4,6-dinitrotoluene	NT		NT		14	J	NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		32	J	NS	NS	*
			4-Nitrotoluene	NT		NT		0.18	J	NS	0.66	*
			Aluminum	NT		NT		**335**		200	36000	0
			Barium	NT		NT		*14*		2000	2600	256
			beta-BHC	NT		NT		0.26	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		3.4	JB	ns	4.8	*
			Cadmium	NT		NT		**1.6**		5	18	0
			Calcium	NT		NT		*45600*		NS	NS	53100
			Cobalt	NT		NT		**15.7**		NS	730	0
			Copper	NT		NT		**5.4**		1300	1500	0
			HMX	NT		NT		0.25	JB	NS	1800	*
			Magnesium	NT		NT		*2710*		NS	NS	15000
			Manganese	NT		NT		*196*		50	880	1340
			Nickel	NT		NT		*26.8*		NS	730	83.4
			Potassium	NT		NT		*2260*		NS	NS	5770
			RDX	NT		NT		0.76	J	NS	0.61	*
			Sodium	NT		NT		*2630*		NS	NS	51400
			Zinc	NT		NT		*58.5*		5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 1	LL1mw-085	Bedrock	Barium	NT		NT		*13.4*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		2.5	JB	NS	4.8	*
			Calcium	NT		NT		**64600**		NS	NS	53100
			Cobalt	NT		NT		**2.8**	**J**	NS	730	0
			Iron	NT		NT		*435*		300	11000	1430
			Magnesium	NT		NT		**18300**		NS	NS	15000
			Manganese	NT		NT		*564*		50	880	1340
			Nickel	NT		NT		*11.4*		NS	730	83.4
			Potassium	NT		NT		*1690*		NS	NS	5770
			Sodium	NT		NT		*1380*		NS	NS	51400
			Zinc	NT		NT		*4.1*	*J*	5000	11000	52.3
Load Line 12	LL12mw-088	Unconsolidated	Arsenic	NT		NT		**29.4**		10	0.045	11.7
			Barium	NT		NT		**383**		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		2.4	JB	NS	4.8	*
			Calcium	NT		NT		**159000**		NS	NS	115000
			Iron	NT		NT		**3890**		300	11000	279
			Magnesium	NT		NT		**55700**		NS	NS	43300
			Manganese	NT		NT		*428*		50	880	1020
			Potassium	NT		NT		*2820*	*J*	NS	NS	2890
			Sodium	NT		NT		*13500*		NS	NS	45700
			Zinc	NT		NT		*5.6*	*JB*	5000	11000	60.9
Load Line 12	LL12mw-107	Unconsolidated	1,3,5-Trinitrobenzene	NT		NT		0.058	J	NS	1100	*
			Arsenic	NT		NT		*9.7*		10	0.045	11.7
			Barium	NT		NT		*24.2*		2000	2600	82.1
			beta-BHC	NT		NT		0.018	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		3	JB	NS	4.8	*
			Calcium	NT		NT		**162000**		NS	NS	115000
			Cobalt	NT		NT		**1.8**	**J**	NS	730	0
			Iron	NT		NT		**2640**	**J**	300	11000	279
			Magnesium	NT		NT		**67100**		NS	NS	43300
			Manganese	NT		NT		*242*		50	880	1020
			Potassium	NT		NT		*2230*	*J*	NS	NS	2890
			Sodium	NT		NT		*17300*		NS	NS	45700
			Tetryl	NT		NT		0.074	J	NS	360	*
Load Line 12	LL12mw-113	Unconsolidated	Aluminum	NT		NT		**103000**		200	36000	0
			Antimony	NT		NT		**1.1**	**J**	6	15	0
			Arsenic	NT		NT		**249**		10	0.045	11.7
			Barium	NT		NT		**381**		2000	2600	82.1
			Beryllium	NT		NT		**5**		4	73	0
			bis(2-Ethylhexyl) phthalate	NT		NT		1.9	JB	NS	4.8	*
			Cadmium	NT		NT		**0.54**		5	18	0
			Calcium	NT		NT		**284000**		NS	NS	115000
			Chromium	NT		NT		**163**		100	110	7.3
			Cobalt	NT		NT		**121**		NS	730	0
			Copper	NT		NT		**257**		1300	1500	0
			Iron	NT		NT		**354000**		300	11000	279
			Lead	NT		NT		**127**		15	NS	0
			Magnesium	NT		NT		**151000**		NS	NS	43300
			Manganese	NT		NT		**5730**		50	880	1020
			Nickel	NT		NT		**283**		NS	730	0
			Nitrate-Nitrite[1]	NT		NT		0.2		1	1	*
			Phenol	NT		NT		0.83	J	NS	11000	*
			Potassium	NT		NT		**23700**	**J**	NS	NS	2890
			Sodium	NT		NT		*24800*		NS	NS	45700
			Thallium	NT		NT		**1.9**		2	2.4	0
			Vanadium	NT		NT		**179**		NS	36	0
			Zinc	NT		NT		**656**	**J**	5000	11000	60.9

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 12	LL12mw-128	Unconsolidated	Aluminum	NT		NT		**1960**		200	36000	0
			Antimony	NT		NT		**0.16**	**J**	6	15	0
			Arsenic	NT		NT		**47.5**		10	0.045	11.7
			Barium	NT		NT		*61.3*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		2.3	JB	NS	4.8	*
			Calcium	NT		NT		**183000**		NS	NS	115000
			Chromium	NT		NT		*2.8*	*J*	100	110	7.3
			Cobalt	NT		NT		**2.8**	**J**	NS	730	0
			Iron	NT		NT		**6890**	**J**	300	11000	279
			Lead	NT		NT		**2.3**	**J**	15	NS	0
			Magnesium	NT		NT		**109000**		NS	NS	43300
			Manganese	NT		NT		*242*		50	880	1020
			Nickel	NT		NT		*4.8*	*J*	NS	730	0
			Potassium	NT		NT		*2770*	*J*	NS	NS	2890
			Sodium	NT		NT		*22100*		NS	NS	45700
			Vanadium	NT		NT		**2.5**	**J**	NS	36	0
			Zinc	NT		NT		*19.8*	*J*	5000	11000	60.9
Load Line 12	LL12mw-153	Unconsolidated	Arsenic	NT		NT		**21.4**		10	0.045	0
			Barium	NT		NT		*64.4*		2000	2600	82.1
			beta-BHC	NT		NT		0.1	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		1.3	JB	NS	4.8	*
			Calcium	NT		NT		**140000**		NS	NS	115000
			Chromium	NT		NT		*2*	*J*	100	110	7.3
			Cobalt	NT		NT		**2**	**J**	NS	730	0
			HMX	NT		NT		0.055	J	NS	1800	*
			Iron	NT		NT		**3420**		300	11000	279
			Magnesium	NT		NT		**76800**		NS	NS	43300
			Manganese	NT		NT		*188*		50	880	1020
			Nickel	NT		NT		*2.7*	*J*	NS	730	0
			Potassium	NT		NT		*2010*	*J*	NS	NS	2890
			Sodium	NT		NT		*23400*		NS	NS	45700
			Zinc	NT		NT		*9*	*JB*	5000	11000	60.9
Load Line 12	LL12mw-154	Unconsolidated	Arsenic	NT		NT		**16.2**		10	0.045	11.7
			Barium	NT		NT		*44.1*		2000	2600	82.1
			beta-BHC	NT		NT		0.011	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		1.5	JB	NS	4.8	*
			Calcium	NT		NT		**147000**		NS	NS	115000
			Iron	NT		NT		**1760**		300	11000	279
			Magnesium	NT		NT		**70000**		NS	NS	43300
			Manganese	NT		NT		*85.9*		50	880	1020
			Potassium	NT		NT		*1820*	*J*	NS	NS	2890
			Sodium	NT		NT		*24300*		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 12	LL12mw-182	Unconsolidated	1,3,5-Trinitrobenzene	NT		NT		0.031	J	NS	1100	*
			Aluminum	NT		NT		**29.5**	**J**	200	36000	0
			Arsenic	NT		NT		*25.6*		10	0.045	11.7
			Barium	NT		NT		*62.7*		2000	2600	82.1
			Benzo(a)anthracene	NT		NT		0.23		NS	0.092	*
			Benzo(b)fluoranthene	NT		NT		0.22		NS	0.092	*
			Benzo(g,h,i)perylene	NT		NT		0.22		NS		*
			Benzo(k)fluoranthene	NT		NT		0.32		NS	0.92	*
			bis(2-Ethylhexyl) phthalate	NT		NT		4.9	JB	NS	4.8	*
			Calcium	NT		NT		*65500*		NS	NS	115000
			Chrysene	NT		NT		0.21		NS	9.2	*
			Dibenzo(a,h)anthracene	NT		NT		0.21		NS	0.0093	*
			Di-n-butyl phthalate	NT		NT		0.89	JB	NS	NS	*
			Fluoranthene	NT		NT		0.23		NS	NS	*
			Indeno(1,2,3-cd)pyrene	NT		NT		0.22		NS	0.092	*
			Iron	NT		NT		766	J	300	11000	279
			Magnesium	NT		NT		**51500**		NS	NS	43300
			Manganese	NT		NT		*43.7*		50	880	1020
			Nitrate-Nitrite[1]	NT		NT		0.03	JB	1	1	*
			Potassium	NT		NT		**4080**	**J**	NS	NS	2890
			Pyrene	NT		NT		0.21		NS	NS	*
			Sodium	NT		NT		*25100*		NS	NS	45700
			Tetryl	NT		NT		0.068	J	NS	360	*
Load Line 12	LL12mw-183	Unconsolidated	Arsenic	NT		NT		**29.8**		10	0.045	11.7
			Barium	NT		NT		*65*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		2.4	JB	NS	4.8	*
			Calcium	NT		NT		*87600*		NS	NS	115000
			Heptachlor	NT		NT		0.027	J	0.4	0.015	*
			Iron	NT		NT		**867**		300	11000	279
			Magnesium	NT		NT		*36400*		NS	NS	43300
			Manganese	NT		NT		*47.7*		50	880	1020
			Potassium	NT		NT		*6050*	*J*	NS	NS	2890
			Sodium	NT		NT		*19800*		NS	NS	45700
Load Line 12	LL12mw-184	Unconsolidated	Arsenic	NT		NT		**15.8**		10	0.045	11.7
			Barium	NT		NT		*8.7*	*J*	2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		3.8	JB	NS	4.8	*
			Calcium	NT		NT		**203000**		NS	NS	115000
			Iron	NT		NT		**2300**	**J**	300	11000	279
			Magnesium	NT		NT		**150000**		NS	NS	43300
			Manganese	NT		NT		*469*		50	880	1020
			Nitrate-Nitrite[1]	NT		NT		0.07	JB	1	1	*
			Potassium	NT		NT		*2410*	*J*	NS	NS	2890
			Sodium	NT		NT		*35600*		NS	NS	45700
			Tetryl	NT		NT		0.055	J	NS	360	*

