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TASK 241 – EXPANDED WATER MONITORING EVALUATION REPORT JUNE 2017, SEPTEMBER 2017, DECEMBER 2017, AND MARCH 2018 EVENTS

CONNECTICUT DEPARTMENT OF TRANSPORTATION
NEW HAVEN BUS GARAGE FACILITY
2061 STATE STREET
HAMDEN, CONNECTICUT

Prepared for:

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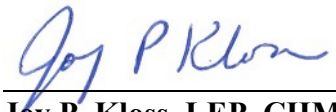

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1.0 INTRODUCTION

BL Companies was retained by the State of Connecticut Department of Transportation (ConnDOT) to complete a Task 241 Expanded Water Quality Monitoring Evaluation Report for the New Haven Bus Garage Facility located at 2061 State Street in Hamden, Connecticut (see **Figure 1 – Site Location Map** in **Appendix A**). This report summarizes the results of the last four quarterly groundwater sampling events conducted by BL Companies in June 2017, September 2017, December 2017, and March 2018, evaluates the current and historical groundwater analytical data, and presents our conclusions and recommendations.

1.1 Site Description and Background

The Site consists of an approximately 23.3-acre parcel developed with a bus garage facility located in the central portion of the Site. A substantial wetland area comprises the southern portion of the Site. The Site has been owned by the State of Connecticut since November 2002. According to Town of Hamden Tax Assessor's records, the Site is identified as Map 2131, Lot 57.

The Site was formerly industrial and was occupied by a steel processing facility. Several concrete slabs (associated with the former main building and garage) and some paved areas were all that remained of the former facility prior to construction of the bus garage facility. The Site is bounded by Edmund Street to the north, State Street to the west, Amtrak railroad right-of-way to the east, and a Department of Motor Vehicles facility and residential properties to the south. Based on available information, public water and municipal sewer are available to the Site and Site vicinity. The current configuration of the Site is presented on **Figures GW-01** through **GW-04** in **Appendix A**.

On September 25, 2007, an Environmental Condition Assessment Form (ECAF) was submitted to the Connecticut Department of Energy and Environmental Protection (DEEP) to enroll the Site in the Voluntary Remediation Program (VRP) under Connecticut General Statutes (CGS) 22a-133x. As a result, DEEP delegated oversight of the investigation and remediation of the Site (upland release areas only) to an environmental professional licensed pursuant to Section 22a-133v of the Regulations of Connecticut State Agencies (RCSA). Therefore, a Licensed Environmental Professional (LEP) may verify that the investigation has been performed in accordance with the prevailing standards and guidelines and that the remediation has been performed in accordance with the Remediation Standard Regulations (RSRs), sections 22a-133k-1 through 22a-133k-3 of the RCSA.

Releases of polychlorinated biphenyls (PCBs) had occurred at the Site as a result of at least one spill from a PCB electrical transformer (containing concentrations of PCBs greater than 500 parts per million (ppm)) and other potential sources. The investigation and remediation of the PCB releases are regulated under the Environmental Protection Agency (EPA) Code of Federal Regulations (CFR) §761.61(a).

1.2 Site History and Previous Reports

Multiple environmental investigations and several phases of limited remedial activities at the Site have been completed by previous environmental consultants since 1987. The following is a brief history of the Site and a summary of the historical site operations.

The Site historically operated as a steel processing mill from 1948 until December 1988 under the ownership of at least three entities including Detroit Steel, Cyclops Corporation, and Armco Advanced Materials Company (Armco). Prior to 1948, the Site was reportedly utilized for agricultural purposes. The Site was occupied by a main factory building, a garage building, a soluble oil house, a pump house, a propane pump house, and an office building.

The main factory building, constructed in 1948, was a single-story building roughly 35 feet high, and was approximately 79,000 square feet in area. The main factory building was comprised of a shipping/receiving bay, main mill area, annealing bay, pickling bay, boiler house, and electric power control room. All of the flooring except for the pickling bay was concrete, wood block, or wood planking. The majority of the pickling bay floor was earthen. An expansive system of machine pits (some of which were reportedly interconnected) and basement rooms existed under the main mill area, annealing bay, pickling bay, and electrical power control room. Once the facility was abandoned in 1988, the use of the sump pump system was terminated and some of the machine pits and tunnels partially filled with groundwater.

A garage building was formerly located in the northeast corner of the Site. The garage was reportedly constructed in 1948 and was a brick and steel structure with a concrete slab floor. Two floor drains were located in the garage building.

A soluble oil house was formerly located within the southwestern portion of the Site. The soluble oil house was reportedly constructed in 1959 and was comprised of concrete block with a concrete slab floor and was approximately 1,275 square feet in area. The soluble oil house contained two partially in-ground concrete oil storage tanks and two concrete sumps containing steel containment vessels. A maintenance shed was reportedly located at one time approximately 25 feet southwest of the soluble oil house.

A pump house was formerly located within the southwestern portion of the Site. The pump house was reportedly constructed in 1948 and was a brick and concrete building with a concrete slab floor. This building had three 10,000-gallon aboveground steel tanks (ASTs) to store process water drawn from the onsite well point system. According to historical information, two well fields were located at the Site, which were used to produce process water. The original well field was located to the east of the pump house and the second well field was located to the west of the main mill building/annealing bay.

An office building was formerly located within the northwestern portion of the Site. The office building was reportedly constructed in 1948 and was a two-story brick and concrete block structure with a full basement. This building contained offices and a small quality control (QC) laboratory. According to available information, metallurgical and physical testing, to establish

alloy types and product quality, were conducted in the laboratory. Chemicals were used in small quantities for some tests; however, wet chemical analyses were not routinely performed in the laboratory. The chemical containers that were in the laboratory were lab-packed and disposed of offsite in 1990/91.

A propane pump house was located to the southwest of the soluble oil house. Details regarding the pump house were not available. Two 30,000-gallon propane ASTs were located to the southwest of the propane pump house.

Processes conducted at the Site included milling, annealing, and pickling in sulfuric and hydrochloric acid. Annealing and pickling process wastes were reportedly directed to several settling and neutralization lagoons formerly located in the southeastern portion of the Site. During operation of the mill, non-hazardous lime sludge was dredged from the settling lagoons, reportedly at 15-year intervals, and stockpiled onsite in a depression along the northeastern property boundary. Residual waste materials and soil underlying the lagoons were reportedly excavated and disposed offsite in 1990 and the area was backfilled with clean fill.

Numerous pits and trenches (reportedly machine pits) of various sizes and configurations were located throughout the main mill area, annealing bay, and pickling bay. The discharge point(s) of these pits was never conclusively identified. Reports prepared by others indicated that the oil and water filled pits and trenches discharged to the lagoons; however, this was never confirmed. Previous reports indicated that only roof drains for the main building discharged to the wetlands. However, based on the significant degree and distribution of petroleum and metals contamination in the wetland and Sluggish Brook, it appears likely that the pits/trenches discharged directly to the wetlands over a long period of time. The milling operations reportedly generated between 50,000 and 70,000 gallons of water soluble waste oil per year which was reportedly shipped offsite for disposal. Historical disposal practices may have included discharge of waste oil to the wetlands or waste oil may have been accidentally spilled or released to the wetlands over time.

During demolition of the main building by the State in 2002/2003, the pits and trenches contained significant quantities of oil product and water. The oil product and impacted water were reportedly removed and the pits were cleaned and backfilled with clean fill.

1.3 Transfer Act History

Connecticut General Statutes (CGS) section 22a-134 ("the Transfer Act") defines an Establishment as any real property at which or any business operation from which: (A) on or after November 19, 1980, there was generated, except as the result of remediation of polluted soil, groundwater, or sediment more than 100 kilograms of hazardous waste in any one month; (B) hazardous waste generated at a different location was recycled, reclaimed, reused, stored, handled, treated, transported, or disposed of; (C) the process of dry cleaning was conducted on or after May 1, 1967; (D) furniture stripping was conducted on or after May 1, 1967; or (E) a vehicle body repair facility was located on site on or after May 1, 1967.

According to the Task 120 Preliminary Site Evaluation Report, dated April 27, 1999, prepared by HRP Associates, Inc., on behalf of ConnDOT, the site meets the definition of an Establishment due to the generation of more than 100 kilograms of hazardous waste in any one month.

On June 26, 1987, a Transfer Act Form III was filed with DEEP in conjunction with the sale of the property to MSL Acquisition Corp from Cyclops Corp. The form indicated that two spills of up to 85,000 pounds of acid and incidental episodic spillage of acid historically occurred at the site. It also identified USTs and ASTs on the property. According to the form, spent pickle liquor (EPA Hazardous Waste ID K062) was generated, treated, and discharged into lagoons.

On April 20, 1992, a Form III was filed in conjunction with the sale of the property to Armco Inc from Cyclops Corporation. According to the form, waste generated from the site included spent pickle liquor (EPA Hazardous Waste ID K062) and a single disposal event of bulk/lab pack chemicals. The form also lists several documents associated with the site's compliance history.

On October 18, 1999, AK Steel Corporation was the Certifying Party to a Transfer Act Form III filing. The form was filed in conjunction with the sale of the property from Armco, Inc. to AK Steel Corporation.

The Site has been owned by the State of Connecticut since November 2, 2002. DEEP had issued Consent Order No. WC4944, dated May 24, 1990, to Cyclops Corporation which required Cyclops to, among other things, investigate the on- and off-site extent of contamination, perform remedial actions, and carry out a monitoring program to determine the effectiveness of the remedial actions. In a letter to DEEP, dated February 2, 2007, ConnDOT expressed its intent to fulfill the requirements of the Consent Order. As previously noted, on September 25, 2007, an ECAF was submitted to the DEEP to enroll the Site in the VRP under Connecticut General Statutes (CGS) 22a-133x. Therefore, the conditions of the Consent Order will be satisfied once the site receives a final verification by a LEP.

1.4 Summary of 2008-2010 Soil Remediation Activities

The non-PCB upland release area soil remediation project was completed in accordance with the Remedial Action Plan (RAP) prepared by Diversified Technology Consultants (DTC). The RAP was designed to remediate the release areas (RA) and potential release areas (PRA) listed below.

- RA-1 – Garage, USTs, Dispenser, & Drums
- RA-2 – Lead Impacted Fill
- RA-3 – Garage Drainage Swale
- RA-6 – Boiler House, AST, Coal Storage
- RA-7 – Lagoons & Sludge Stockpile
- RA-9 – Picking Bay – Interior
- RA-10A – 6,000-gallon Hydraulic Oil AST
- RA-11 – Pump House Excavation
- RA-13 – Waste Soluble Oil UST & Surficial Spills
- RA-15 – Soluble Oil House & Interior USTs

- RA-17 – Propane Pump House
- RA-18 – Pits & Sumps
- PRA-3 – Reported Drywell for the Drummed Oil Storage Area

As outlined in the RAP, the selected remedial strategy for the above non-PCB release areas (except RA-11 and PRA-3) included excavation of contaminated soil and reuse of the soil below the proposed facility. Soil excavated from RA-11 and PRA-3 was heavily contaminated with petroleum and could not be reused beneath the building. The excavated soil was temporarily stockpiled onsite, characterized, and then shipped offsite for disposal.

The goal of the remedial activities was to bring soil within the upland release areas into compliance with the applicable RSR criteria, including the Industrial/Commercial Direct Exposure Criteria (I/C DEC) and the GB Pollutant Mobility Criteria (PMC). Soil excavation confirmation samples were collected for laboratory analysis from the bottoms and sidewalls of each of the excavations to demonstrate attainment of the remedial goals.

Remediation of the upland release areas began on March 13, 2008, prior to construction of the proposed facility. Construction of the facility began in early August 2008 and was completed by August 2010, concluding the remediation project.

The remediation project was completed in two phases. Phase I was conducted prior to construction of the bus facility and focused on PRA-3, RA-1, RA-2, RA-3, RA-6, RA-7 (western portion), RA-11, RA-13, RA-15, RA-16, and RA-17. Phase II was completed during construction to remediate release areas RA-9, RA-10A, and RA-18 by rendering the contaminated soil inaccessible to human contact and environmentally isolated beneath the building. Remediation of the remaining portion of RA-7 was also completed during Phase II.

Based on the excavation confirmation sample analytical results, the remediation activities completed prior to and during construction were successful in remediating all but one of the target release areas (RA-2). In RA-2, a minimal amount of lead contaminated soil remained in the far northeastern corner of the Site, adjacent to the Amtrak railroad right-of-way. The remaining lead contaminated soil in RA-2 was remediated in July 2013, as discussed in Section 1.5.

The remediation of PCB-contaminated soil and concrete within RA-16 (Electric Utility Room & Exterior Transformers) was completed in accordance with the Self-Implementing Plan (SIP) prepared by TRC. The SIP was submitted to EPA Region 1 and the DEEP PCB Division for review and approval. EPA subsequently approved the SIP in a letter dated February 13, 2008.

1.5 Summary of 2013 Final Soil Remediation Activities for RA-2

In July 2013, the remaining lead impacted soil was removed from RA-2. Approximately, 90 tons of soil were excavated, loaded directly into roll-off containers, and disposed of at Environmental Quality's Wayne Disposal Facility as hazardous waste. Confirmation samples were collected along the bottom of the excavation and from the southern sidewall. Lead concentrations were below the Residential DEC and GB PMC in all confirmation samples (total lead ranging from

3.14 to 16.4 mg/kg, and leachable lead not detected). Based on the confirmation sample analytical results, no further soil remediation activities were required.

ConnDOT plans to record an Environmental Land Use Restriction (ELUR) in the future for the parcel to restrict the Site to industrial/commercial use, to render soil in several areas inaccessible under four feet of clean fill, and to render soil inaccessible and environmentally isolated beneath the new bus facility and other permanent structures. The ELUR will also be used to satisfy the EPA requirements for capping PCB-contaminated soil and concrete beneath the building. The A-2 survey for the ELUR was completed in 2011.

1.6 Groundwater Monitoring Well Network

In September 2012, Logical Environmental Solutions, Inc. of Tolland, CT, and Glacier Drilling, LLC of Durham, CT installed 16 new groundwater monitoring wells (MW-101 through MW-116) to re-establish the monitoring well network. Two existing wells, CEE-11 and CEE-12, were the only wells that remained of the original well network after reconstruction. The locations of the wells are shown on **Figures GW-01** through **GW-04** in **Appendix A**.

Monitoring wells MW-108, MW-109, MW-110, and MW-111 were drilled using a geoprobe and constructed with 1-inch diameter pre-packed PVC screens and riser pipe to depths of 9 to 12 feet below grade (ftbg). Monitoring wells were finished with steel stick-up well protective casings equipped with locks and cemented in place. The remaining wells were drilled using a hollow stem auger (HSA) rig and constructed with 1-inch diameter PVC slotted screen and PVC riser pipe to depths of 13 to 17 ftbg. The HSA wells were finished with flush-mount road-boxes, which were cemented in place. Installation details and well construction diagrams can be found in the *Task 241 Expanded Water Quality Monitoring Evaluation Report – November 2012 Sampling Event*, prepared by DTC, dated November 2012. Well elevations and screened intervals are included in **Table 1a** through **Table 1d**.

2.0 LOCAL ENVIRONMENT AND RECEPTORS

2.1 Geology

According to the Surficial Geologic Map of the New Haven and Woodmont Quadrangles, dated 1965, the majority of the Site is underlain by terrace alluvium, which is described as sand and gravel. The area of the railroad spur and the southeastern portion of the Site (upland) are mapped as artificial fill materials. The wetland in the southern portion of the Site is mapped as swamp deposits, which are described as silt, sand, and clay mixed with organic matter.

Previous subsurface investigations and remediation activities in upland portions of the Site indicated that the surficial materials consisted mainly of reddish-brown, course to fine sand, with minor amounts of gravel and silt. Fill of varying thickness, containing varying amounts of ash, slag, brick, concrete, and glass, was observed in locations throughout the Site, especially within the vicinity of the former buildings.

Coarse, reddish-orange, fill material was observed east and southeast of the garage between the garage and the railroad spur. The fill was noted to contain pieces of brick, ceramic, concrete, electrical wire, asphalt, slag, glass, ash, wood, and unidentified materials. The majority of the fill to the east of the garage was observed to be underlain by grey clay except within the southern portion of RA-2 where the fill was observed to be underlain by fine sand and silt.

According to the Bedrock Geologic Map of Connecticut, dated 1985, the Site is underlain by New Haven Arkose, which is described as reddish-brown sandstone. Bedrock was not encountered during the previous subsurface investigations, during remediation, or during construction.

2.2 Water Quality and Groundwater Flow Direction

An unnamed brook, commonly referred to as “Sluggish Brook”, originates as runoff from the State Street storm sewer and exits a drainage pipe immediately to the south of the Site. The brook flows for approximately 180 feet along the southern property boundary before entering the Site and then flows approximately 220 feet north before intersecting with the drainage from the onsite wetland and the 48-inch culvert that runs under the southern onsite railroad spur.

The onsite wetland and Sluggish Brook drain to the east and discharge to a tidal pond (located approximately 240 feet east of the onsite railroad spur culvert) and an extensive tidal wetland network associated with the Quinnipiac River. The tidal pond, known as Davis Clay Pit Pond, is connected to the Quinnipiac River through a network of narrow tidal channels. The Quinnipiac River is located approximately 1,200 feet east of the main Amtrak railroad tracks.

According to the DEEP Water Quality Classifications Map for the Connecticut River and Southcentral Coastal Basins, dated 1993, the surface water quality of Davis Clay Pit Pond is classified as “A” and the Quinnipiac River is classified as “SC/SB”. Class A surface waters are designated for use as a fish, aquatic life, and wildlife habitat, potential drinking water supply, recreation, navigation, and/or industrial and agricultural water supply. The SC/SB classification

is indicative of surface water quality that does not meet the designated uses assigned to Class "SB" surface waters, which include habitat for marine fish and other aquatic life and wildlife, commercial shellfish harvesting, recreation, industrial water supply, and navigation. The DEEP's goal for Class "SC/SB" surface water is attainment of Class "SB" designated uses.

Based on the above-referenced map, DEEP has designated groundwater beneath the Site and surrounding area as "GB" quality. Groundwater of this classification is defined by DEEP as groundwater within historically urbanized areas or areas of intense industrial activity and where public water supply service is available. Such groundwater may not be suitable for human consumption without treatment due to waste discharges, spills or leaks of chemicals, or land use impacts.

Based on the depth-to-groundwater measured by BL Companies on June 1, 2017, September 1, 2017, December 1, 2017, and March 1, 2018, groundwater across the site flows in an easterly direction and discharges to surface water (Davis Clay Pit Pond) at the northern portion of the Site and wetlands at the southern portion of the Site. Both water bodies are tidally influenced, connected to the Quinnipiac River. **Figures GW-01** through **GW-04** in **Appendix A** depict the direction of groundwater flow across the Site.

3.0 REGULATORY CRITERIA

BL Companies compared the groundwater analytical results to the established numeric criteria in the DEEP 2013 RSRs, Sections 22a-133k-1 through 22a-133k-3 of the RSCA. The RSRs apply specifically to sites at which remedial actions are required by DEEP under Chapters 445, 446k, or Section 22a-208a(c)(2) of the CGS, such as under an administrative order, subsequent to a transfer of an establishment, or to sites that are enrolled in the Voluntary Remediation Program (VRP).

Since the subject Site has been entered into the VRP under CGS Section 22a-133x, BL Companies used the RSRs to assess groundwater conditions at the Site and to make conclusions regarding concentrations of regulated compounds detected in groundwater at the Site. The following RSR groundwater criteria apply to the Site:

Volatilization Criteria (VC)

The VC are designed to protect human health from contaminants that may volatilize from contaminated groundwater into overlying buildings. The VC applies to groundwater within 15 feet of the lowest level of a building or the ground surface. Different VC may apply to a property, depending on land use, either "residential" (RES) or "industrial/commercial" (I/C). The I/C VC may only be used if an ELUR has been prepared and recorded on the land records of the town restricting residential use of the property.

An ELUR is proposed for the property restricting the Site to industrial/commercial uses, however, since the ELUR has not been recorded, BL Companies compared the groundwater analytical results to the RES VC.

Surface Water Protection Criteria (SWPC) and Numerical Water Quality Criteria (WQC)

The SWPC establish criteria for contaminants in groundwater that are protective of surface water bodies into which the groundwater discharges. Groundwater across the Site flows in an easterly direction and discharges to surface water (Davis Clay Pit Pond) at the north portion of the Site and wetlands at the southern portion of the Site. Both water bodies are tidally influenced, connected to the Quinnipiac River.

Based on the apparent discharge to both surface water and wetlands, the SWPC apply to groundwater along the northeast boundary of the Site while the WQC of the DEEP Water Quality Standards apply to groundwater along the southeast boundary of the Site.

The compliance point groundwater monitoring wells located immediately adjacent or upgradient of wetland areas are CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111. These were compared to the chronic freshwater WQC.

