Appendix I

Previous Investigation Data

Excerpt from Parsons 2012 New York SI Report

4.25 CAMP O'RYAN MRS 2 RIFLE RANGE (NYHQ-008-R-02)

4.25.1 Site Description

Camp O'Ryan MRS 2 Rifle Range is a former small arms range. The former range is approximately 17.5 acres and is located in Wethersfield, Wyoming County. Camp O'Ryan MRS 2 Rifle Range was operational between 1949 and 1974 and possibly again from 1989 through 1994. Currently, the MRS is undeveloped forested land that is privately owned.

Based on the historical documents, Camp O'Ryan was divided into three MRSs: Camp O'Ryan MRS 1 Pistol Range, Camp O'Ryan MRS 2 Rifle Range and Camp O'Ryan MRS 3 Maneuvering Area. The firing direction was to the southeast. Small arms, .30 caliber M1, were approved for use Camp O'Ryan MRS 2 Rifle Range. Additional potential munitions used were small arms (.22, .30, .38, and .45 caliber, 5.56mm and 7.62mm).

The MRS boundary and acreage presented in the PA for Camp O'Ryan was for all three MRSs combined. Based on historical documents, the MRS was split and the MRS boundaries were revised. The Camp O'Ryan MRS 2 Rifle Range is approximately 17.5 acres based on the MRS boundary revision. The MRS boundary is shown in Figure 4.25-1.

NYSDEC adequately assessed the Camp O'Ryan MRS 2 Rifle Range during previous investigations (Woods Hole Group, Inc., 2011 and NYSDEC, 2009); therefore, no fieldwork was completed at this MRS.

As documented in the approved HRR/WP, the SI approach for the Camp O'Ryan MRS 2 Rifle Range MRS did not include field work. See Section 4.25.3 for the results from the previous investigations.

4.25.2 Camp O'Ryan MRS 2 Rifle Range - ROE Issues

Fieldwork was not planned at Camp O'Ryan MRS 2 Rifle Range; therefore, ROEs were not requested for the site.

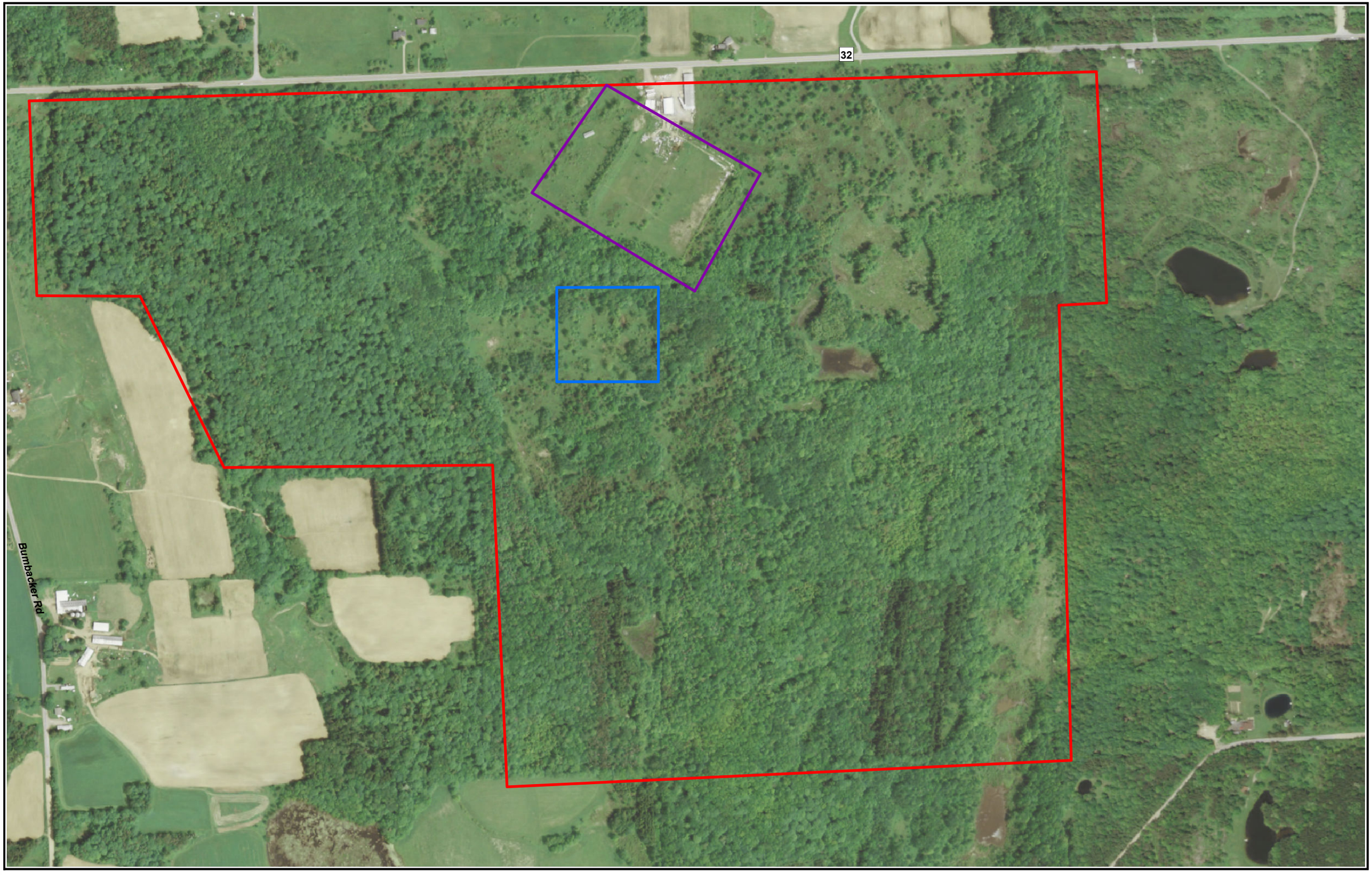
4.25.3 Camp O'Ryan MRS 2 Rifle Range - Previous Investigations

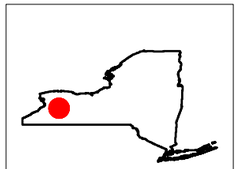
On August 27, 2007, NYSDEC collected and analyzed 12 soil samples at a berm. None of the total lead concentrations exceeded the comparative screening values (NYSDEC, 2008).

The NYSDEC Site Investigation Report Camp O'Ryan Rifle Range Gainesville, NY summarized the November 5, 2008. NYSDEC collected surface soil samples from the firing berm area, as well as the berm behind the targets A total of 15 samples had elevated levels of lead, the highest concentrations were at the target area. The report provided figures with the sample location and range features of the rifle range (See Appendix I). Additional discussion of these results is provided in section 4.25.4.

Figure 4.25-1
Camp O'Ryan MRS 2 Rifle Range (Aerial)
AEDB-R # NYHQ-008-R-01
Wyoming County, New York

PARSONS





Site Location in New York

Legend

- MRS 1 - Pistol Range
- MRS 2 - Rifle Range
- MRS 3 - Maneuvering Area

80 40 0 80
Meters

N

Image: 2009 Orthophoto
Projection: UTM Zone 17, WGS84, Meters

PROJECT NUMBER:
747648.13000
February 2012

4.25.4 Camp O'Ryan MRS 2 Rifle Range - Munitions Constituents Sampling and Analytical Results

In the 2008 investigation, NYSDEC collected thirty surface soil samples from the MRS and one ambient surface soil sample was collected outside the MRS. Samples were biased to areas most likely to have the highest concentration of MC (e.g., firing berm and the target berm).

Thirteen of the 30 biased surface soil samples were collected from the firing berm and 17 biased surface soil samples were collected from the target berm. In addition, one ambient surface soil sample was collected from a location outside the area of former range operations, north of the MRS along Wethersfield Road. The sample locations are presented on Figure 4.25-2. The sample rationale and coordinates are provided in Table 4.25-1. The analytical results for the surface soil samples are presented in Tables 4.25-2 and Appendix B.

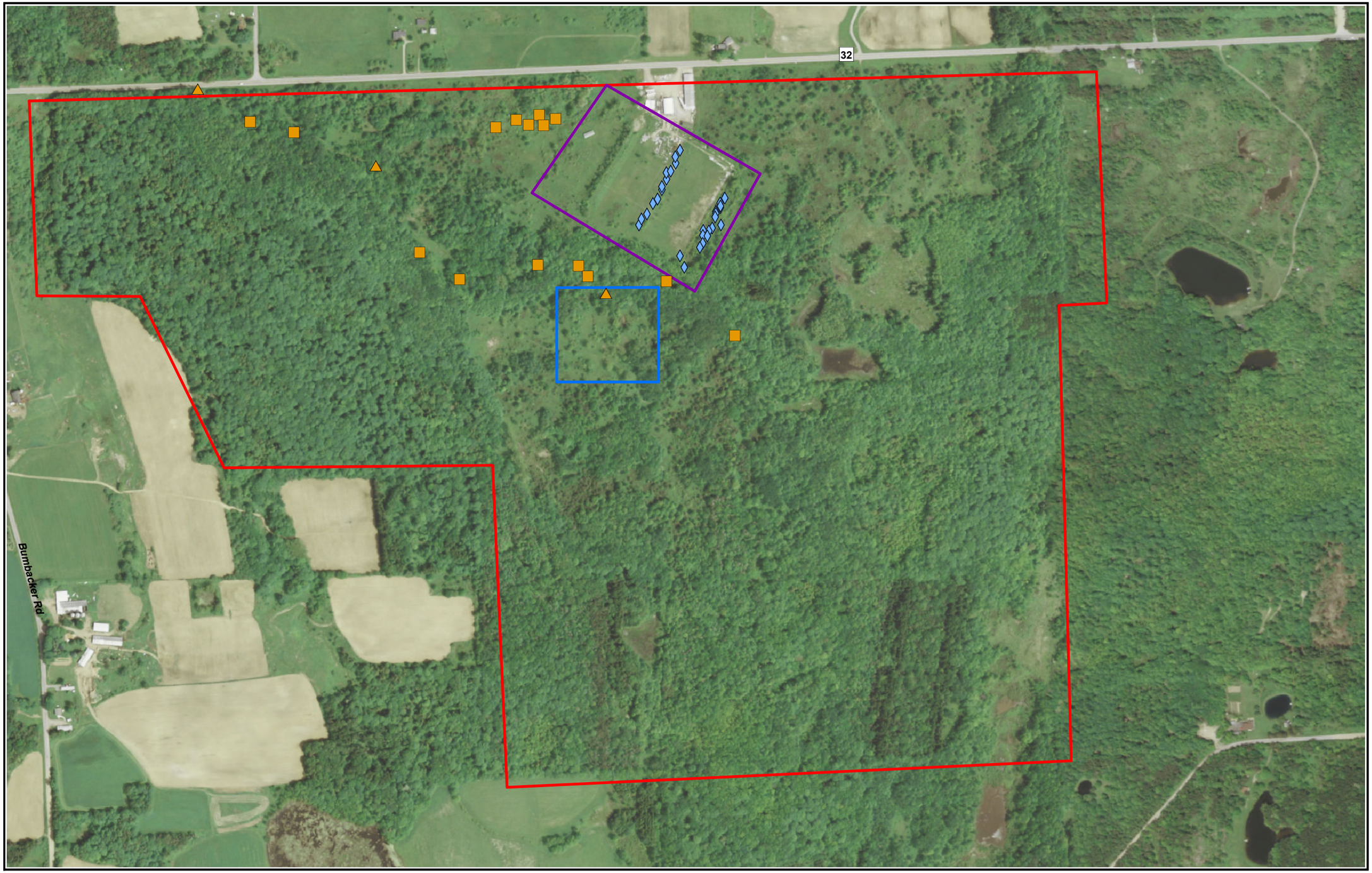
During the Site Investigation the field team observed what looked like target poles attached to a cement retaining wall. As well as a hill, that looked like a target berm, behind the wall where targets were located. Samples NF908-11020-01 through NF908-11020-13 were collected at the firing berm and samples NF908-11020-14 through NF908-11020-30 were collected at the target berm. One ambient surface soil sample, NF908-11020-31, was collected north of the MRS, outside of the MRS boundaries.

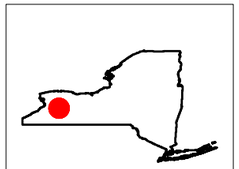
The detected ambient concentrations, for surface soil as shown in Table 4.25-3, were used to represent the background concentrations of metals at Camp O'Ryan MRS 2 Rifle Range. The maximum detected concentration of a given MC, when compared to applicable ambient and screening concentrations, was used to evaluate whether or not MC contamination is present. At this MRS, human health screening criteria were applied in the screening evaluation consistent with the CSM presented in Section 4.25.5.

The detected concentrations of antimony, copper, and lead are reported in Table 4.25-3. The maximum detected concentration of antimony (328 mg/kg), copper (5,530 mg/kg) and lead (50,900 mg/kg) in the biased surface soil samples exceeded the calculated background concentration (the concentration in the ambient surface soil sample; not detected, 32.7 mg/kg, 121 mg/kg, respectively). The maximum detected concentrations of antimony, copper, and lead also exceeded the human health screening values (31 mg/kg, 50 mg/kg, 400 mg/kg, respectively) (Table 4.25-3). Based on the analytical results presented in this report, an impact to human health due to exposure to antimony, copper or lead in the surface soil at the MRS is possible.

Figure 4.25-2
Camp O'Ryan MRS 2 Rifle Range (Aerial)
AEDB-R # NYHQ-008-R-01
Wyoming County, New York

PARSONS





Site Location in New York

Legend

- MRS 1 - Pistol Range
- MRS 2 - Rifle Range
- MRS 3 - Maneuvering Area
- TCPL Pb
- WHG Porewater
- WHG Surface Water
- Berm
- Firing Line

May 2009 TCLP samples taken by NYSDEC

October 2010 samples collected by Woods Hole Group for a contract with CENAE

80 40 0 80
Meters

N

Image: 2009 Orthophoto
Projection: UTM Zone 17, WGS84, Meters

PROJECT NUMBER:
747648.13000
June 2011

Table 4.25-1
Sample Locations and Rationale
Camp O'Ryan MRS 2 Rifle Range MRS

Sample ID	Sample Coordinates [1]		Medium	Analyses	Potential Munitions	Rationale
	Latitude	Longitude				
NF908-11020-01	42.68216	-78.2797	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-02	42.68225	-78.2797	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-03	42.68233	-78.2795	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-04	42.68248	-78.2794	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-05	42.68255	-78.2793	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-06	42.68269	-78.2792	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-07	42.68274	-78.2792	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-08	42.68285	-78.2791	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-09	42.68295	-78.2791	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-10	42.68297	-78.279	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-11	42.68309	-78.2789	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-12	42.68319	-78.2789	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-13	42.68329	-78.2788	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the firing berm.
NF908-11020-14	42.68253	-78.2779	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.

Table 4.25-1
Sample Locations and Rationale
Camp O'Ryan MRS 2 Rifle Range MRS

Sample ID	Sample Coordinates [1]		Medium	Analyses	Potential Munitions	Rationale
	Latitude	Longitude				
NF908-11020-15	42.68246	-78.278	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-16	42.68239	-78.278	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-17	42.68241	-78.278	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-18	42.68233	-78.2781	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-19	42.6823	-78.2781	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-20	42.68225	-78.2781	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-21	42.68212	-78.278	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-22	42.68208	-78.2782	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-23	42.68204	-78.2783	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-24	42.68205	-78.2784	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-25	42.68197	-78.2784	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-26	42.68196	-78.2783	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-27	42.68185	-78.2784	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-28	42.68179	-78.2785	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.

Table 4.25-1
Sample Locations and Rationale
Camp O'Ryan MRS 2 Rifle Range MRS

Sample ID	Sample Coordinates (1)		Medium	Analyses	Potential Munitions	Rationale
	Latitude	Longitude				
NF908-11020-29	42.68149	-78.2788	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-30	42.68167	-78.2789	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at the target berm.
NF908-11020-31	N/A	N/A	Soil	Antimony, Copper, Lead	Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm)	Collected at random along Wethersfield Road in front of the MRS boundary.

(1)World Geodetic System (WGS) 84.

Table 4.25-2
SUMMARY OF ANALYTICAL RESULTS FOR CAMP O'RYAN MRS 2 RIFLE RANGE SOIL SAMPLES COLLECTED BY NYSDEC IN NOVEMBER 2008

Sample ID		NF908-11020-01	NF908-11020-02	NF908-11020-03	NF908-11020-04	NF908-11020-05	NF908-11020-06	NF908-11020-07	NF908-11020-08	NF908-11020-09	NF908-11020-10	NF908-11020-11	NF908-11020-12	NF908-11020-13	NF908-11020-14	NF908-11020-15	NF908-11020-16	NF908-11020-17	NF908-11020-18	NF908-11020-19	NF908-11020-20	NF908-11020-21	NF908-11020-22	NF908-11020-23	NF908-11020-24	NF908-11020-25	NF908-11020-26	NF908-11020-27	NF908-11020-28	NF908-11020-29	NF908-11020-30	NF908-11020-31*
Date		11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008
Lab Sample ID		908-344-001	908-344-002	908-344-003	908-344-004	908-344-005	908-344-006	908-344-007	908-344-008	908-344-009	908-344-010	908-344-011	908-344-012	908-344-013	908-344-014	908-344-015	908-344-016	908-344-017	908-344-018	908-344-019	908-344-020	908-344-021	908-344-022	908-344-023	908-344-024	908-344-025	908-344-026	908-344-027	908-344-028	908-344-029	908-344-030	908-344-031
	Units																															
Metals -																																
Antimony	mg/kg	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	3.64 U	6.12	39.2	13.8	36	16.1	48	47.1	7.6	62.3	42.7	20.1	328	3.64 U	3.64 U	3.64 U
Copper	mg/kg	141	69.4	54.9	40.5	60.6	29.1	31.4	33.2	34.9	82.3	353	260	54.4	71.4	122	32.9	82.8	566	108	220	145	453	95.3	84.4	141	90.2	5,530	242	48.5	155	32.7
Lead	mg/kg	20.1	18	36.1	39.7	25.7	25.8	37.3	46.8	1930	49.4	90.9	33.9	46.8	24.6	969	182	704	4,470	351	4,420	1530	8,980	9,990	829	6,000	7,430	4,790	50,900	68.6	48.5	121

U - Analyte was analyzed but not detected above the limit of detection (LOD).
* - Ambient sample.

Table 4.25-3
Comparison of Site Soil Concentrations to Background and Screening Criteria
Camp O'Ryan MRS 2 Rifle Range MRS

Analyte	Units	Mean Detected Ambient Concentration (1)	Maximum Detected Site Concentration (1)	Exceeds Background Concentration?	Human Screening Value	Exceeds Human Health Screening Value?
Metals						
Antimony	mg/kg	Not detected	328	**Yes**	31(2)	**Yes**
Copper	mg/kg	32.7	5,530	**Yes**	50(3)	**Yes**
Lead	mg/kg	121	50,900	**Yes**	400(4)	**Yes**

(1) See Table 4.25-3 for analytical results.
(2) New York Remedial Program Soil Cleanup Objectives value not available. Used USEPA Regional Screening Level (RSL) Summary Table for Residential Soil November 2011. (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_NOV2011.pdf).).
(3) New York Remedial Program Soil Cleanup Objectives for Unrestricted Use (http://www.dec.ny.gov/regs/15507.html).
(4) New York Remedial Program Soil Cleanup Objectives for Restricted Use (Table 375-6.8(b). http://www.dec.ny.gov/regs/15507.html.

4.25.5 Camp O'Ryan MRS 2 Rifle Range - Updated Conceptual Site Model

The CSM presented in the Final HRR/WP (Parsons, 2011a) for the Camp O'Ryan MRS 2 Rifle Range was updated based on the results of the NYSDEC Site Investigation. The CSM for this MRS (Table 4.25-4) describes the physical profile, including geology, topography, soil classification and climate, potential release mechanisms, and land use and ecological exposure profiles together with the current understanding of the site. Figure 4.25-3 presents the CSM for current and potential future receptors in graphical form pursuant to EM 1110 1 1200 (USACE, 2003).

Table 4.25-4
Conceptual Site Model Diagram for Camp O'Ryan MRS 2 Rifle Range MRS

Profile Type	MRS Characterization
Facility Profile	Location and Area: Wethersfield, Wyoming County, in western part of New York approximately 45 miles east-southeast of Buffalo, NY.
	Structures: There are no structures located in the MRS.
	Security: There are no barriers preventing access to any part of the MRS.
Physical Profile	Climate: Temperature varies from the 70s in the summer to the 30s in the winter. The warmest month of the year is July, with an average maximum temperature of 77.2° F. The coldest month of the year is January, with an average minimum temperature of 11.7° F. The annual average precipitation is 43.4 inches with rainfall evenly distributed throughout the year. The wettest month of the year is September, with an average rainfall of 4.6 inches (IDcide, 2011d).
	Geology: The Camp O'Ryan MRS 2 Rifle Range is on the northern margin of the Appalachian Plateaus physiographic province in southwestern New York. Devonian rocks are at the surface or subcrop glacial deposits in the vicinity of the Camp O'Ryan MRS. These Paleozoic sediments are deeply eroded, particularly by geologically recent glaciations (Olcott 1995). Continental-scale glaciers covered most of the northern United States episodically over the last 1.8 million years. New York has been covered by ice multiple times including the last advance approximately 22,000 years ago. Glaciers scoured and removed soil and soft weathered surface rocks as they moved, and polished the hard bedrock surface below the ice. A variety of landforms were left behind when the glaciers eventually receded approximately 10,000 years ago (Skehan, 2008). As the ice melted, the sediment load was dropped in place as unsorted till or was redistributed as outwash by the vast amounts of meltwater released by the glacier. Till is a mixture of silt, gravel, and boulders of various sizes in a clay matrix. The glacial outwash sediments, deposited by streams and rivers of meltwater in front of the receding glaciers (glaciofluvial deposits), tend to be graded from coarse to fine with increasing distance from the glacier. Meltwater could also be impounded in lakes that were dammed either by the ice or by glacial sediments. Lake plains, terraces and beaches were left in place when the dammed water found a lower outlet (Olcott, 1995). The "Finger Lakes" northwest of the MRS are of glacial origin.
	Topography: The Camp O'Ryan MRS 2 Rifle Range is located in an area that has a downward regional slope from the southeast to northwest on a glacial lake plain that is incised by streams to produce a rolling surface within the MRS. Elevations range from approximately 1745 feet above sea level in the northwest corner of the MRS to 1810 feet above sea level in the southeast corner (Figure 4.25-4) (USGS, 1995a).

Profile Type	MRS Characterization
	Soil: The soil in the Camp O'Ryan MRS 2 Rifle Range predominantly is moderately well drained Williamson channery silt loam on a glacial lake plain. The material is derived from glacial lake deposits or eolian (windblown) deposits with a high content of silt and fine sand. A typical soil profile is channery silt loam from 0 to 17 inches; silt loam from 17 to 41 inches; and stratified silt loam to very fine sand to clay from 41 to 60 inches (NRCS, 2011).
	Hydrogeology: Coarse-grained glacial outwash, ice contact and alluvial deposits form the productive sand and gravel aquifers of the surficial aquifer system. Yield from sand and gravel aquifers depends on thickness and grain size of deposits. Higher yields may be obtained where deposits are hydraulically connected to an adjacent body of surface water. Groundwater well depths generally range from 10 to 120 feet and could exceed 500 feet below land surface (Olcott, 1995). Major consolidated bedrock aquifers in the vicinity of the Camp O'Ryan MRS 2 Rifle Range are in Devonian age limestone formations at or near the surface. Little primary porosity or permeability remains in rocks following the lithification process. Groundwater in limestone aquifers is stored in solution cavities that are interconnected through very complex dissolution channels resulting in highly variable yields. Wells commonly yield 10 to 30 gpm although yields of 1000 gpm have been reported from carbonate aquifers in New York. Aquifers generally are unconfined in the upper 200 feet (Olcott, 1995). There are no groundwater wells within the Camp O'Ryan MRS as shown on Figure 4.25-5. There are two domestic water wells at approximately 0.25 miles from the MRS. Well number WO 430 to the southeast is 60 feet below land surface and the water depth is 15 feet. Well number WO 868 is north of the MRS. Well depth is 275 feet below land surface and the water depth is 50 feet.
	Hydrology: There are no surface water bodies within MRS 2 – Rifle Range.
	Vegetation: The majority of the MRS is heavily vegetated with trees and shrubs. The central portion of the MRS is less densely vegetated.
	Cultural, Archeological, and Historical Resources: There are no historic or cultural resources at Camp O'Ryan MRS 2 Rifle Range. Additionally, there are no National Historic Landmarks located in Wyoming County, NY (NPS, 2011a, b).
	Wetlands: No wetlands are present within MRS 1 (USFWS, 2011c).
	Demographics: The total population in Wethersfield is 912 based on the 2000 to 2009 State and County QuickFacts estimate from the U.S. Census Bureau. The population density of Wethersfield is not available. The 2010 population density of Wyoming County is 71.1 persons per square mile (U.S. Census Bureau, 2012)
Ecological Profile	Habitat Type: The area is forested. No critical habitats are present.
	Ecological Receptors: Forested areas, which may provide habitat for ecological receptors, are present within the MRS. There are no federally-listed (T&E species that occur in Wyoming County; therefore, no T&E species are listed to occur at Camp O'Ryan MRS (USFWS, 2011b).
	Degree of Disturbance: Low disturbance. The MRS is undeveloped, forested land.
Land Use and Exposure Profile	Current Land Use: Undeveloped forested land.
	Current Potential Receptors: Current receptors include site visitors/recreational users and ecological receptors.

Profile Type	MRS Characterization
	Potential Future Land Use: Same as current land use.
	Potential Future Receptors: Same as current receptors.
Munitions/Release Profile	Munitions Type(s): Small arms general: .22, .30, .38 caliber cartridge, .45 caliber cartridge and 5.56mm and 7.62mm (Table 3-4). As a conservative measure, the common types and calibers of ammunition that could have been used during the range use era were included. No MD observed.
	Release Mechanisms: Residual munitions released from historical training activities as well as natural processes, such as erosion or frost heave processes. If MD items were present, MC could be released to the soil via corrosion, degradation, or weathering of bullets or casings.
	Maximum Probable Penetration Depth: Training activities included small arms; maximum probable penetration depth is land surface and shallow subsurface (< 12").
	MEC Density: Small arms ammunition is not classified as MEC; therefore, no explosive safety hazards are anticipated. MEC are assumed not to be present at ranges where munitions use was limited to small arms ammunition. No MEC were observed.
	Munitions Debris: Associated with the small arms listed above.
	Associated Munitions Constituents: MC of interest includes antimony, copper, and lead (Table 3-4).
	Transport Mechanisms/Migration Routes: MC metals and some explosives can adsorb to or form complexes with soil particles or organic matter in soil. This makes these compounds generally less likely to be transported by water via leaching or runoff. Because explosives are organic compounds, they also are subject to biological or chemical degradation over time, which results in these compounds being less persistent in the environment than MC metals. Based on these properties, while antimony, copper, and lead are present in surface soil, the migration of MC metals to groundwater is not expected at this MRS. The same rationale applies with respect to the migration of MC metals to surface water and sediment (where present). MC metals are not anticipated to have migrated to surface water/sediment based on their chemical/physical properties and the distance between the potential source and the surface water in the vicinity of the MRS. Based on the limited amount of contaminated surface soil anticipated, contaminated dust is not expected to migrate off-site.
	Pathway Analysis: The historic use of the site resulted in the release of MC to site surface soil. In surface soil, based on the presence of MC above background concentrations and human health criteria, complete exposure pathways are present for site visitors are through direct contact (i.e., incidental ingestion, dermal contact, and inhalation of suspended particulates) (Figure 4.25-3). There also is the potential for exposure to these compounds in subsurface soil; however, these subsurface pathways are incomplete for the site visitors because it is unlikely for the receptors to expose themselves to subsurface soil for anticipated non-intrusive activities. The surface water exposure pathways are incomplete for site visitors since no surface water is located within this MRS. The groundwater exposure pathways are incomplete for site visitors because migration of MC to groundwater is not expected. The ingestion of biota exposure pathway for site visitors at the MRS is incomplete because there are no sources of biota for human ingestion. MEC/MD were not observed at the MRS.

FIGURE 4.25-3 CONCEPTUAL SITE MODEL DIAGRAM

Site/MRS Name: NEW YORK – Camp O'Ryan MRS 2 Rifle Range Range

Completed By: PARSONS ***Date Completed:*** April 11, 2012

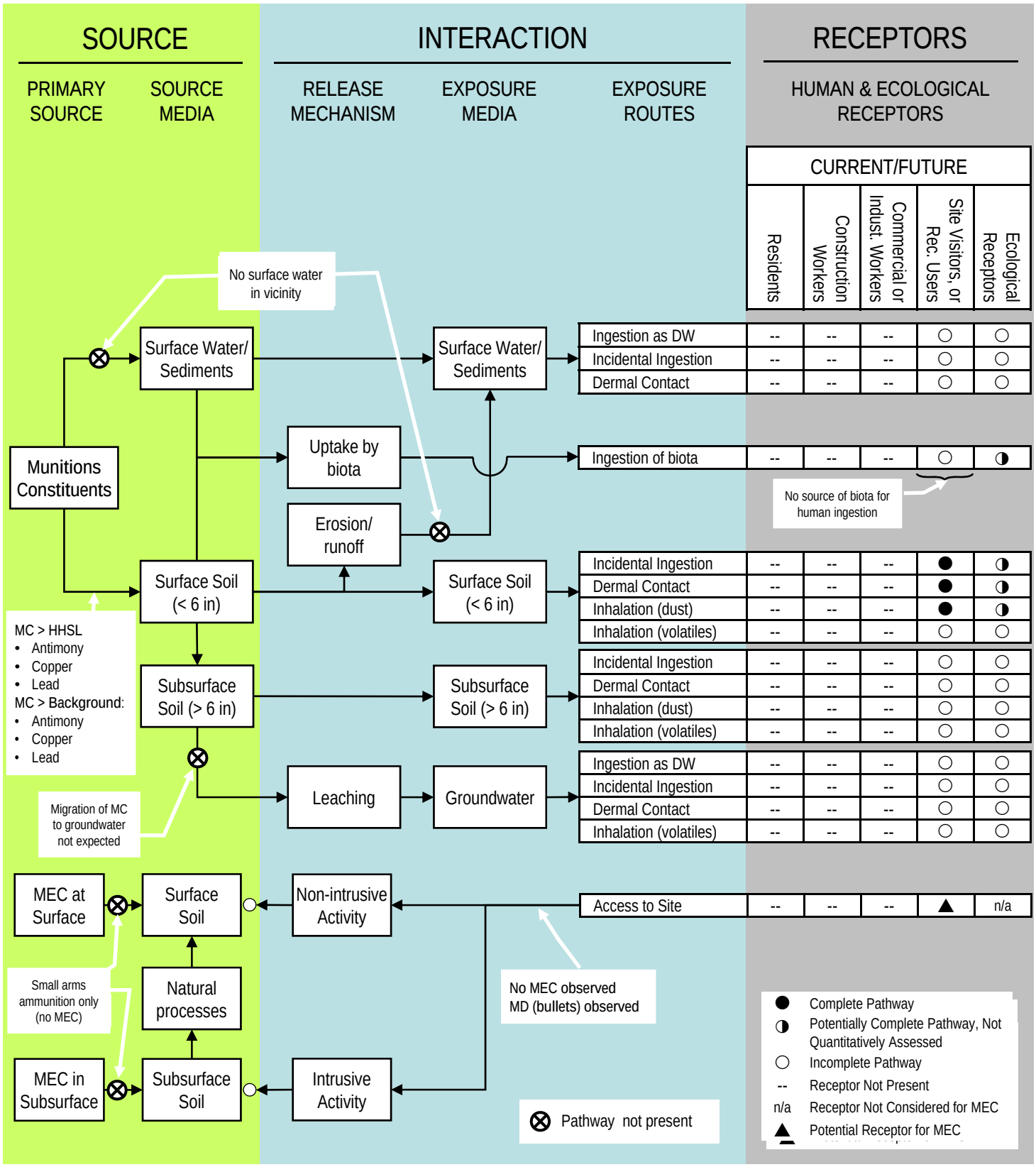
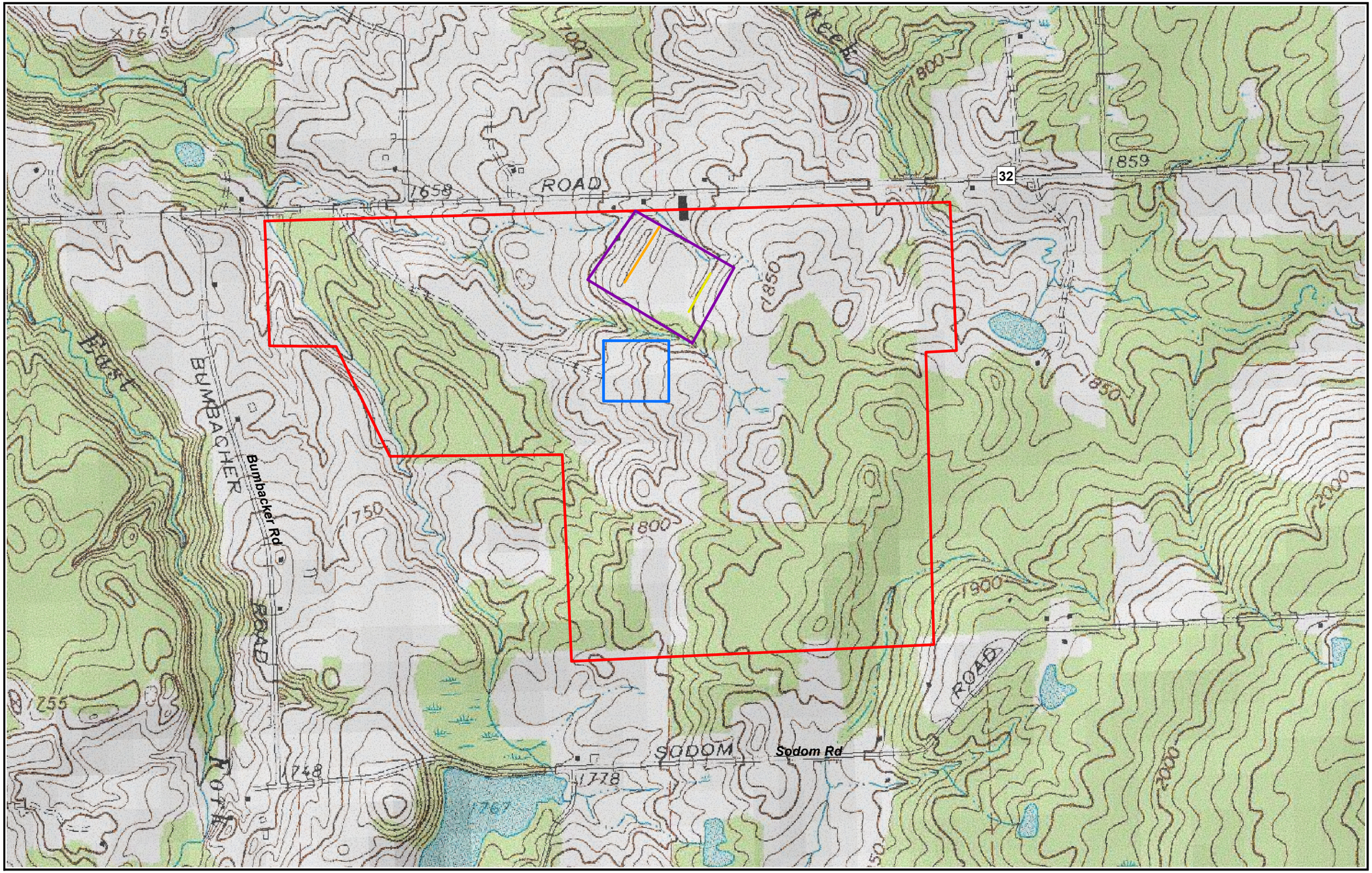
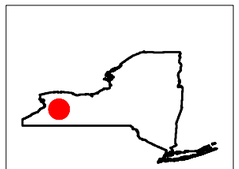


Figure 4.25-4
Camp O'Ryan MRS 2 Rifle Range (Topographic)
AEDB-R # NYHQ-008-R-01
Wyoming County, New York

PARSONS





Site Location in New York

Legend

- MRS 1 - Pistol Range
- MRS 2 - Rifle Range
- MRS 3 - Maneuvering Area
- Berm
- Firing Line

100 50 0 100
Meters

Contour Interval 10 Feet

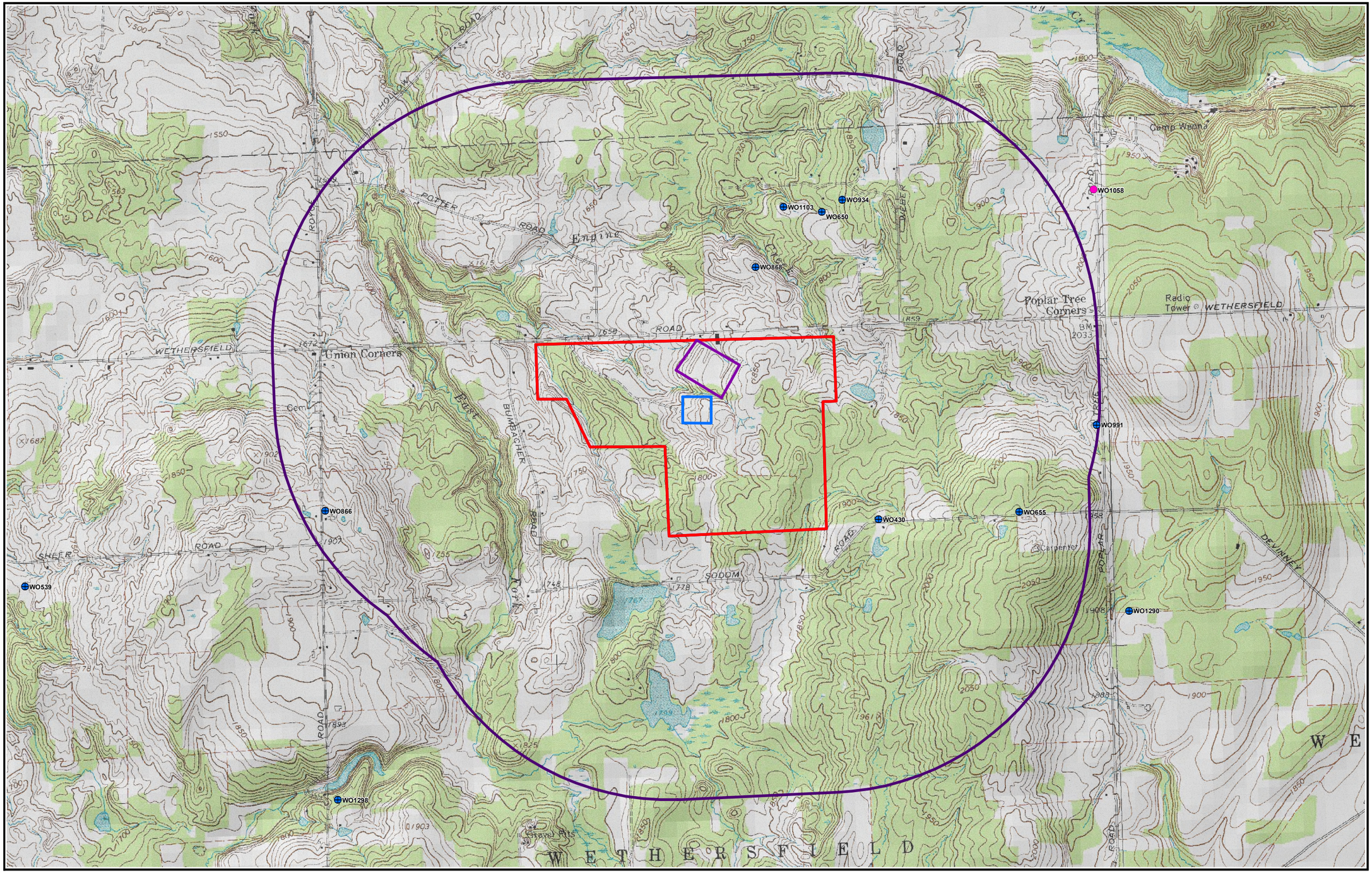
N

Image: USGS 7.5' Topo Quadrangles, Date 1966
Projection: UTM Zone 17, WGS84, Meters

PROJECT NUMBER:
747648.13000
February 2012

Figure 4.25-5
Camp O'Ryan MRS 2 Rifle Range - Water Wells Within 1-Mile Buffer
AEDB-R # NYHQ-008-R-01
Wyoming County, New York

PARSONS



Site Location in New York

Legend

- MRS 1 - Pistol Range
- MRS 2 - Rifle Range
- MRS 3 - Maneuvering Area
- Domestic Water Well
- Other Water Well
- Buffer (1 Mile)

300 150 0 300
Meters

Contour Interval 10 Feet

N

Image: USGS 7.5' Topo Quadrangles, Date: 1966
East of Buffer: 1976
Projection: UTM Zone 17, WGS84, Meters

PROJECT NUMBER:
747648.13000
February 2012

4.25.6 Camp O'Ryan MRS 2 Rifle Range - Summary and Conclusions

The 17.5-acre Camp O'Ryan MRS 2 Rifle Range is located on a privately-owned parcel that is located in an undeveloped, forested area. The MRS is a former target range that was operational between 1949 and 1974 and possibly again from 1989 through 1994. The NYSDEC field work included the collection of surface soil samples within the site boundary. The sample collection focused on the suspected firing berm and target berm. No MEC were observed.

4.25.6.1 Military Munitions

During the NYSDEC site investigation, no MEC were observed. The MRS is a confirmed small arms range where only small arms munitions were fired. Small arms munitions are not considered to be MEC. This type of munition does not contain fuzes or explosives that might present a residual hazard. No unanticipated MEC were found within the MRS during previous site visits, nor have any been reported. ***No explosive hazards are expected*** at the MRS; therefore, ***no explosive safety risk*** is considered to be present at the MRS.

4.25.6.2 Munitions Constituents (MC)

Thirty biased surface soil samples were collected in locations expected to have the greatest likelihood of residual MC, if any. Site-specific ambient surface soil samples also was collected. The samples were analyzed for the small arms indicator metals (antimony, copper, and lead).

The maximum detected concentration of antimony, copper, and lead in the biased surface soil samples exceeded the calculated background concentration and the human health screening value. An unacceptable human health risk via exposure to antimony, copper or lead in surface soil is possible.

4.25.7 Camp O'Ryan MRS 2 Rifle Range - Recommendations

Based on the NYSDEC Site Investigation analytical results and the HRR, the Camp O'Ryan MRS 2 Rifle Range MRS is recommended for **Remedial Investigation/Feasibility Study**. Immediate munitions removal actions are not warranted at this time. This recommendation is based on the following:

- Antimony, copper, and lead were detected in the biased surface soil samples collected. The maximum detected concentration of antimony, copper, and lead in the biased surface soil samples were detected at the samples collected from the target berm. The samples exceeded the calculated background and the human health screening values for these three metals. Based on the analytical results presented in this report, an impact to human health due to exposure to antimony, copper or lead in the surface soil is possible at this MRS.

2012 Parsons SI Report Appendix F- MRSPP Tables

Table A
MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from DoD databases, such as RMIS. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions related contaminants found at the MRS (e.g., benzene, trichloroethylene), and any potentially exposed human and ecological receptors. Include a map of the MRS, if one is available.

Munitions Response Site Name: Camp O'Ryan MRS 2 Rifle Range, AEDB-R # NYHQ-008-R-02

Component: Army National Guard Directorate

Installation/Property Name: JFHQ-New York

Location (City, County, State): Town of Wethersfield, Wyoming County, New York

Site Name (RMIS ID)/Project Name (Project No.): ARNG MRS Site Inspection Eastern Region, Contract # W912DR-09-D-0002

Date Information Entered/Updated: 4 April 2012

Point of Contact (Name/Phone): John Haines (703-607-7986)

Project Phase (check only one):

❑PA	☑ SI	❑ RI	❑FS	❑ RD
❑ RA-C	❑ RP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
☑ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Summary:

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM (by type of munitions, if known) or munitions constituents (by type, if known) known or suspected to be present): The Camp O'Ryan MRS 2 was a 17.5-acre former small arms range that was operational between 1949 and 1974 and again from 1989 through 1994. Small arms (.22, .30, .38 caliber cartridge, .45 caliber cartridge and 5.56mm and 7.62mm) ammunition were used at the MRS. The NYSDEC assessed the Camp O'Ryan MRS 2 Rifle Range under previous investigations. The NYSDEC investigation included the collection of surface soil samples within the site boundary. The sample collection focused on the suspected firing berm and impact berm on the MRS. Therefore, no fieldwork was completed at this MRS for this SI. The MRS is currently primarily undeveloped, forested land.

Description of Pathways for Human and Ecological Receptors: Direct release of MC from munitions activities within the MRS would be primarily to surface soil. Groundwater would not have been directed by affected by munitions activities. Surface water or sediment is not present on the MRS.

Description of Receptors (Human and Ecological): Potential human receptors include site visitors or recreational users. There are no known federal T&E species on site. The MRS does contain undeveloped forested land which provides habitat for a variety of terrestrial species.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the score(s) that correspond with **all** munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high-explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. ◆ All hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ All DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades). ◆ All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ All DMM containing a high explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated. ◆ Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ All UXO that are practice munitions that are not associated with a sensitive fuze. ◆ All DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets, demolition charges) were used or are present on the MRS is required for selection of this category.].	**2**
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**2**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space provided.