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 12	LL12mw-185	Unconsolidated	Barium	NT		NT		*49.4*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		2.6	JB	NS	4.8	*
			Butyl benzyl phthalate	NT		NT		1.4		NS	7300	*
			Cadmium	NT		NT		**0.26**	**J**	5	18	0
			Calcium	NT		NT		**665000**		NS	NS	115000
			Di-n-butyl phthalate	NT		NT		0.75	JB	NS	NS	*
			HMX	NT		NT		0.076	J	Nns	1800	*
			Magnesium	NT		NT		**287000**		NS	NS	43300
			Manganese	NT		NT		**1380**		50	880	1020
			Nickel	NT		NT		**6.2**	**J**	NS	730	0
			Nitrate-Nitrite[1]	NT		NT		160	J	1	1	*
			Nitrocellulose	NT		NT		0.54		NS	NS	*
			Potassium	NT		NT		**7120**	**J**	NS	NS	2890
			Sodium	NT		NT		**52300**		NS	NS	45700
			Tetryl	NT		NT		0.075	J	NS	360	*
Load Line 12	LL12mw-186	Unconsolidated	Antimony	NT		NT		**0.45**	**J**	6	15	0
			Barium	NT		NT		*49*		2000	2600	82.1
			beta-BHC	NT		NT		0.013	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		3.3	JB	NS	4.8	*
			Calcium	NT		NT		**139000**		NS	NS	115000
			Cobalt	NT		NT		**1.7**	**J**	NS	730	0
			Di-n-butyl phthalate	NT		NT		0.76	JB	NS	NS	*
			Endrin ketone	NT		NT		0.0091	J	NS	NS	*
			Magnesium	NT		NT		**64700**		NS	NS	43300
			Manganese	NT		NT		*275*		50	880	1020
			Nickel	NT		NT		**2.2**	**J**	NS	730	0
			Nitrate-Nitrite[1]	NT		NT		0.04	JB	1	1	*
			Potassium	NT		NT		*1690*	*J*	NS	NS	2890
			Sodium	NT		NT		*14700*		NS	NS	45700
			Tetryl	NT		NT		0.054	J	NS	360	*
Load Line 12	LL12mw-187	Unconsolidated	Barium	NT		NT		**281**		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.2	JB	NS	4.8	*
			Calcium	NT		NT		**960000**		NS	NS	115000
			Cobalt	NT		NT		**10.2**		NS	730	0
			Magnesium	NT		NT		**301000**		NS	NS	43300
			Manganese	NT		NT		**2020**		50	880	1020
			Nickel	NT		NT		**15.3**		NS	730	0
			Nitrate-Nitrite[1]	NT		NT		1400		1	1	*
			Nitrocellulose	NT		NT		5.7		NS	NS	*
			Potassium	NT		NT		**54200**	**J**	NS	NS	2890
			Sodium	NT		NT		*35600*		NS	NS	45700
			Zinc	NT		NT		*11*	*J*	5000	11000	60.9
Load Line 12	LL12mw-188	Unconsolidated	Aluminum	NT		NT		**65**		200	36000	0
			Barium	NT		NT		*41.4*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		2.4	JB	NS	4.8	*
			Calcium	NT		NT		**134000**		NS	NS	115000
			Cobalt	NT		NT		**1.5**	**J**	NS	730	0
			Heptachlor	NT		NT		0.017	J	0.4	0.015	*
			HMX	NT		NT		0.052	J	NS	1800	*
			Iron	NT		NT		*246*		300	11000	279
			Magnesium	NT		NT		**108000**		NS	NS	43300
			Manganese	NT		NT		*433*		50	880	1020
			Nitrate-Nitrite[1]	NT		NT		0.2		1	1	*
			Potassium	NT		NT		*1930*	*J*	NS	NS	2890
			RDX	NT		NT		0.067	J	NS	0.61	*
			Sodium	NT		NT		*32200*		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 12	LL12mw-189	Unconsolidated	Aluminum	NT		NT		**298**		200	36000	0
			Arsenic	NT		NT		*5.1*		10	0.045	11.7
			Barium	NT		NT		*18.5*		2000	2600	82.1
			beta-BHC	NT		NT		0.014	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		2.8	JB	NS	4.8	*
			Calcium	NT		NT		**152000**		NS	NS	115000
			Cobalt	NT		NT		**1.9**	**J**	NS	730	0
			Di-n-butyl phthalate	NT		NT		0.75	JB	NS	NS	*
			Iron	NT		NT		**1320**	**J**	300	11000	279
			Magnesium	NT		NT		**72200**		NS	NS	43300
			Manganese	NT		NT		*310*		50	880	1020
			Naphthalene	NT		NT		0.29		NS	6.2	*
			Nitrate-Nitrite[1]	NT		NT		0.07	JB	1	1	*
			Nitrocellulose	NT		NT		0.12	J	NS	NS	*
			Potassium	NT		NT		*1800*	*J*	NS	NS	2890
			Sodium	NT		NT		**49200**		NS	NS	45700
			Tetryl	NT		NT		0.059	J	NS	360	*
Load Line 12	LL12mw-242	Unconsolidated	Arsenic	NT		NT		**21.3**		10	0.045	11.7
			Barium	NT		NT		*22*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.7	JB	NS	4.8	*
			Butyl benzyl phthalate	NT		NT		0.89	J	NS	7300	*
			Calcium	NT		NT		*69300*		NS	NS	115000
			Iron	NT		NT		**833**		300	11000	279
			Isophorone	NT		NT		0.38	J	NS	71	*
			Magnesium	NT		NT		**46500**		NS	NS	43300
			Manganese	NT		NT		*56*		50	880	1020
			Potassium	NT		NT		*1630*	*J*	NS	NS	2890
			Silver	NT		NT		**1.9**	**J**	100	180	0
			Sodium	NT		NT		*33800*		NS	NS	45700
			Tetryl	NT		NT		0.057	JB	NS	360	*
Load Line 12	LL12mw-243	Unconsolidated	2-Butanone	NT		NT		1.3	JB	NS	7000	*
			Antimony	NT		NT		**0.63**	**J**	6	15	0
			Arsenic	NT		NT		*6.5*		10	0.045	11.7
			Barium	NT		NT		*27.6*		2000	2600	82.1
			beta-BHC	NT		NT		0.012	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		4.4	JB	NS	4.8	*
			Calcium	NT		NT		**124000**		NS	NS	115000
			Cobalt	NT		NT		**1.5**	**J**	NS	730	0
			Magnesium	NT		NT		**81500**		NS	NS	43300
			Manganese	NT		NT		*281*		50	880	1020
			Nickel	NT		NT		**2.7**	**J**	NS	730	0
			Nitroglycerin	NT		NT		0.38	J	NS	4.8	*
			Potassium	NT		NT		**3320**	**J**	NS	NS	2890
			Sodium	NT		NT		*22800*		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 12	LL12mw-244	Unconsolidated	2-Butanone	NT		NT		1.6	JB	NS	7000	*
			Acetone	NT		NT		1.1	JB	NS	5500	*
			Aluminum	NT		NT		**33700**		200	36000	0
			Antimony	NT		NT		**0.73**	**J**	6	15	0
			Arsenic	NT		NT		**51.1**		10	0.045	11.7
			Barium	NT		NT		**221**		2000	2600	82.1
			Beryllium	NT		NT		**1.4**		4	73	0
			bis(2-Ethylhexyl) phthalate	NT		NT		1.8	JB	NS	4.8	*
			Calcium	NT		NT		*95400*		NS	NS	115000
			Chromium	NT		NT		**43**		100	110	7.3
			Cobalt	NT		NT		**28.5**		NS	730	0
			Copper	NT		NT		**48.3**		1300	1500	0
			Iron	NT		NT		**78800**	**J**	300	11000	279
			Lead	NT		NT		**26**		15	NS	0
			Magnesium	NT		NT		*40500*		NS	NS	43300
			Manganese	NT		NT		*955*		50	880	1020
			Nickel	NT		NT		**72.1**		NS	730	0
			Nitrate-Nitrite[1]	NT		NT		0.07	JB	1	1	*
			Potassium	NT		NT		**9500**	**J**	NS	NS	2890
			Sodium	NT		NT		*9250*		NS	NS	45700
			Toluene	NT		NT		0.22	J	1000	720	*
			Vanadium	NT		NT		*49*		NS	36	0
			Zinc	NT		NT		165	J	5000	11000	60.9
Load Line 12	LL12mw-245	Unconsolidated	1,3,5-Trinitrobenzene	NT		NT		0.057	J	NS	1100	*
			Antimony	NT		NT		**0.29**	**J**	6	15	0
			Arsenic	NT		NT		**9.1**		10	0.045	0
			Barium	NT		NT		*34.6*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.8	JB	NS	4.8	*
			Calcium	NT		NT		**134000**		NS	NS	115000
			Cobalt	NT		NT		**3.2**	**J**	NS	730	0
			Cyanide[1]	NT		NT		0.008	J	0.2	0.73	*
			Magnesium	NT		NT		**65400**		NS	NS	43300
			Manganese	NT		NT		103		50	880	1020
			Nickel	NT		NT		**5.1**	**J**	NS	730	0
			Nitrate-Nitrite[1]	NT		NT		0.1		1	1	*
			Potassium	NT		NT		**3140**	**J**	NS	NS	2890
			Sodium	NT		NT		*23200*		NS	NS	45700
Load Line 12	LL12mw-246	Unconsolidated	Arsenic	NT		NT		**29.7**		10	0.045	11.7
			Barium	NT		NT		*35.5*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.8	JB	NS	4.8	*
			Calcium	NT		NT		*102000*		NS	NS	115000
			Iron	NT		NT		**1190**	**J**	300	11000	279
			Magnesium	NT		NT		**50400**		NS	NS	43300
			Manganese	NT		NT		*74.5*		50	880	1020
			Naphthalene	NT		NT		1.4		NS	6.2	*
			Nitrate-Nitrite[1]	NT		NT		0.08	JB	1	1	*
			Potassium	NT		NT		**6380**	**J**	NS	NS	2890
			Sodium	NT		NT		*22000*		NS	NS	45700

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 2	LL2mw-059	Bedrock	1,3,5-Trinitrobenzene	NT		NT		0.11		NS	1100	*
			2,4-Dinitrotoluene	NT		NT		0.25		NS	73	*
			2-Amino-4,6-dinitrotoluene	NT		NT		0.31		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		0.29		NS	NS	*
			Aluminum	NT		NT		**21.5**	**J**	200	36000	0
			Arsenic	NT		NT		**6.4**		10	0.045	0
			Barium	NT		NT		*208*		2000	2600	256
			Calcium	NT		NT		*30000*		NS	NS	53100
			Cobalt	NT		NT		**29.1**		NS	730	0
			Cyanide[1]	NT		NT		0.0058	J	0.2	0.73	*
			HMX	NT		NT		0.14	JB	NS	1800	*
			Iron	NT		NT		**7090**		300	11000	1430
			Magnesium	NT		NT		*8290*		NS	NS	15000
			Manganese	NT		NT		**5530**		50	880	1340
			Nickel	NT		NT		*22.4*		NS	730	83.4
			Potassium	NT		NT		*883*	*J*	NS	NS	5770
			Sodium	NT		NT		*5170*		NS	NS	51400
			Zinc	NT		NT		*4*	*JB*	5000	11000	52.3
Load Line 2	LL2mw-060	Bedrock	2-Amino-4,6-dinitrotoluene	NT		NT		0.45		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		0.54		NS	NS	*
			Antimony	NT		NT		**0.17**	**J**	6	15	0
			Barium	NT		NT		*23.9*		2000	2600	256
			Calcium	NT		NT		*45200*		NS	NS	53100
			Magnesium	NT		NT		*8470*		NS	NS	15000
			Manganese	NT		NT		*25.7*		50	880	1340
			Sodium	NT		NT		*2400*		NS	NS	51400
Load Line 2	LL2mw-261	Bedrock	2,4,6-Trinitrolouene	NT		NT		0.058	J	NS	2.2	*
			Arsenic	NT		NT		**11.2**		10	0.045	0
			Barium	NT		NT		*19.1*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		0.87	JB	NS	4.8	*
			Calcium	NT		NT		**59200**		NS	NS	53100
			Cobalt	NT		NT		**2.2**	**J**	NS	730	0
			Iron	NT		NT		**2290**		300	11000	1430
			Magnesium	NT		NT		**21700**		NS	NS	15000
			Manganese	NT		NT		*375*		50	880	1340
			Nickel	NT		NT		*3.9*	*J*	NS	730	83.4
			Potassium	NT		NT		*1070*		NS	NS	5770
			Sodium	NT		NT		*10800*		NS	NS	51400
Load Line 2	LL2mw-262	Bedrock	Aluminum	NT		NT		**24.9**	**J**	200	36000	0
			Barium	NT		NT		*16.2*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		1.1	JB	NS	4.8	*
			Calcium	NT		NT		*47100*		NS	NS	53100
			Magnesium	NT		NT		**34200**		NS	NS	15000
			Manganese	NT		NT		*77.4*		50	880	1340
			Nickel	NT		NT		*10.7*		NS	730	83.4
			Potassium	NT		NT		*1770*		NS	NS	5770
			Sodium	NT		NT		*7430*		NS	NS	51400
Load Line 2	LL2mw-263	Bedrock	Arsenic	NT		NT		**15.4**		10	0.045	0
			Barium	NT		NT		*21.5*		2000	2600	256
			Calcium	NT		NT		*30900*		NS	NS	53100
			Cobalt	NT		NT		**3.2**	**J**	NS	730	0
			HMX	NT		NT		0.078	JB	NS	1800	*
			Iron	NT		NT		**4670**		300	11000	1430
			Magnesium	NT		NT		*13800*		NS	NS	15000
			Manganese	NT		NT		**1450**		50	880	1340
			Nickel	NT		NT		*5.6*	*J*	NS	730	83.4
			Sodium	NT		NT		*3930*		NS	NS	51400

