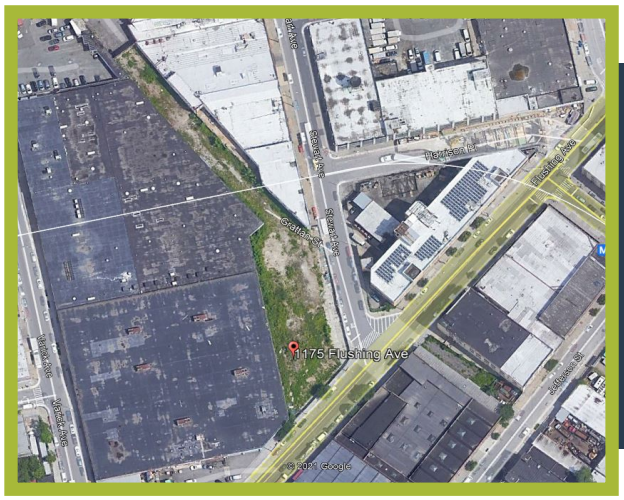

1175 Flushing Avenue Associates, LLC
1175 Flushing Avenue
Brooklyn, New York
Block 2994, Lot 75
NYSDEC Spill No. 0510000
Stipulation Agreement No. R2-20090702-408

REMEDIAL INVESTIGATION WORK PLAN

SEPTEMBER 21, 2021 (REVISED OCTOBER 12, 2021)

PREPARED FOR:
1175 Flushing Avenue Associates, LLC
163-14 92nd Street
Howard Beach, New York 11414

PREPARED BY:
Lockwood, Kessler & Bartlett, Inc.
One Aerial Way
Syosset, NY 11791
PHONE 516.938.0600

PROJECT NO: 74014

LKB CONSULTING ENGINEERS
ENGINEERING EXCELLENCE SINCE 1889

Lockwood, Kessler & Bartlett, Inc.
One Aerial Way · Syosset, NY 11791
516.938.0600 www.lkbinc.com

September 21, 2021 (revised October 12, 2021)

Mr. Kyle Forster
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

RE: Remedial Investigation Work Plan
1175 Flushing Avenue Associates, LLC
1175 Flushing Avenue
Brooklyn, New York
Block 2994, Lot 75
NYSDEC Spill No. 0510000
Stipulation Agreement No. R2-20090702-408

Dear Mr. Forster:

Lockwood Kessler & Bartlett, Inc. (LKB), a wholly owned subsidiary of The Vertex Companies, Inc. (VERTEX) is pleased to submit this Remedial Investigation Work Plan (RIWP) for the above-referenced property (the site) on behalf of 1175 Flushing Avenue Associates, LLC). The site is identified with New York State Department of Environmental Conservation (NYSDEC) Spill No. 0510000. A Stipulation Agreement (R2-20090702-408) between 1175 Flushing Ave, LLC and the NYSDEC was executed on July 3, 2009. This RIWP has been prepared in response to correspondence from the NYSDEC dated June 17, 2021.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this RIWP.

Sincerely,
Lockwood Kessler & Bartlett, Inc.

Joseph J.C. Dultz
Vice President

Richard J. Tobia, PE
Technical Director

Cc:

Scott Furman
Sive Paget & Riesel, P.C.
560 Lexington Avenue, 15th Floor
New York, New York 10022
Email: sfurman@sprlaw.com

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FIGURES

Figure 1 Site Locus Map

Figure 2 Proposed Monitoring Well Locations

APPENDICES

Appendix A Health and Safety Plan

Appendix B NYSDOH Certificate of Approval for Laboratory Service

LIST OF ACRONYMS

Acronym	Definition
AAR	Alternative Analysis Report
AWQS	Ambient Water Quality Standards
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CLASS GA	Groundwater Effluent Limitations
CP-51	Commissioner's Policy
CVOCs	Chlorinated Volatile Organic Compounds
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DOT	Department of Transportation
DUSR	Data Usability Summary Report
ESA	Environmental Site Assessment
ELAP	Environmental Laboratory Accreditation Program
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation-Derived Waste
LIRR	Long Island Railroad
LNAPL	Light Non-Aqueous Phase Liquid
LSI	Limited Site Investigation
MEK	Methyl Ethyl Ketone
MTBE	Methyl Tert Butyl Ether
NYCDOB	New York City Department of Buildings
NYCDOT	New York City Department of Transportation
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
ORP	Oxidation-Reduction Potential

Acronym	Definition
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PPE	Personal Protective Equipment
PPB	Parts Per Billion
PVC	Poly Vinyl Chloride
QAPP	Quality Assurance Project Plan
QA / QC	Quality Assurance / Quality Control
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RUSCOs	Restricted Use Soil Cleanup Objectives
TCE	Trichloroethylene
TOGS	Technical and Operational Guidance Series
UG/L	Micrograms Per Liter
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UUSCOs	Unrestricted Use Soil Cleanup Objective
VOCs	Volatile Organic Compounds

REMEDIAL INVESTIGATION WORK PLAN
1175 Flushing Avenue Associates, LLC
1175 Flushing Avenue
Brooklyn, New York
Block 2994, Lot 75
NYSDEC Spill No. 0510000
Stipulation Agreement No. R2-20090702-408

1.0 INTRODUCTION

This Remedial Investigation Work Plan (RIWP) has been developed for the 1175 Flushing Avenue Associates, LLC property located at 1175 Flushing Avenue in Brooklyn, Kings County, New York (the site). The site is identified with New York State Department of Environmental Conservation (NYSDEC) Spill No. 0510000. A Stipulation Agreement (R2-20090702-408) between 1175 Flushing Ave, LLC and the NYSDEC was executed on July 3, 2009.

This RIWP has been prepared in general accordance with NYSDEC Division of Environmental Remediation (DER)-10 / Technical Guidance for Site Investigation and Remediation (May 3, 2010).

1.1 Site Description

The site consists of one parcel identified as Block 2994, Lot 75. The site originally consisted of two parcels, Lots 9 and 75, that were merged for redevelopment purposes. A Site Location Map is provided as Figure 1. According to the New York City Department of Buildings (NYCDOB), the site is identified with the following addresses: 1181 to 1189 Flushing Avenue, 25 to 31 Stewart Avenue and 29 Stewart Avenue. The site is located in an urban area primarily zoned for industrial and manufacturing uses, on the northwestern side of Flushing Avenue and the western side of Stewart Avenue. The approximate site area is 42,000 square feet (0.97 acres). The L subway line intersects the northern portion of the site and runs to the east of the site.

The site is currently vacant. Based on a review of the New York City Department of City Planning Zoning and Land Use mapping program, the site is zoned M1-2. The M1 (manufacturing) zoning is described as areas that are often buffers between M2 or M3 districts and adjacent residential or commercial districts. The M1 zone typically includes light industrial uses, such as woodworking shops, repair shops, and wholesale service and storage facilities. The neighboring properties are currently used for a combination of commercial and industrial uses.

1.2 Surrounding Land Use

The site is located in a highly developed urban area in Brooklyn, New York. Adjacent properties include various industrial and manufacturing buildings. Occupants include textile manufacturers, lumber yards, wholesale grocers, auto repair shops, and photography studios. Multi-family residential buildings are located approximately 325 feet to the east, 350 feet to the southwest, and 425 feet to the northeast of the site boundary.