The MRS was used for small arms training between 1949 and 1974 and again from 1989 through 1994. Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm) ammunition were used on the MRS (Parsons SIR, Chapter 4, Section 4.25.1). Based on the Army Policy Memorandum dated 20 February 2009, small arms do not present a unique explosive hazard. As the only munitions-related activities on this MRS were small arms ammunition and the CHE received an alternative module rating of no known or suspected CWM hazard, the MRS does not present an explosive hazard. The alternate score of No Known or Suspected Explosive Hazard has been assigned to the EHE module (Table 10).

Table 2
EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the score(s) that correspond with **all** sources of explosive hazard known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS into this category.].	**1**
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Source of Hazard*** classifications in the space provided.

The MRS is a former small arms range that was used between 1949 and 1974 and again from 1989 through 1994 Small Arms (.22, .30, .38, and .45 caliber, and 5.56mm and 7.62mm) ammunition were used on the MRS (Parsons SIR, Chapter 4, Section 4.25.1).

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the score(s) that correspond with **all** locations where munitions are located or suspected of being found at the MRS.

Note: The terms *surface, subsurface, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS ◆ Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.].	**1**
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space provided.

Field activities (visual survey and MC sampling) were not conducted as part of the SI as NYSDEC assessed the MRS under previous investigations. No MEC was found during the NYSDEC investigations; however the firing berm and impact berm were present at that time (Parsons SIR Chapter 4, Section 4.25.1 and 4.25.3).

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to any explosive materiel. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	**10**
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **<u>the single highest score</u>** from above in the box to the right (maximum score = 10).	**<u>10</u>**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space provided.

There are no access restrictions to this MRS (Parsons SIR, Chapter 4, Table 4.25-4).

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	**5**
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **<u>the single highest score</u>** from above in the box to the right (maximum score = 5).	**<u>5</u>**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space provided.

The MRS is privately-owned (Parsons SIR Chapter 4, Section 4.25.1).

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and circle the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	**1**
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space provided.

The MRS is located within the town of Wethersfield, Wyoming County, New York. The 2010 population density of Wethersfield is not available. The 2010 population density of Wyoming County is 71.1 persons per square mile (Parsons SIR Chapter 4, Table 4.25-4).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the population near the hazard. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the associated population near the known or suspected hazard.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	**5**
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **<u>the single highest score</u>** from above in the box to the right (maximum score = 5).	**<u>5</u>**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space provided.

There are no inhabited structures on the MRS. There are more than 26 inhabited structures located within a 2-mile radius of the MRS (Parsons SIR, Chapter 4, Table 4.25-4, Figure 4.25-1 and Google Earth, 2012).

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the score(s) that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	**5**
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	**3**
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space provided.

The MRS is primarily undeveloped forested land. Scattered residential, commercial and agricultural land uses are found within a 2-mile radius of the MRS (Parsons SIR, Chapter 4, Table 4.25-4, Figure 4.23-1 and Google Earth, 2012).

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resource classifications at the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	**3**
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space provided.

According to available information, cultural resources are not present on the MRS. There are no known federal T&E species on site. The MRS contains forested areas which provide habitat for a variety of terrestrial species (Parsons SIR, Chapter 4, Table 4.25-4 and Figure 4.25-1).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**2**	**3**
Source of Hazard	Table 2	**1**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**1**	**16**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**5**	
Receptor Factor Data Elements			
Population Density	Table 6	**1**	**14**
Population Near Hazard	Table 7	**5**	
Types of Activities/ Structures	Table 8	**5**	
Ecological and /or Cultural Resources	Table 9	**3**	
		EHE MODULE TOTAL	**33**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

Small arms are the only munitions known to have been used on the MRS, and small arms do not present a unique explosive hazard [Army Guidance SAIE (ESOH) Memorandum February 2009], therefore the MRS does not present a unique explosive hazard. Per guidance from ARNG the EHE module has been rated "No Known or Suspected Explosive Hazard".

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the score(s) that correspond to **all** CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, explosive configuration either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is: ◆ Explosively configured CWM that are UXO (i.e., CWM/UXO). ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged, or nonexplosively configured CWM/DMM, or CWM not configured as a munition, that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is: ◆ Nonexplosively configured CWM/DMM. ◆ Bulk CWM/DMM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS is CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ Only CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space provided.

There is no historical evidence that CWM were used, stored, or disposed of at Camp O'Ryan MRS 2 (Parsons SIR Chapter 4 Section 4.25-1).

Tables 12-19 are intentionally omitted according to ARNG Guidance

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	
Sources of CWM	Table 12		
Accessibility Factor Data Elements			
Location of CWM	Table 13		
Ease of Access	Table 14		
Status of Property	Table 15		
Receptor Factor Data Elements			
Population Density	Table 16		
Population Near Hazard	Table 17		
Types of Activities/ Structures	Table 18		
Ecological and /or Cultural Resources	Table 19		
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

Groundwater was not sampled and is not expected to be contaminated (Parsons SIR Chapter 4,Table 4.25-4).

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

Surface water was not sampled. Surface water is not present on the MRS (Parsons SIR, Chapter 4, Table 4.25-4).

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

Sediment was not sampled. Sediment is not present on the MRS (Parsons SIR, Chapter 4, Table 4.25-4).

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

Surface water was not sampled. Surface water is not present on the MRS (Parsons SIR, Chapter 4, Table 4.25-4).

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

Sediment was not sampled. Sediment is not present on the MRS (Parsons SIR, Chapter 4, Table 4.25-4).

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
Antimony	328	31	10.58
Copper	5,530	3,100	1.78
Lead	50,900	400	127.25
CHF Scale	**CHF Value**	**Sum the Ratios**	139.61
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	**H**

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	**M**
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	**M**
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

No Known or Suspected Surface Soil MC Hazard ❑

Surface soil samples were collected during the 2008 NYSDEC Site Investigation. These samples were analyzed for MC metals (antimony, copper and lead) and explosives (Parsons SIR, Chapter 4, Table 4.23-4). One explosive (PETN) was detected in the soil samples (0.11 mg/kg). There is no MRSPP comparison value for PETN in surface soil in Appendix B-1 of the MRSPP Primer. MPF is rated M given available information. RF is rated M given the current land use and limited access restrictions.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

<u>**Contaminant Hazard Factor (CHF)**</u>

DIRECTIONS: **Only use this table if there are more than five contaminants present at the MRS.** This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)							
Surface Water/Human Endpoint (Table 22)							
Sediment/Human Endpoint (Table 23)							
Surface Water/Ecological Endpoint (Table 24)							
Sediment/Ecological Endpoint (Table 25)							
Surface Soil (Table 26)	**H**	**M**	**M**		**HMM**		**C**

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	**C**

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	**C**	**4**
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		**No Known or Suspected CWM Hazard**		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**4**	

Excerpts from 2011 Parsons Historical Records Review

3.3.1.4 During the 9 October 2008 PA site visit, evidence of the former rifle range was observed. No MEC or MD was observed. Photographs taken during the site visit were included in the PA. The following range features were observed:

- A berm, approximately 200 feet long by 50 feet wide and 15 feet tall, with small concrete monuments. The concrete monuments, approximately 6 inches by 12 inches with two, 1-inch diameter fitting, were on top of the berm. The berm orientation was north to south and likely was used as an observation platform.
- A large concrete bunker, 50 feet long by 15 feet wide, and 25 feet tall, probably was used for ammunition storage.
- A series of partially underground tunnels running from east and west of the bunker were observed. Historical documentation noted that the tunnels were installed to connect targets to the firing lines and to one another.
- Several earthen and concrete target berms in a row with steel mounts for targets. Based on the location of the target berms, the firing occurred from west to east.

3.3.1.5 The data gap identified based on the PA findings includes the exact dates of use.

3.3.2 Historical Records Review Findings

3.3.2.1 Parsons reviewed and validated the information in the PA; however, no additional research in support of the HRR was necessary other than obtaining data on site characteristics.

3.3.2.2 The information collected, reviewed, and assessed was determined to be relevant and of sufficient quantity and quality to support SI planning and execution. No significant data gaps remain for this MRS. The exact dates of use are still unknown; however, this unknown is not considered a significant data gap since the range layout, orientation, and location are known. An appropriate technical approach was developed based on the data available. All supporting documentation is provided in Appendices A-C of this report.

3.3.2.3 A 1953 aerial image was investigated to determine whether current residential properties located at the southern MRS boundary were present (Figure 3-3b). The residential properties were built post-1953; therefore, they were not present during range use.

3.4 CAMP O'RYAN (NYHQ-008-R-01)

3.4.0.1 The NYARNG used Camp O'Ryan as a small arms training range. The former range is located in the Town of Wethersfield, Wyoming County. Camp O'Ryan was operational between 1949 and 1974 and again from 1989 through 1994. No documentation was located to indicate if the pistol and rifle ranges were reactivated in 1989. In 1989, Camp O'Ryan was reactivated for infantry training (Malcolm Pirnie, 2009a).

Figure 3-3b
Camp Blauvelt (1953 Historical Aerial)
AEDB-R # NYHQ-007-R-01
Rockland County, New York

PARSONS

Site Location in New York

Legend

MRS Boundary

100 50 0 100
Meters

N

Image: USGS
1953 Aerial Photo
Projection: UTM Zone 18, WGS84, Meters

PROJECT NUMBER:
747648.13000
July 2011

3.4.0.2 Based on the Parsons HRR (see subchapter 3.4.2), Camp O'Ryan was divided into three MRSs: Camp O'Ryan MRS 1 Pistol Range, Camp O'Ryan MRS 2 Rifle Range and Camp O'Ryan MRS 3 Maneuvering Area. Current land use at the MRS 1 Pistol Range consists of undeveloped, forested land (Google Earth, 2011). Land use at the MRS 3 Maneuvering Area includes predominantly undeveloped forest land and one farm structure on the northern border of the MRS (Google Earth, 2011). Both USACE and NYSDEC sampled Camp O'Ryan MRS 2 Rifle Range under previous investigations (Appendix K), MRS 2 will not be a focus of this SI Investigation. The Camp O'Ryan MRSs do not have physical addresses. The MRS locations are shown on Figure 3-4.

3.4.1 Preliminary Assessment Findings

3.4.1.1 Critical sources for the 2009 Draft PA (Malcolm Pirnie, 2009a) included interviews, a real estate report, and a site visit.

3.4.1.2 Camp O'Ryan was used as a small arms rifle range, including a tank maneuvering training, from approximately 1949 through 1974.

3.4.1.3 The following critical sources were used (Malcolm Pirnie, 2009a) to determine range specific information (i.e., history, range location, range layout, and munitions type):

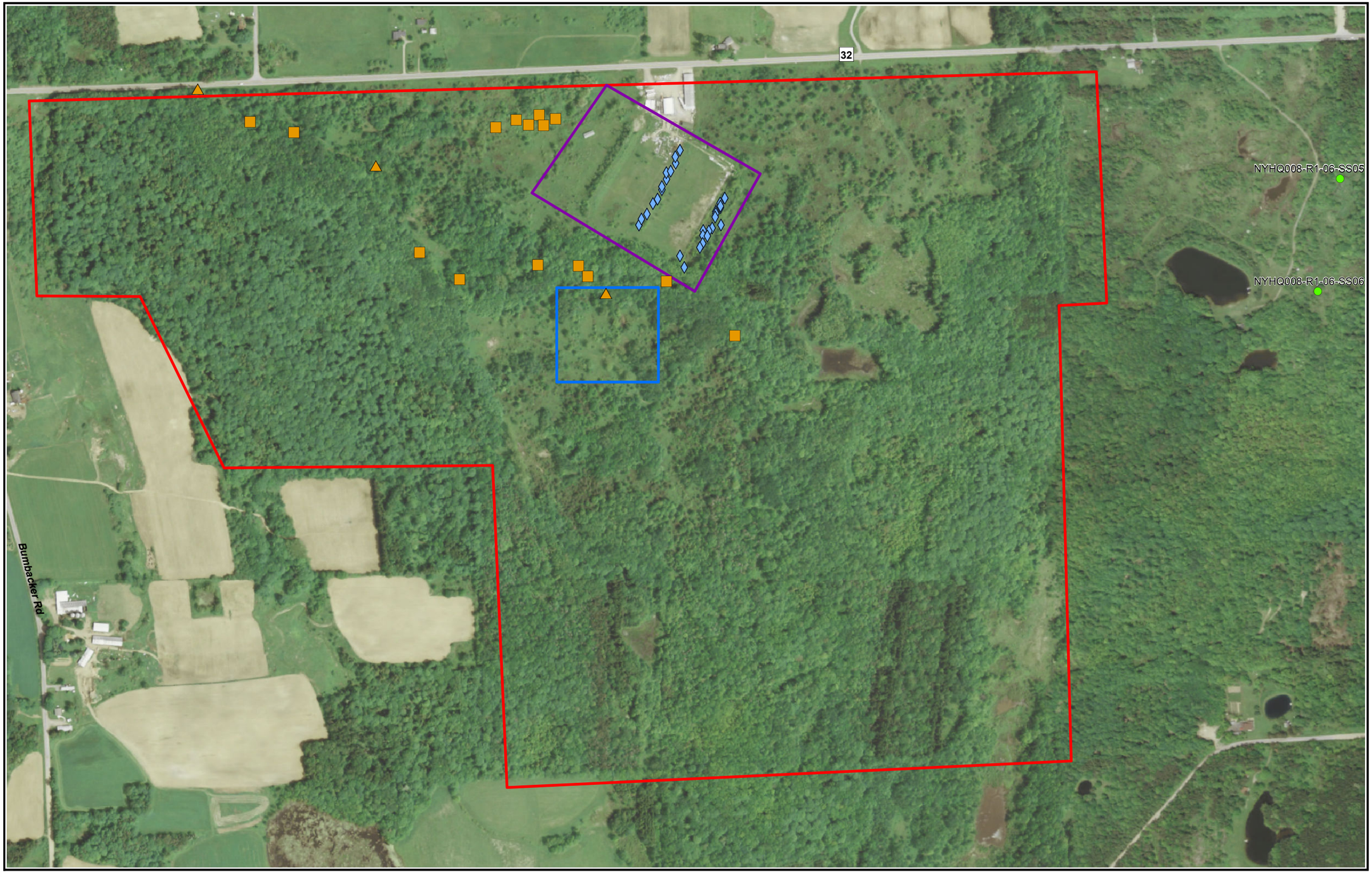
- **Warren Gordon, Chief, Real Estate Division, Camp O'Ryan Wethersfield, NY 22 December 1986 (NY0186):** This set of documents included leases, maps, photographs, memorandums and correspondence letters. These documents provided information on range location, range orientation and size, soil survey data, and a letter of NYSDEC investigation at Camp O'Ryan. A memorandum indicated the dates of range operation were from 1949 to 1974. A map illustrated range layout. The rifle range was located north of the pistol range and the tank driving training area was located in the western portion of Camp O'Ryan. A NGB memorandum document indicated that the range had 50 targets with 100 and 200 yard firing lines (Malcolm Pirnie, 2009a).
- **Telephone call to Wyoming Historical Society 19 June 2008:** No pertinent information was obtained (Malcolm Pirnie, 2009a).
- **Telephone call to Wethersfield Tax Assessor's Office 19 June 2008 and 20 June 2008:** This office provided information on the site location, ownership, and current land use (Malcolm Pirnie, 2009a).

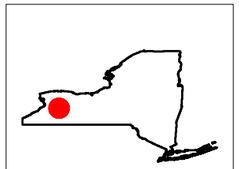
3.4.1.4 The 13 October 2008 PA site visit was conducted from the road and the site was snow covered on the day of the site visit. The site team; therefore, could not confirm the presence or absence of range features or MEC or MD. Photographs taken during the site visit were included in the PA.

3.4.1.5 No data gaps regarding the range were identified.

Figure 3-4
Camp O'Ryan (Aerial)
AEDB-R # NYHQ-008-R-01
Wyoming County, New York

PARSONS





Legend

- MRS 1 - Pistol Range
- MRS 2 - Rifle Range
- MRS 3 - Maneuvering Area
- Ambient Soil Sample Location
- TCPL Pb
- WHG Porewater
- WHG Surface Water
- Berm
- Firing Line

May 2009 TCLP samples taken by NYSDEC

October 2010 samples collected by Woods Hole Group for a contract with CENAE

80 40 0 80
Meters

N

Image: 2009 Orthophoto
Projection: UTM Zone 17, WGS84, Meters

PROJECT NUMBER:
747648.13000
June 2011

3.4.2 Historical Records Review Findings

3.4.2.1 During the Parsons HRR, the following data sources were accessed: USGS aerial images, NYSDEC and USACE. Communication with NYSDEC and USACE personnel also was conducted. The MRS was divided into three MRSs based on the Parsons HRR Findings; Camp O'Ryan MRS 1 Pistol Range, Camp O'Ryan MRS 2 Rifle Range, Camp O'Ryan MRS 3 Maneuvering Area. The discussion below summarizes the findings from the HRR.

3.4.2.2 A newspaper article indicated that tear gas was used during a training demonstration. The demonstration backfired and the wind shifted and the gas was carried into a crowd of spectators. The article provided information on training practices at Camp O'Ryan. Based on the DOA "Interim Guidance for Chemical Warfare Material (CWM) Responses" (April 2009) tear gas is not a chemical agent or chemical warfare materiel (DOA, 2009).

3.4.2.3 A 1968 Courier Express newspaper article included photographs of National Guardsmen during a parade, pistol maintenance, and range practice. The article provided information on training practices at Camp O'Ryan.

3.4.2.4 A historical aerial photograph, 1954, was obtained from NYSDEC. The aerial image illustrated range features and their locations. Range features included the rifle range berms possible burial areas, and burn pits.

3.4.2.5 The NYSDEC Site Investigation Report Camp O'Ryan Rifle Range Gainesville, NY summarized the 5 November 2008 investigation at Camp O'Ryan. The investigation focused on the rifle range portion of Camp O'Ryan. NYSDEC collected surface soil samples from the firing berm area and from the berm behind where the targets were located. The samples were analyzed for total metal lead analyses. A total of 15 samples had elevated levels of Total Metals Lead, the highest concentrations were at the impact area. The report provided figures with the sample location and range features of the rifle range (See Appendix B, NYHQ00082).

3.4.2.6 Woods Hole Group produced a report, October 2010 Preliminary Site Investigation Report Former Camp O'Ryan (FUDS Property No. C0NY1132) Wethersfield, New York, for USACE New England District. Part of the Preliminary Site Investigation (See Appendix B, NYHQ00219) included surface and shallow groundwater sampling at Camp O'Ryan. The surface water and pore water samples were analyzed for explosives, perchlorate, VOC, SVOC, and lead (total and dissolved). The sampling event focused on the northern portion of MRS 3. The surface water samples collected from the stream and the shallow groundwater samples were nondetect for the compounds that were being analyzed. The only detectable result was for a total lead (0.018 mg/L) in a duplicate field sample for shallow groundwater samples. The associated parent field sample was nondetect. The level of detection was below NYSDEC Technical and Operational Guideline Series. The report also provided site background information, figures including sample locations, and lab results for all samples.

3.4.2.7 The information collected, reviewed, and assessed was determined to be relevant and of sufficient quantity and quality to support SI planning and execution. No significant data gaps remain. A map depicting the NYSDEC and USACE investigations completed is included on Figure 3-4. All supporting documentation is provided in Appendices A-C of this report.

Excerpts from 2009 Malcolm Pirnie State/Territory Inventory Report

6.0 CAMP O'RYAN

6.1 Camp O'Ryan Summary

6.1.1 Camp O'Ryan Overview and Description

Camp O'Ryan is located on private property in Wethersfield, NY. As shown on Figure ES-1, the Town of Wethersfield is approximately 45 miles east-southeast of Buffalo, NY, in Wyoming County. The only NDNODS eligible MRS identified at this site is a former small arms range. The area where the range was located is primarily wooded and no evidence of a former range was observed from the roadway during the site field visit.

6.1.2 Camp O'Ryan Data Collection and Coordination

Each NDNODS is unique in terms of the amount and quality of data regarding each MRS, as well as the depth of experience and knowledge of the personnel available for interviews. The data collection team attempted to contact as many applicable offices and review as many record repositories as possible. The specific records reviewed and the personnel interviewed are provided in Appendix A.

This range was identified by the NGB. Various documents describing this range, including a real estate planning report and NYARNG correspondence, were obtained from the NYARNG JFHQ during the in-brief. The site location was obtained from a 1971 highway map, which shows Camp O'Ryan located between Wethersfield Road, Bumbacher Road, and Sodom Road.

At the request of the NYARNG POC, the property owner was not contacted. Therefore, the site visit was conducted from the road. A windshield survey field site visit was conducted on 13 October 2008. The property was mainly wooded; therefore, visual inspection from the road was limited (refer to Figure 6-1). No evidence of a former range was found during the site visit. During the site visit, the field team took field notes and photographs. Refer to Section 6.5 for the photograph log.

6.1.3 Camp O'Ryan Critical Data Sources

The critical data source for Camp O'Ryan is a 1987 Real Estate Planning Report, prepared by the DA (NY0186), that contains background and range usage information, a description of the range, and a range location map. An interview with the Wethersfield Tax Assessor's Office confirmed the site location.

6.2 Camp O'Ryan MRS Data

Table 6-1 provides a brief summary of each MRS associated with Camp O'Ryan.

Table 6-1: MRS Ownership Use And Access Restriction Table

MRS Name	MRS Number	Status	Owner	Current Use	Land Use and Access Restrictions	Acreage
Camp O'Ryan	RRNY000004	Transferred	Private	Undeveloped	NA	376.00
					Total Acreage	**376.00**

6.2.1 Camp O'Ryan Summary

Camp O'Ryan (also known as the North Java Rifle Range, the Wethersfield Training Area and the Wethersfield Target Range and Maneuver Area) was located on 376 acres and was used by the NYARNG from 1949 to 1974 and then again from 1989 to 1994. From 1949 to 1974, training areas at the camp included a rifle range, a pistol range, and a tank driver training course and structures at the site included a range storage building, a field latrine, and a mess hall. The ranges, which were used by NYARNG units stationed in Batavia, Buffalo, Dunkirk, Jamestown, Medina, and Rochester, had 50 targets with 100 and 200 yard firing lines.

Camp O'Ryan was reactivated as a training area in 1989 and was used until 23 November 1994 when the lease was terminated. In a 1989 letter to the property owner, the NYARNG indicated that they planned on using the camp for infantry training maneuvers including the setup and use of bivouac areas and field fortifications, off-road driver training, and communication exercises. It is unknown if the ranges were also reactivated in 1989. According to a 1986 NYARNG letter, the existing ranges did not meet the requirements of AR 385-63 (Range Safety) for the following reasons: 1) The maximum range of the M-16 extended past the property boundary; 2) Due to the topography of the area, berms or baffles would be required before the area could be used as a firing range; and 3) The property would have to be fenced to prevent unauthorized access. The 1989 NYARNG letter to the property owner also indicated that in order for the ranges to be reactivated a safety analysis would need to be conducted and approved. No documentation was obtained during the data collection activities that confirmed that a safety analysis was ever conducted.

On 9 July 2007, the NYSDEC sent a letter to the property owner indicating that Camp O'Ryan had a history of contamination due to the range and from the possible on-site burial of wastes. The letter did not specify which range nor what types of wastes were allegedly buried. Therefore, NYSDEC was requesting access to the property in order to perform an inspection and conduct sampling. According to the NYARNG POC, as of the date of the in-brief (1 July 2008), the owner had not granted access to the NYSDEC. As of 19 November 2008, Camp O'Ryan was also not listed in NYSDEC's Environmental Site Remediation Database.

The exact boundary of the range is unknown and a site layout map is not available. The site boundary shown on Figure 6-1 is based on the Camp O'Ryan boundary shown in the Real Estate Planning Report. No evidence of the former ranges were observed during the 13 October 2008 site visit. It should be noted that the site visit was conducted from the road and visibility was limited since the majority of the site is wooded. An abandoned white building was visible from the road; its use is unknown. The site location is shown on Figure 6-1 and a photograph log is included in Section 6.5. All supporting documents and interview logs are provided in Appendix C of this report.

6.3 Camp O'Ryan Summary Tables

The following tables summarize the Inventory Data Requirements per 10 U.S.C. 2710 for Camp O'Ryan.

Table 6-2: POC Table					
NDNODS Name	**Title**	**Last Name**	**First Name**	**POC Title**	**POC Org**
Camp O'Ryan	Mr.	Jensen	Peter	Environmental Program Manager	NYARNG
Phone	518-786-4548		**Address**	JFHQ – NY	
DSN				New York State Division of Military and Naval Affairs	
Fax				330 Old Niskayuna Road	
Email	peter.jensen1@us.army.mil			Latham, New York	

The Camp O'Ryan MRS Table provides detailed information on the MRS(s) included in the inventory.

Table 6-3: MRS Table			
NDNODS Name	**MRS Name**	**Status**	
Camp O'Ryan	Camp O'Ryan	Transferred	
Range Description			
This MRS contained both a pistol and rifle range that was associated with a former NYARNG training camp known as Camp O'Ryan (RRNY000004). Camp O'Ryan was used by the NYARNG from 1949 to 1974 and again from 1989 to 1994. It appears the the small arms ranges were only active from 1949 to 1974, The majority of this MRS, which consists of 376 acres in Wethersfield, NY, is wooded. The site is bounded by Wethersfield Road to the north, Bumbacher Road to the west, and privately owned farmland to the south and east.			
MRS ID			
RRNY000004			
UTM Zone	**UTM X**	**UTM Y**	**Construction Year**
17	722894.84	4728851.37	1949
Topography	**Vegetation**	**Soil Type**	
Gently Rolling	Forest	Silt/Silty-Clay	
Current Use	**Start Year**		
Undeveloped	1994		
Historic Uses	**Start Year**	**End Year**	
Training Area/Maneuver Area	1949	1974	
Small Arms	1949	1974	

UTM = Universal Transverse Mercator

The Camp O'Ryan Munitions Table provides detailed information on the munitions used on this MRS.

Table 6-4: Munitions Table		
NDNODS Name	**MRS Name**	
Camp O'Ryan	Camp O'Ryan	
Munitions Description	**Start Year**	**End Year**
Small Arms	1949	1974

The Camp O'Ryan Ownership Table provides detailed information on MRS ownership.

Table 6-5: Ownership Table

NDNODS Name	MRS Name			
Camp O'Ryan	Camp O'Ryan			
Ownership	**Ownership Description**	**Type**	**Start Year**	**End Year**
Private	This MRS is privately-owned undeveloped property.	Transfer	1994	NA

The Camp O'Ryan Land Use Restrictions Table provides information on MRS land use restrictions.

Table 6-6: Land Use Restrictions Table

NDNODS Name	MRS Name		
Camp O'Ryan	Camp O'Ryan		
Restriction Type	**Restriction**	**Restriction Description**	**Public Access**
NA	NA	There are no barriers preventing access to any part of this MRS.	UPA

PUBLIC ACCESS DEFINITIONS:

NPA = No Public Access: The public does not have any access to the MRS.
LPA = Limited Public Access: The public does have some access to the MRS, but that access doesn't involve any digging, only surface access, such as livestock grazing or use as a wildlife preserve or refuge.
RPA = Restricted Public Access: The public does have some access to the MRS and that access may involve some surface disturbance, such as agricultural use, forestry, recreation, and vehicle or supply storage facility use.
UPA = Unrestricted Public Access: There are no restrictions on the use of the MRS (excavation is allowed).

The Camp O'Ryan Demographics Table provides information on MRS demographics.

Table 6-7: Demographics Table

NDNODS Name	MRSName	Type	Name	State	Country
Camp O'Ryan	Camp O'Ryan	City	Wethersfield	New York	USA

The Camp O'Ryan Environmental and Cultural Resources Stewardship Table provides information on environmental and cultural resources associated with the MRS.

Table 6-8: Environmental and Cultural Resources Stewardship Table

NDNODS Name	MRS Name
Camp O'Ryan	Camp O'Ryan
Special Status Species	**Cultural Resources**
According to the NYSDEC Environmental Resource Mapper, there are no threatened or endangered species on this MRS.	According to the website for the National Register of Historic Places, there are no known cultural resources on this MRS.

Groundwater Depth (feet)	Constituent Flag	UXO Density	Drinking Water Potential
15	Unknown	NA	Potential
Final Remedy in Place Year	**SWMU Number**	**IRP Number**	
NA	NA	NA	

SWMU = Solid waste management unit

6.4 Camp O'Ryan Notes

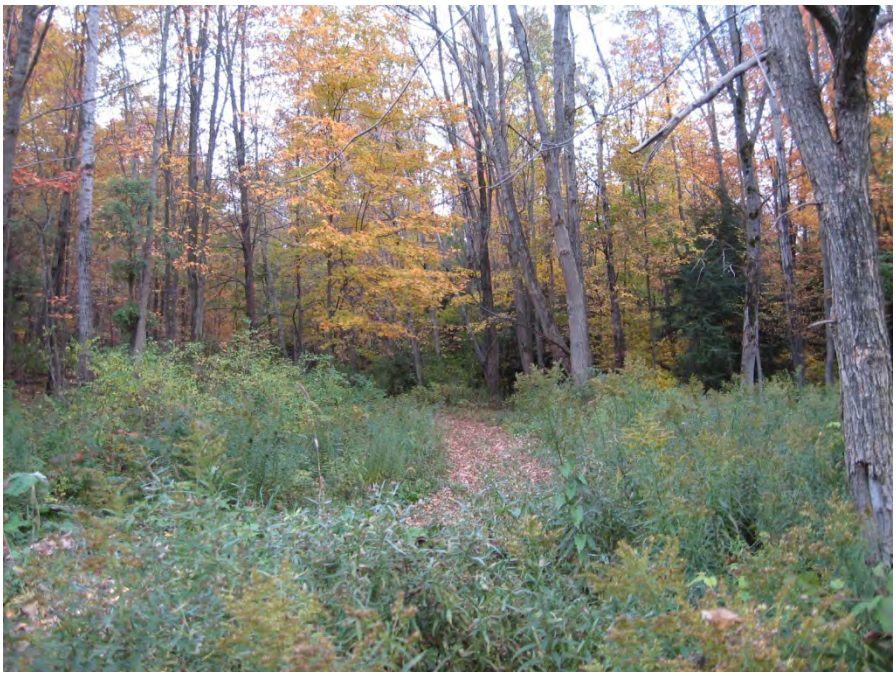
There are no additional notes for Camp O'Ryan.

6.5 Camp O'Ryan Interview and Photograph Logs

Table 6-9: Interviews

Name	Title	Interview
No Interviews Conducted.		

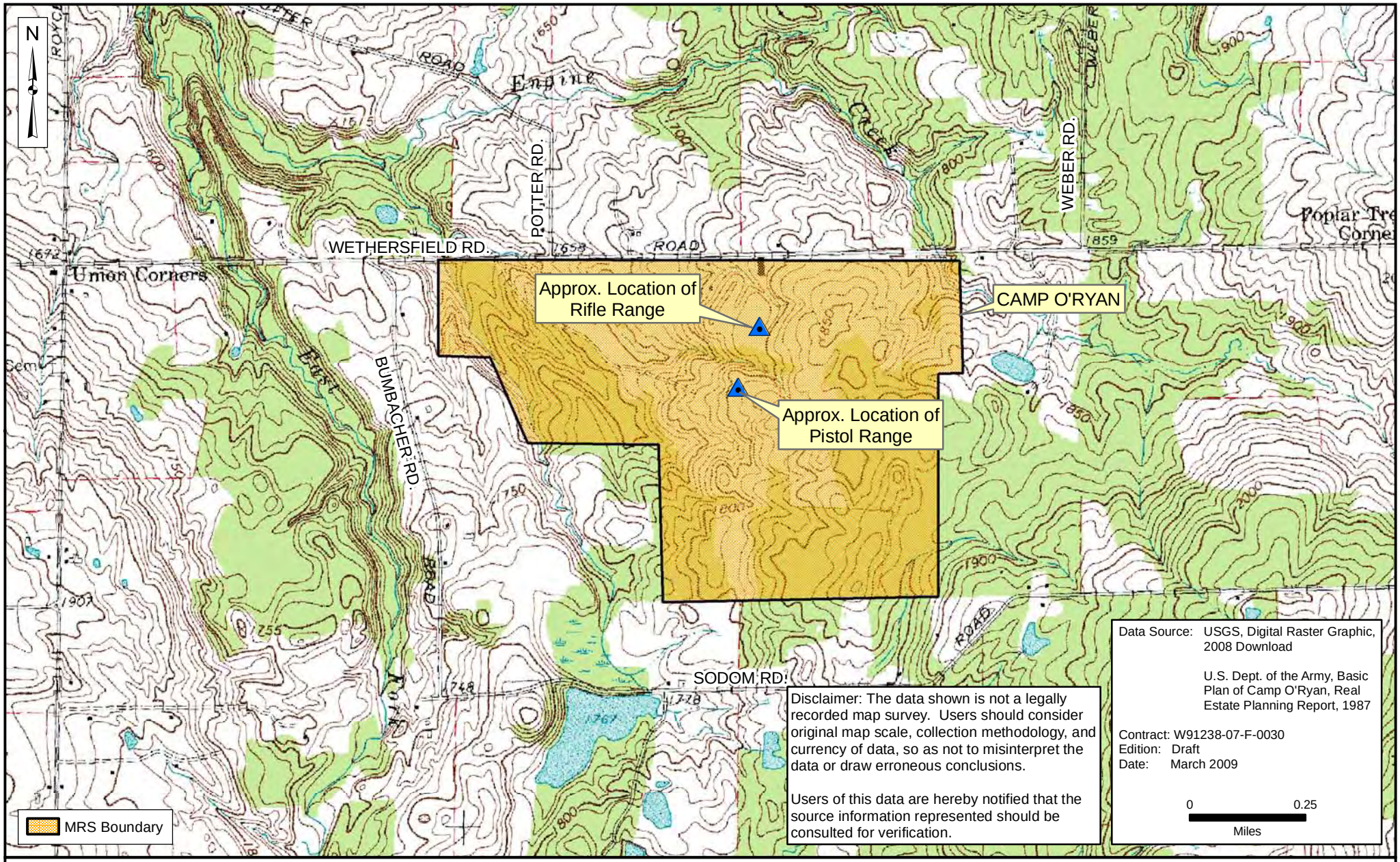
Photograph 1: View south from Wethersfield Road, between Weber Road and Potter Road, showing abandoned building (13 October 2008)
Camp O'Ryan (RRNY000004)



Photograph 2: View south towards trail leading into the woods from Wethersfield Road, near Potter Road (13 October 2008)
Camp O'Ryan (RRNY000004)

Photograph 3: View east from Bumbacher Road, looking toward location of Camp O'Ryan beyond the tree line (13 October 2008)
Camp O'Ryan (RRNY000004)

Photograph 3: View north from Sodom Road, looking toward location of Camp O'Ryan in the distance (13 October 2008)
Camp O'Ryan (RRNY000004)



National Guard Bureau
Non-DoD Owned Non-Operational Defense Sites Inventory
New York

Figure 6-1
Camp O'Ryan (RRNY000004)

NYSDEC 2009 Site Investigation Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SITE INVESTIGATION REPORT
CAMP O'RYAN RIFLE RANGE
GAINESVILLE, NEW YORK

May 2009

Table of Contents

1.0 Background

Camp O'Ryan is located in Gainesville, NY, Wyoming County, designated as tax parcel SBL-106.2-61.1.

Land Lease # 30-075, dated May 26, 1949 and expiring on June 30, 1974 (Attachment 1), indicates that the Camp O'Ryan site was leased by Edward N. George, Jr., to the War Department, Corps of Engineers, New York District, for use as a target range, maneuver area, camp site, and general government purposes.

This 375 acre site remains in the ownership of the Edward N. George Estate. There are no security fences or posted signs. There are a few remaining buildings from past use of the site. A small parcel of the site (4.83 acres, SBL-106.2-61.2) was sold to King Brothers Masonry Contractors at 3060 Wethersfield Road, Gainesville, NY.

According to the NYS Division of Military and Naval Affairs (DMNA), the types of activities which occurred at the site included firing small arms and vehicular maneuvers (Attachment 2). The small arms fired non-explosive ordnances (bullets). The unfired small arms typically do not represent a safety hazard. According to DMNA, there were no explosive ordnances used at the site (grenades, mines, etc.). Additionally, DMNA indicated that the site is not large enough to have been used for firing large caliber explosive shells (cannons, tank cannons, etc.). During firing practice, military personnel would typically be very concerned with locating and removing unfired munitions. There were no tanks used on the property. Drivers were trained on site using other large wheeled vehicles.

In July 2008, the U.S. Army Corps of Engineers proposed this property for inclusion in the Federal Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS). This property has since been accepted into the DERP-FUDS program.

On September 2, 2008, the DEC obtained a Temporary License Agreement for entry to Camp O'Ryan (Attachment 3).

2.0 Purpose

The purpose of this report is to summarize the November 5, 2008 investigation at Camp O'Ryan, located in Gainesville, NY, Wyoming County, and present the results of the sampling program. This investigation was initiated as per the New York State Department of Environmental Conservation (NYSDEC) November 2008 Visual Site Inspection and Sediment and Surface Soil Sampling Work Plan for the Camp O'Ryan Rifle Range in Gainesville, NY. This Work Plan specified the investigation to report potential lead contamination and any visual records of possible alleged on-site disposal.

This NYSDEC Sampling Work Plan was carried out by staff from the Division of Solid & Hazardous Materials (DSHM), with assistance from DMNA staff. Sampling locations were selected based on the likely configuration of the former rifle range (Attachments 4 and 5).

3.0 Sampling Locations

A total of thirty-one (31) samples were collected (Attachment 5). Thirteen (13) samples were collected from the firing berm area; the remaining seventeen (17) were collected from the hill area behind where the targets would have been located. One (1) control sample was collected at random along Wethersfield Road in front of the King Brothers' property.

4.0 Sample Analysis

The Total Metals Lead analyses were conducted at the NYSDEC DER Laboratory in Troy, NY. The TCLP analyses were conducted at a National Environmental Laboratory Accreditation Program (NELAP) approved contract laboratory.

A total of fifteen (15) samples with elevated levels of Total Metals Lead were chosen to be analyzed for TCLP Lead (See Attachment 8).

5.0 Field Results

The following are the general field conditions documented by NYSDEC staff on November 5, 2008:

- Weather conditions: Sunny, light wind, 70° F
- Time sampling started: 10 a.m.
- Time sampling ended: 2 p.m.
- Names of NYSDEC: Anthony Lopes, Thomas Corbett, Kevin Glaser
- Names of any others present and affiliation: Peter Jensen, Environmental Branch Chief, DMNA

No areas of visible on-site spillage (dark soil/discoloration/lack of vegetation) were noted.

No areas of alleged disposal, unfired munitions, or other items of potential military origin were noted.

There was what looked like target poles attached to the cement retaining wall extending parallel to and directly in front of the impact berm (see Attachment 4).

Possible conically shaped impact zones were noted in the hill behind the cement retaining wall where the targets were located. Samples 15 through 28 were taken from this hillside area (impact berm). A few were taken directly from the impact zones, some from the area at the bottom of the slope where some surface water was present. All these samples, 15 through 28, had high Total Lead values. Eleven (11) had high TCLP Lead values (Attachment 8).

6.0 References

The following documents were reviewed and/or used in the preparation of this Site Investigation Report:

1. NYSDEC Division of Water, "Standard Operating Procedure (SOP): Sampling Equipment Decontamination/Cleaning," September 2004.

2. NYSDEC "Analytical Service Protocol (ASP) Exhibit C - Target Compound Lists (TCLs) and Contract Required Quantitation Limits (CRQLs)," July 2005.

3. NYSDEC "Analytical Service Protocol (ASP) Exhibit B - Reporting and Deliverables Requirements," July 2005.

4. NYSDEC DS&HM, Bureau of Pesticides Management, "Field Sampling Standard Operating Procedure (SOP) For Sediment."

5. NYSDEC DS&HM, Bureau of Pesticides Management, "Field Sampling Standard Operating Procedure (SOP) For Surface Soil."

6. NYSDEC DS&HM, Bureau of Pesticides Management, "Field Sampling Standard Operating Procedure (SOP) For Decontamination."

7. NYSDEC "Visual Site Inspection and Sediment and Surface Soil Sampling Work Plan for the Camp O'Ryan Rifle Range in Gainesville, NY," November 2008.

7.0 Signatories

James Strickland, P.E.
Environmental Engineer 3
Regional Hazardous Materials Engineer

Anthony Lopes, P.E.
Environmental Engineer 2
Plan Preparer & Project Manager

Attachment 1

Land Lease, # 30-075

Attachment 1

The supplies and services to be obtained by this instrument are [illegible]

WAR DEPARTMENT
Corps of Engineers
~~XXXXXXXXXXXXXXXXX~~
NEW YORK DISTRICT

EXP: 6-30-74

Lease No. W. 30-075 ENG. 4278

2191405 908-6674 P-421-05 S30-075

$1400 pa

LAND LEASE
BETWEEN
EDWARD N. GEORGE, JR, ALSO KNOWN AS (ED DON GEORGE)
and

THE UNITED STATES OF AMERICA

1. THIS LEASE, made and entered into this 26th day of May in the year one thousand nine hundred and forty-nine by and between EDWARD N. GEORGE, JR. ALSO KNOWN AS ED DON GEORGE whose address is 300 Main Street, Buffalo, New York and whose interest in the property hereinafter described is that of fee simple owner for himself, his heirs, executors, administrators, successors, and assigns, hereinafter called Lessor, and THE UNITED STATES OF AMERICA, hereinafter called the Government:

WITNESSETH: The parties hereto for the considerations hereinafter mentioned convenant and agree as follows:

2. The Lessor hereby leases to the Government the following described premises, viz:

All that tract or parcel of land situate in the town of Wethersfield, County of Wyoming and State of New York bounded and described as follows:

Beginning at the northwest corner of lot No. 47 in said town in the North Java - Wethersfield Springs Highway; running thence east along the north line of said lot 34.26 chains; thence south 20.43 chains; thence west 4.86 chains; thence south 38.76 chains to the south line of said lot No. 47; thence west 29.19 chains to the southwest corner of lot No. 47; thence continuing west 15.37 chains along the south line of lot No. 55; thence north 26.03 chains; thence west 23.42 chains; thence northwest to a point 16.71 chains south of the north line of lot No. 55; thence west to a point 9.81 chains east of the west line of lot No. 55; thence north 16.71 chains to the north line of lot No. 55 and said highway; thence east about 50 chains along said north line of lot No. 55 to the place of beginning; containing approximately 375.72 acres.

to be used for the following purpose: Target Range, Maneuver Area, Camp Site and other Government purposes.

Thomas [illegible]
Attorney

ENG FORM 856
REV 1 JUL 45

-1-

NYHQ000088

3. TO HAVE AND TO HOLD the said premises for the term beginning May 26, 1949 through June 30, 194[illegible] provided that unless and until the Gover[illegible]t shall give notice of termination in accordance with provision 6 hereof, this lease shall remain in force thereafter from year to year without further notice; provided further that adequate appropriations are available from year to year for the payment of rentals; and provided further that this lease shall in no event extend beyond

June 30, 1954

4. The Government shall pay the Lessor rent at the following rate: Nineteen Hundred Dollars ($1,900.00) per annum until June 30, 1951 and Fourteen Hundred Dollars ($1,400.00) per annum thereafter

Payment shall be made at the end of each [illegible] month by the Finance Officer, United States Army, Brooklyn Army Base, 58th Street and First Avenue, Brooklyn, New York

~~5. The Government shall have the right, during the existence of this lease to attach fixtures, and erect structures or signs, in or upon the premises hereby leased, which fixtures and structures, or signs, so placed in, upon or attached to the said premises shall be and remain the property of the Government and may be removed or otherwise disposed of by the Government.~~

6. The Government may terminate this lease at any time by giving thirty (30) days notice in writing to the Lessor, and no rental shall accrue after the effective date of termination.