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 2	LL2mw-265	Bedrock	Aluminum	NT		NT		**26.4**	**J**	200	36000	0
			Barium	NT		NT		*8.8*	*J*	2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		2.5	JB	NS	4.8	*
			Calcium	NT		NT		**76100**		NS	NS	53100
			Cobalt	NT		NT		**5.6**		NS	730	0
			Iron	NT		NT		*614*		300	11000	1430
			Magnesium	NT		NT		*22700*		NS	NS	15000
			Manganese	NT		NT		**1430**		50	880	1340
			Nickel	NT		NT		*19*		NS	730	83.4
			Sodium	NT		NT		*10400*		NS	NS	51400
Load Line 2	LL2mw-266	Bedrock	Acetone	NT		NT		2.5	JB	NS	5500	*
			Aluminum	NT		NT		**1060**		200	36000	0
			Arsenic	NT		NT		**5.6**		10	0.045	0
			Barium	NT		NT		*19.1*		2000	2600	256
			beta-BHC	NT		NT		0.029	J	NS	0.037	*
			bis(2-Ethylhexyl) phthalate	NT		NT		5.8	JB	NS	4.8	*
			Cadmium	NT		NT		**0.24**	**J**	5	18	0
			Calcium	NT		NT		*18400*		NS	NS	53100
			Cobalt	NT		NT		**17**		NS	730	0
			Iron	NT		NT		**5080**		300	11000	1430
			Magnesium	NT		NT		*9620*		NS	NS	15000
			Manganese	NT		NT		**1390**		50	880	1340
			Nickel	NT		NT		*16.5*		NS	730	83.4
			Potassium	NT		NT		*1270*		NS	NS	5770
			Sodium	NT		NT		*9520*		NS	NS	51400
			Zinc	NT		NT		*10.6*	*B*	5000	11000	52.3
Load Line 2	LL2mw-267	Bedrock	2,4,6-Trinitrolouene	NT		NT		0.27		NS	2.2	*
			2,4-Dinitrotoluene	NT		NT		0.22		NS	73	*
			2-Amino-4,6-dinitrotoluene	NT		NT		1.3		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		1.1		NS	NS	*
			Barium	NT		NT		*14.9*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		2.3	JB	NS	4.8	*
			Calcium	NT		NT		*37900*		NS	NS	53100
			Cobalt	NT		NT		**4.5**	**J**	NS	730	0
			HMX	NT		NT		1.1		NS	1800	*
			Iron	NT		NT		*1240*		300	11000	1430
			Magnesium	NT		NT		**18900**		NS	NS	15000
			Manganese	NT		NT		*622*		50	880	1340
			Nickel	NT		NT		*3.6*	*J*	NS	730	83.4
			RDX	NT		NT		1.1		NS	0.61	*
			Sodium	NT		NT		*16500*		NS	NS	51400
Load Line 2	LL2mw-269	Bedrock	Barium	NT		NT		*215*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		1.4	JB	NS	4.8	*
			Calcium	NT		NT		*30300*		NS	NS	53100
			Iron	NT		NT		**5990**		300	11000	1430
			Magnesium	NT		NT		**15200**		NS	NS	15000
			Manganese	NT		NT		**1540**		50	880	1340
			Potassium	NT		NT		*2970*		NS	NS	5770
			Sodium	NT		NT		*5930*		NS	NS	51400

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 2	LL2mw-270	Bedrock	Barium	NT		NT		*13.1*		2000	2600	256
			Butyl benzyl phthalate	NT		NT		13		ns	7300	*
			Calcium	NT		NT		*44400*		NS	NS	53100
			Cobalt	NT		NT		**7.2**		NS	730	0
			Endrin ketone	NT		NT		0.009	J	NS	NS	*
			Iron	NT		NT		*1420*		300	11000	1430
			Magnesium	NT		NT		**16800**		NS	NS	15000
			Manganese	NT		NT		*384*		50	880	1340
			Nickel	NT		NT		*12.7*		NS	730	83.4
			Phenol	NT		NT		1.4		NS	11000	*
			Potassium	NT		NT		1070		NS	NS	5770
			Sodium	NT		NT		2190		NS	NS	51400
			Tetryl	NT		NT		0.07	JB	NS	360	*
			Zinc	NT		NT		*3.5*	*J*	5000	11000	52.3
Load Line 3	LL3mw-232	Bedrock	Arsenic	NT		NT		3.5	J	10	0.045	0
			Barium	NT		NT		*26.1*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		1.5	JB	NS	4.8	*
			Calcium	NT		NT		**60300**		NS	NS	53100
			Magnesium	NT		NT		**39800**		NS	NS	15000
			Manganese	NT		NT		*308*		50	880	1340
			Nickel	NT		NT		*7.8*	*J*	NS	730	83.4
			Potassium	NT		NT		*3650*		NS	NS	5770
			Sodium	NT		NT		*8570*		NS	NS	51400
			Zinc	NT		NT		*7.8*	*JB*	5000	11000	52.3
Load Line 3	LL3mw-234	Bedrock	2,6-Dinitrotoluene	NT		NT		0.062	J	NS	36	*
			2-Amino-4,6-dinitrotoluene	NT		NT		0.41	J	NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		0.78	J	NS	NS	*
			Barium	NT		NT		*9.8*	*J*	2000	2600	256
			Benzyl alcohol	NT		NT		0.84	JB	NS	11000	*
			Butyl benzyl phthalate	NT		NT		2		NS	7300	*
			Calcium	NT		NT		*51100*	*J*	NS	NS	53100
			Cobalt	NT		NT		**1.5**	**J**	NS	730	0
			HMX	NT		NT		0.083	JB	NS	1800	*
			Iron	NT		NT		*1210*		300	11000	1430
			Magnesium	NT		NT		**19800**	**J**	NS	NS	15000
			Manganese	NT		NT		**2190**	**J**	50	880	1340
			Nickel	NT		NT		*7*	*J*	NS	730	83.4
			Potassium	NT		NT		*1750*		NS	NS	5770
			RDX	NT		NT		0.58	J	NS	0.61	*
			Sodium	NT		NT		*8990*		NS	NS	51400
Load Line 3	LL3mw-236	Bedrock	1,3,5-Trinitrobenzene	NT		NT		0.032	J	NS	1100	*
			2,4,6-Trinitrolouene	NT		NT		0.31	J	NS	2.2	*
			2-Amino-4,6-dinitrotoluene	NT		NT		0.17		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		0.33		NS	NS	*
			Antimony	NT		NT		**0.15**	**J**	6	15	0
			Calcium	NT		NT		*22200*		NS	NS	53100
			Magnesium	NT		NT		**13700**		NS	NS	15000
			Manganese	NT		NT		*235*		50	880	1340
			Nickel	NT		NT		*7.9*	*J*	NS	730	83.4
			Potassium	NT		NT		*1330*		NS	NS	5770
			Sodium	NT		NT		*3620*		NS	NS	51400
			Zinc	NT		NT		*15.9*	*B*	5000	11000	52.3

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)		Jan-10 Level (µg/L)		Jul-10 Level (µg/L)		MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Load Line 3	LL3mw-239	Bedrock	1,3,5-Trinitrobenzene	NT		NT		0.34	J	NS	1100	*
			2,4,6-Trinitrolouene	NT		NT		0.26	J	NS	2.2	*
			2,4-Dinitrotoluene	NT		NT		0.11		NS	73	*
			2-Amino-4,6-dinitrotoluene	NT		NT		0.63		NS	NS	*
			4-Amino-2,6-Dinitrotoluene	NT		NT		0.95		NS	NS	*
			Aluminum	NT		NT		**46.6**	**J**	200	36000	0
			Barium	NT		NT		*10.4*		2000	2600	256
			bis(2-Ethylhexyl) phthalate	NT		NT		**8.7**	**JB**	NS	4.8	*
			Calcium	NT		NT		*9730*		NS	NS	53100
			Carbon tetrachloride	NT		NT		0.37	J	5	0.17	*
			Chloroform	NT		NT		0.52	J	NS	0.17	*
			HMX	NT		NT		0.19	B	NS	1800	*
			Iron	NT		NT		*218*		300	11000	1430
			Magnesium	NT		NT		*5160*		NS	NS	15000
			Manganese	NT		NT		*101*		50	880	1340
			Nickel	NT		NT		*6.1*	*J*	NS	730	83.4
			Potassium	NT		NT		*1280*		NS	NS	5770
			RDX	NT		NT		1.7		NS	0.61	*
			Sodium	NT		NT		*18700*		NS	NS	51400
			Zinc	NT		NT		*6*	*JB*	5000	11000	52.3
Load Line 4	LL4mw-196	Unconsolidated	Aluminum	NT		NT		**22.8**	**J**	200	36000	0
			Barium	NT		NT		*33.4*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		8.2	JB	NS	4.8	*
			Calcium	NT		NT		*57700*		NS	NS	115000
			Iron	NT		NT		**393**		300	11000	279
			Magnesium	NT		NT		*18100*		NS	NS	43300
			Manganese	NT		NT		*183*		50	880	1020
			Sodium	NT		NT		*1460*		NS	NS	45700
Load Line 4	LL4mw-197	Unconsolidated	Antimony	NT		NT		**0.16**	**J**	6	15	0
			Barium	NT		NT		*15.1*		2000	2600	82.1
			bis(2-Ethylhexyl) phthalate	NT		NT		1.1	JB	NS	4.8	*
			Calcium	NT		NT		**139000**		NS	NS	115000
			HMX	NT		NT		0.041	JB	NS	1800	*
			Magnesium	NT		NT		*21400*		NS	NS	43300
			Potassium	NT		NT		*1250*		NS	NS	2890
			Sodium	NT		NT		*1130*		NS	NS	45700

Notes:

NS = no standard NT = not tested

All inorganics are filtered, all organics are not filtered

* There are no background levels for organic constituents

J = estimated result. Results have been qualified "J" For more details refer to Data Verification/Validation Reports in in the FWGWMP October 2009 and January, and July 2010 Sampling Reports

B = organic or inorganic analysis when the analyte is found in the method blank or any of the field blanks

R = Rejected data

U = analyzed but not detected at or above the reporting limit

Bold = inorganic constituent detected above Facility-Wide background levels

Italics = inorganic constituent detected below the Facility-Wide background levels

Shaded boxes indicate any contituent, which does not have a background value, detected above the reporting limit.