Based on visual observations during a site reconnaissance and a review of the New York City Oasis mapping program, the following sensitive human receptors (residences and/or schools) were identified in the vicinity of the site:

Sensitive Human Receptors			
Name	**Address**	**Distance/Direction from the Site**	**Gradient in Relation to the Site**
PS 123 Suydam	100 Irving Ave	1,160 feet southeast	Up-gradient
JHS 162 The Willoughby	1390 Willoughby Ave	1,440 feet northeast	Cross-gradient
Residences	Various	Adjacent southwest, northeast, east	Various

A map depicting the sensitive receptors in the vicinity of the site is provided as Figure 2.

1.3 Historic Use of the Site

According to a *Phase I Environmental Site Assessment* (ESA) *Screening Summary* prepared by Environmental Business Consultants (EBC), dated December 2014, the site was utilized as a Long Island Railroad (LIRR) freight yard from the early 1900s through the late 1950s. A one story structure was constructed on the southern portion of the site in the 1930s or 1950s. The building was originally utilized for firewood cutting, bagged charcoal storage, and automobile storage. The site was later utilized as a service station, car wash, auto repair shop, filling station and a scrap metal facility. 1175 Flushing Avenue Associates, LLC operated as an automobile dismantling facility from the early 2000s to 2015. The site building was demolished in 2015 and the site has remained vacant since.

1.4 Site Geology and Hydrogeology

Based upon the findings of a Phase II Investigation Data Summary completed by EBC in December 2014 and a Remedial Investigation Report (RIR) prepared by EBC in May 2017, soils encountered

at the site generally consist of historic fill materials to a depth of approximately 2 to 5 feet below ground surface (bgs), with some areas extending to 12 feet bgs. Silty sand is present beneath the fill material. Bedrock was not encountered during previous investigations at the site. Groundwater was encountered at depths ranging from 12 to 13.2 feet bgs.

Based on previous investigations conducted at the site, groundwater flows to the north and northeast. It is suspected that groundwater flow is likely impacted by the L subway line that intersects the northern portion of the site and runs to the east and localized urban development, including subsurface utilities and building foundations.

In accordance with New York Codes, Rules and Regulations Title 6 (6 NYCRR) Part 701: Classifications -Surface Waters and Groundwater, groundwater at the site is identified as Class GA (fresh groundwater). There are no known groundwater supply wells on the site, and currently there are no known deed restrictions on the use of groundwater at the site. Groundwater in the vicinity of the site is not utilized for industrial, agriculture, or public supply purposes.

1.5 Wetlands and Floodplain

Review of the U.S. Fish & Wildlife Service, National Wetlands Inventory, Wetlands Mapper program identified no Federally regulated wetlands on the site. The closest wetland area is the English Kills located approximately 1,100 feet to the northeast. No State-regulated wetlands were identified on the site or close in proximity to the site, based on a review of the NYSDEC tidal wetlands map.

No surface water bodies were observed on the site or on the adjoining properties. The closest waterbody is English Kills, located approximately 1,100 feet to the northeast.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the site is not located in a flood hazard area.

2.0 PREVIOUS SITE INVESTIGATIONS AND REMEDIATION

Eleven 550-gallon underground storage tanks (USTs) were removed from the site in November 2005. Impacted soil was identified and reported to the NYSDEC and Spill No. 0510000 was assigned to the site. Impacted groundwater was identified in the vicinity of the former UST area. The NYSDEC requested additional investigation to delineate the extents of the impacts in 2009. Additional investigation was performed in August 2009. In-situ chemical oxidant and oxygen releasing compound injections were performed in July and September 2010 to remediate impacts. Post-injection monitoring identified a significant decrease in contaminant concentrations. Subsequent sampling in 2011 and 2013 showed some rebound and the stabilization of concentrations. A Phase II ESA was conducted in 2014 and Phase II Limited Site Investigation (LSI) was conducted in 2015.

The following provides a summary of the recent investigation and remediation activities applicable to the offsite investigation completed to date at the site.

Off-Site Groundwater Sampling Report, prepared by EBC, dated October 11, 2017

The investigation was associated with the 2009 Stipulation Agreement and the purpose of the investigation was to comply with requests by NYSDEC to determine if petroleum-impacted groundwater from the site migrated onto the southern and eastern adjacent properties. Three groundwater samples were collected using direct push drilling and Hydropunch™ sampling methods. One sample was collected to the south of the site, across Flushing Avenue, and two samples were collected to the east of the site, across Stewart Avenue (Figure 2, locations labeled as 2017 VOCs only). The samples were analyzed for Commissioner's Policy (CP-51) volatile organic compounds (VOCs). Groundwater was encountered at approximately 12 feet bgs during the

investigation. No petroleum VOCs were detected at concentrations exceeding the applicable groundwater quality standards. It was concluded that based on the results of the investigation, petroleum contaminated groundwater has not migrated offsite.

Remedial Action Work Plan (RAWP), prepared by AMC Engineering, PLLC (AMC), dated December 2017

The report summarized the previous on-site remedial investigation (RI) activities, which included the following:

- Sampling for non-petroleum contaminants such as pesticides, polychlorinated biphenyls (PCBs) and metals in soil and groundwater including the analysis of soil and groundwater samples

- Soil sampling and analysis for petroleum compounds in soil samples from 16 soil boring locations.

- The installation of 12 groundwater monitoring wells.

- The collection and analysis of groundwater samples for petroleum compounds.

- The collection of analysis of soil gas samples for VOCs from 9 soil gas sampling locations.

These RI activities were completed in November 2016. The results of the RI identified the following:

- Petroleum VOC and SVOC contamination was identified in soil at multiple locations around the site including areas adjacent to and downgradient of the former UST area, adjacent to the waste oil UST, and in shallow soil across the Site. Contamination adjacent to the UST area typically extends to a depth of 12 to 14 feet bgs but extends to 25 feet bgs in limited areas. Petroleum impacts in the vicinity of the waste oil UST extend to 7 feet bgs. The majority of the site has petroleum impacts in the top 2 to 5 feet of soil.

- Historic fill material has been identified across the Site at depths of 2 to 5 feet below grade extending as deep as 12 feet in at least one of the borings. Depending on location, the historic fill material contains one or more metals, including barium, copper, lead, mercury and zinc, pesticides, polycyclic aromatic hydrocarbons (PAHs) and PCBs above the NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCO) and/or Restricted Use Soil Cleanup Objectives (RUSCOs).

- Depths to groundwater range from 11.97 to 13.19 feet bgs. Groundwater flows is to the north and northeast and is likely influenced by the L subway line that intersects the northern portion of the site and runs to the east.

- Groundwater is impacted with petroleum VOCs across the majority of the site. In general, concentrations of total petroleum VOCs were detected in the low hundreds of parts per billion (ppb) across the site, with the exception of the area downgradient of the UST area which had concentrations of petroleum VOCs in the mid to high hundreds and low thousands.

- Monitoring wells MW-6, MW-9, and MW-14 are located on the downgradient property boundary and are most representative of potential offsite conditions. In 2016, benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in MW-6 and MW-14 at total

concentrations of 3,150 micrograms per liter (ug/L) and 7,620 ug/L, respectively. Additional petroleum related VOCs including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, n- and sec-butylbenzene, n-propylbenzene, naphthalene, and methyl ethyl ketone (MEK) were detected at concentrations exceeding the groundwater quality standards in MW-6 and MW-14. Methyl tert butyl ether (MTBE) was detected in MW-9 and lead was detected in MW-6 concentrations exceeding the groundwater quality standards. Tetrachloroethene (PCE) and trichloroethene (TCE) were detected in MW-6 at concentrations exceeding the groundwater quality standards. Other metals including barium, cadmium, iron, magnesium, manganese, and sodium were detected in the three monitoring wells at concentrations exceeding the groundwater quality standards; however, the metals are likely related to historic fill or background conditions. PCB-1016 was detected in MW-14 at a concentration slightly exceeding the groundwater quality standards.