7. Any notice under the terms of this lease shall be in writing signed by a duly authorized representative of the party giving such notice, and if given by the Government shall be addressed to the Lessor at [illegible] Main Street, Buffalo, New York

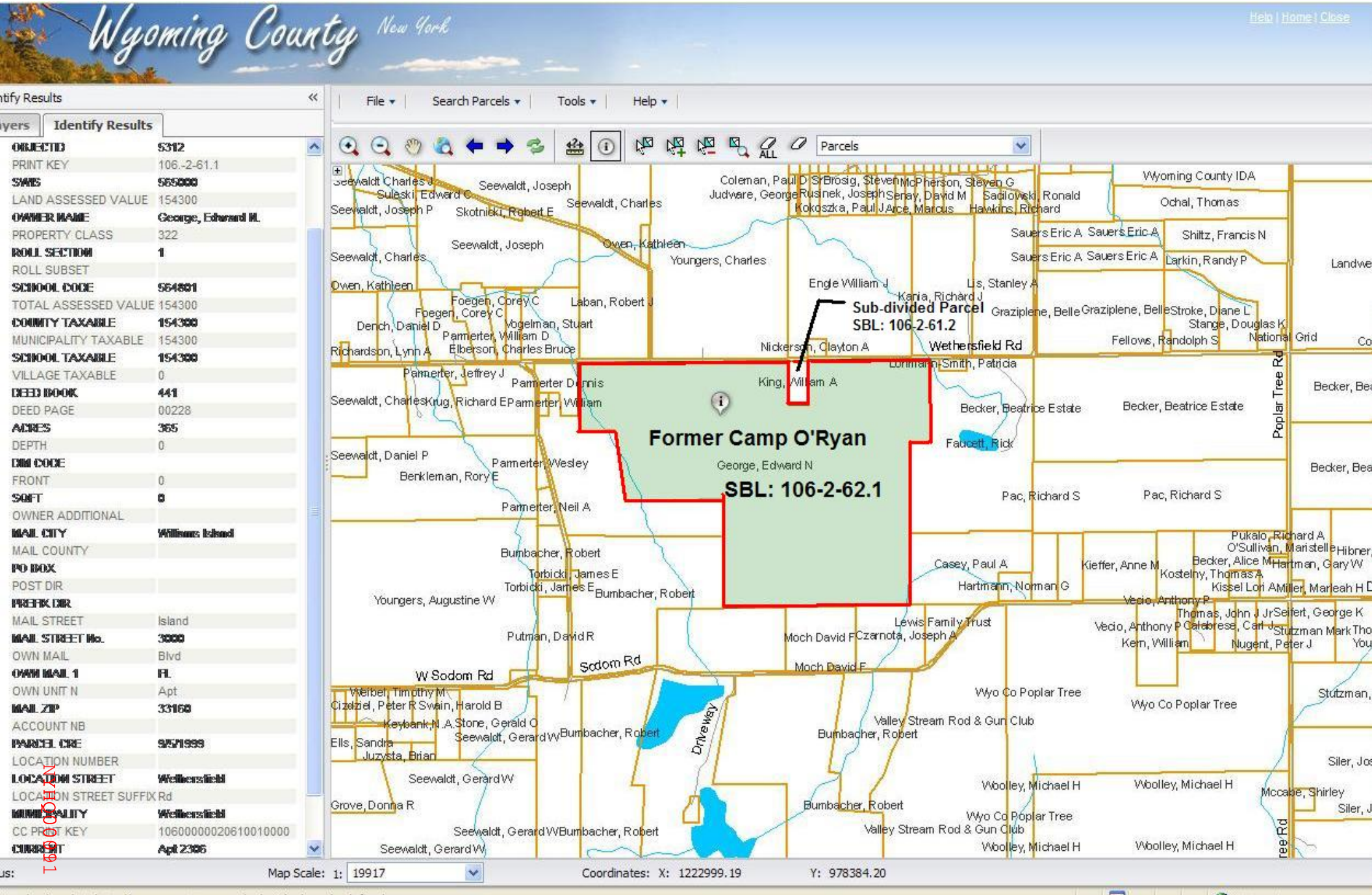
and if given by the Lessor shall be addressed to The District Engineer, New York District, Corps of Engineers, 150 Hall Street, New York 5, New York

8. The Lessor warrants that he has not employed any person to solicit or secure this lease upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Government the right to annul the lease, or, in its discretion, to deduct from the rental the amount of such commission, percentage, brokerage, or contingent fees. This warranty shall not apply to commissions payable by lessors upon contracts or leases secured or made through bona fide established commercial or selling agencies maintained by the Lessor for the purpose of securing business.

9. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this lease or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease if made with a corporation for its general benefit.

10. The Government shall have the right, during the existence of this lease to make alterations, attach fixtures, and erect additions, structures or signs, including but not limited to buildings, target ranges, concrete butts, tank traps, walks, and landing strips, in or upon the premises hereby leased, which fixtures, additions, or structures so placed in, upon, or attached to the said premises shall be and remain the property of the Government and may be removed or otherwise disposed of by the Government at its sole option. The Government shall also have the right to cut and remove trees, remove top soil, take off sand and gravel, revise the contours and ground levels of the land, and, in general, take such further action affecting the land as it may desire. The Lessor recognizes that the rental above stipulated includes an amount sufficient to compensate him for any damages that may be inflicted upon the premises during the Government's occupancy, and accordingly agrees that the erection of the fixtures, additions, and structures and the damage to the land shall not be deemed to constitute waste, and waives all claims for damages arising directly or indirectly therefrom; nor shall the Government be obligated to remove all or any of the property so attached to or erected on the demised premises or to restore the premises to the condition existing at the commencement of this lease; provided, however, that if the Government exercises its option, as herein contained, to effect an earlier termination of the lease, then in such event the Government shall place the house and barn on the property at the time of leasing in a condition reasonably suitable for occupancy and use for dairy farming, deterioration due to fair wear and tear, and damages by the elements, or by circumstances over which the Government has no control, excepted.

11. The Lessor shall have the right, during the term of this lease, to cut and remove trees from the demised premises, provided that such cutting and removal of trees shall be accomplished only at such times and in such quantities as may be agreeable to the Officer in Charge of the premises. The Lessor shall also be permitted to remove and retain trees which are cut down by the Government, provided that such trees are not required by the Government, and provided further that removal of such trees shall be accomplished only at such times and in such amounts as may be agreeable to the Officer in Charge of the premises.


Wyoming County New York
Help | Home | Close
Identify Results
Identify Results
OBJECTID 5312
PRINT KEY 106.-2-61.1
SWIS 565000
LAND ASSESSED VALUE 154300
OWNER NAME George, Edward N.
PROPERTY CLASS 322
ROLL SECTION 1
ROLL SUBSET
SCHOOL CODE 564601
TOTAL ASSESSED VALUE 154300
COUNTY TAXABLE 154300
MUNICIPALITY TAXABLE 154300
SCHOOL TAXABLE 154300
VILLAGE TAXABLE 0
DEED BOOK 441
DEED PAGE 00228
ACRES 365
DEPTH 0
DIM CODE
FRONT 0
SQFT 0
OWNER ADDITIONAL
MAIL CITY Williams Island
MAIL COUNTY
PO BOX
POST DIR
PREFIX DIR
MAIL STREET Island
MAIL STREET No. 3000
OWN MAIL Blvd
OWN MAIL 1 FL
OWN UNIT N Apt
MAIL ZIP 33160
ACCOUNT NB
PARCEL CRE 9/5/1999
LOCATION NUMBER
LOCATION STREET Wethersfield
LOCATION STREET SUFFIX Rd
MUNICIPALITY Wethersfield
CC PROP KEY 10600000020610010000
CURRENT Apt 2306
File
Search Parcels
Tools
Help
Parcels
Sub-divided Parcel
SBL: 106-2-61.2
Former Camp O'Ryan
George, Edward N
SBL: 106-2-62.1
Wethersfield Rd
W Sodom Rd
Sodom Rd
Driveway
Poplar Tree Rd
Map Scale: 1: 19917
Coordinates: X: 1222999.19 Y: 978384.20
Downloading data http://www.wyomingco.net/webgis/webapp/undefined...
Internet

NYHO0691

Attachment 2

NYS Division of Military and Naval Affairs (DMNA) Site Summary

Attachment 2

STATE OF NEW YORK
DIVISION OF MILITARY AND NAVAL AFFAIRS
330 OLD NISKAYUNA ROAD
LATHAM, NEW YORK 12110-3514

DAVID A. PATERSON
GOVERNOR
COMMANDER IN CHIEF

JOSEPH J. TALUTO
MAJOR GENERAL
THE ADJUTANT GENERAL

Direct Telephone: (518) 786-4540
E-mail: Robert.Conway1@us.army.mil

July 21, 2008

Legal Affairs

Annette M. Sansone, Esq.
Assistant Regional Attorney
N.Y.S. Department of Environmental
Conservation – Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Re: Camp O'Ryan, Wethersfield, New York

Dear Ms. Sansone:

Enclosed please find a memorandum from Mr. Peter Jenson, this agency's Environmental Compliance Branch Chief, regarding the history of uses by the New York Army National Guard of the site formerly known as Camp O'Ryan in Wethersfield, Wyoming County, New York. Please provide a copy of the enclosed memorandum to Mr. James G. Strickland, P.E., in your region's Division of Solid and Hazardous Materials.

If you or Mr. Strickland have any questions regarding the enclosed memorandum or wish to coordinate a site visit, please contact Mr. Jenson at his work telephone number, (518) 786-4548, or at his e-mail address: peter.jensen1@us.army.mil. Please feel free contact me also if you have any follow-up questions regarding this matter.

Thank you for your cooperation and assistance in this matter.

Sincerely,

Robert G. Conway, Jr.
Counsel

Encl.

cc: Mr. Jenson, DMNA, MNFE-EC

STATE OF NEW YORK
DIVISION OF MILITARY AND NAVAL AFFAIRS
330 OLD NISKAYUNA ROAD
LATHAM, NEW YORK 12110-3514

DAVID A. PATERSON
GOVERNOR
COMMANDER IN CHIEF

JOSEPH J. TALUTO
MAJOR GENERAL
THE ADJUTANT GENERAL

MEMORANDUM

FROM: Mr. Peter Jensen, Environmental Compliance Branch Chief, Facilities Management and Engineering Directorate, Division of Military and Naval Affairs PJ

TO: Mr. James G. Strickland, P.E., Regional Hazardous Materials Engineer, New York State Department of Environmental Conservation, Region 9

SUBJECT: Site Formerly Known as Camp O'Ryan in the Town of Wethersfield, Wyoming County, New York

DATE: 16 July 2008

1. A review of Division of Military and Naval Affairs (DMNA) files indicate that there was a land lease, dated 26 May 1949, between the U.S Army Corps of Engineers, New York District, and Mr. Edward George, the owner of the land formerly known as Camp O'Ryan. The lease indicated that the 375-acre site would be used for existing target ranges (reportedly built by the U.S. Army Corps of Engineers during World War II when the property was owned by the Federal government), maneuver area training and as a camp site. The lease expired on 30 June 1974. DMNA staff could not locate any records relating to military activities, by the New York Army National Guard (NYARNG) or any other State or Federal military organization, conducted on this site prior to 1949. It is this agency's understanding that during World War II, the U.S. Army Corps of Engineers (ACOE) owned and initially developed this training site and later sold it to Mr. George after World War II and in 1949 Mr. George leased it back to the ACOE.

2. While DMNA staff were unable to find any lease agreements between Mr. George and the NYARNG during the time period of 1949 through 1974, it is possible that NYARNG units may have used the site for small arms training (pistols, rifles and machine guns) using non-explosive munitions (bullets) fired into dirt berms. The site is not large enough to be used for field artillery firing, battle tank firing and maneuvers, or other similar weapons systems that utilize explosive munitions requiring large, closed impact areas and safety buffer zones. Further, military training involving explosive

munitions is not conducted on private (even if leased) property due to the possibility of unexploded munitions ("dud" rounds) becoming embedded or lost during firing exercises on the property, access to which is cannot be permanently restricted. As a result, there is no likelihood that there are unexpended explosive munitions on the Camp O'Ryan site related to any NYARNG training activities. However, it is possible that there are unexpended small arms munitions (bullets and blank rounds) on the site but these items pose no active danger to the public.

3. Some local community members have voiced concerns over anecdotal reports from civilians of burials of suspected hazardous materials on site in the past. The burying or controlled burning of trash and garbage generated during military training sessions at Camp O'Ryan is certainly possible during the years prior to the environmental regulations enacted during the 1970s. DMNA has no records or anecdotal evidence of any disposal activities involving hazardous materials at Camp O'Ryan. Further, it is highly unlikely that any State or Federal agency would dispose of hazardous material on a privately owned site to which access was and is even today not restricted or fenced.

4. The NYARNG periodically did use the site in the late 1980s and in the early 1990s as a local training area (LTA). Training activities conducted on LTAs normally include land navigation and wheeled-vehicle (e.g., small, ¼ ton "pick-up" trucks) driver training.

5. The NYARNG does not have the capability to conduct a munitions clearance sweep of the site but is willing to have an agency representative on site to assist New York State Department of Environmental Conservation - Region 9 personnel by ensuring their safety during any environmental sampling activities.

6. This year (2008) the National Guard Bureau in coordination with the ACOE is placing Camp O'Ryan on the Formerly Used Defense Site (FUDS) list to enable the U.S. Department of Defense to determine what if any environmental remediation may be necessary at the site as a result of Federal or State National Guard military training. FUDS sites eventually will be remediated with Federal funds.

Copy to:

Annette Sansone, Esq., NYS DEC-Region 9
DMNA Legal Affairs Office

Attachment 3

Temporary License Agreement for Entry to Camp O'Ryan

Attachment # 3

TEMPORARY LICENSE AGREEMENT

THIS AGREEMENT is made as of this 2ND day of Sept., 2008, between Trust Under Will of Edward N. George, Jr. ("Licensor"), Donald E. George, Edward N. George, III, James R. George, Trustees and the New York State Department of Environmental Conservation ("DEC"), the New York State Division of Military and Naval Affairs ("DMNA") and representatives or contractors acting on behalf of or retained by DEC and/or DMNA (collectively, "Licensee").

WHEREAS, Licensor is the owner of certain real property in the town of Wethersfield, County of Wyoming, State of New York known as Camp O'Ryan and described as Tax Map Parcel No. SBL-106.2-61.1 (hereinafter referred to as the "Property"); and

WHEREAS, Licensee has reason to believe that the Property was at one time leased to the United States Army Corps of Engineers ("USACOE") and that the Property was at one time used as a rifle range and for maneuvers by DMNA; and

WHEREAS, Licensee is investigating allegations of possible lead contamination and unexpended munitions on the Property which Licensee believes require further investigation; and

WHEREAS, Licensee has requested authorization to access the Property in order to inspect the Property, take soil and water samples and undertake precautionary measures which may be necessitated by the presence of any unexpended munitions to ensure the safety of investigators; and

WHEREAS, Licensee has requested permission to enter the Property for the purpose of investigating either actual or suspected sources of pollution or contamination; and

WHEREAS, Licensor is willing to grant a temporary license for such entry and activities, subject to the terms and conditions hereinafter set forth;

NOW, THEREFORE, the parties hereto, without admitting any issues of fact or law or any liability or responsibility, for good and valuable consideration of the mutual promises set forth below, the adequacy of which is hereby acknowledged, agree as follows:

1) Licensor represents and warrants to Licensee that, as of the date of this Agreement, it is the sole owner of record of the Property. This provision shall survive expiration or termination of this Agreement.

2) Licensor grants, without covenant or warranty except as set forth in paragraph 1 above, to Licensee a temporary license to access the Property for the purpose of investigating whether unexpended munitions are on the Property and the background concentration and existence, nature, quantity, extent, condition and location of any contamination that may be on the Property. Activities undertaken by Licensee in connection with such investigation (hereinafter, the "Work") may consist of, but are not limited to, the collection of soil and water samples and management of Impacted Materials (as that term is defined in paragraph 8 below). Sample collection may be performed utilizing hand operated equipment, drill rigs, direct push sampling equipment, and/or other necessary equipment needed to collect the samples.

3) That the Work performed by Licensee and/or its agents upon the Property shall be done consistent with a work plan approved by DEC, as may be modified from time to time at DEC's direction. Licensee shall provide a copy of the work plan and any revisions thereof to Licensor prior to commencing the activities called for by the work plan or any revisions thereof as soon as practicable, but no later than the time for providing notice pursuant to paragraph 6 below.

4) This License is granted solely for the purposes described above.

5) Licensee agrees to comply with all laws, regulations and ordinances applicable to it in connection with performing the Work at its sole cost and expense.

6) At least 5 days prior to commencement of any of the Work Licensee shall notify Licensor of the dates and times when Work will be done and the precise locations of

the Work at the Property. Licensee agrees that Licensor may have a representative present who may observe the performance of the Work. Licensee will provide notice to the designated representative for Licensor identified in paragraph 14 below when all Work is complete.

7) Licensee shall be responsible for identifying the location of all utility lines in the areas where the Work is to be performed, although Licensor agrees to provide Licensee with any information it possesses regarding said utility lines. Licensee shall assume full responsibility to assure that the Work shall not disrupt any utility or service and the liability for any such disruption shall be on Licensee. Licensee shall obtain any necessary utility permits and approvals, including any approvals from governmental agencies prior to performing the Work and shall provide copies of any necessary approvals to Licensor.

8) All laboratory and field equipment samples, purge water, soil cuttings, and other material generated during the Work ("Impacted Materials") shall be properly handled, stored and disposed by Licensee at Licensee's expense. Any manifest required to transport or dispose of Impacted Materials shall be signed by Licensee as the generator.

9) Licensee agrees that the Work shall be performed by Licensee in a manner which shall not harm persons or property. Any Impacted Materials which are stored on the Property shall be managed by Licensee in a manner which avoids any hazards and any exacerbation or creation of environmental risks or harm.

10) Licensee shall provide copies of reports and data generated in connection with the Work to Licensor as soon as reasonably possible.

11) Nothing contained in this Agreement shall obligate Licensor to pay any costs or expenses for the Work to be performed under this Agreement by or on behalf of Licensee.

12) When the Work is complete, or upon termination of this License pursuant to paragraph 14 below, whichever occurs first, Licensee will fully restore and repair any areas of the Property which are damaged directly or indirectly in any manner by Licensee, its

contractors, subcontractors or anyone under the direction or control of Licensee and/or by vehicles, machinery or equipment owned or operated by or on behalf of Licensee. Such restoration and repair shall be completed within 30 calendar days of completion of the Work or termination of this Agreement, whichever comes first. If weather and site conditions impede Licensee's ability to satisfy the 30-day deadline, then Licensee shall complete the necessary restoration and repairs within 30 calendar days of the time when weather and site conditions cease to impede the performance of such restoration and repairs.

13) The effective date of this Agreement shall be the date it is executed by Licensor and the Licensee.

14) This Agreement shall terminate the earlier of (a) December 31, 2008; (b) the date on which Licensee provides Licensor with notice that the Work is complete; or (c) upon 30 days' written notice of revocation provided by Licensor to Licensee. Any such notice shall be delivered personally or by certified mail to the following:

For Licensor:

Brenda J. Joyce, Esq.
Jaeckle Fleischmann & Mugel, LLP
12 Fountain Plaza
Buffalo, New York 14202

For Licensee:

Annette M. Sansone
Assistant Regional Attorney
New York State Department of Environmental Conservation
Office of General Counsel, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

15) It is understood and agreed that no vested right in the Property is hereby granted or conveyed, and that the license hereby given is subject to any and all encumbrances, conditions, restrictions, and reservations upon or under which Licensor holds the Property. Licensor agrees to apprise Licensee of any such encumbrances, conditions, restrictions, and

reservations at the earliest possible time, but in any event before the Licensee's entry upon the Property.

16) The rights, privileges, duties, and obligations of the parties hereto under this Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors, and assigns of said parties, respectively. This Agreement is solely for the benefit of said parties and their successors and assigns and may not be enforced by, nor shall it be construed for the benefit of, any third party.

17) This Agreement contains the sole and entire agreement between the parties, and cannot be altered or amended except by the written consent of both parties with reference to this Agreement.

18) Notwithstanding any provisions to the contrary in this Agreement, neither party hereto shall waive any privilege or any other defenses that it may have based upon any information, oral or otherwise, disclosed, revealed, given to either party by the other or otherwise made known as a result of the activities arising from the Agreement.

19) Nothing in this Agreement in any way estops, bars, or otherwise prevents the parties hereto from asserting any and all claims against each other or against any third party regarding the environmental conditions on or around the Property, and nothing herein shall be construed as a waiver of any cause of action, claim, demand, or defense the parties hereto might otherwise have under statutory law, common law or otherwise against each other or against any third party.

20) Licensor represents to Licensee that the execution, acknowledgement and delivery of this Agreement and the performance of its obligations hereunder have been duly authorized by Licensor and that the person signing has the authority to sign and deliver this Agreement on its behalf and thereby bind Licensor to the same. Licensee represents to Licensor that the execution, acknowledgement and delivery of this Agreement and the performance of its

obligations hereunder have been duly authorized by Licensee and that the person signing has the authority to sign and deliver this Agreement on its behalf and thereby bind Licensee to the same.

21) In case one or more of the provisions contained in this Agreement, or any application thereof, shall be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein and any other application thereof shall not in any way be affected or impaired thereby.

22) This Agreement shall be governed by and construed in accordance with the laws of the State of New York.

23) This Agreement may be modified or amended only in writing executed by Licensor and Licensee.

24) This Agreement may be executed in counterparts, each of which shall constitute one instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year noted below.

TRUST UNDER WILL OF EDWARD N. GEORGE, JR.

DATED: July 22, 2008

By: _____
Edward N. George III, Trustee
In his capacity as Trustee and on behalf of
Donald E. George, Trustee, and James R.
George, Trustee

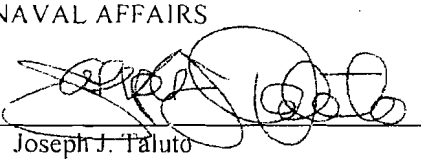
DATED: 08/01/09

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

By: _____
Nancy Lussier
Director, Division of Management and Budget

DATED: Sept. 2, 2005

NEW YORK STATE DIVISION OF MILITARY AND NAVAL AFFAIRS

By: 

Joseph J. Taluto
Major General, NY Army National Guard
The Adjutant General

864905

Attachment 4

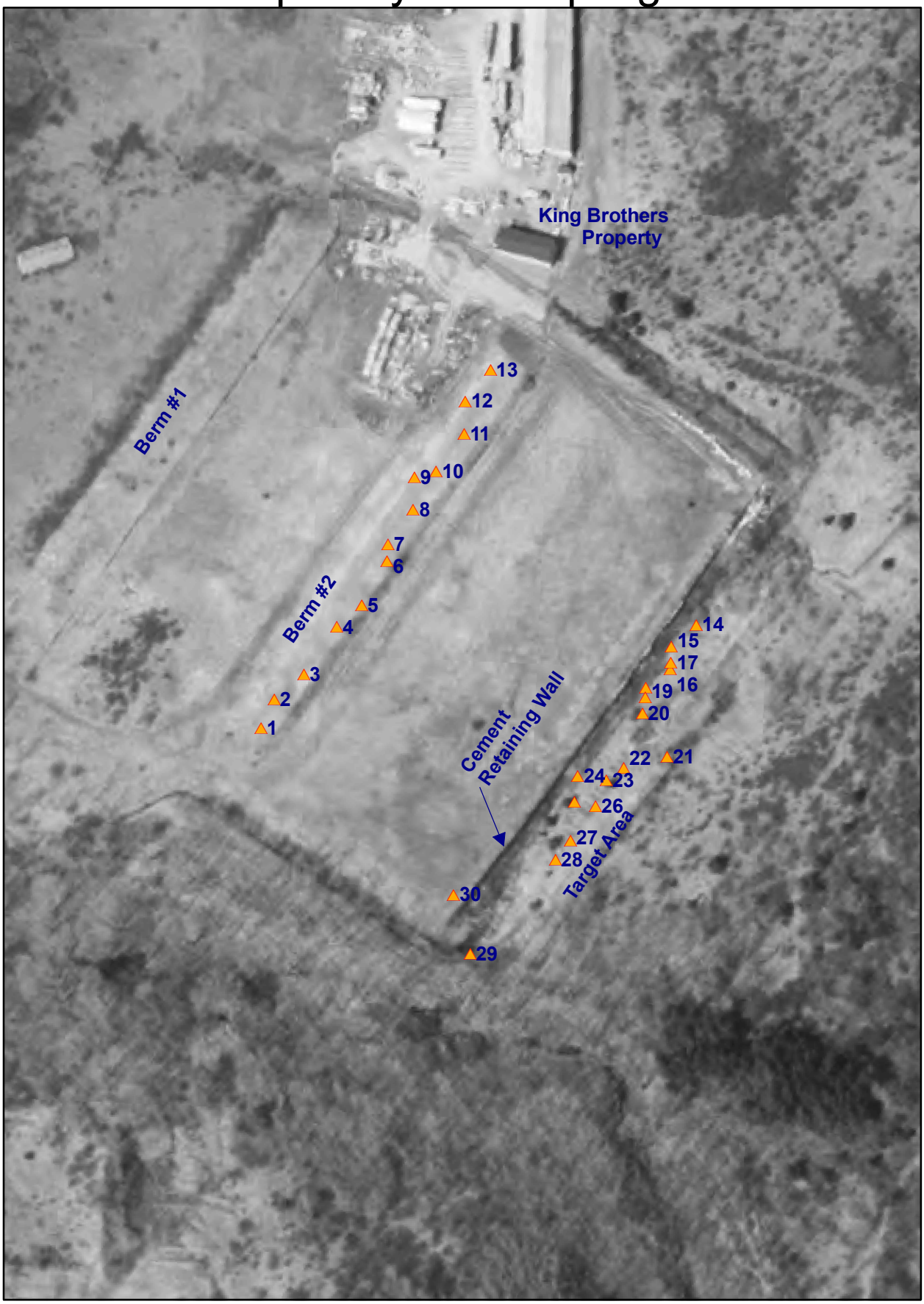
Aerial Photo of Camp O'Ryan Showing Target Area


Attachment 4 - Aerial Photo of Camp O'Ryan Showing Target Area
Target Impact Berm
100 Meter Firing Berm
200 Meter Firing Berm
Former Mess Hall Currently King Brothers Buisness
Weathersfield Road
NYHQ000107

Attachment 5

Sample Locations/Plot GPS Data

Attachment # 5
Camp O'Ryan Sampling Plot



0 112.5 225 450 675 900 Feet

NYHQ00109

Attachment 6

TCLP Pb Bar Graph

Attachment # 6
TCLP Lead (mg/l)

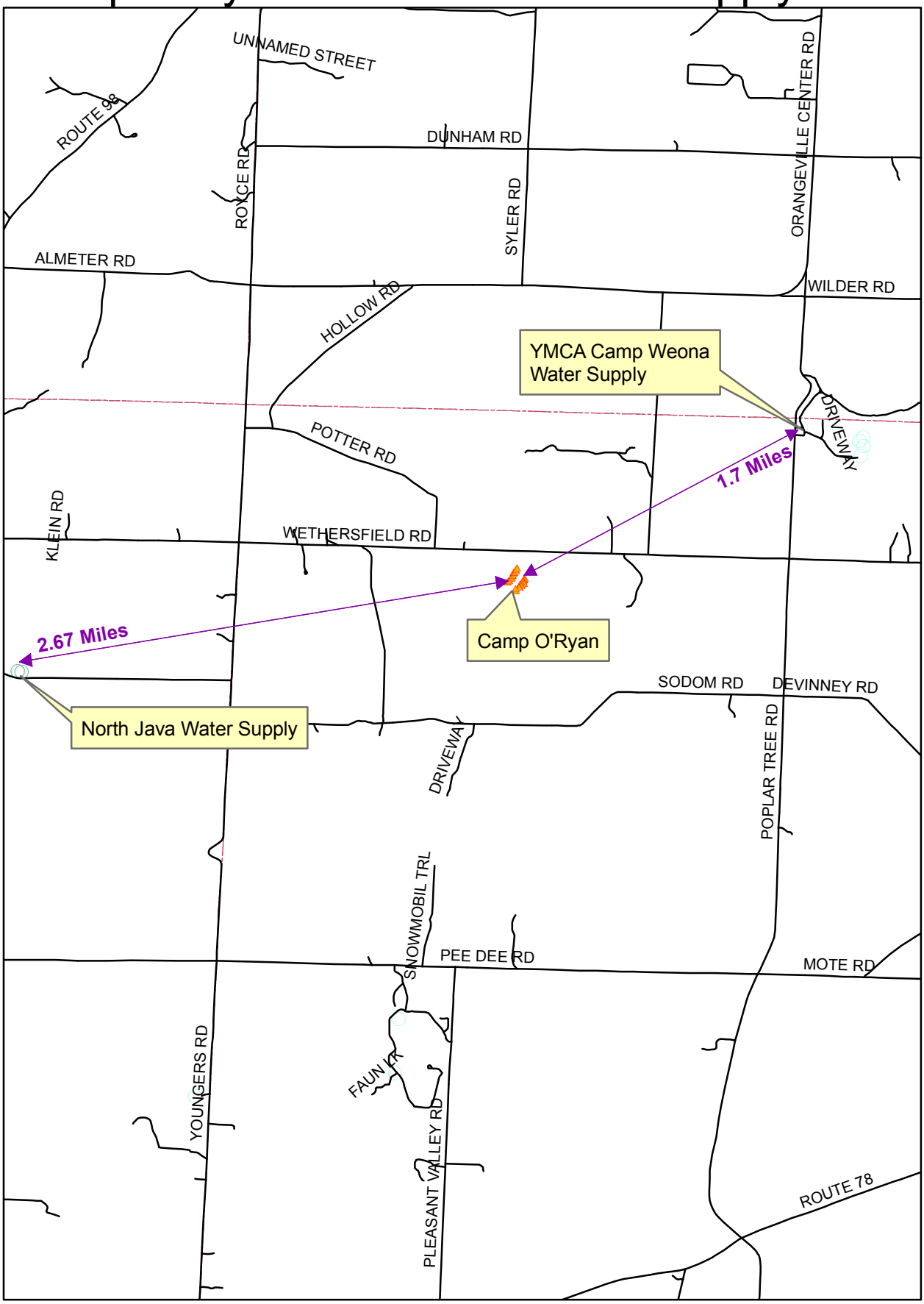
0 75 150 300 450 600 Feet

NYHQ00111

Attachment 7

Location to Public Water Supply Wells

Attachment #7
Camp O'Ryan and Public Water Supply Wells



0 0.5 1 2 3 4 Miles

NYHQ00113

Attachment 8

Table of GPS Coordinates/Total Pb/TCLP Pb Results

GPS Coordinates/Total Pb/TCLP Pb

Attachment # 8

N	x	y	Total Pb mg/kg	TCLP Pb - mg/l
1	-78.2797	42.68216	20.1	
2	-78.27965	42.68225	18	
3	-78.27953	42.68233	36.1	
4	-78.2794	42.68248	39.7	
5	-78.2793	42.68255	25.7	
6	-78.2792	42.68269	25.8	
7	-78.2792	42.68274	37.3	
8	-78.2791	42.68285	46.8	
9	-78.2791	42.68295	1930	0.025
10	-78.27901	42.68297	49.4	
11	-78.2789	42.68309	90.9	
12	-78.2789	42.68319	33.9	
13	-78.2788	42.68329	46.8	
14	-78.2779	42.68253	24.6	
15	-78.278	42.68246	969	8.8
16	-78.278	42.68239	182	0.016
17	-78.278	42.68241	704	14
18	-78.2781	42.68233	4470	170
19	-78.2781	42.6823	351	0.31
20	-78.27811	42.68225	4420	93
21	-78.278	42.68212	1530	14
22	-78.27818	42.68208	8980	160
23	-78.27825	42.68204	9990	96
24	-78.27837	42.68205	829	1.1
25	-78.27838	42.68197	6000	610
26	-78.27829	42.68196	7430	780
27	-78.27839	42.68185	4790	360
28	-78.27845	42.68179	50900	700
29	-78.27879	42.68149	68.6	
30	-78.27887	42.68167	48.5	

Attachment 9

Laboratory Sample Summary Results - Total Metals

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9020 / (518) 402-9627
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Division of Environmental Remediation Laboratory Analytical Report

The case narrative and analytical reports for the King Brothers site are attached.

Case Narrative

Site Name: King Brothers Site Date received: 12/09/08

For sample delivery group(s): 344-01

The following problems were noted during water sample analysis:

Continuing Calibration Verifications - when the CCV did not pass, usually Thalium and Cadmium had recoveries that were greater than the upper limit and Arsenic had recoveries that were less than the lower limit. This appeared to have no impact on the reported results.

In the method blank associated with these samples, 'B' levels (amount below NELAC PTRL but above MDL) for Arsenic, Chromium, and Manganese were present. Iron was present at low, but detectable level ~154mg/Kg.

Any reported results for these elements, may be higher than the actual concentrations.

Please Note:

On the accompanying chain-of-custody there was 32 samples identified. The lab received only 31 samples - NF908-11020-32 was not accounted for by the lab or the courier.

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-01
SDG:344-01
Lab Sample ID:908-344-001
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.39		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.52			PM
7440-39-3	Barium	41.3			PM
7440-41-7	Beryllium	0.34	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3730			PM
7440-47-3	Chromium	11.7			PM
7440-48-4	Cobalt	4.34			PM
7440-50-8	Copper	141			PM
7439-89-6	Iron	21300			PM
7439-92-1	Lead	20.1			PM
7439-95-4	Magnesium	3520			PM
7439-96-5	Manganese	491			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.46	B		PM
7440-02-0	Nickel	17			PM
7440-09-7	Potassium	1190			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	65.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	53.3			PM
7440-62-2	Vanadium	15.9			PM
7440-66-6	Zinc	86.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-02
SDG:344-01
Lab Sample ID:908-344-002
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.29		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8570			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	5.58			PM
7440-39-3	Barium	34.5			PM
7440-41-7	Beryllium	0.297	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	37200			PM
7440-47-3	Chromium	10.9			PM
7440-48-4	Cobalt	4.06			PM
7440-50-8	Copper	69.4			PM
7439-89-6	Iron	19900			PM
7439-92-1	Lead	18			PM
7439-95-4	Magnesium	4930			PM
7439-96-5	Manganese	424			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.55	B		PM
7440-02-0	Nickel	17.5			PM
7440-09-7	Potassium	1250			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	89.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	60.6			PM
7440-62-2	Vanadium	13.3			PM
7440-66-6	Zinc	63.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-03
SDG:344-01
Lab Sample ID:908-344-003
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.34		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10700			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.56			PM
7440-39-3	Barium	43.7			PM
7440-41-7	Beryllium	0.289	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	7860			PM
7440-47-3	Chromium	15.2			PM
7440-48-4	Cobalt	5.33			PM
7440-50-8	Copper	54.9			PM
7439-89-6	Iron	24000			PM
7439-92-1	Lead	36.1			PM
7439-95-4	Magnesium	6120			PM
7439-96-5	Manganese	512			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.06	B		PM
7440-02-0	Nickel	21.4			PM
7440-09-7	Potassium	1470			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	150			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	86.3			PM
7440-62-2	Vanadium	17.4			PM
7440-66-6	Zinc	90.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-04
SDG:344-01
Lab Sample ID:908-344-004
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.44		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9030			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.34			PM
7440-39-3	Barium	44.5			PM
7440-41-7	Beryllium	0.301	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	6460			PM
7440-47-3	Chromium	10			PM
7440-48-4	Cobalt	4.12			PM
7440-50-8	Copper	40.5			PM
7439-89-6	Iron	19500			PM
7439-92-1	Lead	39.7			PM
7439-95-4	Magnesium	4610			PM
7439-96-5	Manganese	426			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.75	B		PM
7440-02-0	Nickel	15.2			PM
7440-09-7	Potassium	1350			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	68.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	59.7			PM
7440-62-2	Vanadium	14.7			PM
7440-66-6	Zinc	92.1			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-05
SDG:344-01
Lab Sample ID:908-344-005
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	12000			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.73			PM
7440-39-3	Barium	54.3			PM
7440-41-7	Beryllium	0.304	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4390			PM
7440-47-3	Chromium	12.3			PM
7440-48-4	Cobalt	4.77			PM
7440-50-8	Copper	60.6			PM
7439-89-6	Iron	22700			PM
7439-92-1	Lead	25.7			PM
7439-95-4	Magnesium	3720			PM
7439-96-5	Manganese	663			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.76	B		PM
7440-02-0	Nickel	16.2			PM
7440-09-7	Potassium	1370			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	78.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	100			PM
7440-62-2	Vanadium	18.8			PM
7440-66-6	Zinc	92.1			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-06
SDG:344-01
Lab Sample ID:908-344-006
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.4		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10100			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.01			PM
7440-39-3	Barium	42.6			PM
7440-41-7	Beryllium	0.26	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3950			PM
7440-47-3	Chromium	10.7			PM
7440-48-4	Cobalt	3.16			PM
7440-50-8	Copper	29.1			PM
7439-89-6	Iron	20700			PM
7439-92-1	Lead	25.8			PM
7439-95-4	Magnesium	3200			PM
7439-96-5	Manganese	414			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.64	B		PM
7440-02-0	Nickel	14.1			PM
7440-09-7	Potassium	1070			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	72.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	89.2			PM
7440-62-2	Vanadium	16.8			PM
7440-66-6	Zinc	89.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-07
SDG:344-01
Lab Sample ID:908-344-007
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.43		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9380			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.48			PM
7440-39-3	Barium	38.2			PM
7440-41-7	Beryllium	0.315	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3520			PM
7440-47-3	Chromium	9.83			PM
7440-48-4	Cobalt	3.49			PM
7440-50-8	Copper	31.4			PM
7439-89-6	Iron	20200			PM
7439-92-1	Lead	37.3			PM
7439-95-4	Magnesium	3020			PM
7439-96-5	Manganese	472			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.63	B		PM
7440-02-0	Nickel	13.7			PM
7440-09-7	Potassium	982			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	53.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	56.2			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	77.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-08
SDG:344-01
Lab Sample ID:908-344-008
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.36		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9400			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.54			PM
7440-39-3	Barium	40.1			PM
7440-41-7	Beryllium	0.284	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4020			PM
7440-47-3	Chromium	10.8			PM
7440-48-4	Cobalt	4.42			PM
7440-50-8	Copper	33.2			PM
7439-89-6	Iron	21400			PM
7439-92-1	Lead	46.8			PM
7439-95-4	Magnesium	3650			PM
7439-96-5	Manganese	479			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.72	B		PM
7440-02-0	Nickel	16.1			PM
7440-09-7	Potassium	1350			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	72.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	77.6			PM
7440-62-2	Vanadium	15.1			PM
7440-66-6	Zinc	83.6			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-09
SDG:344-01
Lab Sample ID:908-344-009
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9470			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.08			PM
7440-39-3	Barium	40			PM
7440-41-7	Beryllium	0.293	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3880			PM
7440-47-3	Chromium	10.8			PM
7440-48-4	Cobalt	3.53			PM
7440-50-8	Copper	34.9			PM
7439-89-6	Iron	21500			PM
7439-92-1	Lead	1930			PM
7439-95-4	Magnesium	3550			PM
7439-96-5	Manganese	362			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.74	B		PM
7440-02-0	Nickel	15.7			PM
7440-09-7	Potassium	1270			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	76			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83			PM
7440-62-2	Vanadium	16.3			PM
7440-66-6	Zinc	80.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-10
SDG:344-01
Lab Sample ID:908-344-010
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.35		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11600			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.56			PM
7440-39-3	Barium	46.9			PM
7440-41-7	Beryllium	0.331	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3520			PM
7440-47-3	Chromium	12.2			PM
7440-48-4	Cobalt	4.34			PM
7440-50-8	Copper	82.3			PM
7439-89-6	Iron	24000			PM
7439-92-1	Lead	49.4			PM
7439-95-4	Magnesium	3820			PM
7439-96-5	Manganese	522			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.7	B		PM
7440-02-0	Nickel	16.2			PM
7440-09-7	Potassium	1560			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	85.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	93.5			PM
7440-62-2	Vanadium	18.1			PM
7440-66-6	Zinc	152			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-11
SDG:344-01
Lab Sample ID:908-344-011
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.31		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8790			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.99			PM
7440-39-3	Barium	39.9			PM
7440-41-7	Beryllium	0.289	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	2940			PM
7440-47-3	Chromium	9.88			PM
7440-48-4	Cobalt	3.58			PM
7440-50-8	Copper	353			PM
7439-89-6	Iron	20100			PM
7439-92-1	Lead	90.9			PM
7439-95-4	Magnesium	3110			PM
7439-96-5	Manganese	516			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.54	B		PM
7440-02-0	Nickel	13.9			PM
7440-09-7	Potassium	939			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	59.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	69.1			PM
7440-62-2	Vanadium	13.7			PM
7440-66-6	Zinc	246			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-12
SDG:344-01
Lab Sample ID:908-344-012
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.2		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10100			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.82			PM
7440-39-3	Barium	41.4			PM
7440-41-7	Beryllium	0.278	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	18300			PM
7440-47-3	Chromium	10.2			PM
7440-48-4	Cobalt	3.61			PM
7440-50-8	Copper	260			PM
7439-89-6	Iron	22000			PM
7439-92-1	Lead	33.9			PM
7439-95-4	Magnesium	4130			PM
7439-96-5	Manganese	811			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.58	B		PM
7440-02-0	Nickel	14.4			PM
7440-09-7	Potassium	1450			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	82.1			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83.5			PM
7440-62-2	Vanadium	15.3			PM
7440-66-6	Zinc	346			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-13
SDG:344-01
Lab Sample ID:908-344-013
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.33		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10700			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.81			PM
7440-39-3	Barium	43.5			PM
7440-41-7	Beryllium	0.286	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3710			PM
7440-47-3	Chromium	11.1			PM
7440-48-4	Cobalt	4.11			PM
7440-50-8	Copper	54.4			PM
7439-89-6	Iron	23200			PM
7439-92-1	Lead	46.8			PM
7439-95-4	Magnesium	3870			PM
7439-96-5	Manganese	770			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.09	B		PM
7440-02-0	Nickel	18.6			PM
7440-09-7	Potassium	1380			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	70.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	84			PM
7440-62-2	Vanadium	17.3			PM
7440-66-6	Zinc	166			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-14
SDG:344-01
Lab Sample ID:908-344-014
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.45			PM
7440-39-3	Barium	44			PM
7440-41-7	Beryllium	0.354	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	9970			PM
7440-47-3	Chromium	11.7			PM
7440-48-4	Cobalt	4.68			PM
7440-50-8	Copper	71.4			PM
7439-89-6	Iron	24100			PM
7439-92-1	Lead	24.6			PM
7439-95-4	Magnesium	7690			PM
7439-96-5	Manganese	587			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.22	B		PM
7440-02-0	Nickel	18.8			PM
7440-09-7	Potassium	1390			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	74.3			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	64.1			PM
7440-62-2	Vanadium	16			PM
7440-66-6	Zinc	225			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-15
SDG:344-01
Lab Sample ID:908-344-015
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.27		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11000			PM
7440-36-0	Antimony	9.07			PM
7440-38-2	Arsenic	5.97			PM
7440-39-3	Barium	46.8			PM
7440-41-7	Beryllium	0.275	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	6040			PM
7440-47-3	Chromium	11			PM
7440-48-4	Cobalt	3.63			PM
7440-50-8	Copper	122			PM
7439-89-6	Iron	21700			PM
7439-92-1	Lead	969			PM
7439-95-4	Magnesium	4840			PM
7439-96-5	Manganese	794			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.12	B		PM
7440-02-0	Nickel	13.4			PM
7440-09-7	Potassium	1400			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	86.4			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	106			PM
7440-62-2	Vanadium	18.8			PM
7440-66-6	Zinc	71.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-16
SDG:344-01
Lab Sample ID:908-344-016
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.21		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8840			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.95			PM
7440-39-3	Barium	36.7			PM
7440-41-7	Beryllium	0.252	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	22500			PM
7440-47-3	Chromium	9.99			PM
7440-48-4	Cobalt	4			PM
7440-50-8	Copper	32.9			PM
7439-89-6	Iron	20700			PM
7439-92-1	Lead	182			PM
7439-95-4	Magnesium	7410			PM
7439-96-5	Manganese	514			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	0.985	B		PM
7440-02-0	Nickel	14.5			PM
7440-09-7	Potassium	1280			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	98.2			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	74.4			PM
7440-62-2	Vanadium	15.5			PM
7440-66-6	Zinc	48.4			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-17
SDG:344-01
Lab Sample ID:908-344-017
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.33		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11200			PM
7440-36-0	Antimony	6.12	B		PM
7440-38-2	Arsenic	7.42			PM
7440-39-3	Barium	48.5			PM
7440-41-7	Beryllium	0.382	B		PM
7440-43-9	Cadmium	0.236	B		PM
7440-70-2	Calcium	4780			PM
7440-47-3	Chromium	14.2			PM
7440-48-4	Cobalt	7.79			PM
7440-50-8	Copper	82.8			PM
7439-89-6	Iron	23200			PM
7439-92-1	Lead	704			PM
7439-95-4	Magnesium	4510			PM
7439-96-5	Manganese	922			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.34	B		PM
7440-02-0	Nickel	22.2			PM
7440-09-7	Potassium	1420			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	94.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	79.1			PM
7440-62-2	Vanadium	18.9			PM
7440-66-6	Zinc	72.3			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-18
SDG:344-01
Lab Sample ID:908-344-018
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.23		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9890			PM
7440-36-0	Antimony	39.2			PM
7440-38-2	Arsenic	6.82			PM
7440-39-3	Barium	31.7			PM
7440-41-7	Beryllium	0.308	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4800			PM
7440-47-3	Chromium	11.6			PM
7440-48-4	Cobalt	6.44			PM
7440-50-8	Copper	566			PM
7439-89-6	Iron	20200			PM
7439-92-1	Lead	4470			PM
7439-95-4	Magnesium	4040			PM
7439-96-5	Manganese	530			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.3	B		PM
7440-02-0	Nickel	18.7			PM
7440-09-7	Potassium	1320			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	90.5			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80.9			PM
7440-62-2	Vanadium	16.1			PM
7440-66-6	Zinc	174			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-19
SDG:344-01
Lab Sample ID:908-344-019
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	6.7		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	3670			PM
7440-36-0	Antimony	13.8			PM
7440-38-2	Arsenic	12			PM
7440-39-3	Barium	61.6			PM
7440-41-7	Beryllium	0.14	U		PM
7440-43-9	Cadmium	0.355	B		PM
7440-70-2	Calcium	42900			PM
7440-47-3	Chromium	6.84			PM
7440-48-4	Cobalt	1.58	U		PM
7440-50-8	Copper	108			PM
7439-89-6	Iron	21700			PM
7439-92-1	Lead	351			PM
7439-95-4	Magnesium	2690			PM
7439-96-5	Manganese	669			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.65	B		PM
7440-02-0	Nickel	18.6			PM
7440-09-7	Potassium	770			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	272			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	57.3			PM
7440-62-2	Vanadium	7.72			PM
7440-66-6	Zinc	94.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-20
SDG:344-01
Lab Sample ID:908-344-020
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10000			PM
7440-36-0	Antimony	36			PM
7440-38-2	Arsenic	6.41			PM
7440-39-3	Barium	32.1			PM
7440-41-7	Beryllium	0.315	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	2570			PM
7440-47-3	Chromium	12			PM
7440-48-4	Cobalt	6.21			PM
7440-50-8	Copper	220			PM
7439-89-6	Iron	22500			PM
7439-92-1	Lead	4420			PM
7439-95-4	Magnesium	3550			PM
7439-96-5	Manganese	506			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.28	B		PM
7440-02-0	Nickel	19.8			PM
7440-09-7	Potassium	1250			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	79.2			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	87.5			PM
7440-62-2	Vanadium	17.6			PM
7440-66-6	Zinc	108			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-21
SDG:344-01
Lab Sample ID:908-344-021
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.35		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9820			PM
7440-36-0	Antimony	16.1			PM
7440-38-2	Arsenic	5.93			PM
7440-39-3	Barium	37.7			PM
7440-41-7	Beryllium	0.309	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	11100			PM
7440-47-3	Chromium	11.3			PM
7440-48-4	Cobalt	5.83			PM
7440-50-8	Copper	145			PM
7439-89-6	Iron	21000			PM
7439-92-1	Lead	1530			PM
7439-95-4	Magnesium	7110			PM
7439-96-5	Manganese	422			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.18	B		PM
7440-02-0	Nickel	18.3			PM
7440-09-7	Potassium	1410			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	105			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83.7			PM
7440-62-2	Vanadium	15.4			PM
7440-66-6	Zinc	83.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-22
SDG:344-01
Lab Sample ID:908-344-022
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.17		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8680			PM
7440-36-0	Antimony	48			PM
7440-38-2	Arsenic	5.21			PM
7440-39-3	Barium	27.1			PM
7440-41-7	Beryllium	0.243	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	25800			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.77			PM
7440-50-8	Copper	453			PM
7439-89-6	Iron	18800			PM
7439-92-1	Lead	8980			PM
7439-95-4	Magnesium	7380			PM
7439-96-5	Manganese	395			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.18	B		PM
7440-02-0	Nickel	15.2			PM
7440-09-7	Potassium	1490			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	112			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	92.4			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	117			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-23
SDG:344-01
Lab Sample ID:908-344-023
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.17		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	6290			PM
7440-36-0	Antimony	47.1			PM
7440-38-2	Arsenic	4.47			PM
7440-39-3	Barium	17.1			PM
7440-41-7	Beryllium	0.182	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	30200			PM
7440-47-3	Chromium	7.96			PM
7440-48-4	Cobalt	4.68			PM
7440-50-8	Copper	95.3			PM
7439-89-6	Iron	17000			PM
7439-92-1	Lead	9990			PM
7439-95-4	Magnesium	6310			PM
7439-96-5	Manganese	296			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.08	B		PM
7440-02-0	Nickel	13.6			PM
7440-09-7	Potassium	887			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	99.1			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80.5			PM
7440-62-2	Vanadium	12			PM
7440-66-6	Zinc	52			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-24
SDG:344-01
Lab Sample ID:908-344-024
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.34		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	12400			PM
7440-36-0	Antimony	7.6	B		PM
7440-38-2	Arsenic	8.79			PM
7440-39-3	Barium	53.1			PM
7440-41-7	Beryllium	0.402	B		PM
7440-43-9	Cadmium	0.16	B		PM
7440-70-2	Calcium	8120			PM
7440-47-3	Chromium	13			PM
7440-48-4	Cobalt	6.68			PM
7440-50-8	Copper	84.4			PM
7439-89-6	Iron	23800			PM
7439-92-1	Lead	829			PM
7439-95-4	Magnesium	5210			PM
7439-96-5	Manganese	546			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.45	B		PM
7440-02-0	Nickel	19.2			PM
7440-09-7	Potassium	1200			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	94.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80			PM
7440-62-2	Vanadium	19.3			PM
7440-66-6	Zinc	97.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-25
SDG:344-01
Lab Sample ID:908-344-025
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9380			PM
7440-36-0	Antimony	62.3			PM
7440-38-2	Arsenic	5.38			PM
7440-39-3	Barium	33.4			PM
7440-41-7	Beryllium	0.266	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	10500			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.71			PM
7440-50-8	Copper	141			PM
7439-89-6	Iron	19200			PM
7439-92-1	Lead	6000			PM
7439-95-4	Magnesium	5560			PM
7439-96-5	Manganese	445			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.42	B		PM
7440-02-0	Nickel	14.7			PM
7440-09-7	Potassium	1070			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	92			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	86.6			PM
7440-62-2	Vanadium	16.1			PM
7440-66-6	Zinc	80.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-26
SDG:344-01
Lab Sample ID:908-344-026
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.18		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	7140			PM
7440-36-0	Antimony	42.7			PM
7440-38-2	Arsenic	4.51			PM
7440-39-3	Barium	20.4			PM
7440-41-7	Beryllium	0.224	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	13100			PM
7440-47-3	Chromium	8.5			PM
7440-48-4	Cobalt	4.92			PM
7440-50-8	Copper	90.2			PM
7439-89-6	Iron	18700			PM
7439-92-1	Lead	7430			PM
7439-95-4	Magnesium	5450			PM
7439-96-5	Manganese	386			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.89	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	878			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	78.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	74.8			PM
7440-62-2	Vanadium	13.4			PM
7440-66-6	Zinc	65.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-27
SDG:344-01
Lab Sample ID:908-344-027
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.27		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	7750			PM
7440-36-0	Antimony	20.1			PM
7440-38-2	Arsenic	4.62			PM
7440-39-3	Barium	29			PM
7440-41-7	Beryllium	0.235	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3740			PM
7440-47-3	Chromium	9.08			PM
7440-48-4	Cobalt	4.63			PM
7440-50-8	Copper	5530			PM
7439-89-6	Iron	17400			PM
7439-92-1	Lead	4790			PM
7439-95-4	Magnesium	3080			PM
7439-96-5	Manganese	455			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	0.891	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	887			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	75.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	81.2			PM
7440-62-2	Vanadium	13.8			PM
7440-66-6	Zinc	593			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-28
SDG:344-01
Lab Sample ID:908-344-028
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.22		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9990			PM
7440-36-0	Antimony	328			PM
7440-38-2	Arsenic	10.3			PM
7440-39-3	Barium	36			PM
7440-41-7	Beryllium	0.248	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	14400			PM
7440-47-3	Chromium	11.1			PM
7440-48-4	Cobalt	5.71			PM
7440-50-8	Copper	242			PM
7439-89-6	Iron	20500			PM
7439-92-1	Lead	50900			PM
7439-95-4	Magnesium	6750			PM
7439-96-5	Manganese	560			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.16	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	1550			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	112			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	134			PM
7440-62-2	Vanadium	18.1			PM
7440-66-6	Zinc	86.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-29
SDG:344-01
Lab Sample ID:908-344-029
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.85		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8880			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.79			PM
7440-39-3	Barium	48.6			PM
7440-41-7	Beryllium	0.236	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	13300			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.64			PM
7440-50-8	Copper	48.5			PM
7439-89-6	Iron	19200			PM
7439-92-1	Lead	68.6			PM
7439-95-4	Magnesium	6370			PM
7439-96-5	Manganese	458			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.22	B		PM
7440-02-0	Nickel	14.7			PM
7440-09-7	Potassium	1380			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	116			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	108			PM
7440-62-2	Vanadium	17.3			PM
7440-66-6	Zinc	68.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-30
SDG:344-01
Lab Sample ID:908-344-030
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	5.76			PM
7440-39-3	Barium	38.3			PM
7440-41-7	Beryllium	0.299	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	9640			PM
7440-47-3	Chromium	13.1			PM
7440-48-4	Cobalt	5.95			PM
7440-50-8	Copper	155			PM
7439-89-6	Iron	22300			PM
7439-92-1	Lead	48.5			PM
7439-95-4	Magnesium	6690			PM
7439-96-5	Manganese	324			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.15	B		PM
7440-02-0	Nickel	19.4			PM
7440-09-7	Potassium	1810			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	129			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	129			PM
7440-62-2	Vanadium	18			PM
7440-66-6	Zinc	333			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-31
SDG:344-01
Lab Sample ID:908-344-031
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.28		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9050			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.05			PM
7440-39-3	Barium	36.9			PM
7440-41-7	Beryllium	0.317	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	15300			PM
7440-47-3	Chromium	11.5			PM
7440-48-4	Cobalt	6.55			PM
7440-50-8	Copper	32.7			PM
7439-89-6	Iron	22700			PM
7439-92-1	Lead	121			PM
7439-95-4	Magnesium	7280			PM
7439-96-5	Manganese	403			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.28	B		PM
7440-02-0	Nickel	19.4			PM
7440-09-7	Potassium	1260			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	98.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	71.8			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	68			PM

