

**SITE CHARACTERIZATION LETTER REPORT  
TRIPLE CITIES METALS FINISHING  
SITE NO. 808045  
CHEMUNG COUNTY, ELMIRA, NEW YORK**

**PREPARED FOR:**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF ENVIRONMENTAL REMEDIATION  
WORK ASSIGNMENT NUMBER D007622-19**

**PREPARED BY:**

**URS CORPORATION  
77 GOODELL STREET  
BUFFALO, NEW YORK 14203**

**REVISED FINAL**

**JUNE 2014**



December 31, 2013

Mr. Edward Hampston  
Project Manager  
Division of Environmental Remediation  
NYS Department of Environmental Conservation  
625 Broadway  
Albany, New York 12233-7016

**Re: NYSDEC Standby Contract, Work Assignment No. D007622-19  
Triple Cities Metal Finishing, Site No. 808045  
Site Characterization Letter Report**

Dear Mr. Hampston:

URS Corporation (URS) has prepared this Site Characterization Letter Report to summarize field activities performed under NYDEC Work Assignment No. D007622-19 at the Triple Cities Metal Finishing site during the period of August 2013 through December 2013. The Triple Cities Metal Finishing (TCMF) site is located in Elmira, NY (Figure 1). Relevant site features are shown on Figure 2. The site characterization consisted of:

- Collection of eight surface soils from around the perimeter of the property;
- Installation of three monitoring wells and collection of groundwater samples;
- Collection of one subsurface soil sample at each newly installed monitoring well location;
- Collection of subslab soil from eight locations within building footprint;
- Collection of concrete chip samples from five locations within building footprint;
- Collection of one solid and one aqueous investigation-derived waste (IDW) sample for waste profiling and disposal; and
- Analysis of soil, groundwater, and concrete chip samples for site contaminants of concern and IDW samples for waste disposal parameters.

## **1.0 FIELD ACTIVITIES**

Prior to commencing field activities, representatives from NYSDEC, URS, the owner of TCMF, the owner of an adjacent property (Schulman Company, Inc.), and drilling contractors (i.e., SJB Services, Inc. and Nature's Way Environmental) conducted site walkovers to discuss specific drilling, well installation and sampling activities and locations.

Field activities began in late August 2013: surface soils were collected on August 26 and 28, 2013; monitoring wells were installed on August 28 and 29, 2013; subslab soil samples were collected on August 29-30, 2013; concrete chip samples were collected August 29, 2013; IDW samples were collected on August 30, 2013; and groundwater samples were collected on September 5, 2013.



Per the Scope of Work (SOW), a formal sample location survey was not performed. However, URS' Geologist measured most of the sample locations using a hand-held global positioning system (GPS) unit with sub-foot accuracy. URS also used the GPS to locate building features to enable the GPS survey tie-in with aerial photographs. Sample locations within the building footprint, which were not accessible using a GPS, were measured manually by tying into a fixed location. To better define the direction of groundwater flow, URS returned to the site in December to survey the well locations and elevations. Details of the field investigation activities are described below.

## 1.1 Surface Soil Sampling and Analysis

### *Surface Soil Sampling*

On August 26 and 28, 2013, URS collected surface soil samples from 0- to 6-inches below ground surface (bgs) from seven locations (i.e., SS-01 to SS-06 and SS-08) around the TCMF building. Sample SS-07 was collected from the property across Stowell Street. Quality control (QC) samples were also collected.

Figure 3 shows the surface soil sample locations. A copy of the field notes is provided in Attachment 1. Photographs showing the locations of the surface soil samples are provided in Attachment 2.

Chain-of-custody (COC) records were maintained and accompanied the surface soil sample containers to Spectrum Analytical, Inc. (Spectrum Analytical) of North Kingstown, Rhode Island, a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) approved laboratory. The samples collected were analyzed for the parameters listed in Table 1.

### *Surface Soil Analytical Results*

A summary of the detected results is provided in Table 2 and Figure 4. The complete validated analytical results of the surface soil samples are presented in the Data Usability Summary Report (DUSR) in Attachment 3.

Review of Table 2 and Figure 4 shows that one or more of the following detected analytes exceeded 6 NYCRR Part 375.6 (including CP-51) soil cleanup guidance (SCG) for Unrestricted Use, Protection to Groundwater, and/or Commercial Use criteria:

- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Total PCBs
- Aluminum
- Antimony
- Arsenic
- Cadmium
- Calcium
- Chromium
- Copper
- Iron
- Mercury
- Nickel
- Silver
- Zinc

All other results were below criteria or non-detect.



## 1.2 Monitoring Well Installation and Soil Sampling

### *Drilling and Well Installation*

On August 27, 28, and 29, 2013, three monitoring wells were installed (i.e., MW-01, MW-02, and MW-03, see Figure 3). Well MW-01 was installed in the southwestern portion of the study area, well MW-02 was installed in the northern portion of the study area, and well MW-03 was installed east of the site on the Schulman Property.

Each well boring was hand cleared to 5 feet bgs prior to drilling. The borings were advanced and sampled using a drill rig equipped with 4¼-inch hollow stem augers (HSAs). Soils were sampled using a two-inch split spoon sampler. The boring for well MW-01 was continuously sampled to a depth of 46 feet. Well MW-02 was sampled at 5-foot intervals to a depth of 22 feet and then at 2-foot intervals to a depth of 28 feet. Well MW-03 was continuously sampled to a depth of 8 feet. Upon recovery, each soil sample was inspected for evidence of contamination (e.g., staining and odors) and screened for volatile organic vapors using a photoionization detector (PID).

Per the scope of work, one soil sample was to be retained for laboratory analysis from the most impacted interval in each boring (i.e., highest PID reading and/or evidence of staining, odors, etc.). However, no evidence of contamination was observed. Therefore, the soil samples were collected from the interval at or just about the water table.

The three borings were completed as monitoring wells. Each well was constructed with 15-foot long, 2-inch inside diameter polyvinyl chloride (PVC) screens and equivalent risers. To facilitate well installation, the boring for well MW-01 was advanced to a depth of 50 feet, MW-02 to a depth of 35 feet, and MW-03 to a depth of 20 feet. The screen intervals for MW-01, MW-02, and MW-03 were set at 35-50 ft, 20-35 ft, and 5-20 ft, respectively.

MW-01 was finished with a flush-mount protective casing and concrete pad. Wells MW-02 and MW-03 were finished with stick-up protective casings and concrete-filled bollards. A copy of the URS Geologist's field notes, daily drilling records, test boring logs, and well construction logs are provided in Attachments 1, 4, 5, and 6, respectively. Photographs showing the monitoring well locations are provided in Attachment 2.

### *Site Hydrogeology*

The site is located in a relatively flat lying valley. Locally, the elevation of the site is higher at the southern end, near well MW-01, and drops approximately 8 feet to the north to the MW-02 well area. The eastern boundary of the site drops off sharply by almost 30 feet to the adjacent property where well MW-03 is located.

Based on drilling observations, the site area is underlain by glaciofluvial deposits comprised predominantly of very fine sand and silt deposits with gravel ranging in concentration from 10% to 50%. The large percentage of fines (e.g., silt) results in turbid groundwater conditions as observed during well development. Locally, developed portions of the site are underlain by as much as 20 feet of manmade fill (e.g., MW-02) which is comprised of sand with some gravel and varying amounts of brick and glass.



Apparent hydraulic conductivities range from low, in the MW-01 area, to moderate in the MW-02 and MW-03 areas.

Well elevations were surveyed on December 15, 2013. Coordinates and elevations of the wells are presented in Attachment 1 (Field Notes).

COCs were maintained and accompanied the MW soil sample containers

### ***Well Borehole Soil Sample Analyses***

The well borehole soil samples were submitted under proper COC protocol to Spectrum Analytical. The soil samples were analyzed for the parameters listed in Table 1. The duplicate sample from MW-03 was not analyzed for semi-volatile organic compounds (SVOCs), pesticides or polychlorinated biphenyls (PCBs) due to insufficient sample volume.

The well borehole soil analytical results are presented in Table 3 and Figure 5. One or more of the following detected analytes exceeded 6 NYCRR Part 375.6 (including CP-51) soil cleanup guidance (SCG) criteria for Unrestricted Use, Protection to Groundwater, and/or Commercial Use:

- 2,6-Dinitrotoluene,
- Aluminum
- Arsenic
- Calcium
- Iron
- Nickel
- Zinc

All other results were below criteria or non-detect. The complete validated analytical results are presented in the DUSR in Attachment 3.

## **1.3 Monitoring Well Development and Groundwater Sampling**

### ***Monitoring Well Development***

URS developed the newly installed wells on August 29 and 30, 2013. Approximately 100 gallons of development water was removed from MW-02 and MW-03. Due to slow recharge, URS was only able to remove 15 gallons of water from well MW-01 as the well went dry several times during development. Wells MW-02 and MW-03 were fast to re-charge and did not purge to dryness.

The water quality parameters pH, specific conductivity, temperature, and turbidity were measured during the well development process. In all three wells, the turbidity remained very high (i.e., >1,000 Nephelometric Turbidity Units [NTUs]) throughout the well development process, reflecting the high silt content in the formation. A copy of the well development logs are provided in Attachment 7.

### ***Groundwater Sampling and Analysis***

The wells were sampled on September, 5, 2013 using the low-flow sampling procedure. Each well was purged using a Grundfos submersible pump and dedicated, per well, disposable high-density polyethylene



(HDPE) tubing. During the purging process, the water quality parameters pH, temperature, specific conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential were measured utilizing a flow-through cell. These parameters were measured until they stabilized.

The three wells, MW-01, MW-02, and MW-03, were purged at rates of 150-225 milliliters per minute (mL/min), 700 mL/min, and 850 mL/min, respectively. It is noted that the turbidity recorded during the low-flow purging process was significantly lower, compared to the turbidity recorded during development, in wells MW-02 and MW-03, which were able to be purged to below the 50 NTU criterion.

Due to the very low recharge rate, the turbidity in well MW-01 remained elevated, at 772 NTU, which was well above the 50 NTU criterion. A copy of the low-flow purge logs is provided in Attachment 8.

The groundwater samples were submitted to Spectrum Analytical under COC protocol. The groundwater samples were analyzed for the parameters listed in Table 1. The detected analytical results are summarized in Table 4 and Figure 6. The complete validated groundwater analytical results are presented in the DUSR in Attachment 3.

Review of the results indicates that the following analytes exceeded NYSDEC TOGS 1.1.1 criteria for Class GA groundwater at least once in the groundwater samples:

- 1,1,1-Trichloroethane
- 1,1-Dichloroethene
- Trichloroethene
- Chromium
- Iron
- Manganese
- Nickel
- Sodium
- Hexavalent Chromium

All other results were below criteria. It is noted that the elevated concentrations of some metals (e.g., iron) in MW-01 may be biased high due to the high turbidity (i.e., fines) present in the sample at the time of sampling.

Groundwater flow was determined from the elevations of the water table at each well. Figure 7 shows the December, 2014 contours. Elevations in September were roughly one foot lower in all three wells. Groundwater flows to the northeast, reflecting the surface topography.

The complete validated analytical results of the groundwater samples are presented in the DUSR in Attachment 9.



## 1.4 Subslab Soil and Concrete Chip Sampling

### *Subslab Soil Sampling and Analysis*

On August 29 and 30, 2013, eight soil borings (i.e., GS-01 to GS-08) were advanced inside the TCMF building using a hydraulic direct-push unit (see Figure 8). The concrete floor slabs were initially cored and then an acetate-lined macro core sampler was advanced to a 4 foot depth at each location.

The soil samples were submitted under COC protocol to Spectrum Analytical and were analyzed for the parameters listed in Table 1.

The subslab soil sampling detected analytical results are presented in Table 5 and Figure 9. Review of the results indicates that one or more of the following detected analytes exceeded 6 NYCRR Part 375.6 (including CP-51) soil cleanup guidance (SCG) for Unrestricted Use, Protection to Groundwater, and/or Commercial Use criteria:

- cis-1,2-Dichloroethene
- Trichloroethene
- 4,4'-DDT
- Aluminum
- Arsenic
- Cadmium
- Calcium
- Chromium
- Copper
- Iron
- Lead
- Nickel
- Silver
- Zinc
- Hexavalent Chromium
- Total cyanide

All other results were below criteria or non-detect.

### *Concrete Chip Sampling and Analysis*

Concurrent with the subslab sampling, URS collected concrete chip samples from five locations (i.e., CC-01 to CC-05) inside the TCMF building. These sample locations coincided with the subslab soil sample locations GS-01 to GS-05, respectively. Figure 4 shows the concrete chip sample locations.

The concrete chip samples were submitted under COC protocol to Spectrum Analytical and were analyzed for the parameters listed in Table 1, except VOCs.

The concrete chip analytical results are presented in Table 6. There are no cleanup criteria specific to concrete chip samples. However, review results indicates that one or more of the following analytes were detected:

- bis-(2-Ethylhexyl)phthalate,
- Di-n-butylphthalate,
- Aroclor 1254,
- 20 TAL Metals,
- Hexavalent Chromium,
- Cyanide.



## 1.5 Investigation-Derived Waste Characterization and Disposal

Liquid and solid investigation-derived waste (IDW) was generated during the field investigation. The IDW generated during drilling and sampling activities included soil cuttings, decontamination fluids, development and purge water, plastic sheeting and personal protective equipment (PPE). All IDW was segregated and stored in DOT approved 55-gallon 1A2 steel drums. The drums were temporarily staged in three areas: seven drums (4 solid and 3 aqueous) outside southeast corner of the TCMF building; two drums (1 solid and 1 aqueous) at location MW-02; and two drums (1 solid and 1 aqueous) at location MW-03. Photographs of the drum staging areas are provided in Attachment 2.

On August 30, 2013, URS collected one composite sample representing the solid IDW and one composite sample representing the aqueous IDW. The samples were submitted following COC protocol to Spectrum Analytical for waste characterization analyses. The IDW samples were analyzed for the following Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste (40 CFR 261, Subpart C) parameters:

Parameter	Method
Toxicity Characteristic Leaching Procedure (TCLP) Volatile Organic Compounds (VOCs)	SW1311/8260C
TCLP Semivolatile Organic Compounds (SVOC)	SW1311/8270D
TCLP Pesticides	SW1311/8081B
TCLP Herbicides	SW1311/8151A
TCLP Metals	SW1311/6010C/7470A
Reactive Cyanide and Sulfide	SW-846 Section 7.3
Corrosivity (as pH)	SW9040B/9045C
Ignitability	SW1010

The analytical results are presented in Table 7. None of the detected analytes exceeded 40 CFR 261, Subpart C criteria. Therefore, the IDW was considered non-RCRA hazardous.

Nine of the eleven drums were picked up on October 8, 2013 for proper disposal by Frank's Vacuum Truck Service, of Niagara Falls, New York. Two drums located near MW-02 were inaccessible to the transport truck due to a steep incline. Copies of the IDW disposal manifests are provided in Attachment 9.

## 2.0 TABLES, FIGURES, AND ATTACHMENTS

The following tables, figures, and attachments are included as part of this letter report:

### Tables (following Text)

Table 1	Summary of Analytical Parameters for Soil, Concrete Chip and Groundwater Samples
Table 2	Summary of Detected Results in Surface Soil Samples
Table 3	Summary of Detected Results in Monitoring Well Soil Samples
Table 4	Summary of Detected Results in Groundwater Samples
Table 5	Summary of Detected Results in Subslab Soil Samples
Table 6	Summary of Detected Results in Concrete Chip Samples
Table 7	Summary of Investigation-Derived Waste Sample Results





**Figures** (following Tables)

- Figure 1 Site Location
- Figure 2 Floor Plan Overlay
- Figure 3 Monitoring Well and Surface Soil Sample Locations
- Figure 4 Surface Soil Analytical Results Exceeding Guidance Criteria (August 2013)
- Figure 5 Monitoring Well Soil Analytical Results Exceeding Guidance Criteria (August 2013)
- Figure 6 Groundwater Analytical Results Exceeding Guidance Criteria (September 2013)
- Figure 7 Groundwater Contours December 14, 2013
- Figure 8 Subslab Boring and Concrete Chip Sample Locations
- Figure 9 Subslab Boring Analytical Results Exceeding Guidance Criteria (August 2013)

**Attachments** (following Figures)

- Attachment 1 Field Notes
- Attachment 2 Photographs
- Attachment 3 Data Usability Summary Report (DUSR) (on CD-ROM)
- Attachment 4 Daily Drilling Records
- Attachment 5 Test Boring Logs
- Attachment 6 Monitoring Well Construction Logs
- Attachment 7 Monitoring Well Development Logs
- Attachment 8 Low-Flow Purge Logs
- Attachment 9 Investigation Derived Waste (IDW) Disposal Documents

Should you have any questions or comments, please do not hesitate to contact me at 716-856-5636.

