Analytical Results for Semi-Annual Monitoring Event 1 - Groundwater, Surface Water and Sediment Sampling, Performed in March, April, and June of 2012 at the BB&S Treated Lumber Corporation Site Southhampton, New York

September 2012

Prepared for:

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List of Abbreviations and Acronyms

BGS	below ground surface
AROD	Amended Record of Decision
BB&S	Best Building and Supply Treated Lumber Corporation
CCA	chromated copper arsenate
DOR	Daily Observation Report
DUSR	Data Usability Summary Report
EEEPC	Ecology and Environment Engineering, P.C.
EPA	(U.S.) Environmental Protection Agency
mg/kg	milligrams per kilogram
µg/L	micrograms per liter
MS/MSD	matrix spike/matrix spike duplicate
MW	monitoring well
NTU	nephelometric turbidity unit
NYCRR	New York State Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
PDI	predesign investigation
QC	quality control
ROD	Record of Decision
SCG	standards, criteria, and guidance
SCO	soil cleanup objective
SCWA	Suffolk County Water Authority
SMP	Site Management Plan
VOC	volatile organic compound

1 Introduction and Background

1.1 Introduction

This report summarizes the analytical results for the groundwater, surface water, and sediment sampling performed as part of the first semi-annual post-construction monitoring event at the Best Building and Supply Treated Lumber Corporation (BB&S) Site. The site is located at 1348 Speonk-Riverhead Road in the town of Southampton, Suffolk County, New York, approximately 1.5 miles north of the Hamlet of Speonk (see Figure 1-1).

Groundwater sampling was performed by EnviroTrac, Ltd., of Yaphank, New York, in March and April 2012. They also performed surface water and sediment sampling on June 6, 2012, under the New York State Department of Environmental Conservation's (NYSDEC's) standby call-out contract. Ecology and Environment Engineering, P.C. (EEEPC) provided oversight and monitoring of the semi-annual sampling work performed by EnviroTrac under NYSDEC Work Assignment D007617-0006. Analytical services were performed by TestAmerica Laboratories, Inc., of Edison, New York, under a call-out work assignment from NYSDEC.

In addition, a site inspection of the site engineering controls was performed by EEEPC in accordance with the BB&S Site Management Plan (SMP). All site work was also performed in accordance with the current BB&S SMP.

Appendix A provides the groundwater monitoring well sampling and inspection logs collected by EnviroTrac. Appendix B provides the Daily Observation Reports (DORs) for EEEPC's inspection of EnviroTrac's sampling activities. Appendix C provides the laboratory analytical results. Appendix D provides the Data Usability Summary Reports (DUSRs) by media (groundwater, surface water, and sediments). Appendix E provides copies of the completed Site Inspection Forms. Appendix F provides a photo log, which includes before and after photos of the repairs made to the chromated copper arsenate (CCA) Treatment Building membrane liner.

1.2 Background

The area surrounding the BB&S Site is rural and is considered part of the Central Pine Barrens Preserve. Homes and businesses are located within a half-mile of the site, including south of the site in the general direction of groundwater flow. The approximately 17-acre site was most recently used as a lumberyard for

wholesale and retail lumber distribution (Best Building Supply and Lumber Company). Lumber was pressure-treated on-site using a CCA solution. CCA is listed by 6 New York State Codes, Rules, and Regulations (NYCRR) Part 371 as a hazardous waste when spent or disposed of without treatment (code number F035). CCA was documented to have been released to the environment through surface spills and sump leakage at the site. In May 2009, the lumberyard ceased operations and filed for Chapter 11 bankruptcy. Prior to the site remediation project in September 2010, the site was being leased by the property owner as a storage area for construction trailers.

The BB&S Site was placed on the New York State Registry of Inactive Hazardous Waste Disposal Sites in 1993. Malcolm Pirnie, Inc., performed the Remedial Investigation (1998) and the Engineering Feasibility Study (1999) using state Superfund monies. The original Record of Decision (ROD) for the site was issued on February 25, 2000.

A majority of the predesign investigation (PDI) field work was completed between September 2005 and February 2006 (Earth Tech Northeast, Inc. 2007). The analytical results for PDI groundwater samples collected in 2008 indicated the contaminant plume had attenuated since the issuance of the ROD. Due to the attenuation of the contaminant plume in the groundwater and an expanded soil volume requiring remediation, NYSDEC issued an Amended ROD (AROD) on October 27, 2009 (NYSDEC 2009a). A public water line was installed by the Suffolk County Water Authority (SCWA) in June 2001 along Old County Road and Speonk-Riverhead Road, making public water available to residences and businesses located immediately downgradient (i.e., south) of the site.
Site remediation work began in September 2010 and was completed in October 2011. Remedial activities included the removal of contaminated on-site and off-site soils exceeding 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs). In accordance with the AROD, contaminated soil was left beneath and around the foundations of the former Drip Pad Building and former CCA Treatment Building to maintain their structural integrity. In addition, the following remedial actions were performed:

- Excavated areas were backfilled with clean material.
- Support columns in the former Drip Pad Building were repaired.
- Treatment pits within the CCA Treatment Building were cleaned and filled with a concrete-based flowable material.
- Sumps within the buildings were cleaned and repaired.
- Improvements were made to existing floor slabs in the former CCA Treatment Building and former Drip Pad Building to create a low permeability cap over residual contamination.

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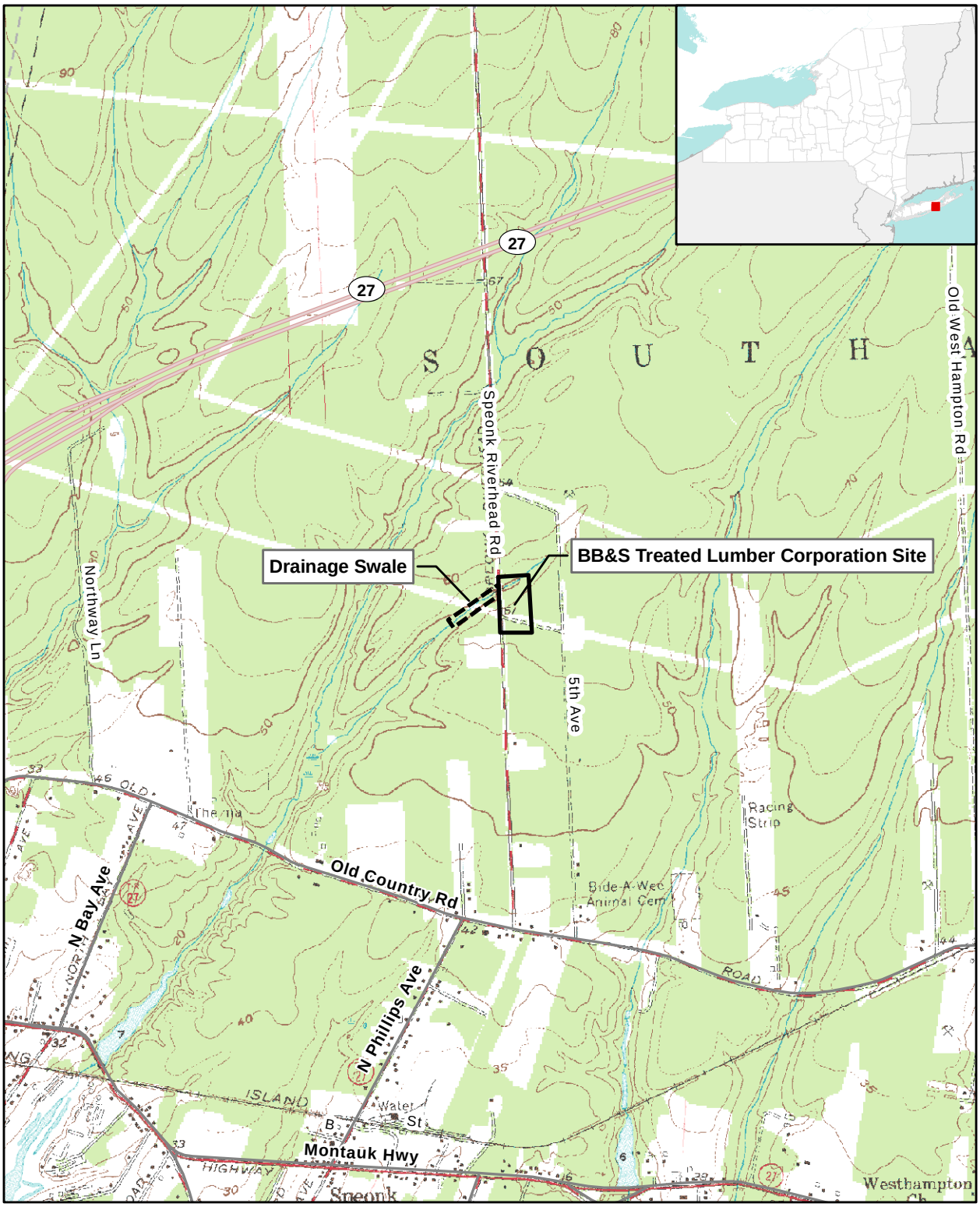

BB&S Treated Lumber Site
Drainage Swale
Secondary Road
Local Road

Figure 1-1
Site Location Map
BB&S Treated Lumber Corporation Site
Suffolk County, New York

0 0.125 0.25 0.5 Miles

NYSDEC Site # 152123

- New monitoring wells were installed and repairs were made to existing monitoring wells, where necessary.

- Drainage improvements were made to direct surface water runoff away from structures with contamination remaining beneath them.

- Two retention ponds were constructed at the northern and southern boundaries of the property to collect surface water runoff and increase the retention time and sediment settling before storm water is discharged off-site.

In accordance with the AROD, residual contamination remains under the buildings (within the hazardous waste boundary as denoted on the property survey). As a result, semi-annual monitoring sampling of groundwater, surface water, and sediments is conducted to monitor potential residual contaminant migration from the site. The semi-annual monitoring program follows the guidelines presented in Section 3 of the August 2012 SMP for the BB&S Site. The SMP describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site and all affected site media. The monitoring and sampling procedures for the various environmental media are fully described in the appendices of the SMP.

2 Site Hydrology

The site is underlain by the Upper Glacial aquifer, a gravelly, highly transmissive formation underlying the region to a depth of approximately 170 feet. Recharge to this aquifer occurs from infiltration of precipitation from the small streams in the vicinity of the site. Groundwater in the Upper Glacial aquifer at the BB&S Site flows in a general southerly direction (Earth Tech Northeast, Inc. 2007).

Prior to sampling the monitoring wells, static water levels were measured in each well. The well survey results were used in conjunction with the static water level measurements to determine groundwater elevations (see Table 2-1). All of the wells are screened in the Upper Glacial aquifer and the vertical groundwater gradient appears to be minimal (there is a very slight downward gradient). Groundwater elevations for all monitoring wells were plotted. The water elevations in wells MW-20S, MW-20I, MW-20D, and BB&S-1 were uncharacteristically low, and potential causes for this will be investigated during the next sampling event. Figures 2-1 through 2-3 present the interpreted elevation contours for the shallow, intermediate, and deep monitoring wells and were developed using the Surfer software program. Consistent with the regional model, groundwater flow was found to be primarily to the south but in a slightly southeast direction. The magnitude of the horizontal gradient is greater off site at the south end of the study area compared to on-site. The average slope, or gradient, at the site is 0.25%.

