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September 4, 2009

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SEP 0 9 2009

Larry Rosenmann
Chief, Bureau of Hazardous Waste Management
Division of Solid & Hazardous Materials
NYS Dept. of Environmental Conservation
625 Broadway

RE: Corrective Action Order — Index #: CO 7-20051118-4
UTC/Carrier Corporation, Thompson Road Facility, Syracuse, New York
Thompson Road Parking Lot Phase I Investigation Report

Mr. Rosenmann,

Please find the enclosed Thompson Road Parking Lot Phase I Investigation Report. This report summarizes the investigation conducted in June 2009.

A corrective measures study will be submitted following completion of the RFI investigations.

Please contact Mr. William Penn at (860) 728-6542 if you have any questions.

Sincerely,

EnSafe Inc.

By: David Wyatt, PG

cc: Samuel I. Ezekwo — RCRA Programs Branch USEPA

Tim DiGuillo, James E. Gruppe — NYSDEC Syracuse, NY

Mark Sergott — NYSDOH Troy, NY

William E. Penn — UTC

Nelson Wong — Carrier Corporation

# THOMPSON ROAD PARKING LOT **PHASE I INVESTIGATION REPORT**

CARRIER CORPORATION THOMPSON ROAD FACILITY **CARRIER PARKWAY SYRACUSE, NEW YORK** 

> **EnSafe Project Number** 0888807943

> > Revision: 0

Prepared for:

**UTC Remediation Shared Services United Technologies Building** Hartford, Connecticut

Prepared by:



EnSafe Inc. 220 Athens Way, Suite 410 Nashville, Tennessee 37228 (615) 255-9300 (800) 588-7962 www.ensafe.com

September 2009

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September 4, 2009	September 4, 2009 RECEIVED

Date

September 4, 2009

Date

SEP 092009

Bureau of Hazardous Waste & Radiation Management Division of Solid & Hazardous Materials

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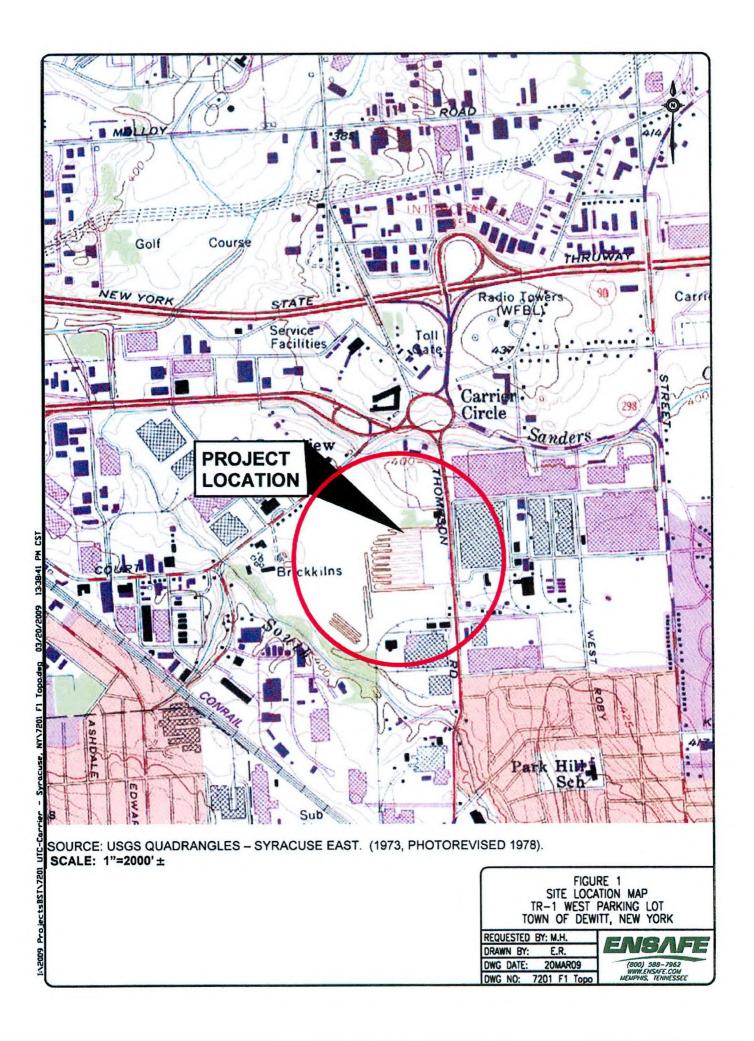
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#### 1.0 INTRODUCTION

EnSafe Inc. was retained by United Technologies Corporation (UTC) Shared Remediation Services to perform a Phase I Investigation at AOC G — Carrier-DeWitt Landfill and surrounding area (Thompson Road Parking Lot), at the Carrier Corporation (Carrier) Thompson Road facility in Syracuse, New York. This Phase I Investigation was performed in response to a due diligence investigation performed by a third party consultant and the December 2008 initial investigation. The previous investigations detected volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) in soils and VOCs in groundwater. The data collected during the December 2008 investigation was presented in the March 2009 Thompson Road Parking Lot Investigation Report and Phase I Work Plan.

The Thompson Road parking lot currently overlies the former landfill area and is adjacent to Thompson Road in Syracuse, New York, south of the New York State Thruway Interchange 35, and immediately southwest of Carrier Circle, as shown on Figure 1. The parking lot is bordered by a McDonalds Restaurant and then Sanders Creek to the north, Thompson Road to the east, a wetlands area and then commercial property to the west and a commercial area to the south. The property slopes slightly north toward Sanders Creek.





#### 2.0 SCOPE OF WORK AND FINDINGS

During the December 2008 investigation, 17 test pits were completed and four groundwater monitoring wells were installed (Figure 2). Soil samples were collected in eight of the test pits throughout the landfill area. Groundwater samples were collected from each of the four groundwater monitoring wells.

As noted in the Phase I Investigation Work Plan, a phased approach to the site was developed. This Phase I Investigation focused on shallow and deep groundwater to better understand the potential for other source areas. Based on the concentrations of VOCs, PCBs and metals detected in ETP-5 soils and MW-6 groundwater, a nearby source area was suspected. EnSafe mobilized to the property in June 2009 to evaluate the extent of the contamination of groundwater and to further evaluate the site's shallow and deep groundwater aguifers.

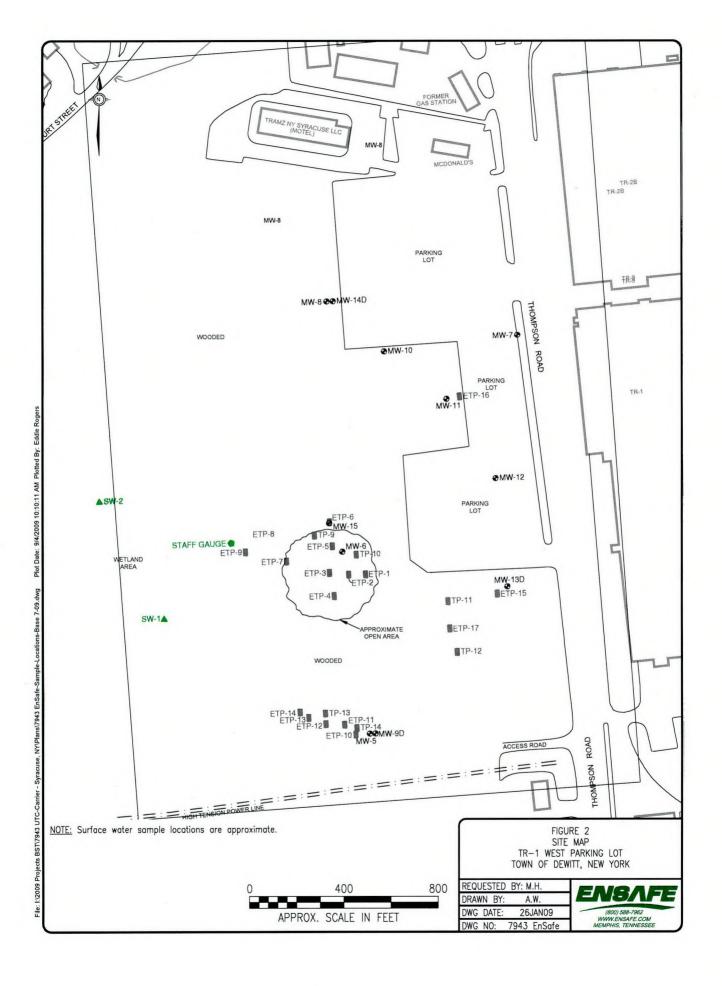
Seven additional shallow and deep groundwater monitoring wells were installed at the site. A total of eight monitoring wells (MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, and MW-15) were used to evaluate the shallow groundwater aquifer (Figure 2). Three deep groundwater monitoring wells (MW-9D, MW-13D, and MW-14D) were also installed to evaluate the potential vertical extent of groundwater contamination at the site.

All soil and groundwater samples collected as part of this investigation were submitted to Accutest Laboratories in Dayton, New Jersey, a New York State Department of Environmental Conservation (NYSDEC) approved analytical laboratory, for analysis of VOCs via U.S. Environmental Protection Agency (USEPA) SW-846 Method 8260, PCBs via USEPA SW-846 Method 8082 and Resource Conservation Recovery Act (RCRA) metals via USEPA SW-846 Method 8010B. Soil and groundwater samples were collected June 22 through 28, 2009, by EnSafe personnel. The samples were sorted and shipped daily to the laboratory under chain-of-custody control via FedEx overnight courier.

#### 2.1 Groundwater Investigation and Development

### 2.1.1 Monitoring Well Installation

In addition to the four existing monitoring wells, seven additional groundwater monitoring wells were installed and sampled to investigate the shallow and deep groundwater aquifers (Figure 2). Two well locations changed during the field activities with approval from NYSDEC personnel. MW-10 was moved from its proposed location in the wooded area north of MW-6 to the edge of the asphalt area as depicted in Figure 2. During the field activities and at the request of NYSDEC, two wells located along Thompson Road on the southern portion of the site were removed from the work plan and replaced with the current location of MW-15. A staff gauge was installed and surveyed to provide a surface water elevation for the wetland area with the consent of NYSDEC.



Thompson Road Parking Lot Phase I Investigation Report
Carrier Corporation, Thompson Road Facility
Syracuse, New York
September 2009



Borings were advanced using 6-inch outside diameter hollow stem augers until a sufficient thickness of saturated soil had been penetrated for proper placement of the well screen. Soil samples were collected during drilling at 5-foot intervals using a split spoon. Soil samples were visually classified and field screened using a photoionization detector (PID). During the screening, the soil was placed in a sealable plastic bag for a sufficient amount of time and the volatile organic vapor concentration was measured from the headspace of each bag using the PID. The concentrations were recorded on the soil boring log for each boring. Descriptions of the soils encountered are also shown on each soil boring log.

Soil samples were collected from each interval and submitted to the laboratory for VOC, PCB, and metals analysis. These samples were used to further define the nature and extent of soil contamination.

To prevent cross contamination during sampling, all drilling and sampling equipment was decontaminated between each boring. Pressure washing of downhole equipment was conducted prior to arrival onsite by the drilling firm. Decontamination required onsite was conducted at a portable decontamination station established prior to the initiation of the sampling activities. The decontamination station consisted of separate buckets of soapy water and rinse water placed on double-layered sheets of 4-mil plastic, allowing the station to be moved easily from one investigation location to another.

