SUPPLEMENTAL SITE INVESTIGATION WORK PLAN

TRIPLE CITIES METAL FINISHING SITE
ELMIRA, NY
SITE No. 808045
Work Assignment D007622-19

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York

Joseph Martens, Commissioner

DIVISION OF ENVIRONMENTAL REMEDIATION

URS Corporation
257 West Genesee Street
Buffalo, New York 14203

September 2014

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Prepared by:

URS CORPORATION
257 WEST GENESEE ST., SUITE 400
BUFFALO, NY 14202

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1. Sampling Plan

Sampling will be performed in accordance with the procedures outlined in the URS Generic Field Activities Plan dated April 2011. URS will perform the following sampling at the Triple Cities Metal Finishing (TCMF) site located at 926 Stowell Street in Elmira, NY (See Figure 1):

- Two (2) surface soil samples will be collected at locations determined in the field. The surface soil samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi volatile organic compounds (SVOCs), TCL pesticides/polychlorinated biphenyls (PCBs), target analyte list (TAL) metals, hexavalent chromium and cyanide. A summary of the analyses to be performed is presented in Table 1.

- Prior to sub-slab soil sample collection, four (4) sub-slab soil vapor samples will be collected from locations determined in the field, over an 8-hour period per sample. These samples will be analyzed for VOCs, see Table 1.

- Two (2) piezometers will be installed at the Site at the locations shown on Figure 2. The soil borings associated with the piezometers will be advanced using a geoprobe. It is anticipated that MW-04 will be advanced to approximately 20 feet below ground surface (bgs) and MW-05 will be advance to 45 feet bgs.

- Macrocore samples will be collected continuously in each soil boring per American Society for Testing and Materials (ASTM) D6282M-14 protocols. Each macrocore sample will be screened with a photoionization detector (PID). At each soil boring location, up to two soil samples will be collected for laboratory analysis. One soil samples will be collected from the macrocore(s) exhibiting the highest PID readings, staining, odor or other observations and a second soil sample will be collected from the interval just above the water table. If no PID readings, staining, odor or other observations are noted, a sample will be collected only from the interval just above water table.

- At each piezometer location, the piezometers will be constructed with 15 feet of ¾-inch ID with a 2-inch OD pre-pack screen and ¾-inch ID riser, per ASTM D6725-04 protocols. The

pre-packed screen will be set 5 feet above and 10 feet below the water table. A seal will then be installed from the top of the pre-pack screen to 1 foot below grade.

- Each piezometer will be finished with a locking well cap (J-plug) and a stick-up protective casing set in a 1-foot square by 3-inch thick concrete pad. Keyed-alike locks will be installed on the piezometers. Three 3-inch diameter guard post will be installed around MW-04.

- Piezometers will be developed a minimum of 24 hours after their completion in accordance with the procedures outlined in the Generic Field Activities Plan. The piezometers will be developed with the pump and surge development method. During well development, water quality parameters (pH, specific conductivity, temperature and turbidity) will be measured and recorded on well development forms. A piezometer will be considered developed when a minimum of five well volumes were removed and water quality parameters have stabilized.

- Four (4) sub-slab soil samples (0'-4' interval) will be collected from locations determined in the field.

- All subsurface/sub-slab soil samples will be analyzed for TCL VOCs, TAL metals, hexavalent chromium and cyanide. A summary of the analyses to be performed is presented in Table 1.

- After a minimum of one week following development, and prior to the collection of groundwater samples, a synoptic round of groundwater levels will be collected from all new and existing piezometers/monitoring wells.

- After a synoptic round of groundwater levels has be collected, groundwater samples plus Quality Assurance\Quality Control (QA\QC samples) samples will be collected from the two (2) new piezometers in accordance with either low-flow sampling procedures via peristaltic pump or standard sampling procedures with a bailer, depending upon the depth to water encountered. All groundwater samples will be analyzed for TCL VOCs, TAL metals, hexavalent chromium and cyanide. A summary of the analyses to be performed is presented in Table 1.