- Chlorinated VOCs (CVOCs) were identified in all soil gas samples collected at the site. Benzene was also detected in several of the soil gas samples.

AMC proposed a Track 1 cleanup for the site, which would include the following:

- Excavation of soil and fill material exceeding the UUSCOs to a minimum depth of 15 feet bgs with additional excavation in petroleum-impacted areas as needed to meet the UUSCOs.

The most recent Monthly Progress Report for January 2020 indicated that the RAWP was revised and submitted to NYSDEC for approval on January 29, 2020. The anticipated activities included

RAWP approval, a pre-construction meeting, preparation of a site logistics plan, and support of excavation activities. The current status of remedial activities is not known.

3.0 QUALITY ASSURANCE PROJECT PLAN

A Quality Assurance Project Plan (QAPP) was prepared to guide the implementation of the proposed RI activities. Quality assurance/quality control (QA/QC) procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for the RI at the site.

3.1 Project Technical Personnel and Contractors

The table below summarizes the planned principal personnel to participate in the RI activities.

Project Technical Personnel and Contractors			
Name	**Company**	**Responsibility**	**Contact Information**
Madalyn Kulas	The Vertex Companies, Inc.	Project Manager	(908) 578-2186
Joseph Dultz	Vertex Engineering, PC	Project Manager / Technical Support	(908) 333-4312
Richard J. Tobia, P.E.	Vertex Engineering, PC	New York-licensed Professional Engineer	(908) 458-9604
Anthony Fiorentine	Clean Globe Environmental LLC	Drilling Services	(888) -454-5923
Kelly Weyer	Clean Globe Environmental LLC	Geophysical Contractor	(888)-454-5923
Ethan Leighton	Alpha Analytical Inc.	Laboratory Contact	(508) 439-5146

3.2 Sampling Methodology

All sampling will be conducted in accordance with NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, and Sampling Guidelines and Protocols, dated March 1991.

For the collection of groundwater samples from permanent monitoring wells installed by VERTEX, the wells will be purged with disposable polyethylene tubing and a stainless-steel submersible pump. Three well volumes will be purged using the volume averaged sampling method. Following purging, a grab groundwater sample will be collected using a polyethylene disposable bailer.

Equipment will be operated in accordance with the manufacturer's specifications, including calibration of all field instruments, which will be performed prior to the initiation of field work and on a schedule indicated by the manufacturer.

Following the groundwater sample collection, the sample containers will be secured, labeled, and placed in a storage/transportation cooler and cooled to acceptable temperatures (e.g., four degrees Celsius) with ice. Samples will then be transported by a field courier to the laboratory following proper chain of custody procedures. The courier will relinquish custody to the log-in sample custodian upon arrival at the laboratory.

3.3 Report Logs

Field logs and borings logs will be completed during the course of RI activities. A field log will be completed on a daily basis, which will describe all field activities including project number and site address; date and time; weather conditions; on-site personnel and associated affiliations; description of field activities; pertinent sample collection information (sample identification, description of sample, sample location, sample collection time, sampling methodology, name of collector, field screening results, and analysis to be conducted).

3.4 Laboratory Summary

All samples collected during the RI activities will be submitted under proper chain-of-custody protocols to Alpha Analytical, Inc. (Alpha) in Westborough, Massachusetts (New York Environmental Laboratory Approval Program [ELAP] No. 11627). A copy of the NYSDOH *Certificate of Approval for Laboratory Service* is included in Appendix B.

3.5 Analytical Method/Quality Assurance

As part of the RI activities, groundwater samples will be collected. The sampling, including matrix, frequency of collection, analytical parameter, analytical method, sample preservation, sample container volume and type, and holding time are provided in the summary tables below.

Groundwater Sampling Summary					
Matrix Type	**Analytical Parameter**	**Analytical Method**	**Sample Preservation**	**Sample Container**	**Sample Holding Time**
Aqueous	VOCs	8260	HCl, Cool, 4°C	40 ml Vials	14 days
Aqueous	PCBs	8082	Cool, 4°C	500 mL Amber Glass	7/40 days
Aqueous	Lead	6010	HNO_3, Cool, 4˚C	500 mL plastic	6 months

If either Light Non-Aqueous Phase Liquid (LNAPL) and/or Dense Non-Aqueous Phase Liquid (DNAPL) are detected, appropriate samples will be collected for characterization and "fingerprint analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

A thorough evaluation of the laboratory data will be completed, and a Data Usability Summary Report (DUSR) will be prepared. The primary objective for the evaluation of analytical data will be to determine whether or not the data, as presented, meets the site-specific criteria for data

quality and use. The DUSR will be prepared by a qualified, independent data validation expert. The DUSR will be prepared in accordance with *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* included in NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*.

3.6 Quality Assurance Samples

Field blanks and trip blanks will be submitted to the laboratory to evaluate the quality and performance of the analytical laboratory's analysis and reporting of the soil and groundwater sample results. Field (equipment) blanks will be analyzed to assess any contamination contributed from sampling location conditions, and the transport, handling, and storage of the samples. The trip blank will be analyzed to determine if sample containers may have been contaminated during transportation and storage. In accordance with DER-10, field duplicates, aqueous trip blanks, and field blanks will be collected at a frequency of 1 per 20 samples and will be analyzed for the analyses listed above.

4.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) was prepared to guide the conduct of the RI work in the event that petroleum hydrocarbons and/or hazardous substances are encountered during the performance of the field activities. A copy of the HASP is included as Appendix A. The purpose of the HASP is to minimize the likelihood of exposure of VERTEX employees to hazardous concentrations of chemicals encountered during field activities, minimize impacts to the environment, and provide safety guidelines for subcontractors.

Investigative work performed under this RIWP will be in full compliance with applicable health and safety laws and regulations, including site and Occupational Safety & Health Administration (OSHA) worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards, and will address potential risks. The parties performing the investigation work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. Field activities will be completed with OSHA level D personal protective equipment (PPE) consisting of hard hats, safety glasses, protective gloves and steel toed boots.

An emergency contact sheet with names and phone numbers for all pertinent project personnel as well as regulatory hotline information is included in the HASP. That document will define the specific project contacts for use in case of emergency.

Health and safety activities will be monitored throughout the RI activities, and the HASP will be subject to change, as necessary, based on new conditions that may be encountered during the field investigation.

5.0 REMEDIAL INVESTIGATION WORK PLAN

The objective of the RI is to investigate groundwater conditions offsite and downgradient from the known groundwater impacts at the site, including the following: installation of permanent monitoring wells and the collection of groundwater samples to confirm the presence or absence of onsite contamination offsite and downgradient from the site.

5.1 Utility Clearance and Geophysical Evaluation

As part of the subsurface investigation, VERTEX's drilling subcontractor will contact the New York one call system prior to initiating the drilling activities. VERTEX will also retain the services of a geophysics subcontractor to conduct a geophysical survey using ground penetrating radar (GPR) and electromagnetic evaluation to mark-out subsurface utilities, evaluate drains and subsurface piping, and "clear" any proposed soil boring locations prior to drilling. In addition, VERTEX's drilling subcontractor will pre-clear the drilling locations to six feet bgs and VERTEX will coordinate with the property owners or site contacts, and/or obtain existing utility plans, if available, in an attempt to confirm that all drilling locations, if warranted, are free of underground utilities.