The compliance point groundwater monitoring wells located immediately adjacent or upgradient of surface water are MW-104, MW-112, MW-114, and MW-115 and were compared to the SWPC.

All other inland wells upgradient of these compliance points were compared to the SWPC and VC to assess effectiveness of remediation. These inland wells are not considered compliance points for meeting the SWPC or WQC at the Site.

3.1 Regulatory Compliance Goals

In accordance with Sections 22a-133k-3(g)(1)(A,B,C,E,&F) of the RSRs, the groundwater monitoring program for the Site in a GB area was designed to determine the following:

- Effectiveness of soil remediation to prevent pollution of groundwater by substances released to soil at the Site;
- Effectiveness of any measures to render soil environmentally isolated;
- Effectiveness of remediation to eliminate or minimize health or safety risks;
- Whether substances in groundwater meet the SWPC/WQC and VC; and
- Whether a groundwater plume interferes with any existing use of groundwater.

In accordance with Sections 22a-133k-3(g)(2)(A)(i)(I) through (IV) of the RSRs, groundwater samples used to determine compliance with the SWPC/WQC and/or VC shall be collected after 1) all remedial actions are complete, 2) the aquifer is no longer subject to effects due to remediation and/or site redevelopment, 3) the geochemistry of the aquifer has stabilized, and 4) the concentrations of substances are not increasing over time (except as a result of natural attenuation or seasonal variations).

As discussed in Section 1.4, remediation of the upland release areas and construction of the new facility was completed in August 2010. Final remediation of RA-2 was completed in July 2013. Groundwater monitoring began in November 2012, and based on cumulative aquifer parameter data, the geochemistry of the aquifer appears stable since at least that time (**Table 4**).

In accordance with Section 22a-133k-3(g)(2)(A)(ii) of the RSRs, a minimum of four sampling events are required to determine compliance with the applicable criteria. The sampling events must reflect seasonal variability on a quarterly basis, and all sampling events used to demonstrate compliance must be performed within two years prior to the most current sampling event used to determine compliance.

Compliance with the SWPC/WQC is achieved per Section 22a-133k-3(g)(2)(C), when contaminant concentrations representative of the groundwater plume immediately upgradient of discharge to surface water are equal to or less than the applicable criterion.

Compliance with the VC is achieved per Section 22a-133k-3(g)(2)(D), when contaminant concentrations representative of the groundwater plume are equal to or less than the applicable volatilization criterion.

3.2 Current Groundwater Program and Compliance Summary

Groundwater monitoring began in November 2012 following remedial activities. The well network consisted of 18 monitoring wells (CEE-11, CEE-12, and MW-101 through MW-116). MW-113 was destroyed during the installation of an aboveground AST pad. MW-106 was destroyed during excavation activities in its vicinity. Analytical parameters included volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), PCBs, and total and dissolved metals.

Historical analytical data for former wells at the Site indicate that VOCs and PCBs have never been detected at the Site during previous sampling events. After the completion of remedial activities, VOCs and PCBs were not detected above the applicable RSR criteria. As of August 2013, compliance monitoring for VOCs and PCBs is complete.

Historical analytical data at the Site indicated that PAHs have never been detected at the Site during previous sampling events. During the May 2013 event, PAHs were detected above the SWPC in the sample from MW-115, but not in the duplicate sample. The source of the discrepancy in the PAH concentrations was likely due to sampling or laboratory error. Additionally, during the August 2013 sampling event, PAHs were detected at concentrations below the RSR criteria in monitoring wells CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111, and MW-115; however, samples from these wells contained sediment and are assumed not representative of the actual dissolved phase concentrations. PAHs were not detected in these wells during subsequent monitoring events in November 2013 (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-115) and February 2014 (MW-111). As of February 2014, compliance monitoring for PAHs is complete. One additional sampling event (March 2015) was performed at MW-115 to confirm previous erroneous duplicate data results from May 2013. PAHs were not detected above the laboratory detection limit in the March 2015 groundwater sample from MW-115.

Lead was previously detected above the RSR criteria in groundwater samples collected from former monitoring wells. After the completion of remedial activities, lead was still detected above the RSR criteria in compliance monitoring wells CEE-11, CEE-12, MW-108, and MW-115. As of March 2017, compliance monitoring for lead was complete for all compliance monitoring wells, except CEE-11 and CEE-12 (based on previous results recently compared to appropriate WQC) located immediately upgradient of wetland discharge.

Arsenic was never detected in groundwater at the Site during historical sampling events. After the completion of remedial activities, arsenic was detected in monitoring wells CEE-11, MW-113 (destroyed), and MW-116. At CEE-11, arsenic was below the WQC of 150 ug/L. For detections at MW-113 and MW-116, arsenic was below the SWPC and WQC in downgradient compliance wells CEE-11, CEE-12, MW-114, and MW-115, (upgradient of surface water and wetland discharge), where compliance monitoring for arsenic is complete.

Copper was previously detected above the RSR criteria in groundwater samples collected from former monitoring wells. After the completion of remedial activities, copper was detected above the WQC in CEE-11 during the February 2014 and December 2015 events. Compliance

monitoring for copper is complete for all other monitoring wells. As of December 2016, compliance monitoring for copper was complete for all compliance monitoring wells, except CEE-12 and MW-108 (based on previous results recently compared to appropriate WQC) located immediately upgradient of wetland discharge.

Zinc was previously detected above the RSR criteria in groundwater samples collected from former monitoring wells. After the completion of remedial activities, zinc was not detected above the RSR criteria. As of February 2014, compliance monitoring for zinc is complete.

Prior to the June 2017 sampling event, overall compliance groundwater monitoring was ongoing for lead (CEE-11 and CEE-12) and copper (CEE-12 and MW-108).

4.0 GROUNDWATER MONITORING ACTIVITIES

4.1 Groundwater Gauging and Sampling Procedures

BL Companies sampled three groundwater monitoring wells (CEE-11, CEE-12, and MW-108) on June 1, 2017, September 1, 2017, December 1, 2017, and March 1, 2018. Additionally, a total of 16 wells were gauged for depth-to-groundwater, relative to the top of PVC casing, using an electronic water level probe. The PVC casing elevation (as surveyed by DTC on October 26, 2012) and depth to groundwater for each well were used to calculate the groundwater table elevation in each well (**Table 1a** through **Table 1d**).

The wells were sampled at a low-flow rate using a peristaltic pump and disposable polyethylene tubing in accordance with the EPA Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, dated July 30, 1996, revised January 19, 2010. Groundwater parameters including pH, dissolved oxygen, oxygen reduction potential (ORP), specific conductance, temperature, and turbidity were measured periodically in the field using a water-quality meter equipped with a flow through cell. These parameters are measured as part of proper low-flow sampling procedures to assure groundwater collected is representative of the current aquifer conditions. Parameters were recorded on the Groundwater Sampling Logs in **Appendix C** and summarized in **Table 4** in **Appendix B**.

Once the field parameters stabilized, the groundwater samples were collected into laboratory provided sample containers and immediately placed in a cooler with ice. The groundwater samples were submitted to Eurofins Spectrum Analytical, Inc. (Spectrum) of Agawam, MA, a Connecticut Department of Public Health certified environmental laboratory, under chain-of-custody control procedures.

Groundwater samples were analyzed for total copper and/or lead per EPA Method 6020 in order to achieve lower detection limits below the WQC.

4.2 Quality Assurance (QA) and Quality Control (QC) Procedures

Field blank samples were collected during all four quarterly events by running de-ionized water through the sampling equipment into the laboratory provided sample containers. The purpose of the field blank sample is to evaluate the potential for cross-contamination due to the sampling equipment or procedure. The field blank samples were analyzed for total copper and lead.

Duplicate groundwater samples were obtained from well CEE-12 during all four quarterly events to evaluate the precision of the laboratory analytical data. The duplicate and original samples were analyzed for total lead and/or copper.

Laboratory analysis was performed using DEEP Reasonable Confidence Protocols (RCPs). BL Companies reviewed the laboratory analytical reports to evaluate the reliability and usability of the analytical data.

5.0 GROUNDWATER MONITORING RESULTS

Laboratory analytical results are summarized in **Table 2** and historical analytical data are summarized in **Table 3**. Figure **GW-01** through **GW-04** in **Appendix A** shows contaminant concentrations detected in groundwater and groundwater flow direction during the sampling events. The laboratory analytical reports are included as **Appendix D**. The following provides a summary of the results as compared to the RSR numeric criteria.

5.1 Analytical Results

Total lead was analyzed for samples collected from CEE-11 and CEE-12. Total lead was detected above the WQC in the samples collected from monitoring well CEE-12 during the all four quarterly groundwater sampling events and monitoring well CEE-11 during the September and December 2017 sampling events. Total lead was detected below the WQC in the sample collected from monitoring well CEE-11 during the June 2017 sampling event. Total lead was not detected above the reportable detection limit in the sample collected from monitoring well CEE-11 during the March 2018 sampling event.

Total copper was analyzed in samples collected from CEE-12 and MW-108. Total copper was detected above the WQC in the sample collected from monitoring well MW-108 during the June and December 2017 and March 2018 sampling events. Total copper was detected below the WQC in the samples collected from well CEE-12 during the June, September, and December 2017 sampling events and monitoring well MW-108 during the September 2017 sampling event. Since compliance was achieved during the December 2017 sampling event, CEE-12 was not analyzed for copper during the March 2018 sampling event.

5.2 QA/QC Sample Analytical Results

Total lead was not detected in the field blank samples. Total copper was detected in the field blank sample collected during the September 2017 sampling event, indicating potential cross-contamination of the samples due to the sampling or laboratory procedures. Total copper concentrations detected in samples from CEE-12 and MW-108 in September 2017 were below the WQC. Total copper was not detected in the remaining field blank samples.

Duplicate samples collected from well CEE-12 were submitted for total lead and/or copper analysis. The relative percent difference (RPD) for total copper and lead meet the 30 RPD allowed for aqueous samples according to the DEEP Laboratory QA/QC, Data Quality Assessment and Data Usability Evaluation (DQA/DUE) Guidance Document, dated May 2009, revised December 2010.

As noted in the Case Narrative of the analytical report for the December 2017 event, Spectrum was required to run a dilution on the samples and the reportable detection limits (RDLs) were above the applicable RSR criteria, specifically the WQC. Spectrum reissued the report to the method detection limit (MDL) causing the report to include estimated concentrations detected below the RDL and above the MDL (J-Flag). The Case Narratives of the Spectrum analytical

reports did not indicate any other QA/QC non-conformances that would affect the usability of the data.

6.0 GROUNDWATER COMPLIANCE

Table 3 summarizes historical analytical results compared to the appropriate RSR numeric criteria for each well. **Table 5** summarizes groundwater compliance at the Site for each constituent of concern.

6.1 Previously Established Groundwater Compliance

Groundwater compliance with the applicable CTDEEP RSR numeric criteria has been established for the following constituents of concern:

VOCs
Since August 2013, compliance monitoring for VOCs has been complete. As summarized in **Table 3**, the VOC (tert-butanol) was detected in the samples obtained from CEE-11, MW-109, and MW-113 in March 2013; however, there is no RSR criteria established for this compound, and it appears to be anomalous detection based on the preponderance of historical groundwater data. Additionally, toluene was detected below applicable RSR criteria in the sample obtained from MW-109 during the August 2013 event. Prior to these events, historical analytical data indicated that VOCs were not detected at the Site in any of the previous sampling events.

PCBs
Compliance monitoring for PCBs has been complete for all monitoring wells since August 2013. During 2012 and 2013 sampling events, PCBs were not detected in any of the groundwater samples. The historical analytical data for the former wells at the Site indicated that PCBs had never been detected at the Site in any of the previous sampling events.

PAHs
As of February 2014, compliance monitoring for PAHs is complete in all wells. During the May 2013 event, PAHs were detected above the SWPC in the sample from MW-115, but were not detected in its duplicate sample. Based on the historical data, the discrepancy in the PAH concentrations is likely due to sampling error. During the March 2015 event, PAHs were not detected in monitoring well MW-115 and this confirms that the May 2013 was likely an outlier. RSR compliance for PAHs at MW-115 is complete.

Arsenic
Arsenic was never detected in groundwater at the Site during historical sampling events. After the completion of remedial activities, arsenic was detected in monitoring wells CEE-11, MW-113 (destroyed), and MW-116. At CEE-11, arsenic was below the WQC of 150 ug/L. For detections at MW-113 and MW-116, arsenic was below the SWPC and WQC in downgradient compliance point wells MW-114, MW-115, CEE-11, and CEE-12 (located immediately upgradient of surface water and wetland discharge), where compliance monitoring for arsenic is complete.

Zinc
The historical analytical data indicated that zinc was previously detected above the RSR criteria in groundwater samples collected from former wells CEE-3, CEE-9, and MW-113 which were

removed/destroyed during construction of the overlying bus facility building. Groundwater samples from compliance point MW-114 (located downgradient of former wells CEE-3, CEE-9, and MW-113 and immediately upgradient of surface water discharge) have resulted in zinc concentrations below the SWPC during four quarterly events from May 2013 to February 2014. Zinc concentrations are also in compliance at all other wells immediately upgradient of surface water and wetland discharge. Therefore, compliance monitoring for zinc is complete.

6.2 Ongoing Groundwater Compliance Monitoring

Groundwater compliance with the applicable CTDEEP RSR numeric criteria has *not* been established for the following constituents of concern:

Lead
Prior to the June 2017 sampling event, compliance monitoring for lead is complete for all monitoring wells except CEE-11 and CEE-12.

CEE-11 groundwater contained lead exceeding the RSR criteria during the February 2014 sampling event. Between May 2014 and September 2015, quarterly sampling results were not detected above the detection limits; however, the detection limits exceeded the applicable WQC of 1.2 ug/L. Subsequent quarterly sampling results compared to the WQC are as follows:

- December 2015 – 1.66 ug/L, exceeds the WQC
- March 2016 – ND < 0.5 ug/L, below the WQC
- June 2016 – 0.9 ug/L, below the WQC
- September 2016 – 0.66 ug/L, below the WQC
- December 2016 – 1.32 ug/L exceeds the WQC
- March 2017 – 0.81 ug/L below the WQC
- June 2017 – 0.54 ug/L, below the WQC
- September 2017 – 2.53 ug/L, exceeds the WQC
- December 2017 – 1.4 ug/L, exceeds the WQC
- March 2018 – ND < 0.5 ug/L, below the WQC

Based on the groundwater compliance criteria of the CTDEEP RSRs detailed in Section 3.1, CEE-11 requires two quarterly sampling events in September and December 2018 resulting in lead below the WQC to establish compliance.

Prior to remediation in March and June 1995, dissolved lead was detected in well CEE-12 at concentrations of 576 and 220 ug/L, respectively, which exceeded the WQC. Since quarterly post-remediation/attenuation monitoring began in November 2012, total and dissolved lead concentrations have decreased, but consistently continue to exceed the WQC at CEE-12. In March 2018, total lead was detected at 83.6 ug/L, exceeding the WQC. Based on the groundwater compliance criteria of the CTDEEP RSRs detailed in Section 3.1, four quarterly sampling events resulting in lead below applicable WQC are required to establish compliance.

Copper

Prior to the December 2016 sampling event, compliance monitoring for copper is complete for all monitoring wells except for CEE-12 and MW-108.

Previous sample analysis at CEE-12 resulted in copper concentrations exceeding the WQC during two sampling events in May 2013 and November 2013. Subsequent quarterly sampling results were not detected above the detection limits; however, the detection limits exceeded the applicable WQC of 4.8 ug/L. Since copper analysis resumed in June 2016, results compared to the WQC are as follows:

- June 2016 - 14.8 ug/L, exceeds the WQC
- September 2016 - 3.35 ug/L, below the WQC
- December 2016 - 8.13 ug/L exceeds the WQC
- March 2017 - 4.62 ug/L below the WQC
- June 2017 – 3.95 ug/L, below the WQC
- September 2017 - 3.54 ug/L, below the WQC
- December 2017 - 2 ug/L below the WQC

Based on the groundwater compliance criteria of the CTDEEP RSRs detailed in Section 3.1, the cumulative results since March 2017 at CEE-12 have demonstrated compliance with the applicable WQC. Further quarterly groundwater monitoring at CEE-12 is not required.

Previous sample analysis at MW-108 from 2013 results were not detected above detection limits; however, the detection limits exceeded the applicable WQC of 4.8 ug/L. Since copper analysis resumed in June 2016, results compared to the WQC are as follows:

- June 2016 - 6.86 ug/L, exceeds the WQC
- September 2016 - 3.09 ug/L, below the WQC
- December 2016 - 9 ug/L, exceeds the WQC
- March 2017 - 7.71 ug/L, exceeds the WQC
- June 2017 – 10.4 ug/L, exceeds the WQC
- September 2017 – 2.87 ug/L, below the WQC
- December 2017 – 6.9 ug/L, exceeds the WQC
- March 2018 – 10 ug/L, exceeds the WQC

Based on the groundwater compliance criteria of the CTDEEP RSRs detailed in Section 3.1, three additional quarterly sampling events resulting in copper below applicable WQC are required to establish compliance, provided that the sampling events are within a 2-year period from the previous detection below the WQC (September 2017) and representative of seasonal variation.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The sources of groundwater contamination at the Site were remediated prior to and during the construction of the existing facility. Remediation activities did not extend beyond the limits of construction.

Wells CEE-11 and CEE-12 are located downgradient of RA-7 (Former Lagoons & Sludge Stockpile area), outside the remediation limits, on the fringe of the adjacent wetlands. Soil within RA-7 historically contained TPH, arsenic, and lead exceeding the RSR criteria. In May 2008, additional soil was excavated to the depth of the water table at the time of the remediation. A total of 22 soil samples were analyzed for ETPH, arsenic, lead, and leachable lead by Synthetic Precipitation Leaching Procedure (SPLP), and concentrations were below the RSR criteria. Historic groundwater analytical data, downgradient of RA-7, identified metals (cadmium, chromium, copper, nickel, zinc, and lead) at concentrations exceeding the SWPC. Additionally, the pH of groundwater downgradient of RA-7 was recorded to be low (< 5.0 standard units). Several lime application events in the 1990's eventually raised the pH of the groundwater in the vicinity of RA-7. However, the low pH may have caused metals to readily leach from the soil into the groundwater, causing the metals to remain in the dissolved phase. Historical heavy metal impacts to the wetland areas may also be contributing to the elevated concentrations of lead and copper.

MW-108 is located within RA-13 (Waste Soluble Oil UST & Surficial Spills) and adjacent to wetlands as well. TPH impacted soil was identified within RA-13 due to releases of waste soluble oil from overfills and failure of the former 15,000-gallon fiberglass UST. In May 2008, soil containing petroleum hydrocarbons was excavated to depths ranging from 3 to 4 ftbg. Final confirmation samples confirmed that RA-13 had been remediated to the I/C DEC and GB PMC. No historic groundwater analytical data for copper was available prior to remediation. Sampling for copper began in August 2013 and has consistently exceeded the WQC during all events except for the September 2016 and 2017. Heavy metal impacts to the wetland areas may be contributing to the elevated concentrations of copper.

Monitored Natural Attenuation (MNA) has been the selected remedial strategy for residual groundwater contamination associated with the upland release areas at the Site. However, additional remedial assessment is recommended for the wetlands areas where historical impacts have been documented.

In accordance with RCSA Section 22a-133k-3(g), compliance with the applicable RSR criteria (SWPC or WQC and VC) has been demonstrated for VOCs, PCBs, PAHs, arsenic, and zinc for the existing monitoring well network. During the December 2017 quarterly sampling event, copper was not detected above the WQC at CEE-12, therefore establishing groundwater compliance.

WQC compliance monitoring is ongoing for lead at wells CEE-11 and CEE-12, and copper at well MW-108 (**Table 5**). Based on the low concentrations of lead in CEE-11 and copper in MW-108, continued quarterly groundwater monitoring is recommended to establish compliance. Due to consistent long-term high concentrations of lead in CEE-12, further groundwater

monitoring is not recommended until additional remedial efforts are undertaken to address heavy metals impacts to the adjacent wetlands.

The next quarterly monitoring event is scheduled for June 2018.

8.0 LIMITATIONS

The conclusions stated above are based solely on the information described in this report. The data and observations generated during this investigation reflect the conditions found on the project Site on the dates and at the locations specified. Where visual observations are included in the report, they represent conditions at the time of investigation, and may not be indicative of past or future conditions. The data cannot be extrapolated to locations on the Site that were not tested, or to compounds for which tests were not conducted.

Latent conditions and other information may become evident in the future based on currently unavailable evidence. BL Companies assumes no responsibility for such conditions or for the inspection, engineering, or repair that might be required to discover or correct such factors. Should such evidence arise, it should be forwarded to BL Companies so that additional conclusions and recommendations may be evaluated as necessary.