Sincerely,

**URS Corporation**

Jon Sundquist, Ph.D.  
Project Manager

cc: Peter Fairbanks, URS  
Tim Iflovich, URS  
URS File: 11176967 (C-1)

## **TABLES**



**TABLE 1**  
**SUMMARY OF ANALYTICAL PARAMETERS ANALYZED FOR SOIL, CONCRETE**  
**CHIP, AND GROUNDWATER SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

<b>Parameter</b>	<b>Method</b>
Target Compound List (TCL) Volatile Organic Compounds (VOCs) plus tentatively identified compounds (TICs)	SW8260C
TCL Semivolatile Organic Compounds (SVOC) plus TICs	SW8270D
TCL Pesticides	SW8081B
TCL Polychlorinated Biphenyls (PCBs)	SW8082A
Target Analyte List (TAL) Metals	SW6010C/7470A/7471A
Total Cyanide	SW9012B
Hexavalent Chromium	SW7196A

**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


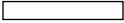

Location ID					SS-01	SS-02	SS-02	SS-03	SS-04
Sample ID					SS-01	FD-082613	SS-02	SS-03	SS-04
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)	Field Duplicate (1-1)				
<b>Volatile Organic Compounds</b>									
Acetone	UG/KG	50	50	5.00E+05					
Trichloroethene	UG/KG	470	470	2.00E+05					
<b>Semivolatile Organic Compounds</b>									
Anthracene	UG/KG	100000	1.00E+06	5.00E+05		86 J			
Benzo(a)anthracene	UG/KG	1000	1000	5600	210 J	270 J	180 J		130 J
Benzo(a)pyrene	UG/KG	1000	22000	1000	200 J	250 J	200 J		120 J
Benzo(b)fluoranthene	UG/KG	1000	1700	5600	280 J	430	330 J		170 J
Benzo(g,h,i)perylene	UG/KG	100000	1.00E+06	5.00E+05	140 J	200 J	140 J		99 J
Benzo(k)fluoranthene	UG/KG	800	1700	56000	120 J	160 J	140 J		75 J
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4.35E+05	-		89 J		130 J	96 J
Chrysene	UG/KG	1000	1000	56000	260 J	300 J	240 J		180 J
Di-n-butylphthalate	UG/KG	-	8100	-	160 J	190 J	180 J	210 J	180 J
Fluoranthene	UG/KG	100000	1.00E+06	5.00E+05	420	420	290 J	100 J	220 J
Indeno(1,2,3-cd)pyrene	UG/KG	500	8200	5600	130 J	190 J	150 J		87 J
Phenanthrene	UG/KG	100000	1.00E+06	5.00E+05	240 J	120 J	120 J		190 J
Pyrene	UG/KG	100000	1.00E+06	5.00E+05	350 J	390 J	300 J	110 J	220 J
<b>Pesticide Organic Compounds</b>									
4,4'-DDE	UG/KG	3.3	17000	62000					
4,4'-DDT	UG/KG	3.3	1.36E+05	47000		5.4 J			

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2)
	Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

(J-) - The reported concentration is an estimated value, biased low. NJ - Tentatively identified, value represents an approximate concentration.

NA - Not analyzed.

Only Detected Results Reported.

**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


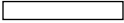

Location ID					SS-01	SS-02	SS-02	SS-03	SS-04
Sample ID					SS-01	FD-082613	SS-02	SS-03	SS-04
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)	Field Duplicate (1-1)				
<b>Pesticide Organic Compounds</b>									
Dieldrin	UG/KG	5	100	1400					
Endosulfan I	UG/KG	2400	1.02E+05	2.00E+05					
Endosulfan sulfate	UG/KG	2400	1.00E+06	2.00E+05					
Endrin aldehyde	UG/KG	-	-	-			6.2		
Endrin ketone	UG/KG	-	-	-					
gamma-Chlordane	UG/KG	540	14000	-		3.1 J			
Heptachlor epoxide	UG/KG	20	20	-					
<b>Polychlorinated Biphenyls</b>									
Aroclor 1254	UG/KG	-	-	-					
Aroclor 1260	UG/KG	-	-	-	35 J				
Total Polychlorinated Biphenyls	UG/KG	100	3200	1000	35	ND	ND	ND	ND
<b>Metals</b>									
Aluminum	MG/KG	10000	-	-	10,700	11,400	11,100	13,500	8,960
Antimony	MG/KG	12	-	-	1.7 J	1.7 J	1.8 J	187 J	1.9 J
Arsenic	MG/KG	13	16	16	13.9 J	13.2 J	13.3 J	28.5 J	18.0 J
Barium	MG/KG	350	820	400	130	137	140	162	145
Beryllium	MG/KG	7.2	47	590	0.59	0.58	0.59	0.67	0.68
Cadmium	MG/KG	2.5	7.5	9.3	1.2	1.8	1.9	2.9	1.5
Calcium	MG/KG	10000	-	-	3,440	4,310	3,320	1,900	12,100

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

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NA - Not analyzed.

Only Detected Results Reported.

**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					SS-01	SS-02	SS-02	SS-03	SS-04
Sample ID					SS-01	FD-082613	SS-02	SS-03	SS-04
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)		Field Duplicate (1-1)			
<b>Metals</b>									
Chromium	MG/KG	30	NS	1500	33.5 J-	65.2 J-	62.0 J-	189 J-	50.6 J-
Cobalt	MG/KG	20	-	-	12.9	10.4	10.8	12.0	9.7
Copper	MG/KG	50	1720	270	72.9	84.9	99.8	78.0	73.4
Iron	MG/KG	2000	-	-	21,300	28,100	30,900	26,100	35,400
Magnesium	MG/KG	-	-	-	2,920	3,610	2,950	3,500	3,430
Manganese	MG/KG	1600	2000	10000	369	397	424	877	335
Mercury	MG/KG	0.18	0.73	2.8	0.085	0.30	0.29	0.15	0.19
Nickel	MG/KG	30	130	310	26.2	40.2	58.9	54.0	29.3
Potassium	MG/KG	-	-	-	847	599	609	685	781
Selenium	MG/KG	3.9	4	1500	1.1 J	1.7	1.4 J	1.2 J	1.3 J
Silver	MG/KG	2	8.3	1500					
Sodium	MG/KG	-	-	-	137	47.2			108
Thallium	MG/KG	5	-	-	0.53 J	0.47 J	0.46 J	0.99 J	0.54 J
Vanadium	MG/KG	39	-	-	20.8	20.3	21.3	23.8	22.5
Zinc	MG/KG	109	2480	10000	1,300 J	286 J	285 J	283 J	326 J
<b>Miscellaneous Parameters</b>									
Cyanide (total)	MG/KG	27	40	27					

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

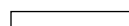
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Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



*Border*

Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

(J-) - The reported concentration is an estimated value, biased low. NJ - Tentatively identified, value represents an approximate concentration.

NA - Not analyzed.

Only Detected Results Reported.

**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


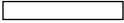

Location ID					SS-05	SS-06	SS-07	SS-08
Sample ID					SS-05	SS-06	SS-07	SS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/26/13	08/26/13	08/28/13	08/28/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)				
<b>Volatile Organic Compounds</b>								
Acetone	UG/KG	50	50	5.00E+05	6.8			
Trichloroethene	UG/KG	470	470	2.00E+05				2.9 J
<b>Semivolatile Organic Compounds</b>								
Anthracene	UG/KG	100000	1.00E+06	5.00E+05				
Benzo(a)anthracene	UG/KG	1000	1000	5600	89 J	110 J		
Benzo(a)pyrene	UG/KG	1000	22000	1000	94 J	110 J		
Benzo(b)fluoranthene	UG/KG	1000	1700	5600	140 J	140 J	85 J	120 J
Benzo(g,h,i)perylene	UG/KG	100000	1.00E+06	5.00E+05	87 J	94 J		
Benzo(k)fluoranthene	UG/KG	800	1700	56000				
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4.35E+05	-	1,400	280 J		180 J
Chrysene	UG/KG	1000	1000	56000	120 J	130 J		130 J
Di-n-butylphthalate	UG/KG	-	8100	-	110 J	180 J	170 J	210 J
Fluoranthene	UG/KG	100000	1.00E+06	5.00E+05	180 J	220 J	94 J	140 J
Indeno(1,2,3-cd)pyrene	UG/KG	500	8200	5600	74 J	80 J		
Phenanthrene	UG/KG	100000	1.00E+06	5.00E+05	95 J	160 J		85 J
Pyrene	UG/KG	100000	1.00E+06	5.00E+05	180 J	190 J	83 J	100 J
<b>Pesticide Organic Compounds</b>								
4,4'-DDE	UG/KG	3.3	17000	62000				7.0 NJ
4,4'-DDT	UG/KG	3.3	1.36E+05	47000	5.8	20 NJ		

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2)
	Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

(J-) - The reported concentration is an estimated value, biased low. NJ - Tentatively identified, value represents an approximate concentration.

NA - Not analyzed.

Only Detected Results Reported.

**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


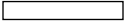

Location ID					SS-05	SS-06	SS-07	SS-08
Sample ID					SS-05	SS-06	SS-07	SS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/26/13	08/26/13	08/28/13	08/28/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)				
<b>Pesticide Organic Compounds</b>								
Dieldrin	UG/KG	5	100	1400				5.6 NJ
Endosulfan I	UG/KG	2400	1.02E+05	2.00E+05		2.0 J		
Endosulfan sulfate	UG/KG	2400	1.00E+06	2.00E+05				11 NJ
Endrin aldehyde	UG/KG	-	-	-	5.6	6.5 J		
Endrin ketone	UG/KG	-	-	-		4.6 NJ		15
gamma-Chlordane	UG/KG	540	14000	-				
Heptachlor epoxide	UG/KG	20	20	-	2.1 J			
<b>Polychlorinated Biphenyls</b>								
Aroclor 1254	UG/KG	-	-	-	66 J	150 J		94 J
Aroclor 1260	UG/KG	-	-	-				
Total Polychlorinated Biphenyls	UG/KG	100	3200	1000	66	150	ND	94
<b>Metals</b>								
Aluminum	MG/KG	10000	-	-	7,910	11,900	10,200	8,560
Antimony	MG/KG	12	-	-	5.4 J	2.4 J		
Arsenic	MG/KG	13	16	16	23.5 J	11.3 J	10.1 J	13.3 J
Barium	MG/KG	350	820	400	88.0	133	116	104
Beryllium	MG/KG	7.2	47	590	0.30	0.52	0.55	0.28 J
Cadmium	MG/KG	2.5	7.5	9.3	64.3	13.3	0.72	4.7
Calcium	MG/KG	10000	-	-	64,300	7,570	9,080	2,980

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2)
	Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

(J-) - The reported concentration is an estimated value, biased low. NJ - Tentatively identified, value represents an approximate concentration.

NA - Not analyzed.

Only Detected Results Reported.



**TABLE 2**  
**SUMMARY OF DETECTED RESULTS IN SURFACE SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					SS-05	SS-06	SS-07	SS-08
Sample ID					SS-05	SS-06	SS-07	SS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/26/13	08/26/13	08/28/13	08/28/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)				
<b>Metals</b>								
Chromium	MG/KG	30	NS	1500	1,220 J-	298 J-	17.4 J-	544 J-
Cobalt	MG/KG	20	-	-	10.9	14.6	9.6	8.9
Copper	MG/KG	50	1720	270	640	819	43.2	211
Iron	MG/KG	2000	-	-	43,100	46,000	22,400	21,600
Magnesium	MG/KG	-	-	-	17,900	4,240	3,850	1,880
Manganese	MG/KG	1600	2000	10000	533	596	406	284
Mercury	MG/KG	0.18	0.73	2.8	0.16	0.17	0.12	0.31
Nickel	MG/KG	30	130	310	423	1,320	23.0	73.1
Potassium	MG/KG	-	-	-	789	738	852	598
Selenium	MG/KG	3.9	4	1500			2.1	1.8
Silver	MG/KG	2	8.3	1500	6.4	3.2		
Sodium	MG/KG	-	-	-	104	58.5		65.4
Thallium	MG/KG	5	-	-	1.1	0.41 J		0.56 J
Vanadium	MG/KG	39	-	-	15.4	17.7	18.1	18.0
Zinc	MG/KG	109	2480	10000	3,260 J	1,390 J	146 J	603 J
<b>Miscellaneous Parameters</b>								
Cyanide (total)	MG/KG	27	40	27	10.8	3.8		2.2

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

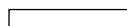
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



*Border*

Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

(J-) - The reported concentration is an estimated value, biased low. NJ - Tentatively identified, value represents an approximate concentration.

NA - Not analyzed.

Only Detected Results Reported.

**TABLE 3**  
**SUMMARY OF DETECTED RESULTS IN MONITORING WELL SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


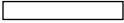

Location ID					MW-01	MW-02	MW-03	MW-03
Sample ID					MW-01	MW-02	FD-082913-MW	MW-03
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					44.0-46.0	23.0-25.0	6.0-7.0	6.0-7.0
Date Sampled					08/28/13	08/28/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)			Field Duplicate (1-1)	
<b>Semivolatile Organic Compounds</b>								
2,6-Dinitrotoluene	UG/KG	170	170	-	1,200	1,300	NA	
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4.35E+05	-			NA	150 J
Di-n-butylphthalate	UG/KG	-	8100	-	180 J	170 J	NA	140 J
<b>Metals</b>								
Aluminum	MG/KG	10000	-	-	9,280	11,600	15,000	14,400
Antimony	MG/KG	12	-	-		1.1 J		
Arsenic	MG/KG	13	16	16	6.6	18.7	5.8	7.4
Barium	MG/KG	350	820	400	47.6	73.3	104	116
Beryllium	MG/KG	7.2	47	590	0.37	0.45	0.48	0.51
Cadmium	MG/KG	2.5	7.5	9.3	0.28 J	0.58 J	2.2	1.7
Calcium	MG/KG	10000	-	-	26,200	2,600	1,630 J	3,270 J
Chromium	MG/KG	30	NS	1500	12.3 J	16.4 J	17.8 J	18.3 J
Cobalt	MG/KG	20	-	-	8.7	10.5	10.9 J	15.0 J
Copper	MG/KG	50	1720	270	18.6	35.6	11.0	15.3
Iron	MG/KG	2000	-	-	19,500	26,900	26,300 J	33,600 J
Lead	MG/KG	63	450	1000	8.3 J	23.9 J	15.4 J	12.7 J
Magnesium	MG/KG	-	-	-	8,680	3,890	4,080 J	4,640 J
Manganese	MG/KG	1600	2000	10000	448	522	298 J	453 J
Mercury	MG/KG	0.18	0.73	2.8	0.010 J	0.021 J	0.0069 J	0.033 J

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2)
	Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

NA - Not analyzed.

Only Detected Results Reported.

**TABLE 3**  
**SUMMARY OF DETECTED RESULTS IN MONITORING WELL SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					MW-01	MW-02	MW-03	MW-03
Sample ID					MW-01	MW-02	FD-082913-MW	MW-03
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					44.0-46.0	23.0-25.0	6.0-7.0	6.0-7.0
Date Sampled					08/28/13	08/28/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)			Field Duplicate (1-1)	
<b>Metals</b>								
Nickel	MG/KG	30	130	310	19.8	33.1	22.5 J	24.5 J
Potassium	MG/KG	-	-	-	820 J	740 J	766	769
Selenium	MG/KG	3.9	4	1500		0.78 J	1.3 J	1.2 J
Sodium	MG/KG	-	-	-	67.2	40.0 J	92.9	87.9
Thallium	MG/KG	5	-	-		0.36 J		
Vanadium	MG/KG	39	-	-	12.1	15.6	18.6	18.6
Zinc	MG/KG	109	2480	10000	48.7 J	137 J	64.1 J	58.0 J

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

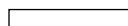
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



Concentration Exceeds Criteria (3)

J - The reported concentration is an estimated value.

NA - Not analyzed.

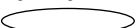
Only Detected Results Reported.

**TABLE 4**  
**SUMMARY OF DETECTED RESULTS IN GROUNDWATER SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID			MW-01	MW-02	MW-02	MW-03
Sample ID			MW-01	FD-090513	MW-02	MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/05/13	09/05/13	09/05/13	09/05/13
Parameter	Units	Criteria*		Field Duplicate (1-1)		
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	UG/L	5		0.57 J		39
1,1-Dichloroethane	UG/L	5		1.2 J	1.2 J	1.7 J
1,1-Dichloroethene	UG/L	5				13
1,2-Dichloroethene (cis)	UG/L	5		3.8 J	3.3 J	3.9 J
1,2-Dichloroethene (trans)	UG/L	5		4.3 J	4.1 J	1.0 J
Acetone	UG/L	50	6.6			
Methyl tert-butyl ether	UG/L	10		2.9 J	2.9 J	
Tetrachloroethene	UG/L	5				4.8 J
Toluene	UG/L	5	0.66 J			
Trichloroethene	UG/L	5	1.0 J	7.7	8.1	220 D
<b>Semivolatile Organic Compounds</b>						
Di-n-butylphthalate	UG/L	50	1.3 J		1.3 J	1.1 J
<b>Metals</b>						
Aluminum	UG/L	-	8,180	576	651	2,800
Arsenic	UG/L	25	7.0 J			
Beryllium	UG/L	3	0.40 J			
Cadmium	UG/L	5		3.6 J	3.3 J	
Calcium	UG/L	-	37,100	132,000	131,000	118,000
Chromium	UG/L	50	493	11.6 J	11.8 J	883
Cobalt	UG/L	-	17.6 J	6.7 J	5.8 J	3.7 J
Copper	UG/L	200	42.6	4.8 J	4.5 J	7.5 J
Iron	UG/L	300	19,200	927	982	4,890

\*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, including January 1999 Errata Sheet, April 2000 and June 2004 Addenda. Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.