5.2 Monitoring Well Installation

This task will involve the installation of three permanent groundwater monitoring wells utilizing hollow-stem auger drilling techniques within the City-owned sidewalks, to the maximum depth of 20 feet below sidewalk grade. The proposed monitoring well locations are depicted on Figure 2. The locations of the soil borings/monitoring wells may need to be adjusted in the field, based on the findings of the geophysical evaluation and/or due to site access limitations (i.e. parked

vehicles, equipment, proximity to the L subway line, etc.). Applicable permits and as built drawings will be obtained prior to drilling.

Details of the monitoring well completion depths and construction information will be recorded by VERTEX in the field. The monitoring wells will be constructed of 2-inch diameter Schedule 40 slotted (0.010 inch) polyvinyl chloride (PVC) screen and 2-inch diameter PVC riser to grade. The well screen annulus will be filled with sand pack from the base of the screen to 1 to 2 feet above the top of the screen. A bentonite/grout slurry will be installed from the top of the sand pack to ground surface. VERTEX assumes that the monitoring wells will be installed to a depth no greater than 20 feet below grade. The screened interval for the monitoring wells (10 feet) will be installed to intersect the shallow groundwater table and will extend to the completion depth of the well. Surface finishing will consist of a flush-mount traffic-rated manhole with a bolt-on lid set into a concrete pad. Additionally, an expandable locking cap will be fitted to the top of the PVC riser in the well.

The monitoring wells will be developed following installation to improve the hydraulic efficiency, by the removal of the fine-grained material generated during the drilling process. The monitoring wells will be developed following installation. Groundwater will be purged from the monitoring wells using disposable polyethylene tubing and a submersible pump, until turbid-free water is observed.

5.2.1 Groundwater Sampling

The newly installed monitoring wells will be allowed to stabilize and sampled a minimum of one week following installation and development. The groundwater sampling event will begin with groundwater level measurements from each well using a product/water interface probe. Purging

of the wells prior to sampling will be conducted using low-flow purging methodologies with disposable polyethylene tubing and a stainless-steel submersible pump. Field parameters to be measured before and during the sampling will consist of pH, specific conductance, oxidation-reduction potential (ORP), temperature, dissolved oxygen, and turbidity. The groundwater will be inspected for the presence of any odor and/or surface sheen. Sample collection will be conducted following a three well volume purge.

Groundwater samples will be analyzed for VOCs and lead. The monitoring well installed downgradient of MW-6 and the monitoring well on the eastern side of Stewart Avenue will additionally be analyzed for PCBs. A second groundwater sampling event will be conducted 90 days following the initial sampling event. The monitoring well sampling will be conducted as outlined above.

5.3 Investigation-Derived Waste Management

Investigation-derived waste (IDW) generated during the RI activities would include soil cuttings generated during the soil boring and/or monitoring well installations and purge development water generated during monitoring well development and sampling.

Soil cuttings generated during the installation of the permanent monitoring wells will be placed in sealed and labeled U.S. Department of Transportation (DOT)-approved 55-gallon drums pending off-site disposal at a permitted facility.

Based on the documented groundwater impacts at the site, purge development water will be containerized in DOT-approved 55-gallon drums for off-site disposal at a permitted facility.

Disposable sampling equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as general refuse.

5.4 Reporting

VERTEX will prepare a RIR/Alternative Analysis Report (AAR) in accordance with NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*. The RIR/AAR will present the findings of the RI activities, evaluate remedial alternatives, and provide a recommendation for a remedial strategy to address soil, groundwater, and/or vapor intrusion concerns.

Groundwater analytical results will be compared to the NYSDEC Part 703 Groundwater Quality Standards (Class GA) and Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS).

A thorough evaluation of the laboratory data will be completed and a DUSR will be prepared by a qualified, independent data validation expert. The DUSR will be prepared in accordance with *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* included in NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*.

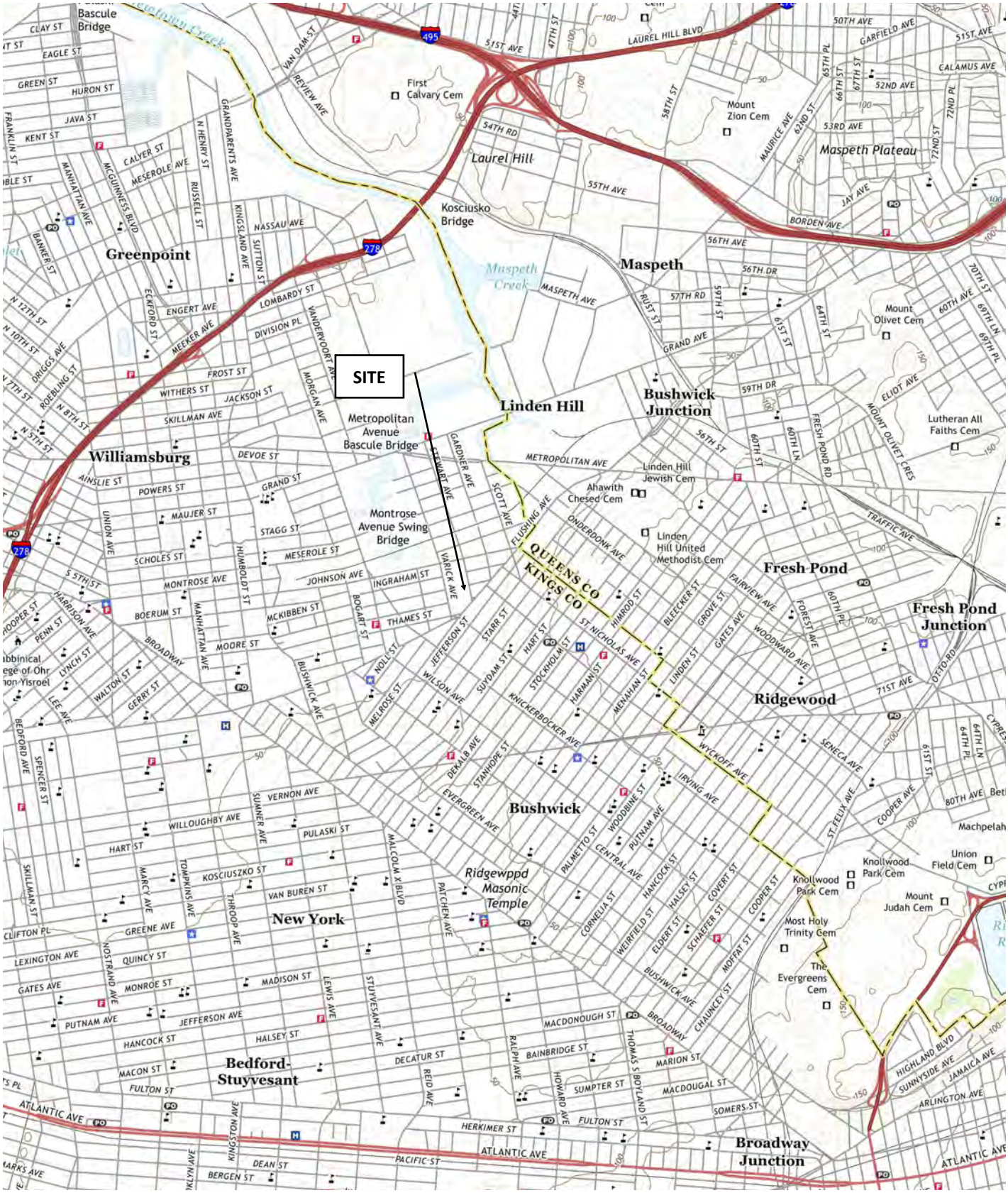
The report will include site location and sample location figures, color photographic documentation, summary of methods, laboratory reports and data summaries, IDW manifests, and other pertinent support documentation as required by applicable NYSDEC and NYSDOH regulations.