1 = mg/l

Table 4-3 Summary of ConstItuents Detected in the Sharon Conglomerate Wells April 2009 - July 2010

Area	Well Number	Analyte	April-09 Level (µg/L)	July-09 Level (µg/L)	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Sharon Conglomerate	SCFmw-001	1,3,5-Trinitrobenzene	0.085 J	0.22 U	0.2 U	0.2 U	0.11 U	NS	1100	*
		Aluminum	100 U	100 U	**1720**	50 U	50 U	200	36000	0
		Antimony	**1.6 J**	**1.5 J**	**1.5 J**	**0.34 J**	2 U	6	15	0
		Arsenic	**3.3 J**	5 U	**11.7**	**15.2**	**13.1**	10	0.045	0
		Barium	*51.6*	*62.5*	*83.3*	*48.6*	*39.4*	2000	2600	256
		bis (2-Ethylhexyl) phthalate	1.5 U	6.1 U	1.4	1 U	1.7 JB	NS	4.8	*
		Calcium	**58500**	**89200 J**	**98000 J**	**104000**	**102000**	NS	NS	53100
		Carbon disulfide	1 U	1 U	1.9	1 U	0.69 J	NS	1000	*
		Chromium	5 U	5 U	**2.1 J**	5 U	5 U	100	110	0
		Cobalt	**3.1 J**	5 U	**1.8 J**	5 U	5 U	NS	730	0
		Cyanide[2]	0.01 U	0.01 U	0.01 U	**0.0076 J**	0.01 U	0.2	0.73	0
		Endrin ketone	0.5 U	0.5 U	0.25 R	0.05 U	0.027 J	2	11	*
		Iron	**6850 J**	**2960**	**4760**	1320	814	300	11000	1430
		Magnesium	**20000**	**27800**	**27800**	**29300**	**28600**	NS	NS	15000
		Manganese	*767 J*	*449 J*	*336*	*261*	*194*	50	880	1340
		Nickel	7.3 UJ	*6.1 J*	*8.9 J*	*6.5 J*	*3.3 J*	NS	730	83.4
		Perchlorate[2]	NT	0.019 J	NT	NT	NT	NS	3.6	
		Potassium	*2010 J*	*2010 J*	*2060*	*1800*	*1670*	NS	NS	5770
		RDX	0.52 U	0.55 U	0.5 U	0.091 J	0.11 U	NS	0.61	*
		Sodium	*11800*	*12500*	*12700*	*13700*	*13000*	NS	NS	51400
		Thallium	**0.17 J**	2 U	**0.46 J**	0.25 UJ	10 U	2	2.4	0
		Zinc	14.8 U	**274 J**	**173 J**	*45.4 J*	10 U	5000	11000	52.3

Area	Well Number	Analyte	April-09 Level (µg/L)	July-09 Level (µg/L)	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Sharon Conglomerate	SCFmw-002	4-Amino-2,6-Dintirotoluene	0.083	0.2 U	0.22 U	0.2 U	0.1 U	NS	73	*
		Aluminum	100 U	100 U	**48 J**	100 U	50 U	200	36000	0
		Antimony	**3.8 J**	**1.4 J**	**0.73 J**	**0.44 J**	**0.15 J**	6	15	0
		Arsenic	**12.2**	**17**	**18.6**	**20.6**	**12.5**	10	0.045	0
		Barium	*49.9*	*162*	*42.9*	*40.7*	*38*	2000	2600	256
		bis(2-Ethylhexyl) phthalate	1.3 U	1.8 U	1 U	1 U	2.5 JB	NS	4.8	*
		Calcium	**92900**	**90700 J**	**88000**	**87700**	**83400**	NS	NS	53100
		Carbon disulfide	1 U	0.69 J	1.5	0.92 J	0.34 J	NS	1000	*
		Cobalt	**1.8 J**	5 U	5 U	5 U	5 U	NS	730	0
		Di-n-butyl phthalate	1 U	1 U	1 U	1 U	0.82 J	NS	NS	*
		Iron	100 U	*216*	*645*	*730*	*233*	300	11000	1430
		Magnesium	**31500**	**29300**	**28200**	**28300**	**27000**	NS	NS	15000
		Manganese	*82.1 J*	*102 J*	*92*	*96.3*	*67.3*	50	880	1340
		Nickell	*7.9 J*	40 U	40 U	40 U	10 U	NS	730	83.4
		Perchlorate[2]	NT	0.02 J	NT	NT	NT	NS	3.6	*
		Potasium	*4790 J*	*2700 J*	*2370*	*2180 J*	*2190*	NS	NS	5770
		Sodium	*27100*	*25300*	*22300*	*21600*	*50500*	NS	NS	51400
		Tetryl	0.07 J	0.2 U	0.22	0.2 U	0.1 U	NS	360	*
		Zinc	5 U	**131 J**	*20.6*	*35.3 J*	10 U	5000	11000	52.3
Sharon Conglomerate	SCFmw-003	1,3,5-Trinitrobenzene	0.056 J	0.21 U	0.2 U	0.2 U	0.1 U	NS	1100	*
		Acetone	10 UJ	10 UJ	10 U	10 UJ	3.4 JB	NS	5500	*
		Aluminum	100 U	100 U	**74.7 J**	100 U	50 U	200	36000	0
		Antimony	**0.75 J**	**1.4**	**0.32 J**	**0.34 J**	2 U	6	15	0
		Arsenic	**3.7 J**	5 U	5 U	5 U	5 U	10	0.045	0
		Barium	*77.9*	*81.5*	**261**	*71.8*	*75.2*	2000	2600	256
		beta-BHC	0.05 U	0.5 U	0.05 U	0.05 U	0.0092 J	NS	4.8	*
		bis(2-Ethylhexyl) phthalate	1.9 U	1.2 U	1 U	1 U	1.5 JB	NS	4.8	*
		Calcium	**74900**	**74500 J**	**74200**	**69400**	**71100**	NS	NS	53100
		Iron	187 U	*491*	*610*	*614*	*390*	300	11000	1430
		Magnesium	**30500**	**29800**	**29900**	**28400**	**29000**	NS	NS	15000
		Manganese	*269 J*	*271 J*	*248*	*243*	*237*	50	880	1340
		Perchlorate[2]	NT	0.22 J	NT	NT	NT	NS	3.6	*
		Potassium	*1460 J*	*1510 J*	*2300*	*1320 J*	*1420 J*	NS	NS	5770
		Sodium	*7340*	*7320*	*8110*	*6760*	*6860*	NS	NS	51400
		Thallium	2 U	2 U	**0.14 JB**	2 U	10 U	2	2.4	0
		Zinc	8.9 UJ	*48.4 J*	**118**	*28.2 J*	10 U	5000	11000	52.3

Area	Well Number	Analyte	April-09 Level (µg/L)	July-09 Level (µg/L)	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Sharon Conglomerate	SCFmw-004	1,3,5-Trinitrobenzene	0.057 J	0.21 U	0.2 U	0.23 UJ	0.098 U	NS	1100	*
		Aluminum	100 U	100 U	**203**	100 U	50 U	200	36000	0
		Antimony	**1.3 J**	**0.13 J**	**0.53 J**	0.35 UJ	2 U	6	15	0
		Barium	*142*	*119*	*117*	*102*	*97.9*	2000	2600	256
		bis (2-Ethylhexyl) phthalate	1 UJ	1.3 U	1 U	0.84 J	0.92 JB	NS	4.8	*
		Calcium	**153000**	**139000**	**144000**	**146000**	**135000**	NS	NS	53100
		Carbon disulfide	1 U	1 U	0.61 B	0.72 J	1 U	NS	1000	*
		Iron	100 U	100 U	*316*	100 U	50 U	300	11000	1430
		Magnesium	**61800**	**55600**	**57800**	**58400**	**54200**	NS	NS	15000
		Manganese	*697 J*	*626*	*646*	*681*	*624*	50	880	1340
		Phenol	1 U	1 U	1 U	1 U	0.81 J	NS	11000	*
		Potassium	2620 J	2340 J	2470	2350	2440	NS	NS	5770
		Sodium	14900	12900	13200	13300	12700	NS	NS	51400
		Zinc	*6.4 UJ*	10 U	**67.9**	10 U	10 U	5000	11000	52.3
Sharon Conglomerate	SCFmw-005	1,3,5-Trinitrobenzene	0.056 J	0.21 U	0.21 U	0.2 UJ	0.1 U	NS	1100	*
		Aluminum	100 U	100 U	**76.8 J**	100 U	50 U	200	36000	0
		Antimony	**2.5 J**	**2 J**	**0.66 J**	**0.73 J**	2 U	6	15	0
		Arsenic	**8.7**	**8.7**	**11.3**	**10**	5 U	10	0.045	0
		Barium	*37.7*	*44*	*40.9*	*44.1*	*22.4*	2000	2600	256
		Calcium	**93700**	**97600 J**	**97400**	**97500**	**89400**	NS	NS	53100
		Carbon disulfide	0.32 J	1 U	0.28 J	1 U	0.64 J	NS	1000	*
		Cobalt	**9.7**	**2.2 J**	5 U	5 U	5 U	NS	730	0
		HMX	0.058 J	0.52 U	0.53 U	0.5 U	0.1 U	NS	1800	*
		Iron	**2120 J**	**2120**	**2970**	**2610**	**4440**	300	11000	1430
		Magnesium	**44800**	**42800**	**42900**	**42600**	**43100**	NS	NS	15000
		Manganese	**1660 J**	1270 J	**1360**	**1350**	**1750**	50	880	1340
		Nickel	24.8 UJ	*4.2 J*	*4.5 J*	*2.9 J*	10 U	NS	730	83.4
		Perchlorate[2]	NT	0.042 J	NT	NT	NT	NS	3.6	*
		PETN	3.1 U	3.2 U	3.2 U	0.42 J	0.68 U	NS	NS	*
		Potassium	*3650 J*	*2920*	*2420*	*2190 J*	*2180*	NS	NS	5770
		Sodium	*17500*	*13200*	*11700*	*12100*	*8400*	NS	NS	51400
		Thallium	2 U	2 U	**0.35 J**	0.18 UJ	1 U	2	2.4	0
		Zinc	15.4 U	**333 J**	*47.7*	**57.5**	10 U	5000	11000	52.3

Area	Well Number	Analyte	April-09 Level (µg/L)	July-09 Level (µg/L)	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)	Facility-Wide Background (µg/L)
Sharon Conglomerate	SCFmw-006	1,3,5-Trinitrobenzene	0.047 J	0.2 U	0.2 U	0.2 UJ	0.11	NS	1100	*
		4-Nitrotoluene	0.48 U	0.51 U	0.5 U	0.51 U	0.18 J	MS	0.66	*
		Acetone	10 U	10 UJ	10 U	10 U	4.9 JB	NS	5500	*
		Aluminum	100 U	100 U	**21.3 J**	100 U	50 U	200	36000	0
		Antimony	**1 J**	**0.98 J**	5 U	**0.86 J**	2 U	6	15	0
		Arsenic	**12.9**	**12.6**	**14.1**	**13.8**	**12.8**	10	0.045	0
		Barium	*112*	*118*	*191*	*127*	*107*	2000	2600	256
		beta-BHC	0.05 U	0.05 U	0.5 U	0.05 U	0.02 J	NS	0.037	*
		bis(2-Ethylhexyl) phthalate	3.6 U	1.1 U	1 U	1 U	3.7 JB	NS	4.8	*
		Calcium	**63200**	**64300**	**64400 J**	**67400**	**58300**	NS	NS	53100
		Carbon disulfide	1 U	1 U	1 U	0.54 J	1 U	NS	1000	*
		Cobalt	**2.2 J**	5 U	5 U	5 U	5 U	NS	730	0
		Iron	*318*	*417*	*613*	*569*	*332*	300	11000	1430
		Magnesium	**16500**	**16500**	**16500**	**17600**	**16300**	NS	NS	15000
		Manganese	*176 J*	*171*	*171*	*190*	*153*	50	880	1340
		Nitrate-Nitrite[1]	0.1 U	0.1 U	0.04 JB	0.1 U	0.1	1	1	*
		Potassium	*1430*	*1470 J*	*1390 J*	*1670*	*5740*	NS	NS	5770
		Sodium	*9440*	*9900*	*9970*	*10400*	*10900*	NS	NS	51400
		Thallium	2 U	**0.15 J**	**0.6 JB**	0.18 UJ	1 U	2	2.4	0
		Zinc	4.8 UJ	36.8 U	*40.9 B*	4.3 UJ	10 U	5000	11000	52.3

NS = no standard NT = not tested

All inorganics are filtered, all organics are not filtered

* There are no background levels for organic constituents

J = estimated result. Results have been qualified "J" For more details refer to Data Verification/Validation Reports in in the FWGWMP October 2009 and January, and July 2010 Sampling Reports

B = organic or inorganic analysis when the analyte is found in the method blank or any of the field blanks

R = rejected data

U = analyzed but not detected at or above the reporting limit

Bold = inorganic constituent detected above Facility-Wide background levels

Italics = inorganic constituent detected below the Facility-Wide background levels

Shaded boxes indicate any contituent, which does not have a background value, detected above the reporting limit.