Only Detected Results Reported.

**TABLE 4**  
**SUMMARY OF DETECTED RESULTS IN GROUNDWATER SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID			MW-01	MW-02	MW-02	MW-03
Sample ID			MW-01	FD-090513	MW-02	MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/05/13	09/05/13	09/05/13	09/05/13
Parameter	Units	Criteria*		Field Duplicate (1-1)		
<b>Metals</b>						
Lead	UG/L	25	13.5			5.5 J
Magnesium	UG/L	35000	28,700	30,300	30,100	24,900
Manganese	UG/L	300	360	1,380	1,370	337
Nickel	UG/L	100	317			
Potassium	UG/L	-	61,800	22,600	20,500	5,360
Silver	UG/L	50	8.5 J			
Sodium	UG/L	20000	77,800	180,000	177,000	76,800
Zinc	UG/L	2000	61.9	17.9 J	16.6 J	19.5 J
<b>Miscellaneous Parameters</b>						
Cyanide (total)	UG/L	200				13.1 J
Hexavalent Chromium	MG/L	0.05				1.0

\*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, including January 1999 Errata Sheet, April 2000 and June 2004 Addenda. Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


Location ID					GS-01	GS-02	GS-03	GS-04	GS-05
Sample ID					GS-01	GS-02	GS-03	GS-04	GS-05
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)					
<b>Volatile Organic Compounds</b>									
1,1,1-Trichloroethane	UG/KG	680	680	5.00E+05					
1,1-Dichloroethane	UG/KG	270	270	2.40E+05					
1,1-Dichloroethene	UG/KG	330	330	5.00E+05					
1,2-Dichloroethene (cis)	UG/KG	250	250	5.00E+05		59			
1,2-Dichloroethene (trans)	UG/KG	190	190	5.00E+05					
Acetone	UG/KG	50	50	5.00E+05				4.6 J	
Ethylbenzene	UG/KG	1000	1000	3.90E+05					
m&p-Xylene	UG/KG	260	1600	1600					
o-Xylene	UG/KG	260	1600	1600					
Trichloroethene	UG/KG	470	470	2.00E+05		170	23	3.1 J	5.5
<b>Semivolatile Organic Compounds</b>									
Anthracene	UG/KG	100000	1.00E+06	5.00E+05					
Benzo(a)anthracene	UG/KG	1000	1000	5600			110 J		
Benzo(a)pyrene	UG/KG	1000	22000	1000		160 J	94 J		
Benzo(b)fluoranthene	UG/KG	1000	1700	5600		120 J	130 J		
Benzo(g,h,i)perylene	UG/KG	100000	1.00E+06	5.00E+05		180 J	80 J		
Benzo(k)fluoranthene	UG/KG	800	1700	56000					
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4.35E+05	-			170 J	400	77 J
Butylbenzylphthalate	UG/KG	100000	1.22E+05	-		120 J			
Carbazole	UG/KG	-	-	-					

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria 1

 Concentration Exceeds Criteria (2)

 Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					GS-01	GS-02	GS-03	GS-04	GS-05
Sample ID					GS-01	GS-02	GS-03	GS-04	GS-05
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)					
<b>Semivolatile Organic Compounds</b>									
Chrysene	UG/KG	1000	1000	56000		85 J	110 J		
Dibenz(a,h)anthracene	UG/KG	330	1.00E+06	560					
Di-n-butylphthalate	UG/KG	-	8100	-	160 J	180 J	190 J	180 J	170 J
Fluoranthene	UG/KG	100000	1.00E+06	5.00E+05			170 J		
Indeno(1,2,3-cd)pyrene	UG/KG	500	8200	5600					
Phenanthrene	UG/KG	100000	1.00E+06	5.00E+05			150 J		
Pyrene	UG/KG	100000	1.00E+06	5.00E+05			170 J		
<b>Pesticide Organic Compounds</b>									
4,4'-DDT	UG/KG	3.3	1.36E+05	47000					6.5 J
<b>Polychlorinated Biphenyls</b>									
Aroclor 1254	UG/KG	-	-	-					72
Total Polychlorinated Biphenyls	UG/KG	100	3200	1000	ND	ND	ND	ND	72
<b>Metals</b>									
Aluminum	MG/KG	10000	-	-	16,300	16,100	12,900	12,000	14,800
Antimony	MG/KG	12	-	-	0.39 J				
Arsenic	MG/KG	13	16	16	12.6	9.2	7.8	6.3	9.9
Barium	MG/KG	350	820	400	60.5	283	82.6	76.8	107
Beryllium	MG/KG	7.2	47	590	0.69	0.69	0.62	0.44	0.63
Cadmium	MG/KG	2.5	7.5	9.3	0.35	0.92	18.0	23.6	113
Calcium	MG/KG	10000	-	-	1,780	1,640	14,000	75,300	14,300

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

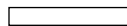
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					GS-01	GS-02	GS-03	GS-04	GS-05
Sample ID					GS-01	GS-02	GS-03	GS-04	GS-05
Matrix					Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-	-
Date Sampled					08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)					
<b>Metals</b>									
Chromium	MG/KG	30	NS	1500	24.2	111	456	1,190	288
Cobalt	MG/KG	20	-	-	17.2	15.5	15.0	11.8	12.5
Copper	MG/KG	50	1720	270	25.7	111	330	260	332
Iron	MG/KG	2000	-	-	43,700	28,500	32,500	21,200	33,000
Lead	MG/KG	63	450	1000	18.1	268	325	319	158
Magnesium	MG/KG	-	-	-	6,030	4,040	5,790	7,520	4,540
Manganese	MG/KG	1600	2000	10000	609	378	573	577	618
Mercury	MG/KG	0.18	0.73	2.8	0.018 J	0.074	0.11	0.020 J	0.13
Nickel	MG/KG	30	130	310	38.2	40.9	434	231	462
Potassium	MG/KG	-	-	-	840	1,820	970	1,290	1,530
Selenium	MG/KG	3.9	4	1500	0.68 J	1.6 J	0.90 J		0.96 J
Silver	MG/KG	2	8.3	1500			2.4	1.1 J	3.9
Sodium	MG/KG	-	-	-	430	727	103	144	596
Vanadium	MG/KG	39	-	-	20.3	23.1	20.7	16.0	20.7
Zinc	MG/KG	109	2480	10000	106	484	524	469	2,110
<b>Miscellaneous Parameters</b>									
Cyanide (total)	MG/KG	27	40	27			5.4	38.6	32.1
Hexavalent Chromium	MG/KG	1	19	-				180	

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

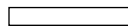
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



*Border*

Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.



**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**


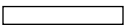

Location ID					GS-06	GS-07	GS-08	GS-08
Sample ID					GS-06	GS-07	FD-082913-GS	GS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/29/13	08/30/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)			Field Duplicate (1-1)	
<b>Volatile Organic Compounds</b>								
1,1,1-Trichloroethane	UG/KG	680	680	5.00E+05			14	16
1,1-Dichloroethane	UG/KG	270	270	2.40E+05			33	35
1,1-Dichloroethene	UG/KG	330	330	5.00E+05			5.2 J	5.4 J
1,2-Dichloroethene (cis)	UG/KG	250	250	5.00E+05			4,300 D	4,100 D
1,2-Dichloroethene (trans)	UG/KG	190	190	5.00E+05			18	19
Acetone	UG/KG	50	50	5.00E+05			5.4 J	
Ethylbenzene	UG/KG	1000	1000	3.90E+05			2.5 J	2.3 J
m&p-Xylene	UG/KG	260	1600	1600			8.5	7.6
o-Xylene	UG/KG	260	1600	1600			3.9 J	3.7 J
Trichloroethene	UG/KG	470	470	2.00E+05		410	2,500 D	2,500 D
<b>Semivolatile Organic Compounds</b>								
Anthracene	UG/KG	100000	1.00E+06	5.00E+05	75 J			
Benzo(a)anthracene	UG/KG	1000	1000	5600	370 J			89 J
Benzo(a)pyrene	UG/KG	1000	22000	1000	420			
Benzo(b)fluoranthene	UG/KG	1000	1700	5600	700			120 J
Benzo(g,h,i)perylene	UG/KG	100000	1.00E+06	5.00E+05	350 J			
Benzo(k)fluoranthene	UG/KG	800	1700	56000	340 J			
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4.35E+05	-		160 J		
Butylbenzylphthalate	UG/KG	100000	1.22E+05	-				
Carbazole	UG/KG	-	-	-	130 J			

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.

	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2)
	Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					GS-06	GS-07	GS-08	GS-08
Sample ID					GS-06	GS-07	FD-082913-GS	GS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/29/13	08/30/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)			Field Duplicate (1-1)	
<b>Semivolatile Organic Compounds</b>								
Chrysene	UG/KG	1000	1000	56000	710			90 J
Dibenz(a,h)anthracene	UG/KG	330	1.00E+06	560	100 J			
Di-n-butylphthalate	UG/KG	-	8100	-	150 J		130 J	160 J
Fluoranthene	UG/KG	100000	1.00E+06	5.00E+05	1,300	87 J		120 J
Indeno(1,2,3-cd)pyrene	UG/KG	500	8200	5600	330 J			
Phenanthrene	UG/KG	100000	1.00E+06	5.00E+05	1,300			
Pyrene	UG/KG	100000	1.00E+06	5.00E+05	1,200	96 J		130 J
<b>Pesticide Organic Compounds</b>								
4,4'-DDT	UG/KG	3.3	1.36E+05	47000				
<b>Polychlorinated Biphenyls</b>								
Aroclor 1254	UG/KG	-	-	-	38			
Total Polychlorinated Biphenyls	UG/KG	100	3200	1000	38	ND	ND	ND
<b>Metals</b>								
Aluminum	MG/KG	10000	-	-	14,300	14,100	14,400	14,100
Antimony	MG/KG	12	-	-		0.41 J		
Arsenic	MG/KG	13	16	16	15.3	14.5	17.5	11.7
Barium	MG/KG	350	820	400	67.4	157	150 J	81.4 J
Beryllium	MG/KG	7.2	47	590	0.55	0.72	0.68	0.61
Cadmium	MG/KG	2.5	7.5	9.3	11.8	1.5	3.1	2.7
Calcium	MG/KG	10000	-	-	2,930	8,960	4,510	3,030

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

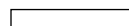
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



Border

Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

**TABLE 5**  
**SUMMARY OF DETECTED RESULTS IN SUBSLAB SOIL SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID					GS-06	GS-07	GS-08	GS-08
Sample ID					GS-06	GS-07	FD-082913-GS	GS-08
Matrix					Soil	Soil	Soil	Soil
Depth Interval (ft)					-	-	-	-
Date Sampled					08/29/13	08/30/13	08/29/13	08/29/13
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)			Field Duplicate (1-1)	
<b>Metals</b>								
Chromium	MG/KG	30	NS	1500	171	38.9	39.7	39.4
Cobalt	MG/KG	20	-	-	12.3	14.2	27.3	27.6
Copper	MG/KG	50	1720	270	151	138	71.4	59.6
Iron	MG/KG	2000	-	-	33,600	37,800	30,200	32,100
Lead	MG/KG	63	450	1000	91.3	211	468	84.1
Magnesium	MG/KG	-	-	-	4,430	3,900	3,950	4,340
Manganese	MG/KG	1600	2000	10000	427	512	451	438
Mercury	MG/KG	0.18	0.73	2.8	0.060	0.16	0.15 J	0.087 J
Nickel	MG/KG	30	130	310	172	33.9	138	170
Potassium	MG/KG	-	-	-	1,340	1,010	3,340	3,570
Selenium	MG/KG	3.9	4	1500	1.3 J	1.4	1.7 J	1.3 J
Silver	MG/KG	2	8.3	1500	1.6	3.2		
Sodium	MG/KG	-	-	-	289	707	810	641
Vanadium	MG/KG	39	-	-	18.8	22.4	26.6	23.7
Zinc	MG/KG	109	2480	10000	1,490	290	763	714
<b>Miscellaneous Parameters</b>								
Cyanide (total)	MG/KG	27	40	27	44.4			
Hexavalent Chromium	MG/KG	1	19	-				

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, including CP-51 Table 1, Effective 12/2/10.

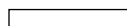
Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, including CP-51 Table 1, Effective 12/2/10.

Criteria (3)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Commercial, including CP-51 Table 1, Effective 12/2/10.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria (2)



Concentration Exceeds Criteria (3)

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

**TABLE 6**  
**SUMMARY OF DETECTED RESULTS IN CONCRETE CHIP SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID		CC-01	CC-02	CC-03	CC-04	CC-04
Sample ID		CC-01	CC-02	CC-03	CC-04	FD-082913-CC
Matrix		Concrete Chip	Concrete Chip	Concrete Chip	Concrete Chip	Concrete Chip
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Parameter	Units					Field Duplicate (1-1)
<b>Semivolatile Organic Compounds</b>						
bis(2-Ethylhexyl)phthalate	UG/KG				140 J	320 J
Di-n-butylphthalate	UG/KG	91 J	98 J	93 J	88 J	120 J
<b>Polychlorinated Biphenyls</b>						
Aroclor 1254	UG/KG				32 J	40
Total Polychlorinated Biphenyls	UG/KG	ND	ND	ND	32	40
<b>Metals</b>						
Aluminum	MG/KG	9,310	10,600	9,470	9,150	8,710
Arsenic	MG/KG	7.8 J	3.6 J	5.8 J	2.7 J	2.8 J
Barium	MG/KG	63.2	60.9	76.5	52.7	60.9
Beryllium	MG/KG		0.34	0.51	0.34	0.34
Cadmium	MG/KG	0.22 J	0.24 J	9.4	9.9	8.7
Calcium	MG/KG	86,500	66,500	91,800	112,000	132,000
Chromium	MG/KG	133 J	11.8 J	257 J	5,460 J	6,540 J
Cobalt	MG/KG	5.4 J	5.0 J	6.5 J	4.0 J	3.5 J
Copper	MG/KG	39.1	25.0	100	189	257
Iron	MG/KG	12,100 J	14,700 J	14,700 J	12,100 J	10,300 J
Lead	MG/KG	21.7 J	7.6 J	23.4 J	50.1 J	178 J
Magnesium	MG/KG	7,690 J	4,380 J	5,260 J	8,170 J	10,200 J
Manganese	MG/KG	443 J	340 J	684 J	288 J	270 J
Mercury	MG/KG	0.012 J	0.0067 J	0.0046 J	0.090	0.0049 J
Nickel	MG/KG	21.2 J	12.7 J	59.3 J	257 J	315 J
Potassium	MG/KG	1,250	616	633	1,510	1,800
Silver	MG/KG	0.82 J		0.36 J	0.44 J	0.72 J

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

**TABLE 6**  
**SUMMARY OF DETECTED RESULTS IN CONCRETE CHIP SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

Location ID		CC-01	CC-02	CC-03	CC-04	CC-04
Sample ID		CC-01	CC-02	CC-03	CC-04	FD-082913-CC
Matrix		Concrete Chip	Concrete Chip	Concrete Chip	Concrete Chip	Concrete Chip
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Parameter	Units					Field Duplicate (1-1)
<b>Metals</b>						
Sodium	MG/KG	406	203	137	766	942
Thallium	MG/KG					0.39 J
Vanadium	MG/KG	26.4	14.3	14.4	16.1	17.6
Zinc	MG/KG	464 J	108 J	280 J	404 J	194 J
<b>Miscellaneous Parameters</b>						
Cyanide (total)	MG/KG		0.62 J	16.0	13.4 J	23.5 J
Hexavalent Chromium	MG/KG	19		6.4	3,600 J	1,600 J

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

**TABLE 6**  
**SUMMARY OF DETECTED RESULTS IN CONCRETE CHIP SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

<b>Location ID</b>		CC-05
<b>Sample ID</b>		CC-05
<b>Matrix</b>		Concrete Chip
<b>Depth Interval (ft)</b>		-
<b>Date Sampled</b>		08/29/13
<b>Parameter</b>	<b>Units</b>	
<b>Semivolatile Organic Compounds</b>		
bis(2-Ethylhexyl)phthalate	UG/KG	180 J
Di-n-butylphthalate	UG/KG	94 J
<b>Polychlorinated Biphenyls</b>		
Aroclor 1254	UG/KG	
Total Polychlorinated Biphenyls	UG/KG	ND
<b>Metals</b>		
Aluminum	MG/KG	7,590
Arsenic	MG/KG	2.4 J
Barium	MG/KG	46.5
Beryllium	MG/KG	0.26
Cadmium	MG/KG	0.59
Calcium	MG/KG	159,000
Chromium	MG/KG	70.8 J
Cobalt	MG/KG	4.1 J
Copper	MG/KG	20.1
Iron	MG/KG	11,100 J
Lead	MG/KG	5.5 J
Magnesium	MG/KG	45,100 J
Manganese	MG/KG	317 J
Mercury	MG/KG	0.0060 J
Nickel	MG/KG	15.2 J
Potassium	MG/KG	1,390
Silver	MG/KG	0.31 J