Table 2-1 BB&S Treated Lumber Corporation Site-Survey and Groundwater Elevations

									Vertical Elevations			Horizontal Coordinates	
Well Location	Well ID	Well Type	Water Depth Measured On	Well Diameter (in)	Total Well Depth[1] (ft)	Depth to Water[1] (ft)	Liquid Depth[1] (ft)	Water Elevation (ft)	Top of Casing or Exterior Wellhead Elevation (ft)	Elevation of Surrounding Wellhead Grade (ft)	Top of PVC Pipe Elevation (ft)[3]	Northing	Easting
On-site	MW-3	SU	4/11/12	2.0	63.85	37.45	26.40	19.15	56.96	54.90	56.60	248149.58	1344972.38
On-site	MW-4	SU	4/11/12	4.0	63.85	37.45	26.40	21.91	59.66	57.55	59.36	248019.04	1344963.85
On-site	MW-5 [2]	SU	4/11/12	2.0	69.23	Dry	Dry	Dry	59.68	57.51	58.99	247899.23	1345007.12
On-site	MW-6	SU	4/9/12	4.0	69.66	41.34	28.32	18.82	60.83	59.12	60.16	247803.30	1345022.28
On-site	MW-22	SM	4/9/12	1.5	48.76	38.44	10.32	18.94	57.62	-	57.38	247909.10	1345027.54
On-site	MW-9	SU	4/9/12	4.0	47.89	43.76	4.13	18.65	62.55	60.60	62.41	247644.33	1344966.84
On-site	MW-10	SU	4/10/12	4.0	59.41	43.96	15.45	18.57	63.00	60.58	62.53	247591.98	1345024.81
On-site	MW-27I	SU	4/6/12	2.0	65.17	43.11	22.06	18.58	61.96	60.00	61.69	247579.19	1345120.10
On-site	MW-27S	SU	4/6/12	2.0	65.17	43.13	22.04	18.59	61.96	60.00	61.72	247579.19	1345119.89
On-site	BB&S-1	SU	4/11/12	2.0	76.05	46.90	29.15	15.19	62.19	59.43	62.09	247596.00	1345372.00
Off-site	MW-20S	SU	4/3/12	1.5	50.09	44.30	5.79	13.95	58.85	55.86	58.25	247014.10	1345130.00
Off-site	MW-20I	SU	4/3/12	1.5	91.95	47.60	44.35	10.94	58.85	55.86	58.54	247014.03	1345130.11
Off-site	MW-20D	SU	4/3/12	1.5	131.79	47.40	84.39	11.19	58.85	55.86	58.59	247013.88	1345129.98
Off-site	MW-13	SU	4/6/12	1.5	63.21	39.82	23.39	17.74	57.99	56.07	57.56	246976.74	1344989.55
Off-site	MW-18S	SM	4/5/12	1.5	47.93	34.91	13.02	16.34	51.55	-	51.25	245857.57	1345106.00
Off-site	MW-18I	SM	4/4/12	1.5	89.32	34.80	54.52	16.43	51.55	-	51.23	245857.85	1345105.92
Off-site	MW-18D	SM	4/5/12	1.5	129.73	35.00	94.73	16.40	51.55	-	51.40	245857.71	1345106.04
Off-site	MW-17S	SM	4/5/12	1.5	47.78	34.39	13.09	16.42	50.99	-	50.81	245859.45	1345238.57
Off-site	MW-17I	SM	4/5/12	1.5	88.89	34.22	54.67	16.59	50.99	-	50.81	245859.24	1345238.60
Off-site	MW-17D	SM	4/5/12	1.5	128.97	34.54	94.43	16.29	50.99	-	50.83	245859.27	1345238.75
Off-site	MW-19S	SU	4/2/12	1.5	50.57	34.06	16.01	12.77	47.00	44.01	46.83	243700.48	1345003.56
Off-site	MW-19I	SU	4/2/12	1.5	91.58	33.97	57.61	12.81	47.00	44.01	46.78	243700.72	1345003.63
Off-site	MW-19D	SU	4/2/12	1.5	131.55	34.08	97.47	12.64	47.00	44.01	46.72	243700.57	1345003.70
Off-site	MW-23S	SM	3/29/12	1.5	38.62	30.07	8.55	11.54	41.97	-	41.61	243201.23	1345515.45
Off-site	MW-23I	SM	3/29/12	1.5	80.02	30.03	49.99	11.57	41.97	-	41.60	243201.24	1345515.70
Off-site	MW-23D	SM	3/29/12	1.5	117.87	29.72	88.15	11.52	41.97	-	41.24	243200.99	1345515.48
Off-site	MW-24S	SM	4/3/12	1.5	33.86	23.60	10.26	6.45	30.37	-	30.05	241227.21	1345492.06
Off-site	MW-24I	SM	3/30/12	1.5	79.30	23.41	55.89	6.42	30.37	-	29.83	241227.48	1345491.97
Off-site	MW-24D	SM	3/30/12	1.5	107.70	22.94	84.76	6.40	30.37	-	29.34	241227.27	1345491.84

See Notes on the next page.

Table 2-1 BB&S Treated Lumber Corporation Site-Survey and Groundwater Elevations

									Vertical Elevations			Horizontal Coordinates	
Well Location	Well ID	Well Type	Water Depth Measured On	Well Diameter (in)	Total Well Depth[1] (ft)	Depth to Water[1] (ft)	Liquid Depth[1] (ft)	Water Elevation (ft)	Top of Casing or Exterior Wellhead Elevation (ft)	Elevation of Surrounding Wellhead Grade (ft)	Top of PVC Pipe Elevation (ft)[3]	Northing	Easting
Off-site	MW-25S	SM	3/28/12	1.5	35.79	25.16	10.63	5.68	31.41	-	30.84	240356.10	1344767.23
Off-site	MW-25I	SM	3/28/12	1.5	73.11	25.18	47.93	5.67	31.41	-	30.85	240356.23	1344767.31
Off-site	MW-25D	SM	3/28/12	1.5	110.34	25.22	85.12	5.65	31.41	-	30.87	240356.21	1344767.14
Off-site	MW-26S	SM	3/27/12	1.5	21.85	9.44	12.41	3.72	13.62	-	13.16	240116.72	1346105.35
Off-site	MW-26I	SM	3/27/12	1.5	68.49	9.68	58.81	3.73	13.62	-	13.41	240116.38	1346105.30
Off-site	MW-26D	SM	3/27/12	1.5	115.68	9.71	105.97	3.64	13.62	-	13.35	240116.53	1346105.23
On-site	MWPD-1D	SU	4/10/12	2.0	177.01	43.94	133.07	18.55	62.71	60.00	62.49	247581.46	1345089.19
On-site	MWPD-2S	SU	4/10/12	2.0	64.75	44.13	20.62	18.54	63.09	59.78	62.67	247578.84	1345127.87

Notes:

[1] Well depth, depth to water, and liquid depth relevant to TOIC were measured by EnviroTrac during the spring 2012 sampling event.
[2] MW-5 was dry during the spring 2012 sampling event; well depth was taken from the PDI Report.
[3] Top of PVC pipe elevations provided through field survey by LKMA completed June 9, 2012. Project benchmark is TBM, nail set in utility pole NYT 26-1/2 on site, elevation = 60.33.
[4] Vertical Elevation - Based on USGS Local Bench converted to NAD83.

Key:

ft = feet
in = inches
SM = Surface Mounted
SU = Stickup
TOIC = Top of Inner Casing

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LEGEND:

- MONITORING WELL LOCATION
- 19 GROUNDWATER CONTOUR
- 17.54 GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION
- BB&S TREATED LUMBER SITE

LEGEND:

THE ATTACHED AERIAL PHOTOGRAPHY WAS OBTAINED FROM THE NEW YORK STATE OFFICE OF CYBER SECURITY. THE FLYOVER WAS COMPLETED IN 2010. (SUFFOLK COUNTY ORTHO-IMAGERY 4BAND6inch).

APPROXIMATE SCALE IN FEET

0 600 1200 1800

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FIGURE 2-1 SHALLOW GROUNDWATER CONTOUR MAP
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

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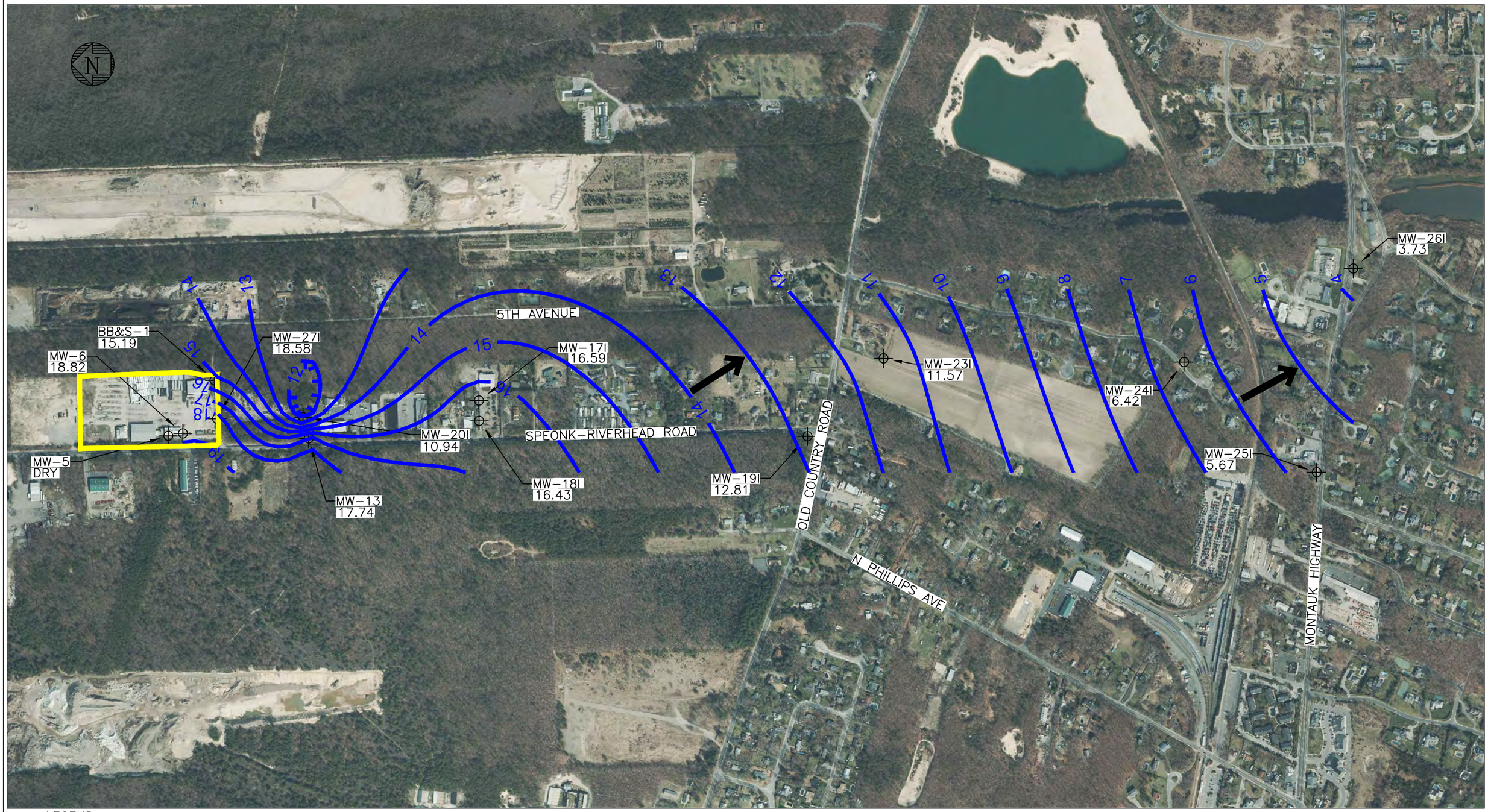