1 = mg/l

2 = the Region 9 PRG of 3.6 µg/L for the July 2008 event. There is no MCL for perchlorate.

On February 18, 2005 the USEPA establised a Drinking Water Equivalent Level (DWEL) for perchlorate at 24.5 µg/L

Table 4-4 RVAAP Facility-Wide Background Criteria, (SAIC, 2001b)

Media Units	Surface Soil mg/kg	Subsurface Soil mg/kg	Sediment mg/kg	Surface Water µg/L	Groundwater Bedrock Zone Filtered µg/L	Groundwater Bedrock Zone Unfiltered µg/L	Groundwater Unconsolidated Zone Filtered µg/L	Groundwater Unconsolidated Unfiltered µg/L
Analyte								
Cyanide	0	0	0	0	0	0	0	0
Aluminum	17700	19500	13900	3370	0	9410	0	0
Antimony	0.96	0.96	0	0	0	0	0	0
Arsenic	15.4	19.8	19.5	3.2	0	19.1	11.7	11.7
Barium	88.4	124	123	47.5	256	241	82.1	82.1
Beryllium	0.88	0.88	0.38	0	0	0	0	0
Cadmium	0	0	0	0	0	0	0	0
Calcium	15800	35500	5510	41400	53100	48200	115000	115000
Chromium	17.4	27.2	18.1	0	0	19.5	7.3	7.3
Cobalt	10.4	23.2	9.1	0	0	0	0	0
Copper	17.7	32.3	27.6	7.9	0	17	0	0
Iron	23100	35200	28200	2560	1430	21500	279	279
Lead	26.1	19.1	27.4	0	0	23	0	0
Magnesium	3030	8790	2760	10800	15000	13700	43300	43300
Manganese	1450	3030	1950	391	1340	1260	1020	1020
Mercury	0.036	0.044	0.059	0	0	0	0	0
Nickel	21.1	60.7	17.7	0	83.4	85.3	0	0
Potassium	927	3350	1950	3170	5770	6060	2890	2890
Selenium	104	105	107	0	0	0	0	0
Silver	0	0	0	0	0	0	0	0
Sodium	123	145	112	21300	51400	49700	45700	45700
Thallium	0	0.91	0.89	0	0	0	0	0
Vanadium	31.1	37.6	26.1	0	0	15.5	0	0
Zinc	61.8	93.3	532	42	52.3	193	60.9	60.9

Table 4-5 present those COPCs detected in any of the October 2009, January 2010, or July 2010 sampling events that exceeded Region 9 PRGs, primary MCLs, or secondary MCLs. Additionally the Sharon Conglomerate wells data for those COPCs detected in any of the April 2009, July 2009, October 2009, January 2010, or July 2010 sampling events that exceeded Region 9 PRGs, primary MCLs, or secondary MCLs are presented in Table 4-6. .Section 4.16 presents a summary discussion of the MCL and PRG exceedances.

Several analytical methods used to analyze a number of explosives, VOCs, metals, SVOCs, and pesticides currently do not meet the RVAAP QAPP reporting limits or Region 9 preliminary remediation goals (PRGs). Tables listing the reporting limits that currently do not meet the RVAAP QAPP PQLs and/or Region 9 PRG levels are presented in Appendix G.

Sections 4.2 through 4.14 present a discussion of the time trends for COPCs identified in groundwater samples collected during this reporting period at the Atlas Scrap Yard, Demolition Area 2, Load Line 1, Load Line 2, Load Line 3, Load Line 6, Load Line 7, Load Line 10, Load Line 11, Load Line 12 and Ramsdell Quarry under the FWGWMP. Additionally, Section 4.15 has been prepared to reflect conditions respective to six monitoring wells recently installed and completed in the Sharon Conglomerate.

To facilitate the discussion of concentration changes over time concentration versus time graphs (i.e. time-trend graphs) were prepared. The following guidelines were applied to produce the graphs:

1. Only wells sampled during this reporting period with three or more detections of an organic and explosive or three or more detection above background for inorganics are graphed.
2. Values reported as “non-detect” are shown as one-half the reporting limit.
3. Essential nutrients (i.e., calcium, iron, magnesium, potassium and sodium) are not graphed.

Time-trend graphs for the COPCs are presented in Appendix E. The graphs are organized by AOC (maps showing each of the AOC areas are presented in Appendix F). The background wells are grouped before the AOCs.

The time-trend plots include the comparative criteria of: 1) MCL, 2) PRG for tap water, and 3) background concentration (either unconsolidated or bedrock) for inorganics. It is noted that background concentrations for several inorganics are identified as “0” (i.e., not expected to be naturally present at any measurable concentration) (Table 4-4). These inorganics include aluminum, antimony, arsenic (bedrock only), beryllium, cadmium, chromium (bedrock only), cobalt, copper, lead, selenium, silver, thallium and vanadium. These criteria were calculated from data collected prior to implementation of the FWGWMP. With implementation of the FWGWMP, many of the inorganics with a “0” background criterion are found to be present at concentrations greater than the respective

Table 4-5. Exceedances of MCLs and Region 9 PRGs

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Atlas Scrap Yard	ASYmw-001	Bedrock	Iron	**631 J**	50.0 U	NT	300	11000
			Manganese	**1040**	**1140**	NT	50	880
Atlas Scrap Yard	ASYmw-003	Bedrock	Arsenic	**8.6**	5.0 U	NT	10	0.045
			Iron	**2580**	50.0 U	NT	300	11000
			Manganese	**529**	45	NT	50	880
Atlas Scrap Yard	ASYmw-004	Bedrock	Arsenic	**28**	**23.2**	NT	10	0.045
			Iron	**1940 J**	**1490 J**	NT	300	11000
			Manganese	**201**	**211**	NT	50	880
Atlas Scrap Yard	ASYmw-005	Bedrock	Manganese	**618**	**207**	NT	50	880
Atlas Scrap Yard	ASYmw-006	Bedrock	Arsenic	**17**	**16.1**	NT	10	0.045
			Iron	**1360**	**1120 J**	NT	300	11000
			Manganese	**177**	**169**	NT	50	880
Atlas Scrap Yard	ASYmw-007	Unconsolidated	Manganese	**205**	**188**	NT	50	880
Atlas Scrap Yard	ASYmw-008	Unconsolidated	Aluminum	**6300**	**1160 J**	NT	200	36000
			Arsenic	**26.4**	**10.3 J**	NT	10	0.045
			Iron	**17000 J**	**3210 J**	NT	300	11000
			Manganese	**412**	**64.7**	NT	50	880
Atlas Scrap Yard	ASYmw-009	Bedrock	Aluminum	142	**496**	NT	200	36000
			Iron	**323 J**	**811 J**	NT	300	11000
			Manganese	**607**	**624**	NT	50	880
Atlas Scrap Yard	ASYmw-010	Unconsolidated	Aluminum	50.0 U	**1160**	NT	200	36000
			Arsenic	**49.8**	**148**	NT	10	0.045
			Iron	**2530**	**6760 J**	NT	300	11000
			Manganese	**139**	**96.2**	NT	50	880
Demolition Area 2	DETmw-003	Unconsolidated	Arsenic	**11.5**	NT	NT	10	0.045
			Iron	**1440**	NT	NT	300	11000
			Manganese	**266**	NT	NT	50	880
Load Line 10	LL10mw-001	Bedrock	Chloroform	**0.26 J**	NT	NT	NS	0.17
Load Line 10	LL10mw-002	Bedrock	bis(2-Ethylhexyl) phthalate	**8.1 J**	NT	NT	NS	4.8
Load Line 10	LL10mw-003	Bedrock	Carbon tetrachloride	**2.8**	NT	NT	5	0.17
			Chloroform	**0.26 J**	NT	NT	NS	0.17
Load Line 11	LL11mw-001	Unconsolidated	Manganese	**960**	NT	NT	50	880
Load Line 11	LL11mw-003	Unconsolidated	bis(2-Ethylhexyl) phthalate	**8.6 J**	NT	NT	NS	4.8
			Manganese	**498**	NT	NT	50	880
Load Line 11	LL11mw-004	Unconsolidated	Manganese	**272**	NT	NT	50	880
Load Line 11	LL11mw-009	Unconsolidated	bis(2-Ethylhexyl) phthalate	0.95 J	**10**	NT	NS	4.8
			Manganese	**706**	**856**	NT	50	880
			Tetrachloroethene	**4.1**	**3.8**	NT	5	0.1
Load Line 11	LL11mw-010	Unconsolidated	Manganese	**430**	NT	NT	50	880
Load Line 6	LL6mw-005	Bedrock	Arsenic	**14.4**	NT	NT	10	0.045
			Iron	**946 J**	NT	NT	300	11000
			Manganese	**501**	NT	NT	50	880
Load Line 6	LL6mw-006	Unconsolidated	Iron	**363 J**	NT	NT	300	11000
Load Line 6	LL6mw-007	Bedrock	Manganese	**394**	NT	NT	50	880
Load Line 7	LL7mw-001	Bedrock	1,1-Dichloroethene (total)	**8.4**	NT	NT	7	340
			Iron	**8360 J**	NT	NT	300	11000
			Manganese	**460**	NT	NT	50	880
Load Line 7	LL7mw-002	Bedrock	Manganese	**311**	NT	NT	50	880
Load Line 7	LL7mw-003	Bedrock	bis(2-Ethylhexyl) phthalate	**10**	NT	NT	NS	4.8
			Iron	**17200**	NT	NT	300	11000
			Manganese	**1340**	NT	NT	50	880