#### 2.1.2 Monitoring Well Completion

Upon completion of each well boring, a 2-inch inside diameter (ID) polyvinyl chloride (PVC) monitoring well was installed. Each well was constructed with sufficient length of schedule 40, flush threaded, 2-inch ID, PVC well screened to 0.010 inches, capped on the bottom, and a sufficient length of schedule 40, flush threaded, 2-inch ID, PVC riser pipe to extend 2 to 3 feet above the ground surface. In addition, a polyester filter sock was placed upon the screened portion of the well to minimize sediment entering the well. The top of each well riser was secured using a locking expandable well cap with rubber gasket. A brass, keyed-alike padlock was placed on each monitoring well.

Before the well screen and casings were placed in the borehole, at least 6 inches of filter material was placed at the bottom of the borehole to serve as a firm footing. A #1 graded sand was used for filter packing material. The string of well screen and casing was then placed into the borehole. The filter material was then placed around the well screen to a minimum of 2 feet above the top of the screened interval. After the filter pack was installed, bentonite pellets were placed directly on top of the filter pack up to the designated depth or a minimum of 2 feet above the filter pack. The pellets were then



hydrated. After the pellet seal had been hydrated a minimum of 8 hours, a Portland cement/bentonite grout mixture was then pumped into the annular space around the casings up to within 2 feet of the ground surface.

The wells were then completed with either a flush-mounted manhole cover or an above ground locking manhole covers set into 3-foot by 3-foot concrete pads. The outer protective casings were then painted with highly visible enamel paint. The wells were permanently marked with the well number. The boring logs/installation diagrams for the newly installed wells are provided in Appendix A.

Each well was developed prior to sampling, and in general accordance with established protocols, by purging water from the well until the column of water was free of sediment (less than 10 nephlometric turbidity units [ntu] as measured with a turbidity meter) and the pH and specific conductivity had stabilized to within 10%. Well development was conducted at least 24 hours before sampling of the wells.

#### 2.1.3 Potentiometric Data

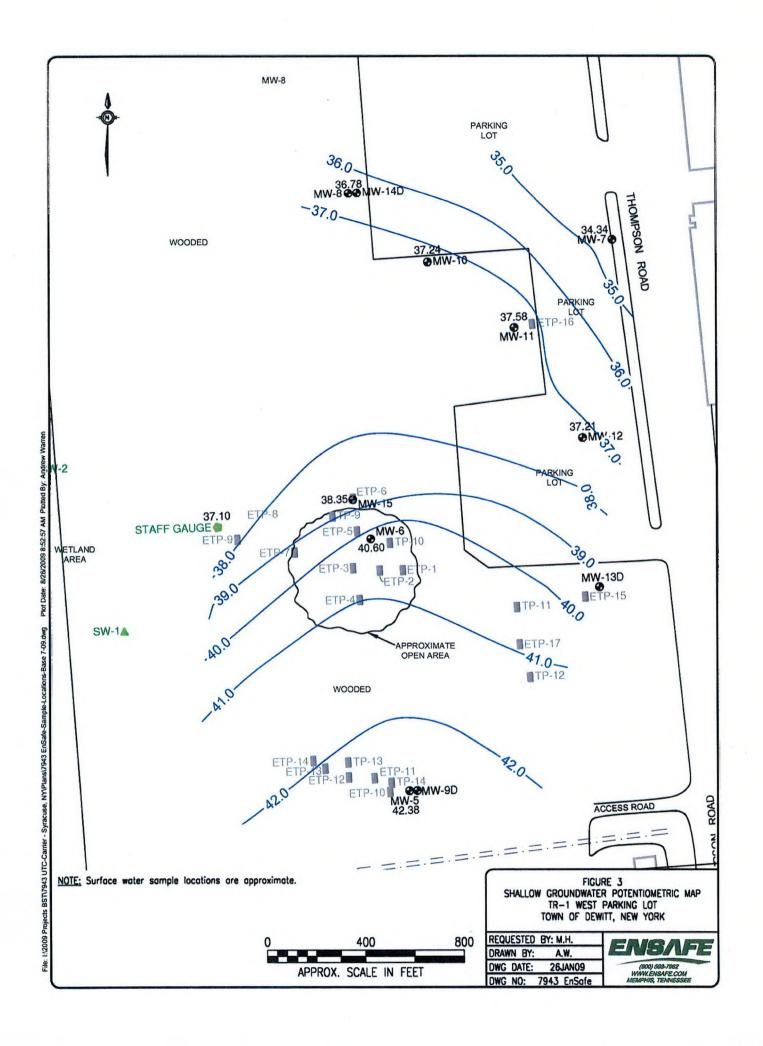
After allowing the monitoring wells to equilibrate overnight, depth to groundwater measurements were obtained prior to collecting groundwater samples. Potentiometric surface elevations are presented in Table 4. A potentiometric surface map was generated for both the shallow and deep aquifers using the depth to water measurements (Figures 3 and 4, respectively).

#### **Shallow Groundwater**

Shallow groundwater at the parking lot appears to be locally influenced by the wetland area to the west as well as by Sanders Creek to the north (Table 1). A staff gauge was placed in the wetland area west of MW-6 to provide a surface water elevation to compare to the groundwater elevations at the site (Figure 3).

### **Deep Groundwater**

To better understand deep groundwater flow across the TR-1 site, water level measurements from the three deep wells at the Thompson Road Parking Lot Area were supplemented with the data from the four deep monitoring wells that are part of the site-wide groundwater CMS work under the Consent Order. During the field activities at the Carrier facility Consent Order work, MW-13D, a former long-screened deep well was replaced by a short-screen length well, so the new well would be constructed similarly to the other two deep wells. This replacement well, MW-13D2, has changed the understanding of the deep groundwater flow at the facility. The initial groundwater elevation at the new deep well (MW-13D2) is within a comparable range when compared to the historical groundwater elevations at the old well (MW-13D). The recently collected data using the new well and



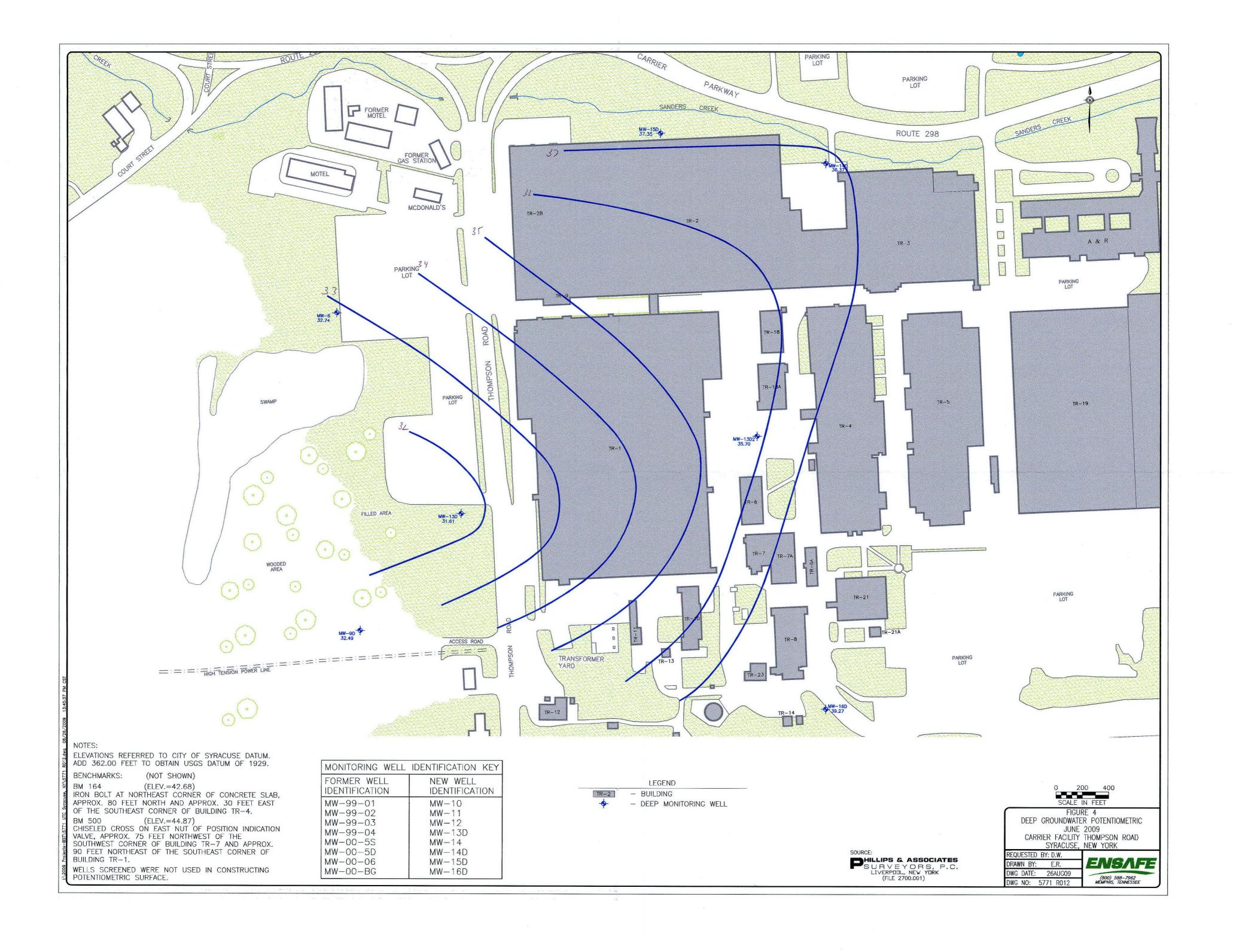


Table 1 Groundwater Elevation TR-1 West Parking Lot

Location	Well Depth (ft)	Top of Casing (ft M.S.L.)	Date Collected	Well Screen Interval	Depth to Water (ft)	Potentiometric Surface (ft M.S.L.)
				Feet Below TOC		
MW-5	15.71	48.67	December 18, 2008	5.71 - 15.71	5.89	42.78
The Allenda			April 17, 2009		5.38	43.29
			June 30, 2009		6.29	42.38
MW-6	13.58	49.35	December 18, 2008	4.52 - 14.52	5.39	43.96
			April 17, 2009		5.38	43.97
			June 30, 2009		8.75	40.60
MW-7	15.00	42.69	December 18, 2008	3.58 - 13.58	7.30	35.39
			April 17, 2009		8.16	34.53
			June 30, 2009		8.35	34.34
MW-8	14.70	40.39	December 18, 2008	4.70 - 14.70	2.39	38.00
			April 17, 2009		4.46	35.93
			June 30, 2009		3.61	36.78
MW-9D	59.00	48.80	June 30, 2009	49.00 - 59.00	16.31	32.49
MW-10	15.50	43.40	June 30, 2009	5.50 - 15.50	6.16	37.24
MW-11	15.45	42.24	June 30, 2009	5.45 - 15.45	4.66	37.58
MW-12	14.70	44.12	June 30, 2009	4.70 - 14.70	6.91	37.21
MW-13D	56.45	45.51	June 30, 2009	46.45 - 56.45	13.90	31.61
MW-14D	71.50	41.08	June 30, 2009	61.50 - 71.50	8.34	32.74
MW-15	14.70	48.37	June 30, 2009	4.70 - 14.70	10.02	38.35
Staff Gauge	NA	36.70	June 30, 2009		0.40	37.10

Well and groundwater elevations are referenced to mean sea level (msl).