LEGEND:

- MONITORING WELL LOCATION
- 19 GROUNDWATER CONTOUR
- 17.54 GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION
- BB&S TREATED LUMBER SITE

LEGEND:

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FIGURE 2-2 INTERMEDIATE GROUNDWATER CONTOUR MAP
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

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LEGEND:

- MONITORING WELL LOCATION
- 19 GROUNDWATER CONTOUR
- 17.54 GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION
- BB&S TREATED LUMBER CORPORATION SITE

LEGEND:

THE ATTACHED AERIAL PHOTOGRAPHY WAS OBTAINED FROM THE NEW YORK STATE OFFICE OF CYBER SECURITY. THE FLYOVER WAS COMPLETED IN 2010. (SUFFOLK COUNTY ORTHO-IMAGERY 4BAND6inch).

APPROXIMATE SCALE IN FEET

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FIGURE 2-3 DEEP GROUNDWATER CONTOUR MAP
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

3 Sampling Methodology

3.1 Groundwater Sampling

In accordance with the SMP, groundwater samples were collected as part of this monitoring event on March 27 through 30 and April 2 through 6, and 9 through 11, 2012, from existing monitoring wells at the site. Monitoring well 5 (MW-05) was not sampled during this event because the well was found to be dry. Table 3-1 lists the on-site and off-site monitoring wells. Figure 3-1 identifies the locations of on-site monitoring wells, and Figure 3-2 identifies the locations of off-site monitoring wells. The suffixes after the monitoring well designations identify the wells as shallow (S), intermediate (I), or deep (D). A site survey was completed on July 5, 2012, to determine groundwater monitoring well vertical elevations and horizontal coordinates, which are shown in Table 2-1.

Table 3-1 BB&S Treated Lumber Corporation Site Monitoring Wells

On-Site Monitoring Wells	Off-Site Monitoring Wells
MW-3	MW-13
MW-4	MW-17S, I,D
MW-5	MW-18S, I,D
MW-6	MW-19S, I,D
MW-22	MW-20S, I, D
MW-9	MW-23S, I, D
MW-10	MW-24S, I, D
MW-27S, I	MW-25S, I, D
BB&S-1	MW-26S, I, D
MW-1D	
MW-2S	

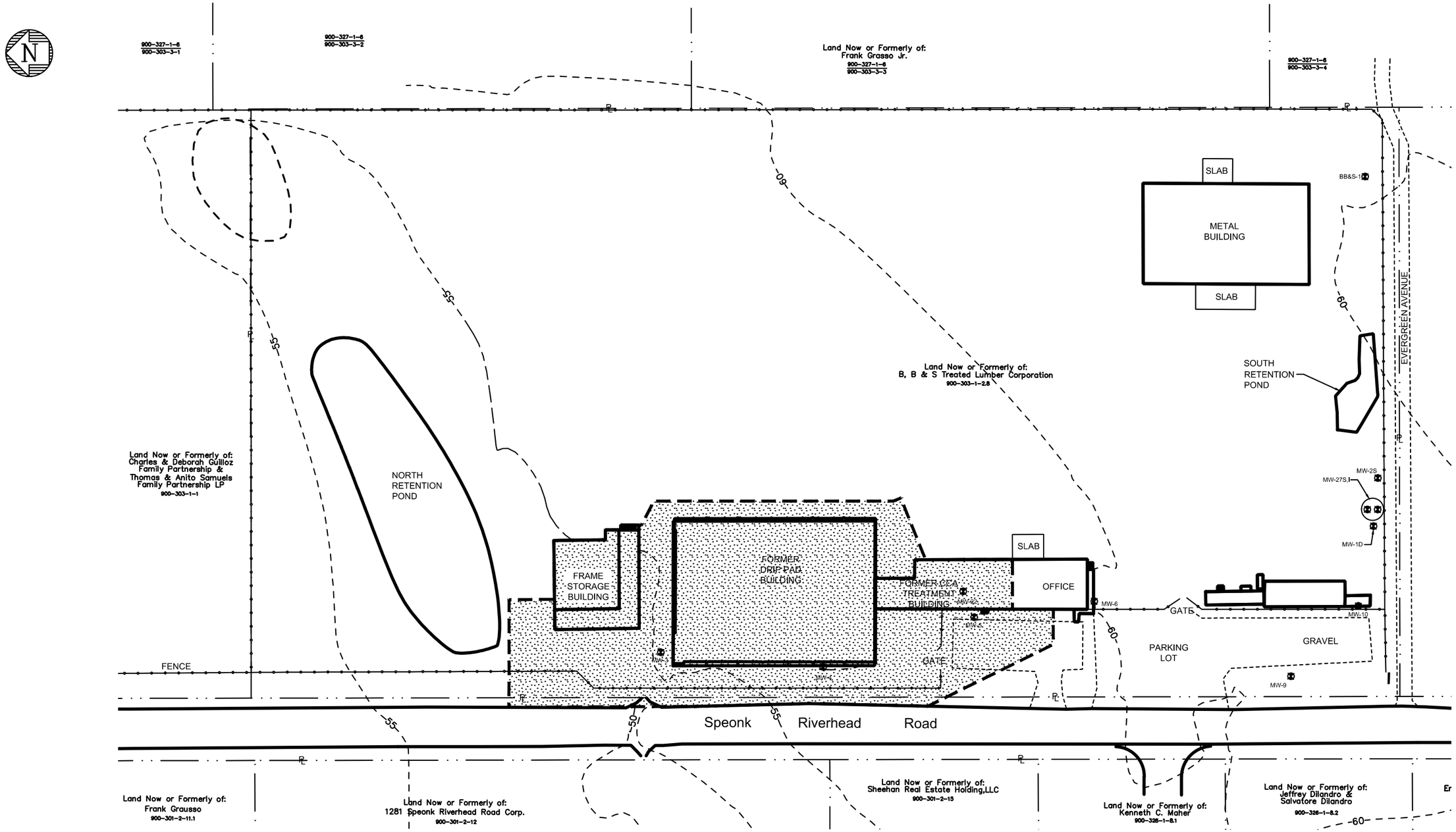
In accordance to the requirements of the SMP, groundwater samples were submitted to TestAmerica Laboratories, Inc., in Edison, New Jersey, for analysis of volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 524.2; total metals by EPA SW-846 Method 6010B; hexavalent chromium by EPA SW-846 Method 7196A; and total mercury by EPA SW-846 Method 7470A.

Prior to sampling the monitoring wells, physical parameters such as static water levels were measured in each well (see Table 2-1). The volume of water in each

well was then calculated, and at least three volumes of water standing in the well casing were removed using a pump and new, dedicated polyethylene tubing for each well. Water was removed from monitoring wells MW-13, MW-27S, MW-27I, MW-9, MW-6, MW-22, MW-2S, MW-3, MW-4, and BB&S-1 using a Monsoon pump, and water was removed from the remaining wells using a Waterra pump. Water quality field parameters (i.e., temperature, pH, specific conductance, dissolved oxygen, and turbidity) were recorded before, during, and after the purging process. Purging occurred at a sustainable rate that minimized drawdown and stabilized the water level. Since the groundwater samples were not turbid (less than 50 NTUs), no field or laboratory filtering was necessary prior to preserving samples. If the samples were turbid (greater than 50 nephelometric turbidity units [NTUs]), the SMP requires that the sample volume for analysis be filtered prior to shipment to the laboratory. This procedure was followed for all the samples with the exception of groundwater samples MW-19D (402 NTU) and MW-24D (179 NTU). Since these samples were greater than 50 NTU they should have been filtered prior to preserving the samples. Analytical results for MW-19D and MW-24D had exceedances above the screening value for aluminum (12,800 micrograms per liter [µg/L] and 9,780 µg/L) and iron (10,900 µg/L and 18,900 µg/L), respectively. These results are significantly higher than the next highest sample results, which were 8,330 µg/L for aluminum and 8,030 µg/L for iron; both were recorded in MW-17D. The elevated metals concentrations in MW-19D and MW-24D may be from the elevated turbidity and lack of filtering. MW-19D is a 1.5-inch diameter well, approximately 131.55 feet below ground surface (BGS), and was purged for approximately 5 hours (amount purged was not documented on the well purge and sample record, see Appendix A). MW-24D is a 1.5-inch diameter well, approximately 107.70 feet BGS, and 3.48 gallons were purged for approximately 5 hours. During the purging, MW-19D started with a turbidity of 2,148 NTU and steadily decreased to 402 NTU when a sample was collected (see Appendix A). During the purging, MW-24D started with turbidity of greater than 3,000 NTU and steadily decreased to 179 NTU when a sample was collected (see Appendix A).

For the next sampling event, if turbidity is greater than 50 NTU after four hours of purging, the samples will be filtered either in the field or by the analytical laboratory. A summary of well sampling data, including volume purged and final groundwater quality parameters measured just before sampling, is provided in Table 3-2.

F:\BB+S\Sampling location figure\Figure 2 – MW sample locations.dwg



SCALE IN FEET

0 80 160 240

LEGEND

- ROAD
- BUILDING
- APPROXIMATE PROPERTY BOUNDARY
- FENCE LINE
- 55 — TOPOGRAPHIC SURFACE CONTOUR (1 FT.)
- MW-9 — MONITORING WELL
- HAZARDOUS ZONE - WASTE REMAINING

NOTE

1. ORIGINAL MAPPING BASED ON SURVEYS BY JOHN C. EHLERS , LAND SURVEYOR, 6 MAIN STREET RIVERHEAD, NY 11901 AND WENDEL SURVEYORS, 7405 CANAL ROAD LOCKPORT, NY 14095. ADDITIONAL INFORMATION WAS ADDED BY AECOM FROM FIELD SURVEY AND OBSERVATIONS. CAD FILE 97347-DESIGN-R1.DWG WAS PROVIDED BY AECOM (OCTOBER 2009) AND IS THE DRAWING USED TO CREATE THIS FIGURE.
2. VERTICAL DATUM: NAVD 1988
   HORIZONTAL DATUM: NAD 1927

ecology and environment

FIGURE 3-1 ON-SITE MONITORING WELL LOCATIONS
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

F:\BB&S\Aerial Figure\Sampling figure.dwg

LEGEND:

BB&S/MWPD/MW	MONITORING WELL LOCATION
SW/SED	SURFACE WATER/SEDIMENT SAMPLE
	BB&S TREATED LUMBER SITE

LEGEND:

THE ATTACHED AERIAL PHOTOGRAPHY WAS OBTAINED FROM THE NEW YORK STATE OFFICE OF CYBER SECURITY. THE FLYOVER WAS COMPLETED IN 2010. (SUFFOLK COUNTY ORTHO-IMAGERY 4BAND6inch).