This report has been completed solely for the benefit and individual use of the client. No part thereof, nor any copy of the same, shall be used for any purpose by anyone other than the client. No disclosure or reliance of this report may be made without the prior written consent of BL Companies.

9.0 REFERENCES

1. DEEP Remediation Standard Regulations, Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies, effective June 27, 2013.
2. DEEP, "Laboratory Quality Assurance and Quality Control – Data Quality Assessment and Data Usability Evaluation Guidance Document", dated May 2009.
3. DEEP, "Water Quality Classifications Map of the Connecticut River and Southcentral Coastal Basins", dated March 2011.
4. State of Connecticut Department of Transportation, Division of Environmental Compliance, "Task-Based Contaminated Soil and Groundwater Scopes" manual, dated 2010.
5. Rogers, J. "Connecticut Bedrock and Natural History Survey", Connecticut Geological and Natural History Survey, Department of the Interior United States Geological Survey, 1985.
6. Stone, J., USGS, "Surficial Materials Map of Connecticut", dated 1992.
7. BL Companies, Task 241 – Expanded Water Quality Monitoring Evaluation Report, August 2015.

APPENDIX A

FIGURES

Figure 1 – Site Location Map
GW-01 Groundwater Plan (June 2017)
GW-02 Groundwater Plan (September 2017)
GW-03 Groundwater Plan (December 2017)
GW-04 Groundwater Plan (March 2018)

Base map is a reproduction of the U.S.G.S. 7.5 Minute
New Haven Quadrangle – Map 95

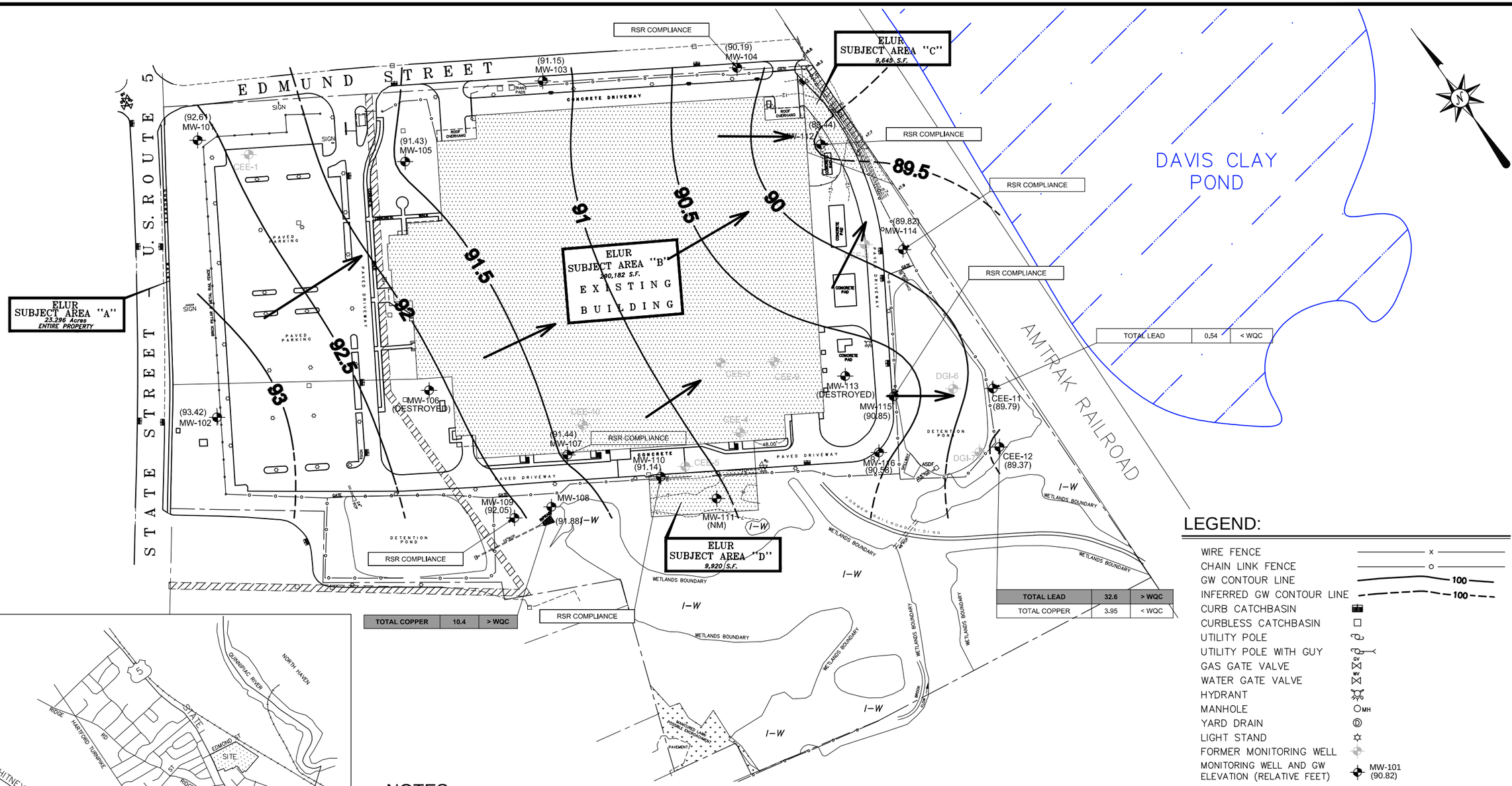
N

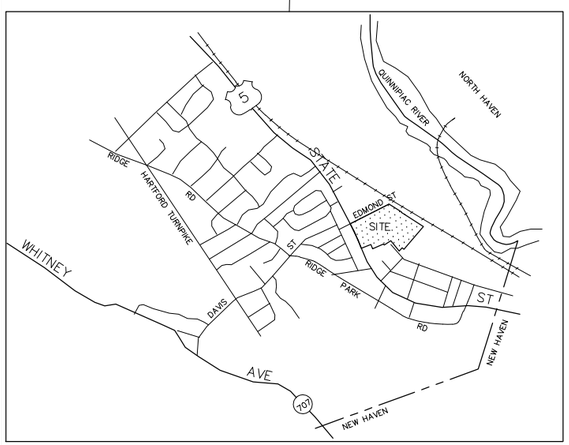
BL Companies

FIGURE 1
SITE LOCATION MAP

2061 State Street
Hamden, CT

Project No.
14EC0010





NOTES:

1. SWPC = SURFACE WATER PROTECTION CRITERIA
2. WQC = FRESHWATER WATER QUALITY CRITERIA
3. ND = NOT DETECTED ABOVE LABORATORY REPORTING LIMITS
4. SWPC COMPLIANCE POINTS IMMEDIATELY UPGRADIENT AND ADJACENT TO A SURFACE WATER BODY (MW-104, MW-112, MW-114, AND MW-115) OR WETLAND (CEE-11, CEE-12, MW-108, MW-109, MW-110, AND MW-111)
5. GROUNDWATER DEPTHS MEASURED BY BL COMPANIES ON JUNE 1, 2017
6. * = ESTABLISHES RSR COMPLIANCE

LEGEND:

- WIRE FENCE
- CHAIN LINK FENCE
- GW CONTOUR LINE
- INFERRED GW CONTOUR LINE
- CURB CATCHBASIN
- CURBLESS CATCHBASIN
- UTILITY POLE
- UTILITY POLE WITH GUY
- GAS GATE VALVE
- WATER GATE VALVE
- HYDRANT
- MANHOLE
- YARD DRAIN
- LIGHT STAND
- FORMER MONITORING WELL
- MONITORING WELL AND GW ELEVATION (RELATIVE FEET) — MW-101 (90.82)
- WELL NOT MEASURED — (NM)
- GW FLOW DIRECTION

GRAPHIC SCALE

150 75 0 150

SCALE IN FEET

BL Companies
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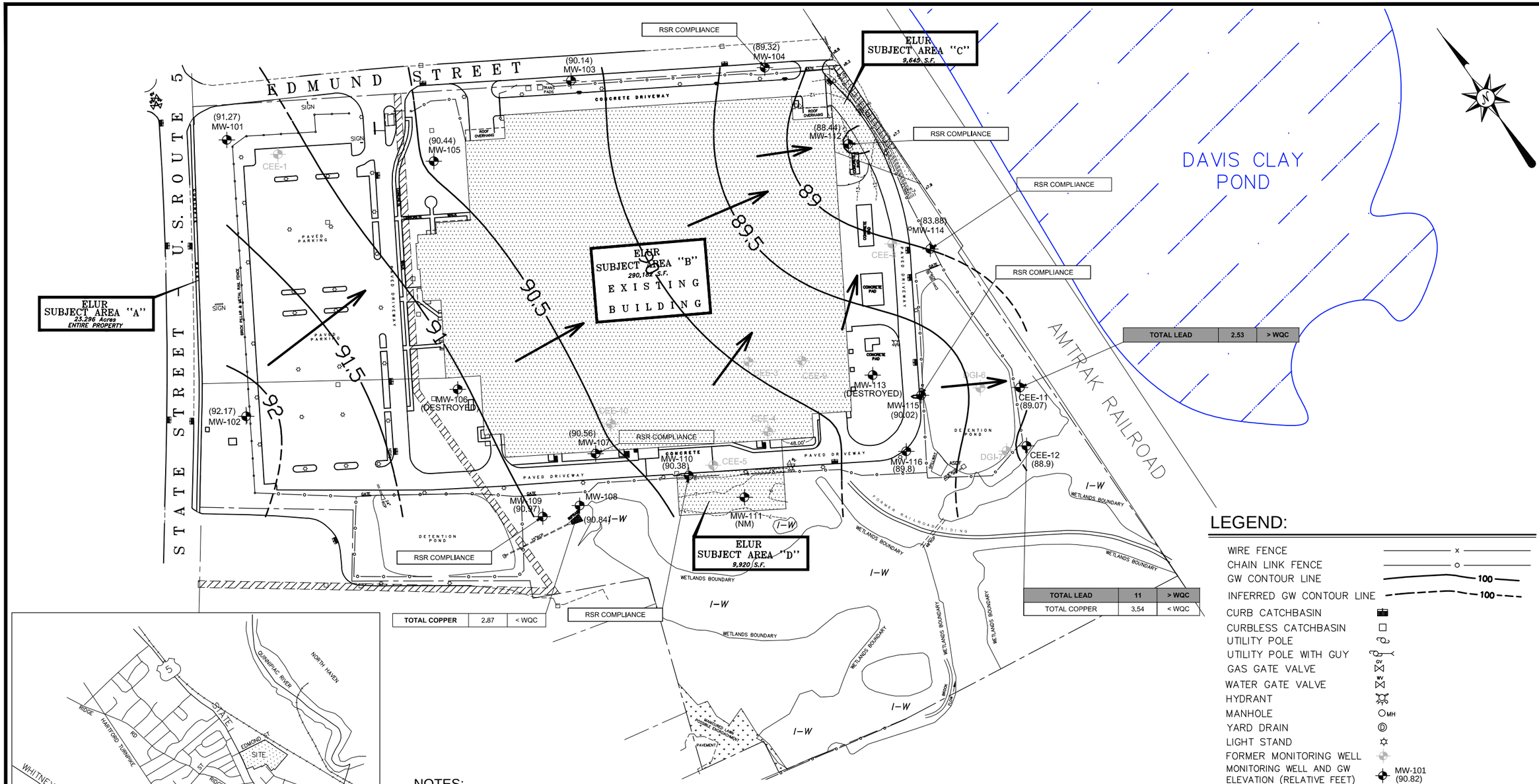
GROUNDWATER PLAN - JUNE 2017

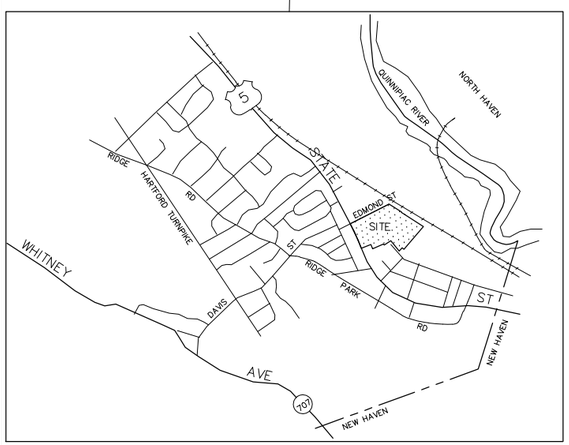
NEW HAVEN BUS GARAGE FACILITY
2061 STATE STREET
HAMDEN, CONNECTICUT

Designed	B.G.
Drawn	B.G.
Checked	J.K.
Approved	A.S.
Scale	1"=150'
Project No.	14EC0010
Date	3/12/20118
CAD File	GW14EC001001

GW-01

XREF (s): ; N-DAT-14EC0010-GWContours-2015-03 ; N-DAT-14EC0010-GWContours





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4. SWPC COMPLIANCE POINTS IMMEDIATELY UPGRADIENT AND ADJACENT TO A SURFACE WATER BODY (MW-104, MW-112, MW-114, AND MW-115) OR WETLAND (CEE-11, CEE-12, MW-108, MW-109, MW-110, AND MW-111)
5. GROUNDWATER DEPTHS MEASURED BY BL COMPANIES ON SEPTEMBER 1, 2017
6. * = ESTABLISHES RSR COMPLIANCE
7. MONITORING WELL MW-114 EXCLUDED IN CONTOURING DUE TO INCONSISTENT GW MEASUREMENT

LEGEND:

- WIRE FENCE
- CHAIN LINK FENCE
- GW CONTOUR LINE
- INFERRED GW CONTOUR LINE
- CURB CATCHBASIN
- CURBLESS CATCHBASIN
- UTILITY POLE
- UTILITY POLE WITH GUY
- GAS GATE VALVE
- WATER GATE VALVE
- HYDRANT
- MANHOLE
- YARD DRAIN
- LIGHT STAND
- FORMER MONITORING WELL
- MONITORING WELL AND GW ELEVATION (RELATIVE FEET) — MW-101 (90.82)
- WELL NOT MEASURED — (NM)
- GW FLOW DIRECTION

GRAPHIC SCALE

150 75 0 150

SCALE IN FEET

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GROUNDWATER PLAN - SEPTEMBER 2017

NEW HAVEN BUS GARAGE FACILITY
2061 STATE STREET
HAMDEN, CONNECTICUT

Designed	B.G.
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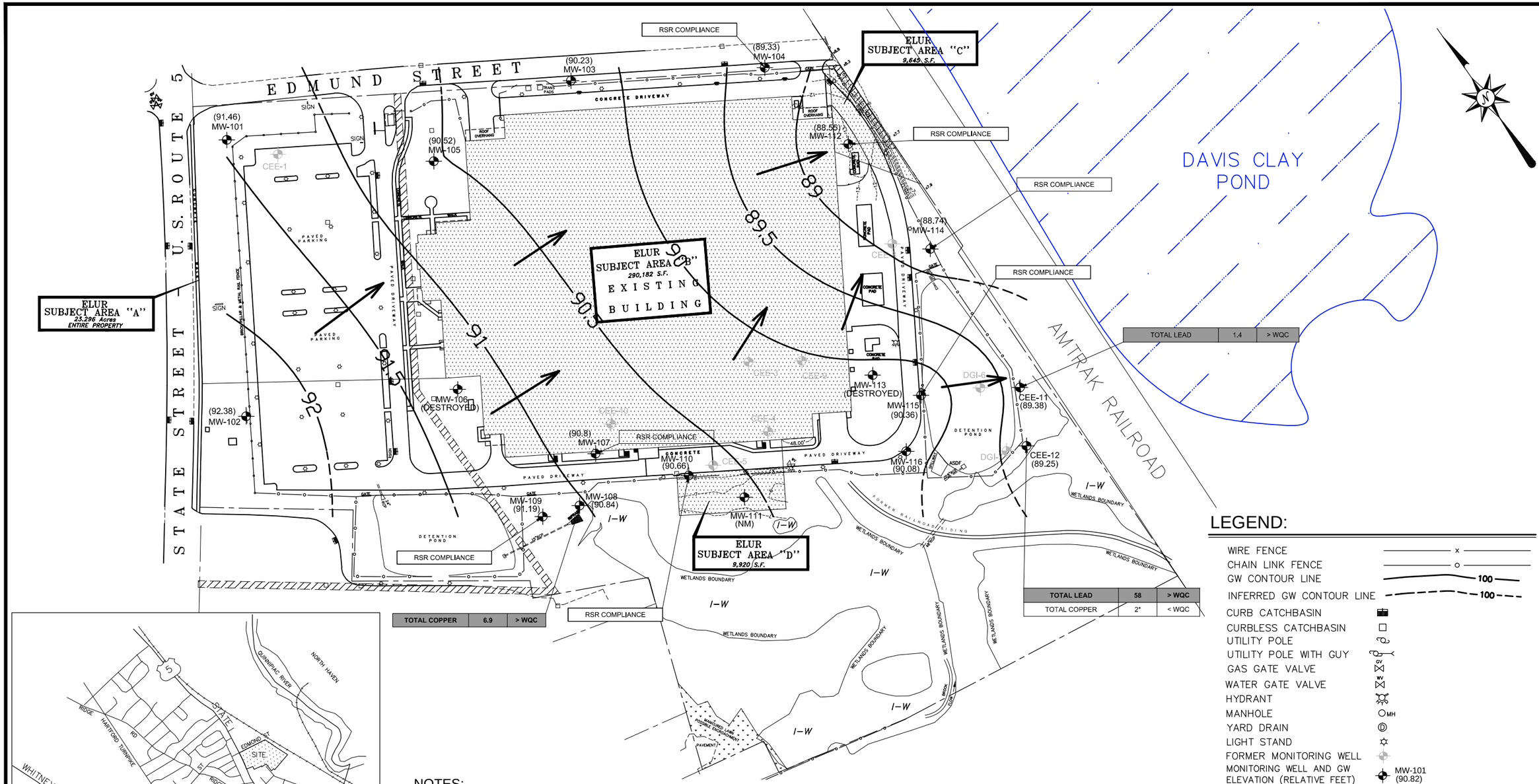
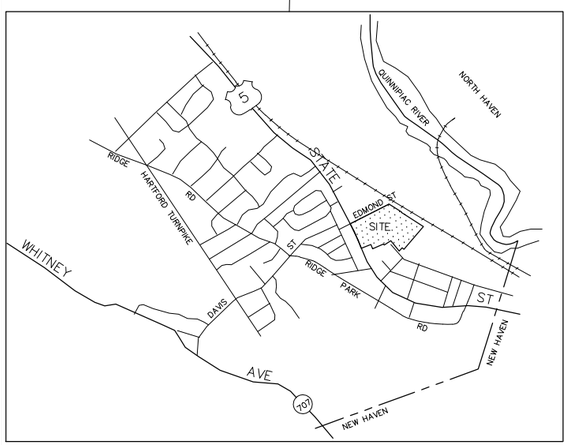
Checked	J.K.
Approved	A.S.
Scale	1"=150'
Project No.	14EC0010
Date	3/12/2018
CAD File	GW14EC001001

GW-02

XREF (s): ; N-DAT-14EC0010-GWContours-2015-03 ; N-DAT-14EC0010-GWContours





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2. WQC = FRESHWATER WATER QUALITY CRITERIA
3. ND = NOT DETECTED ABOVE LABORATORY REPORTING LIMITS
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5. GROUNDWATER DEPTHS MEASURED BY BL COMPANIES ON DECEMBER 1, 2017
6. * = ESTABLISHES RSR COMPLIANCE
7. MONITORING WELL MW-114 EXCLUDED IN CONTOURING DUE TO INCONSISTENT GW MEASUREMENT

LEGEND:

- WIRE FENCE
- CHAIN LINK FENCE
- GW CONTOUR LINE
- INFERRED GW CONTOUR LINE
- CURB CATCHBASIN
- CURBLESS CATCHBASIN
- UTILITY POLE
- UTILITY POLE WITH GUY
- GAS GATE VALVE
- WATER GATE VALVE
- HYDRANT
- MANHOLE
- YARD DRAIN
- LIGHT STAND
- FORMER MONITORING WELL
- MONITORING WELL AND GW ELEVATION (RELATIVE FEET) — MW-101 (90.82)
- WELL NOT MEASURED — (NM)
- GW FLOW DIRECTION

GRAPHIC SCALE

150 75 0 150

SCALE IN FEET

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GROUNDWATER PLAN - DECEMBER 2017