- The new piezometer locations will be surveyed following their installation. The horizontal location will be horizontally using determined using a Trimble GeoExplorer XH 6000 Global Navigation Satellite System (GNSS) receiver with 0.33-foot accuracy. The elevation of the

ground, riser, and/or casing at each new piezometer will be measured using a transit level to the nearest 0.01 foot and using the on-site datum. Sample points within the site building will be located by measuring off the building walls.

- All investigation-derived waste (IDW) (e.g., soil cuttings, development, purge, and decontamination water) will be drummed for disposal. Drums will be stored inside the building.

- One (1) representative sample from the IDW drums containing soil cuttings and one from the drums containing water for IDW waste profiling will be collected. The samples will be analyzed for the full toxicity characteristic leaching procedure (TCLP) parameters for toxicity and the Resource Conservation and Recovery Act (RCRA) characteristics of ignitability (flashpoint or burn rate), corrosivity (pH) and reactivity (reactive cyanide and sulfide). It is anticipated that one pick-up of the drums for off-site disposal will occur, after waste profiling has been completed.

2. Schedule

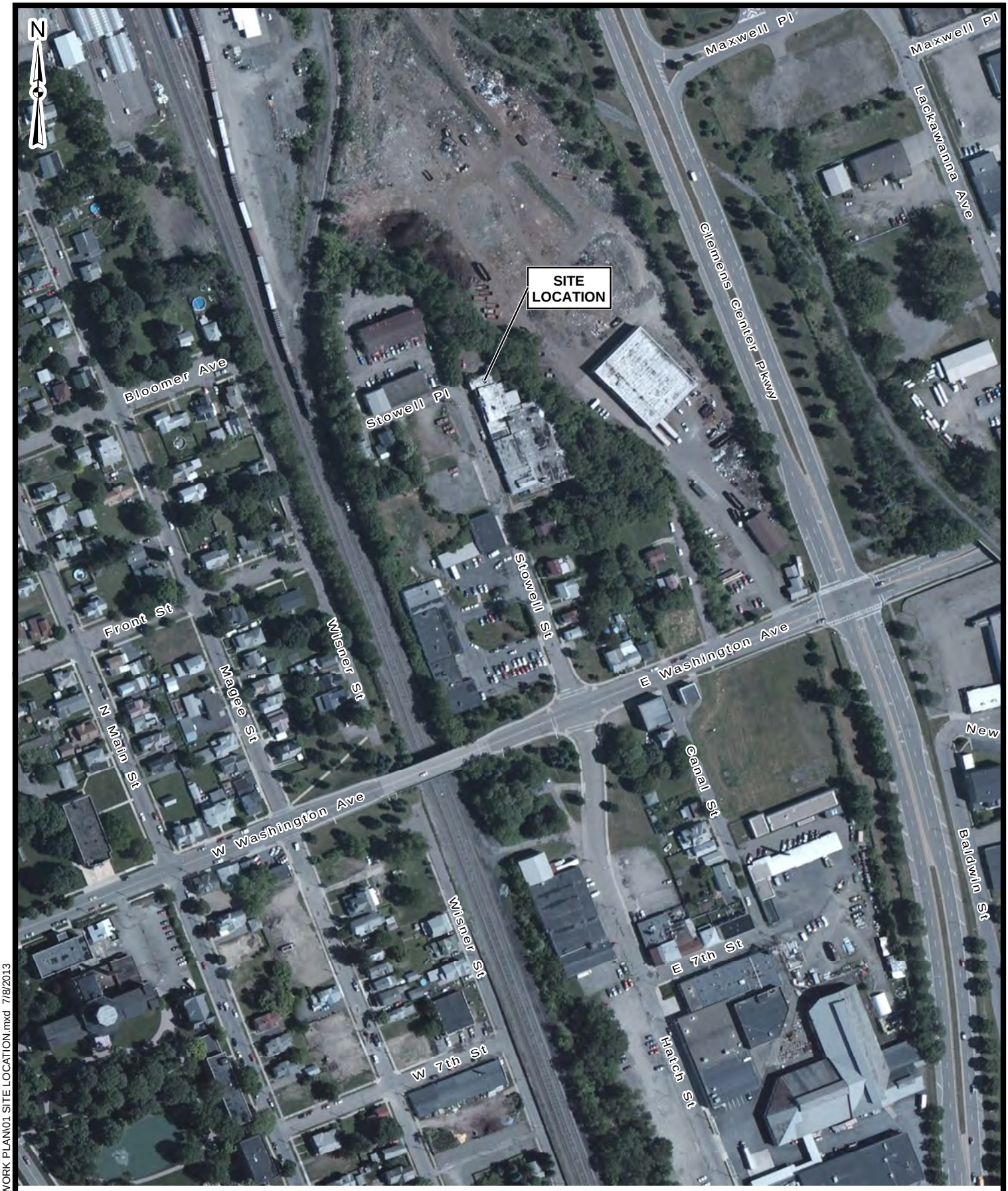
This work assignment will be performed according to the following time frames:

Work Element	Days from NTP	Estimated Date
Fieldwork Start	0	9/22/2014
Fieldwork End	8	9/30/2014
Report Draft	45	11/6/2014
Receipt of comments from Dept.	52	11/13/2014
Report Final	59	11/20/2014

3. Staffing Plan

The following staff will perform this work assignment:

Project Manager:	Jon Sundquist
Project Geologist:	Kevin McGovern
Project Chemist:	Ann Marie Kropovitch



Source: ESRI World Imagery

250 0 250 Feet

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TRIPLE CITIES METAL FINISHERS
ELMIRA, NEW YORK
SITE LOCATION

FIGURE 1

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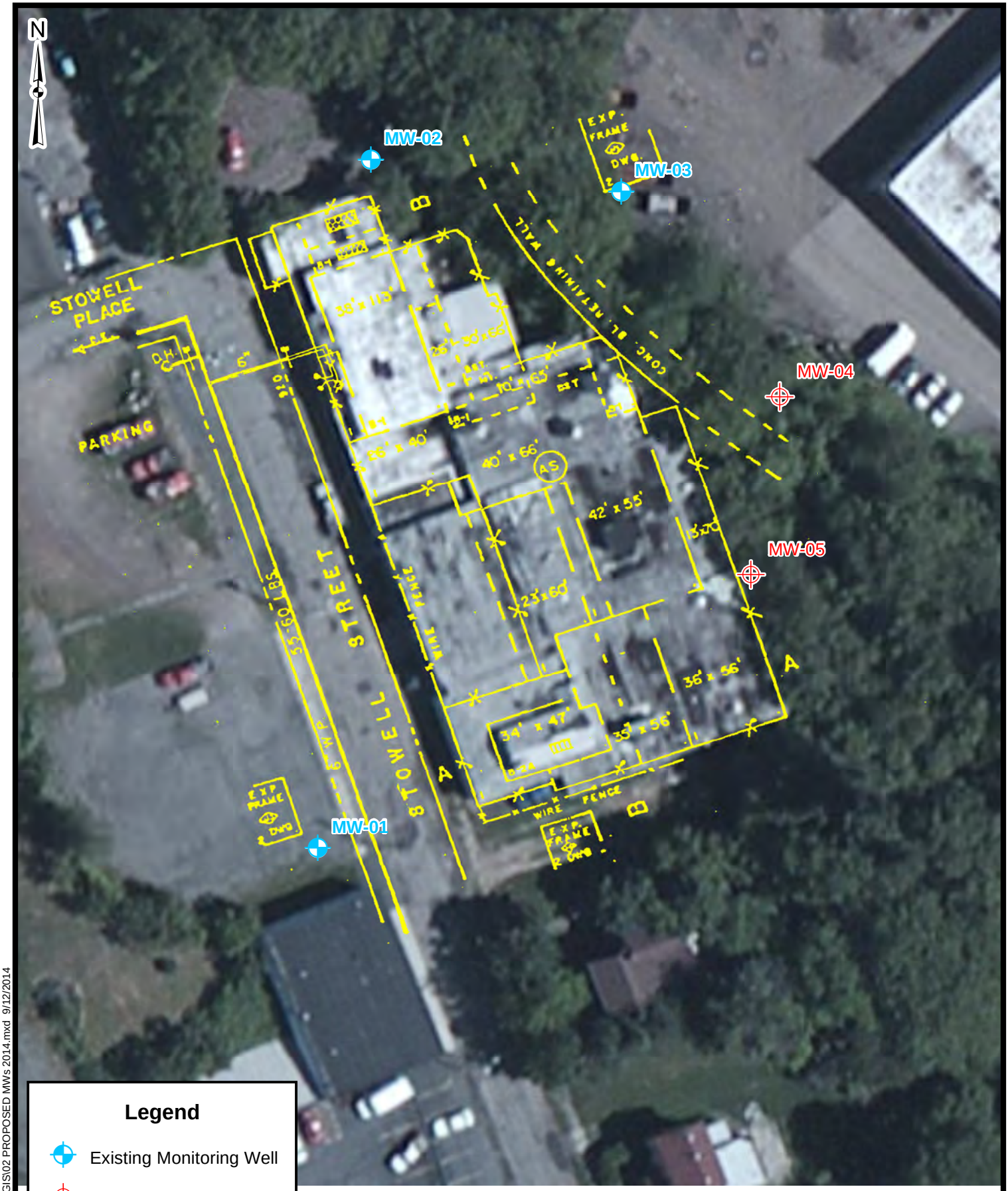