APPROXIMATE
SCALE IN FEET

0 600 1200 1800

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FIGURE 3-2 OFF-SITE GROUNDWATER, SURFACE WATER, AND SEDIMENT SAMPLING LOCATIONS
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

Table 3-2 BB&S Treated Lumber Corporation Groundwater Sampling Parameters

Sample ID	Date Collected	Time Collected	pH (s.u.)	Conductivity (µS/cm)	D.O.	Temp (°C)	Turbidity (NTU)	Gallons Purged	Well Volumes Purged
MW-3	4/11/2012	13:35	4.84	0.08	9.96	12.47	5.82	12.67	3.0
MW-4	4/11/2012	12:35	5.58	0.21	9.48	12.53	1.11	51.48	3.0
MW-5[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6	4/9/2012	12:50	5.62	0.09	9.33	12.62	0.35	55.22	3.0
MW-22	4/9/2012	10:25	5.85	0.17	8.14	11.14	2.87	2.79	3.0
MW-9	4/9/2012	14:25	5.95	0.24	6.88	13.42	4.31	8.05	3.0
MW-10	4/10/2012	13:50	5.81	0.16	8.79	12.86	1.86	30.13	3.0
MW-27I	4/6/2012	11:55	4.66	0.09	8.59	12.01	1.46	10.59	3.0
MW-27S	4/6/2012	13:05	4.89	0.10	9.11	12.99	3.54	10.58	3.0
BB&S-1	4/11/2012	11:05	3.50	0.13	4.53	12.33	42.80	13.99	3.0
MW-1D	4/10/2012	11:20	5.20	0.12	7.29	11.78	1.02	63.87	3.0
MW-2S	4/10/2012	9:40	4.43	0.06	9.94	12.33	2.08	9.90	3.0
MW-13	4/6/2012	9:10	5.23	0.33	9.27	12.36	0.20	6.32	3.0
MW-17S	4/5/2012	13:40	5.78	0.10	7.60	14.15	22.60	3.53	3.0
MW-17I	4/5/2012	11:55	5.27	0.08	8.07	12.91	21.80	14.76	3.0
MW-17D	4/5/2012	14:50	5.66	0.04	7.18	13.90	43.10	25.50	3.0
MW-18S	4/4/2012	10:15	4.15	0.16	1.29	10.85	39.10	3.52	3.0
MW-18I	4/4/2012	14:45	5.24	0.27	8.85	14.89	10.57	14.72	3.0
MW-18D	4/5/2012	11:25	5.19	0.04	8.04	12.00	49.60	25.58	3.0
MW-19S	4/2/2012	13:20	5.10	0.03	9.85	11.42	10.10	4.32	3.0
MW-19I	4/2/2012	11:45	5.77	0.08	8.73	10.86	44.40	15.55	3.0
MW-19D	4/2/2012	15:00	5.93	0.05	0.11	11.52	402.00	26.32	3.0
MW-20S	4/3/2012	12:50	5.47	0.20	8.35	11.61	2.10	1.56	3.0
MW-20I	4/3/2012	10:30	4.40	0.07	7.78	10.98	3.21	11.97	3.0
MW-20D	4/3/2012	11:05	5.50	0.08	7.84	11.07	2.16	22.79	3.0
MW-23S	3/29/2012	11:40	5.57	0.09	8.39	12.35	14.10	2.31	3.0
MW-23I	3/29/2012	13:40	5.08	0.08	7.01	12.04	14.80	13.50	3.0
MW-23D	3/29/2012	13:50	6.21	0.05	6.55	12.28	44.30	23.80	3.0
MW-24S	4/3/2012	12:20	5.28	0.11	6.69	15.60	46.30	2.77	3.0
MW-24I	3/30/2012	14:45	5.48	0.06	8.37	15.18	39.10	15.09	3.0
MW-24D	3/30/2012	15:00	6.46	0.06	0.18	15.09	179.00	22.89	3.0
MW-25S	3/28/2012	14:31	5.26	0.09	1.09	10.92	40.20	2.87	3.0
MW-25I	3/28/2012	11:20	5.22	0.05	0.27	12.37	38.40	12.94	3.0
MW-25D	3/28/2012	14:05	6.20	0.05	0.10	11.19	49.40	22.98	3.0
MW-26S	3/27/2012	11:17	4.90	0.44	2.99	7.25	2.70	3.35	3.0
MW-26I	3/27/2012	14:45	5.32	0.09	7.27	12.21	-8.90	15.88	3.0
MW-26D	3/27/2012	13:39	6.23	0.05	0.94	11.81	-3.52	28.61	3.0

Notes:
[1] MW-5 was dry during this sampling event.

Key:
°C = degrees Centigrade
D.O. = dissolved oxygen
µS/cm = microSiemens per centimeter
NTU = Nephelometric turbidity units
NA = not applicable
s.u. = standard units

The monitoring well sampling and inspection logs entries by EnviroTrac, including water levels and water quality parameters measured during purging, are provided in Appendix A. Appendix B contains the DORs for EEEPC's inspection of EnviroTrac's groundwater sampling activities.

During groundwater sampling, purge and decontamination water was collected and stored in steel drums. These drums are marked and stored on-site (near the southern property boundary) pending the results of analysis. Disposal options will be recommended based upon review of the results. Table 3-3 presents an inventory of the drummed water.

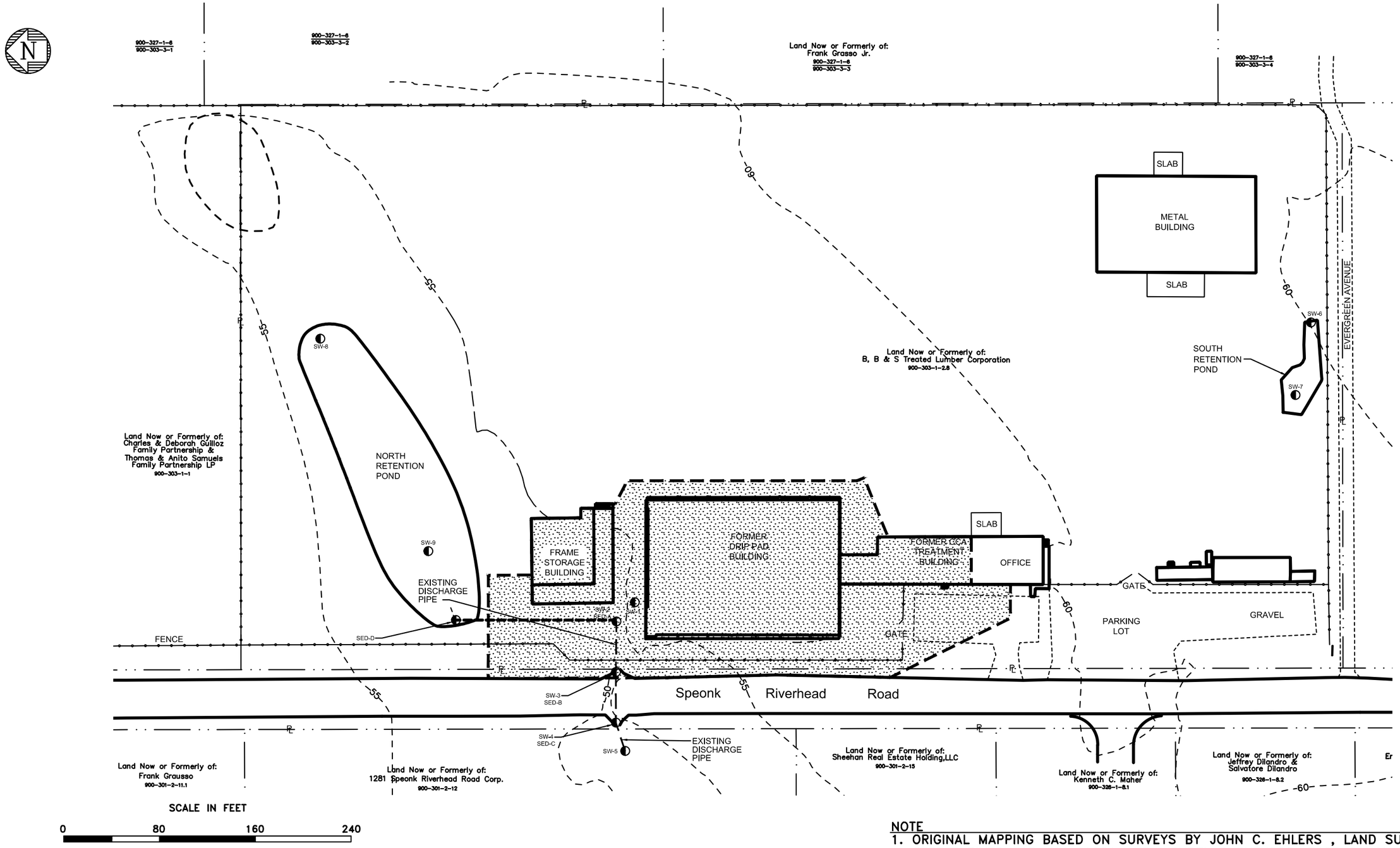
Table 3-3 Inventory of Monitoring Well Purge Water and Decontamination Water Collected During Groundwater Monitoring Event 1

Drum Name	Material	Waste Generation Process	Date(s) of Waste Generation	Amount of Material in Drum
MW-26 S, I, D	Groundwater	Pumped Monitoring Well	27-Mar-12	Full
MW-25- S, I D	Groundwater	Pumped Monitoring Well	25-Mar-12	Full
MW-24 I, D	Groundwater	Pumped Monitoring Well	30-Mar-12	3/4 Full
MW-23 S, I, D	Groundwater	Pumped Monitoring Well	29-Mar-12	3/4 Full
MW-20 S, I, D; MW-24 S	Groundwater	Pumped Monitoring Well	3-Apr-12	3/4 Full
MW-19 S, I, D	Groundwater	Pumped Monitoring Well	2-Apr-12	3/4 Full
MW-17 S, I, D	Groundwater	Pumped Monitoring Well	4-Apr-12	3/4 Full
MW-13	Groundwater	Pumped Monitoring Well	6-Apr-12	1/4 Full

3.2 Surface Water Sampling

Surface water samples were collected in accordance with the SMP requirements on June 6, 2012. Surface water samples were collected at four of the nine sampling locations where surface water was present. The other five surface water sampling locations were dry. Figure 3-3 identifies the on-site surface water sampling locations, and Table 3-4 provides the elevations and horizontal coordinates of the sampling locations. Surface water sampling locations SW-1, SW-3, SW-5, SW-8, and SW-9 did not contain sufficient surface water for sample collection. Surface water samples were collected as grab samples at the same time that sediment samples were collected. The surface water samples were submitted to Test America Laboratories, Inc., in Edison, New Jersey, for analysis of total metals by EPA SW-846 Method 6010B and hexavalent chromium by EPA SW-846 Method 7196A.