5.5 Implementation Schedule

The following is the estimated schedule to implement the RI activities.

Implementation Schedule	
Task	**Estimated Completion Date**
Submit RIWP to NYSDEC	September 21, 2021
Address NYSDEC Comments to RIWP & Submit Response to NYSDEC	Within 15 days of receiving comments from NYSDEC
NYSDEC Approval of RIWP	TBD
Request Offsite Access or Obtain NYC DOT Sidewalk Permits	Within 10 days of RIWP approval or permit approval
Implement RI Activities	Within 15 days of gaining access to offsite properties or receipt of sidewalk permits
Submit RA Work Plan	Within 60 days of receipt of laboratory results
Submit RIR/AAR	Within 60 days of receipt of laboratory results

FIGURES



BROOKLYN, NY QUADRANGLE—2019 10 FT CONTOUR INTERVALS	**SITE LOCUS MAP** 1175 FLUSHING AVENUE BROOKLYN, NEW YORK VERTEX PROJECT. NO. 74014	VERTEX® FIGURE NO. 1

Source: Google Earth

PROPOSED MONITORING WELL LOCATIONS

1175 FLUSHING AVENUE
BROOKLYN, NEW YORK

VERTEX Project No. 74014

VERTEX®

THE VERTEX COMPANIES, INC.

FIGURE NO. 2

APPENDIX A:
HEALTH AND SAFETY PLAN

1175 Flushing Avenue Associates, LLC
1175 Flushing Avenue
Brooklyn, New York
Block 2994, Lot 75
NYSDEC Spill No. 0510000 Stipulation
Agreement No. R2-20090702-408

VERTEX SITE SPECIFIC HEALTH AND SAFETY PLAN (HASP)

PREPARED FOR: 1
1175 Flushing Avenue Associates,
LLC 163-14 92nd Street
Howard Beach, New York 11414

PREPARED BY:
Lockwood, Kessler & Bartlett, Inc.
One Aerial Way
Syosset, NY 11791

PHONE 516.938.0600

VERTEX PROJECT NO: 74014

DATE OF FIELD WORK: TBD

Prepared by:	**Madalyn Kulas**	**Signature:**		**Date:**	
Project Manager:	**Madalyn Kulas**	**Signature:**		**Date:**	
HandS Team Member:	**Richard Tobia**	**Signature:**		**Date:**	

HASP Limitations and Acknowledgement

This HASP addresses those activities and site procedures to be followed by VERTEX personnel during work performed at this site(s). *This HASP is designed to comply with OSHA standards, such as HAZWOPER, 29 CFR 1910.120, and VERTEX Companies Safety Polices, so compliance with this HASP is required by VERTEX personnel.* The content of this HASP may change or undergo revision based upon additional information made available to VERTEX. Changes proposed must be approved by VERTEX's HandS Team and the Project Manager.

The information in this HASP supplements the health and safety training that each VERTEX employee receives. It is not possible to discover, evaluate, and provide protection for all possible hazards, which may be encountered. This plan is written for the specific-site conditions, purposes, dates, and personnel specified, and must be amended if these conditions change.

Compliance with this HASP is required by persons who enter the site.

This HASP will expire 1 Year after the HandS Team's Signature Date, or if site conditions change. A review and approval by the HandS Team is required to extend the HASP Duration.

VERTEX Colleagues

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Name: _____ Signature: _____ Date: _____

Subcontractors, Owner, and Others

Subcontractors must review this HASP, but must prepare their own site-specific HASP based upon their company health and safety program, and the risks and precautions of their work on the site. The subcontractor HASP will be at a minimum consistent with the provisions of this HASP.

This HASP is not intended to satisfy the requirement for the owner or designated subcontractor to prepare their own site-specific HASPs. This HASP does not relieve the owner, subcontractor, or their designated representatives of their responsibility to comply with all federal, state and local laws, regulations and ordinances governing worker health and safety.

VERTEX expressly disclaims any and all guarantees or warranties, expressed or implied that this plan will meet the specific needs or requirements of any subcontractor or its employees. VERTEX, therefore, cannot and does not assume any liability by the use or reuse of this plan by any client, subcontractor or their employees or agents. Any reliance on this plan or the information herein will be at the sole risk and liability of such party.

Employer: _____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Employer: _____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

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Job Safety Analyses
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VERTEX SITE SPECIFIC HEALTH AND SAFETY PLAN (HASP)

1175 Flushing Avenue Associates, LLC
1175 Flushing Avenue
Brooklyn, New York
Block 2994, Lot 75
NYSDEC Spill No. 0510000
Stipulation Agreement No. R2-20090702-408

1.0 CONTACT INFORMATION

EMERGENCY PREPAREDNESS EQUIPMENT LOCATIONS

Emergency eyewash (provide 15 minutes of eye flushing)	VERTEX vehicle
Fire extinguisher (10 lbs)	Driller vehicle
First aid kit	VERTEX vehicle
Decontamination area	Site
H&S Plan and other related documents	VERTEX vehicle
Traffic control equipment	Driller provided

EMERGENCY PHONE NUMBERS

Ambulance, Police, and Fire	911, in case of emergency.
Poison Control Center	1-800-222-1222
Chemtrec	1-800-424-9300
National Response Center	1-800-424-8802
Utility Clearance (National)/Local Phone #	811
One Call Ticket Number	TBD
Local Fire Department	805-458-1207
Local Police Department	718-574-1605
Water/Sewer Department	212-442-1904
Electrical Company	800-752-6633
Gas Company	718-643-4050
WorkCare Injury Intervention	1-888.449.7787

HOSPITAL INFORMATION

Woodhull Medical Center	760 Broadway, Brooklyn, New York 718-963-8000

A HOSPITAL MAP AND DIRECTIONS ARE ATTACHED

PERTINENT SITE CONTACT INFORMATION

SITE CONTACT	TBD
PROJECT MANAGER - VERTEX OFFICE	Madalyn Kulas 3322 Route 22 West, Suite 907, Branchburg, New Jersey 908-578-2186
Health and Safety (HANDS) Phone Number	339-499-4995
HandS Team Member working on this HASP:	908-578-2186

1.1 Project Communication Hierarchy

Madalyn Kulas

Joseph Dultz

Client

2.0 SITE DESCRIPTION AND RELEVANT INFORMATION

The site is located in an urban area primarily zoned for industrial and manufacturing uses, located on the northwestern side of Flushing Avenue and the western side of Stewart Avenue. The approximate site area is 42,000 square feet (0.97 acres). The L subway line intersects the site on the northern portion of the site and runs to the east of the site. The site is currently vacant and undeveloped.

2.1 Relevant Information

According to a Phase I Environmental Site Assessment (ESA) Screening Summary prepared by Environmental Business Consultants (EBC), dated December 2014, the site was utilized as a Long Island Railroad (LIRR) freight yard from the early 1900s through the late 1950s. A one story

structure was constructed on the southern portion of the site in the 1930s or 1950s. The building was originally utilized for firewood cutting, bagged charcoal storage, automobile storage. The site was later utilized as a service station, car wash, auto repair shop, filling station and a scrap metal facility. A scrap and auto recycling facility has operated at the site from approximately the early 2000s to 2015. The site building was demolished in 2015 and the site has remained vacant since.

2.2 **Anticipated Chemicals:**

Petroleum contaminated soil

Laboratory preservatives

2.3 **Scope of Work and Tasks**

Groundwater Measuring

Groundwater Sampling

2.4 **Subcontractors Scope of Work**

Clean Globe subcontractor will perform the following tasks during this project:

Geophysical Survey

Installation of Monitoring Wells

3.0 JOB SAFETY ANALYSES

The following JSAs will be followed during this project. The JSAs are included in the Attachment A.