Laboratory Sample Summary Results - TCLP

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
BT	Analyte detected in the TCLP Extractor Blank. Analyte at least five times less than the TCLP Regulatory limit.
D08	Dilution required due to high concentration of target analyte(s)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-01 (NF908-11020-09 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.025	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:21	TWS	9B20069	6010B
Sample ID: RSB0576-02 (NF908-11020-15 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	8.8	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:26	TWS	9B20069	6010B
Sample ID: RSB0576-03 (NF908-11020-16 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.16	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:31	TWS	9B20069	6010B
Sample ID: RSB0576-04 (NF908-11020-17 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	14	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:37	TWS	9B20069	6010B
Sample ID: RSB0576-05 (NF908-11020-18 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	170	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:01	AH	9B20069	6010B
Sample ID: RSB0576-06 (NF908-11020-19 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.308	B1, B	0.0060	0.0029	mg/L	1.00	02/23/09 16:10	TWS	9B23012	6010B
Sample ID: RSB0576-07 (NF908-11020-20 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	93	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:06	AH	9B20069	6010B
Sample ID: RSB0576-08 (NF908-11020-21 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	14	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:52	TWS	9B20069	6010B
Sample ID: RSB0576-09 (NF908-11020-22 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	160	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:11	AH	9B20069	6010B
Sample ID: RSB0576-10 (NF908-11020-23 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	96	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:16	AH	9B20069	6010B
Sample ID: RSB0576-11 (NF908-11020-24 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	1.1	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 19:20	TWS	9B20069	6010B
Sample ID: RSB0576-12 (NF908-11020-25 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	610	B, B1, D08	0.12	0.058	mg/L	20.0	02/25/09 04:21	AH	9B20069	6010B
Sample ID: RSB0576-13 (NF908-11020-26 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	780	B1, D08, B	0.12	0.058	mg/L	20.0	02/25/09 04:26	AH	9B20069	6010B
Sample ID: RSB0576-14 (NF908-11020-27 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	360	B1, D08, B	0.060	0.029	mg/L	10.0	02/25/09 04:31	AH	9B20069	6010B

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-15 (NF908-11020-28 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	700	D08, B1, B	0.12	0.058	mg/L	20.0	02/25/09 04:36	AH	9B20069	6010B
Sample ID: RSB0576-16 (NF908-11020-31 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.22	BT, B	0.0060	0.0029	mg/L	1.00	02/23/09 19:45	TWS	9B20069	6010B

Attachment 10

NYSDEC Sampling Staff Organizational Chart

ATTACHMENT # 10

NYSDEC Sampling Staff
Organizational Chart

Staff Person	Function	Certification
Anthony Lopes, PE Environmental Engineer 2 NYSDEC DSHM	Plan Preparer Project Manager Sampler	40-Hour HAZWOPER*
Thomas Corbett Environmental Chemist 2 NYSDEC DSHM	Sampler QA/QC Reviewer	40-Hour HAZWOPER*
Kevin Glaser, Construction Inspector NYSDEC DSHM	Sampler Field Documentation	40-Hour HAZWOPER*

* 29 CFR 1910(e)(3) - Health and Safety at Hazardous Waste Sites

Attachment 11

Full Laboratory Results - Total Metals/TCLP on CD

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9020 / (518) 402-9627
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Division of Environmental Remediation Laboratory Analytical Report

The case narrative and analytical reports for the King Brothers site are attached.

Case Narrative

Site Name: King Brothers Site Date received: 12/09/08

For sample delivery group(s): 344-01

The following problems were noted during water sample analysis:

Continuing Calibration Verifications - when the CCV did not pass, usually Thalium and Cadmium had recoveries that were greater than the upper limit and Arsenic had recoveries that were less than the lower limit. This appeared to have no impact on the reported results.

In the method blank associated with these samples, 'B' levels (amount below NELAC PTRL but above MDL) for Arsenic, Chromium, and Manganese were present. Iron was present at low, but detectable level ~154mg/Kg.

Any reported results for these elements, may be higher than the actual concentrations.

Please Note:

On the accompanying chain-of-custody there was 32 samples identified. The lab received only 31 samples - NF908-11020-32 was not accounted for by the lab or the courier.

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-01
SDG:344-01
Lab Sample ID:908-344-001
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.39		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.52			PM
7440-39-3	Barium	41.3			PM
7440-41-7	Beryllium	0.34	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3730			PM
7440-47-3	Chromium	11.7			PM
7440-48-4	Cobalt	4.34			PM
7440-50-8	Copper	141			PM
7439-89-6	Iron	21300			PM
7439-92-1	Lead	20.1			PM
7439-95-4	Magnesium	3520			PM
7439-96-5	Manganese	491			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.46	B		PM
7440-02-0	Nickel	17			PM
7440-09-7	Potassium	1190			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	65.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	53.3			PM
7440-62-2	Vanadium	15.9			PM
7440-66-6	Zinc	86.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-02
SDG:344-01
Lab Sample ID:908-344-002
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.29		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8570			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	5.58			PM
7440-39-3	Barium	34.5			PM
7440-41-7	Beryllium	0.297	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	37200			PM
7440-47-3	Chromium	10.9			PM
7440-48-4	Cobalt	4.06			PM
7440-50-8	Copper	69.4			PM
7439-89-6	Iron	19900			PM
7439-92-1	Lead	18			PM
7439-95-4	Magnesium	4930			PM
7439-96-5	Manganese	424			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.55	B		PM
7440-02-0	Nickel	17.5			PM
7440-09-7	Potassium	1250			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	89.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	60.6			PM
7440-62-2	Vanadium	13.3			PM
7440-66-6	Zinc	63.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-03
SDG:344-01
Lab Sample ID:908-344-003
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.34		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10700			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.56			PM
7440-39-3	Barium	43.7			PM
7440-41-7	Beryllium	0.289	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	7860			PM
7440-47-3	Chromium	15.2			PM
7440-48-4	Cobalt	5.33			PM
7440-50-8	Copper	54.9			PM
7439-89-6	Iron	24000			PM
7439-92-1	Lead	36.1			PM
7439-95-4	Magnesium	6120			PM
7439-96-5	Manganese	512			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.06	B		PM
7440-02-0	Nickel	21.4			PM
7440-09-7	Potassium	1470			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	150			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	86.3			PM
7440-62-2	Vanadium	17.4			PM
7440-66-6	Zinc	90.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-04
SDG:344-01
Lab Sample ID:908-344-004
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.44		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9030			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.34			PM
7440-39-3	Barium	44.5			PM
7440-41-7	Beryllium	0.301	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	6460			PM
7440-47-3	Chromium	10			PM
7440-48-4	Cobalt	4.12			PM
7440-50-8	Copper	40.5			PM
7439-89-6	Iron	19500			PM
7439-92-1	Lead	39.7			PM
7439-95-4	Magnesium	4610			PM
7439-96-5	Manganese	426			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.75	B		PM
7440-02-0	Nickel	15.2			PM
7440-09-7	Potassium	1350			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	68.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	59.7			PM
7440-62-2	Vanadium	14.7			PM
7440-66-6	Zinc	92.1			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-05
SDG:344-01
Lab Sample ID:908-344-005
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	12000			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.73			PM
7440-39-3	Barium	54.3			PM
7440-41-7	Beryllium	0.304	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4390			PM
7440-47-3	Chromium	12.3			PM
7440-48-4	Cobalt	4.77			PM
7440-50-8	Copper	60.6			PM
7439-89-6	Iron	22700			PM
7439-92-1	Lead	25.7			PM
7439-95-4	Magnesium	3720			PM
7439-96-5	Manganese	663			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.76	B		PM
7440-02-0	Nickel	16.2			PM
7440-09-7	Potassium	1370			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	78.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	100			PM
7440-62-2	Vanadium	18.8			PM
7440-66-6	Zinc	92.1			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-06
SDG:344-01
Lab Sample ID:908-344-006
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.4		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10100			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.01			PM
7440-39-3	Barium	42.6			PM
7440-41-7	Beryllium	0.26	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3950			PM
7440-47-3	Chromium	10.7			PM
7440-48-4	Cobalt	3.16			PM
7440-50-8	Copper	29.1			PM
7439-89-6	Iron	20700			PM
7439-92-1	Lead	25.8			PM
7439-95-4	Magnesium	3200			PM
7439-96-5	Manganese	414			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.64	B		PM
7440-02-0	Nickel	14.1			PM
7440-09-7	Potassium	1070			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	72.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	89.2			PM
7440-62-2	Vanadium	16.8			PM
7440-66-6	Zinc	89.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-07
SDG:344-01
Lab Sample ID:908-344-007
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.43		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9380			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.48			PM
7440-39-3	Barium	38.2			PM
7440-41-7	Beryllium	0.315	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3520			PM
7440-47-3	Chromium	9.83			PM
7440-48-4	Cobalt	3.49			PM
7440-50-8	Copper	31.4			PM
7439-89-6	Iron	20200			PM
7439-92-1	Lead	37.3			PM
7439-95-4	Magnesium	3020			PM
7439-96-5	Manganese	472			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.63	B		PM
7440-02-0	Nickel	13.7			PM
7440-09-7	Potassium	982			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	53.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	56.2			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	77.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-08
SDG:344-01
Lab Sample ID:908-344-008
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.36		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9400			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.54			PM
7440-39-3	Barium	40.1			PM
7440-41-7	Beryllium	0.284	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4020			PM
7440-47-3	Chromium	10.8			PM
7440-48-4	Cobalt	4.42			PM
7440-50-8	Copper	33.2			PM
7439-89-6	Iron	21400			PM
7439-92-1	Lead	46.8			PM
7439-95-4	Magnesium	3650			PM
7439-96-5	Manganese	479			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.72	B		PM
7440-02-0	Nickel	16.1			PM
7440-09-7	Potassium	1350			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	72.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	77.6			PM
7440-62-2	Vanadium	15.1			PM
7440-66-6	Zinc	83.6			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-09
SDG:344-01
Lab Sample ID:908-344-009
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9470			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.08			PM
7440-39-3	Barium	40			PM
7440-41-7	Beryllium	0.293	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3880			PM
7440-47-3	Chromium	10.8			PM
7440-48-4	Cobalt	3.53			PM
7440-50-8	Copper	34.9			PM
7439-89-6	Iron	21500			PM
7439-92-1	Lead	1930			PM
7439-95-4	Magnesium	3550			PM
7439-96-5	Manganese	362			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.74	B		PM
7440-02-0	Nickel	15.7			PM
7440-09-7	Potassium	1270			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	76			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83			PM
7440-62-2	Vanadium	16.3			PM
7440-66-6	Zinc	80.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-10
SDG:344-01
Lab Sample ID:908-344-010
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.35		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11600			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.56			PM
7440-39-3	Barium	46.9			PM
7440-41-7	Beryllium	0.331	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3520			PM
7440-47-3	Chromium	12.2			PM
7440-48-4	Cobalt	4.34			PM
7440-50-8	Copper	82.3			PM
7439-89-6	Iron	24000			PM
7439-92-1	Lead	49.4			PM
7439-95-4	Magnesium	3820			PM
7439-96-5	Manganese	522			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.7	B		PM
7440-02-0	Nickel	16.2			PM
7440-09-7	Potassium	1560			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	85.6			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	93.5			PM
7440-62-2	Vanadium	18.1			PM
7440-66-6	Zinc	152			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-11
SDG:344-01
Lab Sample ID:908-344-011
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.31		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8790			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.99			PM
7440-39-3	Barium	39.9			PM
7440-41-7	Beryllium	0.289	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	2940			PM
7440-47-3	Chromium	9.88			PM
7440-48-4	Cobalt	3.58			PM
7440-50-8	Copper	353			PM
7439-89-6	Iron	20100			PM
7439-92-1	Lead	90.9			PM
7439-95-4	Magnesium	3110			PM
7439-96-5	Manganese	516			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.54	B		PM
7440-02-0	Nickel	13.9			PM
7440-09-7	Potassium	939			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	59.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	69.1			PM
7440-62-2	Vanadium	13.7			PM
7440-66-6	Zinc	246			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-12
SDG:344-01
Lab Sample ID:908-344-012
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.2		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10100			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.82			PM
7440-39-3	Barium	41.4			PM
7440-41-7	Beryllium	0.278	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	18300			PM
7440-47-3	Chromium	10.2			PM
7440-48-4	Cobalt	3.61			PM
7440-50-8	Copper	260			PM
7439-89-6	Iron	22000			PM
7439-92-1	Lead	33.9			PM
7439-95-4	Magnesium	4130			PM
7439-96-5	Manganese	811			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.58	B		PM
7440-02-0	Nickel	14.4			PM
7440-09-7	Potassium	1450			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	82.1			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83.5			PM
7440-62-2	Vanadium	15.3			PM
7440-66-6	Zinc	346			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-13
SDG:344-01
Lab Sample ID:908-344-013
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.33		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10700			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	8.81			PM
7440-39-3	Barium	43.5			PM
7440-41-7	Beryllium	0.286	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3710			PM
7440-47-3	Chromium	11.1			PM
7440-48-4	Cobalt	4.11			PM
7440-50-8	Copper	54.4			PM
7439-89-6	Iron	23200			PM
7439-92-1	Lead	46.8			PM
7439-95-4	Magnesium	3870			PM
7439-96-5	Manganese	770			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.09	B		PM
7440-02-0	Nickel	18.6			PM
7440-09-7	Potassium	1380			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	70.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	84			PM
7440-62-2	Vanadium	17.3			PM
7440-66-6	Zinc	166			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-14
SDG:344-01
Lab Sample ID:908-344-014
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	7.45			PM
7440-39-3	Barium	44			PM
7440-41-7	Beryllium	0.354	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	9970			PM
7440-47-3	Chromium	11.7			PM
7440-48-4	Cobalt	4.68			PM
7440-50-8	Copper	71.4			PM
7439-89-6	Iron	24100			PM
7439-92-1	Lead	24.6			PM
7439-95-4	Magnesium	7690			PM
7439-96-5	Manganese	587			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.22	B		PM
7440-02-0	Nickel	18.8			PM
7440-09-7	Potassium	1390			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	74.3			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	64.1			PM
7440-62-2	Vanadium	16			PM
7440-66-6	Zinc	225			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-15
SDG:344-01
Lab Sample ID:908-344-015
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.27		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11000			PM
7440-36-0	Antimony	9.07			PM
7440-38-2	Arsenic	5.97			PM
7440-39-3	Barium	46.8			PM
7440-41-7	Beryllium	0.275	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	6040			PM
7440-47-3	Chromium	11			PM
7440-48-4	Cobalt	3.63			PM
7440-50-8	Copper	122			PM
7439-89-6	Iron	21700			PM
7439-92-1	Lead	969			PM
7439-95-4	Magnesium	4840			PM
7439-96-5	Manganese	794			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.12	B		PM
7440-02-0	Nickel	13.4			PM
7440-09-7	Potassium	1400			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	86.4			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	106			PM
7440-62-2	Vanadium	18.8			PM
7440-66-6	Zinc	71.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-16
SDG:344-01
Lab Sample ID:908-344-016
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.21		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8840			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.95			PM
7440-39-3	Barium	36.7			PM
7440-41-7	Beryllium	0.252	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	22500			PM
7440-47-3	Chromium	9.99			PM
7440-48-4	Cobalt	4			PM
7440-50-8	Copper	32.9			PM
7439-89-6	Iron	20700			PM
7439-92-1	Lead	182			PM
7439-95-4	Magnesium	7410			PM
7439-96-5	Manganese	514			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	0.985	B		PM
7440-02-0	Nickel	14.5			PM
7440-09-7	Potassium	1280			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	98.2			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	74.4			PM
7440-62-2	Vanadium	15.5			PM
7440-66-6	Zinc	48.4			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-17
SDG:344-01
Lab Sample ID:908-344-017
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.33		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	11200			PM
7440-36-0	Antimony	6.12	B		PM
7440-38-2	Arsenic	7.42			PM
7440-39-3	Barium	48.5			PM
7440-41-7	Beryllium	0.382	B		PM
7440-43-9	Cadmium	0.236	B		PM
7440-70-2	Calcium	4780			PM
7440-47-3	Chromium	14.2			PM
7440-48-4	Cobalt	7.79			PM
7440-50-8	Copper	82.8			PM
7439-89-6	Iron	23200			PM
7439-92-1	Lead	704			PM
7439-95-4	Magnesium	4510			PM
7439-96-5	Manganese	922			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.34	B		PM
7440-02-0	Nickel	22.2			PM
7440-09-7	Potassium	1420			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	94.8			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	79.1			PM
7440-62-2	Vanadium	18.9			PM
7440-66-6	Zinc	72.3			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-18
SDG:344-01
Lab Sample ID:908-344-018
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.23		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9890			PM
7440-36-0	Antimony	39.2			PM
7440-38-2	Arsenic	6.82			PM
7440-39-3	Barium	31.7			PM
7440-41-7	Beryllium	0.308	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	4800			PM
7440-47-3	Chromium	11.6			PM
7440-48-4	Cobalt	6.44			PM
7440-50-8	Copper	566			PM
7439-89-6	Iron	20200			PM
7439-92-1	Lead	4470			PM
7439-95-4	Magnesium	4040			PM
7439-96-5	Manganese	530			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.3	B		PM
7440-02-0	Nickel	18.7			PM
7440-09-7	Potassium	1320			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	90.5			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80.9			PM
7440-62-2	Vanadium	16.1			PM
7440-66-6	Zinc	174			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-19
SDG:344-01
Lab Sample ID:908-344-019
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	6.7		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	3670			PM
7440-36-0	Antimony	13.8			PM
7440-38-2	Arsenic	12			PM
7440-39-3	Barium	61.6			PM
7440-41-7	Beryllium	0.14	U		PM
7440-43-9	Cadmium	0.355	B		PM
7440-70-2	Calcium	42900			PM
7440-47-3	Chromium	6.84			PM
7440-48-4	Cobalt	1.58	U		PM
7440-50-8	Copper	108			PM
7439-89-6	Iron	21700			PM
7439-92-1	Lead	351			PM
7439-95-4	Magnesium	2690			PM
7439-96-5	Manganese	669			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	2.65	B		PM
7440-02-0	Nickel	18.6			PM
7440-09-7	Potassium	770			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	272			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	57.3			PM
7440-62-2	Vanadium	7.72			PM
7440-66-6	Zinc	94.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-20
SDG:344-01
Lab Sample ID:908-344-020
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10000			PM
7440-36-0	Antimony	36			PM
7440-38-2	Arsenic	6.41			PM
7440-39-3	Barium	32.1			PM
7440-41-7	Beryllium	0.315	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	2570			PM
7440-47-3	Chromium	12			PM
7440-48-4	Cobalt	6.21			PM
7440-50-8	Copper	220			PM
7439-89-6	Iron	22500			PM
7439-92-1	Lead	4420			PM
7439-95-4	Magnesium	3550			PM
7439-96-5	Manganese	506			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.28	B		PM
7440-02-0	Nickel	19.8			PM
7440-09-7	Potassium	1250			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	79.2			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	87.5			PM
7440-62-2	Vanadium	17.6			PM
7440-66-6	Zinc	108			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-21
SDG:344-01
Lab Sample ID:908-344-021
Matrix:SOIL

Wt (g) of sample=	0.51	Solids ratio =	1.35		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9820			PM
7440-36-0	Antimony	16.1			PM
7440-38-2	Arsenic	5.93			PM
7440-39-3	Barium	37.7			PM
7440-41-7	Beryllium	0.309	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	11100			PM
7440-47-3	Chromium	11.3			PM
7440-48-4	Cobalt	5.83			PM
7440-50-8	Copper	145			PM
7439-89-6	Iron	21000			PM
7439-92-1	Lead	1530			PM
7439-95-4	Magnesium	7110			PM
7439-96-5	Manganese	422			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.18	B		PM
7440-02-0	Nickel	18.3			PM
7440-09-7	Potassium	1410			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	105			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	83.7			PM
7440-62-2	Vanadium	15.4			PM
7440-66-6	Zinc	83.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-22
SDG:344-01
Lab Sample ID:908-344-022
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.17		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8680			PM
7440-36-0	Antimony	48			PM
7440-38-2	Arsenic	5.21			PM
7440-39-3	Barium	27.1			PM
7440-41-7	Beryllium	0.243	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	25800			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.77			PM
7440-50-8	Copper	453			PM
7439-89-6	Iron	18800			PM
7439-92-1	Lead	8980			PM
7439-95-4	Magnesium	7380			PM
7439-96-5	Manganese	395			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.18	B		PM
7440-02-0	Nickel	15.2			PM
7440-09-7	Potassium	1490			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	112			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	92.4			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	117			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-23
SDG:344-01
Lab Sample ID:908-344-023
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.17		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	6290			PM
7440-36-0	Antimony	47.1			PM
7440-38-2	Arsenic	4.47			PM
7440-39-3	Barium	17.1			PM
7440-41-7	Beryllium	0.182	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	30200			PM
7440-47-3	Chromium	7.96			PM
7440-48-4	Cobalt	4.68			PM
7440-50-8	Copper	95.3			PM
7439-89-6	Iron	17000			PM
7439-92-1	Lead	9990			PM
7439-95-4	Magnesium	6310			PM
7439-96-5	Manganese	296			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.08	B		PM
7440-02-0	Nickel	13.6			PM
7440-09-7	Potassium	887			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	99.1			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80.5			PM
7440-62-2	Vanadium	12			PM
7440-66-6	Zinc	52			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-24
SDG:344-01
Lab Sample ID:908-344-024
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.34		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	12400			PM
7440-36-0	Antimony	7.6	B		PM
7440-38-2	Arsenic	8.79			PM
7440-39-3	Barium	53.1			PM
7440-41-7	Beryllium	0.402	B		PM
7440-43-9	Cadmium	0.16	B		PM
7440-70-2	Calcium	8120			PM
7440-47-3	Chromium	13			PM
7440-48-4	Cobalt	6.68			PM
7440-50-8	Copper	84.4			PM
7439-89-6	Iron	23800			PM
7439-92-1	Lead	829			PM
7439-95-4	Magnesium	5210			PM
7439-96-5	Manganese	546			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.45	B		PM
7440-02-0	Nickel	19.2			PM
7440-09-7	Potassium	1200			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	94.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	80			PM
7440-62-2	Vanadium	19.3			PM
7440-66-6	Zinc	97.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-25
SDG:344-01
Lab Sample ID:908-344-025
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.26		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9380			PM
7440-36-0	Antimony	62.3			PM
7440-38-2	Arsenic	5.38			PM
7440-39-3	Barium	33.4			PM
7440-41-7	Beryllium	0.266	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	10500			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.71			PM
7440-50-8	Copper	141			PM
7439-89-6	Iron	19200			PM
7439-92-1	Lead	6000			PM
7439-95-4	Magnesium	5560			PM
7439-96-5	Manganese	445			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.42	B		PM
7440-02-0	Nickel	14.7			PM
7440-09-7	Potassium	1070			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	92			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	86.6			PM
7440-62-2	Vanadium	16.1			PM
7440-66-6	Zinc	80.5			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-26
SDG:344-01
Lab Sample ID:908-344-026
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.18		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	7140			PM
7440-36-0	Antimony	42.7			PM
7440-38-2	Arsenic	4.51			PM
7440-39-3	Barium	20.4			PM
7440-41-7	Beryllium	0.224	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	13100			PM
7440-47-3	Chromium	8.5			PM
7440-48-4	Cobalt	4.92			PM
7440-50-8	Copper	90.2			PM
7439-89-6	Iron	18700			PM
7439-92-1	Lead	7430			PM
7439-95-4	Magnesium	5450			PM
7439-96-5	Manganese	386			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.89	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	878			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	78.9			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	74.8			PM
7440-62-2	Vanadium	13.4			PM
7440-66-6	Zinc	65.8			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-27
SDG:344-01
Lab Sample ID:908-344-027
Matrix:SOIL

Wt (g) of sample=	0.53	Solids ratio =	1.27		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	7750			PM
7440-36-0	Antimony	20.1			PM
7440-38-2	Arsenic	4.62			PM
7440-39-3	Barium	29			PM
7440-41-7	Beryllium	0.235	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	3740			PM
7440-47-3	Chromium	9.08			PM
7440-48-4	Cobalt	4.63			PM
7440-50-8	Copper	5530			PM
7439-89-6	Iron	17400			PM
7439-92-1	Lead	4790			PM
7439-95-4	Magnesium	3080			PM
7439-96-5	Manganese	455			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	0.891	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	887			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	75.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	81.2			PM
7440-62-2	Vanadium	13.8			PM
7440-66-6	Zinc	593			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-28
SDG:344-01
Lab Sample ID:908-344-028
Matrix:SOIL

Wt (g) of sample=	0.52	Solids ratio =	1.22		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9990			PM
7440-36-0	Antimony	328			PM
7440-38-2	Arsenic	10.3			PM
7440-39-3	Barium	36			PM
7440-41-7	Beryllium	0.248	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	14400			PM
7440-47-3	Chromium	11.1			PM
7440-48-4	Cobalt	5.71			PM
7440-50-8	Copper	242			PM
7439-89-6	Iron	20500			PM
7439-92-1	Lead	50900			PM
7439-95-4	Magnesium	6750			PM
7439-96-5	Manganese	560			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.16	B		PM
7440-02-0	Nickel	15.1			PM
7440-09-7	Potassium	1550			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	112			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	134			PM
7440-62-2	Vanadium	18.1			PM
7440-66-6	Zinc	86.2			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-29
SDG:344-01
Lab Sample ID:908-344-029
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.85		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	8880			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	4.79			PM
7440-39-3	Barium	48.6			PM
7440-41-7	Beryllium	0.236	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	13300			PM
7440-47-3	Chromium	10.1			PM
7440-48-4	Cobalt	4.64			PM
7440-50-8	Copper	48.5			PM
7439-89-6	Iron	19200			PM
7439-92-1	Lead	68.6			PM
7439-95-4	Magnesium	6370			PM
7439-96-5	Manganese	458			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.22	B		PM
7440-02-0	Nickel	14.7			PM
7440-09-7	Potassium	1380			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	116			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	108			PM
7440-62-2	Vanadium	17.3			PM
7440-66-6	Zinc	68.9			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-30
SDG:344-01
Lab Sample ID:908-344-030
Matrix:SOIL

Wt (g) of sample=	0.50	Solids ratio =	1.37		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	10200			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	5.76			PM
7440-39-3	Barium	38.3			PM
7440-41-7	Beryllium	0.299	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	9640			PM
7440-47-3	Chromium	13.1			PM
7440-48-4	Cobalt	5.95			PM
7440-50-8	Copper	155			PM
7439-89-6	Iron	22300			PM
7439-92-1	Lead	48.5			PM
7439-95-4	Magnesium	6690			PM
7439-96-5	Manganese	324			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.15	B		PM
7440-02-0	Nickel	19.4			PM
7440-09-7	Potassium	1810			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	129			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	129			PM
7440-62-2	Vanadium	18			PM
7440-66-6	Zinc	333			PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: King Brothers
Site Code: n/a
Date Received: 12/09/08

Field ID: NF908-11020-31
SDG:344-01
Lab Sample ID:908-344-031
Matrix:SOIL

Wt (g) of sample=	0.54	Solids ratio =	1.28		
CAS NO.	ANALYTE	CONC mg/Kg	C	Q	M
7429-90-5	Aluminum	9050			PM
7440-36-0	Antimony	3.64	U		PM
7440-38-2	Arsenic	6.05			PM
7440-39-3	Barium	36.9			PM
7440-41-7	Beryllium	0.317	B		PM
7440-43-9	Cadmium	0.13	U		PM
7440-70-2	Calcium	15300			PM
7440-47-3	Chromium	11.5			PM
7440-48-4	Cobalt	6.55			PM
7440-50-8	Copper	32.7			PM
7439-89-6	Iron	22700			PM
7439-92-1	Lead	121			PM
7439-95-4	Magnesium	7280			PM
7439-96-5	Manganese	403			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	1.28	B		PM
7440-02-0	Nickel	19.4			PM
7440-09-7	Potassium	1260			PM
7482-49-2	Selenium	1.14	U		PM
7440-22-4	Silver	0.29	U		PM
7440-23-5	Sodium	98.7			PM
7440-28-0	Thallium	1.12	U		PM
7440-31-5	Tin	0	U		PM
7440-32-6	Titanium	71.8			PM
7440-62-2	Vanadium	14.8			PM
7440-66-6	Zinc	68			PM

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Analytical Report

Work Order: RSB0576

Project Description
CASE NF908

For:

Anthony Lopes
New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

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Thursday, April 2, 2009

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

TestAmerica Buffalo
Current Certifications

As of 1/27/2009

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA,CLP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T10470441208-TX
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department ofEnergy	DOECAP-STB
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverables has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Brian Fischer
Project Manager

Thursday, April 2, 2009

There are pertinent documents appended to this report, 2 pages, are included and are an integral part of this report.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
BT	Analyte detected in the TCLP Extractor Blank. Analyte at least five times less than the TCLP Regulatory limit.
D08	Dilution required due to high concentration of target analyte(s)

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Reported: 04/02/09 17:13

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-01 (NF908-11020-09 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.025	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:21	TWS	9B20069	6010B
Sample ID: RSB0576-02 (NF908-11020-15 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	8.8	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:26	TWS	9B20069	6010B
Sample ID: RSB0576-03 (NF908-11020-16 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.16	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:31	TWS	9B20069	6010B
Sample ID: RSB0576-04 (NF908-11020-17 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	14	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:37	TWS	9B20069	6010B
Sample ID: RSB0576-05 (NF908-11020-18 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	170	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:01	AH	9B20069	6010B
Sample ID: RSB0576-06 (NF908-11020-19 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	0.308	B1, B	0.0060	0.0029	mg/L	1.00	02/23/09 16:10	TWS	9B23012	6010B
Sample ID: RSB0576-07 (NF908-11020-20 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	93	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:06	AH	9B20069	6010B
Sample ID: RSB0576-08 (NF908-11020-21 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	14	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:52	TWS	9B20069	6010B
Sample ID: RSB0576-09 (NF908-11020-22 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	160	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:11	AH	9B20069	6010B
Sample ID: RSB0576-10 (NF908-11020-23 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	96	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:16	AH	9B20069	6010B
Sample ID: RSB0576-11 (NF908-11020-24 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	1.1	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 19:20	TWS	9B20069	6010B
Sample ID: RSB0576-12 (NF908-11020-25 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	610	B, B1, D08	0.12	0.058	mg/L	20.0	02/25/09 04:21	AH	9B20069	6010B
Sample ID: RSB0576-13 (NF908-11020-26 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	780	B1, D08, B	0.12	0.058	mg/L	20.0	02/25/09 04:26	AH	9B20069	6010B
Sample ID: RSB0576-14 (NF908-11020-27 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	360	B1, D08, B	0.060	0.029	mg/L	10.0	02/25/09 04:31	AH	9B20069	6010B

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Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-15 (NF908-11020-28 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	**700**	D08, B1, B	0.12	0.058	mg/L	20.0	02/25/09 04:36	AH	9B20069	6010B
Sample ID: RSB0576-16 (NF908-11020-31 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Metals										
Lead	**0.22**	BT, B	0.0060	0.0029	mg/L	1.00	02/23/09 19:45	TWS	9B20069	6010B

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Sample Summary

SAMPLE IDENTIFICATION	LAB NUMBER	Client Matrix	Date/Time Sampled	Date/Time Received
NF908-11020-09	RSB0576-01	Solid	11/06/08	02/18/09 14:10
NF908-11020-15	RSB0576-02	Solid	11/06/08	02/18/09 14:10
NF908-11020-16	RSB0576-03	Solid	11/06/08	02/18/09 14:10
NF908-11020-17	RSB0576-04	Solid	11/06/08	02/18/09 14:10
NF908-11020-18	RSB0576-05	Solid	11/06/08	02/18/09 14:10
NF908-11020-19	RSB0576-06	Solid	11/06/08	02/18/09 14:10
NF908-11020-20	RSB0576-07	Solid	11/06/08	02/18/09 14:10
NF908-11020-21	RSB0576-08	Solid	11/06/08	02/18/09 14:10
NF908-11020-22	RSB0576-09	Solid	11/06/08	02/18/09 14:10
NF908-11020-23	RSB0576-10	Solid	11/06/08	02/18/09 14:10
NF908-11020-24	RSB0576-11	Solid	11/06/08	02/18/09 14:10
NF908-11020-25	RSB0576-12	Solid	11/06/08	02/18/09 14:10
NF908-11020-26	RSB0576-13	Solid	11/06/08	02/18/09 14:10
NF908-11020-27	RSB0576-14	Solid	11/06/08	02/18/09 14:10
NF908-11020-28	RSB0576-15	Solid	11/06/08	02/18/09 14:10
NF908-11020-31	RSB0576-16	Solid	11/06/08	02/18/09 14:10

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-01 (NF908-11020-09 - Solid)						**Sampled: 11/06/08**				**Recvd: 02/18/09 14:10**
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**0.025**	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:21	TWS	9B20069	6010B

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-02 (NF908-11020-15 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**8.8**	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:26	TWS	9B20069	6010B

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-03 (NF908-11020-16 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**0.16**	B, BT	0.0060	0.0029	mg/L	1.00	02/23/09 18:31	TWS	9B20069	6010B

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-04 (NF908-11020-17 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**14**	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:37	TWS	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-05 (NF908-11020-18 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**170**	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:01	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-06 (NF908-11020-19 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/23/09 08:00	JRS	9B22003	1311
TCLP Metals										
Lead	**0.308**	B1, B	0.0060	0.0029	mg/L	1.00	02/23/09 16:10	TWS	9B23012	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-07 (NF908-11020-20 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**93**	B, D08, B1	0.030	0.014	mg/L	5.00	02/25/09 04:06	AH	9B20069	6010B

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-08 (NF908-11020-21 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**14**	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 18:52	TWS	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-09 (NF908-11020-22 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**160**	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:11	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-10 (NF908-11020-23 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**96**	B, B1, D08	0.060	0.029	mg/L	10.0	02/25/09 04:16	AH	9B20069	6010B

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Analytical Report

Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-11 (NF908-11020-24 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	1.1	B, B1	0.0060	0.0029	mg/L	1.00	02/23/09 19:20	TWS	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-12 (NF908-11020-25 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**610**	B, B1, D08	0.12	0.058	mg/L	20.0	02/25/09 04:21	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-13 (NF908-11020-26 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**780**	B1, D08, B	0.12	0.058	mg/L	20.0	02/25/09 04:26	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-14 (NF908-11020-27 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**360**	B1, D08, B	0.060	0.029	mg/L	10.0	02/25/09 04:31	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-15 (NF908-11020-28 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**700**	D08, B1, B	0.12	0.058	mg/L	20.0	02/25/09 04:36	AH	9B20069	6010B

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Analyte	Sample Result	Data Qualifiers	Rpt Limit	MDL	Units	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: RSB0576-16 (NF908-11020-31 - Solid)						**Sampled: 11/06/08**			**Recvd: 02/18/09 14:10**	
TCLP Extraction by EPA 1311										
Toxicity Characteristic Leaching Procedure	ND		NA	0.0	mg/L	1.00	02/20/09 13:00	CJC	9B19067	1311
TCLP Metals										
Lead	**0.22**	BT, B	0.0060	0.0029	mg/L	1.00	02/23/09 19:45	TWS	9B20069	6010B

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THE LEADER IN ENVIRONMENTAL TESTING

New York State D.E.C. - Albany, NY
625 Broadway 9th Floor
Albany, NY 12233-7258

Work Order: RSB0576

Project: CASE NF908
Project Number: NYSDEC

Received: 02/18/09
Reported: 04/02/09 17:13

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Units	Extract Volume	Units	Date	Analyst	Extraction Method
TCLP Extraction by EPA 1311									
1311	9B19067	RSB0576-01	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-02	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-03	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-04	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-05	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B22003	RSB0576-06	1.00	g	1.00	mL	02/23/09 08:00	JRS	TCLP Metals 1311_ASP
1311	9B19067	RSB0576-07	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-08	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-09	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-10	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-11	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-12	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-13	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-14	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-15	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
1311	9B19067	RSB0576-16	100.00	g	1,750.00	mL	02/20/09 13:00	CJC	TCLP Org & Metals 1311
TCLP Metals									
6010B	9B20069	RSB0576-01	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-02	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-03	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-04	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-05	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B23012	RSB0576-06	50.00	mL	50.00	mL	02/23/09 09:30	DAN	3010A
6010B	9B20069	RSB0576-07	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-08	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-09	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-10	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-11	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-12	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-13	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-14	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-15	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A
6010B	9B20069	RSB0576-16	50.00	mL	50.00	mL	02/23/09 07:00	MLD	3010A

TestAmerica
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LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifiers
TCLP Extraction by EPA 1311												
Blank Analyzed: 02/20/09 (9B19067-BLK1)												
Toxicity Characteristic Leaching Procedure	9B19067			N/A	0.0	mg/L	ND					

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Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifiers
TCLP Metals												
Blank Analyzed: 02/23/09 (9B20069-BLK1)												
Lead	9B20069			0.0060	0.0029	mg/L	0.048					B1
TCLP Metals												
Blank Analyzed: 02/23/09 (9B20069-BLK2)												
Lead	9B20069			0.0060	0.0029	mg/L	ND					
TCLP Metals												
LCS Analyzed: 02/23/09 (9B20069-BS1)												
Lead	9B20069		1.0	0.0060	0.0029	mg/L	1.08	108	85-115			B1,B

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Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifiers
TCLP Extraction by EPA 1311												
Blank Analyzed: 02/23/09 (9B22003-BLK1)												
Toxicity Characteristic Leaching Procedure	9B22003			N/A	0.0	mg/L	ND					

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LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifiers
TCLP Metals												
Blank Analyzed: 02/23/09 (9B23012-BLK1)												
Lead	9B23012			0.0060	0.0029	mg/L	0.0062					B1
TCLP Metals												
Blank Analyzed: 02/23/09 (9B23012-BLK2)												
Lead	9B23012			0.0060	0.0029	mg/L	ND					
TCLP Metals												
LCS Analyzed: 02/23/09 (9B23012-BS1)												
Lead	9B23012		1.00	0.0060	0.0029	mg/L	1.08	108	85-115			B
TCLP Metals												
Matrix Spike Analyzed: 02/23/09 (9B23012-MS1)												
QC Source Sample: RSB0576-06												
Lead	9B23012	0.308	1.00	0.0060	0.0029	mg/L	1.33	102	70-130			B
Matrix Spike Dup Analyzed: 02/23/09 (9B23012-MSD1)												
QC Source Sample: RSB0576-06												
Lead	9B23012	0.308	1.00	0.0060	0.0029	mg/L	1.32	102	70-130	0	20	B
TCLP Metals												
Post Spike Analyzed: 02/23/09 (9B23012-PS1)												
QC Source Sample: RSB0576-06												
Lead	9B23012	0.308	1.00	N/A	NA	mg/L	1.10	80	75-125			B

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LABORATORY QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	MRL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Qualifiers
TCLP Metals												
Serial Dilution Analyzed: 02/23/09 (RB92614-SRD1)												
QC Source Sample: RSB0576-06												
Lead	RB92614	0.308		0.0300	0.0145	mg/L	0.307			0		

2010 Woods Hole Group Preliminary Site Investigation Report

OCTOBER 2010 PRELIMINARY SITE INVESTIGATION REPORT
FORMER CAMP O'RYAN
(FUDS PROPERTY NO. C0NY1132)

WETHERSFIELD, NEW YORK

Contract No. W912WJ-09-D-0001
Delivery Order No. 031

Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared By:
Woods Hole Group, Inc.
81 Technology Park Drive
East Falmouth, MA 02536

March 2011

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(508) 540-8080

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List of Acronyms

ADR	Automated Data Review
ASP	Analytical Services Protocols
CENAE	U.S. Army Corps of Engineers, New England District
CEMVR	U.S. Army Corps of Engineers, Rock Island District
COC	chain-of-custody
CRQL	Contract Required Quantitation Limit
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DO	dissolved oxygen
DQO(s)	data quality objectives
EB	Equipment blank
EPA	U.S. Environmental Protection Agency
FBI	Federal Bureau of Investigation
FUDS	Formerly Used Defense Sites
ft	feet
GPS	Global Positioning System
HTW	Hazardous, Toxic Waste
LCS	laboratory control sample
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MDL	method detection limit
MEC	Munitions and Explosives of Concern
mL	milliliter
mg/L	milligrams per liter
MRS	Munitions Response Sites
MS/MSD	matrix spike/matrix spike duplicate
NAE	United States Army Corp of Engineers New England District
NAN	United States Army Corp of Engineers New York District
NEH	New Environmental Horizons, Inc.
NELAP	National Environmental Laboratory Accreditation Program
NTU	nephelometric turbidity unit
NY ARNG	New York Army National Guard
NY DEC	New York Department of Environmental Conservation
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
PAHs	Polycyclic aromatic hydrocarbons
PAL	Project Action Limit
PCE	tetrachloroethene
PID	photoionization detector
PQL(s)	practical quantitation limits
QA	quality assurance
QC	Quality Control
QSM	Quality Systems Manual
RI	Remedial Investigation
RL	Reporting limit

ROTC	Reserve Officers Training Corp
RPD	relative percent deviation
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SEDD	Staged Electronic Data Deliverable
SOP(s)	Standard Operating Procedures
SOW	Statement of Work
SVOC	Semi-Volatile Organic Compounds
TCL	Target Compound List
TOGS	Technical and Operational Guideline Series
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAF	United States Air Force
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
VOC(s)	volatile organic compounds
WHG	Woods Hole Group
XML	Extensible Markup Language
YSI	Yellow Springs Instrument Company

EXECUTIVE SUMMARY

Woods Hole Group, Inc. prepared this Preliminary Site Investigation report as part of the Preliminary Site Investigation including surface and shallow groundwater sampling at the Former Camp O'Ryan in Wethersfield, NY (FUDS Property No. C0NY1132), under contract with the United States Army Corps of Engineers (USACE), New England District (CENAE) Task Order 0031 of contract W912WJ-09-D-0001. The work was completed in accordance with the October 2010 Woods Hole Group Sampling and Analysis Plan (SAP) and the revised August 6, 2010 Statement of Work (SOW) prepared by CENAE. The work was performed with reference to the guidance document entitled USACE Requirements for the Preparation of Sampling and Analysis Plans, EM 200-1-3 [United States (U.S.) Army Corps of Engineers (USACE), 2001], the U.S. Environmental Protection Agency (EPA) Requirements for Quality Assurance Project Plans, EPA QA/R-5, EPA/240/B-01/003, March 2001, New York State Department of Environmental Conservation (NYSDEC) Regulations, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), National Oil and Hazardous Substances Contingency Plan (NCP) requirements, and the Formerly Used Defense Sites (FUDS) Program Policy (ER 200-3-1). The analytical requirements included in the New York State Department of Environmental Conservation Analytical Services Protocols (NYSDEC 2005).