F:\BB+S\Sampling location figure\Figure X – SW-SED sample locations.dwg



SCALE IN FEET

0 80 160 240

LEGEND

- ROAD
- BUILDING
- APPROXIMATE PROPERTY BOUNDARY
- FENCE LINE
- 55 — TOPOGRAPHIC SURFACE CONTOUR (1 FT.)
- SW-1 — STORMWATER/SEDIMENT SAMPLE LOCATION
- HAZARDOUS ZONE - WASTE REMAINING

NOTE

1. ORIGINAL MAPPING BASED ON SURVEYS BY JOHN C. EHLERS , LAND SURVEYOR, 6 MAIN STREET RIVERHEAD, NY 11901 AND WENDEL SURVEYORS, 7405 CANAL ROAD LOCKPORT, NY 14095. ADDITIONAL INFORMATION WAS ADDED BY AECOM FROM FIELD SURVEY AND OBSERVATIONS. CAD FILE 97347-DESIGN-R1.DWG WAS PROVIDED BY AECOM (OCTOBER 2009) AND IS THE DRAWING USED TO CREATE THIS FIGURE.
2. VERTICAL DATUM: NAVD 1988
   HORIZONTAL DATUM: NAD 1927

ecology and environment

FIGURE 3-3 ON-SITE SURFACE WATER-SEDIMENT SAMPLE LOCATIONS
BB&S TREATED LUMBER CORPORATION SITE
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

3.3 Sediment Sampling

Sediment samples were collected in accordance with the SMP requirements on June 6, 2012. Sediment samples were collected at three of the four sampling locations where sufficient sediment was present. Figure 3-3 identifies the sediment sampling locations, and Table 3-4 provides the elevations and horizontal coordinates of the sampling locations. Sediment sampling location SED-A, the furthest west of the three catch basins to the west of Speonk-Riverhead Road, did not contain sufficient sediment for sample collection. Sediment samples were collected at the same time as surface water samples. The samples were submitted to TestAmerica Laboratories, Inc., in Edison, New Jersey, for analysis of total metals by EPA SW-846 Method 6010B, hexavalent chromium by EPA SW-846 Method 7196A, and percent moisture by the EPA Moisture Method.

Table 3-4 Surface Water and Sediment Sampling Locations

Sample ID	Elevation (ft)	Northing	Easting
SW-1	55.73	248157.84	1345027
SW-2 & SED-A[1]	51.73	248163.75	1344972.85
SW-3 & SED-B[1]	48.71	248161.23	1344934.85
SW-4 & SED-C[1]	48.33	248161.07	1344889.78
SW-5	46.92	248138.71	1344847.56
SW-6	57.46	247590.92	1345240.38
SW-7	58.72	247593.74	1345194.11
SW-8	53.74	248412.71	1345201.31
SW-9	53.91	248325.62	1345081.57
SED-D	53.21	248302.42	1344971.17

Notes:
Top of PVC pipe elevations provided through field survey by LKMA completed June 9, 2012. Project benchmark is TBM, nail set in utility pole NYT 26-1/2 on site, elevation = 60.33.

Vertical Elevation - Based on USGS Local Bench converted to NAD83.

[1] Common sampling point for sediment and stormwater.

4 Analytical Results

4.1 Groundwater Analytical Results

A summary of the positive groundwater analytical results is presented in Table 4-1. A positive sample result is defined as an analytical result that is above the method detection level. The laboratory analytical results were compared to NYSDEC standards, criteria, and guidance (SCG) screening values defined by NYSDEC's Ambient Water Quality Standards for Class GA groundwater (NYSDEC 1998). Bold values denote positive hits, and shaded cells denote results that exceed screening values. Figure 4-1 includes a summary of positive analytical results for groundwater samples exceeding their respective screening criteria. The laboratory analytical results are provided in Appendix C-1.

MW-BB&S-1 was the only monitoring well with sample results that exceeded the SCG screening values for VOCs. For the sample collected from MW-BB&S-1, the laboratory analytical results for acetone, methyl ethyl ketone (2-butanone), and tetrahydrofuran were above their respective SCGs. Acetone and methyl ethyl ketone are industrial solvents and tetrahydrofuran is strong solvent used in the processing of resins. It is recommended that an investigation be conducted to determine the source of these VOCs.

Arsenic was detected above the laboratory reporting limit in samples collected from eight monitoring wells. In the samples from three of these wells (on-site monitoring wells MW-4, MW-6, and MW-22), the concentrations of arsenic exceeded the SCG screening value. These three wells are located within the boundary of the site's residual hazardous waste as identified in the SMP. Arsenic was not detected at a concentration above the SCG screening value in any samples collected from off-site monitoring wells.

Total chromium was detected at concentrations above the laboratory reporting limit in samples collected from 23 monitoring wells, and hexavalent chromium was detected above the laboratory reporting limit in 11 monitoring wells. The SCG for total chromium was exceeded in samples collected from three on-site monitoring wells (MW-6, MW-10, and MW-22) and three off-site monitoring wells (MW-17I, MW-20I, and MW-20S). The total chromium values from the on-site wells ranged from 32.2 to 747 µg/L, and the values from the off-site wells ranged from 93.2 to 533 µg/L. In addition, the SCG for hexavalent chromium was also exceeded in samples collected from these six wells. The hexavalent chromium values from the on-site wells ranged from 118 to 715 µg/L, and the

values from the off-site wells ranged from 92.9 to 525 µg/L. Although not contaminants of concern, iron, manganese, and aluminum were also detected above their respective SCGs in samples from numerous wells (see Table 4-1).

4.2 Surface Water Analytical Results

A summary of the positive surface water analytical results is presented in Table 4-2. The laboratory analytical results were compared to NYSDEC SCG values defined by NYSDEC's Ambient Water Quality Standards for Class GA groundwater (NYSDEC 1998). Bold values denote positive hits, and shaded cells denote results that exceed screening values. The laboratory analytical results are provided in Appendix C-2.

Arsenic was detected in all four surface water samples at concentrations above the laboratory reporting limit; however, none of the surface water samples exceeded the SCG for arsenic. Chromium was detected above the laboratory reporting limit in all surface water samples. All results were well below the SCG of 50 µg/L. Hexavalent chromium was detected above the laboratory method detection limit but below the laboratory reporting limit in one surface water sample, SW-2. Hexavalent chromium was not detected in the three remaining surface water samples. None of the analytical results for the surface water samples exceeded the screening criteria.

4.3 Sediment Analytical Results

A summary of the positive sediment analytical results is presented in Table 4-3. The laboratory analytical results were compared to NYSDEC's 6 NYCRR Part 375 SCOs for on-site soils associated with the protection of groundwater. Due to its low solubility, 6 NYCRR Part 375 does not list an SCO for total chromium associated with protection of groundwater. Therefore, the SCO for total chromium was determined using NYSDEC's DER-10 (NYSDEC 2010). Bold values denote positive hits, and shaded cells denote results that exceed screening values. The laboratory analytical results are provided in Appendix C-2.

Arsenic was detected in all three of the sediment samples above the laboratory reporting limit; however, none of the results exceeded the SCO for arsenic in on-site soils. The highest concentration of arsenic (12.9 milligrams per kilogram [mg/kg]) was detected in sediment sample SED-D. Chromium was also detected above the laboratory reporting limit in all three sediment samples. None of the sediment samples exceeded the SCO for chromium in on-site soils. Sediment sample SED-D also had the highest detected level of chromium (18.0 mg/kg). Hexavalent chromium was not detected in any of the sediment samples.

4.4 Quality Control and Data Review

Field quality control (QC) samples included two field duplicates for groundwater samples (MW-13D and MW-1D dupe) and one trip blank shipped with each groundwater sample shipment to the lab (TP-1, TP-2, TP-3, TP-4, TP-5, TP-6, TB-7, TB-9, TB-10, TB-11, and TB-12). Duplicate samples provide insight as to the homogeneity of the sample matrix and establish a degree of confidence that

the samples represent site conditions. A trip blank was collected to establish that the transport of sample vials to and from the field did not result in the contamination of the samples from external sources. The trip blank consisted of unopened laboratory vials containing deionized water. A review of the duplicate sample and trip blank results is provided in the DUSRs in Appendix D.

Laboratory QC sample results for groundwater are presented in Appendix C-1, and the results for surface water and sediment are presented in Appendix C-2. The matrix-specific sample results are discussed in the DUSRs in Appendix D (D-1, groundwater; D-2, surface water; and D-3, sediment).

The data were qualified following general guidelines in the *EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA 540/R-99-008* (EPA 1999). DUSRs were prepared for each laboratory report, based on sample delivery group, as specified in NYSDEC's *Guidance for the Development of Quality Assurance Plans and Data Usability Summary Reports* (March 2010). The data review included an evaluation of holding times; initial and continuing calibration; reporting limits; laboratory blanks; matrix spike/matrix spike duplicate (MS/MSD) samples; laboratory control samples; field duplicates; sample result verification; and method-specific (e.g., gas chromatography/mass specgtrometry) QC samples.

The DUSRs were independently validated by EEEPC's project chemist according to the requirements of the SMP's Quality Assurance Plan. Any deviations from acceptable QC specifications are discussed in the DUSRs. Qualifiers were added to the groundwater data, if appropriate, to indicate potential concerns regarding data usability, and these qualifiers were transferred to the data summary presented in Table 4-1 (presented at the end of this report). No qualifiers were added to the sediment and surface water analytical data. No major concerns were encountered on the potential impacts of the usability of the analytical data.