NEW HAVEN BUS GARAGE FACILITY
2061 STATE STREET
HAMDEN, CONNECTICUT

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Drawn	B.G.
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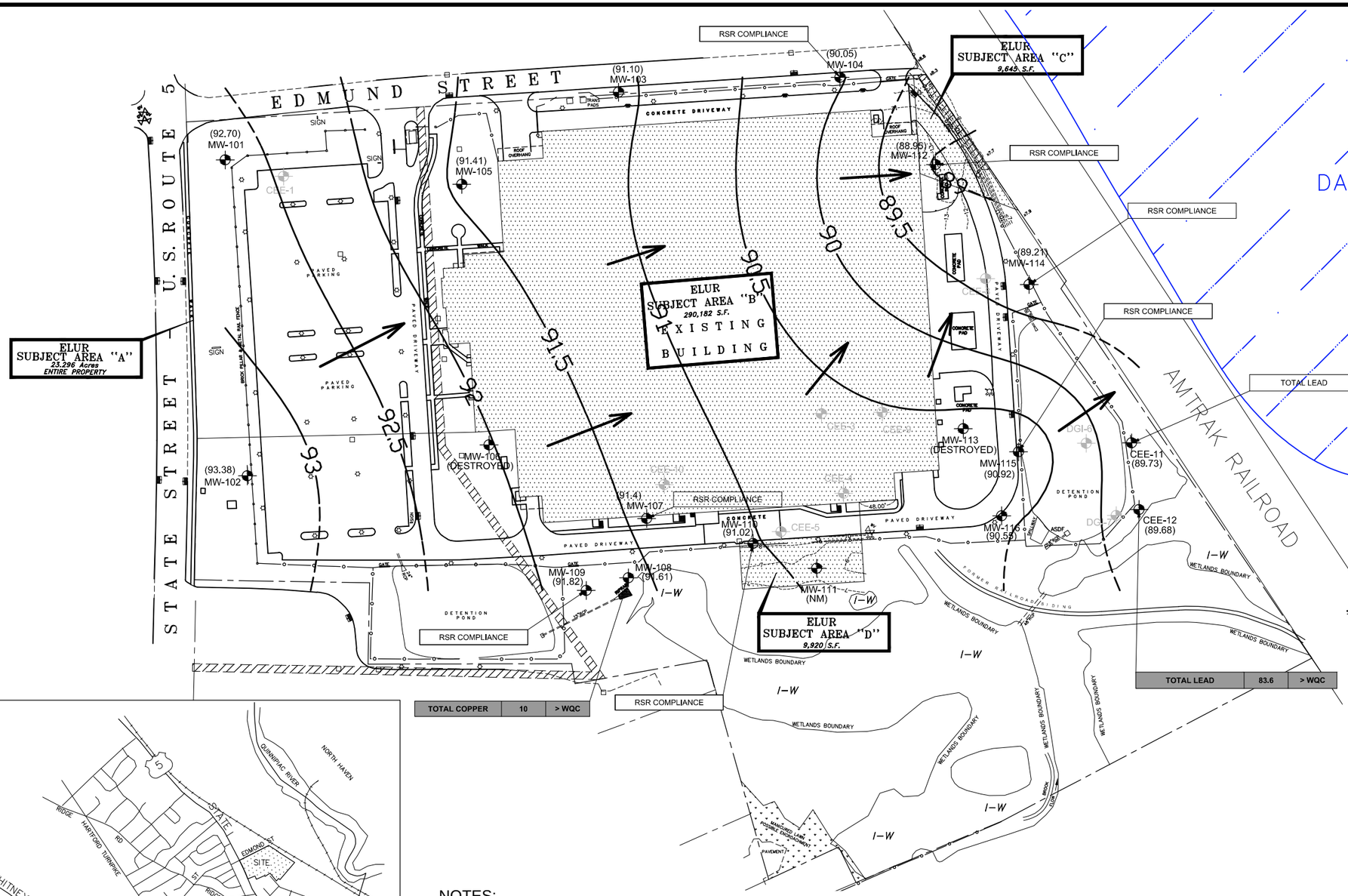
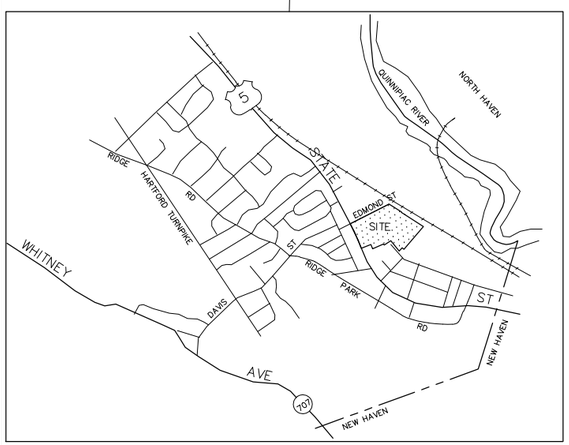
Approved	A.S.
Scale	1"=150'
Project No.	14EC0010
Date	3/12/2018
CAD File	GW14EC001001

GW-03

XREF (s): ; N-DAT-14EC0010-GWContours-2015-03 ; N-DAT-14EC0010-GWContours





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4. SWPC COMPLIANCE POINTS IMMEDIATELY UPGRADIENT AND ADJACENT TO A SURFACE WATER BODY (MW-104, MW-112, MW-114, AND MW-115) OR WETLAND (CEE-11, CEE-12, MW-108, MW-109, MW-110, AND MW-111)
5. GROUNDWATER DEPTHS MEASURED BY BL COMPANIES ON MARCH 1, 2018
6. * = ESTABLISHES RSR COMPLIANCE
7. MONITORING WELL MW-114 EXCLUDED IN CONTOURING DUE TO INCONSISTENT GW MEASUREMENT

LEGEND:

- WIRE FENCE
- CHAIN LINK FENCE
- GW CONTOUR LINE (100)
- INFERRED GW CONTOUR LINE (100)
- CURB CATCHBASIN
- CURBLESS CATCHBASIN
- UTILITY POLE
- UTILITY POLE WITH GUY
- GAS GATE VALVE (GV)
- WATER GATE VALVE (WV)
- HYDRANT
- MANHOLE (MH)
- YARD DRAIN
- LIGHT STAND
- FORMER MONITORING WELL
- MONITORING WELL AND GW ELEVATION (RELATIVE FEET): MW-101 (90.82)
- WELL NOT MEASURED: (NM)
- GW FLOW DIRECTION

GRAPHIC SCALE

150 75 0 150

SCALE IN FEET

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GROUNDWATER PLAN - MARCH 2018

NEW HAVEN BUS GARAGE FACILITY
2061 STATE STREET
HAMDEN, CONNECTICUT

Designed	B.G.
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Checked	J.K.
Approved	A.S.
Scale	1"=150'
Project No.	14EC0010
Date	3/12/2018
CAD File	GW14EC001001

GW-04

XREF (s): ; N-DAT-14EC0010-GWContours-2015-03 ; N-DAT-14EC0010-GWContours

APPENDIX B

TABLES

Table 1a

Groundwater Measurement Data - June 2017

Task 241 - Expanded Water Quality Evaluation Monitoring Report

New Haven Bus Garage

2061 State Street - Hamden, CT

Well Identification	Screened Interval (feet)	Reference Point Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Groundwater Elevation (feet)
MW-101	5-15	100.49	7.88	14.45	92.61
MW-102	4-14	98.89	5.47	13.13	93.42
MW-103	5-15	96.94	5.79	14.31	91.15
MW-104	5-15	95.81	5.62	14.20	90.19
MW-105	5-15	98.19	6.76	14.26	91.43
MW-106	5-15	98.50	Destroyed	Destroyed	NM
MW-107	3-13	96.02	4.58	12.45	91.44
MW-108	2-12	98.49	6.61	14.77	91.88
MW-109	2-12	99.16	7.11	14.80	92.05
MW-110	2-10	95.79	4.65	11.69	91.14
MW-111	1-9	NM	4.64	12.47	NM
MW-112	7-17	98.47	9.03	16.00	89.44
MW-113	6-16	98.97	Destroyed	Destroyed	NM
MW-114	5-15	96.41	6.59	14.19	89.82
MW-115	4-14	97.46	6.61	13.35	90.85
MW-116	4-14	97.49	6.91	13.30	90.58
CEE-11	1-11	95.68	5.89	10.22	89.79
CEE-12	1-9	92.47	3.10	8.32	89.37

Notes:
NM = Not measured.
Ground and reference point elevations surveyed by DTC on October 26, 2012.
Groundwater measurements completed by BL Companies on June 1, 2017.

Table 1b

Groundwater Measurement Data - September 2017

Task 241 - Expanded Water Quality Evaluation Monitoring Report

New Haven Bus Garage

2061 State Street - Hamden, CT

Well Identification	Screened Interval (feet)	Reference Point Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Groundwater Elevation (feet)
MW-101	5-15	100.49	9.22	14.50	91.27
MW-102	4-14	98.89	6.72	13.19	92.17
MW-103	5-15	96.94	6.80	14.28	90.14
MW-104	5-15	95.81	6.49	14.21	89.32
MW-105	5-15	98.19	7.75	14.28	90.44
MW-106	5-15	98.50	Destroyed	Destroyed	NM
MW-107	3-13	96.02	5.46	12.47	90.56
MW-108	2-12	98.49	7.65	14.79	90.84
MW-109	2-12	99.16	8.19	14.84	90.97
MW-110	2-10	95.79	5.41	11.70	90.38
MW-111	1-9	NM	5.32	12.49	NM
MW-112	7-17	98.47	10.03	16.03	88.44
MW-113	6-16	98.97	Destroyed	Destroyed	NM
MW-114	5-15	96.41	12.53	14.22	83.88
MW-115	4-14	97.46	7.44	13.36	90.02
MW-116	4-14	97.49	7.69	13.30	89.80
CEE-11	1-11	95.68	6.61	10.27	89.07
CEE-12	1-9	92.47	3.57	8.33	88.90

Notes:
NM = Not measured.
Ground and reference point elevations surveyed by DTC on October 26, 2012.
Groundwater measurements completed by BL Companies on September 1, 2017.

Table 1c

Groundwater Measurement Data - December 2017

Task 241 - Expanded Water Quality Evaluation Monitoring Report

New Haven Bus Garage

2061 State Street - Hamden, CT

Well Identification	Screened Interval (feet)	Reference Point Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Groundwater Elevation (feet)
MW-101	5-15	100.49	9.03	14.31	91.46
MW-102	4-14	98.89	6.51	13.00	92.38
MW-103	5-15	96.94	6.71	14.13	90.23
MW-104	5-15	95.81	6.48	14.01	89.33
MW-105	5-15	98.19	7.67	14.11	90.52
MW-106	5-15	98.50	Destroyed	Destroyed	NM
MW-107	3-13	96.02	5.22	12.77	90.80
MW-108	2-12	98.49	7.46	14.57	91.03
MW-109	2-12	99.16	7.97	14.65	91.19
MW-110	2-10	95.79	5.13	11.52	90.66
MW-111	1-9	NM	5.09	12.30	NM
MW-112	7-17	98.47	9.92	15.85	88.55
MW-113	6-16	98.97	Destroyed	Destroyed	NM
MW-114	5-15	96.41	7.67	14.00	88.74
MW-115	4-14	97.46	7.10	13.16	90.36
MW-116	4-14	97.49	7.41	13.11	90.08
CEE-11	1-11	95.68	6.30	10.11	89.38
CEE-12	1-9	92.47	3.22	8.12	89.25

Notes:
NM = Not measured.
Ground and reference point elevations surveyed by DTC on October 26, 2012.
Groundwater measurements completed by BL Companies on December 1, 2017.

Table 1d

Groundwater Measurement Data - March 2018

Task 241 - Expanded Water Quality Evaluation Monitoring Report

New Haven Bus Garage

2061 State Street - Hamden, CT

Well Identification	Screened Interval (feet)	Reference Point Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Groundwater Elevation (feet)
MW-101	5-15	100.49	7.79	14.50	92.70
MW-102	4-14	98.89	5.51	13.13	93.38
MW-103	5-15	96.94	5.84	14.32	91.10
MW-104	5-15	95.81	5.76	14.22	90.05
MW-105	5-15	98.19	6.78	14.30	91.41
MW-106	5-15	98.50	Destroyed	Destroyed	NM
MW-107	3-13	96.02	4.62	12.48	91.40
MW-108	2-12	98.49	6.88	14.79	91.61
MW-109	2-12	99.16	7.34	14.81	91.82
MW-110	2-10	95.79	4.77	11.71	91.02
MW-111	1-9	NM	4.69	12.48	NM
MW-112	7-17	98.47	9.52	16.01	88.95
MW-113	6-16	98.97	Destroyed	Destroyed	NM
MW-114	5-15	96.41	7.20	14.20	89.21
MW-115	4-14	97.46	6.54	13.36	90.92
MW-116	4-14	97.49	6.94	13.30	90.55
CEE-11	1-11	95.68	5.95	10.31	89.73
CEE-12	1-9	92.47	2.79	8.34	89.68

Notes:
NM = Not measured.
Ground and reference point elevations surveyed by DTC on October 26, 2012.
Groundwater measurements completed by BL Companies on March 1, 2018.

Table 2

Groundwater Analytical Results

Task 241 - Expanded Water Quality Evaluation Monitoring Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations		CEE-11				CEE-12				MW-108				Field Blank			
	SWPC	Freshwater WQC	6/1/17	9/1/17	12/1/17	3/1/18	6/1/17	9/1/17	12/1/17	3/1/18	6/1/17	9/1/17	12/1/17	3/1/18	6/1/17	9/1/17	12/1/17	3/1/18
Total Metals per EPA 6000/7000 (ug/L)																		
Copper	48	4.8	*NA*	*NA*	*NA*	*NA*	3.95/3.88	3.5/3.54	1.9/2	*NA*	**10.4**	2.87	**6.9**	**10**	ND	0.4	NS	ND
Lead	13	1.2	0.54	**2.53**	**1.4**	ND<0.5	**32.6/32.1**	**10.3/11**	**56/58**	**83.6/73.8**	*NA*	*NA*	*NA*	*NA*	ND	ND	NS	ND

Notes:

SWPC = Surface Water Protection Criteria, applies to ground water immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111).

ug/L = micrograms per liter.

ND = not detected above Reportable Detection Limit

NA = not analyzed for this parameter.

NS = Not Sampled.

Bold and shaded values indicate an exceedance of RSR criteria.

Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			CEE-11 (Compliance Point)																					
	RES VC	SWPC	Freshwater WQC	Mar-95	April-99	11/5/12	3/4/13	5/24/13	8/5/13	11/5/13	2/11/14	5/9/14	11/19/14	3/25/15	6/17/15	9/28/15	12/11/15	3/2/16	6/24/16	9/19/16	12/12/16	3/1/17	6/1/17	9/1/17	12/1/17	3/1/18
VOCs per EPA 8260 (ug/l)										*NA*	*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Tert-Butanol / butyl alcohol	NE	NE	NE	--	--	--	15.3	--	--																	
Toluene	760	4,000,000	NE	--	--	--	--	--	--																	
PAHs per EPA 8270 (ug/L)				*NA*	*NA*						*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Acenaphthene	NE	150*	NE			--	--	--	--	--																
Acenaphthylene	NE	0.3	NE			--	--	--	--	--																
1-Methylnaphthalene	NE	61*	NE			--	--	--	--	--																
Anthracene	NE	1,100,000	NE			--	--	--	--	--																
Benzo(a)anthracene	NE	0.3	NE			--	--	--	--	--																
Benzo(a)pyrene	NE	0.3	NE			--	--	--	--	--																
Benzo(b)fluoranthene	NE	0.3	NE			--	--	--	--	--																
Benzo(g,h,i)perylene	NE	150*	NE			--	--	--	--	--																
Benzo(k)fluoranthene	NE	0.3	NE			--	--	--	--	--																
Chrysene	NE	0.54*	NE			--	--	--	--	--																
Dibenzo(a,h)anthracene	NE	0.3*	NE			--	--	--	--	--																
Fluoranthene	NE	3,700	NE			--	--	--	0.056***	--																
Fluorene	NE	140,000	NE			--	--	--	0.054***	--																
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE			--	--	--	--	--																
2-Methylnaphthalene	NE	62*	NE			--	--	--	--	--																
Naphthalene	NE	210*	NE			--	--	--	--	--																
Phenanthrene	NE	14*	NE			--	--	--	0.058***	--																
Pyrene	NE	110,000	NE			--	--	--	--	--																
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	--	--	--	--	--	--	*NA*	*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Total Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*									*NS*												
Arsenic	NE	4	150			--	--	--	--	*NA*	9.8	ND<4	ND<4 / ND<4		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8			*NA*	--	--	--	--	**31.5**	**ND<6.5**	**ND<5 / ND<5**		**ND<5**	**ND<5 / ND<5**	**7.91**	ND<0.5	1.59	1.66	1.05	*NA*	*NA*	*NA*	*NA*	*NA*
Lead	NE	13	1.2			--	--	--	--	*NA*	**64.5**	**ND<7.5**	**ND<7.5 / ND<7.5**		**ND<7.5**	**ND<7.5 / ND<7.5**	**1.66**	ND<0.5	0.9	0.66	**1.32**	0.81	0.54	**2.53**	**1.4**	ND<0.5
Mercury	NE	0.4	0.77			--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Selenium	NE	50	5			--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Silver	NE	12	NE			--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Zinc	NE	123	65			*NA*	--	--	13.6	--	**ND<70**	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Dissolved Metals per EPA 6010/200.7 (ug/L)						*NA*	*NA*	*NA*	*NA*	*NA*	*NA*			*NS*												
Arsenic	NE	4	150	--	--							ND<4	ND<4		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8	*NA*	*NA*							**ND<6.5**	**ND<5**		**ND<5.0**	**ND<5 / ND<5**	ND<0.5	ND<0.5	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Lead	NE	13	1.2	--	--							**ND<7.5**	**ND<7.5**		**ND<7.5**	**ND<7.5 / ND<7.5**	ND<0.5	ND<0.5	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77	*NA*	*NA*							*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Selenium	NE	50	5	*NA*	*NA*							*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Silver	NE	12	NE	*NA*	*NA*							*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Zinc	NE	123	65	*NA*	*NA*							*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Notes:

RES VC = Residential Volatilization Criteria.

SWPC = Surface Water Protection Criteria, applies to groundwater immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland. (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111)

VOCs = volatile organic compounds.

PAHs = polynuclear aromatic hydrocarbons.

PCBs = polychlorinated biphenyls.

NE = no criteria established.

ug/L = micrograms per liter.

-- = not detected, see laboratory reports for specific detection limits (Detection Limit < Criteria).

/ # = duplicate sample results

ND < = not detected (noted when Detection Limit > Criteria).

NA = not analyzed for this parameter.

NS = Not Sampled

Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSRs.

** The PAH results are inconsistent with previous results and are likely due to sampling error.

*** The PAH detections appear to be a result of sediment in the samples.

Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			CEE-12 (Compliance Point)																					
	RES VC	SWPC	Freshwater WQC	Mar-95	June-95	Apr-99	11/5/12	3/4/13	5/24/13	8/5/13	11/5/13	2/11/14	5/9/14	11/19/14	3/25/15	6/17/15	9/28/15	12/11/15	3/2/16	6/24/16	9/19/16	12/12/16	3/1/17	6/1/17	9/1/17	12/1/17	3/1/18
VOCs per EPA 8260 (ug/l)					*NA*	*NA*					*NA*	*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Tert-Butanol / butyl alcohol	NE	NE	NE	--			--	--	--	--																
Toluene	760	4,000,000	NE	--	--	--	--	--	--	--																
PAHs per EPA 8270 (ug/L)				*NA*	*NA*	*NA*						*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Acenaphthene	NE	150*	NE				--	--	--	0.068***	--															
Acenaphthylene	NE	0.3	NE				--	--	--	--	--															
1-Methylnaphthalene	NE	61*	NE				--	--	--	0.05***	--															
Anthracene	NE	1,100,000	NE				--	--	--	0.059***	--															
Benzo(a)anthracene	NE	0.3	NE				--	--	--	--	--															
Benzo(a)pyrene	NE	0.3	NE				--	--	--	--	--															
Benzo(b)fluoranthene	NE	0.3	NE				--	--	--	--	--															
Benzo(g,h,i)perylene	NE	150*	NE				--	--	--	--	--															
Benzo(k)fluoranthene	NE	0.3	NE				--	--	--	--	--															
Chrysene	NE	0.54*	NE				--	--	--	--	--															
Dibenzo(a,h)anthracene	NE	0.3*	NE				--	--	--	--	--															
Fluoranthene	NE	3,700	NE				--	--	--	0.06***	--															
Fluorene	NE	140,000	NE				--	--	--	0.079***	--															
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE				--	--	--	--	--															
2-Methylnaphthalene	NE	62*	NE				--	--	--	0.078***	--															
Naphthalene	NE	210*	NE				--	--	--	0.065***	--															
Phenanthrene	NE	14*	NE				--	--	--	0.109***	--															
Pyrene	NE	110,000	NE				--	--	--	0.055***	--															
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	--	*NA*	*NA*	--	--	--	--	*NA*	*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Total Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*	*NA*									*NS*											
Arsenic	NE	4	150				--	--	--	--	*NA*	ND<4	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8				*NA*	--	10.4	--	17.6	ND<5	ND<6.5	ND<5		*NA*	*NA*	*NA*	*NA*	14.8	3.35/3.08	8.13/7.97	3.89/4.62	3.95/3.88	3.5/3.54	1.9/2	*NA*
Lead	NE	13	1.2				191	118	104	102	314	107	43	28.4		57.8 / 62.2	19.3	298/280	101/101	18.3	28.2/27.4	110/110	37.6/35.8	32.6/32.1	10.3/11	56/58	83.6/73.8
Mercury	NE	0.4	0.77				--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Selenium	NE	50	5				--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Silver	NE	12	NE				--	--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Zinc	NE	123	65				*NA*	21.4	--	62.2	--	ND<70	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Dissolved Metals per EPA 6010/200.7 (ug/L)							*NA*								*NS*											
Arsenic	NE	4	150	--	*NA*	--		--	--	--	*NA*	ND<4	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8	*NA*	*NA*	*NA*		--	--	--	--	ND<12.5	ND<6.5	ND<5		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Lead	NE	13	1.2	576	220	0.5		124	101	63.2	107	64.3	28.4	12.6		20 / 16.5	ND<7.5	169/161	92.7/111	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77	*NA*	*NA*	--		--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Selenium	NE	50	5	*NA*	*NA*	--		--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Silver	NE	12	NE	*NA*	*NA*	--		--	--	--	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Zinc	NE	123	65	*NA*	*NA*	*NA*		25.6	--	58.3	12.4	ND<5	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Notes:

RES VC = Residential Volatilization Criteria.

