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January 7, 2014

Transmitted via e-mail: January 7, 2014

Ms. Tara M. Blum, P.E.
Environmental Engineer
NYSDEC Region 7
Division of Environmental Remediation
615 Erie Blvd. West
Syracuse, NY 13204-2400

Re: Carrier Corporation, Thompson Road Facility, Syracuse, New York
Corrective Action Order – Index CO 7-20051118-4
Site-Wide Groundwater Monitoring Report, June 2013

Ms. Blum:

On behalf of Carrier Corporation, please find enclosed one hard copy and one electronic copy of the ***Site-Wide Monitoring Report*** the Carrier Thompson Road facility, which includes the groundwater monitoring data from the June 2013 monitoring event. The report also includes general descriptions of activities conducted during the monitoring event and recommendations for future monitoring activities.

Per email correspondence from your department on September 12, 2011, and follow-up email on October 25, 2011, a hard copy and an electronic copy of this letter will be submitted (via US Mail) to the New York State Department of Health contacts, Ms. Krista Anders (replacement for Mr. Steven Bates), with the Bureau of Environmental Exposure Investigation, and Mr. Mark Sergott (NYSDOH).

If you have any questions, please feel free to contact me at (615) 255-9300.

Sincerely,

EnSafe Inc.

May M Heflin

By: May Heflin, PE

cc: (hard copy and electronic copy):
Ms. Krista Anders — New York State Department of Health
Mr. Mark Sergott — New York State Department of Health

cc: (electronic copy only):
Mr. John Wolski — United Technologies Corporation
Mr. Nelson Wong — Carrier Corporation
Ms. Kathleen McFadden — United Technologies Corporation

CORRECTIVE MEASURES UPDATE
SITE-WIDE GROUNDWATER MONITORING REPORT
JUNE 2013

CARRIER THOMPSON ROAD FACILITY
CARRIER PARKWAY
SYRACUSE, NEW YORK

EnSafe Project Number
0888814015

Revision: 0

Corrective Action Order — Index CO 7-20051118-4

Prepared for:

UTC Shared Remediation Services
United Technologies Building
Hartford, Connecticut

Prepared by:

EnSafe Inc.
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January 2014

CORRECTIVE MEASURES UPDATE
SITE-WIDE GROUNDWATER MONITORING REPORT
JUNE 2013

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Prepared By:	**Reviewed By:**
Shane Goodnight	May M. Heflin
January 7, 2014	January 7, 2014
Date	Date

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1.0 INTRODUCTION

EnSafe Inc. was retained by United Technologies Corporation Remediation Shared Services to perform the annual Site-wide groundwater monitoring at the Carrier Corporation (Carrier) Thompson Road facility in Syracuse, New York (Site). The annual Site-wide groundwater monitoring is in response to New York State Department of Environmental Conservation (NYSDEC) Consent Order (CO) 7-20051118-4 (order) response letter dated May 23, 2008, in which the NYSDEC approved the October 2007 Groundwater Monitoring Report with the exception of a recommendation of further monitoring and delineation. Carrier was directed to further evaluate and delineate seasonal variations in water levels and contaminant concentrations in the groundwater system at the Site. A Corrective Measures Study Work Plan, Site-Wide Groundwater Monitoring Plan (EnSafe, 2008) for groundwater sampling was submitted for review to the NYSDEC as part of the CO update on August 22, 2008. NYSDEC issued comments to the Site-Wide Monitoring Plan in a letter dated March 4, 2009. A revised Site-Wide Monitoring Plan was submitted on April 3, 2009, and subsequently approved by NYSDEC. The monitoring plan calls for annual sampling of the monitoring well network at the former manufacturing campus area in June of each year.

The Site is at the intersection of Carrier Parkway (New York State Route 98) and Thompson Road in Syracuse, New York, south of the New York State Thruway Interchange 35 and immediately southeast of Carrier Circle (Figure 1).

Groundwater monitoring wells were installed during previous investigations conducted at the Carrier Thompson Road facility. Most onsite monitoring wells have been sampled annually since 1999, although several have been sampled since 1989. Previous groundwater monitoring and investigation reports have documented additions and/or deletions to the monitoring well network at the Site over time, as well as adjustments (i.e., extensions) to monitoring wells resulting from campus redevelopment activities in recent years. No changes to the existing monitoring well network have occurred since the August 2012 Site-Wide groundwater monitoring event.

Legend

★ SITE LOCATION

0 1,000 2,000 3,000 4,000 Feet

Basemap Source: USGS Godwin, Tennessee Quadrangle Topographic Map
http://services.arcgisonline.com/arcgis/services/USA_Topo_Maps

FIGURE 1
SITE LOCATION MAP
CARRIER-SYRACUSE CAMPUS
SYRACUSE, NEW YORK

REQUESTED BY: S. Goodnight	
DRAWN BY: N. Rinehart	
08/15/2013	
PROJECT NO: 0888814015	

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X:\UTC\Syracuse\Carrier Campus\Projects\Figure 1 Site Vicinity Topo Map.mxd

2.0 GROUNDWATER MONITORING

Sixteen onsite groundwater monitoring wells were sampled in accordance with the revised Site-Wide Groundwater Monitoring Plan (Figure 2). Samples were collected from all monitoring wells for analysis of volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (USEPA) SW-846 Method 8260 in accordance with the Site-Wide Groundwater Monitoring Plan. Additionally, groundwater collected from monitoring well MW20 was analyzed for polychlorinated bi-phenyls (PCBs) and total PCBs using USEP SW-846 Method 8082 in addition to VOCs. Analysis for PCBs at monitoring well MW20 is based on the findings of quarterly PCB groundwater monitoring events in connection with the State Pollutant Discharge Elimination System (SPDES) Pollutant Minimization Plan (PMP) conducted from June 2012 through February 2013. While, quarterly SPEDES PMP monitoring yielded no individual Aroclor concentration above the NYSDEC water quality standard of 90 ng/L, the total PCB concentration (sum of Aroclor detected and/or non-detect concentrations [method detection limit]) exceeded the NYSDEC water quality standard on two occasions. Therefore, Carrier decided to analyze groundwater at monitoring well MW20 for PCBs as well as VOCs for this and future monitoring events. All groundwater samples obtained during the June 2013 Site-wide monitoring event were submitted via overnight courier for analysis to TestAmerica Laboratories, in North Canton, Ohio, a NYSDEC-approved analytical laboratory.

EnSafe personnel Robbie Thomas and Shane Goodnight collected the samples for laboratory analysis from June 11 to June 13, 2013.

2.1 Potentiometric Data

Potentiometric data was collected in monitoring wells screened in both shallow and deep groundwater aquifers during the June 2013 Site wide groundwater monitoring event. In addition, potentiometric data from four piezometers was collected to supplement data from the on-site monitoring wells. Depth to groundwater was measured using an electronic water level indicator on June 10 and 11, 2013, prior to purging and sampling activities (Table 1). Groundwater depths were then used to calculate groundwater potentiometric surface elevations and construct shallow and deep potentiometric surface maps for the Site (Figure 3 and Figure 4, respectively). Potentiometric data indicates that groundwater in the shallow aquifer generally flows northward at the Site towards Sanders Creek, although a northwesterly trend is observed in the central and southwestern portion of the Site. Previous monitoring data also indicate flow in a northward direction, but with a stronger influence of the storm lines demonstrated from the additional data from up to 29 shallow piezometers. Despite the lack of potentiometric data from these previously abandoned piezometers, it is still believed that the storm water sewer system facilitates flow along the facility's main storm water trunk lines to the north.