The report includes a summary of the field sampling activities conducted from October 18th to 21st, 2010, and the laboratory testing results. Sampling was conducted at three (3) surface water and fifteen (15) shallow groundwater sites. *In-situ* measurements of temperature, specific conductance, pH, Oxidation Reduction Potential (ORP), and turbidity, indicate that the water quality of the samples was acceptable by NYSDEC 703.3 water quality standards; however, the turbidity for numerous shallow groundwater samples did exceed the standard due to the sampling technique.

The samples were analyzed for chemical parameters by: EPA SW846 Method 8260B for the NYSDEC ASP Target Compound List (TCL) Volatile Organic Compounds (VOCs); EPA SW846 Method 8270C for the NYSDEC TCL Semivolatile Organic Compounds (SVOCs); EPA Method 332 for Perchlorate; EPA SW846 Method 6010B for Lead; and EPA Method 8330A for 14 Explosive compounds. The field samples were non-detect for all chemical analyses with only a single detection of lead in one field duplicate sample. These results indicate that the surface and shallow groundwater locations sampled during this investigation at the former Camp O'Ryan do not appear to show impacts from prior site activities.

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1.0 INTRODUCTION

1.1 SITE LOCATION AND DESCRIPTION

1.1.1 Site Location

Former Camp O'Ryan is in the rural Town of Wethersfield in Wyoming County, New York, about 40 miles east of Buffalo and 5 miles southeast of Warsaw, NY, (Figure 1). It is represented by District 26 Congressman Chris Lee and is in EPA Region 2. The 370-acre site is mostly forested. A 5-acre parcel including the former motor pool is used by a fireplace company. Residents in the area derive drinking water from private, unregistered wells. There are about a dozen dwellings along the north and west boundary of the site. Groundwater depth is 50 feet and yield is on the order of 10 gallons per minute (USACE SOW, revised 6 August 2010).

1.1.2 Background

Military use of the site began in 1949 when the New York Army National Guard (NY ARNG) enacted a lease for a "Target Range, Maneuver Area, Camp Site, and other Government purposes." (USACE SOW, revised 6 August 2010). Known users of the site included the Army and Air National Guard, Army Reserves, Naval Militia, Reserve Officers Training Program (ROTC) Cadets, Federal Bureau of Investigation (FBI), NY State Police, and local police agencies. Confirmed munitions used at the site included live and blank small arms, tear gas, slap flares, and practice bazooka rockets. Military training ended in 1994. The only Munitions and Explosives of Concern (MEC) reported on the site since site closure was a belt of unfired linked blank small arms found by personnel from the NYSDEC. Reported Munitions Constituents (MC) found at the site include an expended practice bazooka rocket found by a local citizen, similar rockets, expended small arms, and an expended slap flare found by the Rock Island District (CEMVR) during the site inspection in November 2009. The site has been subdivided into three Munitions Response Sites (MRS); MRS A, B, and C as seen in Figure 2. The primary findings in these areas include:

MRS A

MRS A is the four-acre parcel (Figure 2) that served as the former pistol and machine gun range. There is confirmed Hazardous, Toxic Waste (HTW) and MC present at the earthen target berm containing fired lead bullets. Although there is MEC potential in this area, it is not confirmed.

MRS B

MRS B is the ten-acre site that was the known-distance range (Figure 2). Confirmed HTW and MC presence includes lead (from lead bullets) in the earthen target berm. Confirmed MEC was also observed by NYSDEC in the form of an unfired belt of blank small arms ammunition. November 2008 testing by the NYSDEC indicated high Total Lead values and high Toxicity Characteristic Leaching Procedure (TCLP) values in the earthen target backstop.

MRS C

MRS C consists of 356 acres of all other land. This MRS has potential HTW and MEC. The motor pool may have been the site of vehicle maintenance, and similar maintenance may have been performed at the tank training course. A petroleum, oil, and lubricants (POL) point was located in the southern part of this MRS. MC was observed during the Site Inspection in the form of expended training rockets. There is MEC potential in this area, though not confirmed.

1.1.3 Water Quality

Naturally occurring surface water exists at the site in the form of intermittent streams and small manmade ponds on the southern part of the property. An unnamed intermittent stream flows from southeast to northwest across the site and separates the known-distance range from the pistol range, and there are at least two other similar streams in the southern portion of the site. It appears that the stream is being recharged by shallow groundwater downgradient of potential contamination source areas. Nearby water bodies include Java Lake 4 miles to the southwest and Wethersfield Springs Pond 4 miles to the east (Figure 1).

Java Lake is a 53.0 acre lake on the Lake Erie watershed and it is listed as an impaired waterway on the *Priority Waterways List* (PWL). Water bodies listed on the PWL by the NYDEC have documented water quality impairments, minor impacts and/or threats. Phosphorus levels in the lake typically exceed the state guidance values indicating that the lake is best characterized as eutrophic, or highly productive. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5, but are consistently high and occasionally exceed 8.5 (NYSDEC, September 2010).

Wethersfield Springs Pond has not been assessed by the NYSDEC; however, it is a part of the headwaters of East Koy Creek, which is a tributary of the Genesee River. East Koy Creek is known as one of New York's best trout streams, but lack of riparian buffers along the stream and seasonal irrigation usage reduce stream flows, elevate temperatures and cause stresses to the fishery. Previous studies indicated slightly to moderately impacted water quality along the stream due to nutrient enrichment and thermal and flow fluctuations in the stream. The lower section of East Koy Creek is included on the NYS 2002 Section 303(d) List of Impaired Waters because the aquatic life support and fishery habitat is impacted by agricultural activities in the watershed. The Town of Wethersfield maintains an uncovered salt storage facility near the creek in Hermitage and there are concerns over the potential impacts of this facility to the watershed (NYSDEC, March 2003).

A biological (macroinvertebrate) survey of East Koy Creek at multiple sites between East Koy and Wethersfield Springs was conducted in 1993. Within this portion of the stream conditions were primarily slightly impacted. Clean-water mayflies, stoneflies and caddisflies were found, but species richness was lower than expected. Causes for these effects were not apparent. A concurrent fishery survey found appropriate populations in this reach. A biological (macroinvertebrate) assessment of East Koy Creek in East Koy was conducted in 1999. Filtering caddisflies dominated the sample. Impacts were

attributed to nonpoint source nutrient loads and organic wastes. Previous biological sampling in 1993 found similar conditions and evidence of agricultural inputs at various sites (NYSDEC, March 2003).

1.2 PROJECT OBJECTIVES AND SCOPE

The purpose of the sampling was to characterize the water quality of both stream surface water and shallow groundwater at a time when the groundwater was recharging the stream under base flow conditions.

Field activities were completed during a single four-day survey and included:

1. Collecting one round of shallow groundwater samples using pore water sampling techniques.
2. Collecting one round of surface water samples.
3. Collecting field parameters including temperature, pH, specific conductance, dissolved oxygen, oxidation reduction potential (ORP), and turbidity at each sampling location.
4. Measuring the stream flow rate.

The results of the October 2010 sampling event are presented in this report. These data are used to assess the nature and extent of shallow groundwater contamination, potential impacts to surface water, and to determine whether unacceptable public health risks exist at these locations. Samples were analyzed in accordance with their respective NYSDEC ASP (2005) contract required quantitation limits (CRQLs). Sample results are compared to their respective regulatory criteria, which for Camp O'Ryan include the June 1998 NYSDEC Technical and Operational Guidance Series (TOGS), and the May 2009 EPA Maximum Contamination Levels (MCLs).

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2.0 SAMPLING METHODS

The Woods Hole Group Sampling and Analysis Plan (WHG SAP) and the Statement of Work (SOW) have established the requirement for data generation that meet the project objectives. Groundwater samples were collected in accordance with the Standard Operating Procedures (SOPs) presented in the SAP. The field investigators were escorted for all onsite sampling activities by the USACE-LRB Unexploded Ordinance (UXO) Specialist Nickolas Heleg-Greza, who provided anomaly avoidance especially for the intrusive investigation samples (shallow groundwater).

2.1 SURFACE WATER SAMPLING AND ANALYSIS

The SAP specified four surface water samples, SW-01, SW-02, SW-03, and SW-04; however, surface water sampling point SW-02 was dry during the sampling period. The surface water locations were sampled following the SOW (USACE, 2010), the SAP (Woods Hole Group, 2010), and the procedures outlined in the National Field Manual for the collection of Water Quality Data (USGS 2006). As outlined in the SAP, surface water sample collection was to occur under base flow conditions for the stream and not less than three days following a rainfall amount greater than 1/100th of an inch. In addition, it was noted that samples should not be collected from discontinuous, stagnant pools. Prior to sampling, field measurements of temperature, pH, conductivity, dissolved oxygen (DO), and ORP were taken using a YSI 556 MPS. In addition, a Hach 2100P turbidity meter was used to monitor turbidity.

Surface water samples were collected in bottles provided by Alpha Analytical, and were submitted for off-site laboratory analysis by: EPA SW846 Method 8260B for the NYSDEC ASP Target Compound List (TCL) VOCs; EPA SW846 Method 8270C for the NYSDEC TCL SVOCs; EPA Method 332 for Perchlorate; EPA SW846 Method 6010B for Lead; and EPA Method 8330A for 14 Explosive compounds. The 1-liter amber bottles for explosives and SVOCs were dip sampled. The samples for VOCs, perchlorate, and both total and dissolved lead were collected using a 140 ml syringe. The dissolved lead and perchlorate samples were filtered through a 0.45 µm syringe filter. Additionally, the perchlorate samples were filtered through a secondary 0.2 µm syringe filter. Samples collected during the groundwater sampling program were uniquely identified using the sample nomenclature outlined in the WHG SAP.

A rinsate blank for surface water, CO-EB01-1010, was to be collected for perchlorate, VOCs, and both total and dissolved lead due to use of the syringe and filters, while SVOCs and explosives did not require a rinsate blank due to use of the dip sampling method. The sample was collected by placing the VOC-free DI water provided by Alpha into a new syringe and then simply dispensing the correct amount into each container and using the correct filter, if applicable. Clean tubing, syringes, and filters were used at each sampling location, and used items were discarded between sampling locations.

2.2 SHALLOW GROUNDWATER SAMPLING AND ANALYSIS

Shallow groundwater samples were to be collected from eighteen (18) shallow groundwater locations during the October 2010 sampling. The shallow groundwater sites

were sampled in accordance with the SOW (USACE, 2010), the WHG SAP, as well as using procedures outlined in the National Field Manual for the collection of Water Quality Data (USGS 2006) and Pore Water Sampling (EPA, 2007). The shallow groundwater samples were collected with a pushpoint pore water sampler in combination with a peristaltic pump. Prior to sampling, field measurements of temperature, pH, conductivity, dissolved oxygen (DO), and ORP were taken using a YSI 556 MPS. In addition, a Hach 2100P turbidity meter was used to monitor turbidity. Shallow groundwater samples were collected as composite samples for all analyses except for VOCs, which were individual, grab samples. The composite group associations are shown in Table 1.

Shallow groundwater samples were collected in bottles provided by Alpha Analytical and were submitted for off-site laboratory analysis by: EPA SW846 Method 8260B for the NYSDEC ASP Target Compound List (TCL) VOCs; EPA SW846 Method 8270C for the NYSDEC TCL SVOCs; EPA Method 332 for Perchlorate; EPA SW846 Method 6010B for Lead; and EPA Method 8330A for 14 Explosive compounds. The 1 Liter amber bottles for SVOCs and Explosives were filled first, followed by the 40ml VOCs vials and the total lead containers. Then, a 0.45 µm inline filter was placed on the end of the peristaltic pump tubing to filter the dissolved lead and perchlorate samples. Perchlorate samples were filtered into the back of a clean syringe and filtered a second time through a 0.2 µm syringe filter into a bacteria cup. Samples collected during the groundwater sampling program were uniquely identified using the sample nomenclature outlined in the SAP (WHG, 2010).

A rinsate blank sample, CO-EB02-1010, was collected from the pore water sampler used at the shallow groundwater sampling locations. The rinsate blank sample was collected from the pore water sampler following decontamination after use in the sampling process. This procedure included soap and DI water decontamination with a rinse of VOC-free distilled water provided by Alpha Analytical, followed by a final rinse with isopropanol. DI water was pumped from the container into the sample bottles using new tubing and a peristaltic pump. Additionally, the rinsate blanks for perchlorate and dissolved lead were collected using fresh syringes and filters.

2.3 QUALITY CONTROL

As described in the SOW (USACE, 2010) the quality control (QC) samples collected for the October 2010 sampling effort included: field duplicate samples; equipment blanks; matrix spike; matrix spike duplicate; and trip blanks for the VOC samples. Field duplicates were used to evaluate the field sampling procedures and laboratory accuracy and precision in analyzing the samples. The purpose of equipment blanks was to determine whether the sampling equipment could be a source of cross-contamination of samples. Matrix spike (MS) and matrix spike duplicate (MSD) samples were collected for the laboratory as QC samples to provide a measure of the accuracy of the laboratory method in the site matrix. Trip blanks were used to evaluate potential cross-contamination issues during sample transport, both in the field and to the laboratory. Details for the QC protocol were provided in the SAP (Woods Hole Group, 2010). The

samples were stored in a cooler on ice until delivery to the laboratory. Analysis of samples was performed by Alpha Analytical Laboratory in Westborough, Massachusetts.

Practical quantitation limits (PQL), also called laboratory reporting limits, for analysis of VOCs, SVOCs, and Lead were at or below the corresponding NYSDEC ASP (2005) contract required quantitation limits (CRQLs). No NYSDEC CRQLs are available for Explosives or Perchlorate; therefore, the project required reporting limits for these parameters have been set as the laboratory reporting limits or PQLs, as supported by the calibration curves for these methods. The PQL is equivalent to the low level calibration standard. The method detection limit (MDL), which is lower than the PQL, represents the lowest quantitation level that can be achieved for each substance by the specified method. In general, the PQLs are three to five times higher than the MDLs. The sample quantitation limit or reporting limit is analogous to the PQL; however, it is adjusted for sample-specific variables such as analytical dilutions. Results for the methods were reported down to the PQL or sample-specific lab Reporting Limits (RLs). For aqueous samples by EPA Methods 8260 (VOCs) and 8270 (SVOCs), the laboratory will report detected results below the PQL, down to the MDL, as estimated (qualified "J") data.

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3.0 RESULTS

The sampling activities and results from the October 2010 sampling event at Camp O'Ryan are described in this section. From October 18th to 21st, 2010, surface and shallow groundwater samples were collected from a total of 18 monitoring points across the site. All field data, site descriptions, and notes were collected on field data sheets, which are provided in Attachment 2. The locations of the surface water and shallow groundwater samples in the SOW were considered approximate, and the actual locations were determined during the field work with the concurrence of the USACE project geologist, Ken Heim. As a result, new GPS coordinates for the actual surface water sampling locations were taken and are presented in Figure 3. Laboratory analytical results for both the pore and surface water locations sampled during the October 2010 sampling event are provided in Attachment 3. A compilation of photographs taken of the site, equipment, field crew, and sampling activities can be found in Attachment 5.

3.1 SURFACE WATER SAMPLING

Surface water samples were collected from a total of three (3) of the four (4) proposed monitoring points across the site including SW-01, SW-03 and SW-04 (Figure 3). Site SW-02 on the north branch of the stream was not sampled because the streambed was dry in this location except for a stagnant pool. Surface water sampling took place prior to shallow groundwater sampling in the afternoon of October 18th since rain was forecasted for October 19th. There was a trace amount of precipitation recorded overnight on October 18th and during the day on the 19th. The weather conditions during the sampling period are summarized on Table 2. Weather data were obtained from North Java, NY, located 3 miles from the Camp O'Ryan site because this was the closest source for local weather data.

Site SW-01 was roughly 50 feet upstream of the culvert that runs underneath Wethersfield Road. Sites SW-02 and SW-03 were on the north branch and main branch of the stream, respectively, just upstream of their confluence. The stream ran through a marshy flood plain at the location of SW-03. Site SW-04 was the furthest upstream and in the middle of a steep, narrow ravine. The surface water sampling started at the furthest downstream sampling location, SW-01, and continued moving upstream to SW-03 and SW-04. The sampling technician remained on the channel bank downstream of the sampling location (facing upstream) while sampling to avoid disturbing the bottom sediments.

3.2 SHALLOW GROUNDWATER SAMPLING

Shallow groundwater samples were collected from fifteen (15) of the eighteen (18) proposed shallow groundwater locations during the October 2010 sampling event. Shallow groundwater sampling began on October 19th at the north branch of the stream starting with the composite shallow groundwater locations MP-04, MP-05, and MP-06, and followed by MP-07, MP-08, and MP-09. This section of the stream was very shallow, narrow (about a foot across), and had a slow flow, which is in contrast to the dry surface water sampling location, SW-02, located further downstream. This portion of the stream was also heavily vegetated and forested, which hampered sampling efforts. In

addition, the stream ended abruptly roughly 45 feet upstream of location MP-05 and there was no evidence of shallow groundwater upgradient of the end of the stream. As a result, shallow groundwater location MP-06 for composite group B was moved to a suitable sampling location downstream of MP-04. Similarly, both MP-08 and MP-09 were moved downstream due to a lack of suitable sampling locations in the proposed area. The pore water sampler could only be placed roughly a foot into the ground due to refusal.

With sampling completed on the northern branch of the stream, the sampling was continued October 20th on the main branch of the stream starting at the farthest upstream sampling location, MP-18 (composite group F). Sampling with a pore water sampler proved to be difficult in the upper portion of the main branch of the stream since it was set in a narrow, steep ravine with no clearly defined bank. The rockiness of the soil prevented the sampler from penetrating into the ground more than a foot. MP-17 was located on a silty deposit downstream from MP-18. MP-16 was not sampled due to a lack of suitable sampling locations. As a result, composite group F was composed of only two sampling locations, MP-18 and MP-17.

Composite group E proved to be easier to sample than group F, but sampling still remained difficult in the ravine. All three sample locations of composite group F including MP-13, MP-14, and MP-15, were sampled with the pore water sampler located close to the edge of the stream bank. The sampler could not penetrate the ground more than one foot due to rocks.

The ravine widened and gave way to a floodplain between composite groups E and D. Nonetheless, suitable sampling locations were limited resulting in only two locations sampled, MP-10 and MP-12. In this section, the stream had eroded a channel well below the grade of the surrounding floodplain, and, as a result, the pore water sampler could not penetrate deep enough to extract water on top of the floodplain due to refusal from a consolidated layer. A pool of surface water was found away from the bank near the location of MP-12; however, no seep water could be drawn with the pore water sampler from below the pool at this location. The water was simply pooled on top of a cohesive layer of the soil that had a consistency of mushy, dark clay. No suitable site for MP-11 could be found, so it was not sampled. MP-10 was taken by inserting the pore water sampler into an undercut bank along the stream bank.

Composite Group A was composed of only two locations, MP-01 and MP-02, due to a lack of suitable locations along this stretch of stream. As with composite group D, the stream has eroded a channel well below that of the surrounding floodplain, and the pore water sampler could not penetrate deep enough to extract water on top of the floodplain. MP-02 was taken on the stream bank adjacent to a washout with some surface water. Sampling was first attempted in the washout; however, no water could be drawn. The sampling was moved closer to the edge of the stream bank. Site MP-01 was characterized by a seep face set in a steep slope composed of a hard claylike material. Sampling was performed at the base of the seep face.

3.3 SURFACE WATER AND SHALLOW GROUNDWATER PHYSICAL RESULTS

A summary of the field data parameters collected prior to sampling at each of the surface and shallow groundwater locations for the October 2010 sampling are provided in Table 3. The measurements of field parameters were compared with their NYSDEC water quality standards for classes 'A' and 'GA' for surface and groundwater, respectively. The measurements of field parameters from the shallow groundwater measurements were compared to the groundwater (GA) standard as there is not separate class for shallow groundwater or pore water. Overall, the field parameters indicated that the water quality for the surface and shallow groundwater samples collected during this field effort was acceptable. At this time there were no standards set for temperature, ORP or specific conductance, turbidity for surface water (A) or dissolved oxygen for groundwater (GA).

Temperature and specific conductance were much higher for the samples collected on the north branch of the stream MP-04 through MP-09 than on the main branch of the stream. ORP was highest in the upper section of the stream and lowest on the north branch of the stream. The dissolved oxygen measurements for surface water samples ranged from 10.64 mg/L to 12.75 mg/L, which were well above the standard of 4 mg/L. The dissolved oxygen in the shallow groundwater samples ranged from 1.70 mg/L to 8.87 mg/L, which is lower than the surface water samples as expected of shallow groundwater samples.

The pH measurements were within the TOGS standard range of 6.5 to 8.5 for all measurements except for SW-01, which had a pH reading of 6.26. The pH of the samples decreased with their respective downstream location. The pH was also lower on the north branch of the stream than it was on the main branch of the stream. The lower pH measurements downstream of the stream confluence may be an indicator of different groundwater sources feeding the upper section of the stream versus the lower section and north branch of the stream.

The NYSDEC turbidity standard was 5 NTU for groundwater, but there was no standard at this time for the surface water. The shallow groundwater measurements of turbidity actually exceeded the standard of 5 NTU for all locations except for MP-02, MP-06, and MP-13; however, this may be due to the limitations of the pore water sampling technique. Sediment may become mobilized when the pore water sampler is inserted into the ground, which causes the sediment to mix with the groundwater. The pore water sampler could only be inserted into the ground about a foot or so, and this top layer or soil tends be more active biologically and geologically causing this layer to be less consolidated and more easily mobilized as well. The turbidity of the surface water samples from the stream were much lower overall than the shallow groundwater samples, which supports the notion that the turbidity of the shallow groundwater samples is related to the sampling technique. In addition, the water class "GA" may be more appropriately applied towards established drinking water and monitoring wells, which are carefully constructed and can be sampled by less invasive techniques such as low flow sampling.

The stream dimensions and velocity were measured so that the flow rate could be calculated for each surface water sampling location. The average stream flow rate was estimated to be 60% of the product of the stream cross-sectional area and the stream

surface velocity, measured by timing a buoyant surface drifter/float over a measured distance, as outlined in the SAP. The flow rate was calculated to be 0.55 ft^3/s at SW-01, 0.25 ft^3/s at SW-03, and0.03 ft^3/s at SW-04. As expected, the flow rate increased at each successive downstream sampling location, which is an indication of a gaining stream. The stream dimensions, velocity and flow rate are shown in Table 4.

3.4 SURFACE WATER AND SHALLOW GROUNDWATER CHEMICAL RESULTS

The results were compared to applicable regulatory standards including the NYSDEC TOGS and EPA MCLs, which are summarized in Tables 5-1 and 5-2 for shallow groundwater and surface water, respectively. The standards for TOGS took precedent over the EPA MCLs, except where the MCLs were lower. In general, most of the analytes had standards listed under the NYSDEC TOGS, however, only a few of the analytes tested had standards listed under the EPA MCLs. The values for the NYS TOGS were selected from Table 1 "Ambient Water Quality Standards and Guidance Values, June 1998". A standard is a value that has been promulgated and placed into regulation, while a guidance value is a suggested criterion that has not been placed into regulation yet. A guidance value may only be used where a standard for a substance or group of substances has not been established. Selection of the appropriate standard or guidance value for a compound requires referring to the specific 'water class' and protection 'type' for the sample water source. Protection 'type' in the NYS TOGS was divided into four main categories for human health (H), fish health (A), wildlife health (W), and aesthetics (E). The protection 'type' selected for Camp O'Ryan was human health (H), and more specifically Health for a Water Source or 'H(WS)'. The specific 'water classes' chosen for the shallow groundwater and surface water samples were 'GA' for groundwater and 'A' for freshwater drinking water supply. The sample specific designations for 'water class' and 'type' were selected using guidance from the NYSDEC Region 9 office.

A number of compounds had no standard or guidance value listed under either the NYS TOGS or the EPA MCLs, therefore, these compounds do not have a standard at this time and are listed as 'NS' for in the summary tables. Other compounds were considered to be unregulated for groundwater by New York State, meaning they have no set standard or guidance value and are listed in Table 3 "Partial List of Substances Not Regulated by the Principal Organic Contaminant (POC) Groundwater Standard" of the NYS TOGS. These unregulated compounds are listed as 'NR' in the summary tables.

The results of the surface and shallow groundwater samples for the 2010 October sampling event were "Non-Detect" or "ND" for analyses including VOCs, SVOCs, explosives, perchlorate and both total and dissolved lead for almost all analyses (except as described below). This indicates that the concentrations were not detected at concentration below the RL. There was a single detection of total lead at 0.018 mg/L in the field duplicate sample for the shallow groundwater composite group MPE. The associated field sample was ND. This field duplicate comparison was acceptable by EPA Region 2 data validation standards and further details can be found in the Section 4 Data Quality. This detection of total lead in the duplicate sample of MPE was below the NYSDEC TOGS standard of 0.025 mg/L for groundwater (GA), but it did exceed the

EPA MCL of 0.015 mg/L. This result could be due to the entrainment of suspended particles containing lead during sampling as the turbidity was above the 5 NTU standard at two of the three sampling locations included in this composite sample. A summary of the results can be found in Tables 5-1 and 5-2 and complete laboratory analytical results can be found in Attachment 3.

The results for the SVOC analyte 2,4-dimethylphenol were rejected due to LCS/LCSD recoveries less than 10%. This data is not considered usable for project decisions. The lab commented in their report that this analyte is a problematic analyte to measure in the lab. Considering that SVOCs were not detected in any of the samples, it is not expected that 2,4-dimethylphenol would be present on site. Further details can be found in the Section 4 Data Quality.

All other SVOCs met the reporting limits specified in the approved SAP (NYSDEC ASP CRQLs, 2005). Note that these reporting limits for a number of analytes exceed their respective regulatory limits, as shown in the tables. Standard EPA methods were used for analysis of these samples.

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4.0 DATA QUALITY

4.1 SAMPLE CUSTODY, PRESERVATION, HOLDING TIME, AND LABORATORY DATA REVIEW

Samples were collected October 18th through 20th, 2011 and received at Alpha Analytical on October 21, 2010. The laboratory narrative confirms that all samples collected for the October 2010 sampling event were received under proper chain-of-custody (COC) procedures and with acceptable preservation as defined in Table 10 Sample Containers, Preservatives, and Holding Times of the SAP (October 2010). A copy of the login narrative is provided in Attachment 3. All samples were analyzed within the required method holding times. All samples were prepared and analyzed using the methods defined in Table 8 Analysis Methods and Project Data Quality Objectives of the SAP (October 2010), summarized as follows:

- EPA SW846 Method 8260B for the NYSDEC ASP Target Compound List (TCL) VOCs
- EPA SW846 Method 8270C for the NYSDEC TCL SVOCs
- EPA Method 332 for Perchlorate
- EPA SW846 Method 6010B for Lead
- EPA Method 8330A for 14 Explosive compounds

The lab processed and delivered the sample results in one sample delivery group (SDG) labeled L1016650. The laboratory performed a data review consistent with the procedures detailed in Section 5.3 of the SAP (October 2010) and the laboratory Quality Assurance Manual. Data reporting procedures were consistent with Section 5.4 and Table 8 of the SAP, with a minor deviation that not all results were reported in units of µg/L. VOCs, SVOCs, Explosives, and Perchlorate were reported in units of µg/L while Total and Dissolved Lead were reported in mg/L. These were acceptable reporting protocols for aqueous results for these parameters.

Additionally, there were several inconsistencies between the compound names used by the laboratory and those listed in Table 8 of the SAP. The laboratory reported "3-Methylphenol/4-Methylphenol" rather than "4-Methylphenol" since these two isomers co-elute. Three compounds were reported using common names not listed in Table 8 (IUPAC names used here) as follows: "N-nitrosodiphenylamine" was reported as "NitrosoDiPhenylAmine(NDPA)/DPA"; "4-Chloro-3-methylphenol" was reported as "p-Chloro-m-Cresol"; and "4,6-Dinitro-2-methylphenol" was reported as "4,6-Dinitro-o-cresol". The laboratory reported "m/p-Xylene" and "o-Xylene" instead of "Total Xylene"; therefore, 52 VOCs are reported rather than 51 compounds as listed in Table 8 and the ADR library files were updated accordingly. All these deviations were considered acceptable and do not adversely affect data quality.

As required in Section 5.4 of the SAP, the laboratory provided a narrative non-conformance summary, Stage 2a SEDD (xml) files, and laboratory data report for SDG L1016650 (in pdf format) including results, units, reporting limits, and summary QC.

4.2 DATA VALIDATION PROCESS

The Woods Hole Group team performed the QC data review and validation on samples analyzed by the contract laboratory in accordance with the August 2010 SOW and the October 2010 Sampling and Analysis Plan (SAP). The SEDD analytical data were evaluated utilizing v8.3 ADR software and the Camp O'Ryan project ADR Library created by CENAE and Alpha Analytical, based on the 2010 SAP. During the ADR evaluation, the ADR files were reviewed in the ADR Review Module. The software was used to generate non-conformance reports (error logs) and qualification reports, which can be found in Attachment 4.

Consistent with Section 5.8 of the 2010 SAP, NEH performed a targeted data validation review for each analysis method in SDG L1016650. This review consisted of: verification of sample identification preservation, and holding times; surrogate, LCS/LCSD, and MS/MSD recoveries; LCS/LCSD, MS/MSD/MD, and Field Duplicate precision; method and field blank contamination issues; and sensitivity of reported results compared to the SAP requirements. This review did not include an evaluation of instrument tunes, initial and continuing calibration results, internal standard recoveries, raw data, or include calculation verifications. The data validation checklists generated by NEH to document this targeted data validation are presented as the January 7, 2011 Data Validation Review reports for sample batch L1016650 (Attachment 4). NEH then reviewed the SEDD/ADR reports to verify that all issues affecting data quality identified in the targeted data validation were properly documented in the ADR/SEDD reports and reconciled issues found in these reports.

4.3 DATA VALIDATION RESULTS

Data Usability

All data, except for the 2,4-dimethylphenol results, are considered usable for project decisions with the understanding of the potential uncertainty in qualified (J and UJ) results. All results for the SVOC 2,4-dimethylphenol were rejected (qualified R) during data validation due to severe exceedance of the method QC measure of accuracy. Rejected results are considered unusable for project decisions. Overall, other QC results for all parameters indicated generally acceptable accuracy, precision, representativeness, and sensitivity of the results, with the following observations. Details for all issues described in this section were included in the data validation reports (Attachment 4).

Accuracy & Precision

For SVOCs, several compounds recovered below acceptance criteria in the MS and/or MSD or demonstrated imprecision in the LCS/LCSD or MS/MSD results. All results for 2,4-dimethylphenol were rejected (qualified R) and are not usable for project decisions based on LCS/LCSD recoveries < 10%. Other results were qualified as estimated (UJ). Data validation actions to qualify SVOC results were consistent with the ADR/SEDD Sample Qualification Report. Three compounds out of the 66 SVOCs listed in Table 8 of the SAP were not reported in the LCS/LCSD or MS/MSD. As the laboratory narrative did not indicate any nonconformance in calibration for these compounds, the data are

considered usable as reported. All qualified data are usable (with the exception of 2,4-dimethlyphenol) with low or indeterminate bias.

For VOCs, bromomethane recovered below acceptance criteria in the LCS/LCSD and MS/MSD results. All bromomethane results were estimated (UJ) and are usable with a potential low bias. Several other results were negated (U), as described below, or estimated (J) consistent with the ADR/SEDD Sample Qualification Report.

Potential for field sample contamination was evaluated using trip blank and equipment rinsate blank results. One trip blank for VOCs (CO-TB01-1010) and two equipment rinsate blanks (CO-EB01-1010 for surface water samples and CO-EB02-1010 for shallow groundwater samples), were submitted with the field samples. All parameters were ND in these blanks except as follows. Low levels of chloroform and acetone were detected in the equipment blanks and chloroform was also detected in the trip blank. Low level contamination of these VOCs are common in environmental analyses. The ADR reported estimated values (J) of chloroform below the RL in both equipment blanks; however, the software did not apply the required blank action. During data validation, blank actions were taken to negate (U) the chloroform results in both equipment blanks due to the presence of chloroform as a contaminant in the associated trip blank.

Additionally, the ADR software did not apply the correct qualification for two shallow groundwater samples based on the detected level of acetone in the associated equipment blank. The ADR reported two acetone results in samples CO-MP18-1010 and CO-MP18-1010-B qualified "UJ"; whereas the correct qualification is "U" due to blank actions.

For Explosives, professional judgment was used to estimate (qualify UJ) all results for methyl-2,4,6-trinitrophenylnitramine (Tetryl), rather than just the two results estimated as indicated in the ADR/SEDD Sample Qualification Report. This professional judgment was based on the MS/MSD evidence of matrix effects on accuracy and precision coupled with the QC exceedances in the continuing calibration results for Tetryl (as reported in the laboratory narrative). Tetryl results are usable as estimated values with indeterminate bias.

No data validation actions were required for Perchlorate, Total Lead, or Dissolved Lead as all QC measures of accuracy and precision met acceptance criteria.

Field Precision & Representativeness

Field duplicate (FD) precision and representativeness was evaluated based on results from the analysis of field samples as compared to results from the corresponding field duplicate samples. FD precision was expressed quantitatively in terms of relative percent difference (RPD). Three FD pairs were collected for VOCs and two FD pairs were collected each for SVOCs, Explosives, Perchlorate, and Lead. This FD frequency meets the SAP requirement of collection of 1 FD per 10 field samples.

Field duplicate results for VOCs, SVOCs, Explosives, Perchlorate, and Dissolved Lead were all ND. These ND results were consistent with each other and were considered

acceptable field duplicate precision and representativeness, though RPD could not be calculated. Total Lead was detected in one FD sample, CO-MPE-101B, at 0.018 mg/L while the result for its associated field sample, CO-MPE-1010, was ND at 0.010 U mg/L. The laboratory confirmed these results on re-analysis. Though these FD results did not meet the project requirement of RPD less than 30% (as defined in Table 8 of the SAP), they actually satisfied the EPA Region 2 metals data validation criteria (SOP HW-2, September 2006) for acceptable field duplicate precision. For values near the RL (at <5x RL), the EPA defined acceptable FD precision as the difference between the two results must be less than or equal to the contract required quantitation limit (CRQL), which for lead CRQL was 0.010 mg/L (equal to the RL of our data). The difference between the ND result and detected lead result was 0.008 mg/L, which was less than 0.010 mg/L and, therefore, meets EPA acceptance criteria.

These FD results were an indication of acceptable precision from sample collection through analysis and acceptable representativeness of the sample to the site locations for all types of aqueous samples collected.

Sensitivity

Sensitivity, in terms of achieving the CRQLs listed in Table 8 of the SAP, was met for all parameters with the following observations. For Explosives, all results were ND; however, the sample-specific reporting limits (RLs) were slightly greater than the Project RL of 0.25 µg/L (specified in the SAP); this was due to differences in extraction volumes (preparation factors). The achieved RLs were considered acceptable since they were all were below their associated TOGS, except for 2,6-dinitrotoluene for surface water; however, 2,6-dinitrotoluene would not have achieved the TOGS standard of 0.07 µg/L even at the original RL of 0.25 µg/L. For SVOCs, the following analytes exceeded their CRQLs given in Table 8, as expected, due to method limitations, but met the defined Project RLs: 1,2,4,5-tetrachlorobenzene, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, acetophenone, hexachlorobutadiene, and hexachlorocyclopentadiene. For VOCs, 1,4-Dioxane exceeded its CRQL, due to method limitations. In addition, the RLs for a number of compounds exceeded their TOGS and/or MCLs due to method limitations. T compounds are shown in the date summary tables.

4.4 DATA VALIDATION ACTIONS RECONCILED WITH THE ADR

Upon completion of the ADR package and independent validation of the data by New Environmental Horizons (NEH), the following manual edits were made in the ADR software (explanations for these actions as discussed in Section 3.3.3 above):

- All Tetryl results for Explosives were estimated (UJ) and have indeterminate bias
- Chloroform in samples CO-EB01-1010 and CO-EB02-1010 were negated (U) at the RL (0.75 U µg/L)
- Acetone in samples CO-MP18-1010 and CO-MP18-1010-B were negated (U) at the RL (5 U µg/L)

The reviewed files were exported from the ADR software as reviewed EDDs and submitted for final approval by the CENAE.

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5.0 DISCUSSION

This section discusses the findings of the October 2010 shallow groundwater and surface water sampling event at Camp O'Ryan. The results from the October 2010 sampling event demonstrate that:

- Rainfall was minimal during and prior to the sampling event indicating that sampling occurred under base flow conditions.
- Measurements of the stream flow indicated that flow increased downstream, which is indicative of a gaining stream.
- The *in-situ* measurements of field parameters including ORP, pH, temperature, specific conductance, dissolved oxygen, and turbidity indicated acceptable water quality by NYSDEC standards; however, turbidity was high for a number of the shallow groundwater samples as a result of the sampling technique.
- All chemical data, except for the 2,4-dimethylphenol results, are considered usable for project decisions with the understanding of the potential uncertainty in qualified (J and UJ) results.
- The surface water samples collected from the stream were nondetect (ND) for the compounds analyzed indicating that contamination of the stream appears to minimal.
- The shallow groundwater sample results for the shallow groundwater locations were nondetect (ND) for the compounds analyzed (except as described in the following bullet) suggesting that the there is no impact due to prior site activities.
- The only detectable result was for total lead at 0.018 mg/L in the duplicate field sample for the shallow groundwater composite group MPE. Total lead was ND in its associated parent field sample. This could be the result of the entrainment of a small amount of sediment containing lead as the turbidity was elevated at several locations of this composite sample. This level of detection was below the NYSDEC TOGS standard of 0.025 mg/L but above its EPA MCL of 0.015 mg/L. The result of the field duplicate comparison does meet EPA Region 2 data validation criteria.
- The reporting limits for a number of the analytes exceeded their respective regulatory limits. The samples were analyzed using standard EPA methods.

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6.0 DEVIATIONS FROM THE SAMPLING ANALYSIS PLAN AND CONCLUSIONS

- A surface water sample could not be collected at the location of SW-02 since the stream was dry.
- Shallow groundwater samples could not be collected at three locations including MP-03, MP-11, MP-16, due to the underlying geology of the adjacent bank and general stream characteristics. This reduced the size of their associated composite groups.
- The sample-specific RLs for Explosives were greater than the project RL of 0.25 µg/L (specified in the SAP) due to differences in extraction volumes. However, the results for Explosives were ND at a level below their respective TOGS and/or MCLs and considered acceptable.
- The laboratory reported "m/p-Xylene" and "o-Xylene" instead of "Total Xylene"; therefore, 52 VOCs are reported rather than 51 compounds as listed in Table 8 of the SAP. The ADR library files were updated accordingly and found in Attachment 6 (on CD) of this report.