Table 4-1 Summary of Positive Results for Groundwater, BB&S Treated Lumber Corporation Site

Analyte	Sample ID: / Date: / Screening Criteria [1]	MW-1D 04/10/12	MW-1D dupe 04/10/12	MW-2S 04/10/12	MW-3 04/11/12	MW-4 04/11/12	MW-5 NA [4]	MW-6 04/09/12	MW-9 04/09/12	MW-10 04/10/12	MW-13 04/06/12	MW-13 D [5] 04/06/12	MW-17D 04/05/12	MW-17I 04/05/12	MW-17S 04/05/12	MW-18I 04/04/12	MW-18D 04/05/12	MW-18S 04/05/12
		On-Site		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	Off-Site		Off-Site			Off-Site		
VOCs by Method E524.2 (µg/L)																		
1,2,4-TRIMETHYLBENZENE	5	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	N/A	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	**0.23 J**	0.17 U	0.17 U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	N/A	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	3	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	N/A	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
ACETONE	50 (g)	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	N/A	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
BENZENE	1	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	N/A	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLOROFORM	7	**0.52**	**0.51**	**0.22 J**	**0.24 J**	**0.16 J**	N/A	**0.24 J**	0.14 U	0.14 U	**0.29 J**	**0.29 J**	**0.25 J**	**0.27 J**	0.14 U	**0.17 J**	**0.17 J**	**0.52**
DICHLORODIFLUOROMETHANE	5	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	N/A	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
ETHYLBENZENE	5	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	N/A	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
METHYL ETHYL KETONE (2-BUTANONE)	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	N/A	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
NAPHTHALENE	10 (g)	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	N/A	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
N-BUTYLBENZENE	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
N-PROPYLBENZENE	5	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	N/A	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
TERT-BUTYL ALCOHOL	(ng)	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	N/A	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U
TERT-BUTYL METHYL ETHER	(ng)	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	N/A	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	**3.1**	0.13 U	0.13 U
TETRACHLOROETHYLENE(PCE)	5	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	N/A	0.15 U	0.15 U	**0.16 J**	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	**0.22 J**
TETRAHYDROFURAN	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	N/A	0.28 U	**0.93 J**	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TOLUENE	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	N/A	0.16 U	0.16 U	0.16 U	**0.17 U**	**0.17 U**	0.16 U	0.16 U	0.16 U	**0.22 U**	0.16 U	0.16 U
TRICHLOROFLUOROMETHANE	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	N/A	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
XYLENES, TOTAL [3]	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	N/A	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Metals, Total by Method SW6010B (µg/L)																		
ALUMINUM	2000	**182 J**	**185 J**	72.1 U	**82.5 J**	72.1 U	N/A	72.1 U	**142 J**	**129 J**	72.1 U	72.1 U	**8330**	**949**	**1830**	**539**	**3040**	**4020**
ARSENIC	25	3.7 U	3.7 U	3.7 U	3.7 U	**32.8**	N/A	**80.8**	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
BARIUM	1000	**43.6 J**	**44.2 J**	**20.7 J**	**11.3 J**	**25.5 J**	N/A	**12.2 J**	**27.8 J**	**24.1 J**	**48.8 J**	**46.1 J**	**40.0 J**	**33.4 J**	**21.3 J**	**73.8 J**	**19.2 J**	**25.3 J**
BERYLLIUM	3 (g)	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	N/A	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
CADMIUM	5	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	N/A	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
CALCIUM	(ng)	**7210**	**7520**	**4860 J**	**7220**	**14900**	N/A	**14200**	**12700**	**28000**	**11300**	**11000**	**2630 J**	**2120 J**	**13200**	**5500**	**3160 J**	**10700**
CHROMIUM, TOTAL	50	**4.5 J**	**4.6 J**	**6.4 J**	4.5 U	**15.6**	N/A	**130**	**27.4**	**703**	**44.9**	**42.5**	**11.6**	**533**	**4.5 J**	4.5 U	4.5 U	4.5 U
COBALT	(ng)	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	N/A	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
COPPER	200	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	N/A	**12.4 J**	7.8 U	7.8 U	**8.3 J**	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	**23.4 J**
IRON [2]	300	**231**	**225**	73.6 U	**87.6 J**	73.6 U	N/A	73.6 U	**340**	**105 J**	73.6 U	73.6 U	**8030**	**1010**	**2070**	**509**	**2640**	**1630**
LEAD	25	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	N/A	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
MAGNESIUM	35,000 (g)	**5580**	**5580**	**2130 J**	**1960 J**	**1680 J**	N/A	**2120 J**	**1550 J**	**2460 J**	**2310 J**	**2190 J**	**2570 J**	**2660 J**	**2540 J**	**5380**	**1890 J**	**2670 J**
MANGANESE [2]	300	4.3 U	4.3 U	**10.1 J**	**6.1 J**	**7.3 J**	N/A	**5.4 J**	**26**	4.3 U	**18.7**	**18.4**	**89.2**	**32.9**	**45.9**	**12.0 J**	**36.9**	**336**
NICKEL	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	N/A	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**8.2 J**	5.0 U	5.0 U	5.0 U	5.0 U	**8.8 J**
POTASSIUM	(ng)	**851 J**	**772 J**	**696 J**	**841 J**	**1220 J**	N/A	**1220 J**	525 U	**4520 J**	**908 J**	**564 J**	**2000 J**	**1300 J**	**1700 J**	**1450 J**	**971 J**	**4250 J**
SILVER	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	N/A	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SODIUM	(ng)	**16300**	**16900**	**6130**	**11300**	**40300**	N/A	**7430**	**49200**	**11200**	**77800**	**72800**	**5150**	**14400**	**7650**	**55000**	**5910**	**13200**
VANADIUM	(ng)	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	N/A	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	**17.4 J**	4.0 U	4.0 U	4.0 U	**7.0 J**	4.0 U
ZINC	2000 (g)	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	N/A	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	**25.4 J**	**10.1 J**	**17.3 J**	**8.6 J**	**9.3 J**	**116**
(µg/L)																		
CHROMIUM, HEXAVALENT	50	2.7 U	2.7 U	2.7 U	2.7 U	**11.1**	N/A	**118**	**17.9**	**651**	**44.2**	**44.2**	13.5 U	**525**	2.7 U	2.7 U	2.7 U	2.7 U
Mercury, Total by Method SW7470A (µg/L)																		
MERCURY	0.7	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	N/A	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

See notes at the end of the table.

Table 4-1 Summary of Positive Results for Groundwater, BB&S Treated Lumber Corporation Site

Analyte	Sample ID: / Date: / Screening Criteria [1]	MW-19D 04/02/12	MW-19I 04/02/12	MW-19S 04/02/12	MW-20D 04/03/12	MW-20I 04/03/12	MW-20S 04/03/12	MW-22 04/09/12	MW-23 D 03/29/12	MW-23 I 03/29/12	MW-23 S 03/29/12	MW-24 D 03/30/12	MW-24 I 03/30/12	MW-24S 04/04/12	MW-25 D 03/28/12	MW-25 I 03/28/12	MW-25 S 03/28/12
		Off-Site			Off-Site			On-Site	Off-Site			Off-Site			Off-Site		
VOCs by Method E524.2 (µg/L)																	
1,2,4-TRIMETHYLBENZENE	5	0.17 U	0.17 U	0.17 U	0.17 U	**0.24 J**	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	**1.4**	**0.18 J**	0.17 U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	**0.40 J**	0.16 U	0.16 U
1,4-DICHLOROBENZENE	3	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
ACETONE	50 (g)	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
BENZENE	1	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLOROFORM	7	0.14 U	**0.76**	**0.52**	**0.77**	**0.24 J**	0.14 U	0.14 U	**0.22 J**	**0.39 J**	0.14 U	0.14 U	**0.57**	**0.26 J**	0.14 U	**0.90**	0.14 U
DICHLORODIFLUOROMETHANE	5	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
ETHYLBENZENE	5	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	**0.37 J**	0.15 U	0.15 U
METHYL ETHYL KETONE (2-BUTANONE)	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
NAPHTHALENE	10 (g)	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	**0.30 U**	0.15 U	0.15 U
N-BUTYLBENZENE	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
N-PROPYLBENZENE	5	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
TERT-BUTYL ALCOHOL	(ng)	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U
TERT-BUTYL METHYL ETHER	(ng)	0.13 U	0.13 U	0.13 U	0.13 U	**0.72**	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TETRACHLOROETHYLENE(PCE)	5	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
TETRAHYDROFURAN	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
TOLUENE	5	**0.55 U**	**0.24 U**	**0.20 U**	**0.20 U**	**0.33 U**	0.16 U	**0.28 J**	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	**1.0 U**	**0.41 U**	**0.17 U**
TRICHLOROFLUOROMETHANE	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
XYLENES, TOTAL [3]	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	**2.5**	**0.77 J**	0.48 U
Metals, Total by Method SW6010B (µg/L)																	
ALUMINUM	2000	**12800**	**2400**	**455**	**166 J**	**73.8 J**	**187 J**	72.1 U	**2680**	**688**	**750**	**9780**	**2760**	**5520**	**3640**	**961**	**927**
ARSENIC	25	**4.9 J**	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	**747**	**4.5 J**	3.7 U	3.7 U	**15.5**	3.7 U	**3.9 J**	3.7 U	3.7 U	3.7 U
BARIUM	1000	**57.9 J**	**22.2 J**	**11.7 J**	**19.1 J**	**34.0 J**	**41.5 J**	**10.6 J**	**16.1 J**	**41.1 J**	**13.9 J**	**78.4 J**	**29.3 J**	**33.6 J**	**22.1 J**	**28.8 J**	**19.8 J**
BERYLLIUM	3 (g)	**1.1 J**	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	**0.96 J**	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
CADMIUM	5	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	**23.3**	0.82 U	**2.0 J**	0.82 U
CALCIUM	(ng)	**4590 J**	**6110**	**1020 J**	**4910 J**	**3320 J**	**28700**	**33200**	**4120 J**	**5330**	**8330**	**5380**	**3540 J**	**11800**	**5050**	**8290**	**2550 J**
CHROMIUM, TOTAL	50	**25.2**	**5.5 J**	4.5 U	4.5 U	**93.2**	**141**	**791**	**6.0 J**	4.5 U	4.5 U	**23.6**	**8.9 J**	**13.9**	**5.6 J**	4.5 U	4.5 U
COBALT	(ng)	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	**9.4 J**	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
COPPER	200	**18.5 J**	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	**129**	7.8 U	7.8 U	**8.3 J**	**16.0 J**	**8.0 J**	**8.2 J**	7.8 U	7.8 U	7.8 U
IRON [2]	300	**10900**	**1780**	**381**	**192**	73.6 U	**213**	73.6 U	**3180**	**1040**	**817**	**18900**	**6340**	**7030**	**5650**	**1700**	**1700**
LEAD	25	**5.7**	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	**13.7**	4.0 U	**4.7 J**	4.0 U	4.0 U	4.0 U
MAGNESIUM	35,000 (g)	**3580 J**	**4710 J**	**1160 J**	**4160 J**	**3930 J**	**5620**	**2610 J**	**2940 J**	**2830 J**	**2660 J**	**4970 J**	**3800 J**	**2150 J**	**3330 J**	**2690 J**	**1730 J**
MANGANESE [2]	300	**75.5**	**22.2**	**59.9**	4.3 U	**28.1**	**15.1**	**11.3 J**	**73.1**	**61.0**	**46.5**	**391**	**41.1**	**92.5**	**93.5**	**43.3**	**46.6**
NICKEL	100	**8.4 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**20.0 J**	**5.1 J**	**27.6 J**	**6.4 J**	**6.5 J**	**6.0 J**
POTASSIUM	(ng)	**2450 J**	**1000 J**	**775 J**	**627 J**	**598 J**	**3870 J**	**7810**	**1060 J**	**1800 J**	**3230 J**	**4730 J**	**2290 J**	**1960 J**	**1540 J**	**1340 J**	**1020 J**
SILVER	50	1.3 U	**1.5 J**	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	**13.6**	1.3 U	1.3 U	1.3 U
SODIUM	(ng)	**5650**	**9710**	**4840 J**	**11300**	**8680**	**17200**	**8950**	**6740**	**8840**	**10700**	**7600**	**7990**	**4900 J**	**6210**	**8270**	**7190**
VANADIUM	(ng)	**47.7 J**	**7.2 J**	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	**8.4 J**	4.0 U	4.0 U	**36.6 J**	**10.1 J**	**11.9 J**	**10.9 J**	4.0 U	4.0 U
ZINC	2000 (g)	**23.4 J**	**6.1 J**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	**8.7 J**	5.8 U	5.8 U	**61.2**	**12.5 J**	**35.5**	**12.5 J**	**50.7**	**14.6 J**
(µg/L)																	
CHROMIUM, HEXAVALENT	50	27 U	2.7 U	2.7 U	2.7 U	**92.9**	**137**	**715**	2.7 U	2.7 U	2.7 U	13.5 UJ	2.7 UJ	2.7 U	2.7 U	2.7 U	2.7 U
Mercury, Total by Method SW7470A (µg/L)																	
MERCURY	0.7	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

See notes at the end of the table.