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

**TABLE 6**  
**SUMMARY OF DETECTED RESULTS IN CONCRETE CHIP SAMPLES**  
**TRIPLE CITIES METAL FINISHING**

<b>Location ID</b>		CC-05
<b>Sample ID</b>		CC-05
<b>Matrix</b>		Concrete Chip
<b>Depth Interval (ft)</b>		-
<b>Date Sampled</b>		08/29/13
<b>Parameter</b>	<b>Units</b>	
<b>Metals</b>		
Sodium	MG/KG	958
Thallium	MG/KG	
Vanadium	MG/KG	19.8
Zinc	MG/KG	160 J
<b>Miscellaneous Parameters</b>		
Cyanide (total)	MG/KG	3.0
Hexavalent Chromium	MG/KG	30

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

**TABLE 7**  
**SUMMARY OF INVESTIGATION-DERIVED WASTE SAMPLE RESULTS**  
**TRIPLE CITIES METAL FINISHING**

Location ID			IDW-GW	IDW-SO
Sample ID			IDW-GW	IDW-SO
Matrix			Groundwater	Soil
Depth Interval (ft)			-	-
Date Sampled			08/30/13	08/30/13
Parameter	Units	Criteria*		
<b>TCLP Volatile Organic Compounds</b>				
1,1-Dichloroethene	MG/L	0.7	0.013	0.005 U
1,2-Dichloroethane	MG/L	0.5	0.005 U	0.005 U
Benzene	MG/L	0.5	0.005 U	0.0019 J
Carbon tetrachloride	MG/L	0.5	0.005 U	0.005 U
Chlorobenzene	MG/L	100	0.005 U	0.005 U
Chloroform	MG/L	6	0.005 U	0.005 U
Methyl ethyl ketone (2-Butanone)	MG/L	200	0.005 U	0.005 U
Tetrachloroethene	MG/L	0.7	0.005 J	0.005 U
Trichloroethene	MG/L	0.5	0.23 D	0.0036 J
Vinyl chloride	MG/L	0.2	0.005 U	0.005 U
<b>TCLP Semivolatile Organic Compounds</b>				
1,4-Dichlorobenzene	MG/L	7.5	0.033 U	0.033 U
2,4,5-Trichlorophenol	MG/L	400	0.067 U	0.067 U
2,4,6-Trichlorophenol	MG/L	2	0.033 U	0.033 U
2,4-Dinitrotoluene	MG/L	0.13	0.033 U	0.033 U
2-Methylphenol (o-cresol)	MG/L	200	0.033 U	0.033 U
4-Methylphenol	MG/L	200	0.033 U	0.033 U
Hexachlorobenzene	MG/L	0.13	0.033 U	0.033 U
Hexachlorobutadiene	MG/L	0.5	0.033 U	0.033 U
Hexachloroethane	MG/L	3	0.033 U	0.033 U
Nitrobenzene	MG/L	2	0.033 U	0.033 U
Pentachlorophenol	MG/L	100	0.067 U	0.067 U

\*Criteria- Hazardous Waste Criteria, 40 CFR Part 261, Subpart C - Characteristics of Hazardous Waste

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

J - The reported concentration is an estimated value.

E - The serial dilution was above QC limits.

Detection Limits shown are PQL

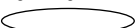


**TABLE 7**  
**SUMMARY OF INVESTIGATION-DERIVED WASTE SAMPLE RESULTS**  
**TRIPLE CITIES METAL FINISHING**

Location ID			IDW-GW	IDW-SO
Sample ID			IDW-GW	IDW-SO
Matrix			Groundwater	Soil
Depth Interval (ft)			-	-
Date Sampled			08/30/13	08/30/13
Parameter	Units	Criteria*		
<b>TCLP Semivolatile Organic Compounds</b>				
Pyridine	MG/L	5	0.067 U	0.067 U
<b>TCLP Pesticide Organic Compounds</b>				
Endrin	MG/L	0.02	0.00033 U	0.00033 U
gamma-BHC (Lindane)	MG/L	0.4	0.00017 U	0.00017 U
Heptachlor	MG/L	0.008	0.00017 U	0.00017 U
Heptachlor epoxide	MG/L	0.008	0.00017 U	0.00017 U
Methoxychlor	MG/L	10	0.0017 U	0.0017 U
Technical Chlordane	MG/L	0.03	0.0083 U	0.0083 U
Toxaphene	MG/L	0.5	0.017 U	0.017 U
<b>TCLP Herbicides</b>				
2,4,5-TP (Silvex)	MG/L	1	0.00033 U	0.00033 U
2,4-D	MG/L	10	0.0033 U	0.0033 U
<b>TCLP Metals</b>				
Arsenic	MG/L	5	0.02 U	0.02 U
Barium	MG/L	100	0.101 J	1.21 E
Cadmium	MG/L	1	0.005 U	0.019
Chromium	MG/L	5	0.252	0.02 U
Lead	MG/L	5	0.01 U	0.01 U
Mercury	MG/L	0.2	0.0002 U	0.0002 U
Selenium	MG/L	1	0.03 U	0.03 U
Silver	MG/L	5	0.03 U	0.03 U

\*Criteria- Hazardous Waste Criteria, 40 CFR Part 261, Subpart C - Characteristics of Hazardous Waste

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

J - The reported concentration is an estimated value.

E - The serial dilution was above QC limits.


Detection Limits shown are PQL

**TABLE 7**  
**SUMMARY OF INVESTIGATION-DERIVED WASTE SAMPLE RESULTS**  
**TRIPLE CITIES METAL FINISHING**

Location ID			IDW-GW	IDW-SO
Sample ID			IDW-GW	IDW-SO
Matrix			Groundwater	Soil
Depth Interval (ft)			-	-
Date Sampled			08/30/13	08/30/13
Parameter	Units	Criteria*		
<b>RCRA Characteristics</b>				
Corrosivity (pH)	S.U.	2-12.5	7.0	8.2
Ignitability	DEG F	<140	200 U	200 U
Cyanide, Reactive	MG/L	250	0.020 U	NA
Reactive Cyanide	MG/KG	250	NA	1.2 U
Reactive Sulfide	MG/KG	500	NA	1.8
Sulfide, Reactive	MG/L	500	0.030 U	NA

\*Criteria- Hazardous Waste Criteria, 40 CFR Part 261, Subpart C - Characteristics of Hazardous Waste

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

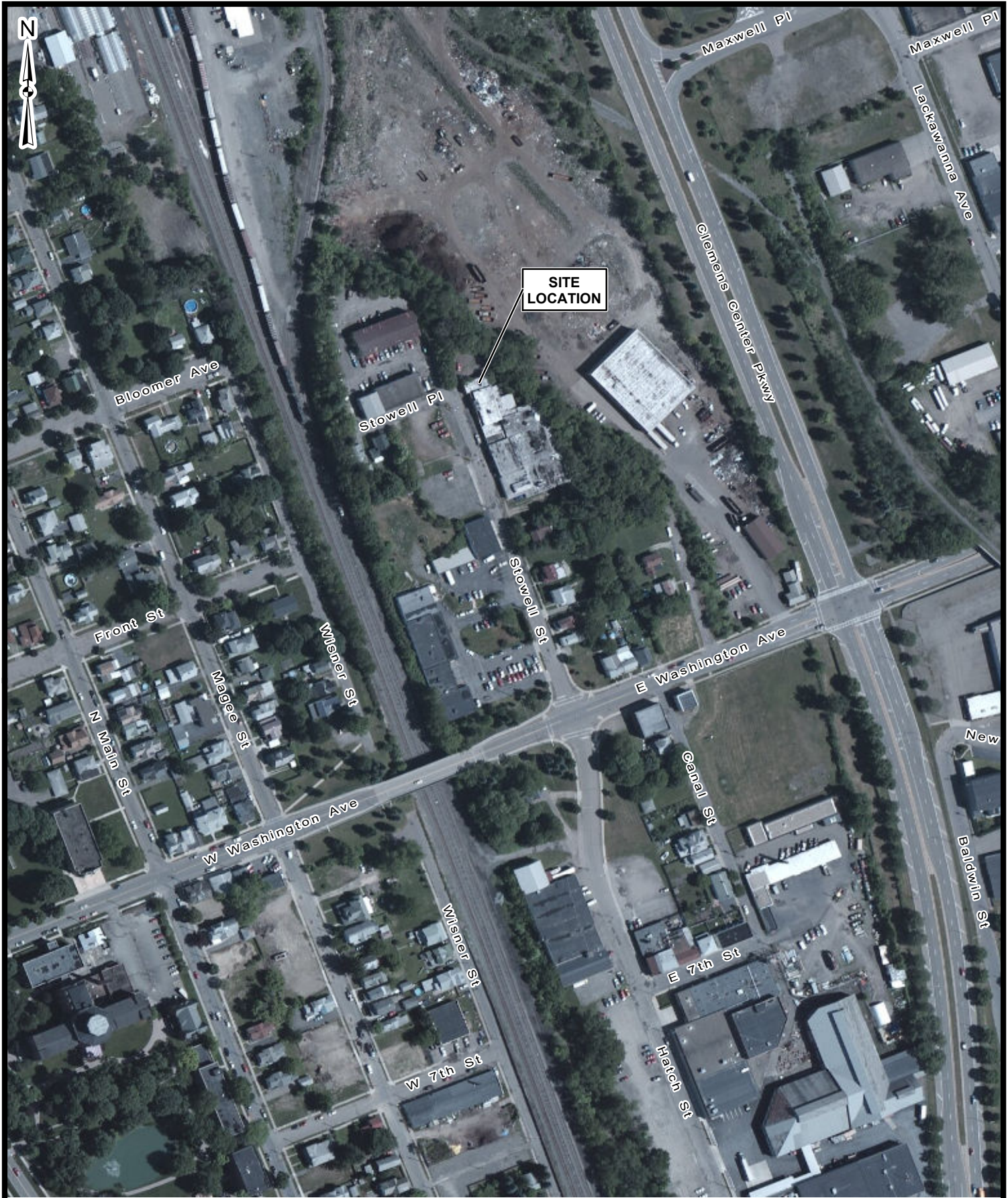
J - The reported concentration is an estimated value.

E - The serial dilution was above QC limits.

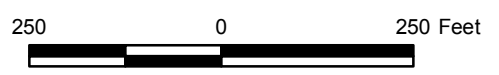
**Detection Limits shown are PQL**

# FIGURES

I:\1176967\DBGIS\MAPS\SC 2013 REPORT\01 SITE LOCATION.mxd 10/29/2013



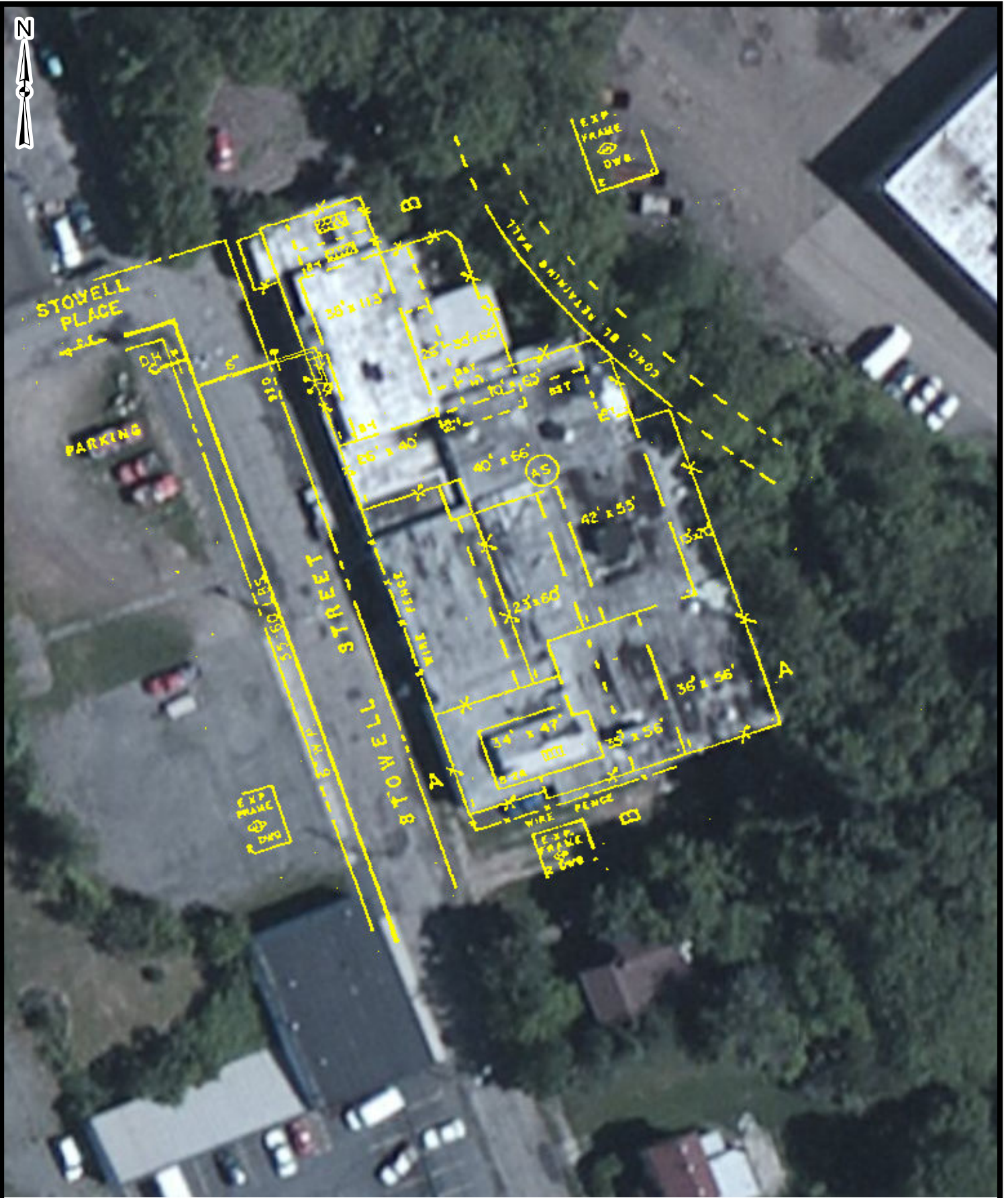
Source: ESRI World Imagery



TRIPLE CITIES METAL FINISHING  
ELMIRA, NEW YORK  
SITE LOCATION

FIGURE 1





Source: ESRI World Imagery



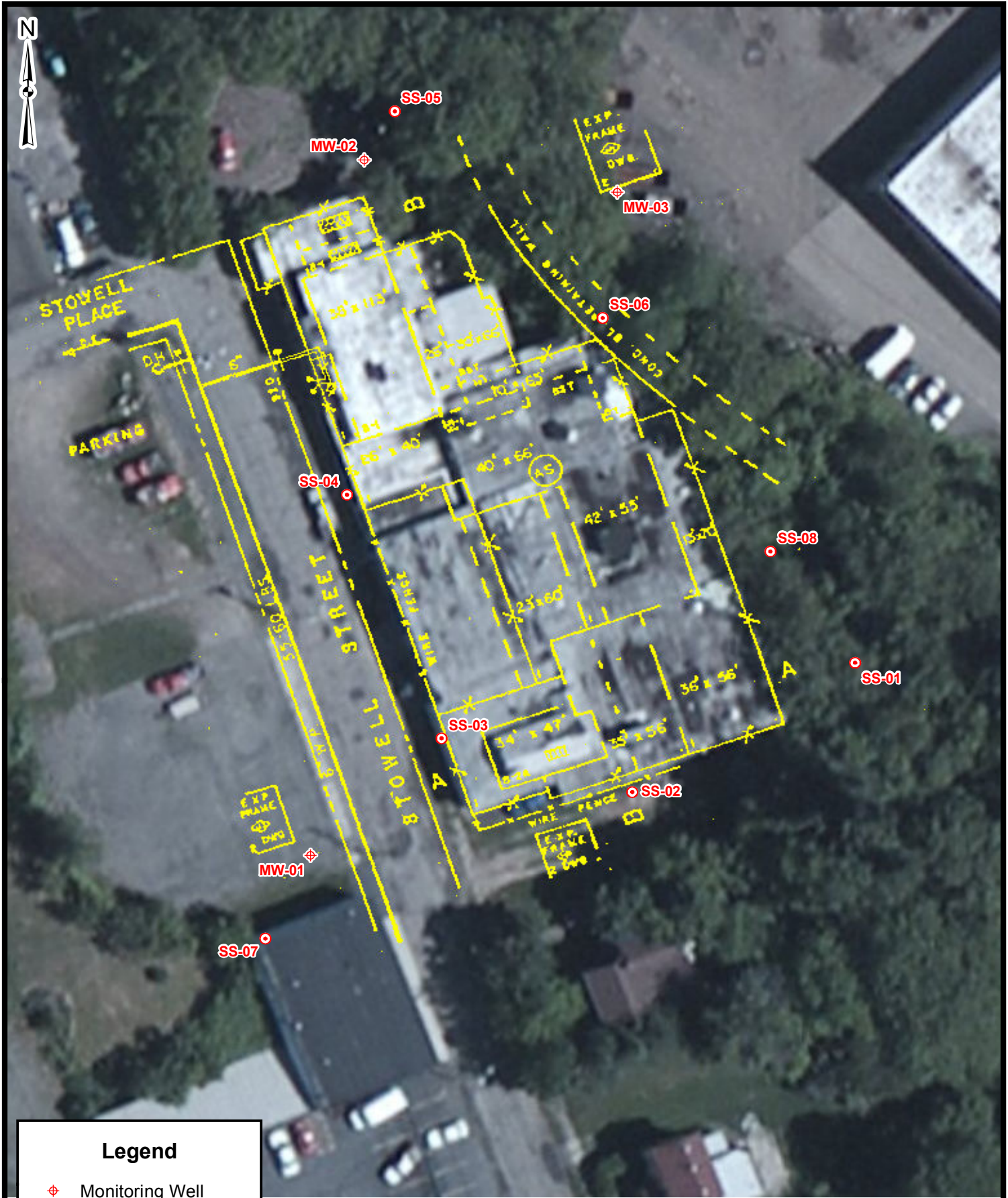
I:\1176967\DBGIS\MAPS\ISC 2013 REPORT\02 FLOOR PLAN OVERLAY.mxd 10/29/2013