Legend

Site Wells

- Deep Well
- Piezometer
- Abandoned Piezometer
- Shallow Well
- Shallow Well, Not Measured

Aerial Photographic Source:
NYS GIS Clearinghouse
April 2012

0 130 260 390 520 650 Feet

FIGURE 2
GROUNDWATER MONITORING WELL NETWORK
CARRIER FACILITY, THOMPSON ROAD
SYRACUSE, NEW YORK

REQUESTED BY:	S. Goodnight
DRAWN BY:	N. Rinehart
DATE:	08/15/2013
PROJECT NO:	0888814015

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Table 1
Summary of Piezometer and Monitoring Well Potentiometric Data

Well Number	Well Depth	Surface Elevation	Top of Casing Elevation	Well Screen Length	Riser Length	Well Screen Depth Interval	June 2013		August 2012		June 2011		June 2010		June 2009		August 2007		May 2007	
							Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation	Depth to Water From TOC	Ground-water Elevation
MW-10 (MW-99-01)	15.82	40.41	39.66	10	4	4 to 14	8.07	31.59	9.15	31.26	6.71	32.95	7.01	32.65	6.81	32.85	7.32	32.34	6.70	32.96
MW-11 (MW-99-02)	16	41.52	40.82	10	6	6 to 16	6.79	34.03	NM	NM	8.40	32.42	NM	NM	8.34	32.48	8.21	32.61	7.34	33.48
MW-12 (MW-99-03)	16	39.62	38.82	10	6	6 to 16	AB	AB	AB	AB	AB	AB	8.76	30.06	8.79	30.03	10.07	28.75	8.92	29.90
MW-01*[1]	17.70	47.00	49.44	10	6.2	4 to 14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	11.21	38.23	9.89	39.55
MW-3S*	14.32	41.53	43.13	10	5.2	3 to 13	6.41	36.72	7.12	34.41	6.61	36.52	6.89	36.24	6.88	36.25	7.09	36.04	6.74	36.39
MW-3D*	29.62	41.55	44.23	5	24.2	22 to 27	7.84	36.39	9.88	31.67	7.62	36.61	8.00	36.23	7.75	36.48	9.3	34.93	7.38	36.85
MW-05*[1]	13.01	33.40	32.92	10	7.2	5 to 15	AB	AB	AB	AB	1.11	31.81	1.00	31.92	0.45	32.47	4.31	28.61	3.71	29.21
MW-05R	14.60	Not Surveyed	Not Surveyed	10	4.6	4.5 to 14.5	2.45	Not Surveyed	4.38	Not Surveyed	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
MW-06*[1]	16.88	42.60	44.80	10	7.2	5 to 15	10.94	33.86	12.10	30.50	10.76	34.04	11.51	33.29	11.3	33.50	12.62	32.18	11.25	33.55
MW-07*[1]	14.70	41.60	41.40	10	5	5 to 15	NM	NM	NM	NM	NM	NM	NM	NM	6.36	35.04	7.13	34.27	6.59	34.81
MW-08*[1]	14.78	42.90	42.59	10	5	5 to 15	4.97	37.62	NM	NM	5.31	37.28	5.28	37.31	5.44	37.15	5.86	36.73	2.24	40.35
MW-09*[1]	17.20	43.20	44.79	10	7.2	5 to 15	6.21	38.58	8.41	34.79	6.98	37.81	6.76	38.03	7.31	37.48	8.41	36.38	7.76	37.03
WE-06B[2]	5.50	43.55	42.50	1	4.5	4.5 to 5.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
WE-08[2]	8	43.10	42.88	1	7	7 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
WE-09[2]	8	41.99	41.89	1	7	7 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	3.31	38.58	2.86	39.03
WE-12	8	42.67	42.96	1	7	7 to 8	NM	NM	NM	NM	NM	NM	NM	NM	4.82	38.14	6.89	36.07	4.87	38.09
WE-13	8	42.59	42.95	1	7	7 to 8	6.46	36.49	NM	NM	7.03	35.92	6.28	36.67	6.70	36.25	7.28	35.67	6.96	35.99
WE-14	8	42.53	43.13	1	7	7 to 8	6.19	36.94	NM	NM	6.21	36.92	5.02	38.11	6.21	36.92	7.09	36.04	6.35	36.78
WE-15	8	42.43	42.91	1	7	7 to 8	3.87	39.04	NM	NM	6.09	36.82	6.87	36.04	5.78	37.13	6.52	36.39	5.86	37.05
WE-16	8	42.49	43.06	1	7	7 to 8	3.86	39.20	NM	NM	5.29	37.77	5.58	37.48	5.81	37.25	7.21	35.85	5.11	37.95
WE-17	8	43.08	43.46	1	7	7 to 8	NM	NM	NM	NM	NM	NM	4.99	38.47	4.96	38.50	6.94	36.52	5.05	38.41
WE-18[2]	8	42.72	43.17	5	3	3 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
WE-19[2]	8	42.56	43.17	1	7	7 to 8	NM	NM	NM	NM	NM	NM	0.92	42.25	NM	NM	NM	NM	NM	NM
WE-23A[2]	8	42.19	42.10	1	7	7 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
WE-23B[2]	16	42.19	42.21	1	15	15 to 16	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
WE-25	7.30	42.20	42.72	1	6.3	6.3 to 7.3	NM	NM	NM	NM	5.84	36.88	4.37	38.35	6.54	36.18	6.85	35.87	6.81	35.91
WE-27[2]	8	42.20	42.98	2	4	4 to 6	NM	NM	NM	NM	NM	NM	5.04	37.94	NM	NM	dry	42.98	dry	42.98
WE-29[2]	8	42.10	43.17	2	6	6 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SO-01[2]	9	45.24	45.37	1	8	8 to 9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SO-02[2]	8	43.42	44.73	1	7	7 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SO-04A[2]	8	42.40	43.10	1	7	7 to 8	NM	NM	NM	NM	5.71	37.39	NM	NM	NM	NM	NM	NM	NM	NM
SO-04B[2]	16	42.40	43.08	5	11	11 to 16	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	5.95	37.13
SO-05	8	42.52	42.64	1	7	7 to 8	3.02	39.62	NM	NM	6.82	35.82	6.96	35.68	6.96	35.68	7.17	35.47	5.56	37.08
EW-03	8.30	38.58	38.30	5	3.3	3.3 to 8.3	NM	NM	NM	NM	NM	NM	2.61	35.69	2.51	35.79	3.17	35.13	2.35	35.95
EW-04	10.75	42.30	43.41	5	5.35	5.75 to 10.75	NM	NM	NM	NM	NM	NM	7.64	35.77	7.74	35.67	7.97	35.44	7.7	35.71
EW-05[2]	10.70	42.60	42.60	5	5.7	5.7 to 10.7	NM	NM	NM	NM	NM	NM	6.37	36.23	NM	NM	NM	NM	NM	NM
EW-06[2]	10	42.50	43.14	5	5	5 to 10	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
EW-07	10.75	41.80	41.45	5	5.75	5.75 to 10.75	NM	NM	NM	NM	NM	NM	NM	NM	6.77	34.68	9.67	31.78	6.73	34.72
EW-08[2]	8	38.40	38.13	5	3	3 to 8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	3.90	34.23	3.9	34.23
EW-09	9.80	38.27	38.02	5	4.8	4.8 to 9.8	NM	NM	NM	NM	NM	NM	NM	NM	6.55	31.47	NM	NM	NM	NM
EW-10[2]	10.35	42.20	41.90	5	5.35	5.35 to 10.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	6.94	34.96	NM	NM
MW-13D (MW-99-04)	56.70	41.58	43.68	50	8.8	6.7 to 56.7	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	9.73	33.95	7.53	36.15
MW-13D2	55.11	41.58	41.30	10	45	45.09 to 55.09	5.49	35.81	7.97	33.61	5.41	35.89	4.90	36.40	5.60	35.70	NI	NI	NI	NI
MW-14 (MW-00-5S)	21.08	36.60	36.21	5	16.08	15.5 to 20.5	10.21	26.00	12.52	24.08	5.67	30.54	4.51	31.70	4.62	31.59	5.71	30.50	4.89	31.32
MW-14D (MW-00-5D)	51.10	36.70	36.37	10	41.1	31.5 to 41.5	2.92	33.45	5.68	31.02	0.00	36.37	0.00	36.37	0.0	36.37	0.0	36.37	0.04	36.33
MW-15D (MW-00-06)	33	41.20	40.88	10	23	23 to 33	AB	AB	AB	AB	AB	AB	3.89	36.99	3.53	37.35	5.49	35.39	3.11	37.77
MW-16D (MW-00-BG)	45.10	45.00	44.72	10	37.5	35 to 45	5.25	39.47	7.44	37.56	5.35	39.37	5.54	39.18	5.45	39.27	7.27	37.45	5.44	39.28
MW-17 (MW-01-07)	14.99	36.18	35.61	5	10	10.5-15.5	7.95	27.66	7.92	28.26	8.07	27.54	8.33	27.28	8.64	26.97	8.65	26.96	8.16	27.45
MW-18 (MW-01-08)	14.50	36.67	36.30	5	9.5	10.0-15.0	6.90	29.40	7.74	28.93	7.63	28.67	7.67	28.63	10.58	25.72	7.54	28.76	7.48	28.82
MW-19	16.70	42.20	41.88	10	6.7	6.7-16.7	8.48	33.40	10.48	31.72	7.02	34.86	7.74	34.14	7.47	34.41	8.66	33.22	7.39	34.49
MW-20	15.75	42.60	42.69	10	5	5.75-15.75	4.93	37.76	6.00	36.60	5.53	37.16	8.21	34.48	NI	NI	NI	NI	NI	NI
MW-21	14.31	Not Surveyed	Not Surveyed	10	4.31	4.25-14.25	10.10	Not Surveyed	12.51	Not Surveyed	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
MW-22D	54.60	Not Surveyed	Not Surveyed	10	44	44.5-54.5	9.22	Not Surveyed	11.38	Not Surveyed	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Notes:

* — These wells were installed during previous investigations conducted by other consulting firms.

[1] — Elevations for these wells were obtained from reports prepared by other consulting firms.

[2] — Piezometers were damaged or destroyed through snow removal activities, no longer exist, and cannot be measured.

TOC — Top of Casing

Elevations are referenced to the City of Syracuse Datum.

All depths, lengths, and elevations measured in feet.

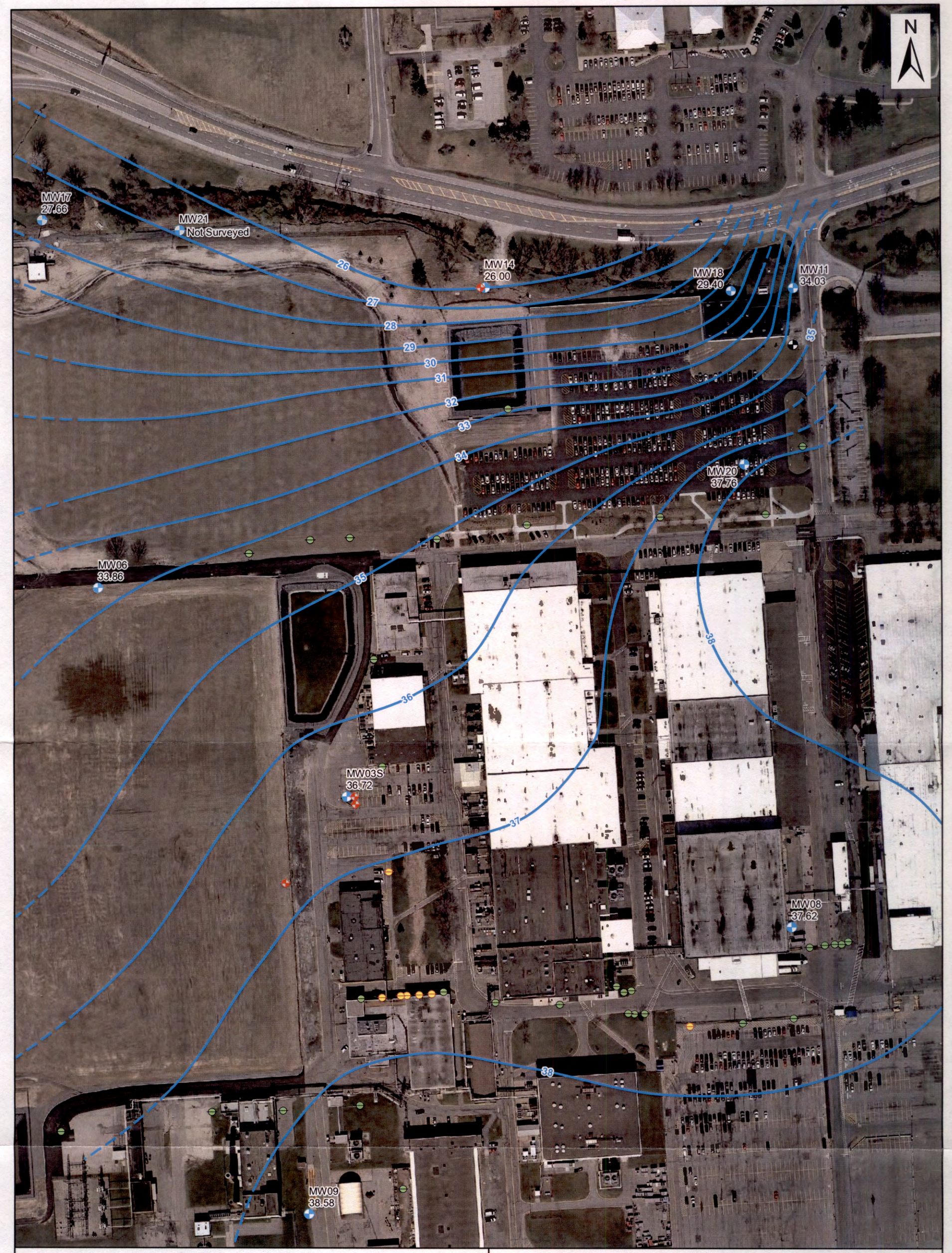
Monitoring Wells are 2-inch diameter stainless steel or PVC.