- Virus Avoidance
- Site Reconnaissance
- Drilling Oversight
- Monitoring Well Installation
- Monitoring Well Development
- Groundwater Measuring
- Groundwater Sampling

3.1 Site Reconnaissance/Site Entrance

The site will be accessed via gates on Flushing Avenue and Stewart Avenue.

4.0 WORK ZONES

Work zones in an environmental remediation project typically include three specific areas:

1. The Support Zone
2. The Decontamination Zone
3. The Exclusion Zone

The zones are shown on the site plan on the cover of this HASP.

The following tables provide general guidelines for the establishment of work zones. The information provided should be adjusted if warranted by field observations, such as traffic, and measurements, laboratory analytical results, or at the request of the HandS Team.

ACTIVITY	MINIMUM GENERAL WORK ZONE RADIUS (FEET)	WORK ZONE EVALUATION
Soil/Sediment Sampling	5	The site supervisor may modify the work zone radius based upon field conditions (examples below): Physical barriers or walls that may reduce the work zone to the barrier or wall. High traffic area may increase the work zone to allow for worker safety.
Direct Push (Drilling)	15	The site supervisor may modify this radius based upon the specific equipment being use. Generally, height of equipment plus 5 feet.
Overhead Power Lines	10	Assumes < 50 kV. Additional 4-inches per 50 kV.
Working around Heavy Equipment	25	The turn radius may necessitate more space. Speak with the operator of the equipment to obtain the safe distance. Cones and danger tape may be needed.

5.0 CLEANLINESS AND HYGIENE

5.1 Housekeeping

Proper housekeeping is the foundation for a safe work environment. It prevents incidents and fires, as well as creating a businesslike work area. Materials will be stored in a stable manner so that it will not be subject to falling. Rubbish, scraps and debris will be removed from the work area on a daily basis to job-site dumpster or truck as required. Materials and supplies will not be left in stairways, walkways, near floor openings or at the edge of the building when exterior walls are not built.

5.2 Hygiene Facilities

Hygiene facilities include washing and toilet facilities. The hygiene facilities for this project will be located at nearby restaurants and will consist of restrooms.

6.0 DECONTAMINATION

Our goal is always to keep contaminated material where it belongs, either on a project site or in an appropriate waste disposal process. We should avoid taking contaminated materials with us on our clothes or the bottoms of our work boots, into our vehicles or to our homes. This practice applies to staff who may encounter hazardous materials/waste or other materials such as oil and gasoline contaminated soils that may not be called hazardous waste, and it is also reasonable to manage nuisance dirt from sites in a responsible manner.

VERTEX supports proper project planning and execution to minimize risks. This requires:

- Planning before going to the site:
- Responsible actions at the site:
- After you leave the site:

It is critical that decontamination takes place prior to break periods and at the end of the day to reduce the chances of ingesting contaminants, or carrying them off the site. The following procedures will be followed on the site: Disposable PPE will be removed and placed in a trash bag. Hands will be washed prior to eating or drinking. Work boots will be removed.

7.0 TRAINING AND MEDICAL SURVEILLANCE

7.1 Training

Colleagues and workers assigned to a VERTEX project must have proper training and experience to enable our project to be performed successfully. At a minimum, completion of the OSHA 10-Hour Construction Safety training session is required for all VERTEX colleagues.

7.2 Medical Surveillance

Field staff who are exposed to chemicals will participate in VERTEX's Medical Surveillance Program. Our program is administered by our Human Resources Department. The examination is responsive to many chemicals, but not all chemicals, so prior to a project, the Project Manager should check with Human Resources or the HandS Team, especially if unusual chemicals or elements are involved in the scope of work. VERTEX colleagues can verify the content of their exams by contacting Human Resources. The colleague must successfully pass the physical examination prior to field work on the project.

8.0 SAFETY MEETINGS

Safety meetings are vital to set the tone for safe work performance at the beginning of a project and each day. These meetings should be attended by all project participants, that is, VERTEX colleagues, contractors, and client staff if they are on-site. Several types of meetings may take place during a project:

- Kick-off meeting. This meeting begins a project and may take place at the field site or in an office or trailer. The scope of work should be reiterated, along with the hazards and precautions. This meeting is important to setting the tone and expectations for performance.

- Daily tailgate safety meeting. Held at the beginning of each shift, this meeting reiterates the scope of work planned during the shift, the hazards and precautions. Ideally, a different person, including contractor workers, would lead the meeting each day of a project to engage everyone and make each meeting fresh.

- Post project meeting. Although this meeting does not always take place, it is a good idea to wrap up a project and share what went well and what should be improved the next time the project team is together, or share lessons to take to the next project regardless of the team.

- Root cause analysis meeting is held following an incident or near miss to understand the root cause of what went wrong or almost went wrong (near miss) to reduce the chance of recurrence and to share lessons learned. These discussions are an essential part of any people-based safety program.

9.0 EMERGENCY RESPONSE PLAN

Incidents and near misses, no matter how minor, must be reported immediately to the Project Safety Supervisor or VERTEX HandS Team! The Safety Hotline is 339.499.4995. Other information is included in the Contact Information chart at the beginning of this HASP. Directions to the nearest hospital are attached at the end of the HASP so that they can be posted in an accessible location.

9.1 Emergency Incident

The nature of our work makes emergencies on site a continual possibility. Although emergencies are unlikely and occur infrequently, a contingency plan is required to assure timely and appropriate response actions. The contingency plan is reviewed at the tailgate safety meetings.

Discuss client Emergency Response Plans with all project participants so that everyone knows their part and expectations.

Upon Incident, Near Miss, Physical Reaction or Excessive Exposure: Leave area immediately and seek appropriate medical assistance. This may include, but not be limited to, any of the following physiological reactions:

- Dizziness
- Nausea
- Rash
- Asthmatic Reaction
- Abdominal Pain
- Distorted Vision of Hearing
- Excessive Coughing
- Edema or Localized Swelling

- Headaches
- Exposure to High/Cold Temperatures

9.2 Upon Emergency Incident, Take the Following Actions:

1. Size-up the situation based on the available information.
2. Follow the VERTEX Wallet Card calling directions. You must speak directly to a person: Notify:
   a. Your Supervisor/Site Supervisor, Follow any client required procedures
   b. Call the VERTEX HandS Team at 339-499-4995
   c. Call Human Resources,
   d. Call your Project Manager/Client,
   e. Call Account Manager.
3. Only respond to an emergency if personnel are sufficiently trained and properly equipped.
4. As appropriate, evacuate site personnel and notify emergency response agencies, e.g., fire, police, etc.
5. As necessary, request assistance from outside sources and/or allocate personnel and equipment.
6. Consult the posted emergency phone list and contact key personnel.
7. Prepare an incident/near miss report. Forward incident report to Project Manager/VERTEX HandS Team within 24 hours via the HandS@vertexeng.com email.

9.3 Upon Medical Emergency, Take the Following Actions:

1. Assess the severity of the injury and perform first aid/CPR as necessary to stabilize the injured person. Follow universal precautions to protect against exposure to bloodborne pathogens.
2. Get medical attention for the injured person immediately. Call 911 or consult the Emergency Contacts list which must be posted at the site.