TOC - Top of Casing



the wells at both sites indicates that deep groundwater flows to the west, in a different direction than earlier deep groundwater potentiometric surface maps using the former well. Based on the top of casing elevation and total depth of the monitoring wells at each site, the depth to bedrock appears to slope in a westerly direction.

#### 2.1.4 Groundwater Sampling

After collecting depth-to-groundwater measurements, each well was purged using low flow sampling techniques. During purging, water quality parameters (pH, conductivity, temperature, turbidity, dissolved oxygen [DO], and oxygen-reduction potential [OPR]) were recorded using a Horiba U-22. Purge water quality measurements are tabulated on well purging records in Appendix B. Each of the shallow monitoring wells were purged using a peristaltic pump and sampled using the straw method. The three deep wells (MW-9D, MW-13D, and MW-14D) were purged using an electronic submersible pump. For these wells; clean, dedicated disposable bailers and bailer cord were used to collect the required samples.

Groundwater samples collected as part of this investigation were submitted to Accutest Laboratories in Dayton, New Jersey, a NYSDEC approved analytical laboratory. The samples were submitted in laboratory-supplied containers for analysis of VOCs via USEPA SW-846 Method 8260, PCBs via USEPA SW-846 Method 8082 and RCRA metals via USEPA SW-846 Method 8010B.

After all samples were collected, they were shipped to Accutest Laboratories, in Dayton, New Jersey via overnight courier using chain-of-custody procedures. All samples arrived intact and below the  $4^{\circ}$ C maximum temperature.

Water quality measurements were collected during purging to ensure stabilization of the groundwater prior to sampling. Once the tubing filled with water, the pump was deactivated and the tubing crimped to prevent backflow into the silicon tubing at the pump head. The Teflon tubing was removed from the pump and the tube's contents were gently drained into the appropriate sample containers. Silicon tubing used at the pump head was also dedicated to each location.

#### 2.1.5 Soil Vapor Probe Installation

A letter dated May 22, 2009 from NYSDEC requested the installation of two soil vapor probes along the southern border of the site during the June 2009 field activities. During preparation of the borehole, water seeped into the boreholes (The first borehole was 2.3 feet deep and had 1.5 feet of water in it. The second borehole was 2.0 feet deep and had 0.6 foot of water in it). A second attempt will be made



to install the soil probes on this portion of the property during the next mobilization, tentatively scheduled for October 2009.

## 2.2 Sampling Results

#### 2.2.1 Soil Data

Soil samples were collected from each soil boring at 5-foot intervals to a depth of 20 feet below ground surface (bgs), and every 10 feet thereafter. The soil samples were analyzed for VOCs, PCBs, and RCRA metals (Tables 2 through 4). The analytical results from the soil borings indicated shallow soil contamination of VOCs and PCBs in MW-15. This data is consistent with the data obtained during the December 2008 investigation. Trichloroethylene (TCE) and its daughter products and toluene were detected at concentrations above the applicable NYSDEC standard for VOCs in soil in MW-15. Soil and Groundwater Laboratory Analytical Results are located in Appendix C.

Aroclor 1248 and 1260 were detected in soils from MW-9, MW-12, and MW-15. These concentrations were below the NYSDEC standard of 10,000 micrograms per kilograms for total polychlorinated biphenyls (PCBs).

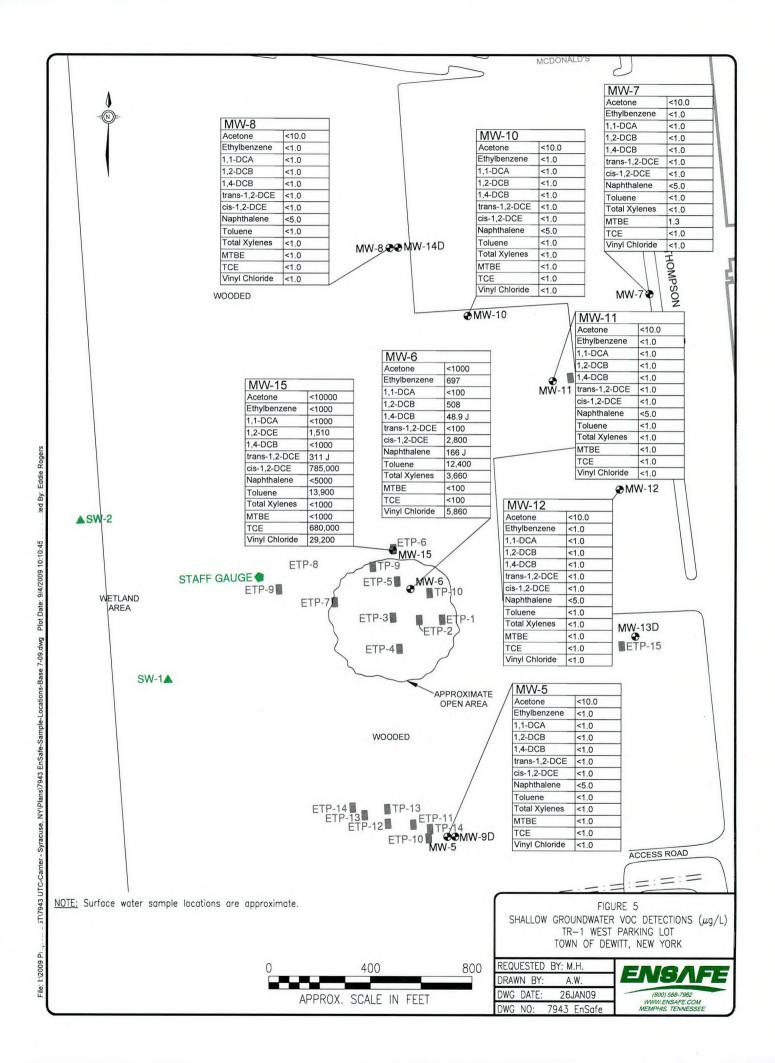
#### 2.2.2 Groundwater Results

During the site investigation activities, each of the groundwater monitoring wells (MW-5 through MW-15) were sampled. Samples from wells MW-5, MW-7, MW-8, MW-9D, MW-11, MW-12, MW-13D, and MW-14D did not contain VOCs above method detection limits (Table 5, Figures 5 and 6). The samples from MW-6 and MW-15 contained concentrations of compounds above the applicable NYSDEC standard. Elevated concentrations of VOCs appear to be wells located within the new-growth source area. MW-9D, which is located on the southern portion of the site, contained detections of cis-1,2-DCE and vinyl chloride slightly above the NYSDEC standards. PCB concentrations were all below detection limits, with the exception of a detection of Aroclor 1260 in MW-6 (Table 6). Results for metals detected in groundwater are presented in Table 7.

### 2.2.3 Disposition of Investigation-Derived Waste

Groundwater and soil generated during monitoring well installation, purging and sampling activities was treated as investigation-derived waste (IDW) and managed accordingly. All IDW was disposed offsite.

IDW generated as a result of the investigation was contained in a U.S. Department of Transportation (DOT)-approved 55-gallon steel drum and managed appropriately, based upon analytical results, by the Carrier Thompson Road facility. Soils generated during borehole installation were also placed in a DOT-approved 55-gallon drum and being managed by the facility pending the results of composite sampling of the soils.



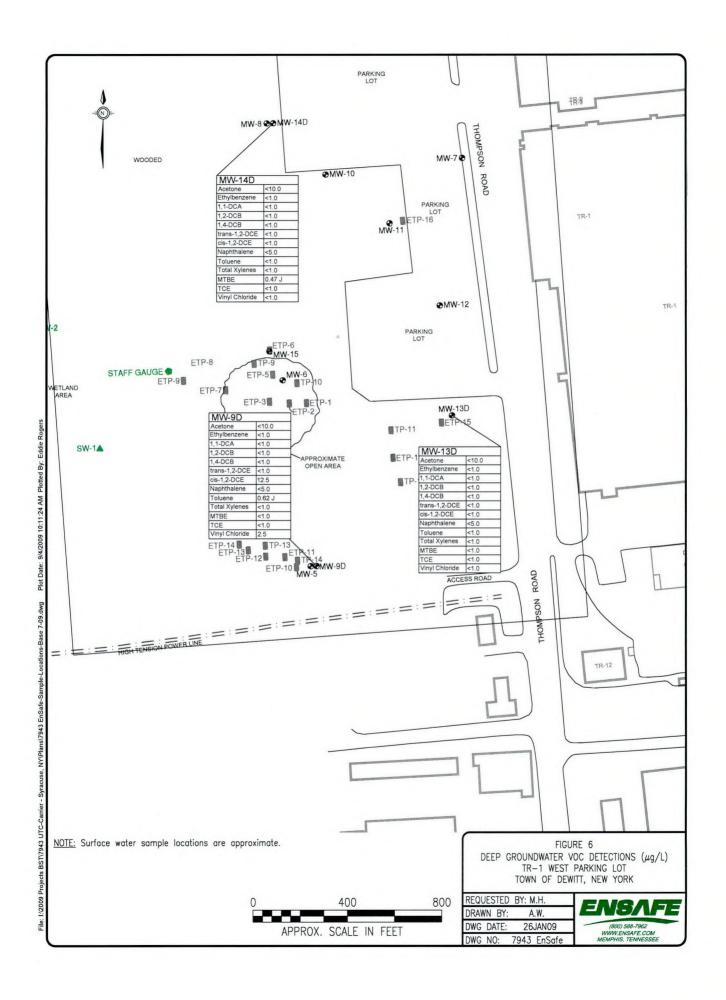


Table 2
Soil VOC Detections in Borings
June 2009
TR-1 West Parking Lot

Sample Identification	Sample Depth (approx. ft)	Sample Date	Acetone	Carbon disulfide	Ethylbenzene	Carbon Tetrachloride	Chloroform	1,1-DCA	Freon 113	Isopropylbenzene	1,1-DCE	1,2-DCB	1,4-DCB	trans-1,2- DCE	cis-1,2- DCE	1,1,1-TCA	Naphthalene	Toluene	Total Xylenes	TCE	Vinyl Chloride
Identification			μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
	NYSDEC Standar		200	2,700	5,500	600	300	200	6,000	NE	400	7,900	8,500	300	NE	800	NE	1,500	1,200	700	200
MW-9D	0-2'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5-7'	6/22/2009	17.4	0	1.20	ND	ND	ND	0.96	ND	ND	ND	ND	ND	ND	ND	22.7	1.10	2.3	ND	ND
	10-12'	6/22/2009	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/22/2009	ND	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.6	ND	ND	ND	ND	ND	3.7
. ,	25-27'	6/22/2009	15	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	ND	ND	ND	ND	ND	ND
	35-37'	6/22/2009	8	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	58.5-59'	6/22/2009	ND	ND	ND	ND	ND	ND	0.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	5-7'	6/22/2009	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/22/2009	ND	ND	0.58	ND	ND	ND	0.82	ND	ND	ND	ND	ND	ND	ND	ND	0.73	3.6	ND	ND
	13-15'	6/22/2009	7.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	5-7'	6/22/2009	10	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/22/2009	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	13-15'	6/22/2009	10.3	0.79	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	5-7'	6/23/2009	61.3	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	21.9	1.0	ND	ND	ND	ND	ND	ND .	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	13-15'	6/23/2009	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13D	5-7'	6/23/2009	106	1.7	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	20.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/23/2009	4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	20-22'	6/23/2009	4.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-32'	6/23/2009	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	40-42'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	NĎ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
•	50-52'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-14D	5-7'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	20-22'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-32'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	40-42'	6/23/2009	ND	0.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	50-52'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	60-62'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	70-71'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	5-7'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	8.7	2,060	ND	ND	ND	ND	74	ND
	10-12'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	74,300	ND	ND	ND	ND	ND	1,900
	13-15'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND ND	ND	ND	ND	ND	159,000	ND	ND	5,200	ND	181,000	7,360
Trip Blank	NA		ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

\* NYSDEC TAGM 4046 Table 1 Volatile Organic Contaminants Recommended Soil Cleanup Objective ( $\mu g/kg$ )

NE = Does Not Exist

J = Indicates an Estimated value.