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Load Line 7	LL7mw-004	Bedrock	Iron	**17000 J**	NT	NT	300	11000
Load Line 7	LL7mw-005	Bedrock	Iron	**1290 J**	NT	NT	300	11000
			Manganese	**2320**	NT	NT	50	880
Load Line 7	LL7mw-006	Bedrock	Iron	**2880 J**	NT	NT	300	11000
			Manganese	**1240**	NT	NT	50	880
			RDX	**0.78 J**	NT	NT	NS	0.61
Load Line 8	LL8mw-001	Unconsolidated	Iron	**942**	NT	NT	300	11000
			Manganese	**125**	NT	NT	50	880
Load Line 8	LL8mw-002	Unconsolidated	Arsenic	**6.6 J**	NT	NT	10	0.045
			Iron	**3850**	NT	NT	300	11000
			Manganese	**333**	NT	NT	50	880
Load Line 8	LL8mw-003	Unconsolidated	Arsenic	**4.1 J**	NT	NT	10	0.045
			Iron	**929**	NT	NT	300	11000
			Manganese	**677**	NT	NT	50	880
Load Line 8	LL8mw-004	Unconsolidated	Arsenic	**3.3 J**	NT	NT	10	0.045
Load Line 8	LL8mw-005	Bedrock	Iron	**1180**	NT	NT	300	11000
			Manganese	**2690**	NT	NT	50	880
Load Line 9	LL9mw-001	Bedrock	bis(2-Ethylhexyl) phthalate	**5.3 J**	NT	NT	NS	4.8
Load Line 9	LL9mw-002	Bedrock	bis(2-Ethylhexyl) phthalate	**5.6 J**	NT	NT	NS	4.8
Load Line 9	LL9mw-003	Bedrock	Iron	**3240**	NT	NT	300	11000
			Manganese	**111**	NT	NT	50	880
Load Line 9	LL9mw-004	Bedrock	Iron	**10600**	NT	NT	300	11000
			Manganese	**2290**	NT	NT	50	880
Load Line 9	LL9mw-006	Bedrock	Iron	**1930**	NT	NT	300	11000
			Manganese	**677**	NT	NT	50	880
Load Line 9	LL9mw-007	Bedrock	Iron	**9900**	NT	NT	300	11000
			Manganese	**1050**	NT	NT	50	880
Ramsdell Quarry Landfill	RQLmw-007	Bedrock	Arsenic	**71.4**	NT	NT	10	0.045
			Iron	**23900 J**	NT	NT	300	11000
			Manganese	**1740**	NT	NT	50	880
Ramsdell Quarry Landfill	RQLmw-008	Bedrock	alpha-BHC	**0.023 J**	NT	NT	NS	0.011
			Arsenic	**29.9**	NT	NT	10	0.045
			Iron	**49600 J**	NT	NT	300	11000
			Manganese	**408**	NT	NT	50	880
Ramsdell Quarry Landfill	RQLmw-009	Bedrock	Arsenic	**8.9**	NT	NT	10	0.045
			Iron	**5280 J**	NT	NT	300	11000
			Manganese	**1260**	NT	NT	50	880
Load Line 1	LL1mw-064	Unconsolidated	Iron	NT	NT	**517**	300	11000
Load Line 1	LL1mw-065	Unconsolidated	Manganese	NT	NT	**256**	50	880
Load Line 1	LL1mw-078	Bedrock	Manganese	NT	NT	**71**	50	880
Load Line 1	LL1mw-080	Bedrock	beta-BHC	NT	NT	**0.048 J**	NS	0.037
			RDX	NT	NT	**88 J**	NS	0.61
Load Line 1	LL1mw-081	Bedrock	Iron	NT	NT	**4200**	300	11000
			Manganese	NT	NT	**1830**	50	880
			RDX	NT	NT	**1**	NS	0.61
Load Line 1	LL1mw-082	Bedrock	Iron	NT	NT	**5150**	300	11000
			Manganese	NT	NT	**1080**	50	880
Load Line 1	LL1mw-083	Bedrock	2,4,6-Trinitrolouene	NT	NT	**5 J**	NS	2.2
			2-Nitrotoluene	NT	NT	**0.18 J**	NS	0.049
			Aluminum	NT	NT	**813**	200	36000
			Manganese	NT	NT	**497**	50	880

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Load Line 1	LL1mw-084	Bedrock	2,4,6-Trinitrolouene	NT	NT	**9.2 J**	NS	2.2
			Aluminum	NT	NT	**335**	200	36000
			beta-BHC	NT	NT	**0.26 J**	NS	0.037
			Manganese	NT	NT	**196**	50	880
			RDX	NT	NT	**0.76 J**	NS	0.61
Load Line 1	LL1mw-085	Bedrock	Iron	NT	NT	**435**	300	11000
			Manganese	NT	NT	**564**	50	880
Load Line 12	LL12mw-088	Unconsolidated	Arsenic	NT	NT	**29.4**	10	0.045
			Iron	NT	NT	**3890**	300	11000
			Manganese	NT	NT	**428**	50	880
Load Line 12	LL12mw-107	Unconsolidated	Arsenic	NT	NT	**9.7**	10	0.045
			Iron	NT	NT	**2640 J**	300	11000
			Manganese	NT	NT	**242**	50	880
Load Line 12	LL12mw-113	Unconsolidated	Aluminum	NT	NT	**103000**	200	36000
			Arsenic	NT	NT	**249**	10	0.045
			Beryllium	NT	NT	**5**	4	73
			Chromium	NT	NT	**163**	100	110
			Iron	NT	NT	**354000**	300	11000
			Lead	NT	NT	**127**	15	NS
			Manganese	NT	NT	**5730**	50	880
			Vanadium	NT	NT	**179**	NS	36
Load Line 12	LL12mw-128	Unconsolidated	Aluminum	NT	NT	**1960**	200	36000
			Arsenic	NT	NT	**47.5**	10	0.045
			Iron	NT	NT	**6890 J**	300	11000
			Manganese	NT	NT	**242**	50	880
Load Line 12	LL12mw-153	Unconsolidated	Arsenic	NT	NT	**21.4**	10	0.045
			beta-BHC	NT	NT	**0.1 J**	NS	0.037
			Iron	NT	NT	**3420**	300	11000
			Manganese	NT	NT	**188**	50	880
Load Line 12	LL12mw-154	Unconsolidated	Arsenic	NT	NT	**16.2**	10	0.045
			Iron	NT	NT	**1760**	300	11000
			Manganese	NT	NT	**85.9**	50	880
Load Line 12	LL12mw-182	Unconsolidated	Arsenic	NT	NT	**25.6**	10	0.045
			Benzo(a)anthracene	NT	NT	**0.23**	NS	0.092
			Benzo(b)fluoranthene	NT	NT	**0.22**	NS	0.092
			bis(2-Ethylhexyl) phthalate	NT	NT	**4.9 JB**	NS	4.8
			Dibenzo(a,h)anthracene	NT	NT	**0.21**	NS	0.0093
			Indeno(1,2,3-cd)pyrene	NT	NT	**0.22**	NS	0.092
			Iron	NT	NT	**766 J**	300	11000
			Manganese	NT	NT	**43.7**	50	880
Load Line 12	LL12mw-183	Unconsolidated	Arsenic	NT	NT	**29.8**	10	0.045
			Heptachlor	NT	NT	**0.027 J**	0.4	0.015
			Iron	NT	NT	**867**	300	11000
Load Line 12	LL12mw-184	Unconsolidated	Arsenic	NT	NT	**15.8**	10	0.045
			Iron	NT	NT	**2300 J**	300	11000
			Manganese	NT	NT	**469**	50	880
Load Line 12	LL12mw-185	Unconsolidated	Manganese	NT	NT	**1380**	50	880
			Nitrate-Nitrite	NT	NT	**160 J**	1	1
Load Line 12	LL12mw-186	Unconsolidated	Manganese	NT	NT	**275**	50	880
Load Line 12	LL12mw-187	Unconsolidated	Manganese	NT	NT	**2020**	50	880
			Nitrate-Nitrite[1]	NT	NT	**1400**	1	1

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Load Line 12	LL12mw-188	Unconsolidated	Heptachlor	NT	NT	**0.017 J**	0.4	0.015
			Manganese	NT	NT	**433**	50	880
Load Line 12	LL12mw-189	Unconsolidated	Aluminum	NT	NT	**298**	200	36000
			Arsenic	NT	NT	**5.1**	10	0.045
			Iron	NT	NT	**1320 J**	300	11000
			Manganese	NT	NT	**310**	50	880
Load Line 12	LL12mw-242	Unconsolidated	Arsenic	NT	NT	**21.3**	10	0.045
			Iron	NT	NT	**833**	300	11000
			Manganese	NT	NT	**56**	50	880
Load Line 12	LL12mw-243	Unconsolidated	Arsenic	NT	NT	**6.5**	10	0.045
			Manganese	NT	NT	**281**	50	880
			Aluminum	NT	NT	**33700**	200	36000
Load Line 12	LL12mw-244	Unconsolidated	Arsenic	NT	NT	**51.1**	10	0.045
			Iron	NT	NT	**78800 J**	300	11000
			Lead	NT	NT	**26**	15	NS
			Manganese	NT	NT	**955**	50	880
			Vanadium	NT	NT	**49**	NS	36
Load Line 12	LL12mw-245	Unconsolidated	Arsenic	NT	NT	**9.1**	10	0.045
			Manganese	NT	NT	**103**	50	880
Load Line 12	LL12mw-246	Unconsolidated	Arsenic	NT	NT	**29.7**	10	0.045
			Iron	NT	NT	**1190 J**	300	11000
			Manganese	NT	NT	**74.5**	50	880
Load Line 2	LL2mw-059	Bedrock	Arsenic	NT	NT	**6.4**	10	0.045
			Iron	NT	NT	**7090**	300	11000
			Manganese	NT	NT	**5530**	50	880
Load Line 2	LL2mw-261	Bedrock	Arsenic	NT	NT	**11.2**	10	0.045
			Iron	NT	NT	**2290**	300	11000
			Manganese	NT	NT	**375**	50	880
Load Line 2	LL2mw-262	Bedrock	Manganese	NT	NT	**77.4**	50	880
Load Line 2	LL2mw-263	Bedrock	Arsenic	NT	NT	**15.4**	10	0.045
			Iron	NT	NT	**4670**	300	11000
			Manganese	NT	NT	**1450**	50	880
Load Line 2	LL2mw-265	Bedrock	Iron	NT	NT	**614**	300	11000
			Manganese	NT	NT	**1430**	50	880
Load Line 2	LL2mw-266	Bedrock	Aluminum	NT	NT	**1060**	200	36000
			Arsenic	NT	NT	**5.6**	10	0.045
			bis(2-Ethylhexyl) phthalate	NT	NT	**5.8 JB**	NS	4.8
			Iron	NT	NT	**5080**	300	11000
			Manganese	NT	NT	**1390**	50	880
Load Line 2	LL2mw-267	Bedrock	Iron	NT	NT	**1240**	300	11000
			Manganese	NT	NT	**622**	50	880
			RDX	NT	NT	**1.1**	NS	0.61
Load Line 2	LL2mw-269	Bedrock	Iron	NT	NT	**5990**	300	11000
			Manganese	NT	NT	**1540**	50	880
Load Line 2	LL2mw-270	Bedrock	Iron	NT	NT	**1420**	300	11000
			Manganese	NT	NT	**384**	50	880
Load Line 3	LL3mw-232	Bedrock	Arsenic	NT	NT	**3.5 J**	10	0.045
			Manganese	NT	NT	**308**	50	880
Load Line 3	LL3mw-234	Bedrock	Iron	NT	NT	**1210**	300	11000
			Manganese	NT	NT	**2190 J**	50	880
Load Line 3	LL3mw-236	Bedrock	Manganese	NT	NT	**235**	50	880

Area	Well Number	Monitored Zone	Analyte	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Load Line 3	LL3mw-239	Bedrock	bis(2-Ethylhexyl) phthalate	NT	NT	**8.7 JB**	NS	4.8
			Carbon tetrachloride	NT	NT	**0.37 J**	5	0.17
			Chloroform	NT	NT	**0.52 J**	NS	0.17
			Manganese	NT	NT	**101**	50	880
			RDX	NT	NT	**1.7**	NS	0.61
Load Line 4	LL4mw-196	Unconsolidated	bis(2-Ethylhexyl) phthalate	NT	NT	**8.2 JB**	NS	4.8
			Iron	NT	NT	**393**	300	11000
			Manganese	NT	NT	**183**	50	880

Notes:
NS = no standard NT = not tested
All inorganics are filtered, all organics are not filtered
* There are no background levels for organic constituents
J = estimated result. Results have been qualified "J" For more details refer to Data Verification/Validation Reports in in the FWGWMP October 2009 and January, and July 2010 Sampling Reports
B = organic or inorganic analysis when the analyte is found in the method blank or any of the field blanks
R = Rejected data
U = analyzed but not detected at or above the reporting limit
Bold = inorganic constituent detected above MCl or Region 9 PRG
1 = mg/l

Table 4-6. Exceedances of MCLs and Region 9 PRGs for the Sharon Conglomerate Wells