SWPC = Surface Water Protection Criteria, applies to groundwater immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland. (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111)

VOCs = volatile organic compounds.

PAHs = polynuclear aromatic hydrocarbons.

PCBs = polychlorinated biphenyls.

NE = no criteria established.

ug/L = micrograms per liter.

-- = not detected, see laboratory reports for specific detection limits (Detection Limit < Criteria).

/ # = duplicate sample results

ND < = not detected (noted when Detection Limit > Criteria).

NA = not analyzed for this parameter.

NS = Not Sampled

Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSR

** The PAH results are inconsistent with previous results and are likely due to sampling error.

*** The PAH detections appear to be a result of sediment in the samples.

Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			MW-101				MW-102				MW-103				MW-104 (Compliance Point)				MW-105			
	RES VC	SWPC	Freshwater WQC	11/6/12	3/5/13	5/23/13	8/6/13	11/6/12	3/5/13	5/23/13	8/6/13	11/6/12	3/6/13	5/23/13	8/6/13	11/6/12	3/6/13	5/23/13	8/6/13	11/7/12	3/5/13	5/24/13	8/7/13
VOCs per EPA 8260 (ug/l)																							
Tert-Butanol / butyl alcohol	NE	NE	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	760	4,000,000	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAHs per EPA 8270 (ug/L)																							
Acenaphthene	NE	150*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	NE	61*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NE	1,100,000	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	150*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	NE	0.54*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	0.3*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NE	3,700	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	NE	140,000	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	NE	62*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	NE	210*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NE	14*	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	NE	110,000	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Metals per EPA 6010/200.7 (ug/L)																							
Arsenic	NE	4	150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	NE	48	4.8	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Lead	NE	13	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	NE	0.4	0.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	NE	50	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	NE	12	NE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	NE	123	65	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Dissolved Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Arsenic	NE	4	150																				
Copper	NE	48	4.8																				
Lead	NE	13	1.2																				
Mercury	NE	0.4	0.77																				
Selenium	NE	50	5																				
Silver	NE	12	NE																				
Zinc	NE	123	65																				

Notes:

RES VC = Residential Volatilization Criteria.

SWPC = Surface Water Protection Criteria, applies to groundwater immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland. (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111)

VOCs = volatile organic compounds.

PAHs = polynuclear aromatic hydrocarbons.

PCBs = polychlorinated biphenyls.

NE = no criteria established.

ug/L = micrograms per liter.

-- = not detected, see laboratory reports for specific detection limits (Detection Limit < Criteria).

/ # = duplicate sample results

ND < = not detected (noted when Detection Limit > Criteria).

NA = not analyzed for this parameter.

NS = Not Sampled

Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSR

** The PAH results are inconsistent with previous results and are likely due to sampling error.

*** The PAH detections appear to be a result of sediment in the samples.

Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			MW-106 (Destroyed)				MW-107				MW-108 (Compliance Point)												
	RES VC	SWPC	Freshwater WQC	11/7/12	3/5/13	5/24/13	8/6/13	11/6/12	3/5/13	5/24/13	8/6/13	11/5/12	3/4/13	5/24/13	8/5/13	11/6/13	6/24/16	9/19/16	12/12/16	3/1/17	6/1/17	9/1/17	12/1/17	3/1/18
VOCs per EPA 8260 (ug/l)																*NA*	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Tert-Butanol / butyl alcohol	NE	NE	NE	--	--	--	--	--	--	--	--	--	--	--	--									
Toluene	760	4,000,000	NE	--	--	--	--	--	--	--	--	--	--	--	--									
PAHs per EPA 8270 (ug/L)																	*NA*	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Acenaphthene	NE	150*	NE	--	--	--	--	--	--	--	--	--	0.127	0.109	0.122 / 0.133***	-- / --								
Acenaphthylene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
1-Methylnaphthalene	NE	61*	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Anthracene	NE	1,100,000	NE	--	--	--	--	--	--	--	--	--	0.146	0.101	0.058 / 0.071***	-- / --								
Benzo(a)anthracene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Benzo(a)pyrene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Benzo(b)fluoranthene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Benzo(g,h,i)perylene	NE	150*	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Benzo(k)fluoranthene	NE	0.3	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Chrysene	NE	0.54*	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Dibenzo(a,h)anthracene	NE	0.3*	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
Fluoranthene	NE	3,700	NE	--	--	--	--	--	--	--	--	--	--	0.052	0.079 / 0.089***	-- / --								
Fluorene	NE	140,000	NE	--	--	--	--	--	--	--	--	--	0.06	0.057	0.098 / 0.106***	-- / --								
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	-- / --								
2-Methylnaphthalene	NE	62*	NE	--	--	--	--	--	--	--	--	--	--	--	0.055 / 0.059***	-- / --								
Naphthalene	NE	210*	NE	--	--	--	--	--	--	--	--	--	--	--	0.056 / 0.054***	-- / --								
Phenanthrene	NE	14*	NE	--	--	--	--	--	--	--	--	--	0.068	0.067	0.155 / 0.166***	-- / --								
Pyrene	NE	110,000	NE	--	--	--	--	--	--	--	--	--	--	--	0.054 / 0.06***	-- / --								
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	*NA*	*NA*	*NA*	*NS*	*NS*	*NA*	*NA*	*NA*	*NA*
Total Metals per EPA 6010/200.7 (ug/L)																								
Arsenic	NE	4	150	--	--	--	--	--	--	--	--	--	--	--	-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	-- / --	**ND<5 / ND<5**	**6.65 / 6.86**	3.09	**9**	**7.71**	**10.4**	2.87	**6.9**	**10**
Lead	NE	13	1.2	--	--	--	--	--	--	--	--	**9.4**	--	--	-- / --	**ND<7.5 / ND<7.5**	ND<0.5 / 0.59	ND<0.25	ND<0.25	ND<0.25	*NA*	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77	--	--	--	--	--	--	--	--	--	--	--	-- / --	*NA*	*NA*	*NA*	*NA*	*NA*				
Selenium	NE	50	5	--	--	--	--	--	--	--	--	--	--	--	-- / --	*NA*	*NA*	*NA*	*NA*	*NA*				
Silver	NE	12	NE	--	--	--	--	--	--	--	--	--	--	--	-- / --	*NA*	*NA*	*NA*	*NA*	*NA*				
Zinc	NE	123	65	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	9.8 / 10.7	-- / --	*NA*	*NA*	*NA*	*NA*				
Dissolved Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*		*NA*										
Arsenic	NE	4	150										--		-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Copper	NE	48	4.8										*NA*		-- / --	**ND<10 / ND<10**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Lead	NE	13	1.2										--		-- / --	**ND<15 / ND<15**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77										--		-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Selenium	NE	50	5										--		-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Silver	NE	12	NE										--		-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Zinc	NE	123	65										*NA*		8.2 / 9.6	-- / --	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Notes:

RES VC = Residential Volatilization Criteria.

SWPC = Surface Water Protection Criteria, applies to groundwater immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland. (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111)

VOCs = volatile organic compounds.

PAHs = polynuclear aromatic hydrocarbons.

PCBs = polychlorinated biphenyls.

NE = no criteria established.

ug/L = micrograms per liter.

-- = not detected, see laboratory reports for specific detection limits (Detection Limit < Criteria).

/ # = duplicate sample results

ND < = not detected (noted when Detection Limit > Criteria).

NA = not analyzed for this parameter.

NS = Not Sampled

Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSR

** The PAH results are inconsistent with previous results and are likely due to sampling error.

*** The PAH detections appear to be a result of sediment in the samples.

Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			MW-109 (Compliance Point)					MW-110 (Compliance Point)					MW-111 (Compliance Point)					MW-112 (Compliance Point)				MW-113 (Destroyed)		
	RES VC	SWPC	Freshwater WQC	11/5/12	3/4/13	5/23/13	8/5/13	11/6/13	11/5/12	3/4/13	5/22/13	8/5/13	11/6/13	11/5/12	3/4/13	5/23/13	8/5/13	2/11/14	11/6/12	3/6/13	5/22/13	8/6/13	11/7/12	3/6/13	5/22/13
VOCs per EPA 8260 (ug/l)								*NA*					*NA*					*NA*							
Tert-Butanol / butyl alcohol	NE	NE	NE	--	15.6	--	--		--	--	--	--		--	--	--	--		--	--	--	--	--	33	--
Toluene	760	4,000,000	NE	--	--	--	5.79		--	--	--	--		--	--	--	--		--	--	--	--	--	--	--
PAHs per EPA 8270 (ug/L)																									
Acenaphthene	NE	150*	NE	-- / --	--	--	0.089***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Acenaphthylene	NE	0.3	NE	-- / --	--	--	0.07***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
1-Methylnaphthalene	NE	61*	NE	-- / --	--	--	0.109***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Anthracene	NE	1,100,000	NE	-- / --	--	--	0.063***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Benzo(a)anthracene	NE	0.3	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Benzo(a)pyrene	NE	0.3	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	0.3	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	150*	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	0.3	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Chrysene	NE	0.54*	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	0.3*	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Fluoranthene	NE	3,700	NE	-- / --	--	--	0.053***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Fluorene	NE	140,000	NE	-- / --	--	--	0.099***	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
2-Methylnaphthalene	NE	62*	NE	-- / --	--	--	0.18***	--	--	--	--	0.066***	--	--	--	--	0.053***	ND<50	--	--	--	--	--	--	--
Naphthalene	NE	210*	NE	-- / --	--	--	0.081***	--	--	--	--	0.058***	--	--	--	--	0.054***	ND<50	--	--	--	--	--	--	--
Phenanthrene	NE	14*	NE	-- / --	--	--	0.135***	--	--	--	--	0.061***	--	--	--	--	0.057***	ND<50	--	--	--	--	--	--	--
Pyrene	NE	110,000	NE	-- / --	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--	--	--	--
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	-- / --	--	--	--	*NA*	--	--	--	--	*NA*	--	--	--	--	*NA*	--	--	--	--	--	--	--
Total Metals per EPA 6010/200.7 (ug/L)								*NA*										*NA*							
Arsenic	NE	4	150	-- / --	--	--	--		--	--	--	--	*NA*	--	--	--	--		--	--	--	--	--	**5.4**	--
Copper	NE	48	4.8	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	--	**ND<5**	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	*NA*	*NA*	--	--
Lead	NE	13	1.2	-- / --	--	--	--		--	--	--	--	*NA*	--	--	--	--		--	--	--	--	--	--	--
Mercury	NE	0.4	0.77	-- / --	--	--	--		--	--	--	--	*NA*	--	--	--	--		--	--	--	--	--	--	--
Selenium	NE	50	5	-- / --	--	--	--		--	--	--	--	*NA*	--	--	--	--		--	--	--	--	--	--	--
Silver	NE	12	NE	-- / --	--	--	--		--	--	--	--	*NA*	--	--	--	--		--	--	--	--	--	--	--
Zinc	NE	123	65	*NA*	*NA*	*NA*	*NA*		*NA*	*NA*	*NA*	5.1	--	*NA*	*NA*	*NA*	17.8		*NA*	*NA*	*NA*	*NA*	*NA*	**2,010**	**134**
Dissolved Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	
Arsenic	NE	4	150																						--
Copper	NE	48	4.8																						--
Lead	NE	13	1.2																						--
Mercury	NE	0.4	0.77																						--
Selenium	NE	50	5																						--
Silver	NE	12	NE																						--
Zinc	NE	123	65																						**109**

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PAHs = polynuclear aromatic hydrocarbons.

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Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSR

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Table 3

Historical Groundwater Analytical Data

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

2061 State Street, Hamden, CT

Parameters	Remediation Standard Regulations			MW-114 (Compliance Point)								MW-115 (Compliance Point)								MW-116						
	RES VC	SWPC	Freshwater WQC	11/6/12	3/6/13	5/22/13	8/7/13	11/5/13	2/12/14	11/19/14	3/25/15	11/6/12	3/5/13	5/22/13	8/7/13	11/5/13	2/11/14	11/19/14	3/25/15	11/6/12	3/5/13	5/22/13	8/7/13	11/5/13	5/9/14	11/19/14
VOCs per EPA 8260 (ug/l)								*NA*	*NA*	*NA*	*NA*					*NA*	*NA*	*NA*	*NA*					*NA*	*NA*	*NA*
Tert-Butanol / butyl alcohol	NE	NE	NE	--	--	--	--					--	-- / --	-- / --	--					--	--	--	--			
Toluene	760	4,000,000	NE	--	--	--	--					--	-- / --	-- / --	--					--	--	--	--			
PAHs per EPA 8270 (ug/L)								*NA*	*NA*	*NA*	*NA*						*NA*	*NA*							*NA*	*NA*
Acenaphthene	NE	150*	NE	--	--	--	--					--	-- / --	--	--	--			ND<50	--	--	--	--	--		
Acenaphthylene	NE	0.3	NE	--	--	--	--					--	-- / --	0.192 / --	--	--			ND<50	--	--	--	--	--		
1-Methylnaphthalene	NE	61*	NE	--	--	--	--					--	-- / --	0.062 / --	0.103***	--			ND<100	--	--	--	--	--		
Anthracene	NE	1,100,000	NE	--	--	--	--					--	-- / --	0.061 **/ --**	--	--			ND<50	--	--	--	--	--		
Benzo(a)anthracene	NE	0.3	NE	--	--	--	--					--	-- / --	0.532** / --	--	--			ND<50	--	--	--	--	--		
Benzo(a)pyrene	NE	0.3	NE	--	--	--	--					--	-- / --	0.698** / --	--	--			ND<50	--	--	--	--	--		
Benzo(b)fluoranthene	NE	0.3	NE	--	--	--	--					--	-- / --	0.57** / --	--	--			ND<50	--	--	--	--	--		
Benzo(g,h,i)perylene	NE	150*	NE	--	--	--	--					--	-- / --	0.387 / --	--	--			ND<50	--	--	--	--	--		
Benzo(k)fluoranthene	NE	0.3	NE	--	--	--	--					--	-- / --	0.462** **/ --**	--	--			ND<50	--	--	--	--	--		
Chrysene	NE	0.54*	NE	--	--	--	--					--	-- / --	0.507 / --	--	--			ND<50	--	--	--	--	--		
Dibenzo(a,h)anthracene	NE	0.3*	NE	--	--	--	--					--	-- / --	0.108 / --	--	--			ND<50	--	--	--	--	--		
Fluoranthene	NE	3,700	NE	--	--	--	--					--	-- / --	0.39 / --	--	--			ND<50	--	--	--	--	--		
Fluorene	NE	140,000	NE	--	--	--	--					--	-- / --	**-- / --**	--	--			ND<50	--	--	--	--	--		
Indeno(1,2,3-cd)pyrene	NE	0.54*	NE	--	--	--	--					--	-- / --	0.514 / --	--	--			ND<50	--	--	--	--	--		
2-Methylnaphthalene	NE	62*	NE	--	--	--	--					--	-- / --	-- / --	--	--			ND<100	--	--	--	--	--		
Naphthalene	NE	210*	NE	--	--	--	--					--	-- / --	0.078 / --	0.061***	--			ND<50	--	--	--	--	--		
Phenanthrene	NE	14*	NE	--	--	--	--					0.109	-- / --	0.062 / --	--	--			ND<50	0.223	--	--	--	--		
Pyrene	NE	110,000	NE	--	--	--	--					--	-- / --	0.395 / --	--	--			ND<50	--	--	--	--	--		
PCBs per EPA 8082 (ug/L)	NE	0.5	NE	--	--	--	--	*NA*	*NA*	*NA*	*NA*	--	-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*	--	--	--	--	*NA*	*NA*	*NA*
Total Metals per EPA 6010/200.7 (ug/L)																										
Arsenic	NE	4	150	--	--	--	--	*NA*	*NA*	ND<4	ND<4	--	-- / --	-- / --	--	*NA*	ND<4	ND<4	ND<4	--	--	5.4	--	5	ND<4	ND<4
Copper	NE	48	4.8	*NA*	5.5	--	--	--	ND<5	*NA*	*NA*	*NA*	-- / --	-- / --	--	--	*NA*	*NA*	*NA*	*NA*	**--**	--	--	--	*NA*	*NA*
Lead	NE	13	1.2	--	--	--	--	*NA*	ND<7.5	ND<7.5	ND<7.5	**23.4**	-- / --	-- / --	--	--	ND<7.5	ND<7.5	ND<7.5	--	--	--	--	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77	--	--	--	--	*NA*	*NA*	*NA*	*NA*	--	-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*	--	--	--	--	*NA*	*NA*	*NA*
Selenium	NE	50	5	--	--	--	--	*NA*	*NA*	*NA*	*NA*	--	-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*	--	--	--	--	*NA*	*NA*	*NA*
Silver	NE	12	NE	--	--	--	--	*NA*	*NA*	*NA*	*NA*	--	-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*	--	--	--	--	*NA*	*NA*	*NA*
Zinc	NE	123	65	*NA*	**896**	53	55	41.2	111	*NA*	*NA*	*NA*	9.6 / 10.1	-- / --	17.4	--	*NA*	*NA*	*NA*	*NA*	9.2	--	23.1	--	*NA*	*NA*
Dissolved Metals per EPA 6010/200.7 (ug/L)				*NA*	*NA*							*NA*								*NA*	*NA*	*NA*				
Arsenic	NE	4	150			--	--	*NA*	*NA*	ND<4	ND<4		-- / --	-- / --	--	*NA*	ND<4	ND<4	ND<4				--	8.8	ND<4	ND<4
Copper	NE	48	4.8			--	--	--	ND<12.5	*NA*	*NA*		-- / --	-- / --	--	--	*NA*	*NA*	*NA*				--	--	*NA*	*NA*
Lead	NE	13	1.2			--	--	*NA*	ND<9	ND<7.5	ND<7.5		-- / --	-- / --	--	--	ND<9	ND<7.5	ND<7.5				--	*NA*	*NA*	*NA*
Mercury	NE	0.4	0.77			--	--	*NA*	*NA*	*NA*	*NA*		-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*				--	*NA*	*NA*	*NA*
Selenium	NE	50	5			--	--	*NA*	*NA*	*NA*	*NA*		-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*				--	*NA*	*NA*	*NA*
Silver	NE	12	NE			--	--	*NA*	*NA*	*NA*	*NA*		-- / --	-- / --	--	*NA*	*NA*	*NA*	*NA*				--	*NA*	*NA*	*NA*
Zinc	NE	123	65			--	33.2	35.7	112	*NA*	*NA*		13.3 / 14	-- / --	19.4	--	*NA*	*NA*	*NA*				9.2	--	*NA*	*NA*

Notes:

RES VC = Residential Volatilization Criteria.

SWPC = Surface Water Protection Criteria, applies to groundwater immediately upgradient of surface water (MW-104, MW-112, MW-114, and MW-115).

WQC = Water Quality Criteria, applies to groundwater immediately upgradient of a wetland. (CEE-11, CEE-12, MW-108, MW-109, MW-110, and MW-111)

VOCs = volatile organic compounds.

PAHs = polynuclear aromatic hydrocarbons.

PCBs = polychlorinated biphenyls.

NE = no criteria established.

ug/L = micrograms per liter.

-- = not detected, see laboratory reports for specific detection limits (Detection Limit < Criteria).

/ # = duplicate sample results

ND < = not detected (noted when Detection Limit > Criteria).

NA = not analyzed for this parameter.

NS = Not Sampled

Bold and shaded values indicate an exceedance of RSR criteria.