T
PCBs in Soussane 2009
TR-1 West Parking Lot

Sample	Sample Depth	Sample Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Identification	(approx. ft)	Jampie Date	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
	NYSDEC Standar	rd*		San Calling Control	LXCARCE				73.70	10,000
MW-9D	0-2'	6/22/2009	ND	ND	ND	ND	ND	ND	45.4	45.4
	5-7'	6/22/2009	ND	ND	ND	ND	ND	ND	148	148
	10-12'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	25-27'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	35-37'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
**	58.5-59'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	5-7'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	13-15'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	5-7'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
	13-15'	6/22/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	5-7'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	ND	ND	ND	ND	55.1	ND	ND	55.1
	13-15'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-13D	5-7'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND ·
	20-22'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	30-32'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	40-42'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	50-52'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-14D	5-7'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	10-12'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	15-17'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	20-22'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	30-32'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	40-42'	6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND
	50-52'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND
	60-62'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND
	70-71'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	5-7'	6/24/2009	ND	ND	ND	ND	ND	ND	50.7	50.7
	10-12'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND
	13-15'	6/24/2009	ND	ND	ND	ND	ND	ND	ND	ND
Trip Blank	NA									

NE = Does Not Exist

<sup>\*</sup> NYSDEC TAGM 4046 Table 3 Total PCBs Recommended Soil Cleanup Objective (µg/kg)

J = Indicates an Estimated value.

T: Metals in 5011 June 2009 TR-1 West Parking Lot

Sample	Sample Depth	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Sliver
dentification	(approx. ft)	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	NYSDEC Standa	rd*	16	400	9.3	1,500	1,000	2.8	1,500	1,500
MW-9D	0-2'	6/22/2009	1.9 B	77.5	0.47	10	9.8	0.013 U	0.4 U	0.12 U
	5-7'	6/22/2009	3.9	100	0.42 B	11.6	12.9	0.014 U	0.69 B	0.12 U
	10-12'	6/22/2009	6.9	203	0.3 B	26	9.5	0.015 U	0.44 U	0.13 U
	15-17'	6/22/2009	2.5	94.4	0.24 B	12.7	8.5	0.015 U	0.44 U	0.13 U
	25-27'	6/22/2009	4	100	0.33 B	16.7	8.9	0.015 U	0.52 B	0.13 U
	35-37'	6/22/2009	2.6	55.4	0.096 B	10	5	0.014 U	0.49 B	0.13 U
	58.5-59'	6/22/2009	3.5	54.9	0.18 B	10.6	4	0.013 U	0.52 B	0.12 U
MW-10	5-7'	6/22/2009	4.7	68.8	0.24 B	21	9.6	0.022 B	0.42 U	0.12 U
	10-12'	6/22/2009	5.2	56.9	0.18 B	13.3	9.3	0.015 U	0.76 B	0.14 U
	13-15'	6/22/2009	6.4	107	0.24 B	18.4	8.2	0.016 B	0.46 U	0.14 U
MW-11	5-7'	6/22/2009	2.5	37.1	0.18 B	13	5.3	0.018 B	0.44 U	0.13 U
	10-12'	6/22/2009	6	87.8	0.30 B	23	11	0.028 B	0.45 U	0.13 U
303-300-1H	13-15'	6/22/2009	3.7	109	0.29 B	20.1	8.5	0.015 U	0.65 B	0.13 U
MW-12	5-7'	6/23/2009	5.1	60.0	0.24 B	17.8	9.5	0.018 B	0.43 U	0.13 U
(A100-046-	10-12'	6/23/2009	3	30.4	0.13 B	8.3	5.7	0.014 U	0.47 U	0.14 U
	13-15'	6/23/2009	3.4	143.0	0.34 B	22.8	11.4	0.015 U	0.86 U	0.13 U
MW-13D	5-7'	6/23/2009	6.4	140.0	0.29 B	20.5	10.7	0.043	0.45 U	0.13 U
	10-12'	6/23/2009	2.6	50.4	0.18 B	12.4	6.8	0.015 U	0.45 U	0.13 U
	15-17'	6/23/2009	7.0	96.4	0.32 B	20.4	11.2	0.016 U	0.44 U	0.13 U
	20-22'	6/23/2009	7.6	122.0	0.31 B	24.6	9.2	0.025 B	0.8 B	0.16 U
	30-32'	6/23/2009	7.4	117.0	0.31 B	25.7	9.9	0.015 U	0.46 U	0.14 U
	40-42'	6/23/2009	2.9	35.2	0.13 B	9.3	4.8	0.016 U	0.48 U	0.14 U
	50-52'	6/23/2009	1.8 B	47.0	0.059 B	5.1	3.3	0.014 U	0.44 U	0.13 U
MW-14D	5-7'	6/23/2009	4.4	174.0	0.35 B	32.1	10.5	0.015 U	0.46 U	0.14 U
	10-12'	6/23/2009	3.4	36.1	0.15 B	8.7	4.5	0.013 U	0.48 B	0.12 U
	15-17'	6/23/2009	2.0 B	68.8	0.12 B	9.4	5.0	0.014 U	0.53 B	0.12 U
	20-22'	6/23/2009	2.3 B	63.4	0.11 B	8.1	5.2	0.014 U	0.44 U	0.13 U
	30-32'	6/23/2009	1.9 B	43.5	0.071 B	6.8	4.1	0.014 U	0.44 U	0.13 U
	40-42'	6/23/2009	2.2 B	58.7	0.13 B	7.9	5.0	0.015 U	0.43 U	0.13 U
	50-52'	6/24/2009	1.5 B	50.1	0.058 B	4.9	3.3	0.13 U	0.43 U	0.13 U
	60-62'	6/24/2009	1.9 B	40.2	0.094 B	7	3.5	0.015 U	0.44 U	0.13 U
	70-71'	6/24/2009	1.8 B	14.7 B	0.16 B	34.9	1.3 B	0.014 U	0.42 U	0.13 U
MW-15	5-7'	6/24/2009	9.7	101	0.33 B	313	79	0.1	1.4 B	1.3
	10-12'	6/24/2009	6.6	114	0.038 U	26.2	12.7	0.026 B	0.5 B	0.23 B
-	13-15'	6/24/2009				7				
Trip Blank	NA									

<sup>\*</sup> NYSDEC Remedial Program Soil Cleanup Objectives Table 375-6.8(b) Restricted Use Soil Cleanup Objectives for Commercial Sites NE = Does Not Exist

THE - DOES HOT EXIST

J = Indicates an Estimated value.

Table 5
Detected VOCs in Groundwater
December 2008 - June 2009
TR-1 West Parking Lot

Well	Sample Identification	Sample	Acetone	Ethylbenzene	1,1-DCA	1,1-DCE	1,2-DCB	1,4-DCB	trans-1,2-	cis-1,2- DCE	Naphthalene	Toluene	Total Xylenes	МТВЕ	TCE	Vinyl Chloride
Number		Date	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
	NYSDEC Standard		50	5	0.6		3	3	5	5	10	5	5		5	2
MW-5	ENSTRPLMW051208	12/18/2008	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
	ENSTRPLMW050609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-6	ENSTRPLMW061208	12/18/2008	<1000	894	<200	<200	541	58.0 J	46.3 J	2,580	165 J	15,300	4,150	<100	100	8,990
	ENSTRPLMW060609	6/27/2009	<1000	697	<100	<100	508	48.9 J	<100	2,800	166 J	12,400	3,660	<100	<100	5,860
	ENSTRPLDUP10609	6/27/2009	<1000	742	<100	<100	523	51.2 J	<100	3,360	158 J	13,000	3,740	<100	<100	5,470
MW-7	ENSTRPLMW071208	12/18/2008	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
	ENSTRPLMW080609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	1.3	<1.0	<1.0
MW-8	ENSTRPLMW081208	12/18/2008	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
	ENSTRPLMW080609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9D	ENSTRPLMW090609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12.5	<5.0	0.62 J	<1.0	<1.0	<1.0	2.5
MW-10	ENSTRPLMW100609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	ENSTRPLMW110609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-12	ENSTRPLMW120609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-13D	ENSTRPLMW130609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-14D	ENSTRPLMW140609	6/27/2009	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	0.47 J	<1.0	<1.0
MW-15	ENSTRPLMW150609	6/27/2009	<10000	<1000	<1000	1,510	<1000	<1000	311 J	785,000	<5000	13,900	<1000	<1000	680,000	29,200
SW-1	ENSTRPLSW011208	12/18/2008	2.9 J	<1.0	0.51 J	<1.0	<1.0	<1.0	<1.0	3.4	<5.0	<1.0	<1.0	<1.0	0.42 J	1.4
SW-2	ENSTRPLSW021208	12/18/2008	2.7 J	<1.0	0.26 J	<1.0	<1.0	<1.0	<1.0	2.0	<5.0	<1.0	<1.0	<1.0	0.30 J	0.70 J
Trip Blank		12/18/2008	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0

<sup>\*</sup> NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA Table 1-3 (µg/kg)

J = Indicates an Estimated value.