TRIPLE CITIES METAL FINISHING  
ELMIRA, NEW YORK  
FLOOR PLAN OVERLAY

FIGURE 2





**Legend**

- ◆ Monitoring Well
- Surface Soil Sample

Source: ESRI World Imagery

50 0 50 Feet







SS-05	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Pesticides:</b>				
4,4'-DDT	3.3	136000	47000	5.8
<b>Metals:</b>				
Arsenic	13	16	16	23.5
Cadmium	2.5	7.5	9.3	64.3
Calcium	10000	--	--	64300
Chromium	30	--	1500	1220
Copper	50	1720	270	640
Iron	2000	--	--	43100
Nickel	30	130	310	423
Silver	2	8.3	1500	6.4
Zinc	109	2480	10000	3260

SS-06	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Pesticides:</b>				
4,4'-DDT	3.3	136000	47000	20
<b>Metals:</b>				
Aluminum	10000	--	--	11900
Cadmium	2.5	7.5	9.3	13.3
Chromium	30	--	1500	298
Copper	50	1720	270	819
Iron	2000	--	--	46000
Nickel	30	130	310	1320
Silver	2	8.3	1500	3.2
Zinc	109	2480	10000	1390

SS-08	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Pesticides:</b>				
4,4'-DDE	3.3	17000	62000	7
Dieldrin	5	100	1400	5.6
<b>Metals:</b>				
Arsenic	13	16	16	13.3
Cadmium	2.5	7.5	9.3	4.7
Chromium	30	--	1500	544
Copper	50	1720	270	211
Iron	2000	--	--	21600
Mercury	0.18	0.73	2.8	0.31
Nickel	30	130	310	73.1
Zinc	109	2480	10000	603

SS-04	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Arsenic	13	16	16	18
Calcium	10000	--	--	12100
Chromium	30	--	1500	50.6
Copper	50	1720	270	73.4
Iron	2000	--	--	35400
Mercury	0.18	0.73	2.8	0.19
Zinc	109	2480	10000	326

SS-01	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	10700
Arsenic	13	16	16	13.9
Chromium	30	--	1500	33.5
Copper	50	1720	270	72.9
Iron	2000	--	--	21300
Zinc	109	2480	10000	1300

SS-03	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	13500
Antimony	12	--	--	187
Arsenic	13	16	16	28.5
Cadmium	2.5	7.5	9.3	2.9
Chromium	30	--	1500	189
Copper	50	1720	270	78
Iron	2000	--	--	26100
Nickel	30	130	310	54
Zinc	109	2480	10000	283

SS-02	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Pesticides:</b>				
4,4'-DDT	3.3	136000	47000	5.4
<b>Metals:</b>				
Aluminum	10000	--	--	11400
Arsenic	13	16	16	13.3
Chromium	30	--	1500	65.2
Copper	50	1720	270	99.8
Iron	2000	--	--	30900
Mercury	0.18	0.73	2.8	0.3
Nickel	30	130	310	58.9
Zinc	109	2480	10000	286

SS-07	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	10200
Iron	2000	--	--	22400
Zinc	109	2480	10000	146

### Legend

Surface Soil Sample

Sample ID

SS-01	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Iron	2000	--	--	21300

Sample Date

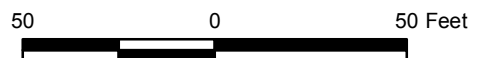
Criteria 1  
(Unrestricted)

Criteria 2  
(Protection of Groundwater)

Criteria 3  
(Commercial)

Result  
(Pesticides in ug/kg;  
Metals in mg/kg)

Criteria: 6NYCRR Part 375-6, CP-51  
Source: ESRI World Imagery  
Notes: Green denotes criteria exceeded by sample  
Red denotes sample result exceeds one or more criteria







MW-02 (23'-25')	CRIT 1	CRIT 2	CRIT 3	8/13
<b>SVOCs:</b>				
2,6-Dinitrotoluene	170	170	--	1300
<b>Metals:</b>				
Aluminum	10000	--	--	11600
Arsenic	13	16	16	18.7
Iron	2000	--	--	26900
Nickel	30	130	310	33.1
Zinc	109	2480	10000	137

MW-03 (6'-7')	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	15000
Iron	2000	--	--	33600

MW-01 (44'-46')	CRIT 1	CRIT 2	CRIT 3	8/13
<b>SVOCs:</b>				
2,6-Dinitrotoluene	170	170	--	1200
<b>Metals:</b>				
Calcium	10000	--	--	26200
Iron	2000	--	--	19500

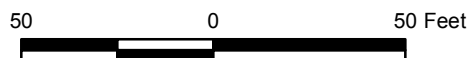
### Legend

Monitoring Well

Sample ID	Depth Interval	Criteria 2 (Protection of Groundwater)	Sample Date
MW-01 (44'-46')	CRIT 1   CRIT 2   CRIT 3	8/13	
<b>Metals:</b>			
Iron	2000	--	19500

Criteria: 6NYCRR Part 375-6, CP-51  
 Source: ESRI World Imagery  
 Notes: Green denotes criteria exceeded by sample  
 Red denotes sample result exceeds one or more criteria

Compound | Criteria 1 (Unrestricted) | Criteria 3 (Commercial) | Result (SVOCs in µg/kg; Metals in mg/kg)



## TRIPLE CITIES METAL FINISHING ELMIRA, NEW YORK MONITORING WELL SOIL ANALYTICAL RESULTS EXCEEDING GUIDANCE CRITERIA (AUGUST 2013)

FIGURE 5





MW-02	CRIT	9/13
VOCs:		
Trichloroethene	5	8.1
Metals:		
Iron	300	982
Manganese	300	1380
Sodium	20000	180000

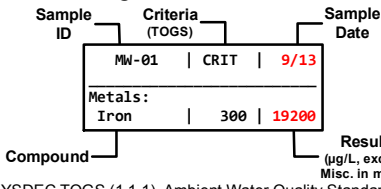
MW-03	CRIT	9/13
VOCs:		
1,1,1-Trichloroethane	5	39
1,1-Dichloroethene	5	13
Trichloroethene	5	220
Metals:		
Chromium	50	883
Iron	300	4890
Manganese	300	337
Sodium	20000	76800
Miscellaneous:		
Hexavalent Chromium	0.05	1

MW-01	CRIT	9/13
Metals:		
Chromium	50	493
Iron	300	19200
Manganese	300	360
Nickel	100	317
Sodium	20000	77800

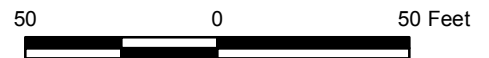
### Legend



Monitoring Well



Criteria: NYSDEC TOGS (1.1.1), Ambient Water Quality Standards, Class GA  
 Source: ESRI World Imagery  
 Note: Red denotes sample result exceeds criteria

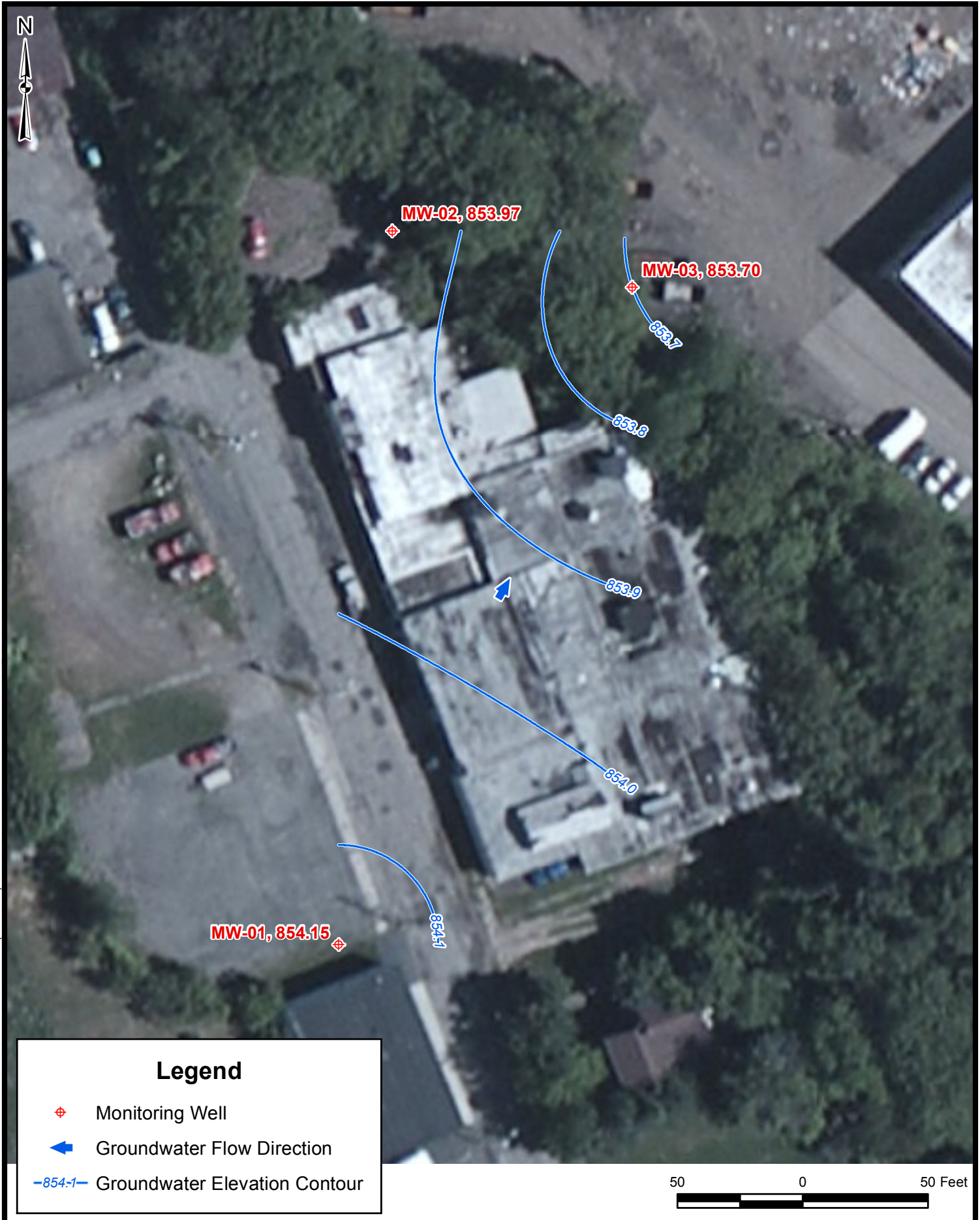


## TRIPLE CITIES METAL FINISHING ELMIRA, NEW YORK GROUNDWATER ANALYTICAL RESULTS EXCEEDING GUIDANCE CRITERIA (SEPTEMBER 2013)

FIGURE 6



I:\1176967\DB\GIS\MAPS\SC 2013 REPORT\07 GROUNDWATER CONTOURS (20131214).mxd 12/30/2013



### Legend

- Monitoring Well
- Groundwater Flow Direction
- Groundwater Elevation Contour

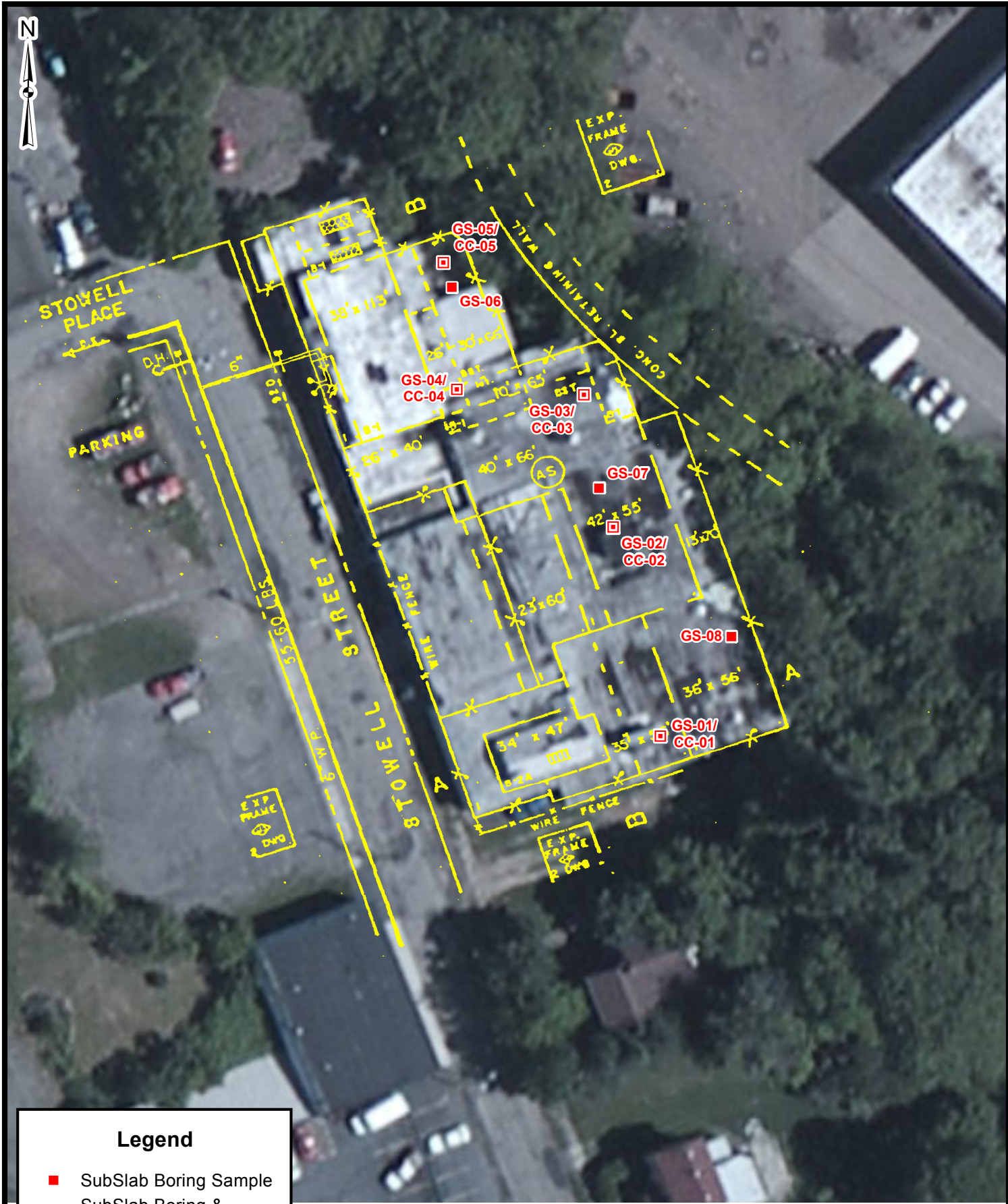
50 0 50 Feet



TRIPLE CITIES METAL FINISHING  
ELMIRA, NEW YORK  
GROUNDWATER CONTOURS  
DECEMBER 14, 2013

FIGURE 7





**Legend**

- SubSlab Boring Sample
- SubSlab Boring & Concrete Chip Sample

50 0 50 Feet



Source: ESRI World Imagery

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TRIPLE CITIES METAL FINISHING  
ELMIRA, NEW YORK  
SUBSLAB BORING & CONCRETE CHIP  
SAMPLE LOCATIONS

FIGURE 8





GS-06	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	14300
Arsenic	13	16	16	15.3
Cadmium	2.5	7.5	9.3	11.8
Chromium	30	--	1500	171
Copper	50	1720	270	151
Iron	2000	--	--	33600
Lead	63	450	1000	91.3
Nickel	30	130	310	172
Zinc	109	2480	10000	1490
<b>Miscellaneous:</b>				
Cyanide (total)	27	40	27	44.4