Area	Well Number	Analyte	April-09 Level (µg/L)	July-09 Level (µg/L)	Oct-09 Level (µg/L)	Jan-10 Level (µg/L)	Jul-10 Level (µg/L)	MCL (µg/L)	Region 9 PRG (µg/L)
Sharon Conglomerate	SCFmw-001	Aluminum	100 U	100 U	**1720**	50 U	50 U	200	36000
		Arsenic	3.3 J	5 U	**11.7**	**15.2**	**13.1**	10	0.045
		Iron	**6850 J**	**2960**	**4760**	**1320**	**814**	300	11000
		Manganese	**767 J**	**449 J**	**336**	**261**	**194**	50	880
Sharon Conglomerate	SCFmw-002	Arsenic	**12.2**	**17**	**18.6**	**20.6**	**12.5**	10	0.045
		Iron	100 U	216	**645**	**730**	233	300	11000
		Manganese	**82.1 J**	**102 J**	**92**	**96.3**	**67.3**	50	880
Sharon Conglomerate	SCFmw-003	Arsenic	**3.7 J**	5 U	5 U	5 U	5 U	10	0.045
		Iron	187 U	**491**	**610**	**614**	**390**	300	11000
		Manganese	**269 J**	**271 J**	**248**	**243**	**237**	50	880
Sharon Conglomerate	SCFmw-004	Aluminum	100 U	100 U	**203**	100 U	50 U	200	36000
		Iron	100 U	100 U	**316**	100 U	50 U	300	11000
		Manganese	**697 J**	**626**	**646**	**681**	**624**	50	880
Sharon Conglomerate	SCFmw-005	Arsenic	**8.7**	**8.7**	**11.3**	**10**	5 U	10	0.045
		Iron	**2120 J**	**2120**	**2970**	**2610**	**4440**	300	11000
		Manganese	**1660 J**	**1270 J**	**1360**	**1350**	**1750**	50	880
Sharon Conglomerate	SCFmw-006	Arsenic	**12.9**	**12.6**	**14.1**	**13.8**	**12.8**	10	0.045
		Iron	**318**	**417**	**613**	**569**	**332**	300	11000
		Manganese	**176 J**	**171**	**171**	**190**	**153**	50	880

Notes:

NS = no standard NT = not tested

All inorganics are filtered, all organics are not filtered

* There are no background levels for organic constituents

J = estimated result. Results have been qualified "J" For more details refer to Data Verification/Validation Reports

B = organic or inorganic analysis when the analyte is found in the method blank or any of the field blanks

R = Rejected data

U = analyzed but not detected at or above the reporting limit

Bold = inorganic constituent detected above the MCL or Region 9 PRG

FWGWMP RLs. Consideration should be made for a re-evaluation of background criteria for inorganics with thought given to inclusion of the FWGWMP data.

4.2 Atlas Scrap Yard

Sampling at the Atlas Scrap Yard has been conducted since April 2009. Groundwater samples are obtained from seven bedrock aquifer wells and three unconsolidated aquifer wells. No VOCs, pesticides/herbicides or PCBs have been reported to be present above the respective RLs in any Atlas Scrap Yard monitoring well during three or more groundwater sampling events.

1,3,5-Trinitrobenzene, arsenic, bis (2-ethylhexyl) phthalate, iron, manganese and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at the Atlas Scrap Yard. MCLs and PRGs were not exceeded for any of these parameters, except for the iron MCL and the arsenic MCL and PRG.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells ASYmw-002 (manganese down), ASYmw-006 [bis (2-ethylhexyl) phthalate decreasing], ASYmw-008 (arsenic and nickel decreasing), and ASYmw-009 [bis (2-ethylhexyl) phthalate decreasing].

4.3 Demolition Area #2

Sampling at Demolition Area #2 has been conducted since January 2006. Groundwater samples have been obtained from 11 unconsolidated aquifer wells. Only wells DET-003 and DET-004 (RCRA wells) were sampled during this reporting period.

No VOCs, pesticides/herbicides or PCBs have been reported to be present above the respective RLs in wells DET-003 or DET-004 at Demolition Area #2 during three or more groundwater sampling events.

Bis (2-ethylhexyl) phthalate, RDX and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Demolition Area #2. MCLs and PRGs were not exceeded for any of these parameters, except for the RDX PRG.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at well DETmw-004 [bis (2-ethylhexyl) phthalate and zinc decreasing).

4.4 Load Line 1

Sampling at Load Line 1 has been conducted since October 2005. Groundwater samples were obtained from two unconsolidated aquifer wells and 10 bedrock aquifer wells. All wells were sampled during this reporting period.

No VOCs or PCBs have been reported to be present above the respective RLs in any wells at Load Line 1 during three or more groundwater sampling events.

1,3,5-Trinitrobenzene, 2,4,6-trinitrotoluene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-amino-4,6-dinitrotoluene, 4-amino-2,6-dinitrotoluene, aluminum, antimony, arsenic barium, beryllium, beta-BHC, bis (2-ethylhexyl) phthalate, cadmium, cobalt, copper, HMX, iron, manganese, nickel, RDX, thallium and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 1. MCLs were not exceeded for any of these parameters, except for iron and manganese. PRGs were not exceeded for any of these parameters, except 2,4,6-trinitrotoluene, arsenic, beta-BHC, manganese and RDX.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL1mw-064 (barium decreasing), LL1mw-065 (barium decreasing), LL1mw-078 (barium, cobalt and thallium increasing), LL1mw-080 (2,6-dinitrotoluene, aluminum, barium, HMX and RDX increasing) and LL1mw-083 (1,3,5-trinitrobenzene, 4-amino-2,6-dinitrotoluene, aluminum and barium increasing).

4.5 Load Line 2

Sampling at Load Line 2 was been conducted since October 2005. Groundwater samples were obtained from 12 bedrock aquifer wells. All wells were sampled once (i.e., July) during this reporting period.

No VOCs or PCBs have been reported to be present above the respective RLs in any wells at Load Line 2 during three or more groundwater sampling events.

1,3,5-Trinitrobenzene, 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2-amino-4,6-dinitrotoluene, 4-amino-2,6-dinitrotoluene, aluminum, antimony, arsenic barium, beta-BHC, bis (2-ethylhexyl) phthalate, cobalt, HMX, iron, manganese, nickel and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 2. MCLs were not exceeded for any of these parameters, except arsenic, iron and manganese. PRGs were not exceeded for any of these parameters, except 1,3-dinitrobenzene, arsenic and manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL2mw-059 (1,3,5-trinitrobenzene decreasing and barium and HMX increasing) and LL2mw-060 (2-amino-4,6-dinitrotoluene increasing and 4-amino-2,6-dinitrotoluene increasing).

4.6 Load Line 3

Sampling at Load Line 3 has been conducted since October 2005. Groundwater samples were obtained from 12 bedrock aquifer wells. All wells were sampled once (i.e., July) during this reporting period.

No VOCs, pesticide/herbicides or PCBs have been reported to be present above the respective RLs in any wells at Load Line 3 during three or more groundwater sampling events.

2,6-Dinitrotoluene, 2-amino-4,6-dinitrotoluene, 4-amino-2,6-dinitrotoluene, barium, bis (2-ethylhexyl) phthalate, HMX, iron, manganese, nickel, RDX and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 3. MCLs were not exceeded for any of these parameters, except iron and manganese. PRGs were not exceeded for any of these parameters, except manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL3mw-232 [bis (2-ethylhexyl) phthalate decreasing and nickel increasing) and LL3mw-234 (2,6-dinitrotoluene decreasing and 2-amino-4,6-dinitrotoluene, HMX, iron, manganese, nickel and RDX increasing).

4.7 Load Line 6

Sampling at Load Line 6 has been conducted since January 2009. Groundwater samples are obtained from four bedrock aquifer wells and three unconsolidated aquifer well. All wells were sampled once (i.e., October) during this reporting period.

No VOCs, pesticide/herbicides or PCBs have been reported to be present above the respective RLs in any wells at Load Line 6 during three or more groundwater sampling events.

1,3,5-Trinitrotoluene, aluminum, arsenic, barium, bis (2-ethylhexyl) phthalate, cadmium, iron, manganese, and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 6. MCLs were not exceeded for any of these parameters, except arsenic, iron and manganese. PRGs were not exceeded for any of these parameters, except arsenic and bis (2-ethylhexyl) phthalate.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL6mw-005 (arsenic and iron increasing), LL6mw-006 (aluminum, manganese and zinc increasing) and LL6mw-007 [bis (2-ethyhexyl) phthalate decreasing and zinc increasing).

4.8 Load Line 7

Sampling at Load Line 7 has been conducted since January 2009. Groundwater samples are obtained from six bedrock aquifer wells. All wells were sampled once (i.e., October) during this reporting period.

No pesticide/herbicides or PCBs have been reported to be present above the respective RLs in any wells at Load Line 6 during three or more groundwater sampling events.

1,1,1-Trichloroethane, 1,1-dichlorethane, 1,1-dichloroethene (total), 1,3,5-trinitrobenzene, barium, bis (2-ethylhexyl) phthalate, cadmium, cobalt, HMX, iron, manganese, nickel, RDX, and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 7. MCLs were not exceeded for any of these parameters, except total 1,1-dichloroethene, iron and manganese. PRGs were not exceeded for any of these parameters, except iron, manganese and RDX.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL7mw-001 (1,1,1-trichloroethane, 1,1-dichloroethane, and 1,1-dichloroethene decreasing), LL7mw-003 [bis (2-ethylhexyl) phthalate increasing], LL7-mw-004 [bis (2-ethylhexyl) phthalate increasing], LL7mw-005 (1,3,5-trinitrobenze decreasing and barium increasing) and LL7mw-006 [bis (2-ethylhexyl) phthalate, HMX and RDX increasing].

4.9 Load Line 8

Sampling at Load Line 8 has been conducted since January 2009. Groundwater samples are obtained from two bedrock aquifer wells and four unconsolidated aquifer wells. All wells were sampled once (i.e., October) during this reporting period.

No VOCs, pesticide/herbicides or PCBs have been reported to be present above the respective RLs in any wells at Load Line 8 during three or more groundwater sampling events.

1,3,5-Trinitrobenzene, aluminum, arsenic, barium, bis (2-ethylhexyl) phthalate, iron, manganese, and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 8. MCLS were not exceeded for any of these parameters, except iron and manganese. PRGs were not exceeded for any of these parameters, except arsenic, bis (2-ethylhexyl) phthalate and manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL8mw-001 (1,1,1-trichloroethane, 1,1-dichloroethane, and 1,1-dichloroethene decreasing), LL8mw-001 (barium and manganese increasing), LL8mw-002 (1,3,5-trinitrobenzene decreasing; barium, iron and manganese increasing),

LL8mw-003 (aluminum, barium and manganese increasing), LL8me-004 (barium and manganese increasing), and LL8mw-005 (manganese and zinc decreasing; iron increasing).

4.10 Load Line 9

Sampling at Load Line 9 has been conducted since January 2009. Groundwater samples are obtained from seven bedrock aquifer wells. All wells were sampled once (i.e., October) during this reporting period.

No VOCs, explosives, pesticide/herbicides or PCBs have been reported to be present above the respective RLs in any wells at Load Line 8 during three or more groundwater sampling events.

Aluminum, barium, bis (2-ethylhexyl) phthalate, cobalt, iron, manganese, nickel and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 9. MCLS were not exceeded for any of these parameters, except iron and manganese. PRGs were not exceeded for any of these parameters, except bis (2-ethylhexyl) phthalate and manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL9mw-002 (aluminum and nickel decreasing), LL9mw-003 (iron increasing), LL9mw-005 (zinc increasing) and LL9mw-006 (iron increasing).

4.11 Load Line 10

Sampling at Load Line 10 has been conducted since January 2009. Groundwater samples are obtained from five bedrock aquifer wells and one unconsolidated aquifer well. All wells were sampled once (October 2009) during this reporting period.

No pesticides/herbicides, explosives or PCBs have been reported to be present above the respective RLs in any Load Line 10 monitoring well during three or more groundwater sampling events.