T; ;
PCB in Groundwater
TR-1 West Parking Lot

Well Number	Sample	Sample	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
Number	Identification	Date	μg/L						
	NYSDEC Standard*		0.09	0.09	0.09	0.09	0.09	0.09	0.09
MW-5	ENSTRPLMW051208	12/18/2008	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58
	ENSTRPLMW050609	6/27/2009	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
MW-6	ENSTRPLMW061208	12/18/2008	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
	ENSTRPLMW060609	6/27/2009	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	1.3
MW-7	ENSTRPLMW071208	12/18/2008	< 0.63	< 0.63	< 0.63	< 0.63	< 0.63	< 0.63	< 0.63
	ENSTRPLMW070609	6/27/2009	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
MW-8	ENSTRPLMW081208	12/18/2008	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
	ENSTRPLMW080609	6/27/2009	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
MW-9D	ENSTRPLMW090609	6/27/2009	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
MW-10	ENSTRPLMW100609	6/27/2009	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
MW-11	ENSTRPLMW110609	6/27/2009	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
MW-12	ENSTRPLMW120609	6/27/2009	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
MW-13D	ENSTRPLMW130609	6/27/2009	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-14D	ENSTRPLMW140609	6/27/2009	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-15	ENSTRPLMW150609	6/27/2009	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51
SW-1	ENSTRPLSW011208	12/18/2008	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59
SW-2	ENSTRPLSW021208	12/18/2008	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59

<sup>\*</sup> NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA Table 1-2 (µg/kg)

Ti '
Metals in Groundwater
TR-1 West Parking Lot

Well	Sample	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Sliver
Number	Identification	Sumple Bute	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
MW-5	ENSTRPLMW051208	12/18/2008	2.8 U	155 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
	ENSTRPLMW050609	6/27/2009	7.4 B	219	1.7 B	9.0 B	NA	0.049 U	6.9 U	5.5 B
MW-6	ENSTRPLMW061208	12/18/2008	2.8 U	173 B	0.50 U	9.5 B	2.2 B	0.049 U	8.3 U	0.80 U
	ENSTRPLMW060609	6/27/2009	4.5 U	243	1.4 B	13.0	NA	0.049 U	6.9 U	1.4 U
MW-7	ENSTRPLMW071208	12/18/2008	2.8 U	117 B	0.50 U	2.0 B	2.1 U	0.049 U	8.3 U	0.80 U
	ENSTRPLMW070609	6/27/2009	4.5 U	264	0.88 B	4.0 B	NA	0.12 B	6.9 U	2.9 B
MW-8	ENSTRPLMW081208	12/18/2008	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
	ENSTRPLMW080609	6/27/2009	4.5 U	298	0.67 B	3.0 B	NA	0.049 U	6.9 U	2.2 B
MW-9D	ENSTRPLMW090609	6/27/2009	15	91.8 B	1.5 B	10	NA	0.11 B	6.9 U	3.6 B
MW-10	ENSTRPLMW100609	6/27/2009	4.5 U	157 B	0.89 B	3.3 B	NA	0.049 B	6.9 U	3.1 B
MW-11	ENSTRPLMW110609	6/27/2009	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
MW-12	ENSTRPLMW120609	6/27/2009	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
MW-13D	ENSTRPLMW130609	6/27/2009	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
MW-14D	ENSTRPLMW140609	6/27/2009	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
MW-15	ENSTRPLMW150609	6/27/2009	2.8 U	49.4 B	0.50 U	1.3 U	2.1 U	0.049 U	8.3 U	0.80 U
SW-1	ENSTRPLSW011208	12/18/2008	2.8 U	28.2 B	0.50 U	1.4 B	2.1 U	0.049 U	8.3 U	0.80 U
SW-2	ENSTRPLSW021208	12/18/2008	2.8 U	26.0 B	0.50 U	1.9 B	2.1 U	0.049 U	8.3 U	0.80 U

μg/L - Micrograms per Liter

U - Indicates a result < MDL

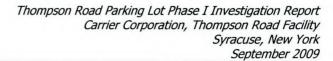
B - Indicates a result > = MDL but < RL



#### 3.0 CONCLUSIONS

Based on field observations and analytical results of the samples collected during this investigation, the area of new-growth trees appears to have VOCs and PCBs within a limited area related to the construction and demolition wastes. The higher concentrations of VOCs and PCBs were centered around MW-6 and MW-15, in the new-growth area. Cis-1,2-dce and vinyl chloride were also detected in MW-10.

Groundwater analytical results from the samples collected showed a correlation between the soil source area VOCs and the groundwater VOCs concentrations found in MW-6 and MW-15.





### 4.0 RECOMMENDATIONS

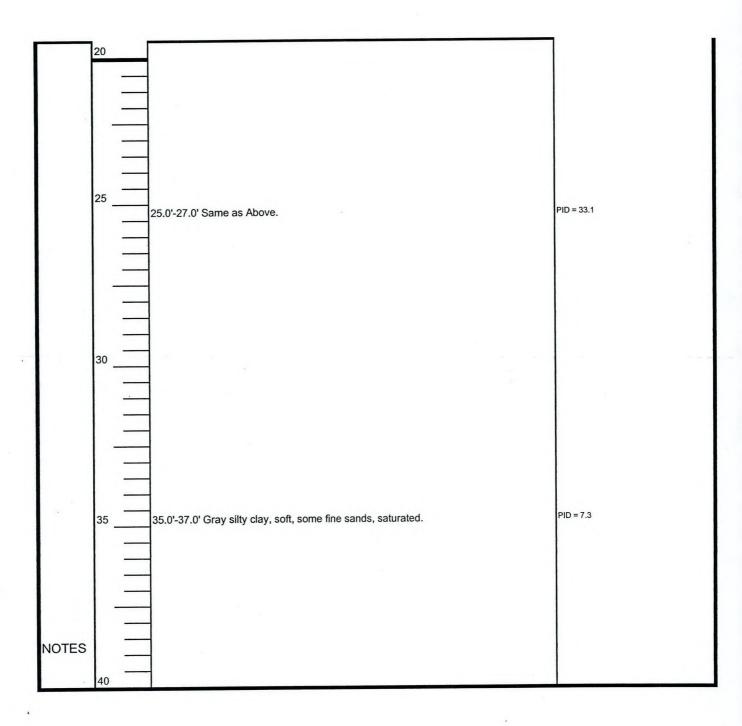
Based in the findings of the December 2008 and June 2009 investigations, a Phase II Investigation work plan will be submitted to the NYSDEC by September 21, 2009. This plan will address the determination of the nature and extent of PCB and VOC contamination in both soil and groundwater in the vicinity of MW-6 and MW-15, the potential impact of contamination to the wetland area, and the plan will outline the data to be collected for the assessment of remedial alternatives.

G:\M-Z\UTC\Carrier-Syracuse\TR-1 West Parking Lot\June 2009 Investigation\TR-1 Parking Lot Phase I Investigation Report.doc

Appendix A

Monitoring Well Soil Boring Logs

DRILI	LIN	IG I	_OG									HOLE NUMBER MW-9D
COMPANY NA	ME					DRILLING	SUBCONTRA	ACTOR				SHEET
EnSafe						Parratt-	Wolff, Inc.					1 of 1
PROJECT							LOCATION					
Carrier Tho	mpsc	n Roa	d Parking L	ot Investigation	on		Syracu		Y			
NAME OF DRI									ER'S DESIGNATION OF	DRILL		
											2-	inch diameter
TOTAL DEPTH	OF H	OLE					SURFAC	E ELF	VATION	-		and
59.0 ft bgs												
DEPTH GROU	JNDWA	TER EN	COUNTERED				DATE S	TARTE	D		DATE COMPL	.ETED
4.0-5.0 ft b							6/21/09				/21/09 14	
DISPOSITION		LE		BACKFILLED	MOM	NITORING	GROUTE		GEOLOGIST/INSPECTO			
						x			David Wyatt			
ELEV.	DE	PTH	DESCRIPTION	OF MATERIALS		-						REMARKS
										_		14.00
		-										
		-	0.01.4.01.01	alı ailt	611 m = = 1						ID - 0055	
			U.U-1.U Bla	ick silt, gravel	iii, no odd	OI.				P	ID = 6255	
	-											
	1											
	5											
	_		5.0'-7.0' Bla	ick silty-clay, n	o odor, w	ater at 4.0	)'-5.0'			PI	ID = 67.8	
		-										
		_										
		_										
	-											
		_										8
												1)
	10 _											
			10.0'-12.0'	Brown silty cla	y, few fine	e sands, s	tiff, no odo	r, satu	ırated	PI	ID = 126	
										1		
	-									1		
	15 _		15.0'-17.0'	Brown silty clay	y, few fine	e sands, s	tiff, no odo	r, satu	ırated	PI	D = 58.9	
	-											
			-									
NOTES	_											
NOTES		-										
	000											
	20											



NOTES 59		Gray silty-clay, some fine sands, weathered shale present. Refusal at 59.0'.	
55	5	45.0'-47.0' Black silty-clay, no odor, no recovery	PID = ND
50			
45		45.0'-47.0' Black silty-clay, no odor, no recovery	PID = ND

	TR-1 West Parking Lot	Piez./Well No.	MW-9D
cation	Syracuse, NY		
talled By_	Parratt-Wolff, Inc		
pected By_	David Wyatt	F	
шаткэ			
-			
			AGS Elevation
			(feet)
		Elevation of top of riser	
-		I.D./Type of surface casing	BGS
		steel protective stickup cover	(feet)
		with locking cap	31.00.30.00
_		Type of surface seal <u>concrete</u>	
-			
-		, ·,   D,	
-			
		I.D./Type of riser pipe sch 40 PVC	
-			
-			
		Depth to top of seal	
_		Type of seal bentonite	
_			47.0
-		Depth of top of filter pack	
		Depth of top of screen	49.0
		Type of filter pack Number 2 Filter	
_		Sand	
4		I.D./Type of screen <u>continuous slot</u>	
-		PVC	
		Screen slot size	
_			50.00
_		Depth of bottom of screen	<u>58.98</u> 59.0
		Depth of bottom of plugged blank section	37.0
-		Type of backfill below observation	
		wellSand	
			59.0

DRILLING LOG				HOLE NUMBER MW-10
COMPANY NAME	DRILLING S	DRILLING SUBCONTRACTOR SHEET		
EnSafe	Parratt-V	Parratt-Wolff, Inc.		1 of 1
PROJECT		LOCATION		
Carrier Thompson Road Parking Lot Investigation	Syracuse, NY			
NAME OF DRILLER		MANUFACTURER'S DESIGNATION		2-inch diameter
TOTAL DEPTH OF HOLE SURFACE ELEVATION				
15.5' bgs				
DEPTH GROUNDWATER ENCOUNTERED	4.60	DATE STARTED	DATE COM	IPLETED
4.0-5.0 ft bgs		6/22/2009 1310	6/22/200	9 1447
DISPOSITION OF HOLE BACKFILLED	MONITORING	GROUTED GEOLOGIST/INSP		
	X	Jason Kuyken	dall	
ELEV. DEPTH DESCRIPTION OF MATERIALS				REMARKS
1.0'-3.0' Dark gray sandy silt  1.0'-3.0' Mottled brown and g  5	gray clayey silt, so	oft to firm, moist grading to wel	PID = 0.0  PID = 0.0	
NOTES				,

	MONI	TORING WELI	CONSTRUCTION LOG	Langua
			Piez./Well No.	MW-10
	XXX 100 X			
Installed By Inspected By _				
Method of Ins	tallation Hollow Stem Au	ger		
		***************************************		AGS Elevation
				(feet)
			Elevation of top of riser	/
_		° ° °	ID /Town of south as assista	BGS
_		0 0	I.D./Type of surface casing     steel protective stickup cover	(feet)
-		0 0.	with locking cap	(1001)
		000		
_		0	Type of surface seal concrete	
			I.D./Type of riser pipe sch 40 PVC	
			— Depth to top of seal	0.5
			Type of seal bentonite	
			— Depth of top of filter pack	3.0
			— Depth of top of screen	5.0
		-	Type of filter pack Number 2 Filter Sand	
			I.D./Type of screen continuous slot PVC	
			Screen slot size	
			Depth of bottom of screen     Depth of bottom of plugged blank section	15.20 15.5
		-	Type of backfill below observation well Sand	
<u> </u>			Depth of bottom of boring	15.5
		/	Diameter of boring 8.25 inches	