Piezometers are 1-inch diameter PVC.

NM — Not Measured

NI — Well not yet installed

AB — Abandoned



Deep Well

Piezometer

Destroyed/Abandoned Piezometer

Shallow Well

NM Not Measured

Potentiometric Surface Contour

Inferred Potentiometeric Surface Contour

Aerial Photographic Source:
Aerial Photographic Source:
NYS GIS Clearinghouse
Photo Date: April 2012
*Note: All units are in feet

0 80 160 240 320

Feet

FIGURE 3
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE MAP - JUNE 11, 2013
CARRIER FACILITY, THOMPSON ROAD
SYRACUSE, NEW YORK

REQUESTED BY: S. Goodnight	ENSAFE
DRAWN BY: N. Rinehart	
DATE: 08/15/2013	1-800-588-7962 WWW.ENSAFE.COM
PROJECT NO: 0888814015	

X:\UTC\Syracuse\Carrier Campus\Projects\Figure 3 Shallow GW Pot Map June 2013.mxd

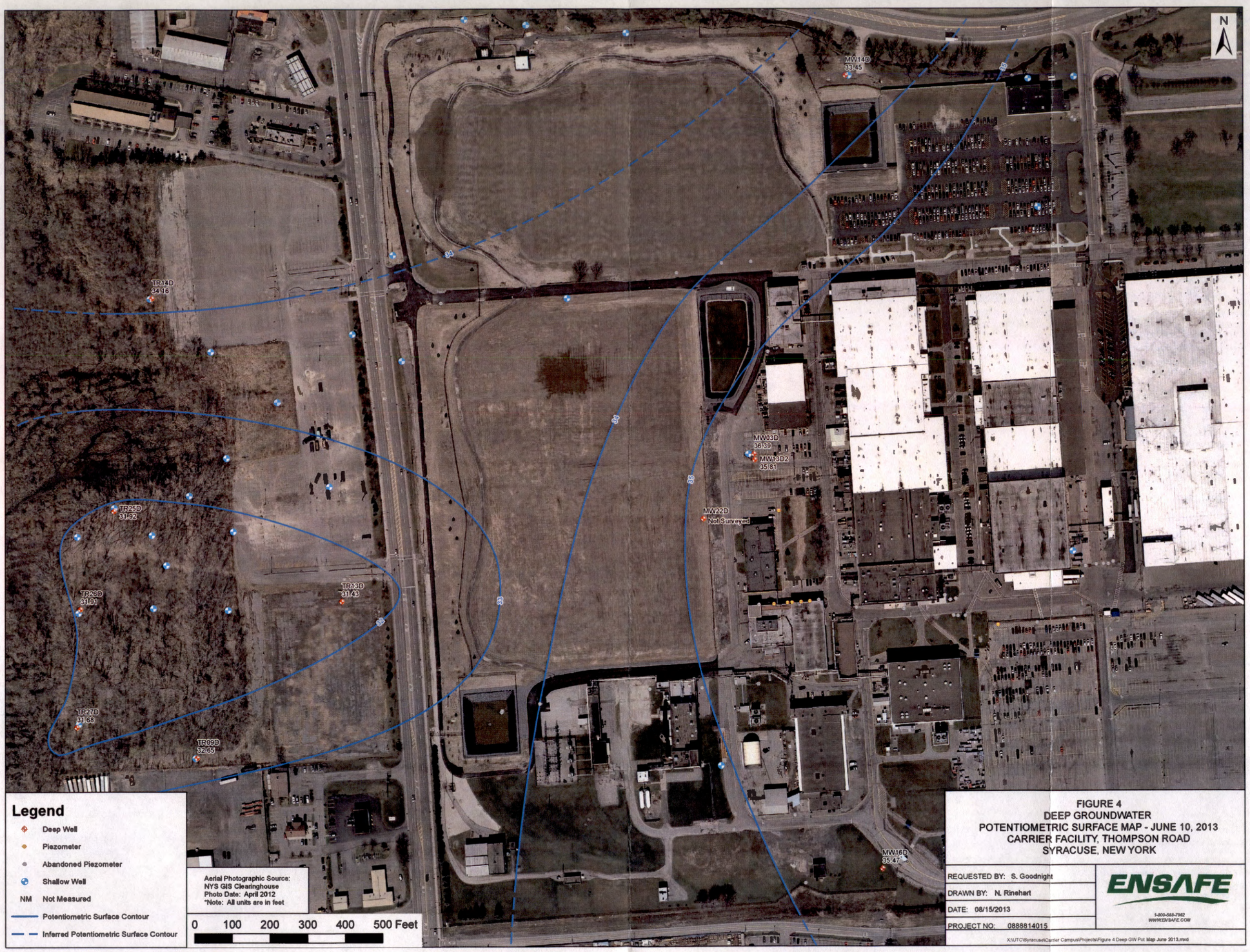


FIGURE 4
DEEP GROUNDWATER
POTENTIOMETRIC SURFACE MAP - JUNE 10, 2013
CARRIER FACILITY, THOMPSON ROAD
SYRACUSE, NEW YORK

REQUESTED BY: S. Goodnight	ENSAFE
DRAWN BY: N. Rinehart	
DATE: 08/15/2013	
PROJECT NO: 0888814015	

1-800-588-7982
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X:\UTC\Syracuse\Carrier Campus\Projects\Figure 4 Deep GW Pot Map June 2013.mxd

A summary of historical groundwater elevations for all existing and previously existing monitoring wells and piezometers is included in Appendix A.

To better evaluate deep groundwater flow across the Site, water level measurements from deep groundwater aquifer monitoring wells at the Thompson Road Parking Lot Area (TR9D, TR14D, TR25D, and TR26D), which are constructed with 10-foot well screens installed immediately above the bedrock surface, were used to supplement the data from the on-site deep groundwater aquifer monitoring wells (MW-14D, MW-13D2, MW-16D, and MW22D). Depth to groundwater measurements and potentiometric surface elevations are summarized in Table 2. Deep potentiometric surface data collected during the June 2013 event indicates deep groundwater aquifer flow direction is to the west with a slight northwesterly trend in the northern portion of the Site (Figure 4). This groundwater flow direction is similar to previous patterns observed during the 2011 and 2012 groundwater monitoring events. Deep groundwater flow appears to be influenced by the deepening overburden-bedrock interface toward the west.