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ATTACHMENT 1 TABLES AND FIGURES

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ATTACHMENT 2 FIELD LOGS (ON CD)

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ATTACHMENT 3 ALPHA ANALYTICAL LABORATORIES REPORTS AND ANALYTICAL DATA (ON CD)

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ATTACHMENT 4 VOC TIER –II TYPE DATA VALIDATION REVIEW (ON CD)

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ATTACHMENT 5 FIELD PHOTOS (ON CD)

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ATTACHMENT 6 UPDATED ADR LIBRARY (ON CD)

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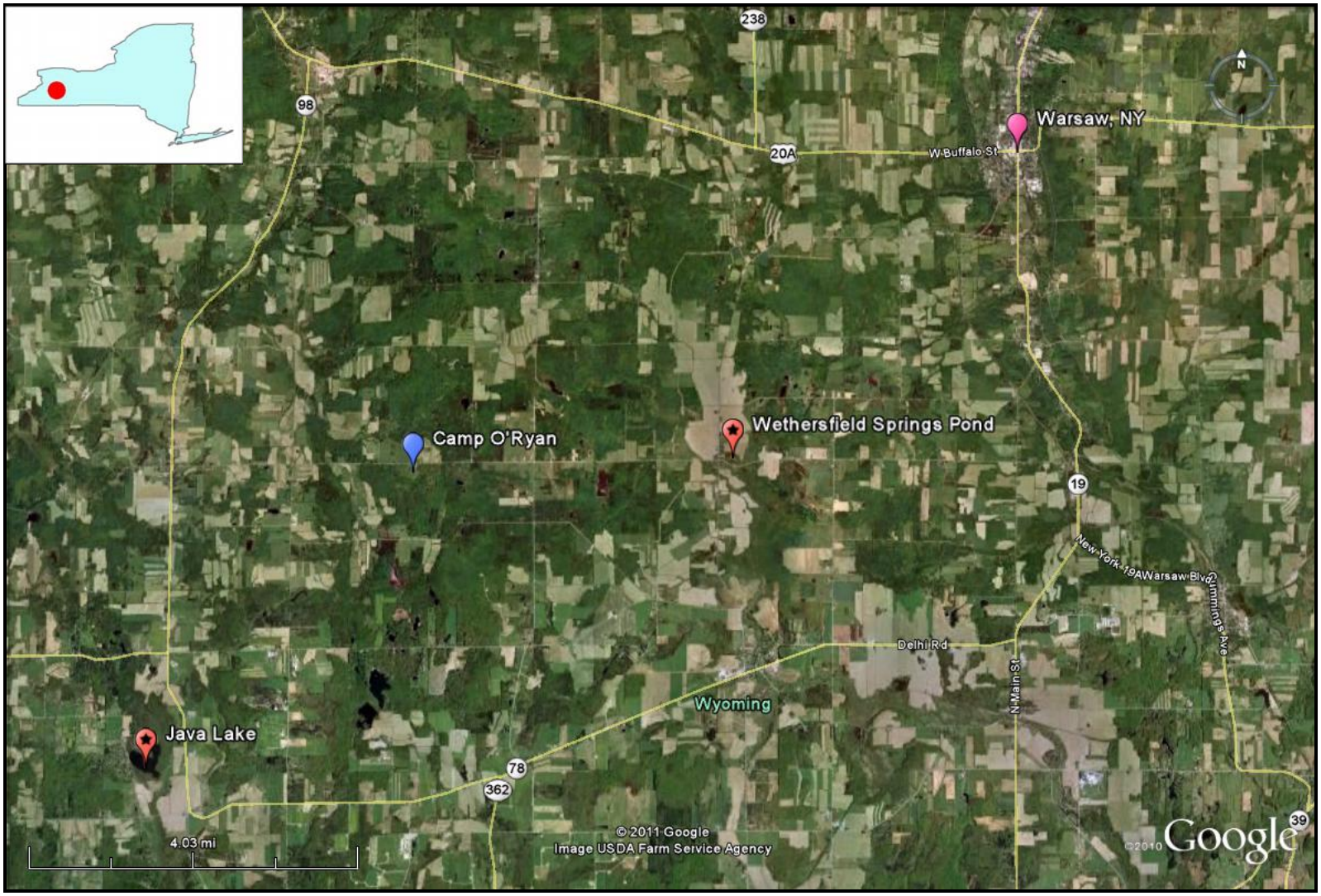


Figure 1. Regional map of Camp O'Ryan, Java Lake, Wethersfield Springs Pond and Warsaw, NY.

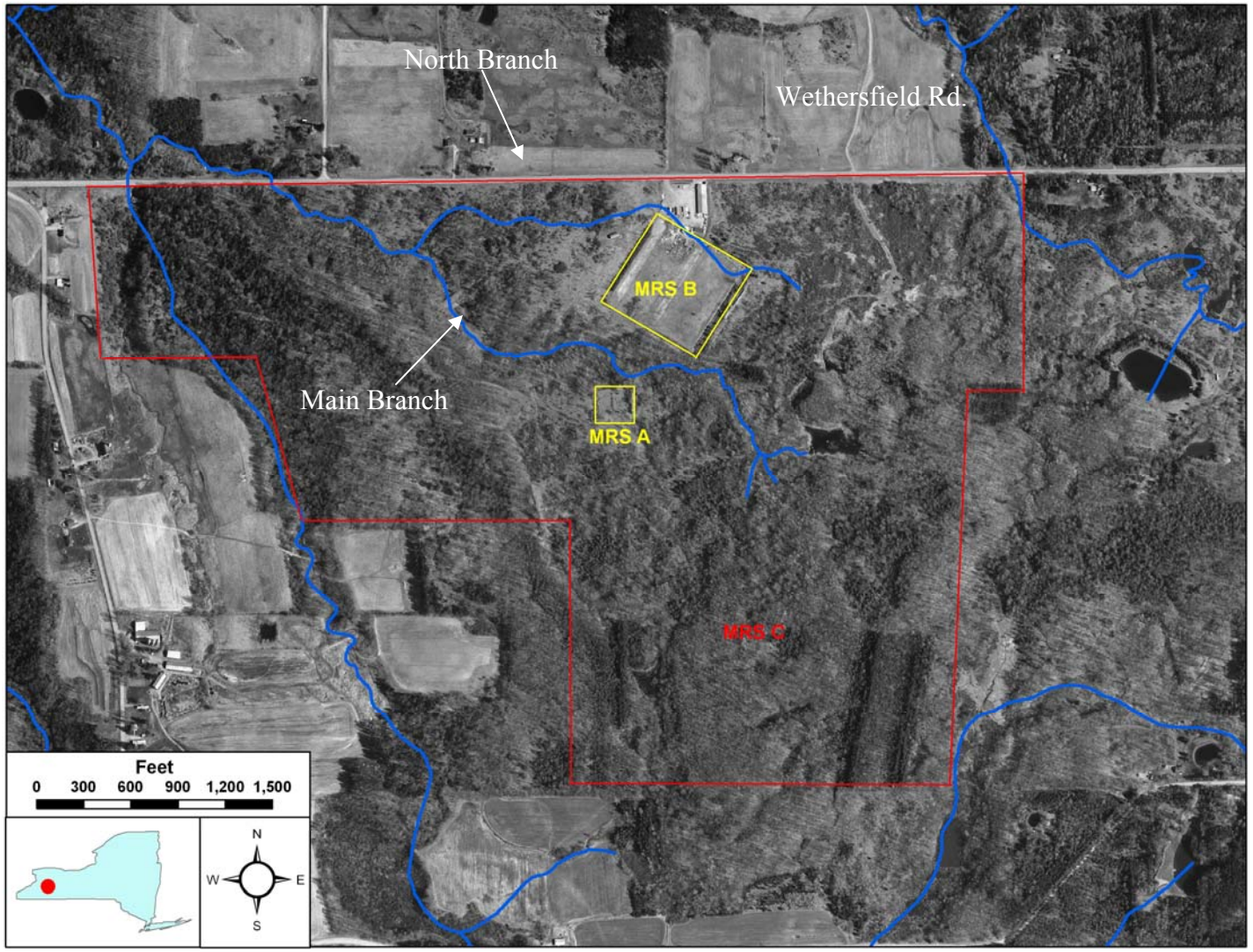


Figure 2. Former Camp O'Ryan Munitions Response Sites (MRS) A, B and C.

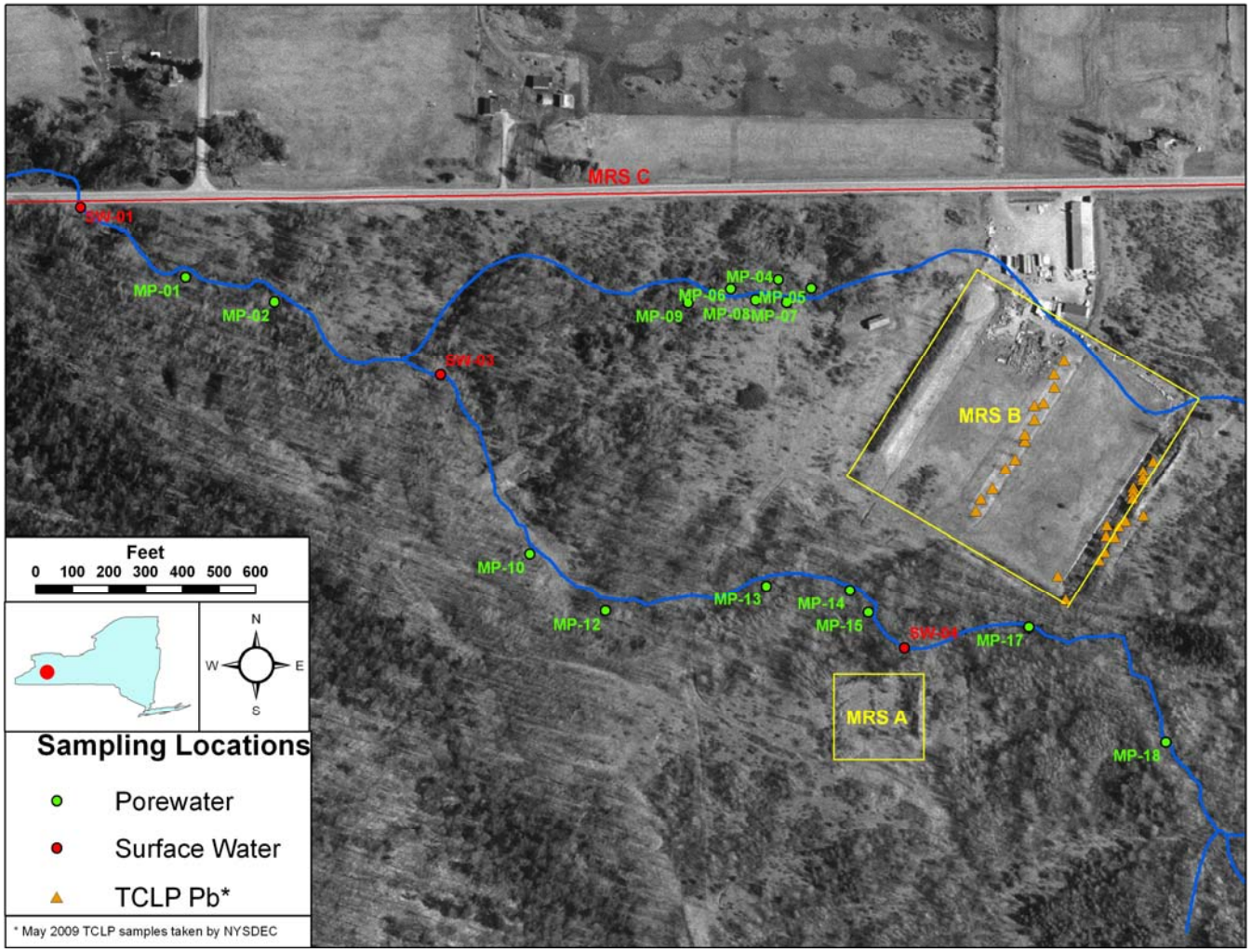


Figure 3. Sampling locations for the October 2010 surface and pore water samples and the May 2009 TCLP samples taken by NYSDEC.

Table 1. Summary of field sampling locations, samples, and rationale

ID	Composite Group	Field Measurement		Laboratory Analysis										Rationale
		Flow	*In Situ Data	Explosives (EPA 8330)		Perchlorate (EPA 6850 or 6860)		VOC (EPA 8260)		SVOC (EPA 8270)		Lead (Total/Diss.) (EPA 6010C)		
SW-1	NA	x	x	x	Grab	x	Grab	x	Grab	x	Grab	x	Grab	Confluence of stream reaches/ Camp O'Ryan Boundary
SW-2	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Streambed dry
SW-3	NA	x	x	x	Grab	x	Grab	x	Grab	x	Grab	x	Grab	Down gradient southwest stream reach
SW-4	NA	x	x	x	Grab	x	Grab	x	Grab	x	Grab	x	Grab	Up gradient southwest stream reach
MP-1	A	N/A	x	N/A	N/A	N/A	N/A	x	Grab	x	Comp.	N/A	N/A	Down gradient tank training course
MP-2	A	N/A	x	N/A	N/A	N/A	N/A	x	Grab	x		N/A	N/A	
MP-3	A	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	
MP-4	B	N/A	x	N/A	N/A	N/A	N/A	x	Grab	x	Comp.	N/A	N/A	Down gradient motor pool
MP-5	B	N/A	x	N/A	N/A	N/A	N/A	x	Grab	x		N/A	N/A	
MP-6	B	N/A	x	N/A	N/A	N/A	N/A	x	Grab	x		N/A	N/A	
MP-7	C	N/A	x	x	Comp.	x	Comp.	N/A	N/A	N/A	N/A	x	Comp.	Down gradient known distance firing line and target line
MP-8	C	N/A	x	x		x		N/A	N/A	N/A	N/A	x		
MP-9	C	N/A	x	x		x		N/A	N/A	N/A	N/A	x		
MP-10	D	N/A	x	x	Comp.	x	Comp.	x	Grab	x	Comp.	x	Comp.	Down gradient possible cylinder burial area
MP-11	D	N/A	NS	NS		NS		NS	NS	NS		NS		
MP-12	D	N/A	x	x		x		x	Grab	x		x		
MP-13	E	N/A	x	x	Comp.	x	Comp.	N/A	N/A	N/A	N/A	x	Comp.	Down gradient pistol range
MP-14	E	N/A	x	x		x		N/A	N/A	N/A	N/A	x		
MP-15	E	N/A	x	x		x		N/A	N/A	N/A	N/A	x		
MP-16	F	N/A	NS	NS	Comp.	NS	Comp.	NS	NS	NS	Comp.	NS	Comp.	Down gradient possible demo pit/rocket range
MP-17	F	N/A	x	x		x		x	Grab	x		x		
MP-18	F	N/A	x	x		x		x	Grab	x		x		
Total	6	4	22	8		8		16		8		8		

NS = not sampled; NA = Not Applicable

Table 2. Weather conditions at North Java during sampling event.

Date in October 2010	Temperature (°F)	Humidity	Sea Level Pressure (in. Hg)	Wind Speed (MPH)	Precipitation (in.)	Conditions
18	47	63	29.98	6	Trace	Overcast; some precipitation overnight
19	49	69	29.89	8	Trace	Mostly Cloudy; brief and light precipitation in the afternoon
20	50	58	29.74	14	0.07	Partly Sunny and windy

Table 3. Sample location field data

Sampling Location ID	Sample Date	Composite Group	Latitude	Longitude	Sample Depth (ft)	Temperature (°C)	Specific Conductance[1] (µS/cm)	pH	ORP[2] (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Surface Samples											
Standard[3]						**NA**	**NA**	**6.5–8.5**	**NA**	**4**	**NA**
SW-01	10/18/2010	NA	42° 41.068’	78° 17.327’	0.25	7.31	315	6.26	138.3	12.75	1.04
SW-03	10/18/2010	NA	42° 40.992’	78° 17.108’	0.22	8.72	305	7.80	49.0	10.64	5.14
SW-04	10/18/2010	NA	42° 40.868’	78° 16.826’	0.12	8.32	209	7.86	58.3	10.83	6.31
Porewater Samples (shallow groundwater)											
Standard[3]						**NA**	**NA**	**6.5–8.5**	**NA**	**NA**	**5**
MP-01	10/20/2010	A	42° 41.036’	78° 17.263’	0.70	7.62	303	6.97	121.4	1.70	27.6
MP-02	10/20/2010	A	42° 41.025’	78° 17.209’	0.85	9.22	352	6.99	164.4	2.83	4.85
MP-04	10/19/2010	B	42° 41.034’	78° 16.902’	1.68	11.21	553	6.85	195.7	2.42	97.6
MP-05	10/19/2010	B	42° 41.030’	78° 16.882’	0.80	10.52	650	7.06	59.6	8.65	48.5
MP-06	10/19/2010	B	42° 41.030’	78° 16.931’	0.90	10.08	458	7.19	38.5	4.60	3.76
MP-07	10/19/2010	C	42° 41.024’	78° 16.897’	1.03	10.85	579	7.07	110.0	1.75	47.50
MP-08	10/19/2010	C	42° 41.025’	78° 16.916’	0.79	10.61	463	7.13	18.1	2.09	23.80
MP-09	10/19/2010	C	42° 41.024’	78° 16.957’	0.95	9.99	433	6.87	107.1	2.13	44.6
MP-10	10/20/2010	D	42° 40.911’	78° 17.054’	0.67	9.05	268	7.58	145.5	8.87	184.0
MP-12	10/20/2010	D	42° 40.885’	78° 17.008’	0.75	8.98	269	7.03	104.3	1.98	53.5
MP-13	10/20/2010	E	42° 40.896’	78° 16.910’	0.85	9.26	294	6.99	100.0	7.30	3.70
MP-14	10/20/2010	E	42° 40.894’	78° 16.859’	0.92	8.96	284	7.31	141.1	3.10	81.1
MP-15	10/20/2010	E	42° 40.884’	78° 16.848’	0.90	8.38	236	7.23	150.7	8.20	5.49
MP-17	10/20/2010	F	42° 40.877’	78° 16.750’	0.94	7.97	141	7.15	257.6	4.51	13.0
MP-18	10/20/2010	F	42° 40.825’	78° 16.667’	0.72	7.65	114	7.93	354.6	7.10	60.8

Notes:

[1]MicroSiemens per centimeter (µS/cm) at 25°C.
NTU = nephelometric turbidity unit
mV = MilliVolt

[2]Oxidation-reduction potential (ORP) values have a SHE-correction of 200 mV to correct to Eh.
mg/L = Milligrams per liter
NA = Not Applicable

°C = degrees Celsius

[3]NYSDEC Standard.
pH = hydrogen ion concentration

Table 4. Stream dimensions, velocity and calculated flow rate.

Location	Stream width (ft)	Average Stream Depth (ft)	Average Stream Velocity (ft/s)	Stream flow rate (ft^3/s)
SW-01	3.0	0.50	0.61	0.55
SW-03	3.9	0.45	0.24	0.25
SW-04	3.2	0.25	0.10	0.03

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan,
Wethersfield, NY

				Location Name	MPC		MPD		MPE		MPE		MPF	
				Sample ID	CO-MPC-1010		CO-MPD-1010		CO-MPE-1010		CO-MPE-1010-B		CO-MPF-1010	
				Sample Date	10/19/2010		10/20/2010		10/20/2010		10/20/2010		10/20/2010	
				QC Code	FS		FS		FS		FD		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Explosives by Method 8330														
1,3,5-TRINITROBENZENE	99-35-4	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
1,3-DINITROBENZENE	99-65-0	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
2,4,6-TRINITROTOLUENE	118-96-7	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
2,4-DINITROTOLUENE	121-14-2	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
2,6-DINITROTOLUENE	606-20-2	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
2-AMINO-4,6-DINITROTOLUENE	35572-78-2	NS		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
2-NITROTOLUENE	88-72-2	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
3-NITROTOLUENE	99-08-1	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
4-AMINO-2,6-DINITROTOLUENE	19406-51-0	NS		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
4-NITROTOLUENE	99-99-0	5[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE	121-82-4	NR		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
METHYL-2,4,6-TRINITROPHENYLNITRAMINE	479-45-8	NS		µg/L	0.275	UJ	0.338	UJ	0.301	UJ	0.305	UJ	0.278	UJ
NITROBENZENE	98-95-3	0.4[a]		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
OCTAHYDRO-TETRANITRO-1,3,5,7-TETRAZOCINE	2691-41-0	NS		µg/L	0.275	U	0.338	U	0.301	U	0.305	U	0.278	U
Total & Dissolved Lead by Method 6010B														
Total Lead	7439-92-1	0.025[a]	0.015	mg/L	0.010	U	0.010	U	0.010	U	0.018		0.010	U
Dissolved Lead	7439-92-1	0.025[a]	0.015	mg/L	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
Perchlorate by Method 332														
Perchlorate	14797-73-0	NS	NS	µg/L	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)
b - NYS TOGS 1.1.1 Table 1 Guidance value for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded
bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)
MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.
U = compound not detected; the associated value is the sample-specific reporting limit
UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details
J = result is an estimated value; see the ADR and data validation report for details
NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998).
NR = Not Regulated. Listed in Table 3 of TOGS (NYS 1998) indicating that the compound is not regulated in groundwater.

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	MPA		MPA		MPB		MPD		MPF	
				Sample ID	CO-MPA-1010		CO-MPA-1010-B		CO-MPB-1010		CO-MPD-1010		CO-MPF-1010	
				Sample Date	10/20/2010		10/20/2010		10/19/2010		10/20/2010		10/20/2010	
				QC Code	FS		FD		FS		FS		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOCs by Method 8270C														
1,2,4,5-TETRACHLOROBENZENE	95-94-3	**5**[a]		µg/L	**20**	**U**	**20**	**U**	**20**	**U**	**20**	**UJ**	**20**	**U**
2,4,5-TRICHLOROPHENOL	95-95-4	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
2,4,6-TRICHLOROPHENOL	88-06-2	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
2,4-DICHLOROPHENOL	120-83-2	**5**[a]		µg/L	**10**	**U**	**10**	**U**	**10**	**U**	**10**	**UJ**	**10**	**U**
2,4-DIMETHYLPHENOL	105-67-9	50[b]		µg/L	R		R		R		R		R	
2,4-DINITROPHENOL	51-28-5	**10**[b]		µg/L	**30**	**U**	**30**	**U**	**30**	**U**	**30**	**U**	**30**	**U**
2,4-DINITROTOLUENE	121-14-2	5[a]		µg/L	5	U	5	U	5	U	5	UJ	5	U
2,6-DINITROTOLUENE	606-20-2	5[a]		µg/L	5	U	5	U	5	U	5	UJ	5	U
2-CHLORONAPHTHALENE	91-58-7	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
2-CHLOROPHENOL	95-57-8	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
2-METHYLNAPHTHALENE	91-57-6	NR		µg/L	5	U	5	U	5	U	5	UJ	5	U
2-METHYLPHENOL	95-48-7	NS		µg/L	5	U	5	U	5	UJ	5	UJ	5	UJ
2-NITROANILINE	88-74-4	5[a]		µg/L	5	U	5	U	5	U	5	UJ	5	U
2-NITROPHENOL	88-75-5	NS		µg/L	10	U	10	U	10	U	10	UJ	10	U
3,3'-DICHLOROBENZIDINE	91-94-1	**5**[a]		µg/L	**50**	**U**	**50**	**U**	**50**	**UJ**	**50**	**U**	**50**	**U**
3-NITROANILINE	99-09-2	5[a]		µg/L	5	U	5	U	5	U	5	U	5	U
4,6-DINITRO-2-METHYLPHENOL	534-52-1	NS		µg/L	20	U	20	U	20	U	20	UJ	20	U
4-BROMOPHENYL-PHENYLETHER	101-55-3	NR		µg/L	5	U	5	U	5	U	5	UJ	5	U
4-CHLORO-3-METHYLPHENOL	59-50-7	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
4-CHLOROANILINE	106-47-8	5[a]		µg/L	5	U	5	U	5	UJ	5	UJ	5	UJ
4-CHLOROPHENYL-PHENYLETHER	7005-72-3	NR		µg/L	5	U	5	U	5	U	5	UJ	5	U
4-METHYLPHENOL	106-44-5	NS		µg/L	5	U	5	U	5	UJ	5	UJ	5	UJ
4-NITROANILINE	100-01-6	5[a]		µg/L	5	U	5	U	5	U	5	U	5	U
4-NITROPHENOL	100-02-7	NS		µg/L	10	U	10	U	10	U	10	UJ	10	U
ACENAPHTHENE	83-32-9	NS		µg/L	5	U	5	U	5	U	5	UJ	5	U
ACENAPHTHYLENE	208-96-8	NR		µg/L	5	U	5	U	5	U	5	UJ	5	U
ACETOPHENONE	98-86-2	NR		µg/L	20	U	20	U	20	U	20	UJ	20	U
ANTHRACENE	120-12-7	50[b]		µg/L	5	U	5	U	5	U	5	UJ	5	U
ATRAZINE	1912-24-9	7.5[a]	**3**	µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZALDEHYDE	100-52-7	NR		µg/L	5	U	5	U	5	U	5	U	5	U
BENZO(A)ANTHRACENE	56-55-3	**0.002**[b]		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**UJ**	**5**	**U**
BENZO(A)PYRENE	50-32-8	ND	**0.2**	µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**UJ**	**5**	**U**
BENZO(B)FLUORANTHENE	205-99-2	**0.002**[b]		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZO(G,H,I)PERYLENE	191-24-2	NR		µg/L	5	U	5	U	5	U	5	UJ	5	U
BENZO(K)FLUORANTHENE	207-08-9	**0.002**[b]		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**UJ**	**5**	**U**
BIPHENYL	92-52-4	5[a]		µg/L	5	U	5	U	5	U	5	UJ	5	U

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	MPA	MPA	MPB	MPD	MPF
				Sample ID	CO-MPA-1010	CO-MPA-1010-B	CO-MPB-1010	CO-MPD-1010	CO-MPF-1010
				Sample Date	10/20/2010	10/20/2010	10/19/2010	10/20/2010	10/20/2010
				QC Code	FS	FD	FS	FS	FS
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result Qualifier	Result Qualifier	Result Qualifier	Result Qualifier	Result Qualifier
SVOCs by Method 8270C (Continued)									
BIS(2-CHLOROETHOXY)METHANE	111-91-1	5[a]		µg/L	5 U	5 U	5 U	5 UJ	5 U
BIS(2-CHLOROETHYL) ETHER	111-44-4	**1[a]**		µg/L	**5 U**	**5 U**	**5 U**	**5 UJ**	**5 U**
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	5[a]		µg/L	5 U	5 U	5 U	5 UJ	5 UJ
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	5[a]	6	µg/L	5 U	5 U	5 U	5 UJ	5 U
BUTYLBENZYL PHTHALATE	85-68-7	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
CAPROLACTAM	105-60-2	NR		µg/L	5 U	5 U	5 U	5 U	5 U
CARBAZOLE	86-74-8	NR		µg/L	5 U	5 U	5 U	5 UJ	5 U
CHRYSENE	218-01-9	**0.002[b]**		µg/L	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**
DIBENZO(A,H)ANTHRACENE	53-70-3	NR		µg/L	5 U	5 U	5 U	5 UJ	5 U
DIBENZOFURAN	132-64-9	NR		µg/L	5 U	5 U	5 U	5 UJ	5 U
DIETHYL PHTHALATE	84-66-2	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
DIMETHYL PHTHALATE	131-11-3	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
DI-N-BUTYL PHTHALATE	84-74-2	50[a]		µg/L	5 U	5 U	5 U	5 UJ	5 U
DI-N-OCTYL PHTHALATE	117-84-0	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
FLUORANTHENE	206-44-0	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
FLUORENE	86-73-7	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
HEXACHLOROBENZENE	118-74-1	**0.04[a]**	**1**	µg/L	**5 U**	**5 U**	**5 U**	**5 UJ**	**5 U**
HEXACHLOROBUTADIENE	87-68-3	**0.5[a]**		µg/L	**10 U**	**10 U**	**10 U**	**10 UJ**	**10 UJ**
HEXACHLOROCYCLOPENTADIENE	77-47-4	**5[a]**	50	µg/L	**30 U**	**30 U**	**30 U**	**30 U**	**30 U**
HEXACHLOROETHANE	67-72-1	5[a]		µg/L	5 U	5 U	5 U	5 UJ	5 UJ
INDENO(1,2,3-CD)PYRENE	193-39-5	**0.002[b]**		µg/L	**5 U**	**5 U**	**5 U**	**5 UJ**	**5 U**
ISOPHORONE	78-59-1	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
NAPHTHALENE	91-20-3	NS		µg/L	5 U	5 U	5 U	5 UJ	5 U
NITROBENZENE	98-95-3	**0.4[a]**		µg/L	**5 U**	**5 U**	**5 U**	**5 UJ**	**5 U**
N-NITROSO-DI-N-PROPYLAMINE	621-64-7	NR		µg/L	5 U	5 U	5 U	5 UJ	5 U
N-NITROSODIPHENYLAMINE	86-30-6	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
PENTACHLOROPHENOL	87-86-5	NS	**1**	µg/L	**10 U**	**10 U**	**10 U**	**10 UJ**	**10 U**
PHENANTHRENE	85-01-8	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U
PHENOL	108-95-2	NS		µg/L	5 U	5 U	5 U	5 UJ	5 UJ
PYRENE	129-00-0	50[b]		µg/L	5 U	5 U	5 U	5 UJ	5 U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)
b - NYS TOGS 1.1.1 Table 1 Guidance value for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded
bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)
ND = Non-Detect; as standard value from TOGS 1.1.1 Table 1
NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998).
NR = Not Regulated. Listed in Table 3 of TOGS (NYS 1998) indicating that the compound is not regulated in groundwater.
MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.
U = compound not detected; the associated value is the sample-specific reporting limit
UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details
J = result is an estimated value; see the ADR and data validation report for details
R = result is rejected due to severe QC exceedance and is not usable for project decisions; see the ADR and data validation report for details.

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

					Location Name	MP-01		MP-02		MP-02		MP-04		MP-05		MP-06	
					Sample ID	CO-MP01-1010		CO-MP02-1010		CO-MP02-1010-B		CO-MP04-1010		CO-MP05-1010		CO-MP06-1010	
					Sample Date	10/20/2010		10/20/2010		10/20/2010		10/19/2010		10/19/2010		10/19/2010	
					QC Code	FS		FS		FD		FS		FS		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs by Method 8260																	
1,1,1-TRICHLOROETHANE	71-55-6	5[a]	200	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-TETRACHLOROETHANE	79-34-5	5[a]		µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-TRICHLOROETHANE	79-00-5	1[a]	5	µg/L		0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-DICHLOROETHANE	75-34-3	5[a]		µg/L		0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-DICHLOROETHENE	75-35-4	5[a]	7	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-TRICHLOROBENZENE	87-61-6	5[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
1,2,4-TRICHLOROBENZENE	120-82-1	5[a]	70	µg/L		2	U	2	U	2	U	2	U	2	U	2	U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	**0.04[a]**	**0.2**	µg/L		**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**
1,2-DIBROMOETHANE	106-93-4	**0.0006[a]**		µg/L		**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**
1,2-DICHLOROBENZENE	95-50-1	3[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
1,2-DICHLOROETHANE	107-06-2	0.6[a]	5	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-DICHLOROPROPANE	78-87-5	**1[a]**	5	µg/L		**1.8**	**U**	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**
1,3-DICHLOROBENZENE	541-73-1	3[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
1,4-DICHLOROBENZENE	106-46-7	3[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
1,4-DIOXANE	123-91-1	NR		µg/L		250	U	250	U	250	U	250	U	250	U	250	U
2-BUTANONE	78-93-3	50[b]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
2-HEXANONE	591-78-6	50[b]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	108-10-1	NR		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
ACETONE	67-64-1	50[b]		µg/L		5	U	5	U	5	U	5	U	5	U	5	U
BENZENE	71-43-2	1[a]	5	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOCHLOROMETHANE	74-97-5	5[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
BROMODICHLOROMETHANE	75-27-4	50[b]		µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOFORM	75-25-2	50[b]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
BROMOMETHANE	74-83-9	5[a]		µg/L		1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ
CARBON DISULFIDE	75-15-0	NR		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
CARBON TETRACHLORIDE	56-23-5	5[a]	5	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CHLOROBENZENE	108-90-7	5[a]	100	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CHLOROETHANE	75-00-3	5[a,c]		µg/L		1	U	1	U	1	U	1	U	1	U	1	U
CHLOROFORM	67-66-3	7[a]		µg/L		0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
CHLOROMETHANE	74-87-3	5[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	156-59-2	5[a]	70	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CIS-1,3-DICHLOROPROPENE	10061-01-5	**0.4[a,c]**		µg/L		**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**
CYCLOHEXANE	110-82-7	NS		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	124-48-1	50[b]		µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DICHLORODIFLUOROMETHANE	75-71-8	5[a]		µg/L		2	U	2	U	2	U	2	U	2	U	2	U
ETHYLBENZENE	100-41-4	5[a]	700	µg/L		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	MP-01		MP-02		MP-02		MP-04		MP-05		MP-06	
				Sample ID	CO-MP01-1010		CO-MP02-1010		CO-MP02-1010-B		CO-MP04-1010		CO-MP05-1010		CO-MP06-1010	
				Sample Date	10/20/2010		10/20/2010		10/20/2010		10/19/2010		10/19/2010		10/19/2010	
				QC Code	FS		FS		FD		FS		FS		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs by Method 8260 (Continued)																
FREON 113	76-13-1	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U	2	U
ISOPROPYLBENZENE	98-82-8	5[a]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m,p-Xylene[e]	108-38-3 /106-42-3	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U	1	U	1	U
METHYL ACETATE	79-20-9	NR		µg/L	2	U	2	U	2	U	2	U	2	U	2	U
METHYL TERT-BUTYL ETHER	1634-04-4	NR		µg/L	1	U	1	U	1	U	1	U	1	U	1	U
METHYLCYCLOHEXANE	108-87-2	NS		µg/L	2	U	2	U	2	U	2	U	2	U	2	U
METHYLENE CHLORIDE	75-09-2	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U	2	U
O-XYLENE	95-47-6	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U	1	U	1	U
STYRENE	100-42-5	5[a]	100	µg/L	1	U	1	U	1	U	1	U	1	U	1	U
TETRACHLOROETHENE	127-18-4	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
TOLUENE	108-88-3	5[a]	1000	µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,2-DICHLOROETHENE	156-60-5	5[a]	100	µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	**0.4[a,c]**		µg/L	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**
TRICHLOROETHENE	79-01-6	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
TRICHLOROFLUOROMETHANE	75-69-4	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U	2	U
VINYL CHLORIDE	75-01-4	2[a]	2	µg/L	1	U	1	U	1	U	1	U	1	U	1	U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)
b - NYS TOGS 1.1.1 Table 1 Guidance value for groundwater class (GA) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)
c - standard value applies to sum of cis- and trans-1,3-dichloropropene
d - MCL applies to sum of total xylenes
e - based on 'p-' and 'm-' xylenes

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded
bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)
NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998).
NR = Not Regulated. Listed in Table 3 of TOGS (NYS 1998) indicating that the compound is not regulated in groundwater.
MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.
U = compound not detected; the associated value is the sample-specific reporting limit
J = result is an estimated value; see the ADR and data validation report for details
UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	MP-10		MP-12		MP-17		MP-18		MP-18	
				Sample ID	CO-MP10-1010		CO-MP12-1010		CO-MP17-1010		CO-MP18-1010		CO-MP18-1010-B	
				Sample Date	10/20/2010		10/20/2010		10/20/2010		10/20/2010		10/20/2010	
				QC Code	FS		FS		FS		FS		FD	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs by Method 8260														
1,1,1-TRICHLOROETHANE	71-55-6	5[a]	200	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-TETRACHLOROETHANE	79-34-5	5[a]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-TRICHLOROETHANE	79-00-5	1[a]	5	µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-DICHLOROETHANE	75-34-3	5[a]		µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-DICHLOROETHENE	75-35-4	5[a]	7	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-TRICHLOROBENZENE	87-61-6	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
1,2,4-TRICHLOROBENZENE	120-82-1	5[a]	70	µg/L	2	U	2	U	2	U	2	U	2	U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	**0.04[a]**	**0.2**	µg/L	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**
1,2-DIBROMOETHANE	106-93-4	**0.0006[a]**		µg/L	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**	**2**	**U**
1,2-DICHLOROBENZENE	95-50-1	3[a]		µg/L	2	U	2	U	2	U	2	U	2	U
1,2-DICHLOROETHANE	107-06-2	0.6[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-DICHLOROPROPANE	78-87-5	**1[a]**	5	µg/L	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**	**1.8**	**U**
1,3-DICHLOROBENZENE	541-73-1	3[a]		µg/L	2	U	2	U	2	U	2	U	2	U
1,4-DICHLOROBENZENE	106-46-7	3[a]		µg/L	2	U	2	U	2	U	2	U	2	U
1,4-DIOXANE	123-91-1	NR		µg/L	250	U	250	U	250	U	250	U	250	U
2-BUTANONE	78-93-3	50[b]		µg/L	2	U	2	U	2	U	2	U	2	U
2-HEXANONE	591-78-6	50[b]		µg/L	2	U	2	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	108-10-1	NR		µg/L	2	U	2	U	2	U	2	U	2	U
ACETONE	67-64-1	50[b]		µg/L	5	U	5	U	5	U	5	U	5	U
BENZENE	71-43-2	1[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOCHLOROMETHANE	74-97-5	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
BROMODICHLOROMETHANE	75-27-4	50[b]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOFORM	75-25-2	50[b]		µg/L	2	U	2	U	2	U	2	U	2	U
BROMOMETHANE	74-83-9	5[a]		µg/L	1	UJ	1	U	1	U	1	U	1	U
CARBON DISULFIDE	75-15-0	NR		µg/L	2	U	2	U	2	U	2	U	2	U
CARBON TETRACHLORIDE	56-23-5	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CHLOROBENZENE	108-90-7	5[a]	100	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CHLOROETHANE	75-00-3	5[a,c]		µg/L	1	U	1	U	1	U	1	U	1	U
CHLOROFORM	67-66-3	7[a]		µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
CHLOROMETHANE	74-87-3	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	156-59-2	5[a]	70	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
CIS-1,3-DICHLOROPROPENE	10061-01-5	**0.4[a,c]**		µg/L	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**
CYCLOHEXANE	110-82-7	NS		µg/L	2	U	2	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	124-48-1	50[b]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DICHLORODIFLUOROMETHANE	75-71-8	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
ETHYLBENZENE	100-41-4	5[a]	700	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table 5-1
Shallow Groundwater Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	MP-10		MP-12		MP-17		MP-18		MP-18	
				Sample ID	CO-MP10-1010		CO-MP12-1010		CO-MP17-1010		CO-MP18-1010		CO-MP18-1010-B	
				Sample Date	10/20/2010		10/20/2010		10/20/2010		10/20/2010		10/20/2010	
				QC Code	FS		FS		FS		FS		FD	
Parameter Name	**CAS #**	**NYS TOGS (Class GA)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs by Method 8260 (Continued)														
FREON 113	76-13-1	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
ISOPROPYLBENZENE	98-82-8	5[a]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m,p-Xylene[e]	108-38-3 /106-42-3	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U	1	U
METHYL ACETATE	79-20-9	NR		µg/L	2	U	2	U	2	U	2	U	2	U
METHYL TERT-BUTYL ETHER	1634-04-4	NR		µg/L	1	U	1	U	1	U	1	U	1	U
METHYLCYCLOHEXANE	108-87-2	NS		µg/L	2	U	2	U	2	U	2	U	2	U
METHYLENE CHLORIDE	75-09-2	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
O-XYLENE	95-47-6	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U	1	U
STYRENE	100-42-5	5[a]	100	µg/L	1	U	1	U	1	U	1	U	1	U
TETRACHLOROETHENE	127-18-4	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
TOLUENE	108-88-3	5[a]	1000	µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,2-DICHLOROETHENE	156-60-5	5[a]	100	µg/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	**0.4[a,c]**		µg/L	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**
TRICHLOROETHENE	79-01-6	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
TRICHLOROFLUOROMETHANE	75-69-4	5[a]		µg/L	2	U	2	U	2	U	2	U	2	U
VINYL CHLORIDE	75-01-4	2[a]	2	µg/L	1	U	1	U	1	U	1	U	1	U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for groundwater class (GA) for source of drinking water type H(WS) (from:
b - NYS TOGS 1.1.1 Table 1 Guidance value for groundwater class (GA) for source of drinking water type H(WS)
c - standard value applies to sum of cis- and trans-1,3-dichloropropene
d - MCL applies to sum of total xylenes
e - based on 'p-' and 'm-' xylenes

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded
bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS T
NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not
NR = Not Regulated. Listed in Table 3 of TOGS (NYS 1998) indicating that the compound is not regulated in grou
MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.
U = compound not detected; the associated value is the sample-specific reporting limit
J = result is an estimated value; see the ADR and data validation report for details
UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting

Table 5-2
Surface Water
Sample Results

Camp O'Ryan,
Wethersfield, NY

				Location Name	SW01		SW03		SW03		SW04	
				Sample ID	CO-SW01-1010		CO-SW03-1010		CO-SW03-1010-E		CO-SW04-1010	
				Sample Date	10/18/2010		10/18/2010		10/18/2010		10/18/2010	
				QC Code	FS		FD		FD		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class A)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Explosives by Method 8330												
1,3,5-TRINITROBENZENE	99-35-4	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
1,3-DINITROBENZENE	99-65-0	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
2,4,6-TRINITROTOLUENE	118-96-7	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
2,4-DINITROTOLUENE	121-14-2	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
2,6-DINITROTOLUENE	606-20-2	**0.07[b]**		µg/L	**0.287**	**U**	**0.291**	**U**	**0.281**	**U**	**0.291**	**U**
2-AMINO-4,6-DINITROTOLUENE	35572-78-2	NS		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
2-NITROTOLUENE	88-72-2	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
3-NITROTOLUENE	99-08-1	5[b]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
4-AMINO-2,6-DINITROTOLUENE	19406-51-0	NS		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
4-NITROTOLUENE	99-99-0	5[a]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE	121-82-4	NS		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
METHYL-2,4,6-TRINITROPHENYLNITRAMINE	479-45-8	NS		µg/L	0.287	UJ	0.291	UJ	0.281	UJ	0.291	UJ
NITROBENZENE	98-95-3	0.4[a]		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
OCTAHYDRO-TETRANITRO-1,3,5,7-TETRAZOCINE	2691-41-0	NS		µg/L	0.287	U	0.291	U	0.281	U	0.291	U
Total & Dissolved Lead by Method 6010B												
Total Lead	7439-92-1	0.050[a]	0.015	mg/L	0.010	U	0.010	U	0.010	U	0.010	U
Dissolved Lead	7439-92-1	0.050[a]	0.015	mg/L	0.010	U	0.010	U	0.010	U	0.010	U
Perchlorate by Method 332												
Perchlorate	14797-73-0	NS	NS	µg/L	0.050	U	0.050	U	0.050	U	0.050	U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for surface water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

b - NYS TOGS 1.1.1 Table 1 Guidance value for water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded

bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)

MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.

U = compound not detected; the associated value is the sample-specific reporting limit

J = result is an estimated value; see the ADR and data validation report for details

UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details

NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998). Note that there are no EPA MCLs for any for any other compounds

Table 5-2
Surface Water
Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	SW01		SW03		SW03		SW04	
				Sample ID	CO-SW01-1010		CO-SW03-1010		CO-SW03-1010-B		CO-SW04-1010	
				Sample Date	10/18/2010		10/18/2010		10/18/2010		10/18/2010	
				QC Code	FS		FS		FD		FS	
Parameter Name	**CAS #**	**NYS TOGS Class (A)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOCs by Method 8270C												
1,2,4,5-TETRACHLOROBENZENE	95-94-3	**5[b]**		µg/L	**20**	**U**	**20**	**U**	**20**	**U**	**20**	**U**
2,4,5-TRICHLOROPHENOL	95-95-4	NS		µg/L	5	U	5	U	5	U	5	U
2,4,6-TRICHLOROPHENOL	88-06-2	NS		µg/L	5	U	5	U	5	U	5	U
2,4-DICHLOROPHENOL	120-83-2	**5[b]**		µg/L	**10**	**U**	**10**	**U**	**10**	**U**	**10**	**U**
2,4-DIMETHYLPHENOL	105-67-9	50[b]		µg/L		R		R		R		R
2,4-DINITROPHENOL	51-28-5	**10[b]**		µg/L	**30**	**U**	**30**	**U**	**30**	**U**	**30**	**U**
2,4-DINITROTOLUENE	121-14-2	5[b]		µg/L	5	U	5	U	5	U	5	U
2,6-DINITROTOLUENE	606-20-2	**0.07[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
2-CHLORONAPHTHALENE	91-58-7	NS		µg/L	5	U	5	U	5	U	5	U
2-CHLOROPHENOL	95-57-8	NS		µg/L	5	U	5	U	5	U	5	U
2-METHYLNAPHTHALENE	91-57-6	NS		µg/L	5	U	5	U	5	U	5	U
2-METHYLPHENOL	95-48-7	NS		µg/L	5	UJ	5	U	5	U	5	U
2-NITROANILINE	88-74-4	5[b]		µg/L	5	U	5	U	5	U	5	U
2-NITROPHENOL	88-75-5	NS		µg/L	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	91-94-1	**5[b]**		µg/L	**50**	**UJ**	**50**	**U**	**50**	**U**	**50**	**U**
3-NITROANILINE	99-09-2	5[b]		µg/L	5	U	5	U	5	U	5	U
4,6-DINITRO-2-METHYLPHENOL	534-52-1	NS		µg/L	20	U	20	U	20	U	20	U
4-BROMOPHENYL-PHENYLETHER	101-55-3	NS		µg/L	5	U	5	U	5	U	5	U
4-CHLORO-3-METHYLPHENOL	59-50-7	NS		µg/L	5	U	5	U	5	U	5	U
4-CHLOROANILINE	106-47-8	5[b]		µg/L	5	UJ	5	U	5	U	5	U
4-CHLOROPHENYL-PHENYLETHER	7005-72-3	NS		µg/L	5	U	5	U	5	U	5	U
4-METHYLPHENOL	106-44-5	NS		µg/L	5	UJ	5	U	5	U	5	U
4-NITROANILINE	100-01-6	5[b]		µg/L	5	U	5	U	5	U	5	U
4-NITROPHENOL	100-02-7	NS		µg/L	10	U	10	U	10	U	10	U
ACENAPHTHENE	83-32-9	NS		µg/L	5	U	5	U	5	U	5	U
ACENAPHTHYLENE	208-96-8	NS		µg/L	5	U	5	U	5	U	5	U
ACETOPHENONE	98-86-2	NS		µg/L	20	U	20	U	20	U	20	U
ANTHRACENE	120-12-7	50[b]		µg/L	5	U	5	U	5	U	5	U
ATRAZINE	1912-24-9	**3[b]**	**3**	µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZALDEHYDE	100-52-7	NS		µg/L	5	U	5	U	5	U	5	U
BENZO(A)ANTHRACENE	56-55-3	**0.002[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZO(A)PYRENE	50-32-8	**0.002[b]**	**0.2**	µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZO(B)FLUORANTHENE	205-99-2	**0.002[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BENZO(G,H,I)PERYLENE	191-24-2	NS		µg/L	5	U	5	U	5	U	5	U
BENZO(K)FLUORANTHENE	207-08-9	**0.002[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BIPHENYL	92-52-4	5[b]		µg/L	5	U	5	U	5	U	5	U

Table 5-2
Surface Water
Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	SW01		SW03		SW03		SW04	
				Sample ID	CO-SW01-1010		CO-SW03-1010		CO-SW03-1010-B		CO-SW04-1010	
				Sample Date	10/18/2010		10/18/2010		10/18/2010		10/18/2010	
				QC Code	FS		FS		FD		FS	
Parameter Name	**CAS #**	**NYS TOGS Class (A)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOCs by Method 8270C (Continued)												
BIS(2-CHLOROETHOXY)METHANE	111-91-1	5[b]		µg/L	5	U	5	U	5	U	5	U
BIS(2-CHLOROETHYL) ETHER	111-44-4	**0.03[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	5[b]		µg/L	5	U	5	U	5	U	5	U
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	5[a]	6	µg/L	5	U	5	U	5	U	5	U
BUTYLBENZYL PHTHALATE	85-68-7	50[b]		µg/L	5	U	5	U	5	U	5	U
CAPROLACTAM	105-60-2	NS		µg/L	5	U	5	U	5	U	5	U
CARBAZOLE	86-74-8	NS		µg/L	5	U	5	U	5	U	5	U
CHRYSENE	218-01-9	**0.002[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
DIBENZO(A,H)ANTHRACENE	53-70-3	NS		µg/L	5	U	5	U	5	U	5	U
DIBENZOFURAN	132-64-9	NS		µg/L	5	U	5	U	5	U	5	U
DIETHYL PHTHALATE	84-66-2	50[b]		µg/L	5	U	5	U	5	U	5	U
DIMETHYL PHTHALATE	131-11-3	50[b]		µg/L	5	U	5	U	5	U	5	U
DI-N-BUTYL PHTHALATE	84-74-2	50[b]		µg/L	5	U	5	U	5	U	5	U
DI-N-OCTYL PHTHALATE	117-84-0	50[b]		µg/L	5	U	5	U	5	U	5	U
FLUORANTHENE	206-44-0	50[b]		µg/L	5	U	5	U	5	U	5	U
FLUORENE	86-73-7	50[b]		µg/L	5	U	5	U	5	U	5	U
HEXACHLOROBENZENE	118-74-1	**0.04[a]**	**1**	µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
HEXACHLOROBUTADIENE	87-68-3	**0.5[a]**		µg/L	**10**	**U**	**10**	**U**	**10**	**U**	**10**	**U**
HEXACHLOROCYCLOPENTADIENE	77-47-4	**5[b]**	50	µg/L	**30**	**U**	**30**	**U**	**30**	**U**	**30**	**U**
HEXACHLOROETHANE	67-72-1	5[a]		µg/L	5	U	5	U	5	U	5	U
INDENO(1,2,3-CD)PYRENE	193-39-5	**0.002[b]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
ISOPHORONE	78-59-1	50[b]		µg/L	5	U	5	U	5	U	5	U
NAPHTHALENE	91-20-3	NS		µg/L	5	U	5	U	5	U	5	U
NITROBENZENE	98-95-3	**0.4[a]**		µg/L	**5**	**U**	**5**	**U**	**5**	**U**	**5**	**U**
N-NITROSO-DI-N-PROPYLAMINE	621-64-7	NS		µg/L	5	U	5	U	5	U	5	U
N-NITROSODIPHENYLAMINE	86-30-6	50[b]		µg/L	5	U	5	U	5	U	5	U
PENTACHLOROPHENOL	87-86-5	NS	**1**	µg/L	**10**	**U**	**10**	**U**	**10**	**U**	**10**	**U**
PHENANTHRENE	85-01-8	50[b]		µg/L	5	U	5	U	5	U	5	U
PHENOL	108-95-2	NS		µg/L	5	U	5	U	5	U	5	U
PYRENE	129-00-0	50[b]		µg/L	5	U	5	U	5	U	5	U

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

b - NYS TOGS 1.1.1 Table 1 Guidance value for water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded

bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)

ND = Non-Detect; as standard value from TOGS 1.1.1 Table 1

NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998).

MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.

U = compound not detected; the associated value is the sample-specific reporting limit

UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details

J = result is an estimated value; see the ADR and data validation report for details

R = result is rejected due to severe QC exceedance and is not usable for project decisions; see the ADR and data validation report for details.

Table 5-2
Surface Water
Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	SW-01	SW-03	SW-03	SW-04
				Sample ID	CO-SW01-1010	CO-SW03-1010	CO-SW03-1010-B	CO-SW04-1010-B
				Sample Date	10/18/2010	10/18/2010	10/18/2010	10/18/2010
				QC Code	FS	FS	FD	FS
Parameter Name	**CAS #**	**NYS TOGS (Class A)**	**EPA MCL**	**Units**	Result Qualifier	Result Qualifier	Result Qualifier	Result Qualifier
VOCs by Method 8260								
1,1,1-TRICHLOROETHANE	71-55-6	5[a]	200	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	**0.2[b]**		µg/L	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**
1,1,2-TRICHLOROETHANE	79-00-5	1[a]	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U
1,1-DICHLOROETHANE	75-34-3	5[a]		µg/L	0.75 U	0.75 U	0.75 U	0.75 U
1,1-DICHLOROETHENE	75-35-4	0.7[b]	7	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	87-61-6	5[b]		µg/L	2 U	2 U	2 U	2 U
1,2,4-TRICHLOROBENZENE	120-82-1	5[b]	70	µg/L	2 U	2 U	2 U	2 U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	**0.04[a]**	**0.2**	µg/L	**2 U**	**2 U**	**2 U**	**2 U**
1,2-DIBROMOETHANE	106-93-4	**0.0006[a]**		µg/L	**2 U**	**2 U**	**2 U**	**2 U**
1,2-DICHLOROBENZENE	95-50-1	3[a]		µg/L	2 U	2 U	2 U	2 U
1,2-DICHLOROETHANE	107-06-2	0.6[a]	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROPROPANE	78-87-5	**1[a]**	5	µg/L	**1.8 U**	**1.8 U**	**1.8 U**	**1.8 U**
1,3-DICHLOROBENZENE	541-73-1	3[a]		µg/L	2 U	2 U	2 U	2 U
1,4-DICHLOROBENZENE	106-46-7	3[a]		µg/L	2 U	2 U	2 U	2 U
1,4-DIOXANE	123-91-1	NS		µg/L	250 U	250 U	250 U	250 U
2-BUTANONE	78-93-3	50[b]		µg/L	2 U	2 U	2 U	2 U
2-HEXANONE	591-78-6	50[b]		µg/L	2 U	2 U	2 U	2 U
4-METHYL-2-PENTANONE	108-10-1	NS		µg/L	2 U	2 U	2 U	2 U
ACETONE	67-64-1	50[b]		µg/L	5 U	5 U	5 U	5 U
BENZENE	71-43-2	1[a]	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
BROMOCHLOROMETHANE	74-97-5	5[a]		µg/L	2 U	2 U	2 U	2 U
BROMODICHLOROMETHANE	75-27-4	50[b]		µg/L	0.5 U	0.5 U	0.5 U	0.5 U
BROMOFORM	75-25-2	50[b]		µg/L	2 U	2 U	2 U	2 U
BROMOMETHANE	74-83-9	5[a]		µg/L	1 UJ	1 UJ	1 UJ	1 UJ
CARBON DISULFIDE	75-15-0	NS		µg/L	2 U	2 U	2 U	2 U
CARBON TETRACHLORIDE	56-23-5	**0.4[b]**	5	µg/L	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**
CHLOROBENZENE	108-90-7	5[a]	100	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROETHANE	75-00-3	5[b]		µg/L	1 U	1 U	1 U	1 U
CHLOROFORM	67-66-3	7[a]		µg/L	0.75 U	0.75 U	0.75 U	0.75 U
CHLOROMETHANE	74-87-3	5[a]		µg/L	2 U	2 U	2 U	2 U
CIS-1,2-DICHLOROETHENE	156-59-2	5[a]	70	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	**0.4[a,c]**		µg/L	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**
CYCLOHEXANE	110-82-7	NS		µg/L	2 U	2 U	2 U	2 U
DIBROMOCHLOROMETHANE	124-48-1	50[b]		µg/L	0.5 U	0.5 U	0.5 U	0.5 U
DICHLORODIFLUOROMETHANE	75-71-8	5[a]		µg/L	2 U	2 U	2 U	2 U
ETHYLBENZENE	100-41-4	5[a]	700	µg/L	0.5 U	0.5 U	0.5 U	0.5 U

Table 5-2
Surface Water
Sample Results

Camp O'Ryan
Wethersfield, NY

				Location Name	SW-01		SW-03		SW-03		SW-04	
				Sample ID	CO-SW01-1010		CO-SW03-1010		CO-SW03-1010-B		CO-SW04-1010-B	
				Sample Date	10/18/2010		10/18/2010		10/18/2010		10/18/2010	
				QC Code	FS		FS		FD		FS	
Parameter Name	**CAS #**	**NYS TOGS (Class A)**	**EPA MCL**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs by Method 8260 (Continued)												
FREON 113	76-13-1	5[a]		µg/L	2	U	2	U	2	U	2	U
ISOPROPYLBENZENE	98-82-8	5[b]		µg/L	0.5	U	0.5	U	0.5	U	0.5	U
m,p-Xylene[e]	108-38-3 /106-42-3	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U
METHYL ACETATE	79-20-9	NS		µg/L	2	U	2	U	2	U	2	U
METHYL TERT-BUTYL ETHER	1634-04-4	NS		µg/L	1	U	1	U	1	U	1	U
METHYLCYCLOHEXANE	108-87-2	NS		µg/L	2	U	2	U	2	U	2	U
METHYLENE CHLORIDE	75-09-2	5[a]		µg/L	2	U	2	U	2	U	2	U
O-XYLENE	95-47-6	5[a]	10000[d]	µg/L	1	U	1	U	1	U	1	U
STYRENE	100-42-5	5[b]	100	µg/L	1	U	1	U	1	U	1	U
TETRACHLOROETHENE	127-18-4	0.7[b]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U
TOLUENE	108-88-3	5[a]	1000	µg/L	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,2-DICHLOROETHENE	156-60-5	5[a]	100	µg/L	0.75	U	0.75	U	0.75	U	0.75	U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	**0.4[a,c]**		µg/L	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**	**0.5**	**U**
TRICHLOROETHENE	79-01-6	5[a]	5	µg/L	0.5	U	0.5	U	0.5	U	0.5	U
TRICHLOROFLUOROMETHANE	75-69-4	5[a]		µg/L	2	U	2	U	2	U	2	U
VINYL CHLORIDE	75-01-4	**0.3[b]**	2	µg/L	**1**	**U**	**1**	**U**	**1**	**U**	**1**	**U**

Notes

a - NYS TOGS 1.1.1 Table 1 Standard for water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

b - NYS TOGS 1.1.1 Table 1 Guidance value for water class (A) for source of drinking water type H(WS) (from: NYS Ambient Water Quality Standards and Guidance Values, June 1998)

c - standard value applies to sum of cis- and trans-1,3-dichloropropene

d - MCL applies to sum of total xylenes

e - based on 'p-' and 'm-' xylenes

Shading indicates that the highlighted NYS TOGS and/or EPA MCL is exceeded

bold font indicates that the Reporting limit (RL) is greater than the associated regulatory standard (NYS TOGS and/or EPA MCL)

NS = No Standard. No applicable NYS TOGS regulatory standard or guidance value or EPA MCL available. Not listed in NYS Ambient Water Quality Standards & Guidance Values (TOGS 1998).

MCL = Maximum Contaminant Level. EPA National Primary Drinking Water Regulations, May 2009.

U = compound not detected; the associated value is the sample-specific reporting limit

J = result is an estimated value; see the ADR and data validation report for details

UJ = compound not detected at an estimated reporting limit; the associated value is the sample-specific reporting limit; see the ADR and data validation report for details

Health and Safety Plan Pre-Entry Briefing Attendance Form
Former Camp O'Ryan
Wethersfield, NY

Conducted by:	Nick Heley Greza	**Date Performed:**	10/18/10
Topics Discussed:	1. Review of the content of the HASP (Required)		
	2. Review of potential unexploded ordnance hazards		
	3. Slips, Trips, Falls		
	4.		

Printed Name	Signature	Representing
Mitchell Buck		WHG
David Bailey		WHG
Nick Heley Greza		USACE

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/18/10

LOCATION ID: SW-01 | ACTIVITY TIME: START 1100 END 1200 | BOTTLE TIME: 1131

SURFACE WATER DATA | WATER DEPTH AT LOCATION: surface FT | DEPTH OF SAMPLE: 0 FT

WATER QUALITY PARAMETERS:		EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
TEMPERATURE	7.31 °C	[ ] BEAKER	[X] STREAM/ RIVER	[ ] DI WATER
SPEC. COND.	0.315 mS/cm	[ ] PUSHPOINT SAMPLER	[ ] LAKE/ POND	[ ] POTABLE WATER
PH	6.26 Units	[ ] PERISTALTIC PUMP	[ ] SEEP	[ ] LIQUINOX
ORP	138.3 mV	[X] FILTER/ NUMBER 0.2/0.45		[ ] ISOPROPYL ALCOHOL
DO	12.75 mg/L	[X] OTHER syringe	[ ] _____	[X] All disposed
TURBIDITY	1.04 NTUs			
SALINITY	NA %			

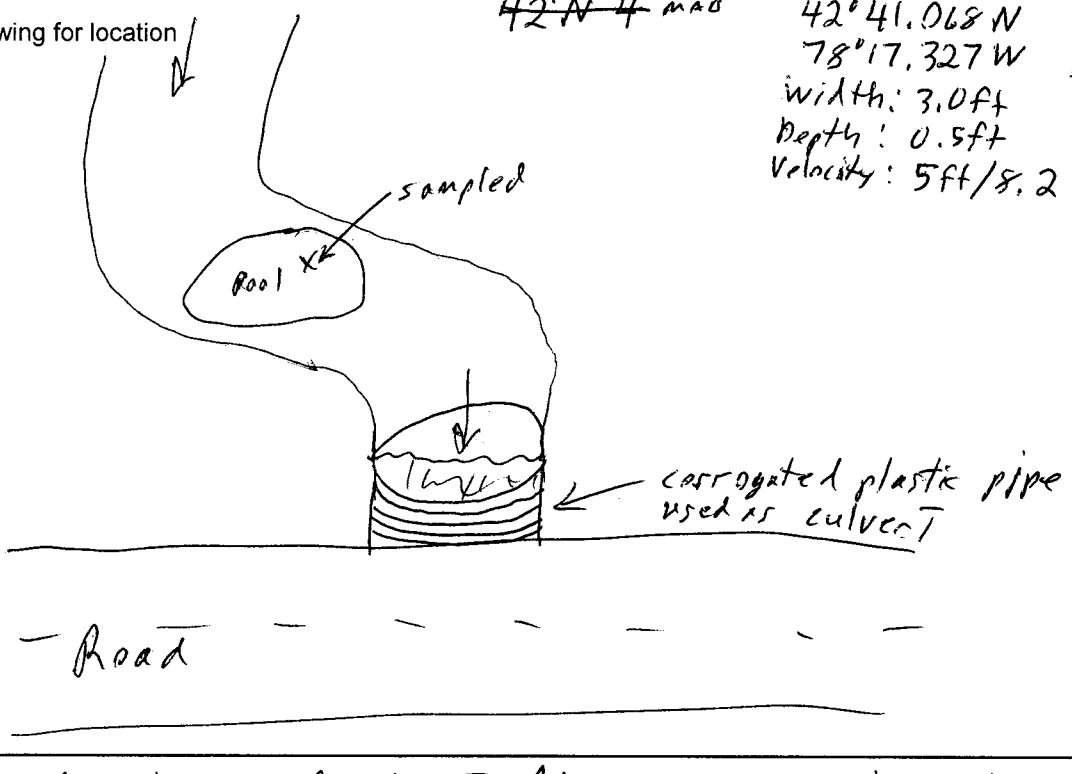
ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	MS/MSD
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location

~~42 N 4~~ MAB

42°41.068 N
78°17.327 W
width: 3.0ft
Depth: 0.5ft
Velocity: 5ft/8.2 sec's



Notes:
sampled upstream of culvert. Dip sampled Exp. & SVOC's. Used syringe as rest.

SIGNATURE: Matthew Reed

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/18/10

LOCATION ID: SW-03 | ACTIVITY TIME: START 1325 END 1345 | BOTTLE TIME: 1330

SURFACE WATER DATA

WATER DEPTH AT LOCATION: Surface FT | DEPTH OF SAMPLE: 0 FT

WATER QUALITY PARAMETERS:

TEMPERATURE	8.72 °C
SPEC. COND.	0.305 mS/cm
PH	7.80 Units
ORP	49 mV
DO	10.64 mg/L
TURBIDITY	5.14 NTUs
SALINITY	NA %

EQUIPMENT USED:

- [ ] BEAKER
- [ ] PUSHPOINT SAMPLER
- [ ] PERISTALTIC PUMP
- [X] FILTER/ NUMBER 0.2/045
- [X] OTHER syringe

TYPE OF SURFACE WATER:

- [X] STREAM/ RIVER
- [ ] LAKE/ POND
- [ ] SEEP

DECON FLUIDS USED:

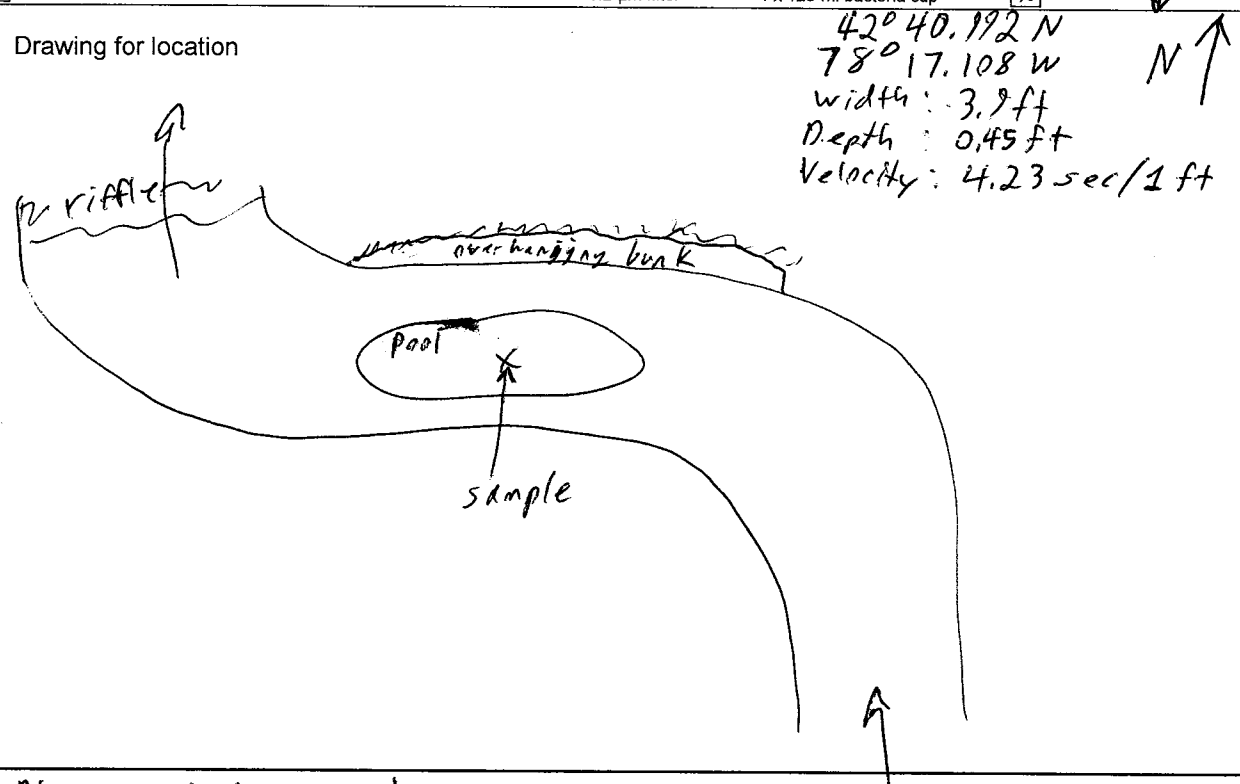
- [ ] DI WATER
- [ ] POTABLE WATER
- [ ] LIQUINOX
- [ ] ISOPROPYL ALCOHOL
- [X] All disposed

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	Dup
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location

42° 40.192 N
78° 17.108 W
width: 3.9 ft
Depth: 0.45 ft
Velocity: 4.23 sec/1 ft



Notes: Dip sampled Exp. & SVOC's, used syringe on rest.

SIGNATURE: Mitchell Beck

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/18/10

LOCATION ID: SW-04 | ACTIVITY TIME: START 1520 END 1545 | BOTTLE TIME: 1525

SURFACE WATER DATA

WATER DEPTH AT LOCATION: surface FT | DEPTH OF SAMPLE: 0 FT

WATER QUALITY PARAMETERS:		EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
TEMPERATURE	8.32 °C	☐ BEAKER	☒ STREAM/ RIVER	☐ DI WATER
SPEC. COND.	0.209 mS/cm	☐ PUSHPOINT SAMPLER	☐ LAKE/ POND	☐ POTABLE WATER
PH	7.86 Units	☐ PERISTALTIC PUMP	☐ SEEP	☐ LIQUINOX
ORP	58.3 mV	☒ FILTER/ NUMBER 0.2/0.45		☐ ISOPROPYL ALCOHOL
DO	10.83 mg/L	☒ OTHER syringe	☐ _____	☐ All disposed
TURBIDITY	6.31 NTUs			
SALINITY	NA %			

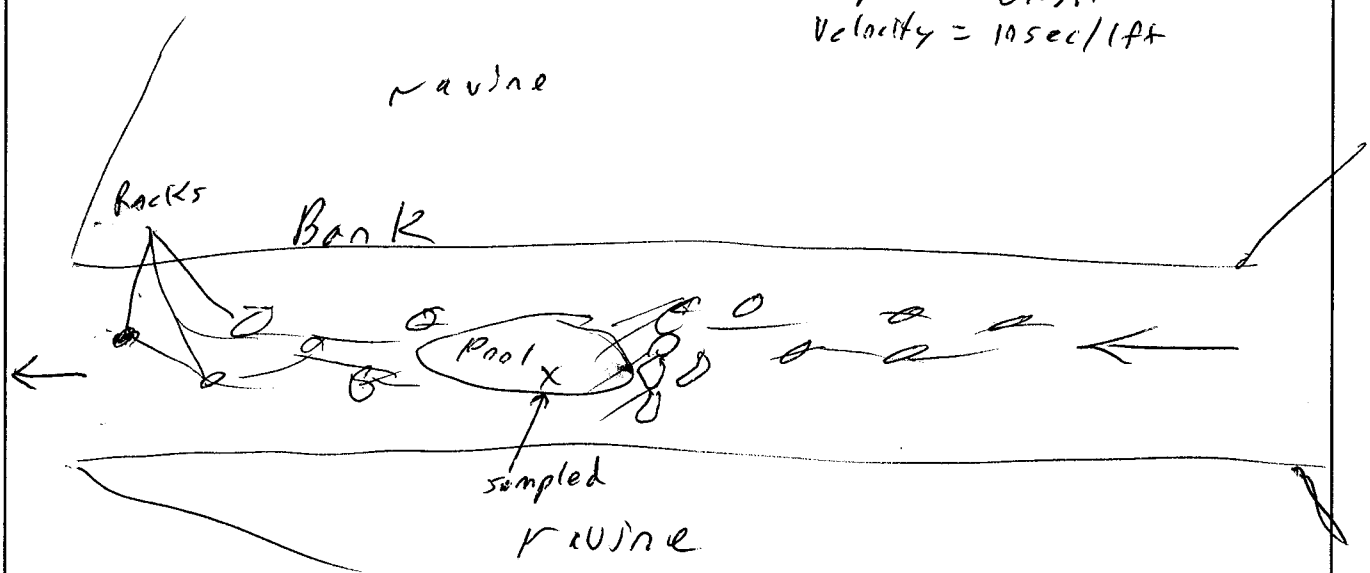
ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
☒	Explosives	8330	none	2 x 1-L Amber Bottles	☒	
☒	SVOCs	8270C	none	2 x 1-L Amber Bottles	☒	
☒	VOCs	8260B	HCL	3 x 40-ml Vials	☒	
☒	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	☒	
☒	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	☒	

Drawing for location

42° 40.868'N
78° 16.826'W
width = 3.2 ft
Depth = 0.15ft
Velocity = 10sec/1ft

N



Notes:
creek is small/narrow/shallow portion between banks covered with rocks & leaves. Moved downstream from coordinates to find suitable location. Dip sampled Exp. & SVOC's, and used syringe on ref.

SIGNATURE: [signature]

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-01 | ACTIVITY TIME: START 1750 END 1810 | BOTTLE TIME: 1805

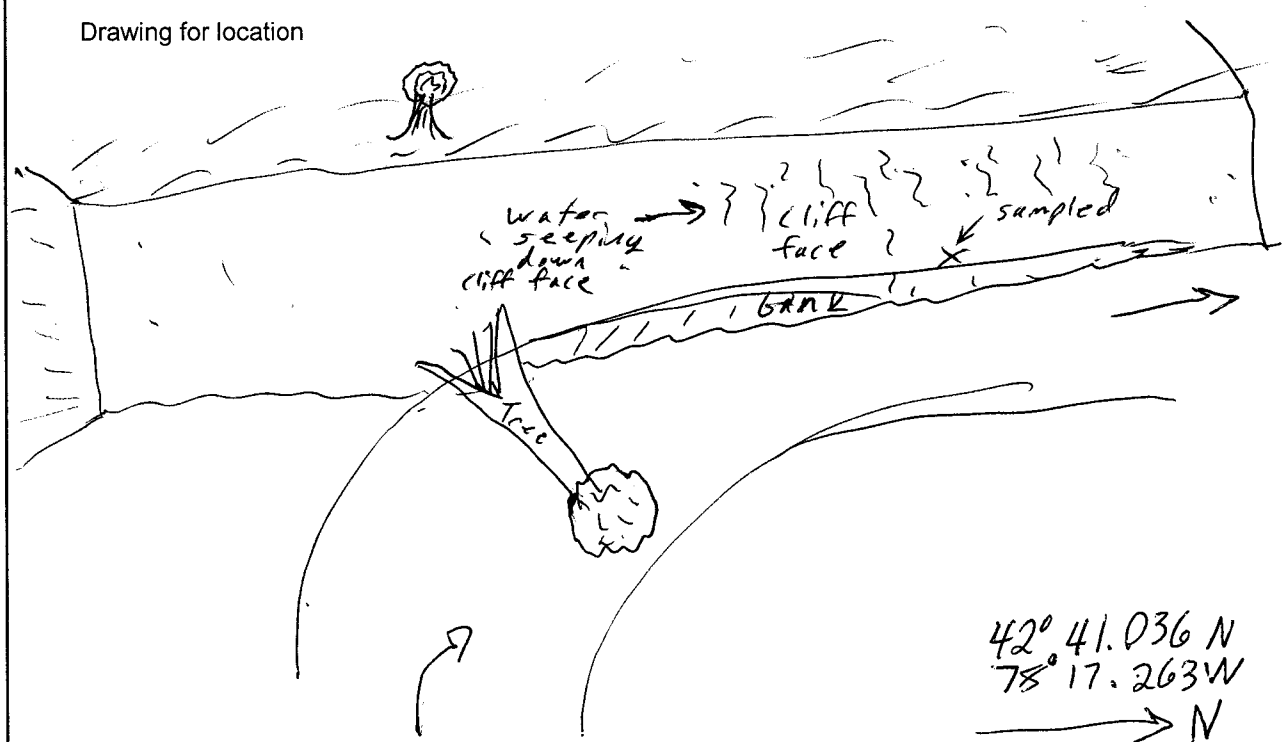
SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.7 FT | DEPTH OF SAMPLE: 0.7 FT

WATER QUALITY PARAMETERS:		After	EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
TEMPERATURE	7.62 °C	7.49	[ ] BEAKER	[ ] STREAM/ RIVER	[X] DI WATER
SPEC. COND.	0.303 mS/cm	0.306	[X] PUSHPOINT SAMPLER	[ ] LAKE/ POND	[X] POTABLE WATER
PH	6.97 Units	7.39	[X] PERISTALTIC PUMP	[X] SEEP	[X] LIQUINOX
ORP	121.4 mV	96.7	[ ] FILTER/ NUMBER ____		[X] ISOPROPYL ALCOHOL
DO	1.70 mg/L	1.25	[ ] OTHER	[ ] _____	[X] _____
TURBIDITY	27.6 NTUs	29.9			
SALINITY	NA %				

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[ ]	Explosives	8330	none	2 x 1-L Amber Bottles	[ ]	
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	Dup
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[ ]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[ ]	
[ ]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[ ]	

Drawing for location



Notes: Composite Group A. Sampled base of cliff face which had obvious seep. Cliff composed hard compact clay. Sampled about 2 feet from bank

SIGNATURE: _____

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-02 | ACTIVITY TIME: START 1720 END 1745 | BOTTLE TIME: 1730

SURFACE WATER DATA

WATER DEPTH AT LOCATION: 0.85 FT | DEPTH OF SAMPLE: 0.85 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	9.22 °C	9.03
SPEC. COND.	0.352 mS/cm	0.343
PH	6.99 Units	6.73
ORP	164.4 mV	145.4
DO	2.83 mg/L	2.26
TURBIDITY	4.85 NTUs	13.3
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [x] PUSHPOINT SAMPLER
- [x] PERISTALTIC PUMP
- [ ] FILTER/ NUMBER ____
- [ ] OTHER ____

TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [x] SEEP

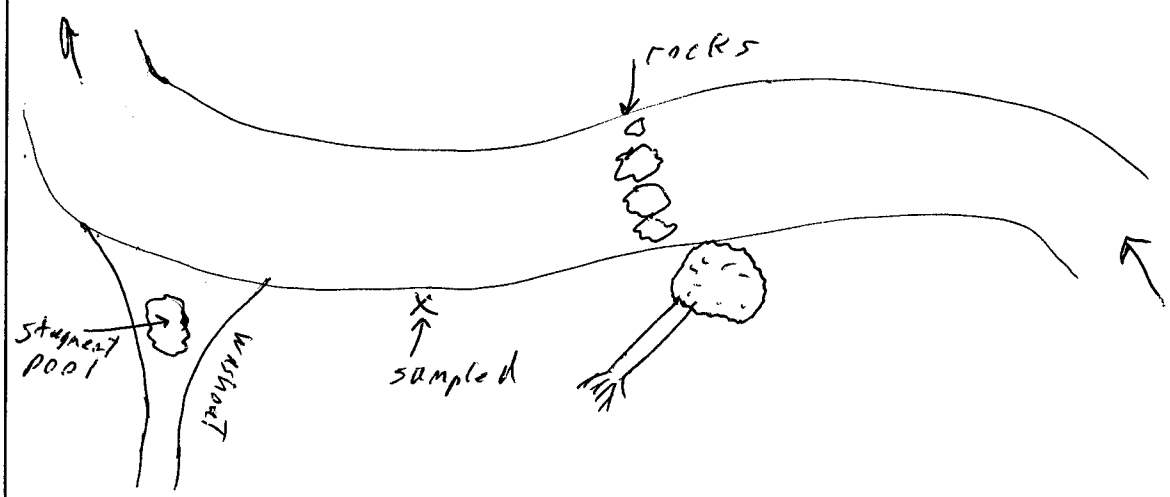
DECON FLUIDS USED:
- [x] DI WATER
- [x] POTABLE WATER
- [x] LIQUINOX
- [x] ISOPROPYL ALCOHOL
- [ ] ____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[ ]	Explosives	8330	none	2 x 1-L Amber Bottles	[ ]	
[x]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[x]	Dup
[x]	VOCs	8260B	HCL	3 x 40-ml Vials	[x]	Dup
[ ]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[ ]	
[ ]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[ ]	

Drawing for location

42° 41.025' N
78° 17.209' W
N



Notes: Composite Group A. Sampled about a foot from stream.

SIGNATURE:

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/19/10

LOCATION ID: MP-04 | ACTIVITY TIME: START 1025 END 1100 | BOTTLE TIME: 1045

SURFACE WATER DATA

WATER DEPTH AT LOCATION: 1.68 FT | DEPTH OF SAMPLE: 1.68 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	11.21 °C	11.54
SPEC. COND.	0.553 mS/cm	0.555
PH	6.85 Units	6.87
ORP	125.7 mV	123.3
DO	2.42 mg/L	1.94
TURBIDITY	97.6 NTUs	34.1
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [x] PUSHPOINT SAMPLER
- [x] PERISTALTIC PUMP
- [ ] FILTER/ NUMBER ____
- [ ] OTHER ____

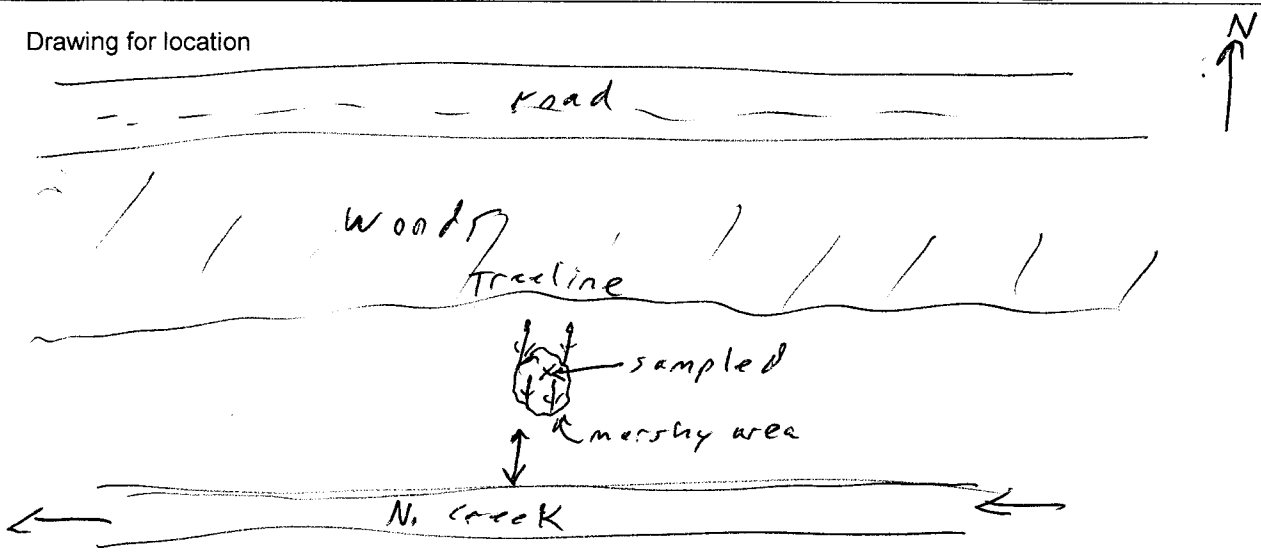
TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [x] SEEP

DECON FLUIDS USED:
- [x] DI WATER
- [x] POTABLE WATER
- [x] LIQUINOX
- [x] ISOPROPYL ALCOHOL
- [ ] ____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[ ]	Explosives	8330	none	2 x 1-L Amber Bottles	[ ]	
[x]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[x]	MS/MSD
[x]	VOCs	8260B	HCL	3 x 40-ml Vials	[x]	
[ ]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[ ]	
[ ]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[ ]	

Drawing for location



42° 41.034' N
78° 16.902' W

Notes: sampled marshy area ~25 ft from creek, composite group B

SIGNATURE: Matthew Bk

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/19/10

LOCATION ID: MP-05 | ACTIVITY TIME: START 1109 END 1220 | BOTTLE TIME: 1148

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.8 FT | DEPTH OF SAMPLE: 0.8 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	10.52 °C	9.91
SPEC. COND.	0.650 mS/cm	0.631
PH	7.06 Units	7.18
ORP	-58.6 mV	13.1
DO	8.65 mg/L	8.63
TURBIDITY	48.5 NTUs	3.76
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [x] PUSHPOINT SAMPLER
- [x] PERISTALTIC PUMP
- [ ] FILTER/ NUMBER ____
- [ ] OTHER ____

TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [x] SEEP

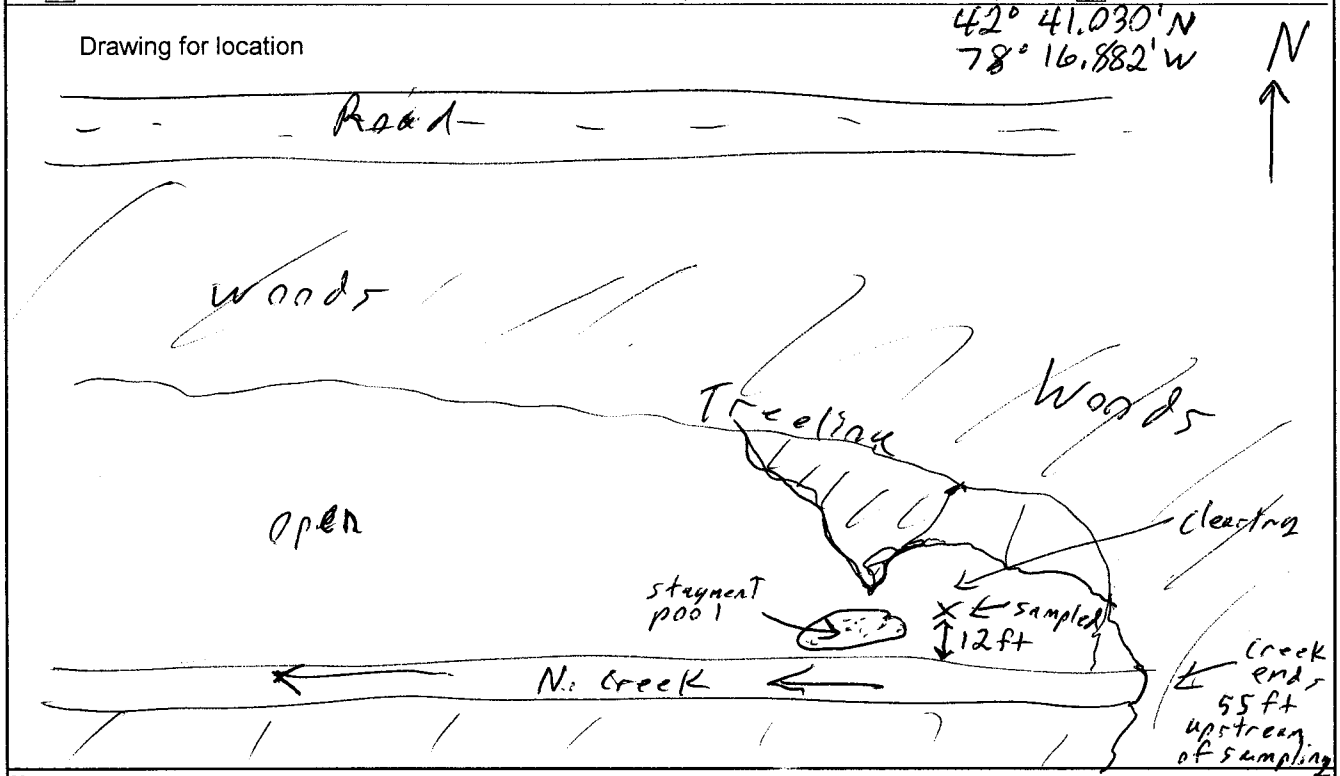
DECON FLUIDS USED:
- [x] DI WATER
- [x] POTABLE WATER
- [x] LIQUINOX
- [x] ISOPROPYL ALCOHOL
- [ ] ____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[ ]	Explosives	8330	none	2 x 1-L Amber Bottles	[ ]	
[x]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[x]	MS/MSD
[x]	VOCs	8260B	HCL	3 x 40-ml Vials	[x]	
[ ]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[ ]	
[ ]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[ ]	

Drawing for location

42° 41.030' N
78° 16.882' W



Notes: Sampled 12ft north of creek. Soil has thick clay, hard to get sampler in. Heavily vegetated area. stagnant pool near by

Composite group B

SIGNATURE: _____

NYHQ00293

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-06 | ACTIVITY TIME: START 1250 END 1310 | BOTTLE TIME: 1305

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.9 FT | DEPTH OF SAMPLE: 0.9 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	10.08 °C	10.15
SPEC. COND.	0.458 mS/cm	0.451
PH	7.19 Units	7.12
ORP	38.5 mV	122.3
DO	4.60 mg/L	7.00
TURBIDITY	3.76 NTUs	9.68
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [X] PUSHPOINT SAMPLER
- [X] PERISTALTIC PUMP
- [ ] FILTER/ NUMBER ____
- [ ] OTHER ____

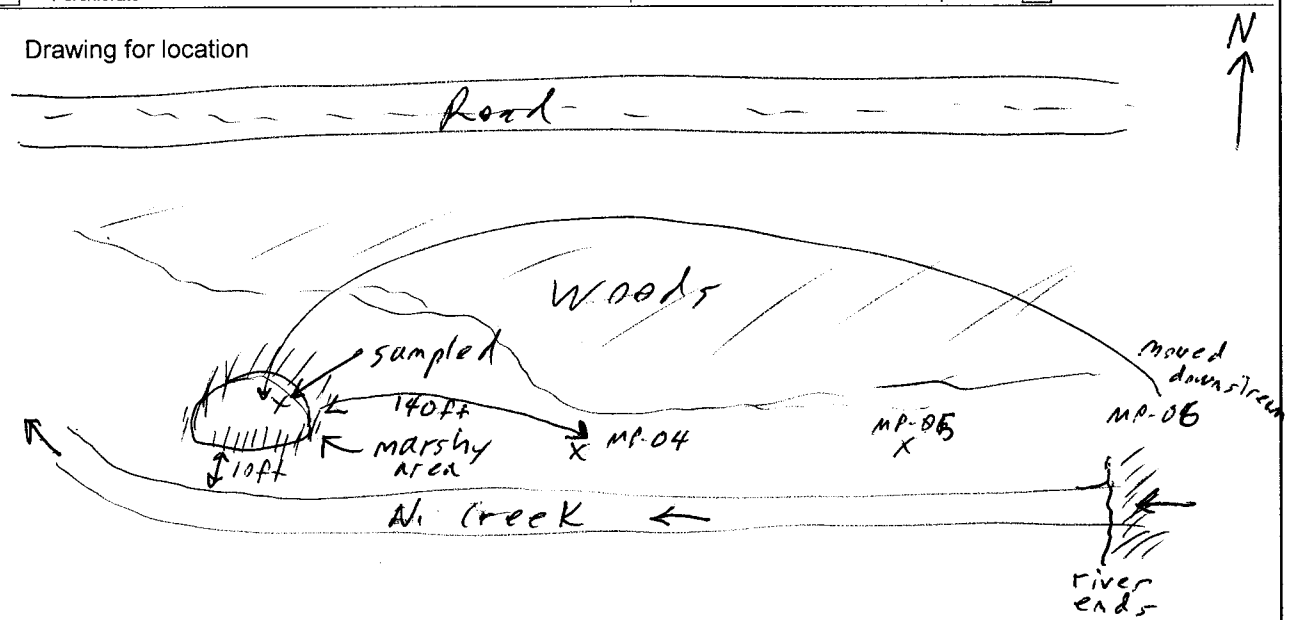
TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [X] SEEP

DECON FLUIDS USED:
- [X] DI WATER
- [X] POTABLE WATER
- [X] LIQUINOX
- [X] ISOPROPYL ALCOHOL
- [ ] ____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[ ]	Explosives	8330	none	2 x 1-L Amber Bottles	[ ]	
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	MS/MSD
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[ ]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[ ]	
[ ]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[ ]	

Drawing for location



42°41.030' N
78°16.931' W

Notes: Composite Group B. Site moved downstream of coordinator due to river disappearing underground ~~140 ft~~ MAB 55 ft North of MP-05, and No luck sampling there, Site moved 140 ft downstream of MP-04; 10ft from creek

SIGNATURE: [signature]

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/19/10

LOCATION ID: MP-07 | ACTIVITY TIME: START 1420 END 1500 | BOTTLE TIME: 1435

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 1.03 FT | DEPTH OF SAMPLE: 1.03 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	10.85 °C	10.62
SPEC. COND.	0.579 mS/cm	0.578
PH	7.07 Units	7.19
ORP	11.60 mV	-31.5
DO	1.75 mg/L	1.88
TURBIDITY	47.5 NTUs	115
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [X] PUSHPOINT SAMPLER
- [X] PERISTALTIC PUMP
- [X] FILTER/ NUMBER 0.2/0.45
- [X] OTHER syringe

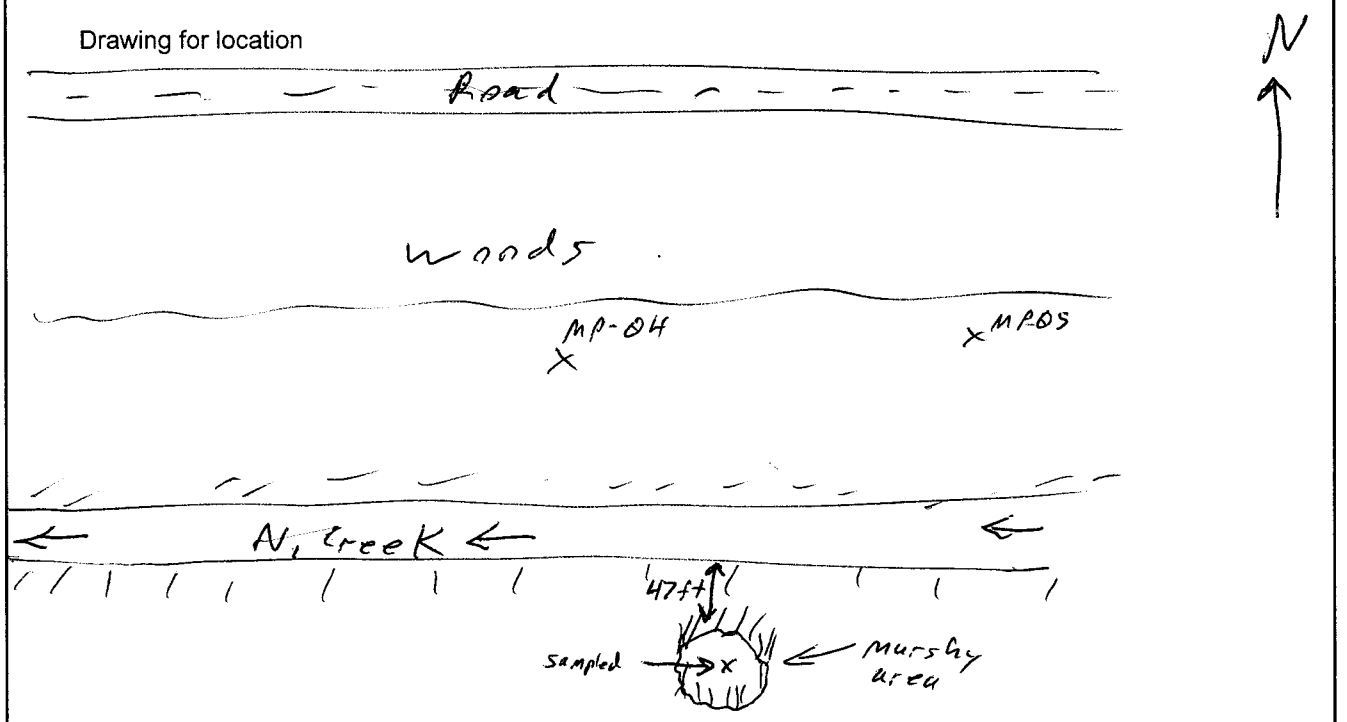
TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [X] SEEP

DECON FLUIDS USED:
- [X] DI WATER
- [X] POTABLE WATER
- [X] LIQUINOX
- [X] ISOPROPYL ALCOHOL

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	
[ ]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[ ]	
[ ]	VOCs	8260B	HCL	3 x 40-ml Vials	[ ]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location



Notes: Composite Group C. Sampled marshy area 47ft from creek. Sprinkled briefly prior to sampling

SIGNATURE:

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/13/10

LOCATION ID: MP-08 | ACTIVITY TIME: START 1610 END 1630 | BOTTLE TIME: 1620

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.79 FT | DEPTH OF SAMPLE: 0.79 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	10.69 °C	10.08
SPEC. COND.	0.463 mS/cm	0.461
PH	7.13 Units	7.00
ORP	18.1 mV	44.8
DO	2.09 mg/L	1.95
TURBIDITY	23.8 NTUs	9.99
SALINITY	NA %	

EQUIPMENT USED: [ ] BEAKER; [X] PUSHPOINT SAMPLER; [X] PERISTALTIC PUMP; [X] FILTER/ NUMBER 0.2/0.45; [X] OTHER Syringe

TYPE OF SURFACE WATER: [ ] STREAM/ RIVER; [ ] LAKE/ POND; [X] SEEP

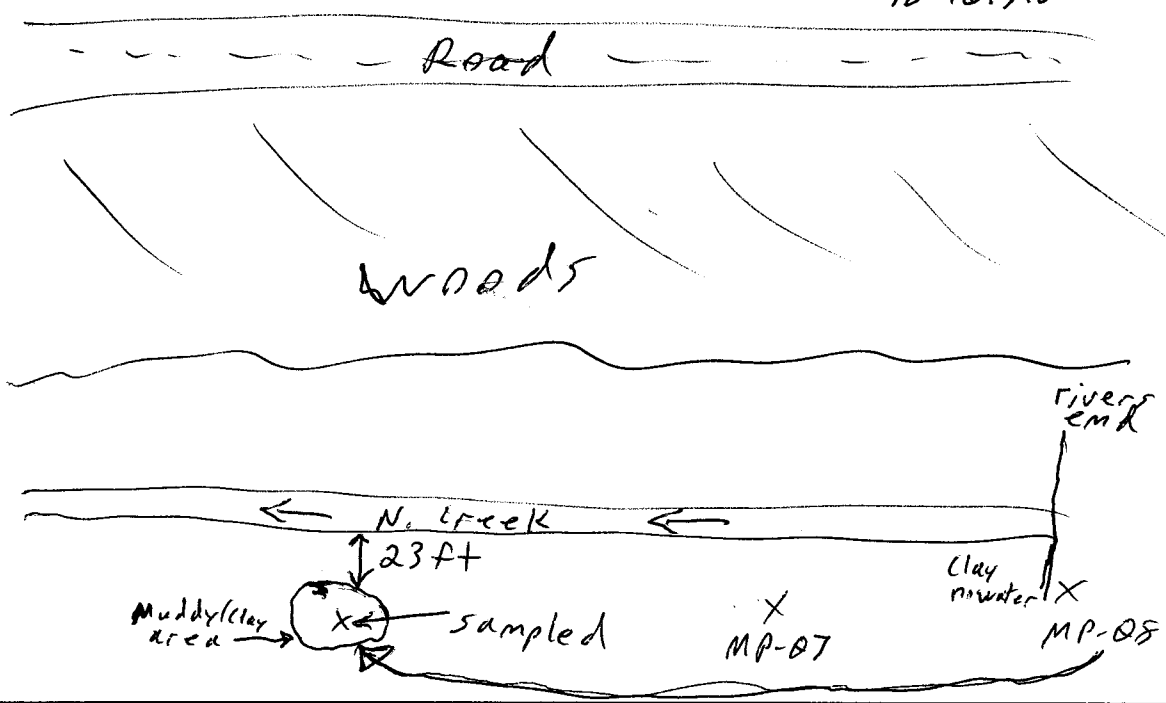
DECON FLUIDS USED: [X] DI WATER; [X] POTABLE WATER; [X] LIQUINOX; [X] ISOPROPYL ALCOHOL; [ ] _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	
[ ]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[ ]	
[ ]	VOCs	8260B	HCL	3 x 40-ml Vials	[ ]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location

42° 41.025 N
78° 16.916 W



Notes: Composite Group C. Moved location downstream of MP-07 since couldn't find suitable location upstream at original coordinates.