GS-05	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Pesticides:</b>				
4,4'-DDT	3.3	136000	47000	6.5
<b>Metals:</b>				
Aluminum	10000	--	--	14800
Cadmium	2.5	7.5	9.3	113
Calcium	10000	--	--	14300
Chromium	30	--	1500	288
Copper	50	1720	270	332
Iron	2000	--	--	33000
Lead	63	450	1000	158
Nickel	30	130	310	462
Silver	2	8.3	1500	3.9
Zinc	109	2480	10000	2110
<b>Miscellaneous:</b>				
Cyanide (total)	27	40	27	32.1

GS-03	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	12900
Cadmium	2.5	7.5	9.3	18
Calcium	10000	--	--	14000
Chromium	30	--	1500	456
Copper	50	1720	270	330
Iron	2000	--	--	32500
Lead	63	450	1000	325
Nickel	30	130	310	434
Silver	2	8.3	1500	2.4
Zinc	109	2480	10000	524

GS-04	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	12000
Cadmium	2.5	7.5	9.3	23.6
Calcium	10000	--	--	75300
Chromium	30	--	1500	1190
Copper	50	1720	270	260
Iron	2000	--	--	21200
Lead	63	450	1000	319
Nickel	30	130	310	231
Zinc	109	2480	10000	469
<b>Miscellaneous:</b>				
Cyanide (total)	27	40	27	38.6
Hexavalent Chromium	1	19	--	180

GS-02	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	16100
Chromium	30	--	1500	111
Copper	50	1720	270	111
Iron	2000	--	--	28500
Lead	63	450	1000	268
Nickel	30	130	310	40.9
Zinc	109	2480	10000	484

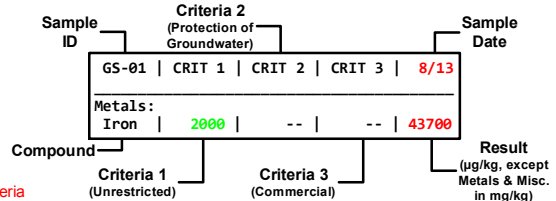
GS-07	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	14100
Arsenic	13	16	16	14.5
Chromium	30	--	1500	38.9
Copper	50	1720	270	138
Iron	2000	--	--	37800
Lead	63	450	1000	211
Nickel	30	130	310	33.9
Silver	2	8.3	1500	3.2
Zinc	109	2480	10000	290

GS-01	CRIT 1	CRIT 2	CRIT 3	8/13
<b>Metals:</b>				
Aluminum	10000	--	--	16300
Iron	2000	--	--	43700
Nickel	30	130	310	38.2

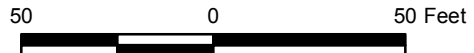
GS-08	CRIT 1	CRIT 2	CRIT 3	8/13
<b>VOCs:</b>				
1,2-Dichloroethene (cis)	250	250	500000	4300
Trichloroethene	470	470	200000	2500
<b>Metals:</b>				
Aluminum	10000	--	--	14400
Arsenic	13	16	16	17.5
Cadmium	2.5	7.5	9.3	3.1
Chromium	30	--	1500	39.7
Cobalt	20	--	--	27.6
Copper	50	1720	270	71.4
Iron	2000	--	--	32100
Lead	63	450	1000	468
Nickel	30	130	310	170
Zinc	109	2480	10000	763

### Legend

■ SubSlab Boring Sample



Criteria: 6NYCRR Part 375-6, CP-51  
 Source: ESRI World Imagery  
 Notes: Green denotes criteria exceeded by sample  
 Red denotes sample result exceeds one or more criteria



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## TRIPLE CITIES METAL FINISHING ELMIRA, NEW YORK SUBSLAB BORING ANALYTICAL RESULTS EXCEEDING GUIDANCE CRITERIA (AUGUST 2013)

FIGURE J

# **ATTACHMENT 1**

## **FIELD NOTES**



Location Elmira Triple Cities Date 8/26/13  
Project/Client 11176967 00002 NYS DEC

- 1235 - Collected surface soil sample @ SS-03  
Lt - DK Brown sandy topsoil, w/ 1:46 clay,  
moist, organics (roots), gravel  
also collected MS/MSD
- 1250 - collected SS-04, DK Brown sandy topsoil  
organics (roots), gravel, moist
- 1300 - collected SS-05, DK Brown sandy topsoil  
organics (roots), gravel, moist
- 1310 - collected SS-06, DK Brown, sandy topsoil  
organics (roots), gravel, moist
- 1340 - JS offsite
- 1545 - Drop off cooler @ FedEx
- Samples will be analyzed for:  
TCL VOCs, TCL SVOCs, Pesticides, PCBs,  
TAL Metals, Mercury, Cyanide, Hexavalent  
Chromium. by Spectrum Analytical

Location Elmira Triple Cities Date 8/27/13  
Project/Client 11176967 00002 NYS DEC

- 0800 - ORS onsite - Tim Iffkouch  
Weather - Partly Cloudy -75°  
- will meet w/ drillers from SJB to  
begin to drill + install 3 monitoring  
wells around the site. Continuous  
split spoon sampling will be performed  
until we find the water table.  
A 15' screen (2"Ø sch 40 PVC) will  
be installed straddling the water table,  
5' above, 10' below. A soil sample  
will be collected from the interval w/  
the highest PID or just above the  
water table. The sample will be  
sent to Spectrum Analytical in North  
Kingstown, RI, for analysis:  
TCL VOC, TCL SVOCs, Pesticides, PCBs,  
TAL Metals, Mercury, Cyanide, Hex. Chrom.
- 1000 - SJB arrives onsite  
Driller - Deyan Delude Helper - Don Delude  
- Held H2S meeting. Breathing zone  
will be monitored w/ a  
Mott RAE P105 meter from  
Pine Environmental



6

Location Elmore Triple Cities Date 8/27/13Project/Client 11176967 00002 NYSDEC

1000 - Drillers informed that they do not have all their equipment, only have 2 drums and missing PVC riser + decan unit.

1015 - Drillers offsite for gloves + early lunch

1050 - Return to site, begin to setup on MW-01

1100 - Begin to sample MW-01

- Drillers are using a Model TCX-850 track rig to drill the wells with a HSA

1230 - Geosol on site, moved truck + trailer out of way on north side of building

1430 - Geosol offsite

1605 - Drilled + sampled to 42', have not found water yet

- spoke w/ Jon Sundquist, will keep drilling to water, SJB needs to pick up more augers to keep drilling

1615 - Drillers offsite, will bring more 5' auger sections, Drums, PVC Riser

(u)

Location Elmore Triple Cities Date 8/27/13Project/Client 11176967 00002 NYSDEC

MW-01			
SS #	Depth	Desc.	PID
1	0-2 0.5'	Brown sand, gravel Dry	0.0
2	2-4 1.6'	Lt Brown VF sand + some gravel silt, trace clay, Dry	0.0
3	4-6 1.6'	SAA	0.0
4	6-8 1.3'	SAA	0.0
5	8-10 2'	Lt Brown silt, sand + gravel, Dry	0.0
6	10-12 1.6'	Lt Brn, silt + VF sand, some gravel, dry	0.0
7	12-14 1.7'	SAA	0.0
8	14-16 2'	Gray SAA	0.0
9	16-18 2'	SAA	0.0
10	18-20 1.5'	SAA	0.0



Elmira Triple Cities 8/27/13  
11176967 00002 / NYSDEC

MW-01 cont.

SS#	Depth	Rec.	Desc.	P/D
11	20-22	1.5'	Gray of sand & silt Dry	0.0
12	22-24	0.5'	Gray of sand & silt & gravel, Dry	0.0
13	24-26	1.5'	Gray of sand & silt, little gravel, Dry	0.0
14	26-28	1.6'	SAA, some gravel	0.0
15	28-30	1.6'	Gray of sand, silt & gravel, dry	0.0
16	30-32	1.5'	SAA	0.0
17	32-34	2'	SAA	0.0
18	34-36	2'	SAA	0.0
19	36-38	15'	Gray of sand & silt, little gravel, moist	0.0

Elmira Triple Cities 8/27/13 / 8/28/13  
11176967 00002 / NYSDEC

MW-01 cont

SS#	Depth	Rec.	Desc.	P/D
20	38-40		No Recovery	
21	40-42	1.5'	Gray of sand & silt, some gravel, moist	0.0
22	42-44	0.7	Gray of sand & silt, some gravel moist	0.0
23	44-46	1'	Gray of sand & silt moist	0.0

EO Sampling

will set well 35' - 50' screen  
0 35' riser  
sand to 33'  
bentonite to 31'

Location Elmira Triple Cities Dec 8/28/13

Project # 11176967 00007 NYSDEC

Weather - Cloudy, Muggy 80°

1015- SJB onsite, Driller- Brian Delude

Helper - Dan Delude

- Held H&S meeting.

- Will continue to drill @ MW-01  
w/ continuous sls sampling to the water table

1030- DEC onsite Ed Hampton & Dave

- Pulled up rods out of hole, rods were  
wet @ 25' but sampling showed no  
wetness.

- sls sample from 42-44 showed 1'  
of wet slough but sample (0.7') was  
only moist. Collected sample from 44-46  
<sup>in accordance w/ Ed</sup>

1057- In discussion w/ Ed, will set the  
screen 35-50' (see page 7, 8 & 9)

1100- Drillers begin to set the well. Take a  
site walkthrough through the building to mark  
out Geoprobe & concrete chip samples.

1225- Collected SS-07 sample near MW-01 as  
a background surface soil sample

1245- DEC offsite

1250- Collected surface soil sample @ SS-08

1330- Spoke w/ Jon Sundquist. For MW-02  
(North side of building) we will collect

Location Elmira Triple Cities Dec 8/28/13

Project # 11176967

a sls sample every 5' until 20', then  
continue w/ continuous sls sampling  
until water.

1345- Lunch

1415- Return to work, MW-01 was  
grouted up, will set flush mount  
tomorrow.

1440- Begin to drill/sample MW-02.

1540- Found water table ~ 25'.

- will drill to 35' & set the well  
(see page 12)

- Collected soil sample from 23-25'  
as well as MS/MSD &  
Equipment Blank

1615- Drillers will set well in the  
morning, offsite

Elmira - Triple Cities 8/28/15  
11176967.00002 / NYSD E.C.

SS#	Depth	Rec.	Desc.	P.O.
1	0-2	0.5'	3" Asphalt, Fill - sand, glass, gravel dry, gray	0.0
2	5-7	0.6'	Fill Blk-Red, sand, glass, brick fragments, dry	0.0
3	10-12	0.4'	Fill, SAA	0.0
4	15-17	0.3'	Fill, Brown SAA	0.0
5	20-22	1'	Fill Brown w/ sand, silt & gravel, moist	0.0
6	22-24	0.8'	SAA	0.0
7	24-26	1.2'	Brown w/ sand & silt, some gravel wet @ 25'	0.0
8	26-28	0.9'	SAA, wet	0.0

Will set screen 20-35'  
Sand - 18-35'  
But - 16-18'

Elmira - Triple Cities 8/24/15  
11176967.00002 / NYSD E.C.

Weather - Cloudy, 80°

- 0800 - URS onsite - Tim IFKorcs  
0815 - SS3 onsite Driller - Brian Delude  
Helper - Dan Delude  
- Held H2S meeting,  
will continue to set well MW-02  
1000 - Naturus Way onsite  
Dan McDavid (URS) onsite  
Dan will work w/ Naturus Way to  
collect 8 geoprobe samples &  
5 concrete chip samples from inside  
the building. Drillers will use a  
skid steer ~~mounted~~ w/ a geoprobe  
attached, to grab a sample 0-4'  
Holes will be cored & 5 of them  
will be kept for analysis  
1215 - Drillers head to Lewis for more  
sacrifice & take lunch  
1245 - Return to the site.  
- Move to MW-03 & begin  
drilling w/ cont. s/s sampling  
1330 - Found water table ~6', will drill  
& set the well @ 20' (see page 15)

14 Location Elmira - Triple Cities Date 8/25/13  
Project/Client 11176967.00002 NYSDEC

1600- set MW-03 (stick up) w/ 2. Bollards  
Drillers will return tomorrow to  
max drums & finish setting MW-01  
(flush mant)

- Note - Field <sup>DUP</sup> For Geoprobe Sample - GS-08  
Field Dup for Concrete Chip - CC-07

~~1715~~ - SJB offsite

Dan McDiard offsite to Fedex

1715- Attempted to develop MW-01.

Purged legal & well went dry.

W.L. was @ 23.39 initially, w/

DTB @ 47' w/ soft bottom.

Lots of silt is in the bottom of  
the well. well has very slow  
recharge (0.1'  $\approx$  1.5 min)

- will let recharge & purge again  
in the morning

15 Location Elmira - Triple Cities Date 8/25/13  
Project/Client 11176967.00002 NYSDEC

MW-03				
SS#	Depth	Rec.	Desc.	PID
1	0-2	1.6'	0-0.8' - DK Brn v Fine Sand, silt, gravel, moist, organics	0 0
			0.8-1.6 Gray v fine sand, silt, gravel moist	0 0
2	2-4	0.3'	Gray v fine sand & silt moist	0 0
3	4-6	1.4'	Brn - Gray v fine sand & silt, little clay, moist	0 0
4	6-8	0.8'	SAA, wet @ 7'	0 0
			Will set screen 5-20' sand 3-20' bentonite 1-3'	

Job TRIPLE CITIES - NYSDEC

Project No. \_\_\_\_\_

Sheet \_\_\_\_\_ of \_\_\_\_\_

 Description ELEVATION SURVEY

 Computed by RJM

 Date 9/5/13

 Checked by SM

 Date 9/6/13

Reference

<u>BS</u>	<u>INT</u>	<u>FS</u>	<u>HI</u>	<u>ELE</u>	<u>REMARKS</u>	
3.26			103.26	100.00	ARBITRARY DATUM = 100.00'	MH-02
	3.16			100.10		MH-01 (small st/stand fl)
	2.39			100.87		MW-01 GRD
	2.67			100.59		MW-01 RISER
	10.88			92.38		MW-02 GRD
	7.75			95.51		MW-02 RISER
0.27		3.26	100.27	100.00		MH-02/TP#1
0.43		7.67	93.03	92.60		TP#2
0.62		14.10	79.55	78.93		TP#3
5.41		8.86	76.10	70.69		TP#4
	6.34			69.76		MW-03 GRD
	3.03			73.07		MW-03 RISER
8.64		5.42	79.32	70.68		TP#5
14.27		0.40	93.19	78.92		TP#6
6.76		0.90	99.05	92.29		TP#7
6.84		0.98	104.91	98.07		TP#8
	4.88			100.03		MH-02 CLOSE #
	4.01			100.90		MW-01 GRD CLOSE #
						+0.03' @ END OF LOOP

**Monitoring Well Survey Results**  
**Triple Cities Metal Finishing**  
**Elmira, NY**

<b>LOCATION</b>	<b>NORTHING (Y)</b>	<b>EASTING (X)</b>	<b>GROUND</b>	<b>CASING</b>	<b>RISER</b>	<b>DTW 12/14/13</b>	<b>NOTES</b>
MW-01	765596.785	758415.946	887.298	NA	886.988	32.84	flushmount
MW-02	765881.292	758437.367	878.856	882.106	881.966	28.00	stick-up
MW-03	765858.891	758533.056	856.438	859.908	859.728	6.03	stick-up

X/Y IN STATE PLANE NY CENTRAL NAD 83

Z IN NAVD 88

## **ATTACHMENT 2**

## **PHOTOGRAPHS**



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 1:** 08/26/13 – Triple Cities Metals Finishing building – south end.



**Photo 2:** 08/26/13 – Triple Cities Metals Finishing building – north end.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 3:** 08/26/13 – Drilling equipment.



**Photo 4:** 08/26/13 – Setting up drill rig at location MW-01.

**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 5:** 08/27/13 – Drilling at location MW-01.



**Photo 6:** 08/29/13 – Monitoring well MW-01.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 7:** 09/05/13 – Equipment setup at monitoring well MW-01.



**Photo 8:** 08/28/13 – Drilling at location MW-02.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 9:** 08/29/13 – Well development at monitoring well location MW-02.



**Photo 10:** 09/05/13 – Sampling equipment setup at monitoring well location MW-02.

**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 11:** 08/28/13 – Drilling at location MW-03.



**Photo 12:** 08/29/13 – 55-gal IDW drums at location MW-03.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 13:** 09/05/13 – Sampling equipment setup at monitoring well location MW-03.



**Photo 14:** 08/29/13 – Hydraulic direct-push unit (geoprobe) location GS-01/CC-01.

**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 15:** 08/29/13 – Hydraulic direct-push unit (geoprobe) location GS-02/CC-02.



**Photo 16:** 08/29/13 – Hydraulic direct-push unit (geoprobe) location GS-04/CC-04.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 17:** 08/29/13 – Hydraulic direct-push unit (geoprobe) location GS-06.