* published 2015 numeric criteria for additional polluting substances not established in 2013 RSR

** The PAH results are inconsistent with previous results and are likely due to sampling error.

*** The PAH detections appear to be a result of sediment in the samples.

Table 4
Historical Aquifer Parameter Data
Task 241 - Expanded Water Quality Monitoring Evaluation Report
New Haven Bus Garage Facility
2061 State Street, Hamden, CT

Monitoring Well I.D.	Sampling Date	Aquifer Parameters					
		Temperature (°C)	pH	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity * (NTU)
CEE-11	11/5/12	15.45	5.27	90	0.4	-77.6	--
	3/4/13	4.9	6.48	316	1.44	-13.5	--
	5/24/13	13.83	6.69	791	0.13	-162	--
	8/5/13	21.84	6.69	194	0.27	-138.4	--
	11/5/13	16.38	5.99	213	0.19	23.6	--
	2/11/14	4.11	7.82	108	0.33	-28.5	--
	11/19/14	11.51	6.55	80	0	0	7.3
	3/25/15	Inaccessible					
	6/17/15	18.45	6.3	116	0.1	-92	3.9
	9/28/15	20.98	6.27	131	0.39	-44.1	0
	12/11/15	8.63	6.7	123	0.54	-291.5	2.3
	3/2/16	7.22	6.41	262	0.59	-211.6	0
	6/24/16	27.53	6.6	90	0.69	-2.0	0
	9/19/16	22.8	6.46	134	0.44	-115.5	11.2
	12/12/16	11.73	5.78	72.05	0.21	-16.9	0.73
	3/1/17	7.4	7.26	239.88	0.08	-136.1	0.9
	6/1/17	15.76	6.4	942.9	0.44	-95.2	0.63
	9/1/17	21.21	6.7	164	0.38	-106.8	21.21
	12/1/17	13.74	6.39	104.84	0.32	-211	3.36
	3/1/18	7.5	6.67	280.71	0.08	-181.9	12.58
CEE-12	11/5/12	14.58	4.55	6,590	0.17	-22.7	--
	3/4/13	6.51	3.76	1,083	2.7	319.5	--
	5/24/13	13.01	4.12	624	0.93	227.9	--
	8/5/13	18.03	4.48	2,930	0.32	100.5	--
	11/5/13	14.59	4.62	541	0.15	109.7	--
	2/11/14	5.54	5.5	688	4.96	124.9	--
	11/19/14	10.57	5.07	867	0	140	41.3
	3/25/15	Inaccessible					
	6/17/15	17.03	4.6	215	0.2	191	24.3
	9/28/15	26.4	5.74	439	0.46	26.4	4.1
	12/11/15	7.88	5.35	1669	2.48	-113.3	5.2
	3/2/16	7.42	4.19	1956	1.27	341.3	0
	6/24/16	22.25	6.13	428	0.96	16.0	0
	9/19/16	17.52	6.46	321	0.35	-93.7	12.5
	12/12/16	9.57	4.54	372.95	0.86	6.3	28.5
	3/1/17	8.22	5.66	342.54	0.76	75.2	11.7
	6/1/17	15.12	4.89	1,338.1	0.34	39.1	0.53
	9/1/17	16.74	5.48	911	0.57	-6.7	0
	12/1/17	12.12	4.33	1,084.7	0.19	182.7	6.99
	3/1/18	9.11	4.2	549.92	0.12	280.9	34.73
MW-101	11/6/12	16.09	5.23	264	1.67	-104.8	--
	3/5/13	9.26	6.84	155	6.66	100.2	--
	5/23/13	14.56	6.44	320	3.15	94.2	--
	8/6/13	17.69	5.37	612	2.86	90.3	--
MW-102	11/6/12	16.41	5.34	488	0.68	-111.3	--
	3/5/13	8.71	6.42	90	2.26	114.4	--
	5/23/13	12.88	5.91	541	0.2	118.3	--
	8/6/13	17.79	5.6	595	0.40	95.6	--

Notes:
pH in standard units
uS/cm = microsiemens per centimeter
mg/L = milligrams per liter
ORP = Oxidation / Reduction Potential
mV = millivolts
NTU = Nephelometric turbidity units
NS = not sampled
* Turbidity provided for sampling events performed by BL Companies.

Table 4
Historical Aquifer Parameter Data
Task 241 - Expanded Water Quality Monitoring Evaluation Report
New Haven Bus Garage Facility
2061 State Street, Hamden, CT

Monitoring Well I.D.	Sampling Date	Aquifer Parameters					
		Temperature (°C)	pH	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity * (NTU)
MW-103	11/6/12	17.59	5.21	420	0.49	-100.4	--
	3/6/13	8.99	6.56	420	0.87	111.6	--
	5/23/13	13.27	6.44	485	0.69	98	--
	8/6/13	17.73	5.89	527	2.71	54.1	--
MW-104	11/6/12	18.49	5.14	516	0.18	-95.6	--
	3/6/13	11.06	6.29	412	0.85	132.1	--
	5/23/13	15.55	6.2	421	0.22	100.5	--
	8/6/13	19.69	5.66	490	0.33	99.9	--
MW-105	11/7/12	16.58	5.08	632	0.21	-111.8	--
	3/5/13	10.5	6.34	523	0.7	131.3	--
	5/24/13	13	6.52	529	0.54	88.9	--
	8/7/13	17.76	6	780	0.53	73.2	--
MW-106	11/7/12	16.25	5.1	348	0.18	-92.5	--
	3/5/13	9.76	6.51	431	0.32	100.3	--
	5/24/13	11.8	6.59	686	0.58	60.4	--
	8/6/13	19.11	5.66	861	0.19	67.5	--
MW-107	11/6/12	18.22	5.42	292	0.14	-85	--
	3/5/13	11.92	6.91	399	0.25	-58.6	--
	5/24/13	15.24	6.66	239	0.53	-43.1	--
	8/6/13	19.91	6.32	464	0.13	-11.8	--
MW-108	11/5/12	14.73	5.41	602	0.17	-39.6	--
	3/4/13	7.31	6.64	483	0.62	-41.4	--
	5/24/13	13.08	6.42	561	0.61	-75.5	--
	8/5/13	19.6	5.54	746	0.21	-14.6	--
	11/6/13	16.11	6.38	697	0.17	-62.6	--
	6/24/16	19.9	6.27	553	1.06	95	0
	9/19/16	17.92	6.39	455	0.5	-20.6	17.9
	12/12/16	11.2	5.78	446.59	0.69	-20.7	0.46
	3/1/17	8.86	6.64	431.91	0.81	36.4	2.69
	6/1/17	16.85	6.38	360.35	1.68	148.1	1.8
	9/1/17	18.56	6.23	371	0.8	-13.8	8
	12/1/17	12.67	6.36	482.35	9.57	8.4	12.67
	3/1/18	9.32	6.47	357.87	2.28	188.1	37.08
MW-109	11/5/12	16.61	5.76	217	0.37	16.1	--
	3/4/13	8.05	6.8	163	2.09	65.6	--
	5/23/13	13.39	5.87	853	0.24	30.6	--
	8/5/13	22.76	6.5	601	5.82	-49.8	--
	11/5/13	17.82	6.66	261	0.39	-37.3	--
MW-110	11/5/12	14.43	5.14	142	0.44	-53.8	--
	3/4/13	5.58	5.18	356	0.62	162.7	--
	5/22/13	13.68	5.62	329	0.24	131.9	--
	8/5/13	19.62	5.26	344	0.28	133.8	--
	11/6/13	16.06	4.97	293	0.17	119.2	--

Notes:
pH in standard units
uS/cm = microsiemens per centimeter
mg/L = milligrams per liter
ORP = Oxidation / Reduction Potential
mV = millivolts
NTU = Nephelometric turbidity units
NS = not sampled
* Turbidity provided for sampling events performed by BL Companies.

Table 4
Historical Aquifer Parameter Data
Task 241 - Expanded Water Quality Monitoring Evaluation Report
New Haven Bus Garage Facility
2061 State Street, Hamden, CT

Monitoring Well I.D.	Sampling Date	Aquifer Parameters					
		Temperature (^{o}C)	pH	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity * (NTU)
MW-111	11/5/12	13.04	5.26	467	0.58	-70.6	--
	3/4/13	5.64	6.18	486	0.87	17.4	--
	5/23/13	12.17	6.01	848	0.48	3.4	--
	8/5/13	19.49	6.11	722	0.37	-24	--
	11/5/13	Inaccessible					
	2/11/14	5.93	8.18	275	1.18	-18.8	
MW-112	11/6/12	18.24	5.29	667	0.3	-48.7	--
	3/6/13	15.1	6.68	600	0.19	87.7	--
	5/22/13	18.27	6.6	613	0.25	51	--
	8/6/13	21.39	6.06	535	0.15	57	--
	2/11/14	Inaccessible					
MW-113	11/7/12	15.91	4.95	488	0.16	-101.2	--
	3/6/13	11.13	6.51	526	0.18	-23.6	--
	5/22/13	12.76	6.08	932	0.13	-44.4	--
	8/5/13	Destroyed					
MW-114	11/6/12	17.99	5.2	718	0.17	-76.6	--
	3/6/13	8.54	5.67	370	0.81	126.1	--
	5/22/13	12.64	4.7	414	0.19	185.7	--
	8/7/13	19.64	5	418	0.12	129.7	--
	11/5/13	18.9	5.1	429	0.19	118.2	--
	2/12/14	8.59	5.62	362	0.67	120.1	--
	11/19/14	14.92	6.44	304	0	0	126
	3/25/15	8.14	5.42	569	0.83	133	26.3
MW-115	11/6/12	18.46	5.22	673	0.16	-83.1	--
	3/5/13	10.99	6.17	869	0.19	35	--
	5/22/13	14.36	6.17	1,226	0.21	-7	--
	8/7/13	20.89	5.98	1,048	0.19	-13.9	--
	11/5/13	18.49	6.24	577	0.17	-27.3	--
	2/11/14	10.67	6.68	11	0.33	-13.7	--
	11/19/14	16.13	6.27	907	0	0	164
	3/25/15	7	5.9	3,710	5.91	128	144
MW-116	11/6/12	17.16	5.34	956	0.27	-56.7	--
	3/5/13	10.22	6.81	1,043	1.3	58.2	--
	5/22/13	12.6	5.99	761	0.27	63.5	--
	8/7/13	17.42	5.79	787	0.2	67.8	--
	11/5/13	17.43	6.03	1,136	0.18	-6.1	--
	2/11/14	Inaccessible					
	11/19/14	15.28	6.6	1,020	0	0	0
	3/25/15	Inaccessible					

Notes:
pH in standard units
uS/cm = microsiemens per centimeter
mg/L = milligrams per liter
ORP = Oxidation / Reduction Potential
mV = millivolts
NTU = Nephelometric turbidity units
NS = not sampled
* Turbidity provided for sampling events performed by BL Companies.

Table 5

RSR Groundwater Compliance Summary

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

Hamden, Connecticut

Well / Contaminant of Concern	Compliance Point / Applicable Criteria	Quarters Meeting RSR Criteria Under Stable Aquifer and Plume Conditions	Groundwater Monitoring Complete? (Yes/No)
VOCs			
CEE-11	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
CEE-12	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-101		11/12, 3/13, 5/13, 8/13	**YES**
MW-102		11/12, 3/13, 5/13, 8/13	**YES**
MW-103		11/12, 3/13, 5/13, 8/13	**YES**
MW-104	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-105		11/12, 3/13, 5/13, 8/13	**YES**
MW-106		11/12, 3/13, 5/13, 8/13	**YES**
MW-107		11/12, 3/13, 5/13, 8/13	**YES**
MW-108	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-109	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-110	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-111	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-112	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-113		11/12, 3/13, 5/13, (destroyed)	**NA**
MW-114	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-115	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-116		11/12, 3/13, 5/13, 8/13	**YES**
PAHs			
CEE-11	**WQC**	11/12, 3/13, 5/13, 8/13, 11/13	**YES**
CEE-12	**WQC**	11/12, 3/13, 5/13, 8/13, 11/13	**YES**
MW-101		11/12, 3/13, 5/13, 8/13	**YES**
MW-102		11/12, 3/13, 5/13, 8/13	**YES**
MW-103		11/12, 3/13, 5/13, 8/13	**YES**
MW-104	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-105		11/12, 3/13, 5/13, 8/13	**YES**
MW-106		11/12, 3/13, 5/13, 8/13	**YES**
MW-107		11/12, 3/13, 5/13, 8/13	**YES**
MW-108	**WQC**	11/12, 3/13, 5/13, 8/13, 11/13	**YES**
MW-109	**WQC**	11/12, 3/13, 5/13, 8/13, 11/13	**YES**
MW-110	**WQC**	11/12, 3/13, 5/13, 8/13, 11/13	**YES**
MW-111	**WQC**	11/12, 3/13, 5/13, 8/13, (11/13 - inaccessible), 2/14	**YES**
MW-112	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-113		11/12, 3/13, 5/13, (destroyed)	**NA**
MW-114	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-115	**SWPC**	11/12, 3/13, 5/13, 8/13, 11/13, 3/15	**YES**
MW-116		11/12, 3/13, 5/13, 8/13, 11/13	**YES**

Notes:
VOCs = Volatile organic compounds.
PAHs = Polyaromatic hydrocarbons.
NS = not sampled

Table 5

RSR Groundwater Compliance Summary

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

Hamden, Connecticut

Well / Contaminant of Concern	Compliance Point / Applicable Criteria	Quarters Meeting RSR Criteria Under Stable Aquifer and Plume Conditions	Groundwater Monitoring Complete? (Yes/No)
PCBs			
CEE-11	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
CEE-12	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-101		11/12, 3/13, 5/13, 8/13	**YES**
MW-102		11/12, 3/13, 5/13, 8/13	**YES**
MW-103		11/12, 3/13, 5/13, 8/13	**YES**
MW-104	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-105		11/12, 3/13, 5/13, 8/13	**YES**
MW-106		11/12, 3/13, 5/13, 8/13	**YES**
MW-107		11/12, 3/13, 5/13, 8/13	**YES**
MW-108	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-109	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-110	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-111	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-112	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-113		11/12, 3/13, 5/13, (destroyed)	**NA**
MW-114	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-115	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-116		11/12, 3/13, 5/13, 8/13	**YES**
Arsenic			
CEE-11	**WQC**	3/13, 5/13, 8/13, 2/145/14, 11/14, (3/15 - inaccessible)	**YES**
CEE-12	**WQC**	11/12, 3/13, 5/13, 8/13, 2/14	**YES**
MW-101		11/12, 3/13, 5/13, 8/13	**YES**
MW-102		11/12, 3/13, 5/13, 8/13	**YES**
MW-103		11/12, 3/13, 5/13, 8/13	**YES**
MW-104	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-105		11/12, 3/13, 5/13, 8/13	**YES**
MW-106		11/12, 3/13, 5/13, 8/13	**YES**
MW-107		11/12, 3/13, 5/13, 8/13	**YES**
MW-108	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-109	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-110	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-111	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-112	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-113		5/13, (destroyed)	**NA**
MW-114	**SWPC**	11/12, 3/13, 5/13, 8/13, 11/14, 3/15	**YES**
MW-115	**SWPC**	11/12, 3/13, 5/13, 8/13, 2/14, 11/14, 3/15	**YES**
MW-116		3/13, 5/13. 8/13, 5/14, 11/14, (3/15 - inaccessible)	**YES**

Notes:
PCBs = Polychlorinated biphenyls.
NS = not sampled

Table 5

RSR Groundwater Compliance Summary

Task 241 - Expanded Water Quality Monitoring Evaluation Report

New Haven Bus Garage Facility

Hamden, Connecticut

Well / Contaminant of Concern	Compliance Point Applicable Criteria	Quarters Meeting RSR Criteria Under Stable Aquifer and Plume Conditions	Groundwater Monitoring Complete? (Yes/No)
Lead			
CEE-11	**WQC**	3/16, 6/16, 9/16, 3/17, 6/17, 3/18	**NO**
CEE-12	**WQC**	NONE	**NO**
MW-101		11/12, 3/13, 5/13, 8/13	**YES**
MW-102		11/12, 3/13, 5/13, 8/13	**YES**
MW-103		11/12, 3/13, 5/13, 8/13	**YES**
MW-104	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-105		11/12, 3/13, 5/13, 8/13	**YES**
MW-106		11/12, 3/13, 5/13, 8/13	**YES**
MW-107		11/12, 3/13, 5/13, 8/13	**YES**
MW-108	**WQC**	6/16, 9/16, 12/16, 3/17	**YES**
MW-109	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-110	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-111	**WQC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-112	**SWPC**	11/12, 3/13, 5/13, 8/13	**YES**
MW-113		11/12, 3/13, 5/13, (destroyed)	**NA**
MW-114	**SWPC**	11/12, 3/13, 5/13, 8/13, 2/14, 11/14	**YES**
MW-115	**SWPC**	3/13, 5/13, 8/13, 11/13, 2/14, 11/14, 3/15	**YES**
MW-116		11/12, 3/13, 5/13, 8/13	**YES**
Copper			
CEE-11	**WQC**	3/16, 6/16, 9/16, 12/16	**YES**
CEE-12	**WQC**	3/17, 6/17, 9/17, 12/17	**YES**
MW-108	**WQC**	9/16, 9/17	**NO**
MW-113		3/13, 5/13 (destroyed)	**NA**
MW-114	**SWPC**	3/13, 5/13, 8/13, 11/13, 2/14, 11/14	**YES**
MW-115	**SWPC**	3/13, 5/13, 8/13, 11/13	**YES**
MW-116		3/13, 5/13, 8/13, 11/13	**YES**
Zinc			
CEE-11	**WQC**	3/13, 5/13, 8/13, 11/13, 2/14	**YES**
CEE-12	**WQC**	3/13, 5/13, 8/13, 11/13, 2/14	**YES**
MW-113		5/13 (destroyed)	**NA**
MW-114	**SWPC**	5/13, 8/13, 11/13, 2/14	**YES**
MW-115	**SWPC**	3/13, 5/13, 8/13, 11/13	**YES**
MW-116		3/13, 5/13, 8/13, 11/13	**YES**

Notes:
NS = not sampled

APPENDIX C

GROUNDWATER SAMPLING LOGS

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Bus Garage	Project Loc.: Edmund Street, New Haven	Sampler: Wesley Johnson
Project Number: 14EC0010	Weather: Sunny 73°F	Date: 6/1/17

Well Details		Sample Details	
Well Number: CEE-11	Casing type/Diameter:	Purge Start Time: 11:39	Headspace Reading:
Depth to Bottom: 10.22	Depth to Water: 5.89	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected:	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
11:46	-68.7	0.96	983.92	6.31	0.85	16.56	5.93	
11:51	-83.5	0.71	806.47	6.31	0.79	16.09	5.92	
11:56	-90.6	0.60	944.32	6.39	1.31	15.84	5.91	
12:00	-93.8	0.50	942.83	6.38	0.68	15.73	5.92	
12:03	-95.2	0.44	942.90	6.40	0.63	15.76	5.92	

Notes:

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	Bus Garage	Project Loc.:	Edmund Street, New Haven	Sampler:	Wesley Johnson
Project Number:	14EC0010	Weather:	Sunny 73° F	Date:	6/1/17

Well Details		Sample Details	
Well Number: CEE-12	Casing type/Diameter:	Purge Start Time: 12:19	Headspace Reading:
Depth to Bottom: 8.32	Depth to Water: 3.10	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected:	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
12:20	46.8	7.52	1,319.9	5.02	37.12	17.38	3.49	
12:25	61.6	3.04	1,261.8	4.79	5.71	16.13	3.49	
12:30	52.4	1.72	1326.9	4.85	4.39	16.03	3.49	
12:34	44.7	1.63	1328.5	4.87	2.20	15.84	3.48	
12:37	41.3	2.16	1327.2	4.91	3.26	15.79	3.48	
12:40	40.6	1.17	1344.0	4.88	1.43	15.82	3.47	
12:43	38.2	0.59	1,343.5	4.93	1.12	15.80	3.48	
12:46	40.3	0.42	1,346.9	4.89	1.16	15.77	3.48	
12:49	39.1	0.34	1,338.1	4.89	0.53	15.12	3.48	

Notes:

Sampled 12:55

Dup collected

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Bus Garage	Project Loc.: Edmund Street, New Haven	Sampler: Wesley Johnson
Project Number: 14EC0010	Weather: Sunny 75° F	Date: 6/1/17

Well Details		Sample Details	
Well Number: MW-108	Casing type/Diameter:	Purge Start Time: ~~1:37~~ 1:40	Headspace Reading:
Depth to Bottom: 14.77	Depth to Water: 6.61	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected:	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
1:41	133.0	4.82	374.38	6.32	1.84	26.99	7.22	
1:46	143.0	2.38	330.11	6.41	1.38	20.59	7.33	
1:51	144.2	1.94	321.14	6.39	1.86	19.55	7.35	
1:55	139.6	1.61	300.97	6.40	0.93	18.44	7.32	
1:58	142.4	1.52	359.04	6.39	1.69	16.90	7.31	
~~2:01~~	146.4	1.57	357.56	6.38	1.25	16.92	7.29	
2:04	148.1	1.68	360.35	6.38	1.80	16.85	7.30	