2.2 Sampling Activities

After collecting depth-to-groundwater measurements, each well was purged using low flow sampling techniques. During purging activities, water quality parameters (pH, conductivity, temperature, turbidity, dissolved oxygen, and oxygen-reduction potential) were recorded using a Horiba U-22. Purge water quality measurements are tabulated on well purging record forms in Appendix B. Each of the shallow monitoring wells was purged using a peristaltic pump and sampled using the "soda straw" method. The five deep groundwater aquifer wells (MW-3D, MW-14D, MW-13D2, MW-16D, and MW-22D) were purged using an electronic submersible pump. Samples were collected in laboratory-supplied 40-milliliter glass vials from 16 onsite monitoring wells and analyzed for VOCs using USEPA SW-846 Method 8260. Additional groundwater from monitoring well MW20 was collected in two amber glass, 1-liter jars and analyzed for PCBs using USEPA SW-846 Method 8082.

As similarly observed in previous Site-wide annual groundwater monitoring events, an oil-like substance was observed on the water level indicator while collecting the water level measurement at monitoring well MW20 during the June 2013 Site-wide monitoring event. The same oil-like substance (free-phase) was observed on the dedicated polyethylene tubing when it was removed from monitoring well MW20 prior to sampling; this tubing was decontaminated and disposed of. After gauging, a polyethylene disposable bailer was lowered into the monitoring well to observe any measureable thickness of the substance, and the bailer contained approximately 0.1 inches of free-phase product along with sheen and small oil globules. To determine whether additional free-phase product would enter the well, three

Table 2
AOC G Potentiometric Data

Well ID	Date Measured	TOC Elevation	DTW BTOC	Groundwater Elevation	Groundwater Elev. SYR Datum
Deep Groundwater Zone					
TR09D	6/27/2011	410.80	16.01	394.79	32.79
	6/14/2012		NM	NM	
	8/15/2012		18.54	392.26	30.26
	6/10/2013		16.15	394.65	32.65
TR13D	6/27/2011	405.40	12.00	393.40	31.40
	6/14/2012		13.03	392.37	30.37
	8/15/2012		NM	NM	
	6/10/2013		11.97	393.43	31.43
TR14D	6/27/2011	404.24	7.78	396.46	34.46
	6/14/2012		9.39	394.85	32.85
	8/15/2012		10.59	393.65	31.65
	6/10/2013		8.08	396.16	34.16
TR25D	6/27/2011	406.62	12.59	394.03	32.03
	6/14/2012		13.96	392.66	30.66
	8/15/2012		15.23	391.39	29.39
	6/10/2013		12.70	393.92	31.92
TR26D	6/27/2011	410.42	16.52	393.90	31.90
	6/14/2012		NM	NM	
	8/15/2012		NM	NM	
	6/10/2013		16.51	393.91	31.91
TR27D	6/27/2011	412.84	19.14	393.70	31.70
	6/14/2012		20.3	392.54	30.54
	8/15/2012		21.57	391.27	29.27
	6/10/2013		19.16	393.68	31.68

Notes:

TOC = Top of Casing Elevation Datum

DTW = Depth to Water Below Top of Casing

NM = Not Measured due to inaccessibility

well volumes (approximately 5 gallons) of water were evacuated from monitoring well MW20, and the monitoring well was allowed to recharge. A new polyethylene bailer was used to check for additional free-phase product on the water column and no free-phase product or sheen was observed. Monitoring well MW20 was then purged and sampled via the low-flow method described above. After all groundwater samples were collected, they were shipped to an offsite laboratory (TestAmerica Laboratories, in North Canton, Ohio) via overnight courier using chain-of-custody procedures. All samples arrived intact and below the 4°C maximum temperature.

2.3 Groundwater Sampling Results

According to the laboratory analytical report (Appendix C), groundwater samples from the June 2013 Site-wide monitoring event yielded VOC concentrations which exceeded the NYSDEC drinking water screening limits in four of the sixteen monitoring wells sampled–MW3D, MW3S, MW18, and MW20. While groundwater is not used as a potable water source at the facility or within the immediate surrounding vicinity, NYSDEC drinking water limits have been established as the comparative standard for the Carrier Thompson Road facility. Laboratory analytical results for Site-wide monitoring events conducted from February 2007 through June 2013 are summarized in Table 3. A complete summary of historical laboratory analytical results for all existing and previously existing monitoring locations is included in Appendix D.

The June 2013 laboratory analytical results indicated detectable VOC constituent concentrations decreased in groundwater samples obtained from monitoring wells MW03S (with the exception of cis-1,2-dichloroethylene [cis-1,2-DCE]), MW18 (with the exception of trichloroethene [TCE]), and MW20 relative to results from the previous Site-wide monitoring event (August 2012). A groundwater sample obtained during June 2013 monitoring event from monitoring well MW03D yielded an overall increase in detected VOC concentrations.

The June 2013 laboratory analytical results for a sample obtained from monitoring well MW03D yielded an increase in groundwater concentrations for cis-1,2-DCE from 13.7 to 38 micrograms per liter (µg/L) and trans-1,2-dichloroethene (trans-1,2-DCE) from non-detect (less than the laboratory method detection limit) to 3.9 µg/L compared with the previous monitoring event. The 2013 cis-1,2-DCE concentration is greater than the calculated historical average of 18.47 µg/L and exceeds the NYSDEC groundwater standard; however, the reported concentration is within the observed historical range. The groundwater trans-1,2-DCE concentration of 3.9 µg/L is only the second overall detection at this location; however, the reported concentration is less than the applicable NYSDEC drinking water screening limit.