Barium, bis (2-ethylhexyl) phthalate, carbon tetrachloride, chloroform, manganese, and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 10. MCLs were not exceeded for any of these parameters. PRGs were not exceeded for any of these parameters, except bis (2-ethylhexyl) phthalate, carbon tetrachloride and chloroform.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL10mw-001 (carbon tetrachloride decreasing), LL10mw-002 [bis (2-ethylhexyl) phthalate increasing), LL10mw-003 (carbon

tetrachloride and chloroform decreasing), LL10mw-004 (zinc decreasing), LL10mw-005 (manganese decreasing) and LL10mw-006 (barium decreasing).

4.12 Load Line 11

Sampling at Load Line 11 has been conducted since October 2005. Groundwater samples are obtained from 10 unconsolidated aquifer wells. All wells were sampled once (October 2009) during this reporting period.

No VOCs, pesticides/herbicides or PCBs have been reported to be present above the respective RLs at Load Line 1 during three or more groundwater sampling events.

Aluminum, barium, bis (2-ethylhexyl) phthalate, cadmium, iron, manganese, nickel and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 11. MCLs were not exceeded for any of these parameters, except cadmium, iron and manganese. PRGs were not exceeded for any of these parameters, except bis (2-ethylhexyl) phthalate.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL11mw-001 (manganese increasing), LL11mw-003 (zinc decreasing and manganese increasing), LL11mw-004 (cadmium and zinc decreasing and manganese increasing) and LL11mw-010 (barium and manganese increasing).

4.13 Load Line 12

Sampling at Load Line 12 was conducted since October 2005. Groundwater samples were obtained from four bedrock aquifer wells and 15 unconsolidated aquifer wells. All wells were sampled once (i.e., July) during this reporting period.

No PCB isomer is present above the respective RLs at Load Line 12 during three or more groundwater sampling events.

Aluminum, antimony, arsenic, barium, beryllium, beta-BHC, bis (2-ethylhexyl) phthalate, cadmium, chromium, cobalt, copper, HMX, iron, lead, manganese, nickel, nitrate-nitrite, nitrobenzene, nitrocellulose, o-xylene, thallium total xylenes, vanadium and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at Load Line 12. MCLs were not exceeded, except aluminum, arsenic, beryllium, cadmium, iron, lead, manganese and nitrate-nitrite. PRGs were not exceeded, except aluminum, arsenic, beta-BHC, bis (2-ethylhexyl) phthalate, cadmium, iron, manganese, nitrate-nitrite and vanadium.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells LL12mw-113 (arsenic, barium, beryllium, chromium,

cobalt, copper, iron, lead, manganese, nickel, vanadium and zinc increasing), LL12mw-187 (barium decreasing), LL12mw-188 (manganese decreasing), LL12mw-242 (iron increasing), LL12mw-243 (manganese decreasing) and LL12mw-244 (arsenic, barium, manganese and zinc increasing).

4.14 Ramsdell Quarry Landfill

Sampling at the Ramsdell Quarry Landfill has been conducted since October 2005. Groundwater samples are obtained from 12 bedrock aquifer wells. All wells were sampled once (i.e., October) during this reporting period.

No VOCs, explosives or PCBs have been reported to be present above the respective RLs at Load Line 1 during three or more groundwater sampling events.

Antimony, arsenic, barium, beta-BHC, bis (2-ethylhexyl) phthalate, cobalt, iron, manganese, nickel, thallium and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells at the Ramsdell Quarry Landfill. MCLs were not exceeded, except arsenic, iron and manganese. PRGs were not exceeded, except arsenic, bis (2-ethylhexyl) phthalate, iron and manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells RQLmw-007 (arsenic, barium, cobalt and manganese decreasing), RQLmw-008 (arsenic, barium, iron and manganese decreasing) and RQLmw-009 (arsenic, barium and manganese decreasing).

4.15 Sharon Conglomerate

Sampling of the Sharon Conglomerate has been conducted since April 2009. Groundwater samples have been collected from six wells.

No explosives, pesticide/herbicides or PCBs have been reported to be present above the respective RLs at Load Line 1 during three or more groundwater sampling events.

Antimony, arsenic, barium, bis (2-ethylhexyl) phthalate, carbon disulfide, iron, manganese, nickel and zinc were reported to be present above the RL during three or more groundwater sampling events in one or more wells Sharon Conglomerate wells. MCLs were not exceeded, except arsenic, iron and manganese. PRGs were not exceeded, except arsenic, bis (2-ethylhexyl) phthalate and manganese.

The time-trend graphs in Appendix E show concentration-change trends (either increasing or decreasing) at wells SCFmw-001 (antimony, iron, manganese and nickel decreasing), SCFmw-002 (antimony and zinc decreasing), SCFmw-003 (antimony and zinc decreasing), SCFmw-004 (antimony decreasing), SCF mw-005 (antimony, and zinc decreasing; iron increasing) and SCFmw-006 (antimony decreasing).

4.16 MCL and Region 9 PRG Exceedances

Tables 4-5 and 4-6 lists all wells and COPCs reported to be present in samples collected during the FWGWMP in October 2009and January and July 2010 (as well as April and july 2009 for the SCF wells) at concentrations greater than either the MCLs or the PRGs. This section summarizes those conditions and is presented by analyte group (e.g., inorganics, explosives, etc.).

4.16.1 Inorganics

Aluminum (11 wells), arsenic (37 wells), beryllium, (1 well), chromium (1 well), iron (59 wells), lead (2 wells), manganese (80 wells), nitrate-nitrite (2 wells) and vanadium (2 wells) are the inorganics reported to be present in samples at concentrations exceeding MCLs or PRGs during at least one sample event in 88 wells sampled during the reporting period. As general observations: 1) the aluminum MCL was exceeded, but not the PRG; 2) all arsenic concentrations exceeded the PRG and 67% exceeded the MCL; 3) the beryllium concentration exceeds the MCL but not the PRG; 4) the chromium MCL was exceeded, but not the PRG; 5) iron MCL was exceed but only 11% exceeded the PRG; 6) the lead MCL was exceeded and there is no PRG; 7) the manganese MCL was exceeded but less than 50% exceeded the PRG; 8) the nitrate-nitrite MCL and PRG were exceeded and 9) the vanadium PRG was exceeded, but there is no MCL.

4.16.2 Volatile Organic Compounds

1,1-Dichloroethene (1 well), carbon tetrachloride (2 wells), chloroform (3 wells) and tetrachloroethene (1 wells) are the VOCs reported to be present in samples at concentrations exceeding either the MCLs or PRGs during at least one sample event in 88 wells sampled during the reporting period. As general observations: 1) the 1,1-dichloroethene MCL was exceeded, but not the PRG; 2) the carbon tetrachloride PRG was exceeded, but not the MCL; 3) the chloroform PRG was exceed and there is no MCL; 4) the tetrachloroethene PRG was exceeded, but not the MCL.

4.16.3 Semivolatile Organic Compounds

Bis (2-ethylhexyl)phthalate (14 wells), benzo (a) anthracene (1 well), benzo (b) fluoranthene (1 well), dibenzo (a,h) anthracene (1 well), and indeno (1,2,3-cd) pyrene (1 well) are the SVOCs reported to be present in samples at concentrations exceeding the MCLs or PRGs during at least one sample event in 88 wells sampled during the reporting period. As general observations: 1) the bis (2-ethylhexyl) phthalate PRG was exceeded, but there is no MCL, 2) the benzo (a) anthracene, benzo (b) fluoranthene, dibenzo (a,h) anthracene, and indeno (1,2,3-cd) pyrene PRGs were exceeded, but there are no MCLs.

4.16.4 Pesticides and Herbicides

alpha-BHC (1 well), beta-BHC (3 wells) and heptachlor (2 wells) were the pesticides or herbicides reported to be present in samples at concentrations exceeding the MCLs or

PRGs during at least one sample event in 88 wells sampled during the reporting period. The reported concentrations exceed the PRGs and there are no MCLs.

4.16.5 Explosives and Propellants

2,4,6-Trinitrotoluene (2 wells), **2-nitrotoluene** (1 well) and **RDX** (6 wells) are the explosives and propellants reported to be present in samples at concentrations exceeding the respective PRGs during at least one sample event in 88 wells sampled during the reporting period.. There are no MCLs for these explosives and propellants.

4.16.6 Perchlorates

As shown in Table 4-3 the deep Sharon Conglomerate wells were analyzed for perchlorates during this reporting period. No perchlorates were detected at levels exceeding the Region 9 PRG of 3.6 µg/L, or the Drinking Water Equivalent Level (DWEL) of 24.5 µg/L.

4.17 Assessment of Groundwater Remedial Action Effectiveness

Groundwater remedial actions have not been performed to date at RVAAP and therefore are not discussed in this report. The facility-wide groundwater conditions are still being evaluated, including background levels for inorganics. No remedial activities associated with the groundwater are planned at this time.

SECTION 5

FWGWMP ANNUAL RECOMMENDATIONS/REVIEW

5.1 FWGWMP Annual Recommendations

It is recommended that the FWGWMP groundwater monitoring continue as scheduled until all FWGWMP wells at the facility have been sampled and analyzed a minimum of 4 quarters. Additionally as discussed in Section 1.6, the existing well monitoring schedule as presented in Appendix A will be followed going into 2011 through the April 2011 monitoring event. A meeting between the USACE and RVAAP stakeholders was held on December 1-2, 2010 to present a revised groundwater monitoring well schedule for future groundwater monitoring at the facility. The proposed monitoring program includes a discussion of schedule, frequency, wells to be sampled, and constituents to be monitored. The proposed groundwater monitoring well schedule is currently subject to Ohio EPA review and approval.

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5.2 Background Well Issues

Previous discussions between the Army and the Ohio EPA have dealt with concerns that the background wells may have been impacted by the facility. The specific issues related to the background wells at RVAAP include the presence of explosives and the exceedance of health/aesthetic criteria (MCLs). An additional question is related to the presence of naturally occurring elements (e.g., aluminum, copper, nickel, etc) previously establish to have a "0" background concentration in background wells. Prior to addressing the concern that background needs to be re-evaluated, it is necessary to point out that the background data are not conclusive that explosives are present. While a few explosive compounds have been reported in samples at estimated ("J") concentrations, these reports are isolated and not recurrent. Background wells can be used to address one or both of the following: 1) define regional water-quality conditions without the effects of human activities and 2) define the quality of groundwater flowing into an area of interest (e.g., AOC) from a neighboring site that may show effects of outside actions (i.e., groundwater contaminated from other sources). The Army recognizes that there are issues associated with background water-quality data and suggests that background data require re-evaluation. This re-evaluation should include the actual quality of water in the wells and the location of the wells with respect to objective. The Army considers the FWGWMP to be a fluid program allowing for re-evaluation and re-definition. The Army has initiated this re-evaluation with the presentation in October 2007 of the Draft Proposal to Update the Facility-Wide Ground Water Monitoring Program. The major premise of this document is that previous interpretations of the groundwater regime at RVAAP are not completely accurate. If the Ohio EPA agrees with this conclusion and the subsequent reinterpretation of groundwater flow systems, the locations and objectives of background wells can be re-considered. Inspection of the locations of background wells in relationship to the newly interpreted groundwater flow regime (as described in the Annual Report) suggests that only wells BKGmw-005, BKGmw-006, and BKGmw-

018 may be located to establish unaffected regional water-quality conditions. All other background wells may be located hydraulically down gradient from activities and practices at RVAAP that may result in measurable affects.

Following the completion of the initial groundwater monitoring for all wells at the facility, the data will be further evaluated as it relates to background issues.

Additionally the USACE recently determined that a specialized geochemical study is needed to better characterize the background ground water quality at the site. The geochemical study is also necessary for optimization of the FWGWMPP. The sampling and analysis necessary or this evaluation was conducted in October 2009, and the report is currently in Draft review by all stakeholders.

SECTION 6

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