Notes:

Sampled 2:10

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	2061 State St, Hamden, CT	Sampler:	Matt Walker
Project Number:	14EC0010	Weather:	Sunny 61° F	Date:	9/1/2017

Well Details		Sample Details	
Well Number: CEE-11	Casing type/Diameter:	Purge Start Time: 9:58	Headspace Reading:
Depth to Bottom: 10.27'	Depth to Water: 6.61'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 10:37	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
10:02	-101.8	1.63	170	8.31	13.1	20.81	6.68	
10:07	-102.3	0.71	157	7.37	6.7	20.96	6.76	
10:12	-103.3	0.55	159	7.08	5.9	21.01	6.70	
10:17	-108.3	0.47	163	6.93	5.1	21.11	6.78	
10:22	-102.9	0.43	167	6.85	4.8	21.15	6.71	
10:27	-105.0	0.41	165	6.78	4.8	21.19	6.72	
10:32	-106.3	0.39	163	6.74	4.6	21.20	6.72	
10:37	-106.8	0.38	164	6.70	4.3	21.21	6.72	

Notes:

- sample collected 10:37

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	2061 State St, Hamden, CT	Sampler:	Matt Walker
Project Number:	14EC0010	Weather:	sunny, 61°	Date:	9/1/2017

Well Details				Sample Details	
Well Number:	~~MW~~ CEE-12	Casing type/Diameter:		Purge Start Time: 10:45	Headspace Reading:
Depth to Bottom:	8.33'	Depth to Water:	3.57'	Flow Rate (mL/min):	Sample Containers:
Screen Length:		Pump Intake Depth:		Time Collected: 11:~~15~~ 20	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
10:50	35.3	2.59	982	5.77	6.0	16.74	3.82	
10:55	24.1	0.85	958	5.93	5.3	16.81	4.00	
11:00	17.1	0.74	945	5.90	3.2	16.82	4.00	
11:05	10.5	0.67	934	5.91	2.1	16.79	4.01	
11:10	3.3	0.65	926	5.94	1.6	16.78	4.02	
11:15	-1.5	0.59	920	5.95	0.7	16.76	4.02	
11:20	-6.7	0.57	911	5.98	0.0	16.74	4.03	

Notes:

- DUP collected
- Sample collected 11:~~15~~ 20

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	2061 State St, Hamden, CT	Sampler:	Matt Walker
Project Number:	14EC0010	Weather:	Sunny, 66°	Date:	9/1/2017

Well Details		Sample Details	
Well Number: MW-108	Casing type/Diameter:	Purge Start Time: 11:55	Headspace Reading:
Depth to Bottom: 14.79'	Depth to Water: 7.65'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 12:20	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
11:55	46.8	7.99	2	6.12	4.3	26.35	8.24	
12:00	-27.4	1.83	469	6.18	5.5	19.15	8.26	
12:05	-30.0	0.93	414	6.21	2.6	18.62	8.29	
12:10	-23.2	0.81	385	6.23	-0.8	18.37	8.30	
12:15	-17.2	0.79	375	6.23	-7.7	18.47	8.31	
12:20	-13.8	0.80	371	6.23	-8.0	18.56	8.31	

Notes:

Sample collected 12:20

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: N. H Bus Garage	Project Loc.: Hamden, CT	Sampler: Matt Walker
Project Number: 14EC0010	Weather: 40s, sunny	Date: 12/1/17

Well Details		Sample Details	
Well Number: MW-108	Casing type/Diameter:	Purge Start Time: 10:05	Headspace Reading:
Depth to Bottom: 14.57'	Depth to Water: 7.46'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 10:30	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
10:10	26.8	10.56	550.13	6.32	14.25	12.22	7.47	
10:15	5.2	10.42	512.62	6.35	3.54	12.52	7.50	
10:20	8.4	10.28	498.02	6.36	2.22	12.66	7.52	
10:25	8.5	10.02	490.62	6.36	0.71	12.67	7.55	
10:30	8.4	9.57	482.35	6.36	1.02	12.67	7.57	

Notes:

- sample taken 10:30

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: N. H Bus Garage	Project Loc.: Hamden, CT	Sampler: Matt Walker
Project Number:	Weather: 40s, sunny	Date: 12/1/17

Well Details		Sample Details	
Well Number: CEE-12	Casing type/Diameter:	Purge Start Time:	Headspace Reading:
Depth to Bottom: ~~32.27~~ 8.12'	Depth to Water: 3.22'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 12:20	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
11:45	158.4	0.85	1,073.8	4.30	155.99	12.19	3.26	
11:50	196.1	0.42	1,095.5	4.28	35.81	12.07	3.28	
11:55	233.3	0.28	1,097.3	4.25	34.67	12.11	3.31	
12:00	219.3	0.23	1,103.2	4.26	24.32	12.08	3.35	
12:05	206.3	0.21	1,099.0	4.28	14.00	12.13	3.39	
12:10	191.7	0.21	1,098.4	4.31	11.57	12.14	4.01	
12:15	185.1	0.20	1,086.4	4.36	8.82	12.18	4.02	
12:20	182.7	0.19	1,084.7	4.33	6.99	12.12	4.05	

Notes:

- Dup taken here
- sample taken 12:20

BL Companies

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: N. H Bus Garage	Project Loc.: Hamden, CT	Sampler: Matt Walker
Project Number: 14ECC010	Weather: 40s, Sunny	Date: 12/1/17

Well Details		Sample Details	
Well Number: CEE-11	Casing type/Diameter:	Purge Start Time: 11:00	Headspace Reading:
Depth to Bottom: 10.11'	Depth to Water: 6.30'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 11:30	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
11:05	-201.1	0.79	145.19	6.37	9.06	13.50	6.32	
11:10	-206.6	0.56	131.24	6.36	6.08	13.79	6.35	
11:15	-210.0	0.43	120.84	6.37	6.19	13.73	6.39	
11:20	-209.1	0.38	112.22	6.37	5.33	13.71	6.40	
11:25	-208.6	0.35	104.51	6.39	3.99	13.68	6.42	
11:30	-211.0	0.32	104.84	6.39	3.36	13.74	6.44	

Notes:

- sample taken 11:30
- well cap was off

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	Hamden, CT	Sampler:	Matt Walker
Project Number:	14E C0070	Weather:	Sunny, 50s	Date:	3/1/2018

Well Details		Sample Details	
Well Number: MW-108	Casing type/Diameter:	Purge Start Time: 10:05	Headspace Reading:
Depth to Bottom: 14.79'	Depth to Water: 6.88'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 10:34	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
10:05	159.8	4.47	266.41	6.61	110.02	15.33	6.92	
10:10	192.5	2.74	285.56	6.49	153.11	10.96	7.15	
10:15	186.7	2.57	291.90	6.47	96.41	10.44	7.34	
10:20	186.3	2.42	291.75	6.47	73.13	10.29	7.48	
10:25	187.3	2.39	361.90	6.47	54.32	9.16	7.50	
10:28	187.0	2.36	362.18	6.47	46.75	9.26	7.50	
10:31	187.4	2.33	360.58	6.47	41.49	9.35	7.57	
10:34	188.1	2.28	357.87	6.47	37.08	9.32	7.57	

Notes:

-Sample taken 10:34

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	Hamden, CT	Sampler:	Matt Walker
Project Number:	14EC0010	Weather:	Sunny, 50s	Date:	3/1/2018

Well Details		Sample Details	
Well Number: CEE-11	Casing type/Diameter:	Purge Start Time: 11:20	Headspace Reading:
Depth to Bottom: 10.31'	Depth to Water: 5.95'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 11:46	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
11:20	-112.8	1.06	286.71	6.45	28.90	9.96	5.98	
11:25	-141.9	0.21	282.02	6.55	35.93	8.34	6.00	
11:20	-158.0	0.13	277.46	6.50	17.31	7.87	6.02	
11:35	-168.4	0.11	283.92	6.64	18.51	7.72	6.02	
11:40	-177.7	0.11	282.57	6.64	14.74	7.70	6.03	
11:43	-180.3	0.09	280.89	6.65	13.08	7.58	6.03	
11:46	-181.9	0.08	280.71	6.67	12.58	7.50	6.04	

Notes:

- Sample taken 11:46

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name:	New Haven Bus Garage	Project Loc.:	Hamden, CT	Sampler:	Matt Walker
Project Number:	14EC0010	Weather:	Sunny, 50s	Date:	3/1/2018

Well Details		Sample Details	
Well Number: CEE-12	Casing type/Diameter:	Purge Start Time: 12:20	Headspace Reading:
Depth to Bottom: 8.34'	Depth to Water: 2.79'	Flow Rate (mL/min):	Sample Containers:
Screen Length:	Pump Intake Depth:	Time Collected: 12:49/12:50	Equipment Used:

Parameter Details

Stabilization Range	+/- 10 mV	+/- 10%	+/- 3 %	+/- 0.1 units	+/- 10% for values > 1 NTU	+/- 3%	< 0.3 ft	
Time	**ORP (mV)**	**DO (mg/L)**	**Conductivity (uS/cm)**	**pH**	**Turbidity (NTU)**	**Temperature (°C)**	**Drawdown (ft)**	**Flow Adj.**
12:20	136.8	2.35	1,158.8	~~5.28~~ 5.32	155.99	13.73	3.04	
12:25	223.9	0.49	736.38	4.31	125.19	10.86	3.24	
12:30	304.9	0.30	596.22	4.12	111.82	9.72	3.26	
12:35	315.1	0.24	582.27	4.12	86.99	9.37	3.28	
12:40	299.9	0.19	573.98	4.14	63.78	9.34	3.28	
12:43	290.4	0.15	564.88	4.16	44.69	9.31	3.29	
12:46	287.4	0.13	554.48	4.18	38.21	9.22	3.30	
12:49	280.4	0.12	549.92	4.20	34.72	9.11	3.30	

Notes:

- sample taken 12:49
- DUP taken this location 12:50

APPENDIX D

LABORATORY ANALYTICAL REPORTS

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☑ Final Report
☐ Revised Report

Report Date:
09-Jun-17 13:43

Laboratory Report
SC35374

BL Companies
355 Research Parkway
Meriden, CT 06450
Attn: Joy Kloss

Project: New Haven Bus Garage - CT
Project #: 14EC0010

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Kimberly Laplante
Quality Assurance Manager

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 10 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC35374

Project: New Haven Bus Garage - CT

Project Number: 14EC0010

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC35374-01	CEE-11	Ground Water	01-Jun-17 12:10	02-Jun-17 16:15
SC35374-02	CEE-12	Ground Water	01-Jun-17 12:55	02-Jun-17 16:15
SC35374-03	MW-108	Ground Water	01-Jun-17 14:10	02-Jun-17 16:15
SC35374-04	DUP	Ground Water	01-Jun-17 00:00	02-Jun-17 16:15
SC35374-05	Field Blank	Deionized Water	01-Jun-17 14:25	02-Jun-17 16:15

Reasonable Confidence Protocols
Laboratory Analysis
QA/QC Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.

Client: BL Companies

Project Location: New Haven Bus Garage - CT

Project Number: 14EC0010

Sampling Date(s):
6/1/2017

Laboratory Sample ID(s):
SC35374-01 through SC35374-05

RCP Methods Used:
SW846 6020A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes	No
1A	Were the method specified preservation and holding time requirements met?	✓ Yes	No
1B	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes	No
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	✓ Yes	No
3	Were samples received at an appropriate temperature?	✓ Yes	No
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved?	✓ Yes	No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes Yes	✓ No No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes	✓ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	✓ Yes	No

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for obtaining the information contained in this analytical report, such information is accurate and complete.

Christina A. White
Laboratory Director
Date: 6/9/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 1.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

Required site-specific Matrix Spike/Matrix Spike Duplicate (MS/MSD) must be requested by the client and sufficient sample must be submitted for the additional analyses. Samples submitted with insufficient volume/weight will not be analyzed for site specific MS/MSD, however a batch MS/MSD may be analyzed from a non-site specific sample.

CTDEP has published a list of analytical methods which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of decisions being made utilizing the Reasonable Confidence Protocol (RCP). "Reasonable Confidence" can be established only for those methods published by the CTDEP in the RCP guidelines. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

The CTDEP RCP requests that "all non-detects and all results below the reporting limit are reported as ND (Not Detected at the Specified Reporting Limit)". All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

If no reporting limits were specified or referenced on the chain-of-custody the laboratory's practical quantitation limits were applied.

For this work order, the reporting limits have not been referenced or specified.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	BL Companies
Project:	New Haven Bus Garage - CT / 14EC0010
Work Order:	SC35374
Sample(s) received on:	6/2/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC35374-01 **Client ID:** CEE-11

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	0.00054		0.00025	mg/l	SW846 6020A

Lab ID: SC35374-02 **Client ID:** CEE-12

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00395		0.00025	mg/l	SW846 6020A
Lead	0.0326		0.00025	mg/l	SW846 6020A

Lab ID: SC35374-03 **Client ID:** MW-108

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.0104		0.00025	mg/l	SW846 6020A

Lab ID: SC35374-04 **Client ID:** DUP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00388		0.00025	mg/l	SW846 6020A
Lead	0.0321		0.00025	mg/l	SW846 6020A

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
CEE-11
SC35374-01

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Jun-17 12:10	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	05-Jun-17		BK	1709249	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7439-92-1	Lead	**0.00054**		mg/l	0.00025	0.00004	1	SW846 6020A	06-Jun-17	09-Jun-17	TBC	1709272	X

Sample Identification
CEE-12
SC35374-02

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Jun-17 12:55	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	05-Jun-17		BK	1709249	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	**0.00395**		mg/l	0.00025	0.00003	1	SW846 6020A	06-Jun-17	09-Jun-17	TBC	1709272	X
7439-92-1	Lead	**0.0326**		mg/l	0.00025	0.00004	1	"	"	"	"	"	X

Sample Identification
MW-108
SC35374-03

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Jun-17 14:10	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	05-Jun-17		BK	1709249	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	**0.0104**		mg/l	0.00025	0.00003	1	SW846 6020A	06-Jun-17	09-Jun-17	TBC	1709272	X

Sample Identification

DUP

SC35374-04

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Jun-17 00:00	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	05-Jun-17		BK	1709249	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	**0.00388**		mg/l	0.00025	0.00003	1	SW846 6020A	06-Jun-17	09-Jun-17	TBC	1709272	X
7439-92-1	Lead	**0.0321**		mg/l	0.00025	0.00004	1	"	"	"	"	"	X

Sample Identification

Field Blank

SC35374-05

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Deionized Water	01-Jun-17 14:25	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Field Preserved; pH<2 confirmed**		N/A			1	EPA 200/6000 methods	05-Jun-17		BK	1709249	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	< 0.00025		mg/l	0.00025	0.00003	1	SW846 6020A	06-Jun-17	09-Jun-17	TBC	1709272	X
7439-92-1	Lead	< 0.00025		mg/l	0.00025	0.00004	1	"	"	"	"	"	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6020A										
Batch 1709272 - SW846 3005A										
Blank (1709272-BLK1)					Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	< 0.00025		mg/l	0.00025						
Copper	< 0.00025		mg/l	0.00025						
LCS (1709272-BS1)					Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.0525**	D	mg/l	0.00250	0.0500		105	85-115		
Copper	**0.0535**	D	mg/l	0.00250	0.0500		107	85-115		
LCS Dup (1709272-BSD1)					Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.0570**	D	mg/l	0.00250	0.0500		114	85-115	8	20
Copper	**0.0549**	D	mg/l	0.00250	0.0500		110	85-115	3	20
Duplicate (1709272-DUP1)			**Source: SC35374-01**		Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.00045**		mg/l	0.00025		0.00054			19	20
Matrix Spike (1709272-MS1)			**Source: SC35374-01**		Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.0553**	D	mg/l	0.00250	0.0500	0.00054	109	75-125		
Matrix Spike Dup (1709272-MSD1)			**Source: SC35374-01**		Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.0554**	D	mg/l	0.00250	0.0500	0.00054	110	75-125	0.3	20
Post Spike (1709272-PS1)			**Source: SC35374-01**		Prepared: 06-Jun-17 Analyzed: 09-Jun-17					
Lead	**0.0552**	D	mg/l	0.00250	0.0500	0.00054	109	75-125		

Notes and Definitions

D	Data reported from a dilution
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC35374-41

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CHAIN OF CUSTODY RECORD

Page ____ of ____

Special Handling:

☑ Standard TAT ~~7 to 10~~ business days 5 days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: BL Companies
355 Research Pkwy
Meriden, CT, 06450

Telephone #: 203-630-1406
Project Mgr: Joy Kloss

Invoice To: Same
CTDAS

P.O No.: 164180 Quote #: _____

Project No: 14EC0010
Site Name: New Haven Bos Garage
Location: 2061 State St, Hamden State: CT
Sampler(s): Wesley Johnson

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 4 4	Check if chlorinated
										Lead (6020) / Copper (6020)	
SC35374-01	CEE-11	6/1/17	12:10	G	GW				1	X	☐
02	CEE-12		12:55	G	GW				1	X X	☐
03	~~CEE~~ MW-108		14:10	G	GW				1	X	☐
04	DUP		—	G	GW				1	X X	☐
05	Field Blanks		14:25	G	DI				1	X X	☐
											☐
											☐
											☐
											☐
											☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☑ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
Wesley Johnson	BL fridge	6/1/17	15:15	Observed 1.9
Wesley Johnson	[signature]	6/2/17	10:20	Correction Factor 0
[signature]	[signature]	6/2/17	1615	Corrected 1.2
				IR ID # 02

☐ EDD format: _____
☑ E-mail to: Jkloss@blcompanies.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1709249

Total Metals by EPA 200/6000 Series Methods

SC35374-01 (CEE-11)
SC35374-02 (CEE-12)
SC35374-03 (MW-108)
SC35374-04 (DUP)
SC35374-05 (Field Blank)

1709272

Total Metals by EPA 6000/7000 Series Methods

1709272-BLK1
1709272-BS1
1709272-BSD1
1709272-DUP1
1709272-MS1
1709272-MSD1
1709272-PS1
SC35374-01 (CEE-11)
SC35374-02 (CEE-12)
SC35374-03 (MW-108)
SC35374-04 (DUP)
SC35374-05 (Field Blank)

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☑ Final Report
☐ Revised Report

Report Date:
20-Sep-17 14:36

Laboratory Report
SC38837

BL Companies
355 Research Parkway
Meriden, CT 06450
Attn: Joy Kloss

Project: New Haven Bus Garage - CT
Project #: 14EC0010

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 10 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality'web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC38837

Project: New Haven Bus Garage - CT

Project Number: 14EC0010

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC38837-01	CEE-11	Ground Water	01-Sep-17 10:37	05-Sep-17 12:14
SC38837-02	CEE-12	Ground Water	01-Sep-17 11:20	05-Sep-17 12:14
SC38837-03	MW-108	Ground Water	01-Sep-17 12:20	05-Sep-17 12:14
SC38837-04	Field Blank	Ground Water	01-Sep-17 12:30	05-Sep-17 12:14
SC38837-05	DUP	Ground Water	01-Sep-17 00:00	05-Sep-17 12:14

Reasonable Confidence Protocols
Laboratory Analysis
QA/QC Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.

Client: BL Companies

Project Location: New Haven Bus Garage - CT

Project Number: 14EC0010

Sampling Date(s):
9/1/2017

Laboratory Sample ID(s):
SC38837-01 through SC38837-05

RCP Methods Used:
SW846 6020A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes	No
1A	Were the method specified preservation and holding time requirements met?	✓ Yes	No
1B	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes	No
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	✓ Yes	No
3	Were samples received at an appropriate temperature?	✓ Yes	No
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved?	✓ Yes	No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes Yes	✓ No No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes	✓ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	✓ Yes	No

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for obtaining the information contained in this analytical report, such information is accurate and complete.

Christina A. White
Laboratory Director
Date: 9/20/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 1.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

Required site-specific Matrix Spike/Matrix Spike Duplicate (MS/MSD) must be requested by the client and sufficient sample must be submitted for the additional analyses. Samples submitted with insufficient volume/weight will not be analyzed for site specific MS/MSD, however a batch MS/MSD may be analyzed from a non-site specific sample.

CTDEP has published a list of analytical methods which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of decisions being made utilizing the Reasonable Confidence Protocol (RCP). "Reasonable Confidence" can be established only for those methods published by the CTDEP in the RCP guidelines. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

The CTDEP RCP requests that "all non-detects and all results below the reporting limit are reported as ND (Not Detected at the Specified Reporting Limit)". All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

If no reporting limits were specified or referenced on the chain-of-custody the laboratory's practical quantitation limits were applied.