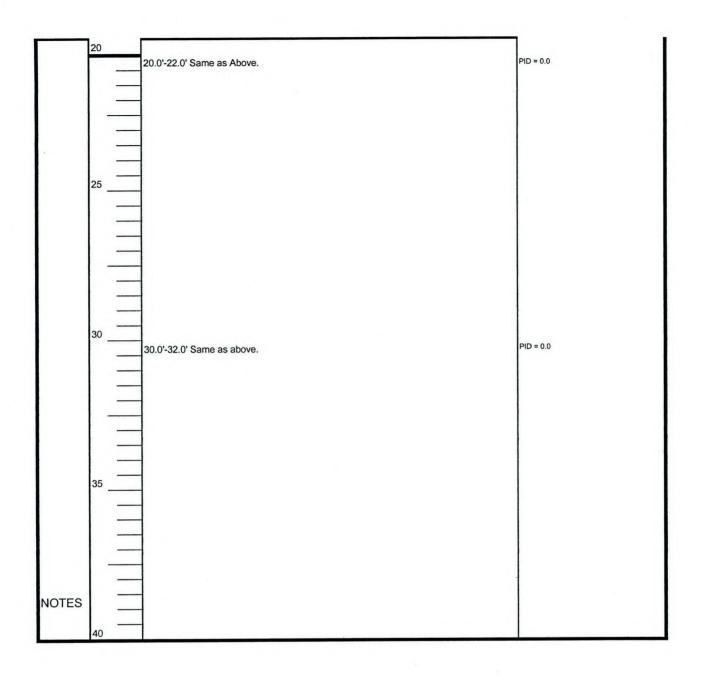
DRILLING LOG					HOLE NUMBER MW-11
COMPANY NAME	DRILLING SUBCONTRACTOR				SHEET
EnSafe	Parratt-W	Parratt-Wolff, Inc.			1 of 1
PROJECT		LOCATION			
Carrier Thompson Road Parking Lot Investigation		Syracuse, 1	NY		
NAME OF DRILLER			RER'S DESIGNATION OF DRILL	_	
NAME OF BRILLER					inch diameter
TOTAL DEPTH OF HOLE		SURFACE ELL	EVATION		
15.0' bgs DEPTH GROUNDWATER ENCOUNTERED		DATE START	-n	DATE COMPI	FTED
				6/23/2009	
4.0-5.0 ft bgs	MONITORING	6/22/2009 GROUTED	GEOLOGIST/INSPECTOR	0/23/2009	0033
DISPOSITION OF HOLE BACKFILLED	X	GROUTED	Jason Kuykendall		
ELEV. DEPTH DESCRIPTION OF MATERIALS	^				REMARKS
1.0'-3.0' Dark gray sandy silt, so	oft. loose slight	tly moist, some	e organics.	PID = 2.3	
	, 10000, oligin	.,,	3		- 1
					1/3
5					. 1
5.0'-7.0' Mottled brown and gray	y clayey silt, so	ft to firm, mois	t grading to wet.	PID = 4.6	
			and the second		
_					
					1
10				DID 00	
10.0'-12.0' same as above.				PID = 3.6	
,			1.		
					1
15 12 01 45 01 Brown oilth: sand fir	no granulated	coft wat		PID = 3.2	
1513.0'-15.0' Brown, silty sand, fir		Son, Wet.			
Boring Terminated at 15.0 feet.					17
					•
NOTES					
20					

	MONITORING WELL CONSTRU	CTION LOG
	TR-1 West Parking Lot	Piez./Well No. MW-11
	Syracuse, NY	
Installed By_	Parratt-Wolff, Inc	
Inspected By_	tallation Hollow Stem Auger	
	tanationHonow Stem Auger	
Kemai Ks		
		AGS Elevation (feet)
	Elevation of top	of riser/
		ective stickup cover (feet)
_	wit	h locking cap
	0 0 Type of surface	seal concrete
	Depth to top of	seal
	Type of seal	bentonite
	Depth of top of	filter pack 3.0
	Depth of top of	screen
	Type of filter pa	
	I.D./Type of sci	reen continuous slot PVC
	Screen slot size	0.010
	Depth of botton Depth of botton	n of screen n of plugged blank section 15.0
	Type of backfil well	below observation Sand
]	Depth of bottor	n of boring15.0
	Diameter of bo	ring 8.25 inches

DRILLING LOG					HOLE NUMBER MW-12
COMPANY NAME	DRILLING	DRILLING SUBCONTRACTOR			SHEET
EnSafe	Parratt-	Parratt-Wolff, Inc.			1 of 1
PROJECT		LOCATION			
Carrier Thompson Road Parking Lot Investigation	1	Syracuse, 1	NY		
NAME OF DRILLER  MANUFACTURER'S DESIGNATION OF C			RER'S DESIGNATION OF DRILL		
TOTAL DEPTH OF HOLE SURFACE ELEVATION				2-	inch diameter
15.0' bgs			3700		
DEPTH GROUNDWATER ENCOUNTERED		DATE START	ED	DATE COMPL	.ETED
4.0-5.0 ft bgs		6/23/2009		6/23/2009	
4.0-5.0 IT bgs DISPOSITION OF HOLE BACKFILLED	MONITORING	GROUTED	GEOLOGIST/INSPECTOR	10.20.2000	
DISPOSITION OF HOLE	x		Jason Kuykendall		
ELEV. DEPTH DESCRIPTION OF MATERIALS	A		vason ray kondan	T	REMARKS
ELEV. DEPTH DESCRIPTION OF MATERIALS				-	
			January States and Sta		
1.0'-3.0' Black and gray silt,	soft, loose, sligh	tly moist, some	aluminum can fragments.	PID = 0.0	
					1
5					
5.0'-7.0' Brown silt, firm to s	oft, moist grading	g to wet.		PID = 0.0	
					0.00
				I	
	,				
10					
10.0'-12.0' Brownish gray cl	avev silt some fi	ine sand firm v	vet.	PID = 0.0	
10.0-12.0 Blownish gray ci	ayoy om, some n	and darid, mini, v			
<del></del>					
15 13.0'-15.0' Gray silty sand,	fine, granulated,	soft, wet.		PID = 0.0	
Boring Terminated at 15.0 f	eet.				
				1	
_					
				-	
NOTES					
20					

	MONIT	ORING WELL CONSTRUCTION LOG	
			oMW-12
	D XX 100 X		
Inspected By_			
Method of Inst	tallation Hollow Stem Aug		
Remarks			
			AGS Elevation
			(feet)
			/
			BGS
		I.D./Type of surface casing steel protective flushmount cov	
-		steer protective hashmount cov	<u>cr</u> (rect)
		Type of surface seal <u>concret</u>	e
		-   10	
_		, °.     D.	
-		I.D./Type of riser pipe sch 40 P	VC
_			
-			0.5
-		Depth to top of seal	
		Type of seal ben	tonite
			2.0
_		Depth of top of filter pack	3.0
-			5.0
-		Depth of top of screen	
3		Type of filter pack Number 2	
			Sand
		ID/Tf	s slot
		I.D./Type of screen continuou PVC	SSIOL
_			
		Screen slot size	
			44.00
		Depth of bottom of screen	14.80
_		Depth of bottom of plugged blank s	ection
_		Type of backfill below observation	
-		well Sand	
		1011	
_		Depth of bottom of boring	_15.0_
		Depth of bottom of bottom	

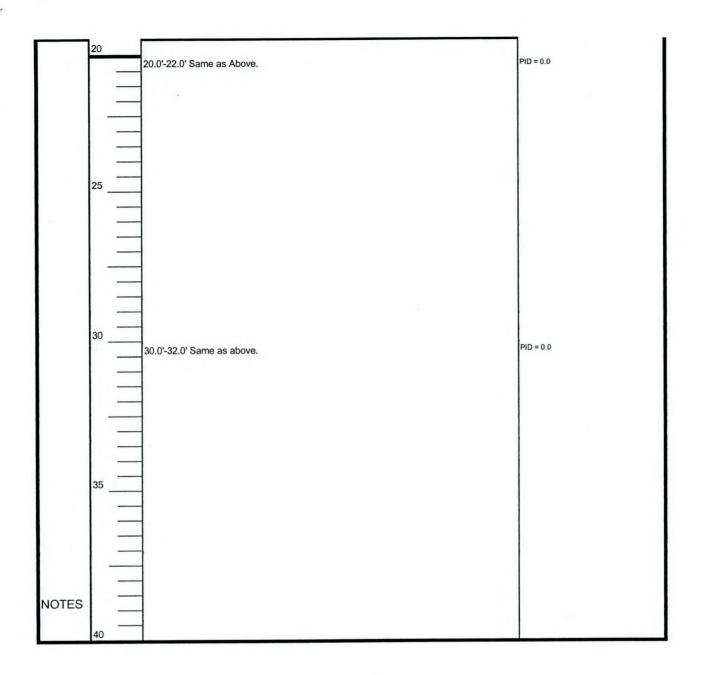
DRILLING LOG							HOLE NUMBER MW-13D	
COMPANY NAI	ME			100000000000000000000000000000000000000	SUBCONTRACTO	PR		SHEET
EnSafe				Parratt-W	Wolff, Inc. 1 of 1			
PROJECT					LOCATION			
Carrier Tho	Carrier Thompson Road Parking Lot Investigation				Syracuse,			
NAME OF DRIL	LLER				MANUFACTU.	JRER'S DESIGNATION OF D		-inch diameter
TOTAL DEPTH 57.0 ft bgs	OF HOLE				SURFACE EL	EVATION		
DEPTH GROU	NDWATER EN	COUNTERED			DATE START	rED	DATE COMP	PLETED
10.0-11.0 fi					6/23/09 10	040	6/24/09	
DISPOSITION			BACKFILLED	MONITORING	GROUTED	GEOLOGIST/INSPECTOR		
				x		Wyatt/Kuykendall		
ELEV.	DEPTH	DESCRIPTION	OF MATERIALS					REMARKS
	-							
,	-	0.0'-1.0' Bla	ack silty clay, grav	el fill, stiff, dry, no	odor		PID = 0.0	
	-							
	-							
	_							
	-							
	5							
		5 0'-7 0' Bla	ack clayey silt, stif	f dry no odor.			PID = 38.1	
		3.0-7.0 Die	ack clayey sitt, stil	i, dry, 110 odor.				
	10						PID = 0.0	
		10.0'-12.0'	Same as above.	Wet at 11'.			PID = 0.0	
	(							
							1	
							1	
		1						
		1						
	15	15.0'-17.0'	Same as above.				PID = 0.0	
		1						
	_	i						
		1						
		1						
NOTES		1						
1.10120		1					1	
	20	1						ė.