Table 4-1 Summary of Positive Results for Groundwater, BB&S Treated Lumber Corporation Site

Analyte	Sample ID: / Date: / Screening Criteria [1]	MW-26 D 03/27/12	MW-26 I 03/27/12	MW-26 S 03/27/12	MW-27 I 04/06/12	MW-27 S 04/06/12	MW-BBS-1 04/11/12
		Off-Site			On-Site		On-Site
VOCs by Method E524.2 (µg/L)							
1,2,4-TRIMETHYLBENZENE	5	0.17 U	0.17 U	**1.1**	0.17 U	0.17 U	0.17 U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5	0.16 U	0.16 U	**0.30 J**	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	3	0.14 U	0.14 U	**0.49 J**	0.14 U	0.14 U	0.14 U
ACETONE	50 (g)	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	**200**
BENZENE	1	0.15 U	0.15 U	**0.18 J**	0.15 U	0.15 U	0.15 U
CHLOROFORM	7	0.14 U	**0.75**	**0.75**	0.14 U	0.14 U	0.14 U
DICHLORODIFLUOROMETHANE	5	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
ETHYLBENZENE	5	0.15 U	0.15 U	**0.65**	0.15 U	0.15 U	0.15 U
METHYL ETHYL KETONE (2-BUTANONE)	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	**110**
NAPHTHALENE	10 (g)	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
N-BUTYLBENZENE	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
N-PROPYLBENZENE	5	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
TERT-BUTYL ALCOHOL	(ng)	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U
TERT-BUTYL METHYL ETHER	(ng)	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TETRACHLOROETHYLENE(PCE)	5	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
TETRAHYDROFURAN	50 (g)	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	**490**
TOLUENE	5	**0.36 J**	**0.16 J**	**2.6**	**0.17 J**	**0.19 U**	0.16 U
TRICHLOROFLUOROMETHANE	5	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
XYLENES, TOTAL [3]	5	0.48 U	0.48 U	**3.9**	0.48 U	0.48 U	0.48 U
Metals, Total by Method SW6010B (µg/L)							
ALUMINUM	2000	**181 J**	72.1 U	**344**	72.1 U	72.1 U	**1890**
ARSENIC	25	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	**6.7**
BARIUM	1000	5.9 U	**22.5 J**	**27.0 J**	**34.0 J**	**40.6 J**	**31.7 J**
BERYLLIUM	3 (g)	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
CADMIUM	5	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
CALCIUM	(ng)	**3730 J**	**3460 J**	**19200**	**6520**	**11400**	**30700**
CHROMIUM, TOTAL	50	4.5 U	4.5 U	4.5 U	**37.6**	**44.9**	**22.3**
COBALT	(ng)	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
COPPER	200	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	**7.9 J**
IRON [2]	300	**330**	**138 J**	**311**	**292**	**119 J**	**2010**
LEAD	25	4.0 U	4.0 U	4.0 U	**8.2**	4.0 U	4.0 U
MAGNESIUM	35,000 (g)	**2070 J**	**2640 J**	**3920 J**	**2220 J**	**2600 J**	**2230 J**
MANGANESE [2]	300	**15.4**	**14.1 J**	**246**	**13.9 J**	**71.2**	**40.1**
NICKEL	100	5.0 U	5.0 U	**5.0 J**	**27.8 J**	5.0 U	5.0 U
POTASSIUM	(ng)	525 U	**1100 J**	**6660**	525 U	**1660 J**	**2210 J**
SILVER	50	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SODIUM	(ng)	**5480**	**11600**	**52000**	**14200**	**9180**	**3710 J**
VANADIUM	(ng)	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ZINC	2000 (g)	5.8 U	5.8 U	**5.9 J**	5.8 U	5.8 U	**9.3 J**
(µg/L)							
CHROMIUM, HEXAVALENT	50	2.7 U	2.7 U	2.7 U	2.7 U	**33.4**	**14.6**
Mercury, Total by Method SW7470A (µg/L)							
MERCURY	0.7	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U

See notes at the end of the table.

Table 4-1 Summary of Positive Results for Groundwater, BB&S Treated Lumber Corporation Site

Key:

J = Estimated value.

U = Not detected (lab reporting limit shown).

µg/L = Micrograms per liter.

N/A = Analyte not analyzed for.

VOCs = Volatile organic compounds.

MW = Monitoring well.

Dupe at the end of sample ID designates field duplicate sample.

S, I, D at the end of sample IDs designates shallow, intermediate, and deep monitoring well depths.

Shaded cells exceed the screening value.

Bold values denote positive hits.

(g) = Guidance value (no applicable standard).

(ng) = No standard or guidance value for Class GA groundwater available.

No samples were filtered.

Notes:

[1] New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1:*Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

[2] Per the NYSDEC Technical and Operational Guidance Series Memorandum (NYSDEC 1998) the standard of 500 µg/L applies to the sum of iron and manganese for Class GA Groundwater.

[3] Per the NYSDEC Technical and Operational Guidance Series Memorandum (NYSDEC 1998) the standard of 5 µg/L applies to the principal organic contaminant standard for Class GA Groundwater for 1,2-Xylene, 1,3-Xylene,

[4] Monitoring well MW-5 was found to be dry at the time of sampling and no groudnwater samples were collected.

Table 4-2 Summary of Positive Surface Water Analytical Results

Analyte	Sample ID: Date: Screening Criteria (1)	SW-2 06/06/12	SW-4 06/06/12	SW-6 06/06/12	SW-7 06/06/12
Metals, Total by Method SW6010B (µg/L)					
Arsenic	25	**10.5**	**8.5**	**6.4**	**5.2**
Chromium, Total	50	**15.0**	**11.6**	**8.2 J**	**5.8 J**
Chromium, Hexavalent by Method SW7196A (µg/L)					
Chromium, Hexavalent	**50**	**6.3 J**	10.0 U	10.0 U	10.0 U

Notes:

1 New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

Key:
Values in shaded cells exceed the screening value.
Bold values denote positive hits.

J = Estimated value.
U = Not detected (lab reporting limit shown).
µg/L = Micrograms per liter.

Table 4-3 Summary of Positive Sediment Analytical Results

Analyte	Sample ID: Date: Screening Criteria (1)	SED-B 06/06/12	SED-C 06/06/12	SED-D 06/06/12
Metals, Total by Method SW6010B (mg/kg)				
Arsenic	16	**2.9**	**3.4**	**12.9**
Chromium, Total[2]	50	**14.9**	**7.6**	**18.0**
Chromium, Hexavalent by Method SW7196A (mg/kg)				
Chromium, Hexavalent	19	1.9 U	2.0 U	2.0 U

Notes:

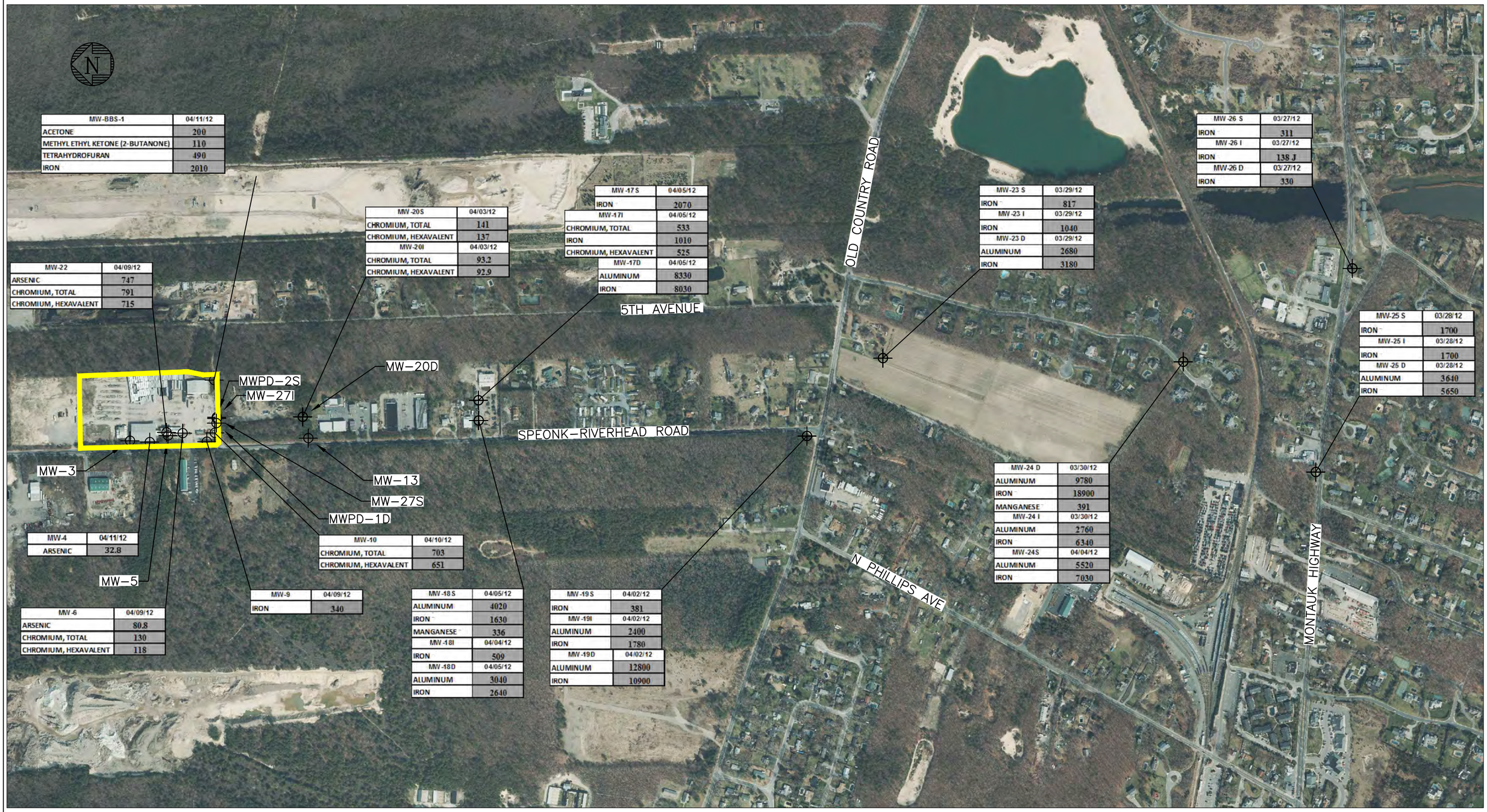
1 New York State Department of Environmental Conservation, Part 375 SCOs for on-site soils associated with the protection of groundwater. An SCO for total chromium is not listed in the Part 375.