For this work order, the reporting limits have not been referenced or specified.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	BL Companies
Project:	New Haven Bus Garage - CT / 14EC0010
Work Order:	SC38837
Sample(s) received on:	9/5/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC38837-01 **Client ID:** CEE-11

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	0.00253		0.00025	mg/l	SW846 6020A

Lab ID: SC38837-02 **Client ID:** CEE-12

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00350		0.00025	mg/l	SW846 6020A
Lead	0.0103		0.00025	mg/l	SW846 6020A

Lab ID: SC38837-03 **Client ID:** MW-108

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00287		0.00025	mg/l	SW846 6020A

Lab ID: SC38837-04 **Client ID:** Field Blank

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00040		0.00025	mg/l	SW846 6020A

Lab ID: SC38837-05 **Client ID:** DUP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.00354		0.00025	mg/l	SW846 6020A
Lead	0.0110		0.00025	mg/l	SW846 6020A

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
CEE-11
SC38837-01

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 10:37	05-Sep-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	Field Preserved; pH<2 confirmed		N/A			1	EPA 200/6000 methods	07-Sep-17		LNB	1715358	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7439-92-1	Lead	0.00253		mg/l	0.00025	0.00004	1	SW846 6020A	19-Sep-17	20-Sep-17	TBC	1716071	X

Sample Identification
CEE-12
SC38837-02

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 11:20	05-Sep-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	Field Preserved; pH<2 confirmed		N/A			1	EPA 200/6000 methods	07-Sep-17		LNB	1715358	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	0.00350		mg/l	0.00025	0.00003	1	SW846 6020A	13-Sep-17	15-Sep-17	JMW/TBC	1715271	X
7439-92-1	Lead	0.0103		mg/l	0.00025	0.00004	1	"	19-Sep-17	20-Sep-17	"	1716071	X

Sample Identification
MW-108
SC38837-03

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 12:20	05-Sep-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	Field Preserved; pH<2 confirmed		N/A			1	EPA 200/6000 methods	07-Sep-17		LNB	1715358	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	0.00287		mg/l	0.00025	0.00003	1	SW846 6020A	13-Sep-17	15-Sep-17	JMW/TBC	1715271	X

Sample Identification
Field Blank
SC38837-04

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 12:30	05-Sep-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	Field Preserved; pH<2 confirmed		N/A			1	EPA 200/6000 methods	07-Sep-17		LNB	1715358	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	0.00040		mg/l	0.00025	0.00003	1	SW846 6020A	13-Sep-17	15-Sep-17	JMW/TBC	1715271	X
7439-92-1	Lead	< 0.00025		mg/l	0.00025	0.00004	1	"	19-Sep-17	20-Sep-17	"	1716071	X

Sample Identification
DUP
SC38837-05

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 00:00	05-Sep-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	Field Preserved; pH<2 confirmed		N/A			1	EPA 200/6000 methods	07-Sep-17		LNB	1715358	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-50-8	Copper	0.00354		mg/l	0.00025	0.00003	1	SW846 6020A	13-Sep-17	15-Sep-17	JMW/TBC	1715271	X
7439-92-1	Lead	0.0110		mg/l	0.00025	0.00004	1	"	19-Sep-17	20-Sep-17	"	1716071	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6020A										
Batch 1715271 - SW846 3005A										
Blank (1715271-BLK1)							Prepared: 13-Sep-17 Analyzed: 15-Sep-17			
Copper	< 0.00025		mg/l	0.00025						
LCS (1715271-BS1)							Prepared: 13-Sep-17 Analyzed: 15-Sep-17			
Copper	**0.0520**	D	mg/l	0.00250	0.0500		104	85-115		
LCS Dup (1715271-BSD1)							Prepared: 13-Sep-17 Analyzed: 15-Sep-17			
Copper	**0.0513**	D	mg/l	0.00250	0.0500		103	85-115	1	20
Batch 1716071 - SW846 3005A										
Blank (1716071-BLK1)							Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	< 0.00025		mg/l	0.00025						
LCS (1716071-BS1)							Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0482**		mg/l	0.00025	0.0500		96	85-115		
LCS Dup (1716071-BSD1)							Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0506**		mg/l	0.00025	0.0500		101	85-115	5	20
Duplicate (1716071-DUP1)			**Source: SC38837-02**				Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0105**		mg/l	0.00025		0.0103			1	20
Matrix Spike (1716071-MS1)			**Source: SC38837-02**				Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0587**		mg/l	0.00025	0.0500	0.0103	97	75-125		
Matrix Spike Dup (1716071-MSD1)			**Source: SC38837-02**				Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0607**		mg/l	0.00025	0.0500	0.0103	101	75-125	3	20
Post Spike (1716071-PS1)			**Source: SC38837-02**				Prepared: 19-Sep-17 Analyzed: 20-Sep-17			
Lead	**0.0610**		mg/l	0.00025	0.0500	0.0103	101	75-125		

Notes and Definitions

D	Data reported from a dilution
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT ~~7 to 10 business days~~ 5 days
- ☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To:	BL Companies 398 Research Pkwy Meriden, CT, 06450
Telephone #:	203-630-1406
Project Mgr:	Jay Kloss
Invoice To:	Same CTDAS
P.O No.:	164180
Quote #:	
Project No:	14EC0010
Site Name:	New Haven Bus Garage
Location:	2061 State St, Hamden State: CT
Sampler(s):	Matt Walker Wesley Johnson

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below:								Check if chlorinated
										4	4							
										Lead (6010)	COPPER (6010)							
388320 1	CEE-11	9/1/17	10:37	G	GW				1	✓								☐
-02	CEE-12		11:20	G	GW				1	✓	✓							☐
-03	MW-108		12:20	G	GW				1		✓							☐
-04	Field Blank	↓	12:30	G	GW				1	✓	✓							☐
-05	DUP	9/1/17	—	G	GW				1	✓	✓							☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☑ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
Wesley Johnson	BL Fridge	9/1/17	13:30	Observed 1.1
BL Fridge	[signature]	9/5/17	10:10	Correction Factor 0
[signature]	[signature]	9/5/17	1214	Corrected 1.1
				IR ID# C7

☐ EDD format:
☑ E-mail to: JKloss@blcompanies.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1715271

Total Metals by EPA 6000/7000 Series Methods

1715271-BLK1
1715271-BS1
1715271-BSD1
1715271-DUP1
1715271-MS1
1715271-MSD1
1715271-PS1
SC38837-02 (CEE-12)
SC38837-03 (MW-108)
SC38837-04 (Field Blank)
SC38837-05 (DUP)

1715358

Total Metals by EPA 200/6000 Series Methods

SC38837-01 (CEE-11)
SC38837-02 (CEE-12)
SC38837-03 (MW-108)
SC38837-04 (Field Blank)
SC38837-05 (DUP)

1716071

Total Metals by EPA 6000/7000 Series Methods

1716071-BLK1
1716071-BS1
1716071-BSD1
1716071-DUP1
1716071-MS1
1716071-MSD1
1716071-PS1
SC38837-01 (CEE-11)
SC38837-02 (CEE-12)
SC38837-04 (Field Blank)
SC38837-05 (DUP)

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☐ Final Report
☑ Revised Report

Report Date:
08-Jan-18 08:33

Laboratory Report
SC42074

BL Companies
355 Research Parkway
Meriden, CT 06450
Attn: Joy Kloss

Project: New Haven Bus Garage - CT
Project #: 14EC0010

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 8 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC42074

Project: New Haven Bus Garage - CT

Project Number: 14EC0010

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC42074-01	MW-108	Ground Water	01-Sep-17 10:30	04-Dec-17 15:50
SC42074-02	CEE-11	Ground Water	01-Sep-17 11:30	04-Dec-17 15:50
SC42074-03	CEE-12	Ground Water	01-Sep-17 12:20	04-Dec-17 15:50
SC42074-04	DUP	Ground Water	01-Sep-17 00:00	04-Dec-17 15:50

CASE NARRATIVE:

Data has been reported to the MDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 0.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

January 8, 2017 Report Revision Case Narrative:

This report has been revised to issue results to the MDL per client request.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	BL Companies
Project:	New Haven Bus Garage - CT / 14EC0010
Work Order:	SC42074
Sample(s) received on:	12/4/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC42074-01 **Client ID:** MW-108

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.0069	J	0.025	mg/l	SW-846 6020A-B

Lab ID: SC42074-02 **Client ID:** CEE-11

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	0.0014	J	0.0050	mg/l	SW-846 6020A-B

Lab ID: SC42074-03 **Client ID:** CEE-12

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.0019	J	0.025	mg/l	SW-846 6020A-B
Lead	0.056		0.0050	mg/l	SW-846 6020A-B

Lab ID: SC42074-04 **Client ID:** DUP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.0020	J	0.025	mg/l	SW-846 6020A-B
Lead	0.058		0.0050	mg/l	SW-846 6020A-B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification
MW-108
SC42074-01

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 10:30	04-Dec-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Prepared by method SW-846 3005A													
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7440-50-8	Copper	**0.0069**	J	mg/l	0.025	0.0018	5	SW-846 6020A-B	07-Dec-17 09:32	08-Dec-17 18:37	PH-0567	B192729	

Sample Identification
CEE-11
SC42074-02

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 11:30	04-Dec-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Prepared by method SW-846 3005A													
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7439-92-1	Lead	**0.0014**	J	mg/l	0.0050	0.00069	5	SW-846 6020A-B	07-Dec-17 09:32	08-Dec-17 18:41	PH-0567	B192729	

Sample Identification
CEE-12
SC42074-03

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 12:20	04-Dec-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Prepared by method SW-846 3005A													
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7440-50-8	Copper	**0.0019**	J	mg/l	0.025	0.0018	5	SW-846 6020A-B	07-Dec-17 09:32	08-Dec-17 18:51	PH-0567	B192729	
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7439-92-1	Lead	**0.056**		mg/l	0.0050	0.00069	5	"	"	"	"	"	

Sample Identification
DUP
SC42074-04

Client Project #	Matrix	Collection Date/Time	Received
14EC0010	Ground Water	01-Sep-17 00:00	04-Dec-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Prepared by method SW-846 3005A													
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7440-50-8	Copper	**0.0020**	J	mg/l	0.025	0.0018	5	SW-846 6020A-B	07-Dec-17 09:32	08-Dec-17 18:54	PH-0567	B192729	
Analysis performed by Con-Test Analytical Laboratory - PH-0567													
7439-92-1	Lead	**0.058**		mg/l	0.0050	0.00069	5	"	"	"	"	"	

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 6020A-B										
Batch B192729 - SW-846 3005A										
Blank (B192729-BLK1)					Prepared: 07-Dec-17 Analyzed: 08-Dec-17					
Lead	< 0.00069	U	mg/l	0.00069				-		
Copper	< 0.0018	U	mg/l	0.0018				-		
LCS (B192729-BS1)					Prepared: 07-Dec-17 Analyzed: 08-Dec-17					
Lead	**0.535**		mg/l	0.0014	0.500		107	80-120		
Copper	**0.991**		mg/l	0.0036	1.00		99.1	80-120		
LCS Dup (B192729-BSD1)					Prepared: 07-Dec-17 Analyzed: 08-Dec-17					
Lead	**0.528**		mg/l	0.0014	0.500		106	80-120	1.20	20
Copper	**1.00**		mg/l	0.0036	1.00		100	80-120	1.15	20

Notes and Definitions

J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
U	Analyte included in the analysis, but not detected at or above the MDL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 42074

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT ~~7 to 10 business days~~ 5 days
- ☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: BL Companies
355 Research Pkwy
Meriden, CT 06450

Telephone #: 203-630-1406
Project Mgr: Joy Kloss

Invoice To: Same
CTPAS

P.O No.: 164180 Quote #: _____

Project No: 14EC0010
Site Name: New Haven Bus Garage
Location: 2061 State St Hamden State: CT
Sampler(s): Matt Walker

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 4 4	Check if chlorinated
										Lead / Copper	
42074-01	MW-108	9/1/17	10:30	G	GW				1	X	☐
-02	CEE-11	9/1/17	11:30	G	GW				1	X	☐
-03	CEE-12	9/1/17	12:20	G	GW				1	X X	☐
-04	DUP	9/1/17	—	G	GW				1	X X	☐
											☐
											☐
											☐
											☐
											☐
											☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
	BL Fridge	12/1/17	16:00	Observed 0.2
BL Fridge		12/4/17	9:05	Correction Factor 0
		12/4/17	1550	Corrected 0.2
				IR ID # 1

☐ EDD format: _____
☑ E-mail to: jkloss@blcompanies.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

B192729

Subcontracted Analyses

B192729-BLK1
B192729-BS1
B192729-BSD1
SC42074-01 (MW-108)
SC42074-02 (CEE-11)
SC42074-03 (CEE-12)
SC42074-04 (DUP)

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☑ Final Report
☐ Revised Report

Report Date:
09-Mar-18 14:11

Laboratory Report
SC44471

BL Companies
355 Research Parkway
Meriden, CT 06450
Attn: Joy Kloss

Project: New Haven Bus Garage - CT
Project #: 14EC0010

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 13 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC44471

Project: New Haven Bus Garage - CT

Project Number: 14EC0010

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC44471-01	MW-108	Ground Water	01-Mar-18 10:34	02-Mar-18 14:41
SC44471-02	CEE-11	Ground Water	01-Mar-18 11:46	02-Mar-18 14:41
SC44471-03	CEE-12	Ground Water	01-Mar-18 12:49	02-Mar-18 14:41
SC44471-04	Dup	Ground Water	01-Mar-18 00:00	02-Mar-18 14:41
SC44471-05	Field Blank	Ground Water	01-Mar-18 11:00	02-Mar-18 14:41

Reasonable Confidence Protocols
Laboratory Analysis
QA/QC Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.

Client: BL Companies

Project Location: New Haven Bus Garage - CT

Project Number: 14EC0010

Sampling Date(s):
3/1/2018

Laboratory Sample ID(s):
SC44471-01 through SC44471-05

RCP Methods Used:

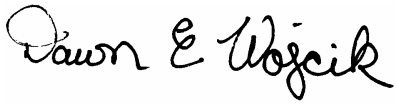
SW6020B

SW846 6020A

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes No
1A	Were the method specified preservation and holding time requirements met?	✓ Yes No
1B	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes No
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	✓ Yes No
3	Were samples received at an appropriate temperature?	✓ Yes No
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved?	✓ Yes No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes ✓ No Yes No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes ✓ No
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes ✓ No

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for obtaining the information contained in this analytical report, such information is accurate and complete.



Dawn E. Wojcik
Laboratory Director
Date: 3/9/2018

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

Required site-specific Matrix Spike/Matrix Spike Duplicate (MS/MSD) must be requested by the client and sufficient sample must be submitted for the additional analyses. Samples submitted with insufficient volume/weight will not be analyzed for site specific MS/MSD, however a batch MS/MSD may be analyzed from a non-site specific sample.

CTDEP has published a list of analytical methods which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of decisions being made utilizing the Reasonable Confidence Protocol (RCP). "Reasonable Confidence" can be established only for those methods published by the CTDEP in the RCP guidelines. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

The CTDEP RCP requests that "all non-detects and all results below the reporting limit are reported as ND (Not Detected at the Specified Reporting Limit)". All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

If no reporting limits were specified or referenced on the chain-of-custody the laboratory's practical quantitation limits were applied.

For this work order, the reporting limits have not been referenced or specified.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	BL Companies
Project:	New Haven Bus Garage - CT / 14EC0010
Work Order:	SC44471
Sample(s) received on:	3/2/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC44471-01 **Client ID:** MW-108

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.010		0.001	mg/l	SW6020B

Lab ID: SC44471-03 **Client ID:** CEE-12

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	0.0836		0.0005	mg/l	SW6020B

Lab ID: SC44471-04 **Client ID:** Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	0.0738		0.0005	mg/l	SW6020B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-108 SC44471-01	14EC0010	Ground Water	01-Mar-18 10:34	02-Mar-18

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 421976-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-50-8	Copper	**0.010**		mg/l	0.001	0.001	5	SW6020B	06-Mar-18	08-Mar-18 14:50	M-CT007	421976A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CEE-11 SC44471-02	14EC0010	Ground Water	01-Mar-18 11:46	02-Mar-18

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 421976-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7439-92-1	Lead	< 0.0005		mg/l	0.0005	0.0005	5	SW6020B	06-Mar-18	08-Mar-18 15:12	M-CT007	421976A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CEE-12 SC44471-03	14EC0010	Ground Water	01-Mar-18 12:49	02-Mar-18

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 421976-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7439-92-1	Lead	**0.0836**		mg/l	0.0005	0.0005	5	SW6020B	06-Mar-18	08-Mar-18 15:14	M-CT007	421976A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dup SC44471-04	14EC0010	Ground Water	01-Mar-18 00:00	02-Mar-18

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 421976-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7439-92-1	Lead	**0.0738**		mg/l	0.0005	0.0005	5	SW6020B	06-Mar-18	08-Mar-18 15:16	M-CT007	421976A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Field Blank SC44471-05	14EC0010	Ground Water	01-Mar-18 11:00	02-Mar-18

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses Prepared by method 421976-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-50-8	Copper	< 0.001		mg/l	0.001	0.001	5	SW6020B	06-Mar-18	08-Mar-18 15:18	M-CT007	421976A	
7439-92-1	Lead	< 0.0005		mg/l	0.0005	0.0005	5	"	"	"	"	"	

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW6020B										
Batch 421976A - 421976-										
BLK (BZ97858-BLK)					Prepared: 06-Mar-18 Analyzed: 08-Mar-18					
Lead	< 0.0025		mg/l	0.0025				-		
Copper	< 0.025		mg/l	0.025				-		
DUP (BZ97858-DUP)			**Source: SC44471-01**		Prepared: 06-Mar-18 Analyzed: 08-Mar-18					
Lead	< 0.0025		mg/l	0.0025				-	NC	20
Copper	< 0.025		mg/l	0.025				-	NC	20
LCS (BZ97858-LCS)					Prepared: 06-Mar-18 Analyzed: 08-Mar-18					
Copper	**0.0541**		mg/l	0.025	0.05		108	75-125		20
Lead	**0.0488**		mg/l	0.0025	0.05		97.6	75-125		20
MS (BZ97858-MS)			**Source: SC44471-01**		Prepared: 06-Mar-18 Analyzed: 08-Mar-18					
Lead	**0.0492**		mg/l	0.0025	0.05		97.2	75-125		20
Copper	**0.0651**		mg/l	0.025	0.05		110	75-125		20

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

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Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC44471e

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT - ~~7 to 10 business days~~ 5 days
- ☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: BL Companies
355 Research Pkwy
Meriden, CT 06450

Telephone #: 203-630-1406
Project Mgr: Joy Kloss

Invoice To: Sam
CTDAS

P.O No.: 164180 Quote #:

Project No: 14EC0010
Site Name: New Haven Bus Garage
Location: 2061 State St Hamden State: CT
Sampler(s): Matt Walker

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 4 4	Check if chlorinated
										Lead / Copper	
44471-01	MW-108	3/1/18	10:34		G				1	X	☐
-02	CEE-11	↓	11:46		↓				1	X	☐
-03	CEE-12		12:49						1	X	☐
-04	DUP		—						1	X	☐
-05	Field Blank		11:00						2	X X	☐
											☐
											☐
											☐
											☐
											☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☑ Yes ☐ No
☑ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
	BL Fridge	3/1/18	14:00	Observed 3
Wesley Johnson		3-2-18	1220	Correction Factor 0
		3/2/18	1441	Corrected 3
				IR ID # 02

☐ EDD format:
☑ E-mail to: jkloss@blcompanies.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

SC44471e

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT - ~~7 to 10 business days~~ 5 days
- ☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: BL Companies
355 Research Pkwy
Meriden, CT 06450

Telephone #: 203-630-1406
Project Mgr: Joy Kloss

Invoice To: Same
CTDAS

P.O No.: 164180 Quote #: _____

Project No: 14EC0010
Site Name: New Haven Bus Garage
Location: 2061 State St Hamden State: CT
Sampler(s): Matt Walker

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Lead	Copper	Check if chlorinated
44471-01	MW-108	3/1/18	10:34	G	GW				1		X	☐
-02	CEE-11		11:46						1	X		☐
-03	CEE-12		12:49						1	X		☐
-04	DUP		—						1	X		☐
-05	Field Blank		11:00		W2				2	X	X	☐
												☐
												☐
												☐
												☐
												☐

List Preservative Code below: 4 4

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☑ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Matrix per client email 3/5/18

Relinquished by:	Received by:	Date:	Time:	Temp °C
	BL Fridge	3/1/18	14:00	Observed 2.3
Wesley Johnson		3-2-18	1220	Correction Factor 0
		3/2/18	1441	Corrected 2.3
				IR ID # 02

☐ EDD format: _____
☑ E-mail to: jkloss@blcompanies.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

421976A

Subcontracted Analyses

BZ97858-BLK
BZ97858-DUP
BZ97858-LCS
BZ97858-MS
SC44471-01 (MW-108)
SC44471-02 (CEE-11)
SC44471-03 (CEE-12)
SC44471-04 (Dup)
SC44471-05 (Field Blank)