40		
_	40.0'-42.0' Same as above	PID = 0.0
_		
-		
45		
50		
	50.0'-52.0' Dark gray silty sand, fine, firm, saturdated.	PID = 0.0
55		
_		
_		
	Refusal at 57.0'.	
_		
NOTES 59		
60		

	TR-1 West Parking Lot			MW-13D
ocation				
spected By	David Wyatt			
lethod of Ins	tallation Hollow Stem Auger			
emarks				
				ψ.
			6	AGS Elevation
				(feet)
				/
-		O I ID/Type	e of surface casing	BGS
-	1	° steel	protective flushmount cover	(feet)
		0 0 0	with locking cap	
		0 0		
		Type of s	surface seal <u>concrete</u>	
_		, D.		
_	L			
		I.D./Typ	e of riser pipe sch 40 PVC	
-				
-				2.0
		Depth to	top of seal	
		Type of s	eal bentonite	
				45.0
_		Depth of	top of filter pack	45.0
-				47.0
-			top of screen	
		Type of	1 Trumber 2 x meer	
			Sand	
		1.0 (10)		
_		1.D./1yp	e of screen <u>continuous slot</u> PVC	
-			TVC	
-		Screen s	ot size	
		Depth of	bottom of screen	56.98
		Depth of	bottom of plugged blank section	57.0
-		Tymoof	backfill below observation	
_			Sand	
-		wen	Sand	
		Denth of	bottom of boring	_57.0
		→ Diamete	r of boring 8.25 inches	

DRILING   Paral Law Ciff   Inc.   SHET    Inc.   1 of 1	DRILLING LOG							HOLE NUMBER MW-14D
IOCATION   Symbol Read Parking Lot Investigation   Superior Read Parking Lot Investigation   S	COMPANY NA	ME				OR		SHEET
MOLESTIAN   MANUFACTURERS DESCRIPTION OF DRILL	EnSafe			Parrat	'arratt-Wolff, Inc. 1 of 1			
MANUFACTURERS DESIGNATION OF DRILL   2-inch diameter   10-nch DEPH OF HOLE   5-0 n h hgs	PROJECT				LOCATION			
MANUE-CTURENS   DESCRIPTION OF DRILL	Carrier Tho	ompson Road Parking L	ot Investigation					
SUBFACE ELEVATION   SUBFACE ELEVATION								-inch diameter
DEPTH GROUNDWATER ENCOUNTRIES   DATE STATED   DATE STATED   DEPTH GROUNDWATER ALLS   DATE STATED		OF HOLE			SURFACE E	LEVATION	<del>-</del>	
10.0-11.0 ft bgs		**************************************	,				Ta.==	N 5755
DISPOSITION OF HOLE							The second second	LETED
NOTES			BACKEILLED	MONITORING			6/24/09	
ELEV.   DEPTH   DESCRIPTION OF MATERIALS   REMARKS	DISPOSITION	OF HOLE	BACKFILLED		GKOUTED			
10	ELEV/	DEPTH INCOMPRESS	OE MATERIAL C	Х		w yaw Kuykendali		DEMADKS
5	ELEV.	DESCRIPTION	OF MATERIALS					KEMAKKS
5								
5			1 111 1	-1.00 -200			DID 00	
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0		0.0'-1.0' Bla	ck silty clay, grav	ei till, stiff, dry,	no odor		PID = 0.0	
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
5.0-7.0' Brown.gray clayey silt, stiff, dry, no odor.   PID = 0.0								
10								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES		5.0'-7.0' Bro	own.gray clayey s	ilt, stiff, dry, no	odor.		PID = 0.0	
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES								
10.0'-12.0' Brown sandy silt, soft, wet at 11'.  PID = 0.0  NOTES		10						
NOTES			Brown sandy silt,	soft, wet at 11			PID = 0.0	
NOTES								
NOTES								
NOTES								
NOTES								,
NOTES								
NOTES								
NOTES								
NOTES								
NOTES		45 01 47 01	Oan. aand!!				PID = 0.0	
		15.0'-17.0' (	Jary sandy siit, sa	arrie as above.			10 - 0.0	
		. —						
	NOTES							
	HOILO							
		20						



	40		
		40.0'-42.0' Same as above	PID = 0.0
	45		
	_		
	_		1
	50	50.0'-52.0' Dark gray silty sand, fine, firm, saturdated.	PID = 0.0
	_		
	_		
	_		
	55		
	_		
NOTEC			
NOTES	_		
	60		

	60		1 1
		60,0'-62.0' Dark gray sand, medium grained, dense, wet.	PID = 0.0
	65		
	=	,	
	70	70.0'-71.0' Weathered gray and red shale, with gray and red clayey silt, stiff, moist.	PID = 0.0
		Refusal at 72.0'. Boring Terminated	
	_		
	75		
	-		
NOTES			
	80		

	MONIT	ORING WEL	L CONSTRUCTION LOG	
Project Name	TR-1 West Parking Lot		Piez./Well No.	MW-14D
Location	Syracuse, NY			
	Parratt-Wolff, Inc			
Inspected By_	tallation Hollow Stem Auge	·r		
Remarks	tanation Honow Stem Auge			
		- Complete the transfer of		
				100 71 .:
				AGS Elevation (feet)
			T1	/
			Elevation of top of riser	
		+		
		· · · · ·		
			I.D./Type of surface casing	BGS
		0 0	steel protective stickup cover	(feet)
_			with locking cap	
-		0 0	Type of surface seal concrete	
-			Type of surface scal	
		0 0		
		0		
			I.D./Type of riser pipesch 40 PVC	
_				
	,			
		-   -	— Depth to top of seal	
			— Type of seal bentonite	
			Type of sear	
_			— Depth of top of filter pack	45.0
			Depui of top of filter pack	
		-	— Depth of top of screen	47.0
			m 6.51. 1	
		100	Type of filter pack Number 2 Filter Sand	
			Зани	
		-	I.D./Type of screen <u>continuous slot</u>	
		1000	PVC	
			Campan alat air-	
_			Screen slot size 0.010	
			D4 -51-4	69.98
			— Depth of bottom of screen  Depth of bottom of plugged blank section	70.0
				7.
		-	Type of backfill below observation	
_		A 2	wellSand	
-			Dead of the Classical Control of the Classical	71.0
<u> </u>		II. Juliani da	— Depth of bottom of boring	/ 1.0
		-	Diameter of boring 8.25 inches	

DRILL	ING LO	G					HOLE NUMBER MW-15
COMPANY NAME DRILLING S			SUBCONTRACTO	R		SHEET	
EnSafe				Wolff, Inc. 1 of 1			1 of 1
PROJECT			- L	LOCATION			
Carrier Tho	mpson Road Pa	arking Lot Investigati	on	Syracuse, 1	NY		
NAME OF DRIL				MANUFACTURER'S DESIGNATION OF DRILL  2-inch diameter			
TOTAL DEPTH	OF HOLE			SURFACE ELI	EVATION		
	NDWATER ENCOUN	NTERED		DATE START	ED	DATE COMPL	.ETED
4.0-5.0 ft bg				6/25/2009		6/25/2009	1544
DISPOSITION		BACKFILLED	MONITORING	GROUTED	GEOLOGIST/INSPECTOR		
			x		Jason Kuykendall		
ELEV.	DEPTH DESC	CRIPTION OF MATERIALS					REMARKS
	55.0'.	-3.0' Black and gray sil	t, slightly moist, soft,	with organics	aluminum can fragments.	PID = 12.6  PID = 1057	
NOTES	20						

	MONITO	RING WELI	CONSTRUCTION LOG	
	TR-1 West Parking Lot		Piez./Well No	MW-15D
Location	Syracuse, NY			
Installed By				
Method of Inst	tallation Hollow Stem Auger			
Remarks				
-				
				AGS Elevation
				(feet) /
			Elevation of top of riser	
		+		
_	0	° o °	I.D./Type of surface casing	BGS
-		0 0	steel protective stickup cover	(feet)
		0 0 0	with locking cap	
_	C		Type of surface sealconcrete	
-	٥	- 0	Type of surface scar	
		° D		
-		4	I.D./Type of riser pipe sch 40 PVC	
-				
				2.0
_		-	— Depth to top of seal	
		-	Type of seal bentonite	
_				45.0
		7.3	<ul> <li>Depth of top of filter pack</li> </ul>	_43.0_
			— Depth of top of screen	47.0
_			Type of filter pack Number 2 Filter	
			Sand	
			— ID //	
_		- 10	I.D./Type of screen continuous slot PVC	
			Screen slot size 0.010	
_			Dough of hottom of	69.98
			<ul> <li>Depth of bottom of screen</li> <li>Depth of bottom of plugged blank section</li> </ul>	70.0
			Type of backfill below observation	
_			well Sand	
		1		71.0
<u> </u>		10.00	— Depth of bottom of boring	71.0
		-	Diameter of boring 8.25 inches	

Appendix B
Field Sampling Forms

# Sample ID: ENS-TRPL-MW05-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-5	Location: Griswold Road
Weather Conditions: Cloudy	Ambient Temp: 75° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1130 Finished: 1145
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 15.71	Additional Comments:
Depth to water surface from TOC (ft): 6.07	Sample Collected: ENS-TRPL-MW05-0609
Length of water column (ft): 9.64	Sample Time: 1145
3 Volumes of water (gal): 4.63	

## IN-SITU TESTING

Time	Volume (Gal)	pН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1130	0.05	6.41	1.34	781	5.02	13.13	-140
1133	0.1	6.27	1.24	634	0.0	13.22	-145
1136	0.15	6.23	1.22	561	0.0	13.31	-146
1139	0.2	6.21	1.21	538	0.0	13.39	-147

Notes: 1linear foot of 4'' = 0.067 ft<sup>3</sup> or 0.65 gal 1 ft. length 2" or 0.022 ft<sup>3</sup> or 0.16 gal

# Sample ID: ENS-TRPL-MW06-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-6	Location: Griswold Road
Weather Conditions: Cloudy	Ambient Temp: 75° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1321 Finished: 1335
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 13.58	Additional Comments:
Depth to water surface from TOC (ft): 8.29	Sample Collected: ENS-TRPL-MW06-0609
Length of water column (ft): 5.29	Sample Time: 1335
3 Volumes of water (gal): 2.54	

### IN-SITU TESTING

Time	Volume (Gal)	рН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1321	0.01	6.20	0.708	130	1.89	13.01	-140
1324	0.15	6.13	0.682	84.6	0.0	13.00	-145
1327	0.25	6.10	0.677	58.2	0.0	13.26	-146
1330	0.5	6.09	0.674	51.3	0.0	13.54	-147

Notes: Hinear foot of 4'' = 0.067 ft<sup>3</sup> or 0.65 gal 1 ft. length 2" or 0.022 ft<sup>3</sup> or 0.16 gal

## Sample ID: ENS-TRPL-MW07-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943		
Date: 6/27/2009	-		
Well No.: MW-7	Location: Griswold Road		
Weather Conditions: Overcast	Ambient Temp: 68° F		
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas		
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE  Type Device: Peristaltic Pump		
How was the device decontaminated? N/A	How was the device decontaminated? N/A		
How was the line decontaminated? N/A	How was the line decontaminated? N/A		
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1043 Finished: 1100		
Stickup (ft): Yes	Comments on Well Recovery:		
Total Depth of well from TOC (ft): 15.00	Additional Comments:		
Depth to water surface from TOC (ft): 8.40	Sample Collected: ENS-TRPL-MW07-0609		
Length of water column (ft): 6.6	Sample Time: 1100		
3 Volumes of water (gal): 3.17	_		