3. Follow the VERTEX Wallet Card calling directions. You must speak directly to a person: Notify:
    a. Your Supervisor/Site Supervisor, Follow any client required procedures
    b. For any injuries, call WorkCare at 888-449-7787. For international calls, use 714-456-2107. WorkCare has qualified medical practitioners tending the phone to offer a telephone triage of the situation. WorkCare will provide guidance on how to transport the injured individual.
    c. Call the VERTEX HandS Team at 339-499-4995
    d. Call Human Resources
    e. Call your Project Manager/Client
    f. Call Account Manager.
4. Prepare an incident report. The Site Safety officer is responsible for its preparation and submittal to the Health and Safety Manager within 24 hours by email at HandS@vertexeng.com.
5. You can reach Human Resources at HR@vertexeng.com.

10.0 NEAR MISS/UNSAFE CONDITION REPORTING

Reporting of near misses and unsafe conditions is a critical piece of our health & safety learning, and it comes with “no cost,” because nothing was damaged and no one was hurt. A near miss is defined as an event that “almost happened but did not.” An unsafe condition is simply a potentially unsafe condition that is recognized before it even becomes a near miss. A good litmus test for reporting is, “Do you think someone who has less experience would benefit from learning about your event or unsafe condition?” If so, please go ahead and report it. The Near Miss Incident Report can be used for this purpose. The HandS Team also accepts emails or even a phone call to report to make sharing of information as easy as possible. Call the HandS Team number that is found in the Contacts information, or email at HandS@vertexeng.com.

ATTACHMENTS

VERTEX®

JOB SAFETY ANALYSES

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Task to Be Performed:	**Drilling Oversight**	**Analyzed By:**	William Soderstrom
		Date	5-Apr-18
Project Name & Location:	Proposed RaceTrac West Rendon Crowley Road Crowley, Texas		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular traffic;** **2. Potential to encounter utilities;** **3. Excessive noise;** **4. Drill rig moving and heated mechanisms;** **5. Muscle strains from lifting;** **6. Eye injury from dust and debris;** **7. Inhalation of dust and debris;** **8. Lacerations;** **9. Muscle strain from heavy lifting;** **10. Slip/Trip/Fall hazards due to equipment, debris, and/or slippery surfaces.** **11. Mechanical failure leading to injury or property damage; and,** **12. Pinch points.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe drilling and oversite techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, hearing protection, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely possible.	WS
2	Utility Clearance	1. Potential to encounter underground or aboveground utilities while drilling.	Complete utility clearance using State One Call, GPR services, and/or hand augur to 5 feet bgs.	WS
3	General drill rig operation	1. Excessive noise is generated by rig operations.	When the engine is used at high RPMs or soil samples are being collected, use hearing protection.	RQD

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
3	General drill rig operation	2. During drill rig operation, surfaces will become hot and cause burns if touched, and COCs in the soil will more readily vaporize generating airborne contaminates.	Use caution handling equipment and wear proper work gloves. Air monitoring should be performed in accordance with the HASP to monitor the potential volatilization of COCs.	RQD
		3. Moving parts of the drilling rig can pull you in, causing injury. Pinch points on the rig and auger connections can cause pinching or crushing of body parts.	Stay at least 5 feet away from moving parts of the drill rig. Know where the kill switch is, and have the drillers test it to verify that it is working. Do not wear loose clothing and tie back long hair. Avoid wearing jewelry when drilling. Cone off work area to keep general public away from the drill rig.	RQD
		4. Dust and debris can cause eye injury and soil cuttings and/or water could contain COCs.	Wear safety glasses and stay as far away from actual drilling operation as practicable. Wear appropriate gloves to protect from COCs.	RQD
		5. Drilling equipment laying on the ground (i.e. augurs, split spoons, decon equipment, coolers, etc.) create a tripping hazard. Water from decon buckets generate mud and cause a slipping hazard.	Keep equipment and trash picked up and store away from the primary work area. Wear footwear with ankle support.	RQD
		6. The raised derrick can strike overhead utilities, tree limbs, or other elevated items.	Never move the rig with the derrick up. Ensure there is proper clearance to raise the derrick. Ensure that you are far enough away from overhead power lines.	RQD
4	Direct push drilling	1. The driller rods will be handled by workers most of the time, rather than the rig doing it. Therefore, pinch points can cause lacerations and crushing of fingers and/or body parts.	Keep a minimum of five (5) feet away from drill rig operation and moving parts.	RQD

		2. The direct push rigs are usually meant to fit in small spaces, as they are smaller than other drill rigs. Tight spaces can pin workers.	Do not put yourself between the rig and a fixed object. Use spotters or a tape measure to ensure clearances in tight spaces. Pre-plan equipment movement from one location to the next.	RQD
		3. Wireless devices can fail and equipment can strike workers or cause property damage.	Test wireless equipment in an open area prior to operations. Ensure that operator remains close to rig while using wireless equipment to ensure that the signal is strong.	RQD
Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	RQD
4	Direct push drilling	4. Cutting sampling sleeves can lead to lacerations.	When possible, let the driller cut the sleeves open, as they have the proper tools. If we cut the sleeves, use a hook blade, change blade regularly, and cut away from the body.	RQD
5	Sample collection and processing	1. Injuries can result from pinch points on sampling equipment and from breakage of sample containers.	Care should be taken when opening sampling equipment. Look at empty containers before picking them up. Use dividers or bubble wrap in cooler so that the containers do not break.	
		2. Lifting heavy coolers can cause muscle strain and/or back injuries.	Use proper lifting techniques and body positions; don't carry more than you can handle and get help moving heavy or awkward objects.	

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Task to Be Performed:	**Groundwater Measuring**	**Analyzed By:**	Aaron Falzarano
		Date	29-Dec-16
Project Name & Location:			

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular traffic;** **2. Tripping/slipping hazards;** **3. Pinch points;** **4. Lacerations;** **5. Muscle strains from lifting; and** **6. Exposure to contaminated vapors and/or water.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe measuring techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Stage at pre-determined sampling location and set up work zone and sampling equipment	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely possible.	
		2. Sampling equipment, tools, and monitoring well covers can cause tripping hazard.	Keep equipment picked up and to monitor changes to site condition.	
2	Open wells to equilibrate and gauge wells	1. When squatting down, personnel can be difficult to see by vehicular traffic.	Wear Class II traffic vest if wells are located in/near vehicular traffic. Use tall cones and the buddy system if practicable.	
		2. Pinch points on well vaults can pinch or lacerate fingers.	Use correct tools to open well vault/cap. Wear leather gloves when removing well vault lids, and chemical protective gloves when gauging. Wear proper PPE including safety boots, knee pads, and safety glasses.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
2	Open wells to equilibrate and gauge wells	3. Lifting sampling equipment can cause muscle strain.	Unload as close to work area as safely possible; use proper lifting and reaching techniques and body positioning; don't carry more than you can handle and get help moving heavy or awkward objects.	
		4. Pressure can build up inside well causing cap to release under pressure.	Keep head away from well cap when removing. If pressure relief valves are on well, use prior to opening.	
		5. Vapors from open wells.	Conduct air monitoring as wells are opened. When opening wells, be positioned up-wind when possible.	
3	Measure Depth to Water and Depth to Bottom	1. Well water can get on skin or in eyes when inserting and removing water level indicator.	Slowly insert and remove water level indicator to prevent splashing. Wear safety glasses, work gloves, and recommended PPE.	
		2. Lacerations can occur when inserting water level indicator.	Be aware of sharp edges of well when inserting water level indicator. When possible, wear leather safety gloves.	
4	Equilibrate and gauge well	1. Lifting sampling equipment can cause muscle strain.	Use proper lifting and reaching techniques and body positioning; don't carry more than you can handle and get help moving heavy or awkward objects.	
		2. Water spilling on ground can cause muddy/slippery conditions.	Be careful when walking around work area and wear proper safety boots.	
		3. Lacerations can occur when cutting materials such as plastic tubing.	When cutting tubing, use tubing cutter. No open fixed blades should ever be used. When possible, wear leather safety gloves.	