SIGNATURE: Matthew Bell

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/19/10

LOCATION ID: MP-09 | ACTIVITY TIME: START 1630 END 1645 | BOTTLE TIME: 1635

SURFACE WATER DATA

WATER DEPTH AT LOCATION: 0.95 FT | DEPTH OF SAMPLE: 0.95 FT

WATER QUALITY PARAMETERS:

TEMPERATURE	2.99 °C
SPEC. COND.	0.433 mS/cm
PH	6.87 Units
ORP	107.1 mV
DO	2.13 mg/L
TURBIDITY	44.6 NTUs
SALINITY	NA %

EQUIPMENT USED:

- [ ] BEAKER
- [X] PUSHPOINT SAMPLER
- [X] PERISTALTIC PUMP
- [X] FILTER/ NUMBER 0.2/0.45
- [X] OTHER Syringe

TYPE OF SURFACE WATER:

- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [X] SEEP

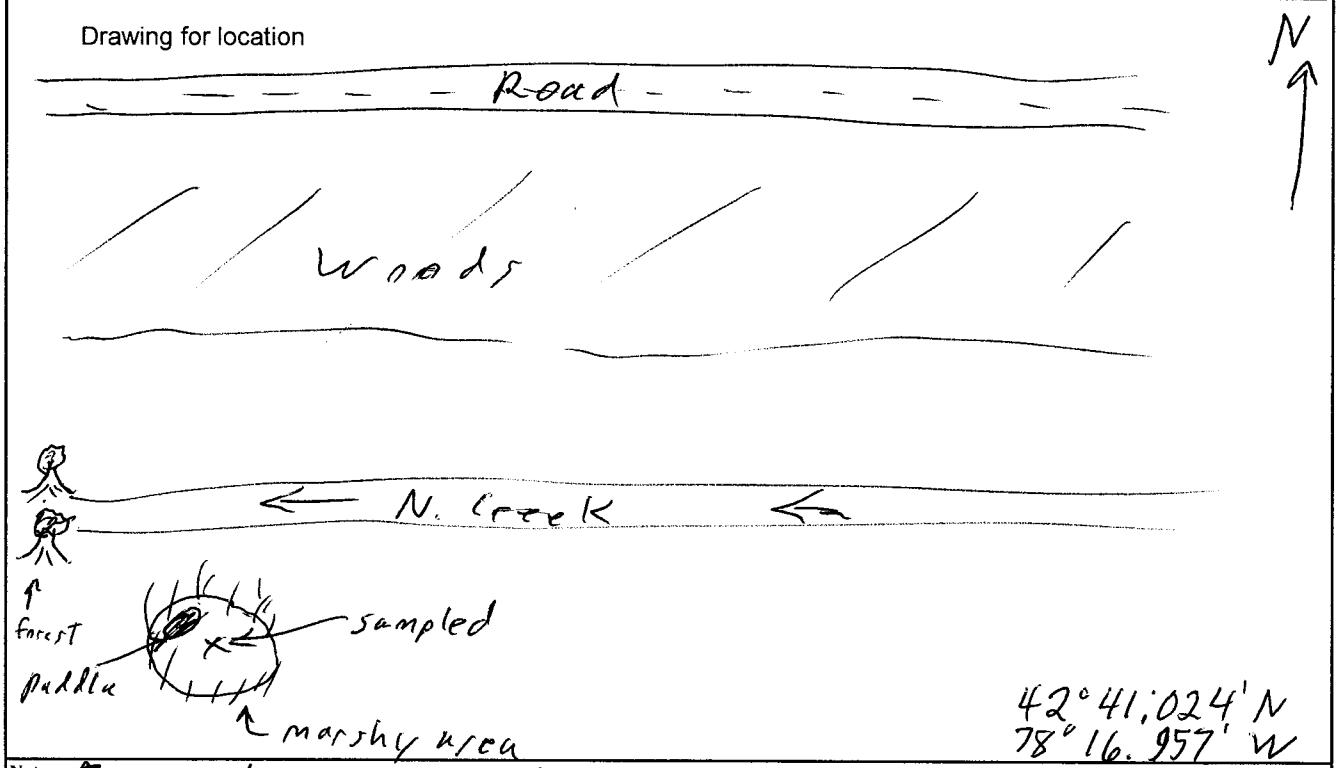
DECON FLUIDS USED:

- [X] DI WATER
- [X] POTABLE WATER
- [X] LIQUINOX
- [X] ISOPROPYL ALCOHOL
- [ ] _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	
[ ]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[ ]	
[ ]	VOCs	8260B	HCL	3 x 40-ml Vials	[ ]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location



42° 41.024' N
78° 16.957' W

Notes: Composite Group C. Pump died, no final readings. Sampled 17 ft from creek in marshy area w/ shallow puddle nearby. Moved site downstream as no suitable locations upstream as with MP-08

SIGNATURE: _____

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-10 | ACTIVITY TIME: START 1545 END 1649 | BOTTLE TIME: 1635

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.67 FT | DEPTH OF SAMPLE: 0.67 FT

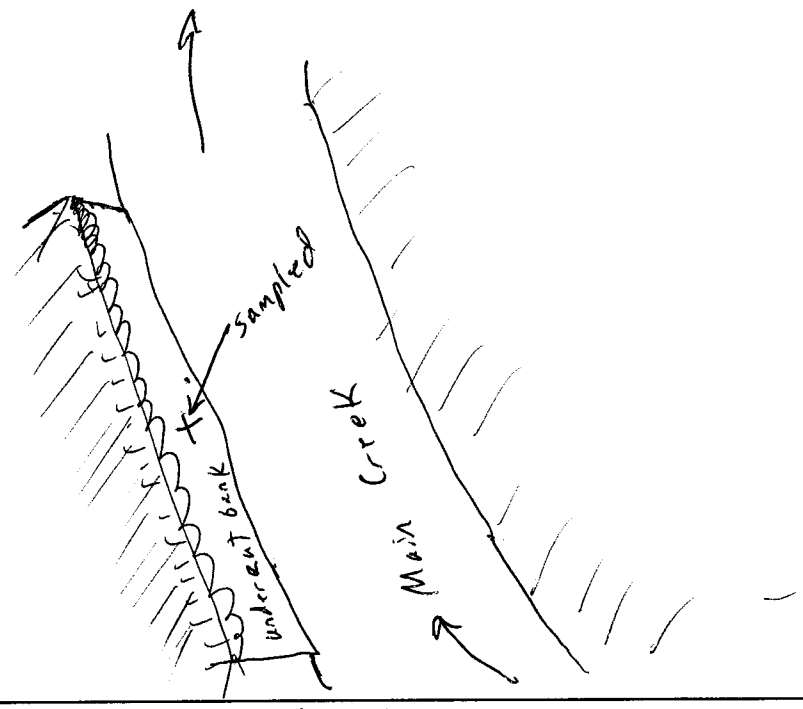
WATER QUALITY PARAMETERS:			EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
TEMPERATURE	1.05 °C	8.71	[ ] BEAKER	[ ] STREAM/ RIVER	[X] DI WATER
SPEC. COND.	0.268 mS/cm	0.267	[X] PUSHPOINT SAMPLER	[ ] LAKE/ POND	[X] POTABLE WATER
PH	7.58 Units	7.59	[X] PERISTALTIC PUMP	[X] SEEP	[X] LIQUINOX
ORP	145.5 mV	151.3	[X] FILTER/ NUMBER 0.2/0.45		[X] ISOPROPYL ALCOHOL
DO	8.87 mg/L	8.71	[X] OTHER syringe	[ ] _____	[ ] _____
TURBIDITY	184 NTUs	201			
SALINITY	NA %				

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	MS/MSD
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location

42° 40.911' N
75° 17.054' W



Notes: Water was very turbid, so purged for 45 minutes with not much change. Tried other sites with no luck, so sampled here. Sampled in undercut bank about 2 ft from stream
Composite group D

SIGNATURE: [signature]

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-12 | ACTIVITY TIME: START 1440 END 1532 | BOTTLE TIME: 1450

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.75 FT | DEPTH OF SAMPLE: 0.75 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	8.98 °C	8.97
SPEC. COND.	0.269 mS/cm	0.273
PH	7.03 Units	7.26
ORP	104.3 mV	88.4
DO	1.98 mg/L	2.26
TURBIDITY	53.5 NTUs	3.71
SALINITY	NA %	

EQUIPMENT USED: [X] PUSHPOINT SAMPLER; [X] PERISTALTIC PUMP; [X] FILTER/ NUMBER 0.2/0.45; [X] OTHER syringe

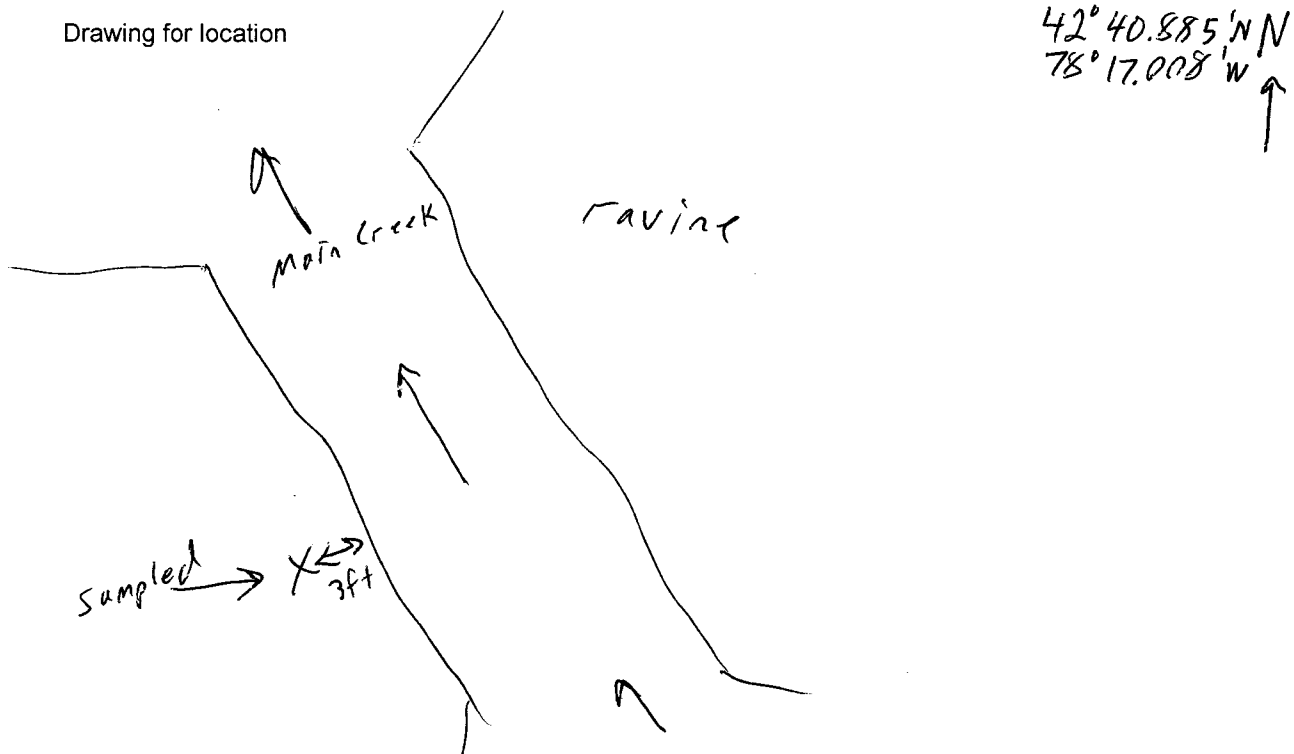
TYPE OF SURFACE WATER: [ ] STREAM/ RIVER; [X] LAKE/ POND; [X] SEEP

DECON FLUIDS USED: [X] DI WATER; [X] POTABLE WATER; [X] LIQUINOX; [X] ISOPROPYL ALCOHOL

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	MS/MSD
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	

Drawing for location



Notes: Composite Group D. Sampled at base of ravine, 3ft from bank in gravel soil

SIGNATURE:

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-13 | ACTIVITY TIME: START 1240 END 1305 | BOTTLE TIME: 1300

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.85 FT | DEPTH OF SAMPLE: 0.85 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	9.26 °C	11.45
SPEC. COND.	0.294 mS/cm	0.307
PH	6.99 Units	6.81
ORP	100.0 mV	116.5
DO	7.30 mg/L	6.36
TURBIDITY	3.70 NTUs	
SALINITY	NA %	

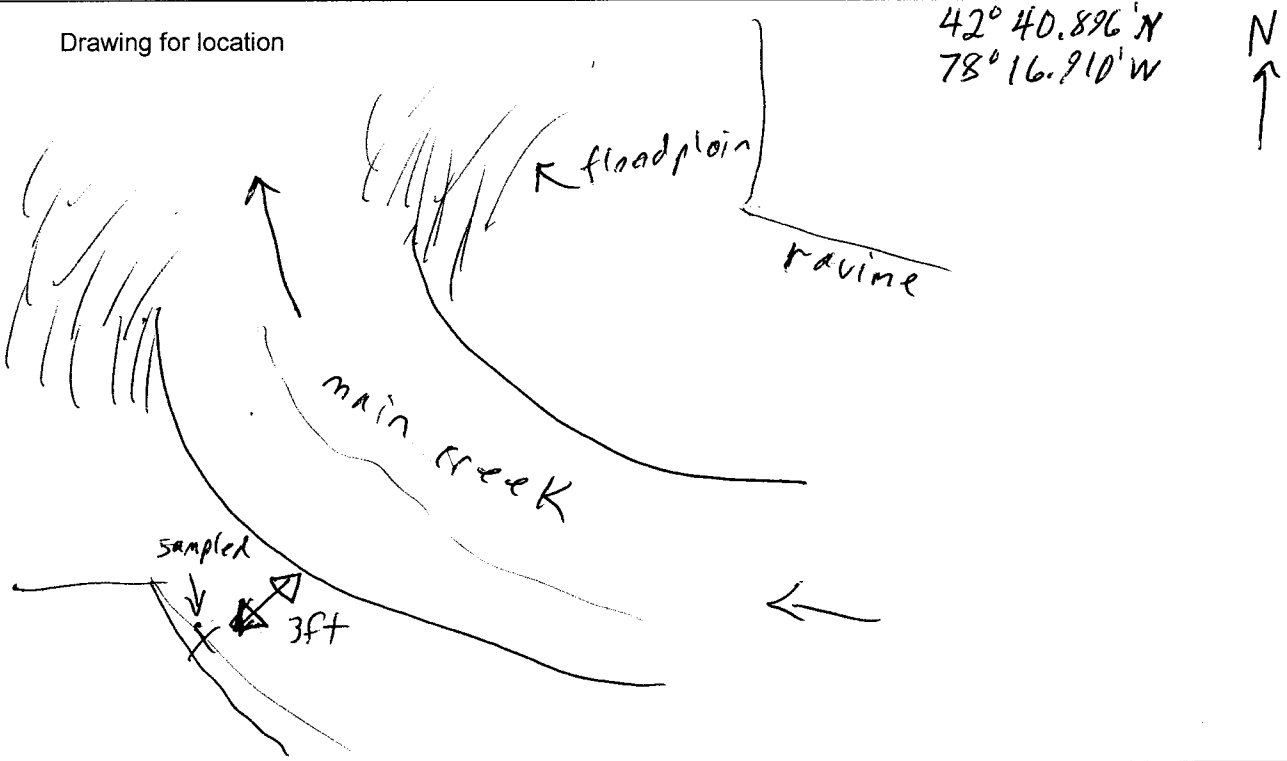
EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
☐ BEAKER	☐ STREAM/ RIVER	☒ DI WATER
☒ PUSHPOINT SAMPLER	☐ LAKE/ POND	☒ POTABLE WATER
☒ PERISTALTIC PUMP	☒ SEEP	☒ LIQUINOX
☒ FILTER/ NUMBER 0.2/0.45		☒ ISOPROPYL ALCOHOL
☒ OTHER Syringe	☐ _____	☐ _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
☒	Explosives	8330	none	2 x 1-L Amber Bottles	☒	Dup
☐	SVOCs	8270C	none	2 x 1-L Amber Bottles	☐	
☐	VOCs	8260B	HCL	3 x 40-ml Vials	☐	
☒	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	☒	Dup
☒	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	☒	Dup

Drawing for location

42° 40.896' N
78° 16.910' W



Notes: Composite Group E. Ravine giving way to floodplain just downstream of location. sampled silty area 3ft from bank.

SIGNATURE: Michael Ryan

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-14 | ACTIVITY TIME: START 1100 END 1135 | BOTTLE TIME: 1125

SURFACE WATER DATA

WATER DEPTH AT LOCATION: 0.915 FT | DEPTH OF SAMPLE: 0.915 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	8.96 °C	9.84
SPEC. COND.	0.284 mS/cm	0.258
PH	7.31 Units	7.16
ORP	141.1 mV	65.1
DO	3.10 mg/L	2.62
TURBIDITY	81.1 NTUs	139.0
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [X] PUSHPOINT SAMPLER
- [X] PERISTALTIC PUMP
- [X] FILTER/ NUMBER 0.2/0.45
- [X] OTHER Syringe

TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [X] SEEP

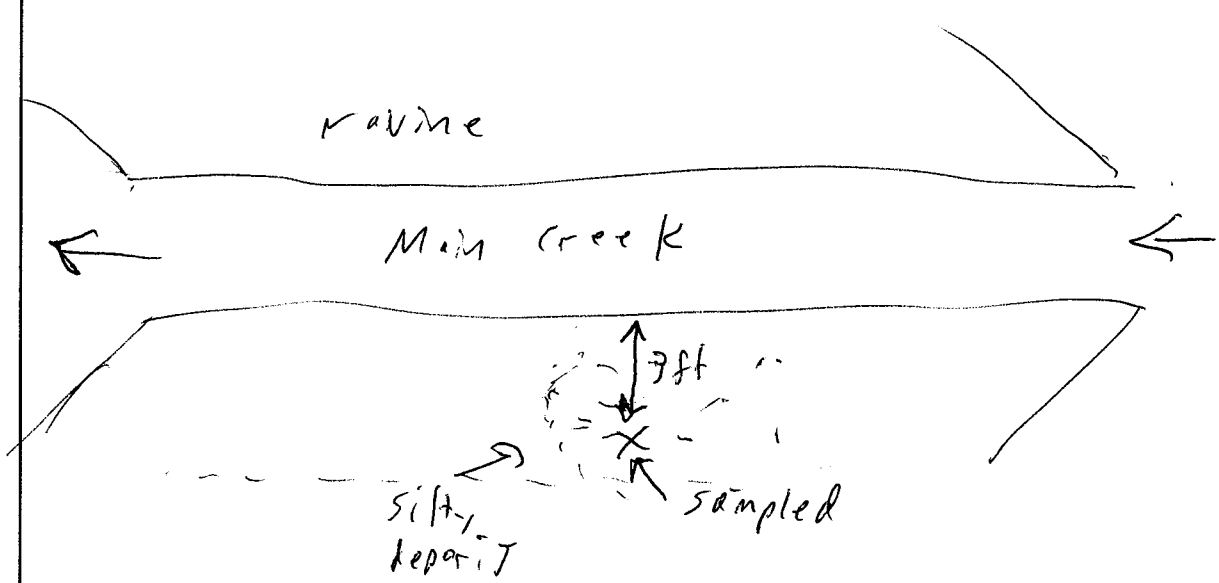
DECON FLUIDS USED:
- [X] DI WATER
- [X] POTABLE WATER
- [X] LIQUINOX
- [X] ISOPROPYL ALCOHOL
- [ ] _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	Dup
[ ]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[ ]	
[ ]	VOCs	8260B	HCL	3 x 40-ml Vials	[ ]	
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	Dup
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	Dup

Drawing for location

42° 40.894' N
78° 16.859' W



Notes: Composite Group E. Sampled about 3ft from bank in silty deposit. Ravine becoming shorter & better grade.

SIGNATURE: [signature]

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-15 | ACTIVITY TIME: START 1137 END 1155 | BOTTLE TIME: 1140

SURFACE WATER DATA

WATER DEPTH AT LOCATION: 0.90 FT | DEPTH OF SAMPLE: 0.90 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	8.38 °C	7.84
SPEC. COND.	0.236 mS/cm	0.243
PH	7.23 Units	7.50
ORP	150.7 mV	154.8
DO	8.20 mg/L	8.25
TURBIDITY	5.49 NTUs	28.2
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [x] PUSHPOINT SAMPLER
- [x] PERISTALTIC PUMP
- [x] FILTER/ NUMBER 0.2/0.45
- [x] OTHER syringe

TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [x] SEEP

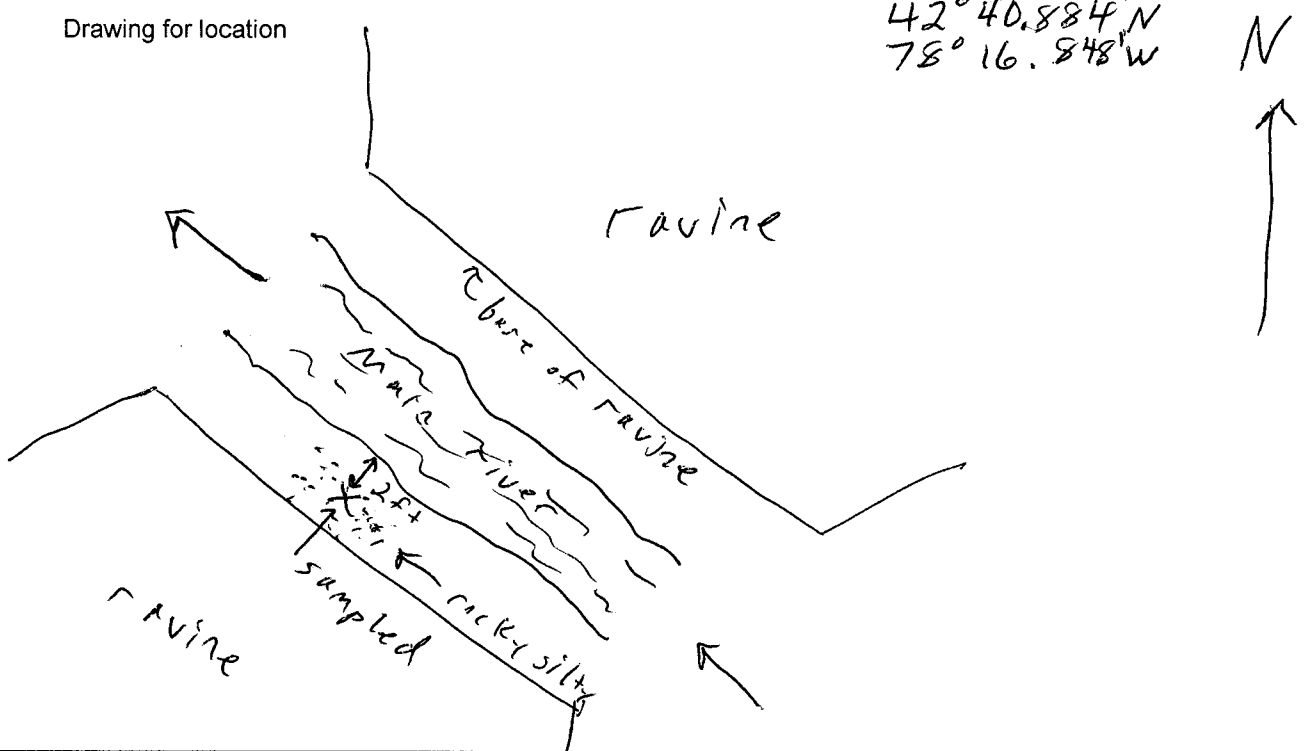
DECON FLUIDS USED:
- [x] DI WATER
- [x] POTABLE WATER
- [x] LIQUINOX
- [x] ISOPROPYL ALCOHOL
- [ ] _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[x]	Explosives	8330	none	2 x 1-L Amber Bottles	[x]	Dup
[ ]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[ ]	
[ ]	VOCs	8260B	HCL	3 x 40-ml Vials	[ ]	
[x]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[x]	Dup
[x]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[x]	Dup

Drawing for location

42° 40.884' N
78° 16.848' W



Notes: Composite Group E. Sampled on streambed, 2 ft from the water edge in rocky, silty/clay area.

SIGNATURE: Matthew Mc

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-17 | ACTIVITY TIME: START 1620 END 1109 | BOTTLE TIME: 1030

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.94 FT | DEPTH OF SAMPLE: 0.94 FT

WATER QUALITY PARAMETERS:		After
TEMPERATURE	7.97 °C	8.08
SPEC. COND.	0.141 mS/cm	0.141
PH	7.15 Units	7.22
ORP	257.6 mV	149.6
DO	4.51 mg/L	2.98
TURBIDITY	13.0 NTUs	34.6
SALINITY	NA %	

EQUIPMENT USED:
- [ ] BEAKER
- [x] PUSHPOINT SAMPLER
- [x] PERISTALTIC PUMP
- [x] FILTER/ NUMBER 0.2/0.45
- [x] OTHER syringe

TYPE OF SURFACE WATER:
- [ ] STREAM/ RIVER
- [ ] LAKE/ POND
- [x] SEEP

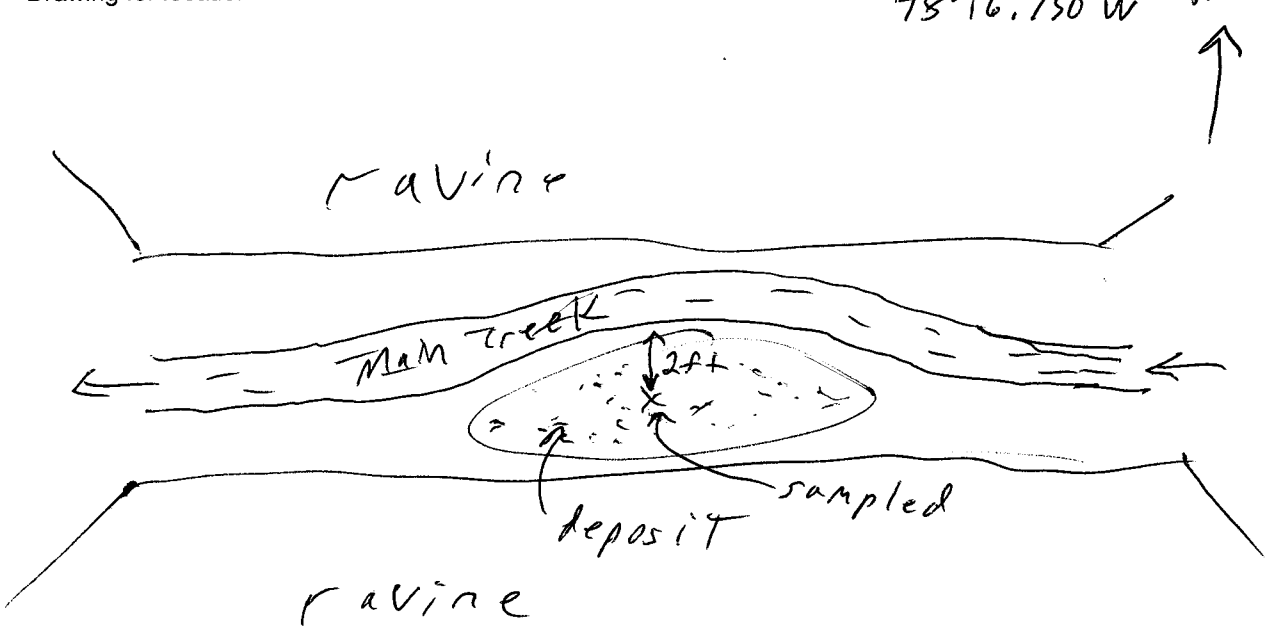
DECON FLUIDS USED:
- [x] DI WATER
- [x] POTABLE WATER
- [x] LIQUINOX
- [x] ISOPROPYL ALCOHOL
- [ ] _____

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[x]	Explosives	8330	none	2 x 1-L Amber Bottles	[x]	
[x]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[x]	
[x]	VOCs	8260B	HCL	3 x 40-ml Vials	[x]	
[x]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[x]	MS/MSD
[x]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[x]	MS/MSD

Drawing for location

42°40.877'N
73°16.750'W



Notes: Composite Group F. Sampled between MP-17 & MP-16 coordinates. No suitable sites for MP-16, so composite Group only 2 sites. Sampled 2ft from water edge. Ravine base is almost at rivers edge, making sites difficult find & sample due to rocks.

SIGNATURE:

NYHQ00303

CONSULTANT: Woods Hole Group

FIELD DATA RECORD - SURFACE & PORE WATER

PROJECT: Camp O'Ryan | JOB NUMBER: TO-0031 | DATE: 10/20/10

LOCATION ID: MP-18 | ACTIVITY TIME: START 936 END 1000 | BOTTLE TIME: 940

SURFACE WATER DATA | WATER DEPTH AT LOCATION: 0.72 FT | DEPTH OF SAMPLE: 0.72 FT

WATER QUALITY PARAMETERS: ~~After~~

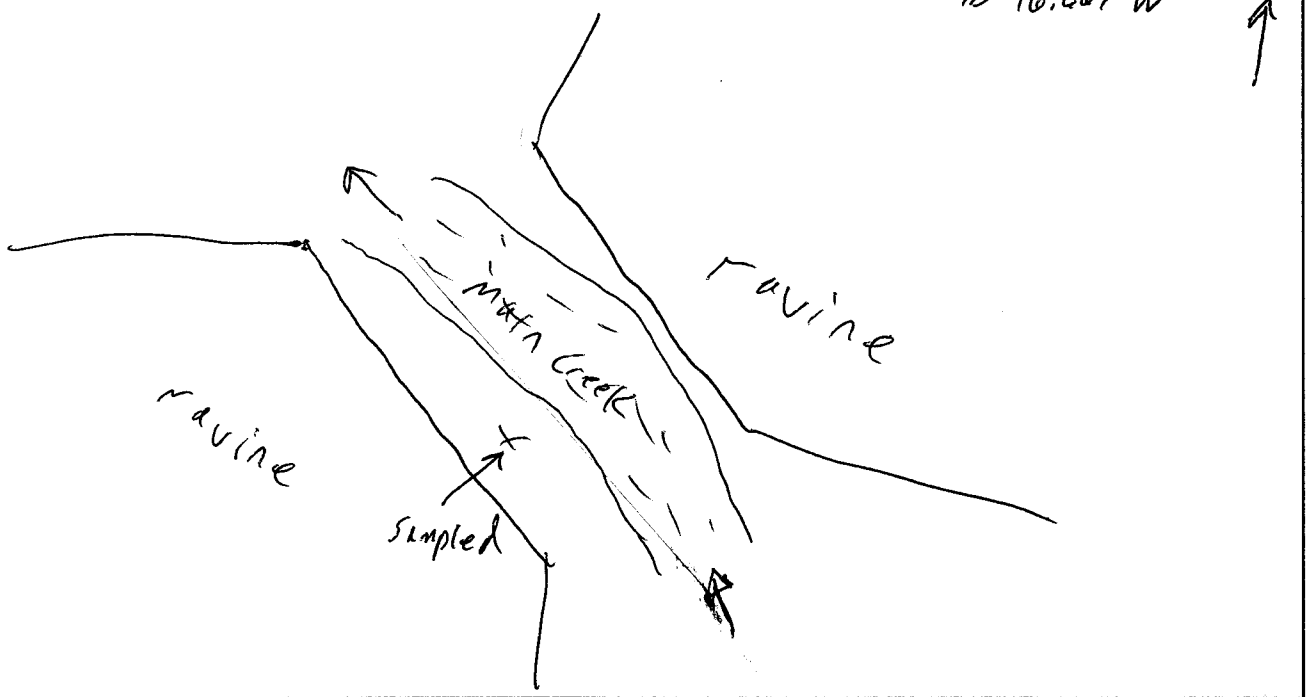
		EQUIPMENT USED:	TYPE OF SURFACE WATER:	DECON FLUIDS USED:
TEMPERATURE	7.65 °C	[ ] BEAKER	[ ] STREAM/ RIVER	[X] DI WATER
SPEC. COND.	0.114 mS/cm	[X] PUSHPOINT SAMPLER	[ ] LAKE/ POND	[X] POTABLE WATER
PH	7.93 Units	[X] PERISTALTIC PUMP	[X] SEEP	[X] LIQUINOX
ORP	354.6 mV	[X] FILTER/ NUMBER 0.2/0.45		[X] ISOPROPYL ALCOHOL
DO	7.10 mg/L	[X] OTHER Syringe	[ ]	[ ]
TURBIDITY	60.8 NTUs			
SALINITY	NA %			

ANALYTICAL PARAMETERS

	ANALYSIS	ANALYSIS METHOD	PRESERVATION METHOD	BOTTLE TYPE AND VOLUME REQUIRED	SAMPLE COLLECTED	QC PERFORMED
[X]	Explosives	8330	none	2 x 1-L Amber Bottles	[X]	
[X]	SVOCs	8270C	none	2 x 1-L Amber Bottles	[X]	
[X]	VOCs	8260B	HCL	3 x 40-ml Vials	[X]	Dup
[X]	Lead (total & dissolved)	6010B	HNO_3 ; 0.5-µm filter	1 x 125-ml bottle	[X]	~~Dup~~ MS/MSD
[X]	Perchlorate	EPA 332	0.2-µm filter	1 x 125-ml bacteria cup	[X]	~~Dup~~ MS/MSD

Drawing for location

42° 40.825' N
78° 16.667' W



Notes: Composite Group F. Walked up & down river 100yds. but not many suitable locations ravine bare is essentially the river bank. Ravine steep, rocky & tall. Tried several locations without much success. Lots of rocks in mud. Scouted MP-17 & MP-16, and decided to do only 2 locations instead of 3 based on site availability

SIGNATURE:

FIELD INSTRUMENTATION CALIBRATION RECORD

Woods Hole Group, INC.

PROJECT Camp O'Ryan | DATE 10/18/10 | TIME 1020

CREW ID OR TASK ID DSB, MAB | JOB NUMBER TO-0031

SAMPLER SIGNATURE | CHECKED BY MAB

EQUIPMENT CALIBRATION

METER TYPE YSI
MODEL NO. 556 MPS
UNIT ID NO. 10G101491

TURBIDITY
METER TYPE HACH
MODEL NO. 2100P
UNIT ID NO. 1109

		AM CALIBRATION STANDARD VALUE	AM CALIBRATION METER VALUE	PM CALIBRATION CHECK STANDARD VALUE	PM CALIBRATION CHECK METER VALUE	ACCEPTANCE CRITERIA **
pH units		4	4.06	4	3.98	±0.2 unit
pH units		7	7.02	7	7.03	±0.2 unit
Redox	+/- mV	229	235	229	241	±20 mV
Conductivity	mS/cm	1.000	1.002	1.000	1.008	0.5% of reading
					98.9	+ 0.001 mS/cm
DO	mg/L *	100	98.5% 9.9 mg/L	100	8.57	2% of reading or
						0.2 mg/L., whichever is
Temperature	deg. C		12.29		23.04	greater
TURBIDITY						
	NTU (low)	0	0.11	0	0.14	2% of reading
	NTU (high)	5	4.92	5	~~5.2~~ 4.75	or 0.3 NTU. Whichever is greater.
		50	50	50	52.7	

Check One

☒ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.

☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above (see notes below).

MATERIALS RECORD

Calibration Fluids / Standard Source: Woods Hole Group, INC.

Disposable Filter Type: _____ _____

Lot Number

pH /Conductivity _____
ORP _____
Turbidity _____
Other _____

NOTES:

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

* = standard based on saturated headspace at given temperature

FIELD INSTRUMENTATION CALIBRATION RECORD

Woods Hole Group, INC.

PROJECT: Camp O'Ryan | DATE: 10/20/10 | TIME: 5:57

CREW ID OR TASK ID: DSB, MAB | JOB NUMBER: TO-0031

SAMPLER SIGNATURE: [signature] | CHECKED BY: MAB

EQUIPMENT CALIBRATION

METER TYPE: YSI
MODEL NO.: 556
UNIT ID NO.: _____

TURBIDITY
METER TYPE: Hach 2100P
MODEL NO.: 2100P
UNIT ID NO.: 1109

			AM CALIBRATION STANDARD VALUE	AM CALIBRATION METER VALUE	PM CALIBRATION CHECK STANDARD VALUE	PM CALIBRATION CHECK METER VALUE	ACCEPTANCE CRITERIA **
pH	units		4	3.99	7	7.12	±0.2 unit
pH	units		7	7.01	4	3.91	±0.2 unit
Redox	+/- mV		229	226.7	229	236.9	±20 mV
Conductivity	mS/cm		1.000	1.008	1.000	1.021	0.5% of reading + 0.001 mS/cm
DO	mg/L *		100%	99.6% 8.56mg/L	100%	7.62	2% of reading or 0.2 mg/L., whichever is greater
Temperature	deg. C			21.71		24.60	
TURBIDITY	NTU (low)		0	0.3	0	0.35	2% of reading or 0.3 NTU. Whichever is greater.
	NTU (high)		5	4.97	5	5.35	
			50	50.3	50	51.9	

Check One

☒ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.

☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above (see notes below).

MATERIALS RECORD

Calibration Fluids / Standard Source: Woods Hole Group, INC.

Disposable Filter Type: _____ _____

Lot Number

pH /Conductivity _____
ORP _____
Turbidity _____
Other _____

NOTES:

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

* = standard based on saturated headspace at given temperature

FIELD INSTRUMENTATION CALIBRATION RECORD

Woods Hole Group, INC.

PROJECT: Camp O'Ryan | DATE: 10/19/10 | TIME: 0645

CREW ID OR TASK ID: 115B MAB | JOB NUMBER: T0-0031

SAMPLER SIGNATURE: [signature] | CHECKED BY: MAB

EQUIPMENT CALIBRATION

METER TYPE: YSI
MODEL NO.: 556MPS
UNIT ID NO.: _____

TURBIDITY
METER TYPE: Hach
MODEL NO.: 2100P
UNIT ID NO.: 1109

			AM CALIBRATION STANDARD VALUE	AM CALIBRATION METER VALUE	PM CALIBRATION CHECK STANDARD VALUE	PM CALIBRATION CHECK METER VALUE	ACCEPTANCE CRITERIA **
pH	units		4	3.98	4.00	4.06	±0.2 unit
pH	units		7	7.03	7.00	7.11	±0.2 unit
Redox	+/- mV		229	228.6	229	235.1	±20 mV
Conductivity	mS/cm		1.000	1.002	1.000	1.017	0.5% of reading + 0.001 mS/cm
DO	mg/L *		100%	98.3% 8.36	100%	98.1% 7.69	2% of reading or 0.2 mg/L., whichever is greater
Temperature	deg. C			32.7		32.92	
TURBIDITY							
METER TYPE: Hach	NTU (low)		0	0.12	0	0.20	2% of reading or 0.3 NTU. Whichever is greater.
MODEL NO.: 2100P	NTU (high)		5	4.81	5	4.94	
UNIT ID NO.: 1109			50	50.2	50	50.6	

Check One

☒ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.

☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above (see notes below).

MATERIALS RECORD

Calibration Fluids / Standard Source: Woods Hole Group, INC.

Disposable Filter Type: _____ _____

Lot Number

pH /Conductivity _____
ORP _____
Turbidity _____
Other _____

NOTES:

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

* = standard based on saturated headspace at given temperature