#### IN-SITU TESTING

Time	Volume (Gal)	pH	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1043	0.1	6.49	9.98	43.8	3.73	14.91	80
1046	0.15	6.48	9.5	29.8	3.00	14.88	79
1049	0.20	6.47	9.7	31.0	2.76	14.78	79
1052	0.30	6.48	9.8	38.2	2.52	14.69	74
1055	0.5	6.47	9.78	98	2.64	14.57	72

Notes: Ilinear foot of  $4'' = 0.067 \text{ ft}^3$  or 0.65 gal 1 ft. length 2" or 0.022 ft<sup>3</sup> or 0.16 gal

# Sample ID: ENS-TRPL-MW08-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-8	Location: Griswold Road
Weather Conditions: Cloudy	Ambient Temp: 70° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 0900 Finished: 0920
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 14.70	Additional Comments:
Depth to water surface from TOC (ft): 5.03	Sample Collected: ENS-TRPL-MW08-0609
Length of water column (ft): 9.67	Sample Time: 0920
3 Volumes of water (gal): 4.64	

## IN-SITU TESTING

Time	Volume (Gal)	pН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
0903	0.05	5.61	5.10	491	3.05	12.87	20
0906	0.2	5.85	4.89	139	0.0	12.80	-18
0909	0.3	5.89	4.82	84.4	0.0	13.08	-27
0912	0.4	5.96	4.75	46	0.0	13.28	-38
0915	0.5	5.96	4.75	37.5	0.0	13.39	-39
0918	0.6	5.99	4.72	35.2	0.0	13.59	-39

Notes: 1linear foot of  $4'' = 0.067 \text{ ft}^3$  or 0.65 gal 1 ft. length 2'' or 0.022 ft<sup>3</sup> or 0.16 gal

# Sample ID: ENS-TRPL-MW09-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-9	Location: Griswold Road
Weather Conditions: Overcast	Ambient Temp: 65° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Proactive Pump	SAMPLING DEVICE Type Device: Proactive Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1153 Finished: 1220
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 59.00	Additional Comments:
Depth to water surface from TOC (ft): 17.18	Sample Collected: ENS-TRPL-MW09-0609
Length of water column (ft): 41.82	Sample Time: 1220
3 Volumes of water (gal): 20.07	

### IN-SITU TESTING

Time	Volume (Gal)	pН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1153	0.1	6.66	1.51	193	7.34	13.52	14.
1156	0.25	6.54	1.70	971	5.12	12.94	-44
1159	0.4	6.51	1.69	OR	4.77	13.91	-46
1202	0.55	6.52	1.74	OR	4.31	12.67	-47
1205	0.70	6.55	1.65	OR	8.66	12.67	-50
1208	0.85	6.52	1.64	810	3.51	13.87	-50
1211	1.0	6.53	1.67	737	3.42	12.87	-53
1214	1.15	6.53	1.60	613	3.26	13.64	-58

Notes: Ilinear foot of 4'' = 0.067 ft<sup>3</sup> or 0.65 gal 1 ft. length 2" or 0.022 ft<sup>3</sup> or 0.16 gal

## Sample ID: ENS-TRPL-MW10-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/26/2009	
Well No.: MW-10	Location: Griswold Road
Weather Conditions: Rain	Ambient Temp: 80° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1555 Finished: 1620
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 16.42	Additional Comments:
Depth to water surface from TOC (ft): 6.18	Sample Collected: ENS-TRPL-MW10-0609
Length of water column (ft): 10.24	Sample Time: 1620
3 Volumes of water (gal): 4.92	

### IN-SITU TESTING

Time	Volume (Gal)	рН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1555	0.05	6.36	2.48	274	4.13	14.33	-44
1558	0.1	6.30	2.36	282	0.70	14.55	-46
1601	0.2	6.29	2.35	251	0.85	14.76	-37
1604	0.25	6.28	2.29	223	1.47	15.34	-23
1607	0.3	6.29	2.29	184	1.93	15.21	-7
1610	0.5	6.28	2.29	158	2.14	15.20	-3
1613	0.6	6.2	2.29	156	1.99	15.15	-2

Notes: 1 linear foot of 4'' = 0.067 ft<sup>3</sup> or 0.65 gal 1 ft. length 2'' or 0.022 ft<sup>3</sup> or 0.16 gal

# Sample ID: ENS-TRPL-MW11-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/26/2009	_
Well No.: MW-11	Location: Griswold Road
Weather Conditions: Rain	Ambient Temp: 80° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE  Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1437 Finished: 1500
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 16.99	Additional Comments:
Depth to water surface from TOC (ft): 4.65	Sample Collected: ENS-TRPL-MW11-0609
Length of water column (ft): 12.34	Sample Time: 1500
3 Volumes of water (gal): 5.92	_

### IN-SITU TESTING

Time	Volume (Gai)	рН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1437	0.25	6.38	0.857	206	2.50	13.99	58
1440	0.35	6.29	0.824	181	1.44	13.86	61
1443	0.5	6.28	0.775	174	0.57	13.96	59
1446	0.75	6.26	0.755	198	0.31	14.25	56
1449	0.85	6.26	0.752	148	0.13	14.68	49
1452	1.0	6.25	0.752	97.8	0.00	14.82	43

Notes: 1linear foot of  $4'' = 0.067 \text{ ft}^3$  or 0.65 gal 1 ft. length 2'' or 0.022 ft<sup>3</sup> or 0.16 gal

# Sample ID: ENS-TRPL-MW12-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/26/2009	
Well No.: MW-12	Location: Griswold Road
Weather Conditions: Rain	Ambient Temp: 80° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1353 Finished: 1410
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 14.70	Additional Comments:
Depth to water surface from TOC (ft): 6.85	Sample Collected: ENS-TRPL-MW12-0609
Length of water column (ft): 7.85	Sample Time: 1410
3 Volumes of water (gal): 3.77	

## IN-SITU TESTING

Time	Volume (Gal)	pH	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1353	0.1	6.29	4.57	95.7	2.48	17.12	-74
1356	0.25	6.42	4.47	41.4	0.57	18.19	-133
1359	0.4	6.47	4.48	42.8	0.52	17.96	-140
1402	0.5	6.52	4.49	38.2	0.48	17.76	-150
1405	0.6	6.56	4.48	30.4	0.33	17.74	-160

Notes: 1linear foot of 4'' = 0.067 ft<sup>3</sup> or 0.65 gal 1 ft. length 2'' or 0.022 ft<sup>3</sup> or 0.16 gal

### Sample ID: ENS-TRPL-MW13-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/26/2009	
Well No.: MW-13	Location: Griswold Road
Weather Conditions: Cloudy	Ambient Temp: 80° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Proactive Pump	SAMPLING DEVICE Type Device: Proactive Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1053 Finished: 1155
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 56.45	Additional Comments:
Depth to water surface from TOC (ft): 11.95	Sample Collected: ENS-TRPL-MW13-0609
Length of water column (ft): 44.5	Sample Time: 1155
3 Volumes of water (gal): 21.36	

#### IN-SITU TESTING

Notes:

Time	Volume (Gał)	рН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1053	*	6.72	1.02	OR	-	15.56	756
1136	-	7.05	0.946	OR	-	14.36	187
1139	-	7.10	0.936	647	-	16.60	179
1142	-	7.15	0.930	732	-	18.13	171
1145	-	7.14	0.967	838	-	19.57	169
1148	-	7.24	0.983	OR	-	19.72	160

1linear foot of  $4" = 0.067 \text{ ft}^3$  or 0.65 gal 1 ft. length 2" or 0.022 ft<sup>3</sup> or 0.16 gal DO would not calibrate replaced Horiba after sampling MW-13.

## Sample ID: ENS-TRPL-MW14-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-14	Location: Griswold Road
Weather Conditions: Cloudy	Ambient Temp: 65° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Proactive Pump	SAMPLING DEVICE  Type Device: Proactive Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 0932 Finished: 1005
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 71.50	Additional Comments:
Depth to water surface from TOC (ft): 8.22	Sample Collected: ENS-TRPL-MW14-0609
Length of water column (ft): 63.28	Sample Time: 1005
3 Volumes of water (gal): 30.37	

### IN-SITU TESTING

Time	Volume (Gal)	рН	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
0932	0.01	6.48	3.57	475	5.55	14.47	-67
0935	0.15	6.33	3.69	219	3.77	14.66	-73
0938	0.35	6.28	3.85	233	1.90	14.25	-80
0941	0.5	6.28	3.88	256	1.46	14.12	-87
0944	0.7	6.27	3.88	249	1.01	14.07	-93
0947	0.85	6.27	3.88	219	0.81	14.13	-96
0950	1.05	6.26	3.88	158	0.57	14.14	-100
0953	1.25	6.26	3.88	144	0.43	14.33	-102
0956	1.45	6.26	3.88	122	0.42	14.42	-104
0959	1.60	6.27	3.88	96.3	0.41	14.52	-107

Notes: Hinear foot of  $4^{\circ} = 0.067 \text{ ft}^3$  or 0.65 gal 1 ft. length  $2^{\circ}$  or 0.022 ft<sup>3</sup> or 0.16 gal

## Sample ID: ENS-TRPL-MW15-0609

Project Name: Thompson Road Parking Lot	Job No.: 0888807943
Date: 6/27/2009	
Well No.: MW-15	Location: Griswold Road
Weather Conditions: Overcast	Ambient Temp: 65° F
Reviewed By: D. Wyatt	Personnel: D. Wyatt/R. Thomas
PURGING DEVICE Type Device: Peristaltic Pump	SAMPLING DEVICE Type Device: Peristaltic Pump
How was the device decontaminated? N/A	How was the device decontaminated? N/A
How was the line decontaminated? N/A	How was the line decontaminated? N/A
INITIAL WELL VOLUME Well diameter (in.): 2-inch	PURGING Time Started: 1352 Finished: 1425
Stickup (ft): Yes	Comments on Well Recovery:
Total Depth of well from TOC (ft): 14.70	Additional Comments:
Depth to water surface from TOC (ft): 9.96	Sample Collected: ENS-TRPL-MW15-0609
Length of water column (ft): 4.74	Sample Time: 1425
3 Volumes of water (gal): 2.28	

#### IN-SITU TESTING

Time	Volume (Gal)	pH	Cond (mS/cm)	Turb. (NTUs)	DO	Temp (°C)	ORP (mV)
1352	0.05	5.83	3.29	152	6.92	11.91	11
1355	0.2	5.80	3.16	145	0.75	12.97	9
1358	0.3	5.81	3.16	107	0.57	13.27	10
1401	0.4	5.81	3.17	87.7	0.82	13.17	11
1404	0.5	5.83	3.17	104	1.34	13.10	10
1407	0.6	5.83	3.14	126	1.74	13.26	9
1410	0.7	5.84	3.17	138	1.85	12.82	9
1413	0.8	5.84	3.17	139	2.04	12.85	10
1416	0.9	5.84	3.17	131	1.97	13.06	11
1419	1.0	5.84	3.15	125	1.96	13.29	11

Notes: Ilinear foot of  $4^n = 0.067$  ft<sup>3</sup> or 0.65 gal 1 ft. length  $2^n$  or 0.022 ft<sup>3</sup> or 0.16 gal

Appendix C
Soil and Groundwater Monitoring Well
Laboratory Analytical Results