**Photo 18:** 08/29/13 – Hydraulic direct-push unit (geoprobe) location GS-08.



**TRIPLE CITIES METALS FINISHING  
PHOTOGRAPHIC LOG  
ELMIRA, NEW YORK**



**Photo 19:** 08/30/13 – Drum staging area – SW corner of TCMF building.

**ATTACHMENT 3**

**DATA USABILITY SUMMARY REPORT (DUSR)**

(on CD-ROM)

**ATTACHMENT 4**

**DAILY DRILLING RECORDS**









# DAILY DRILLING RECORD


**URS Corporation**


PROJECT TITLE: Elmira - Triple Cities DATE: 8/30/13  
 CLIENT: NYSDEC CONTRACTOR: SSB

FROM	TO	PRODUCTIVE HOURS	ACTIVITIES/COMMENTS
			Moved drums to staging area.
			Set flush-mount casing @
			MW-01
TOTAL PRODUCTIVE HOURS			LEVEL B / LEVEL C / <u>LEVEL D</u> (CIRCLE ONE SELECTION)

LABOR:		MATERIALS / SUPPLIES:	
UNITS		UNITS	
	Driller - Brian Delude		
	Helper - Dan Delude		

WEATHER:

  
 URS ONSITE COORDINATOR

  
 CONTRACTOR REPRESENTATIVE

**ATTACHMENT 5**  
**TEST BORING LOGS**

BORING NO. : MW-01

PROJECT/PROJECT LOCATION: Elmira - Triple Cities Metal Finishing

SHEET: 1 OF 2

CLIENT: New York State Department of Environmental Conservation

JOB NO. : 11176967

BORING CONTRACTOR: SJB Services, Inc.

NORTHING: 765596.785

EASTING: 758415.946

GROUNDWATER: 25 ft

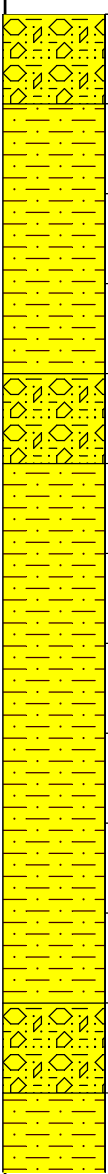
CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 887.30 ft amsl

DATE	TIME	LEVEL	TYPE	TYPE		Split Spoon		
				DIA.		2 in		
				WT.		140 lbs.		
				FALL		30 in		

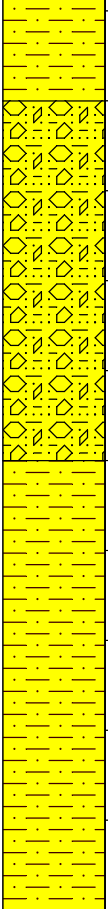
DATE STARTED:	8/27/13
DATE FINISHED:	8/28/13
DRILLER:	Brian Delude
GEOLOGIST:	T. Ifkovich
REVIEWED BY:	K. Connare

DEPTH FEET	STRATA	SAMPLE		REC%	COLOR	SOIL	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		NO.	BLOW COUNT	RQD%		CONSISTENCY				

0		1		25	Brown		Fine SAND and GRAVEL	SP/GW	0.0	Dry
		2		80	Lt Brown		Very Fine SAND and SILT, some gravel, trace clay	SM	0.0	
-5		3		80					0.0	
		4		65					0.0	
-10		5		100			Very fine SAND, SILT, and GRAVEL	SM/GW	0.0	
		6		80			Very fine SAND and SILT, some gravel	SM	0.0	
		7		85					0.0	
-15		8		100		Gray			0.0	
		9		100					0.0	
		10		75					0.0	
-20		11		75					0.0	
		12		25			Very fine SAND, SILT, and GRAVEL	SM/GW	0.0	
-25		13		75			Very fine SAND and SILT, little to some gravel	SM	0.0	

COMMENTS: Boring advanced with a track-mounted TCX-850 drill rig using a 4-1/4-inch HSA and 2-inch split spoon sampler. Collected sample from 44 to 46 ft for TCL VOCs, TCL SVOCs, Pesticides, PCBs, TAL Metals, Mercury, Cyanide, and Hexavalent Chromium analysis.

BORING NO. : MW-01

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID	REMARKS	
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					
-30		14		80			Very fine SAND, SILT, and GRAVEL	SM/GW	0.0		
		15		80					0.0		
		16		75					0.0		
		17		100			0.0				
-35		18		100			0.0				
		19		75			Very fine SAND and SILT, little to some gravel	SM	0.0		Moist
		20		0					0.0		
-40		21		75			0.0	Boring advanced to 50 ft without sampling	0.0		Stopped on 8/27/13 Resumed on 8/28/13
		22		35			0.0				
-45		23		50			0.0				
-50											
-55											

COMMENTS: Boring advanced with a track-mounted TCX-850 drill rig using a 4-1/4-inch HSA and 2-inch split spoon sampler. Collected sample from 44 to 46 ft for TCL VOCs, TCL SVOCs, Pesticides, PCBs, TAL Metals, Mercury, Cyanide, and Hexavalent Chromium analysis.

BORING NO. : MW-02

PROJECT/PROJECT LOCATION: Elmira - Triple Cities Metal Finishing

SHEET: 1 OF 2

CLIENT: New York State Department of Environmental Conservation

JOB NO. : 11176967

BORING CONTRACTOR: SJB Services, Inc.

NORTHING: 765881.292      EASTING: 758437.367

GROUNDWATER: ~25 ft

CAS.    SAMPLER    CORE    TUBE

GROUND ELEVATION: 878.86 ft amsl

DATE	TIME	LEVEL	TYPE	TYPE		Split Spoon		
				DIA.		2 in		
				WT.		140 lbs.		
				FALL		30 in		

DATE STARTED: 8/28/2013

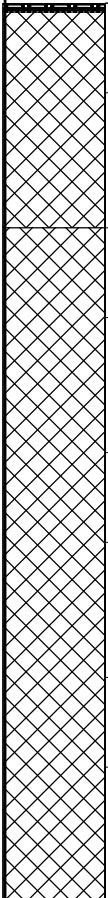
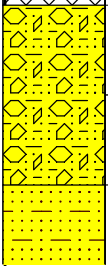
DATE FINISHED: 8/28/2013

DRILLER: Brian Delude

GEOLOGIST: T. Ifkovich

REVIEWED BY: K. Connare

DEPTH FEET	STRATA	SAMPLE		REC%	COLOR	SOIL	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		NO.	BLOW COUNT	RQD%		CONSISTENCY				

0		1		25	Gray		ASPHALT FILL: sand, gravel, some glass	FILL	0.0	Strata between sample intervals is based on drill cuttings. Dry	
-5		2		30	Black to Red		FILL: sand, some glass and brick fragments		0.0		
-10		3		20					0.0		
-15		4		15	Brown				0.0		
-20			5		50			Very fine SAND, SILT, and GRAVEL	SM/GW	0.0	Moist
-22			6		40					0.0	
-25			7		60				Very fine SAND and SILT, some gravel	SM	0.0

COMMENTS: Boring advanced with a track-mounted TCX-850 drill rig using a 4-1/4-inch HSA and 2-inch split spoon sampler. Collected soil sample from 23 to 25 ft for TCL VOCs, TCL SVOCs, Pesticides, PCBs, TAL Metals, Mercury, Cyanide, and Hexavalent Chromium for analysis.

BORING NO. : MW-02



DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS				
	[Pattern]	8		40					0.0	
-30							Boring advanced to 35 ft without sampling.  Very fine SAND and SILT, some gravel			
-35							End of boring at 35 ft.			
-40										
-45										
-50										
-55										

COMMENTS: Boring advanced with a track-mounted TCX-850 drill rig using a 4-1/4-inch HSA and 2-inch split spoon sampler. Collected soil sample from 23 to 25 ft for TCL VOCs, TCL SVOCs, Pesticides, PCBs, TAL Metals, Mercury, Cyanide, and Hexavalent Chromium for analysis.

BORING NO. : MW-03

PROJECT/PROJECT LOCATION: Elmira - Triple Cities Metal Finishing

SHEET: 1 OF 1

CLIENT: New York State Department of Environmental Conservation

JOB NO. : 11176967

BORING CONTRACTOR: SJB Services, Inc.

NORTHING: 765858.891      EASTING: 758533.056

GROUNDWATER: ~7 ft

CAS.    SAMPLER    CORE    TUBE

GROUND ELEVATION: 856.44 ft amsl

DATE	TIME	LEVEL	TYPE	TYPE		SAMPLER	CORE	TUBE
				DIA.		Split Spoon		
				WT.		2 in		
				FALL		140 lbs.		
						30 in		

DATE STARTED: 8/29/2013

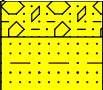
DATE FINISHED: 8/29/2013

DRILLER: Brian Delude

GEOLOGIST: T. Ifkovich

REVIEWED BY: K. Connare

DEPTH FEET	STRATA	SAMPLE		REC%	COLOR	SOIL	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		NO.	BLOW COUNT	RQD%		CONSISTENCY				

0		1		80	Brown Gray	Very fine SAND, SILT, and GRAVEL, little organic material  Very fine SAND and SILT, some gravel	SM/GW SM	0.0	Moist
		2		15					
		3		70	Brown to Gray				
		4		40					
-5									
-10									
-15									
-20									
-25									

COMMENTS: Boring advanced with a track-mounted TCX-850 drill rig using a 4-1/4-inch HSA and 2-inch split spoon sampler. Collected soil sample from 6 to 7 ft for TCL VOCs, TCL SVOCs, Pesticides, PCBs, TAL Metals, Mercury, Cyanide, and Hexavalent Chromium for analysis.

BORING NO. :MW-03

**ATTACHMENT 6**

**MONITORING WELL CONSTRUCTION LOGS**

**DRILLING SUMMARY**

**Geologist:**  
Tim Ifkovich

**Drilling Company:**  
SJB Services, Inc.

**Driller:**  
Brian Delude

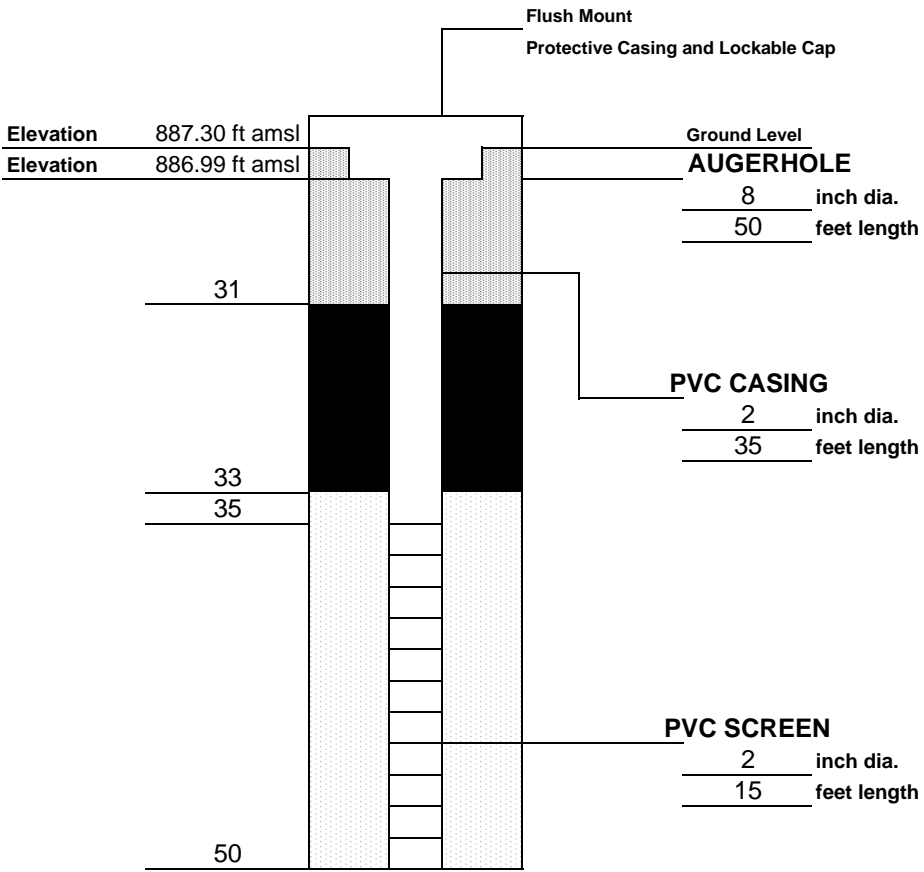
**Rig Make/Model:**  
TCX-850 track-mount

**Date:**  
8/28/2013

**GEOLOGIC LOG**

Depth(ft.)	Description
	See boring log for lithologic description.

**WELL DESIGN**






D  
E  
P  
T  
H

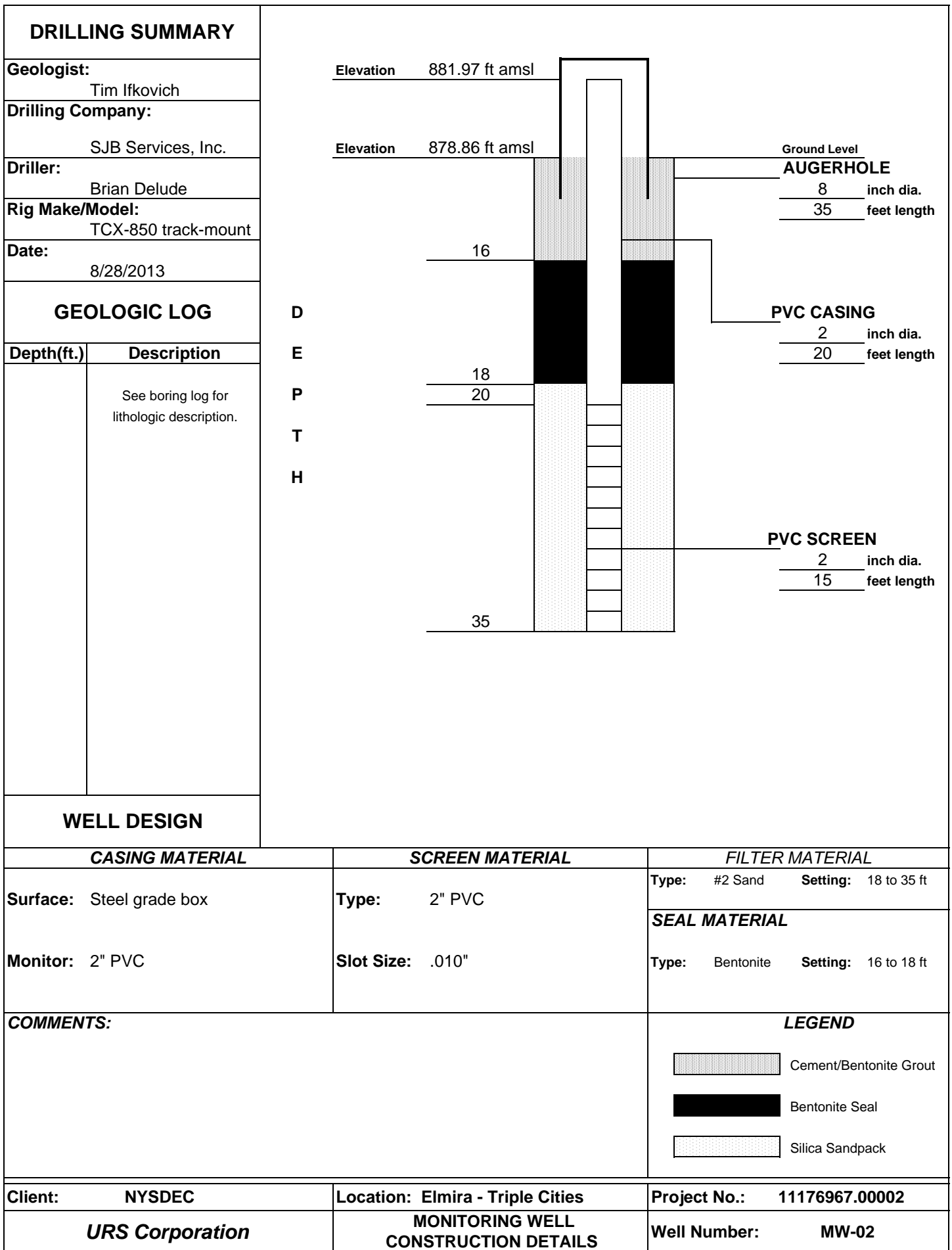
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: Steel grade box	Type: 2" PVC	Type: #2 Sand    Setting: 33 to 50 ft
Monitor: 2" PVC	Slot Size: .010"	<b>SEAL MATERIAL</b> Type: Bentonite    Setting: 31 to 33 ft

**COMMENTS:**

**LEGEND**

	Cement/Bentonite Grout
	Bentonite Seal
	Silica Sandpack

<b>Client:</b> NYSDEC	<b>Location:</b> Elmira - Triple Cities	<b>Project No.:</b> 11176967.00002
<b>URS Corporation</b>	<b>MONITORING WELL CONSTRUCTION DETAILS</b>	<b>Well Number:</b> MW-01