2 The SCO for total chromium was determined using New York State Department of Environmental Conservation, DER-10 (NYSDEC 2010).

Key:
Shaded cells exceed the screening value.
Bold values denote positive hits.

J = Estimated value.
U = Not detected (lab reporting limit shown).
mg/kg = Milligrams per kilogram.

F:\BB&S\Aerial Figure\Sampling figure_databoxes.dwg



MW-BBS-1	04/11/12
ACETONE	200
METHYL ETHYL KETONE (2-BUTANONE)	110
TETRAHYDROFURAN	490
IRON	2010

MW-22	04/09/12
ARSENIC	747
CHROMIUM, TOTAL	791
CHROMIUM, HEXAVALENT	715

MW-20S	04/03/12
CHROMIUM, TOTAL	141
CHROMIUM, HEXAVALENT	137
MW-20I	04/03/12
CHROMIUM, TOTAL	93.2
CHROMIUM, HEXAVALENT	92.9

MW-17S	04/05/12
IRON	2070
MW-17I	04/05/12
CHROMIUM, TOTAL	533
IRON	1010
CHROMIUM, HEXAVALENT	525
MW-17D	04/05/12
ALUMINUM	8330
IRON	8030

MW-23 S	03/29/12
IRON	817
MW-23 I	03/29/12
IRON	1040
MW-23 D	03/29/12
ALUMINUM	2680
IRON	3180

MW-26 S	03/27/12
IRON	311
MW-26 I	03/27/12
IRON	138 J
MW-26 D	03/27/12
IRON	330

MW-25 S	03/28/12
IRON	1700
MW-25 I	03/28/12
IRON	1700
MW-25 D	03/28/12
ALUMINUM	3640
IRON	5650

MW-24 D	03/30/12
ALUMINUM	9780
IRON	18900
MANGANESE	391
MW-24 I	03/30/12
ALUMINUM	2760
IRON	6340
MW-24S	04/04/12
ALUMINUM	5520
IRON	7030

MW-4	04/11/12
ARSENIC	32.8

MW-10	04/10/12
CHROMIUM, TOTAL	703
CHROMIUM, HEXAVALENT	651

MW-6	04/09/12
ARSENIC	80.8
CHROMIUM, TOTAL	130
CHROMIUM, HEXAVALENT	118

MW-9	04/09/12
IRON	340

MW-18S	04/05/12
ALUMINUM	4020
IRON	1630
MANGANESE	336
MW-18I	04/04/12
IRON	509
MW-18D	04/05/12
ALUMINUM	3040
IRON	2640

MW-19S	04/02/12
IRON	381
MW-19I	04/02/12
ALUMINUM	2400
IRON	1780
MW-19D	04/02/12
ALUMINUM	12800
IRON	10900

LEGEND:

MW/MWPD/BB&S — MONITORING WELL LOCATION

BB&S TREATED LUMBER SITE

LEGEND:

THE ATTACHED AERIAL PHOTOGRAPHY WAS OBTAINED FROM THE NEW YORK STATE OFFICE OF CYBER SECURITY. THE FLYOVER WAS COMPLETED IN 2010. (SUFFOLK COUNTY ORTHO-IMAGERY 4BAND6inch).

NOTE:

1. ALL SAMPLE RESULTS ARE REPORTED IN µg/L.

APPROXIMATE SCALE IN FEET

0 600 1200 1800

ecology and environment engineering p.c.

FIGURE 4-1 SUMMARY OF POSITIVE ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES EXCEEDING SCREENING CRITERIA BB&S TREATED LUMBER CORPORATION SITE TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NY

5 Site Inspections

Site inspections related to engineering controls were performed by EEEPC as required in the current SMP. Completed inspection forms are provided in Appendix E. Major observations identified during site inspections included:

- Site inspections determined that the south retention pond had been inadvertently backfilled by the call-out contractor, EnviroTrac. The south retention pond was re-excavated by EnviroTrac in April 2012 at the direction of EEEPC staff, which also provided oversight monitoring of the work (see Inspection Form 1). The excavated soils were placed on-site.

- One of the site access control fence posts was found to be bent during site inspection (see Inspection Form 2). No corrections were made to the fence post.

- The CCA Treatment Building drainage system membrane liner was unearthed and torn during installation of an underground electrical conduit into the adjoining office building by the area utility provider, Long Island Power and Light (see Inspection Form 3). EnviroTrac hired the original installation contractor, Chenango Construction, Inc., to install and weld a new section of membrane liner in the torn area and install boots around the electrical conduit and two grounding rods. Appendix F provides a photo log, which includes before and after photos of the repairs made to the membrane liner.

- Epoxy paint chips were observed in the upper layer of the epoxy coating in the CCA Treatment Building. It was determined that the chips in the epoxy coating were not extensive enough to warrant repair (see Inspection Form 3). The epoxy coating will be inspected during the next sampling event to determine whether a repair is necessary.

- Heavy equipment is currently staged on the concrete pad in the Drip Pad Building for manufacturing operations (see Inspection Form 5). The concrete pad will continue to be monitored during subsequent sampling events for any damages.

- Initial inspections indicated a potential tear in the Drip Pad Building membrane liner on the east side of the building as a result of a new access point created by the owner (see Inspection Form 5). However, a follow up to the initial inspection determined that the membrane liner was intact and no repair

was necessary. During the inspection, filter fabric was observed exposed on the ground. The original construction requirement placed the liner on top of the soils and then covered the area with rock.

- Monitoring well BB&S-1 and MW-2S were found to require repairs during the sampling event (see the March 26, 29, and 30, 2012, DORs in Appendix B). MW-2S bollards were repaired. The restoration of the BB&S-1 monitoring well included the replacement of the protective well cover and the construction of a new well pad to prevent surface water from entering the well.

6 Conclusions and Recommendations

6.1 Conclusions

The following conclusions are based on the analytical results of Post-construction Monitoring Event 1 at the BB&S Site.

Groundwater Monitoring Wells

- A total of 37 groundwater monitoring wells (12 on-site wells and 25 off-site wells) are part of the current monitoring network for the BB&S Site.

- Monitoring well BB&S-1, located in the southeast corner of the site, was sampled for the first time during Sampling Event 1. The presence of this well was discovered during the remediation of the BB&S Site in October 2010. No information regarding the construction of this well was available, and only limited well construction details were obtained during Sampling Event 1. The sample analytical results for this well indicated the presence of acetone, methyl ethyl ketone (2 butanone), and tetrahydrofuran at concentrations exceeding their SCG screening values. Acetone and methyl ethyl ketone are industrial solvents, and tetrahydrofuran is a strong solvent used in the processing of resins. The sample was not filtered prior to analysis since the turbidity was below 50 NTUs.

- Arsenic, a contaminant of concern at the BB&S Site, was detected above the laboratory reporting limits in samples from eight of the 37 monitoring wells in the monitoring network. The concentrations of arsenic in samples from three of the on-site groundwater wells (MW-4, MW-6, and MW-22), exceeded the SCG screening value. These three wells are located within the boundary of the site's residual hazardous waste as identified in the SMP. None of the samples were filtered prior to analysis since the turbidity was below 50 NTUs.

- Arsenic was not detected at a concentration above the SCG screening value in any samples collected from the remaining on-site or off-site monitoring wells.

- Total chromium was detected in 23 monitoring wells and hexavalent chromium was detected in 11 monitoring wells at concentrations above their respective laboratory reporting limits. The SCGs for total chromium and hexavalent

chromium were exceeded in samples collected from three on-site monitoring wells (MW-6, MW-10, and MW-22) and three off-site monitoring wells (MW-17I, MW-20I, and MW-20S) located downgradient of the BB&S Site.

- Samples collected from MW-19D and MW-24D contained turbidity greater than 50 NTU and were not filtered prior to analysis. These samples had concentrations exceeding the screening value for aluminum, lead, and manganese. However, aluminum, lead, and manganese are not contaminants of concern at the BB&S Site.

- Based on groundwater contour elevations, there are suspected groundwater withdrawals within the vicinity of monitoring wells MW-20D and MW-17D.

Surface Waters

- Four surface water samples were collected following a storm water event at the site.

- For the contaminants of concern (arsenic, total chromium, and hexavalent chromium), the analytical results were compared to NYSDEC SCG values defined by NYSDEC's Ambient Water Quality Standards for Class GA groundwater.

- None of the surface water analytical results exceeded the SCGs.

Sediments

- Three sediment samples were collected from residual sediment materials in the four catch basins at the BB&S Site.

- For the contaminants of concern (arsenic, total chromium, and hexavalent chromium), the analytical results were compared to NYSDEC's 6 NYCRR Part 375 SCOs values for soils associated with commercial and industrial use per DER-10.

- None of the sediment analytical results exceeded the SCOs for commercial and industrial use per DER-10.

Site Engineering Controls

- Based on the site inspection forms, several engineering controls exhibited some wear and require continued monitoring or repair.

6.2 Recommendations

The following recommendations are based on the conclusions drawn from the results of Event 1 sampling results and on-site inspections:

- Continue the semi-annual sampling of all environmental media (groundwater, surface water, and sediments, both on-site and downgradient of the site. The next round of semi-annual sampling (Event 2) is scheduled for October/November 2012.

- Continue to evaluate the analytical results with respect to the SCGs and SCOs established in the current SMP.

- Perform semi-annual site inspections of engineering controls as described in the SMP, as well as inspections of sampling locations during every sampling event.

- Amend SMP as required based on review of engineering controls.

- Any needed repairs indicated by the Event 1 site inspection should be completed. These include repairs to site access-control fence posts.

- The Drip Pad Building concrete pad should be inspected during subsequent sampling events for any damage resulting from the staging of heavy equipment in this area. The CCA Treatment Building epoxy coating should be inspected during subsequent sampling events for chips and to determine whether a repair of the epoxy coating is necessary.

- Further investigation of on-site well BB&S-1 needs to be performed. This could include the installation of additional upgradient and downgradient wells to evaluate the presence of VOCs in this area.

- Evaluate and determine the proper disposal option of the residual purge waters generated during the Event 1 sampling program.

- Determine why groundwater elevations in monitoring wells BBS-1 and MW-20S, 20I and 20D were not consistent with the elevations in the rest of the monitoring well network, which will include checking survey results or resurveying those wells.

- For the next sampling event, field filter samples with turbidity greater than 50 NTU and/or use low flow sampling techniques.

- Further investigation of the elevated chromium results for MW-17I and consider further investigation of off-site wells MW-20I and MW-20S.