Table 3
Groundwater Analytical Results
Carrier Thompson Rd. Facility
2007 - 2012

Well Number	Sample Identification	Sample Date	Acetone	Benzene	Carbon disulfide	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	Total 1,2-DCE	trans-1,2-DCE	cis-1,2-DCE	1,1,1-TCA	1,1,2-TCA	2-Hexanone	TCE	PCE	Vinyl Chloride	MTBE
			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	µg/L	µg/L	µg/L
NYSDEC Standard			50 G	1	50 G	7	5	0.6	0.7 G	N/A	5	5	5	1	N/A	5	5 G	2	N/A
MW-03D	CARGMW3D08	2/12/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	**9.4**	ND	ND	ND	ND	ND	ND	ND
	CARGMW3D09	5/8/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	**5.5**	ND	ND	ND	ND	ND	ND	ND
	CARGMW3010	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	**5**	ND	ND	ND	ND	ND	0.77 J	ND
	ENSTHMPMW3D0609	6/29/2009	ND	ND	ND	ND	0.49 J	ND	ND	NA	ND	**14.7**	ND	ND	ND	ND	ND	**2.0**	ND
	CARGMW3D0610	6/30/2010	ND	ND	ND	ND	0.43 J	ND	ND	NA	ND	**15.2**	ND	ND	ND	ND	ND	**1.6**	ND
(Duplicate)	CARHMW3D0610	6/30/2010	ND	ND	ND	ND	0.75 J	ND	ND	NA	0.40 J	**24.2**	ND	ND	ND	ND	ND	**2.8**	ND
	CARGMW3D0611	6/28/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	**6.8**	ND	ND	ND	ND	ND	ND	ND
	CARGMW3D0612	6/13/2012	ND	ND	ND	ND	**1**	ND	ND	NA	ND	**34.4**	ND	ND	ND	ND	ND	**2.5**	ND
	CARGMW3D0812	8/15/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	**13.7**	ND	ND	ND	ND	ND	ND	ND
(Duplicate)	CARHMW3D0812	8/15/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	**10.4**	ND	ND	ND	ND	ND	ND	ND
	CARGMW03D0613	6/11/2013	ND	ND	ND	ND	1.5 J	ND	ND	NA	**3.9**	**38**	ND	ND	ND	ND	ND	2.3 J	ND
MW-03S	CARGMW3S08	2/12/2007	ND	ND	ND	ND	**47.8**	ND	**11.7**	NA	**11.3**	**1,420** a	ND	ND	ND	1.9 J	ND	**154**	ND
	CARGMW3S09	5/8/2007	ND	ND	ND	ND	**59.6**	ND	**15.0**	NA	**9.0**	**2,130** a	ND	ND	ND	2.4 J	ND	**221**	ND
	CARGMW3S10	8/21/2007	ND	ND	ND	ND	**45.1**	ND	ND	NA	ND	**1,940**	ND	ND	ND	ND	ND	**188**	ND
	ENSTHMPMW3S0609	6/29/2009	ND	ND	ND	ND	**35.2**	ND	9.4 J	NA	ND	**1,450**	ND	ND	ND	ND	ND	**154**	ND
	CARGMW3S0610	6/30/2010	ND	ND	ND	ND	**57.4**	ND	**17.1**	NA	**26.8**	**2,040**	ND	ND	ND	**2.0**	ND	**197**	ND
	CARGMW3S0611	6/28/2011	ND	ND	ND	ND	**59.3**	ND	**14.3**	NA	**26.5**	**1,970** a	ND	ND	ND	**2.1**	ND	**168**	ND
	CARGMW3S0612	6/13/2012	ND	ND	ND	ND	**27.1**	NA	**6.7**	NA	**3.3**	**965 a**	ND	ND	ND	**1.0**	ND	**83.5**	ND
	CARGMW03S0613	41436.0	ND	ND	ND	ND	**27**	NA	5.4 J	NA	ND	**1000 B**	ND	ND	ND	ND	ND	**96**	ND
MW-05	CARGMW0508	2/13/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW0509	5/8/2007	ND	ND	0.66 J	ND	ND	ND	ND	NA	ND	0.24 J	ND	ND	ND	ND	ND	ND	ND
	CARGMW0510	8/21/2007	ND	ND	0.66 J	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ENSTHMPMW050609	6/29/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW050610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW050611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-05R	CARGMW05R0812	8/15/2012	**9.9**	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW05R0613	6/12/2013	2.9 J	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.24 J	ND	ND	ND	ND	ND	ND
MW-06	CARGMW0608	2/12/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**0.48**	ND	ND	ND
	CARGMW0609	5/8/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW0610	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.5**	ND	ND	ND
	ENSTHMPMW060609	6/28/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	0.52 J	ND	ND	ND
	CARGMW060610	6/30/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**2.2**	ND	ND	ND
	CARGMW060611	6/28/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW060612	6/13/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**0.36**	ND	ND	ND
	CARGMW060812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW060613	6/12/2013	2.6 J	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-09	CARGMW0908	2/12/2007	ND	ND	ND	ND	**0.91**	ND	ND	NA	ND	**1.2**	**2.9**	ND	ND	**3.8**	ND	ND	ND
	CARGMW0909	5/8/2007	ND	ND	ND	ND	**1.1**	ND	ND	NA	ND	**1.3**	**2.8**	ND	ND	**4.6**	0.32 J	ND	ND
	CARGMW0910	8/21/2007	ND	ND	ND	ND	**2.1**	ND	ND	NA	ND	**2.3**	**6.4**	ND	ND	**7.9**	ND	ND	ND
	ENSTHMPMW090609	6/28/2009	ND	ND	ND	ND	0.89 J	ND	ND	NA	ND	0.79 J	**2.5**	ND	ND	**4.2**	ND	ND	ND
	CARGMW090610	6/30/2010	ND	ND	ND	ND	**1.3**	ND	ND	NA	ND	**1.1**	**2.5**	ND	ND	**4.9**	ND	ND	ND
	CARGMW090611	6/28/2011	ND	ND	ND	ND	0.80 J	ND	ND	NA	ND	0.47 J	**1.6**	ND	ND	**3.6**	ND	ND	ND
	CARGMW090612	6/13/2012	ND	ND	ND	ND	**0.94**	ND	ND	NA	ND	**0.67**	**1.4**	ND	ND	**3.4**	ND	ND	ND
	CARGMW090812	8/15/2012	ND	ND	ND	ND	**1.5**	ND	ND	NA	ND	**1.6**	**3.3**	ND	ND	**5.1**	ND	ND	ND
	CARGMW090613	6/11/2013	ND	ND	ND	ND	0.63 J	ND	0.20 J	NA	ND	0.58 J	**1.7**	ND	ND	**3.1**	0.60 J	ND	ND
MW-10	CARGMW1008	2/12/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
(Duplicate)	CARHMW1008	2/12/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1009	5/8/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1010	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ENSTHMPMW100609	6/28/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW100610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW100611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW100612	6/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	**0.71**
	CARGMW100812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	**4.4**
	CARGMW100613	6/12/2013	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.37 J	ND	ND	0.17 J	ND	ND	0.88 J
MW-13D2	ENSTHMPMW13D20609	6/29/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.61 J	ND	ND	ND	ND	ND	ND	ND
Duplicate	ENSTHMPDUP10609	6/29/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.54 J	ND	ND	ND	ND	ND	ND	ND
	MW-13D2	9/9/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	**1.6**	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20210	2/17/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	**2.4**	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20310	3/24/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20611	6/28/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20612	6/13/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	**0.92**	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D0812	8/15/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW13D20613	6/13/2013	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.31 J	ND	ND	ND	ND	ND	0.24 J	ND
MW14	CARGMW1408	2/13/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1409	5/8/2007	ND	ND	ND	ND	ND	0.27 J	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1410	8/22/2007	ND	ND	ND	ND	0.32 J	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0.71 J	ND
	ENSTHMPMW140609	6/29/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW140610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW140611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW140612	6/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW140812	8/15/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW140613	6/12/2013	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.38 J	ND	ND	ND	ND	ND	ND