**DRILLING SUMMARY**

**Geologist:**  
Tim Ifkovich

**Drilling Company:**  
SJB Services, Inc.

**Driller:**  
Brian Delude

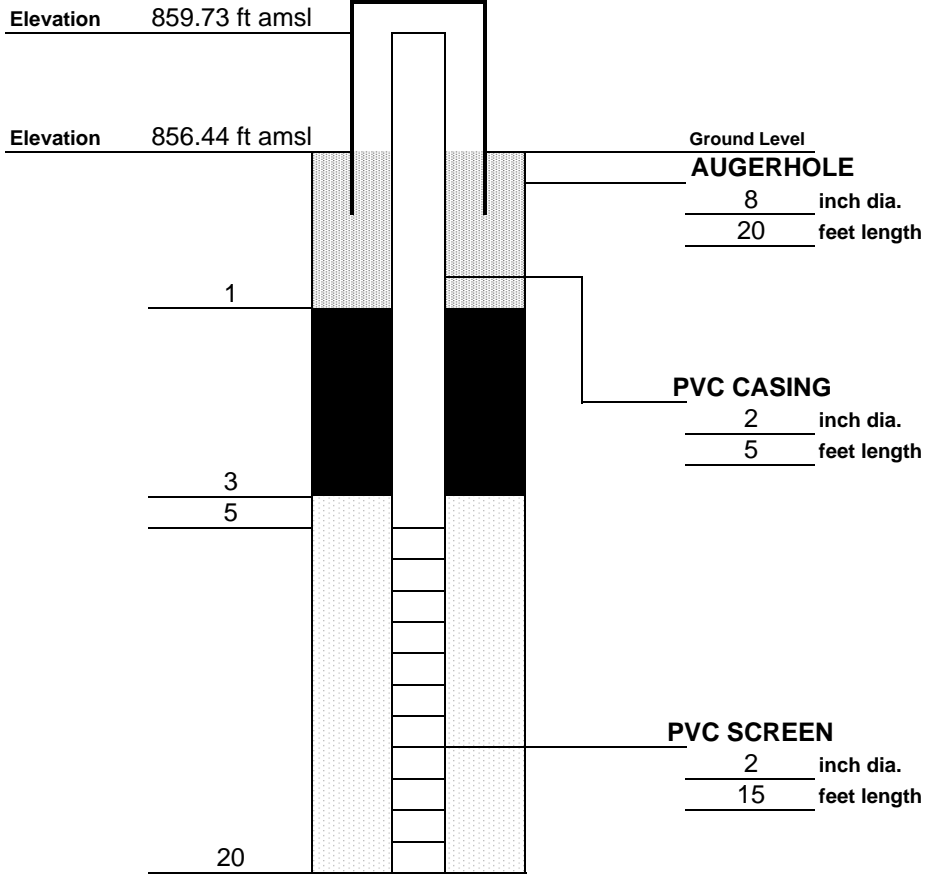
**Rig Make/Model:**  
TCX-850 track-mount

**Date:**  
8/29/2013

**GEOLOGIC LOG**

Depth(ft.)	Description
	See boring log for lithologic description.




**WELL DESIGN**



CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
<b>Surface:</b> Steel grade box	<b>Type:</b> 2" PVC	<b>Type:</b> #2 Sand <b>Setting:</b> 3 to 20 ft
<b>Monitor:</b> 2" PVC	<b>Slot Size:</b> .010"	<b>SEAL MATERIAL</b> <b>Type:</b> Bentonite <b>Setting:</b> 1 to 3ft

**COMMENTS:**

**LEGEND**

	Cement/Bentonite Grout
	Bentonite Seal
	Silica Sandpack

<b>Client:</b> NYSDEC	<b>Location:</b> Elmira - Triple Cities	<b>Project No.:</b> 11176967.00002
<b>URS Corporation</b>	<b>MONITORING WELL CONSTRUCTION DETAILS</b>	<b>Well Number:</b> MW-03

**ATTACHMENT 7**

**MONITORING WELL DEVELOPMENT LOGS**

# WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Elmira - Triple Cities Metal Finishing WELL NO.: MW-01

PROJECT NO.: 11176967.00002

STAFF: T. Ifkovich

DATE(S): 8/29/2013, 8/30/2013

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>48.00</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.39</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.61</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.17</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>4.18</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	<u>12.55</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>15.00</u>	8"	2.60

OR  
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	8/29/2013			8/30/2013						
	Initial	5	6	10	15					
pH	11.39	8.27	8.01	7.79	7.59					
SPEC. COND. (mS)	1.79	1.07	1.76	1.01	0.89					
TURBIDITY	>1,000	>1,000	>1,000	>1,000	>1,000					
TEMPERATURE (°C)	27.0	20.5	29.6	17.0	23.8					
APPEARANCE	Gray, Cloudy	Gray, Cloudy	Gray, Cloudy	Gray, Cloudy	Gray, Cloudy					
TIME	1605	1615	1645	745	1155					

COMMENTS:

Well was purged dry during each reading.  
 8/30/13 - WL at 0730 = 34.33 ft  
 8/30/13 - WL at 1146 = 35.80 ft

Very silty, slow recharge.

# WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Elmira - Triple Cities Metal Finishing WELL NO.: MW-02 PAGE: 1 of 2  
 PROJECT NO.: 11176967.00002  
 STAFF: T. Ifkovich  
 DATE(S): 8/30/2013

		WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	= <u>38.10</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	= <u>28.73</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	= <u>9.37</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	= <u>0.17</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	= <u>1.59</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	= <u>4.78</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	= <u>100.00</u>	8"	2.60

OR  
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	Initial	5	10	15	20	25	30	35	40	45	50	55
pH	7.25	6.99	7.16	7.18	7.21	7.19	7.20	7.23	7.35	7.32	7.30	7.25
SPEC. COND. (mS)	1.38	1.56	1.56	1.56	1.55	1.55	1.56	1.55	1.55	1.55	1.54	1.55
TURBIDITY	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000
TEMPERATURE (°C)	20.1	13.6	12.5	12.4	12.3	12.5	12.6	12.8	12.9	12.9	12.7	12.6
APPEARANCE	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy
TIME	820	830	835	839	843	847	851	855	858	901	904	907

COMMENTS:  
 Very silty.  
 Fast recharge.

# WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Elmira - Triple Cities Metal Finishing WELL NO.: MW-02 PAGE: 2 of 2

PROJECT NO.: 11176967.00002

STAFF: T. Ifkovich

DATE(S): 8/30/2013

		WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	= <u>38.10</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	= <u>28.73</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	= <u>9.37</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	= <u>0.17</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	= <u>1.59</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	= <u>4.78</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	= <u>100.00</u>	8"	2.60

OR  
V=0.0408 x (CASING DIAMETER)<sup>2</sup>

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	60	65	70	75	80	85	90	95	100			
pH	7.21	7.14	7.15	7.16	7.16	7.16	7.18	7.18	7.19			
SPEC. COND. (mS)	1.55	1.56	1.56	1.55	1.56	1.56	1.56	1.56	1.56			
TURBIDITY	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000			
TEMPERATURE (°C)	12.6	12.5	12.7	12.6	12.8	12.8	13.1	13.1	13.2			
APPEARANCE	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy			
TIME	909	911	915	918	922	926	930	934	938			

COMMENTS:

Very silty.  
Fast recharge.



# WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Elmira - Triple Cities Metal Finishing WELL NO.: MW-03 PAGE: 1 of 2  
 PROJECT NO.: 11176967.00002  
 STAFF: T. Ifkovich  
 DATE(S): 8/30/2013

		WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	= <u>23.21</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	= <u>6.84</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	= <u>16.37</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	= <u>0.17</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	= <u>2.78</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	= <u>8.35</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	= <u>100.00</u>	8"	2.60

OR  
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	Initial	5	10	15	20	25	30	35	40	45	50	55
pH	6.67	6.90	7.01	7.34	7.15	7.09	7.09	7.10	7.10	7.11	7.11	7.10
SPEC. COND. (mS)	1.46	1.31	1.20	1.09	1.10	1.12	1.11	1.08	1.08	1.09	1.09	1.07
TURBIDITY	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000
TEMPERATURE (°C)	15.7	15.4	15.1	14.9	14.4	14.3	14.3	14.3	14.4	14.5	14.4	14.1
APPEARANCE	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy
TIME	1005	1007	1010	1013	1017	1021	1027	1033	1036	1039	1041	1045

COMMENTS:  
 Very silty.  
 Fast recharge.

# WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Elmira - Triple Cities Metal Finishing WELL NO.: MW-03 PAGE: 2 of 2

PROJECT NO.: 11176967.00002

STAFF: T. Ifkovich

DATE(S): 8/30/2013

		WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	= <u>23.21</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	= <u>6.84</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	= <u>16.37</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	= <u>0.17</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	= <u>2.78</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	= <u>8.35</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	= <u>100.00</u>	8"	2.60

OR  
V=0.0408 x (CASING DIAMETER)<sup>2</sup>

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	60	65	70	75	80	85	90	95	100		
pH	7.11	7.11	7.11	7.13	7.14	7.14	7.16	7.16	7.18		
SPEC. COND. (mS)	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.03	1.03		
TURBIDITY	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000	>1,000		
TEMPERATURE (°C)	14.2	14.1	14.0	14.1	14.0	14	14.1	14	13.9		
APPEARANCE	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy	Brown, Cloudy		
TIME	1050	1055	1101	1104	1108	1112	1115	1118	1122		

COMMENTS:

Very silty.  
Fast recharge.

**ATTACHMENT 8**

**LOW-FLOW PURGE LOGS**

## LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11176967.00002 Site: Elmira - Triple Cities Well I.D.: MW-01

Date: 9/5/2013 Sampling Personnel: T. Ifkovich Company: URS Corporation

Purging/Sampling Device: Grundfos Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 33.63 Depth to Well Bottom: 49.53 Well Diameter: 2" Screen Length: 15'

Casing Type: PVC Volume in 1 Well Casing (liters): 9.8 Estimated Purge Volume (liters): 12.4

Sample ID: MW-01 Sample Time: 1717 QA/QC: --

Sample Parameters: TCL VOCs + 10 TICs, TCL SVOCs + 20 TICs, TCL Pesticides/PCBs, TAL Metals (22) ICP, Mercury, Cyanide, Hexavalent Chromium

### PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O <sub>2</sub> (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1036	11.57	18.58	1.35	3.94	676	-202	225	33.63
1041	11.51	19.05	1.15	1.63	310	-291	225	35.53
1046	11.55	19.27	1.21	2.20	458	-280	225	36.86
1051	11.37	19.39	1.13	1.68	471	-301	150	37.41
1056	11.37	19.56	1.08	1.09	488	-321	150	38.53
1101	11.54	20.52	1.09	1.09	345	-338	150	39.05
1106	11.52	21.15	1.08	1.00	250	-352	150	39.29
1111	11.51	21.45	1.04	1.00	341	-345	150	39.50
1116	11.50	21.52	0.976	0.88	514	-353	150	39.68
1121	11.34	21.80	0.881	0.80	>800	-353	150	39.97
1126	11.13	21.86	0.857	0.81	>800	-358	150	--
1131	10.96	21.90	0.831	0.86	>800	-362	150	41.22
1136	10.43	22.97	0.817	0.40	581	-366	150	41.71
1141	10.45	23.18	0.798	0.22	339	-413	150	41.75
1146	10.46	23.63	0.767	0.21	298	-432	150	41.71
1151	10.49	23.26	0.729	0.25	273	-341	150	41.91
1717	9.38	17.70	0.707	3.91	772	-254	--	34.04

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol<sub>cy</sub> = πr<sup>2</sup>h)

**Remarks:**

Monitoring well is very silty with slow recharge.  
 A high silt content in the well kept slowing down the purge rate, therefore the pump rate on the grundfos was continuously increased to try and keep a constant flow rate. This increasing/decreasing of the flow rate may have caused high turbidity readings.  
 Purging was stopped at 1151 to allow the well to recharge. A sample was collected at 1717.

## LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11176967.00002 Site: Elmira - Triple Cities Well I.D.: MW-02

Date: 9/5/2013 Sampling Personnel: T. Ifkovich Company: URS Corporation

Purging/Sampling Device: Grundfos Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 29.08 Depth to Well Bottom: 38.35 Well Diameter: 2" Screen Length: 15'

Casing Type: PVC Volume in 1 Well Casing (liters): 5.7 Estimated Purge Volume (liters): 35.0

Sample ID: MW-02 FD-090513 Sample Time: 1510 QA/QC: Field Duplicate

Sample Parameters: TCL VOCs + 10 TICs, TCL SVOCs + 20 TICs, TCL Pesticides/PCBs, TAL Metals (22) ICP, Mercury, Cyanide, Hexavalent Chromium

### PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O <sub>2</sub> (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1420	8.61	12.53	1.30	1.22	605	-96	700	29.08
1425	7.64	15.15	1.39	0.30	373	-116	700	29.36
1430	7.32	15.64	1.38	0.27	280	-105	700	29.40
1435	7.18	15.58	1.39	0.16	227	-109	700	29.41
1440	7.10	15.61	1.39	0.00	167	-115	700	29.47
1445	7.29	14.37	1.42	0.00	137	-134	700	29.47
1450	7.05	14.33	1.44	0.00	85.7	-131	700	29.44
1455	7.09	14.37	1.44	0.00	63.4	-145	700	29.45
1500	7.12	14.44	1.45	0.00	47.3	-155	700	29.46
1505	7.14	14.49	1.46	0.00	36.1	-161	700	29.47
1510	7.15	14.56	1.47	0.00	34.1	-163	700	29.48

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol<sub>cy</sub> = πr<sup>2</sup>h)

Remarks:

## LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11176967.00002 Site: Elmira - Triple Cities Well I.D.: MW-03

Date: 9/5/2013 Sampling Personnel: T. Ifkovich Company: URS Corporation

Purging/  
Sampling  
Device: Grundfos Tubing Type: LDPE Pump/Tubing  
Inlet  
Location: Screen midpoint

Measuring Below Top of Initial Depth Depth to Well Well Screen  
Point: Riser to Water: 7.20 Well Bottom: 23.10 Diameter: 2" Length: 15'

Casing  
Type: PVC Volume in 1  
Well Casing  
(liters): 9.8 Estimated  
Purge  
Volume  
(liters): 25.5

Sample ID: MW-03  
MW-03-MS  
MW-03-MSD Sample  
Time: 1640 QA/QC: MS/MSD

Sample Parameters: TCL VOCs + 10 TICs, TCL SVOCs + 20 TICs, TCL Pesticides/PCBs, TAL Metals (22) ICP, Mercury,  
Cyanide, Hexavalent Chromium

### PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O <sub>2</sub> (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1610	7.34	13.59	0.863	1.51	>800	-181	850	7.20
1615	7.07	14.53	0.855	0.00	215	-181	850	8.55
1620	6.95	14.55	0.851	0.00	117	-177	850	8.48
1625	6.81	14.49	0.852	0.00	76.3	-176	850	8.48
1630	6.97	14.45	0.849	0.00	49.7	-178	850	8.48
1635	6.92	14.41	0.850	0.00	42.5	-179	850	8.48
1640	6.89	14.39	0.848	0.00	40.2	-176	850	8.48

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;  
4 inch diameter well = 2470 ml/ft (vol<sub>cy</sub> = πr<sup>2</sup>h)

Remarks:



**ATTACHMENT 9**

**INVESTIGATION DERIVED WASTE (IDW)  
DISPOSAL DOCUMENTS**

<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 800-535-5053	4. Waste Tracking Number 14569		
5. Generator's Name and Mailing Address NYS DEC Site (Triple Cities Metal Finishing) 828 Stowell St. Elmira, NY 13604 Generator's Phone:						
Generator's Site Address (if different than mailing address)						
6. Transporter 1 Company Name Environmental Service Group, Inc			716.895.6720			
7. Transporter 2 Company Name			U.S. EPA ID Number NYD986903904			
8. Designated Facility Name and Site Address American Recyclers Inc. 177 Wales Ave Tonawanda, NY 14150 Facility's Phone:			716.895.6720			
			U.S. EPA ID Number NYR000030909			
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
		No.	Type			
1. Non RCRA Non DDT Regulated, (Ground water)		003	DN	125	←	
2. Non RCRA Non DDT Regulated, (Soil Cuttings)		006	DN	3400	♀	
3.						
4.						
13. Special Handling Instructions and Additional Information						
ERG:		Handling Codes:				
1.	Approval#	1 - None	24 Hour Emergency Contact:			
2.	1 - H-0473IN	2 - None	INFORMAC (Callers must ID			
3.	2 - A-0474L	3 -	ERG)			
4.	3.	4 -				
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
Generator's/Offoror's Printed/Typed Name		Signature		Month	Day	Year
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit:						
Transporter Signature (for exports only): Date leaving U.S.:						
16. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name		Signature		Month	Day	Year
K. S. W. McCallister		[Signature]		10	07	13
Transporter 2 Printed/Typed Name		Signature		Month	Day	Year
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number:						
17b. Alternate Facility (or Generator)			U.S. EPA ID Number			
Facility's Phone:						
17c. Signature of Alternate Facility (or Generator)			Month	Day	Year	
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name		Signature		Month	Day	Year

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

**GENERATOR'S/SHIPPER'S INITIAL COPY**