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TRIPLE CITIES METAL FINISHERS
ELMIRA, NEW YORK
PROPOSED SAMPLE LOCATIONS

FIGURE 2

TABLE 1
ANALYTICAL PROGRAM
TRIPLE CITIES METAL FINISHING
WORK ASSIGNMENT D007622-19

	Analytical Method	Samples	Field Dups	MS/MSD (pair)	Trip Blanks	Equipment Blanks	Total No. of Samples
SURFACE SOIL SAMPLES (1 sample per location)							
TCL Volatiles +10 TICs	8260B	2	1	1	0	1	5
TCL Semi-Volatile +20 TICs	8270C	2	1	1	0	1	5
TCL Pesticides/PCBs	8081A/8082	2	1	1	0	1	5
TAL Metals (22) ICP	6010B	2	1	1	0	1	5
Mercury	7470A	2	1	1	0	1	5
Cyanide	9010B/9012A	2	1	1	0	1	5
Hexavalent Chromium	218.5	2	1	1	0	1	5
SOIL BORING SAMPLES FROM MONITORING WELL LOCATIONS (2 sample per location)							
TCL Volatiles +10 TICs	8260B	4	0	0	0	1	5
TAL Metals (22) ICP	6010B	4	0	0	0	1	5
Mercury	7470A	4	0	0	0	1	5
Cyanide	9010B/9012A	4	0	0	0	1	5
Hexavalent Chromium	218.5	4	0	0	0	1	5
SUB-SLAB SOIL SAMPLES (1 sample per location)							
TCL Volatiles +10 TICs	8260B	4	0	0	0	1	5
TAL Metals (22) ICP	6010B	4	0	0	0	1	5
Mercury	7470A	4	0	0	0	1	5
Cyanide	9010B/9012A	4	0	0	0	1	5
Hexavalent Chromium	218.5	4	0	0	0	1	5
AQUEOUS SAMPLE (1 sample per well)							
TCL Volatiles +10 TICs	8260B	2	1	1	1	0	5
TAL Metals (22) ICP	6010B	2	1	1	0	0	4
Mercury	7470A	2	1	1	0	0	4
Cyanide	9010B/9012A	2	1	1	0	0	4
Hexavalent Chromium	218.5	2	1	1	0	0	4
SUB-SLAB VAPOR SAMPLE (1 sample per location)							
Volatiles	TO-15	4	1	0	0	0	5
INVESTIGATION DERIVED WASTE SAMPLES (1 soil, 1 water)							
TCLP Volatiles	8260B	2	0	0	1	0	3
TCLP Semi-Volatile	8270C	2	0	0	0	0	2
TCLP Pesticides	8081A/8082	2	0	0	0	0	2
TCLP Metals	6010B/7470A	2	0	0	0	0	2
Corrosivity	9040B/9045C	2	0	0	0	0	2
Ignitability	1010/1030	2	0	0	0	0	2
Reactivity	Ch. 7, Sec 7.3	2	0	0	0	0	2

Category B Deliverables, Standard Turn-Around-Time.