ENSAFE

Table 3
Groundwater Analytical Results
Carrier Thompson Rd. Facility
2007 - 2012

Well Number	Sample Identification	Sample Date	Acetone	Benzene	Carbon disulfide	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	Total 1,2-DCE	trans-1,2-DCE	cis-1,2-DCE	1,1,1-TCA	1,1,2-TCA	2-Hexanone	TCE	PCE	Vinyl Chloride	MTBE
			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	µg/L	µg/L	µg/L
NYSDEC Standard			50 G	1	50 G	7	5	0.6	0.7 G	N/A	5	5	5	1	N/A	5	5 G	2	N/A
MW14D	CARGMW14D08	2/14/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
(Duplicate)	CARGMW14D08	2/14/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D09	5/9/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14010	8/22/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ENSTHMPMW14D0609	6/26/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D0610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D0611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D0612	6/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D0812	8/15/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW14D0613	6/12/2013	1.8 J	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-16D	CARGMW16D08*	2/14/2007	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS
	CARGMW16D09	5/9/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
(Duplicate)	CARHMW16D09	5/9/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16010	8/22/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ENSTHMPMW16D0609	6/28/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16D0610	6/29/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16D0611	6/28/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16D0612	6/13/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16D0812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW16D0613	6/12/2013	1.2 J	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-17	CARGMW1708	2/13/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1709	5/8/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW1710	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ENSTHMPMW170609	6/29/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW170610	7/1/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW170611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW170612	6/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW170812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW170613	6/12/2013	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-18	CARGMW1808	2/13/2007	ND	ND	ND	ND	5.0 J	ND	9.9 J	NA	9.1 J	**2,280a**	ND	ND	ND	**211**	ND	**456**	ND
	CARGMW1809	5/8/2007	ND	ND	ND	ND	3.6 J	ND	**7.0**	NA	**7.4**	**1,790 a**	ND	ND	ND	**57.1**	ND	**776**	ND
	CARGMW1810	8/22/2007	ND	ND	ND	ND	ND	ND	ND	NA	25.0 J	**8,770**	ND	ND	ND	ND	ND	**2,530**	ND
(Duplicate)	CARHMW1810	8/22/2007	ND	ND	ND	ND	ND	ND	ND	NA	25.0 J	**8,970**	ND	ND	ND	ND	ND	**2,610**	ND
	ENSTHMPMW180609	6/29/2009	ND	ND	ND	ND	ND	ND	0.96 J	NA	**1.3**	**221 a**	ND	ND	ND	**36.4**	ND	**4.8**	ND
	CARGMW180610	6/30/2010	ND	ND	ND	ND	ND	ND	**4.2**	NA	**7.5**	**789 a**	ND	ND	ND	**93.1**	ND	**71.4**	ND
	CARGMW180611	6/28/2011	ND	ND	ND	ND	0.62 J	ND	**4.9**	NA	**8.2**	**1,020 a**	ND	ND	ND	**73.4**	ND	**89.5**	ND
	CARGMW180612	6/13/2012	ND	ND	ND	ND	**3.4**	ND	**6.2**	NA	**10.2**	**1540 a**	ND	ND	ND	**194**	ND	**111.0**	ND
	CARGMW180812	8/15/2012	ND	ND	ND	ND	**3.3**	ND	**7.5**	ND	**6.2**	**1,560 a**	ND	ND	ND	**241**	ND	**368**	ND
	CARGMW180613	6/12/2013	ND	ND	ND	ND	5.5 J	ND	4.8 J	NA	ND	**770**	7.3 J	ND	ND	**250**	ND	**27**	ND
MW-19	CARGMW1908	2/12/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND
	CARGMW1909	5/8/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND
	CARGMW1910	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.7**	ND	ND	ND
(Duplicate)	CARHMW1910	8/21/2007	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.8**	ND	ND	ND
	ENSTHMPMW190609	6/28/2009	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	0.83 J	ND	ND	ND
	CARGMW190610	6/30/2010	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	0.79 J	ND	ND	ND
	CARGMW190611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND
	CARHMW190611	6/29/2011	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND
	CARGMW190612	6/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	**0.87**	ND	ND	ND
	CARGMW190812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW190613	6/12/2013	ND	ND	ND	0.19 J	ND	ND	ND	NA	ND	ND	0.27 J	ND	ND	0.81 J	ND	ND	ND
MW-20	CARGMW200610	7/1/2010	ND	ND	ND	ND	**6,610**	ND	**1,540**	NA	**103**	**5,530**	49.1 J	20.5 J	ND	**8,710**	ND	**1,010**	ND
	CARGMW200910	9/29/2010	ND	ND	ND	ND	**3,290**	5.7 J	**450**	NA	**58.8**	**3,380**	**34.6**	**17.5**	ND	**4,900**	7.1 J	**467**	ND
	CARGMW201210	1/10/2011	ND	ND	ND	ND	**5,140**	ND	**541**	NA	**99**	**6,840**	**53.5**	24.8 J	ND	**3,870**	ND	**759**	ND
	CARGMW200311	3/31/2011	ND	ND	ND	ND	**6,110**	12.9 J	**589**	NA	**135**	**7,490**	**60.3**	**37.8**	ND	**3,010**	10.5 J	**1,130**	ND
	CARGMW200610	6/29/2011	ND	ND	ND	1.1 J	**1,880 a**	**3.6**	**170**	NA	**42.4**	**1,640 a**	**16.2**	**11.2**	ND	**694 a**	**2.6**	**349**	ND
	CARGMW200612	6/14/2012	ND	ND	ND	**1.5**	**2920 b**	**4.7**	**250 a**	NA	**82.5**	**1110 a**	**17.4**	**15.1**	ND	**347 a**	**3.4**	**418 a**	ND
(Duplicate)	CARHMW200612	6/14/2012	ND	ND	ND	ND	**2890 a**	**4.4**	**253**	NA	**75.1**	**1120**	**17.2**	**14**	ND	**374**	3	**407**	ND
	CARGMW200812	8/15/2012	ND	ND	ND	**1.5**	**893 a**	ND	**153**	NA	**32.4**	**487 a**	**9.2**	**5.1**	ND	**243**	**2.0**	**285**	ND
(Duplicate)	CARGMW200613	6/13/2013	ND	ND	ND	ND	**180**	ND	**18**	NA	4.8 J	**66**	ND	ND	ND	**33**	ND	**30**	ND
	CARGMW200613	6/13/2013	ND	ND	ND	ND	**180**	ND	**17**	NA	5.1 J	**65**	2.0 J	ND	ND	**35**	ND	**26**	ND
MW-21	CARGMW210812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW210613	6/12/2013	ND	ND	ND	ND	ND	ND	0.35 J	NA	ND	0.53 J	ND	ND	ND	0.8 J	ND	ND	ND
MW-22D	CARGMW22D0812	8/14/2012	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CARGMW22D0613	6/13/2013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

G — New York State Guidance Value
ND — Not detected above method detection limits
NA — Not Analyzed
NS — Not Samplesd as part of the Site-Wide Monitoring Plan
mg/L — milligrams per liter
µg/L — micrograms per liter

Detections highlighted in **BOLD**
J value indicates concentration is estimated and is below method detection limits.
a indicates diluted sample results.
E indicates concentration exceeds calibration range of the instrument.
* denotes that well has been abandoned

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Laboratory analytical results for a sample obtained from monitoring well MW03S during the June 2013 monitoring event yielded a decrease in 1,1-dichloroethane ([1,1-DCA] from 27.1 to 27 µg/L); 1,1-dichloroethylene ([1,1-DCE] from 6.7 to 5.4 µg/L [J-flagged or estimated value–concentration is greater than the laboratory method detection limit but less than the reporting limt]); trans-1,2-DCE] (from 3.3 µg/L to non-detect); TCE (from 1.0 µg/L to non-detect); and vinyl chloride ([VC] from 104 to 96 µg/L) groundwater concentrations compared to the August 2012 monitoring event. A slight increase was observed in cis-1,2-DCE groundwater concentrations (from 833 to 1,000 µg/L) compared to the previous monitoring event. Of the detected analytes, only concentrations for 1,1-DCA; 1,1-DCE; cis-1,2-DCE; and VC exceeded the applicable NYSDEC drinking water screening limits. Each reported concentration was also within the observed historical ranges and well below their calculated averages (199.8; 34.635; 6,366; and 757 µg/L respectively).

The June 2013 laboratory analytical results for a sample obtained from monitoring well MW18 yielded decreases in detected 1,1-DCE; trans-1,2-DCE; cis-1,2-DCE; and VC groundwater concentrations (from 7.5 to 4.8 µg/L [estimated value]; 6.2 µg/L to non-detect; 1,560 to 770 µg/L and 368 to 27 µg/L respectively) and a slight increase in detected 1,1-DCA; 1,1,1-trichloroethane (1,1,1-TCA); and TCE groundwater concentrations (from 3.3 to 5.5 µg/L; non-detect to 7.3 µg/L [estimated value]; and 241 to 250 µg/L respectively) compared to the previous monitoring event. Each of the detected analytes exceeded their respective applicable NYSDEC drinking water screening limits; however, each concentration is within the respective observed historical ranges and/or well below the calculated averages–except 1,1,1-TCA. The June 2013 1,1,1-TCA detection (7.3 µg/L–estimated value) is the first ever at MW18; however, it is only slightly greater than the NYSDEC drinking water screening limit of 5 µg/L. Although concentrations trends in detected cis-1,2-DCE; TCE; and VC groundwater concentrations at MW18 indicate a short-term (from 2009 to 2013) increasing trend, long term trends (from 2001 to 2013) indicate an overall decrease in detected cis-1,2-DCE; TCE; and VC groundwater concentrations (Appendix E).

At monitoring well MW20, where free-phase product was observed, laboratory analyses for groundwater samples obtained from the monitoring well to date have not yielded detections of VOCs typically associated with petroleum contamination. The June 2013 laboratory analytical results for the groundwater sample obtained from monitoring MW20 yielded a significant decrease in all detected VOC analytes compared to the previous monitoring event: chloroform (from 1.5 µg/L to non-detect); 1,1-DCA (from 893 to 180 µg/L); 1,1-DCE (from 153 to 17 µg/L); trans-1,2-DCE (from 32.4 to 5.1 µg/L [estimated value]); cis-1,2-DCE (from 487 to 65 µg/L); 1,1,1-TCA (from 9.2 to 2 µg/L [estimated value]); 1,1,2-trichloroethane ([1,1,2-TCA] from 5.1 µg/L to non-detect); TCE (from 243 to 35 µg/L); PCE (from 2.0 to non-detect); and VC (from 285 to 26 µg/L). Of the detected analytes, 1,1-DCA;

1,1-DCE; trans-1,2-DCE; cis-1,2-DCE; TCE; and VC were reported at concentrations greater than their respective NYSDEC drinking water screening limit: 1,1-DCA;. However, each concentration was within the observed historical ranges and well below the calculated historical averages (3,378; 464; 70; 3,318; 2,726; and 556 µg/L respectively). While fluctuations in VOC concentrations have been observed since the monitoring well was installed in 2010, the historical trend depicts a dramatic decrease in VOC groundwater contaminant concentrations over the past three years. Additionally, the June 2013 laboratory analytical results for the groundwater sample obtained from monitoring MW20 yielded no detections for PCBs.

A review of historical laboratory analytical results for the groundwater monitoring network at the Site indicates a consistent lack of VOC detections in deep groundwater monitoring wells (i.e., screened just above the bedrock interface), and for those shallow monitoring wells impacted by VOCs, historical concentrations yield an overall long-term decreasing trend and/or generally stable results. Graphs depicting select VOC concentration versus time for impacted shallow groundwater aquifer monitoring wells are presented in Appendix E.

2.4 STATISTICAL TREND ANALYSIS

To further analyze long-term trend and stability associated with shallow groundwater contamination at the Site, the Mann-Kendall statistical trend test with an alpha value of 0.05 (i.e., false positive rate of 5 percent) was performed to determine trends, if any, for data collected during the four most recent Site-wide groundwater monitoring events. The last four events were chosen because:

- There was consistent data for each of the selected monitoring wells;
- Each of the monitoring events occurred during the late spring to summer months (June to August); therefore no seasonal influences.

Tables 4 through 6 summarize laboratory analytical data as well as Mann-Kendall trend analysis data for select monitoring wells. Based on results of the statistical trend tests for select VOC analytes (TCE; cis-1,2-DCE; and VC) as well as the applicable NYSDEC drinking water screening levels, the following trends were observed:

- TCE is increasing in monitoring well MW18 at an approximate rate of 90 µg/L per year and decreasing in monitoring well MW20 at a rate of approximately 300 µg/L per year. Monitoring wells MW06 and MW09 are stable based on the criteria of no trend and a coefficient of variation less than 1. Monitoring well MW03S showed no statistical trend (i.e., increasing or decreasing),

but the coefficient of variation was slightly above 1 (1.03); therefore, TCE concentrations from the four most recent monitoring events at MW03S do not meet the stable criteria.

- A statistical decreasing trend for cis-1,2-DCE concentration, at a rate of approximately 800 µg/L per year, was observed in monitoring well MW20. Reported cis-1,2-DCE concentrations for monitoring well MW06 were below the reporting limit for the range of time considered. Monitoring well MW09 yielded detectable cis-1,2-DCE concentrations below the NYSDEC groundwater screening limit and are stable, based on the criteria of no statistical trend and a coefficient of variation less than 1. The reported concentrations for cis-1,2-DCE in groundwater samples obtained from monitoring wells MW03S and MW18 were statistically stable (i.e., no increasing or decreasing trend), although they were consistently greater than the NYSDEC groundwater screening limit.

- Concentrations for VC were below the reporting limit and the NYSDEC drinking water standard for monitoring wells MW06 and MW09 during the range of time considered. VC concentrations yielded no trends and are statistically stable, although they have consistently exceeded the NYSDEC drinking water screening limit, in both monitoring wells MW03S and MW20. VC concentrations have also consistently exceeded the NYSDEC groundwater screening limit in monitoring well MW18. According to the Mann-Kendall trend analysis, no statistical trend was observed; however, VC concentrations from the four most recent monitoring events at MW18 do not meet the statistically stable criteria due to the fact the coefficient of variation was slightly greater than 1.

Graphs depicting detectable TCE, cis-1,2-DCE, and VC concentrations greater than the reporting limit versus time for impacted shallow groundwater aquifer monitoring wells represent the findings of the Mann-Kendall statistical trend analysis and are presented in Appendix E.