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Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	**Responsible Person**
5	Staging of purged well water	1. Muscle strains can occur when moving purge water or drums.	If using buckets, do not fill buckets up to the top. Always keep lid on buckets when travelling or moving them to another location. Only half fill buckets so bucket weight is manageable.	
		2. Spilling or splashing of purge water.	Make sure that purge water is properly contained with a lid to avoid spilling/splashing the purge water. Wear long sleeve shirts while sampling.	

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Task to Be Performed:	**Groundwater Sampling**	**Analyzed By:**	Taylor Rudow
		Date	7-Aug-18
Project Name & Location:	GE Facility, 158 Industrial Park Street, Pittsfield, ME		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular traffic;** **2. Tripping/slipping hazards;** **3. Pinch points;** **4. Lacerations;** **5. Muscle strains from lifting;** **6. Electrical shock; and** **7. Exposure to contaminated vapors and/or water.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe sampling techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, work gloves, hard hat, and reflective safety vest.

Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	**Responsible Person**
1	Stage at pre-determined sampling location and set up work zone and sampling equipment	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely as possible.	
		2. Sampling equipment, tools, and monitoring well covers can cause tripping hazard.	Keep equipment picked up and monitor any changes to site condition.	
2	Open wells to equilibrate and gauge wells	1. When squatting down, personnel can be difficult to see by vehicular traffic.	Wear Class II traffic vest if wells are located in/near vehicular traffic. Use tall cones and the buddy system if practicable.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
2	Open wells to equilibrate and gauge wells	2. Pinch points on well vaults can pinch or lacerate fingers.	Use correct tools to open well vault/cap. Wear leather gloves when removing well vault lids, and chemical protective gloves when gauging. Wear proper PPE including safety boots, knee pads, and safety glasses.	
		3. Lifting sampling equipment can cause muscle strain.	Unload as close to work area as safely possible; use proper lifting and reaching techniques and body positioning; don't carry more than you can handle and get help moving heavy or awkward objects.	
		4. Pressure can build up inside well causing cap to release under pressure.	Keep head away from well cap when removing. If pressure relief valves are on well, use prior to opening.	
		5. Vapors from open wells.	Conduct air monitoring as wells are opened. When opening wells, be positioned up-wind when possible.	
3	Begin purging well and collecting parameter measurements	1. Electrical shock can occur when connecting/disconnecting pump from battery.	Make sure equipment is turned off when connecting/disconnecting. Wear leather gloves. Use GFCIs when using power tools and pumps. Do not use in the rain or run electrical cords through wet areas.	
		2. Purge water can spill or leak from equipment.	Stop purging activities immediately, stop leakage and block any drainage grate with absorbent pads. Call PM to notify them of any reportable spill.	
		3. Water spilling on the ground can cause muddy/slippery conditions.	Be careful when walking around work area and wear proper safety boots.	
		4. Lacerations can occur when cutting materials such as plastic tubing.	When cutting tubing, use tubing cutter. No open fixed blades should ever be used. When possible, wear leather safety gloves.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
3	Begin purging well and collecting parameter measurements	5. Purge water can splash into eyes.	Pour water slowly into buckets/drums to minimize splashing. Wear safety glasses and recommended PPE.	
4	Collect groundwater sample	1. Sample water can splash into eyes.	Minimize splashing potential by wearing safety glasses and appropriate gloves.	
		2. Sample containers could break/leak preservative.	Discard any broken sample containers properly. Wear appropriate eye and hand protection.	
5	Staging of purged well water	1. Muscle strains can occur when moving purge water or drums.	If using buckets, do not fill buckets up to the top. Always keep lid on buckets when travelling or moving them to another location. Only half fill buckets so bucket weight is manageable.	
		2. Spilling or splashing of purge water.	Make sure that purge water is properly contained with a lid to avoid spilling/splashing the purge water. Wear long sleeve shirts while sampling.	

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Task to Be Performed:	**MONITORING WELL DEVELOPMENT**	**Analyzed By:**	
		Date	
Project Name & Location:			

Possible Risks at a Glance	**Engineering Controls at a Glance**
1. Vehicular traffic; **2. Muscle strains from lifting or repetative motion injury;** **3. Lacerations;** **4. Slip/Trip/Fall hazards due to equipment, debris, and/or slippery surfaces; and** **5. Exposure to contaminated vapors and/or water.**	**Mechanical Pumps or Pump Assists**
	Work Practice Controls at a Glance
	Wear appropriate PPE **Use an organic vapor meter for site with volatile compounds**
	Personal Protective Equipment at a Glance
	Level D PPE including: **safety glasses, steel-toe boots, reflective vest** **Splash Protection as needed: Face Shield, Goggles, Long Gloves**

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely as possible.	
			Use personnel vehicle as an added barrier where possible.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
2	Open montioring well and remove expansion plug	Lacerations/abrasions during removal of roadbox cover. Exposure to volatile compounds following removal of expansion plug	Use long sockets or socket extension to mitigate the change to lacerate/abrase hand during opening of road box	
			For wells where volatiles may have accumulated use a string to remotely remove the expansion plug to allow volatiles to dissipate. Use a organic vapor monitor to measure VOC	
3	Insertion of inertial lift pump, or electrical submersible pump	Splash hazard Loss of equipment in well	Use caution when inserting pump into well. Make sure connections to pumps are secure and where applicable use secondary line to secure pump	
4	Well development	Repetative Motion Injusry	Use caustion, change hands, take breaks when using manually operated inertial lift pumps or use an electrically operated assist to operate the inertial lift pump.	
		Electrical Hazard Electrically operated submersible pumps or electrically operated asssit require a power source often a car battery or power inverter.	Make sure to connect wire leads to approriate charge of battery (positive/negative). Use supplied connectors, sufficient legths of wire to complete pump connection. Inspect wire for shorts, snags, or comprimised insulation. Repair or replace damaged wires prior to use.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
			Make sure amperage of inverters is sufficient to power the equipment. Prevent accidential cross connections (e.g., contact of wires or connectors other than to the appropriate connection location).	
			Make sure appropriate wire gauge is used to connect pumps to power source. Incorrect wire gauge may lead to equipment damage, short cuircuit, and/or fire	
			Maintain control of wiring connections or use appropriate lock-out tag-out proceedures	
			Make sure pump is appropriately sized for depth to water, certain pumps may short or malfunction when pumped dry.	
		Lacerations can occur when cutting materials, such as plastic tubing.	When cutting items, use proper cutting tools. When possible, wear leather safety gloves.	
3	Well Pumping	Splash hazard Inhilation Hazard	Collect water in appropriate container for contaminant present.	
			Stand back or use spalsh protection to prevent contact with well water	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
			For sites with volatile conaminantes use a organic vapor monitor to measure VOC	
4	Purge water management.	1. Moving containers can cause back injury and/or pinching/crushing injury.	Employ proper lifting techniques and body positioning. Don't carry more than you can handle; get assistance from an associate or a lift assist device for heavy objects. Wear leather work gloves and clear all walking and work areas of debris.	
		2. Spilling or splashing of purge water.	Make sure that purge water is properly contained with a lid to avoid spilling/splashing the purge water. Wear long sleeve shirts while sampling.	

VERTEX The VERTEX Companies Health & Safety - A HANDS on Approach to Safety

Task to Be Performed:	**Monitoring Well Installation**	**Analyzed By:**	
		Date	
Project Name & Location:			

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular traffic;** **2. Potential to encounter utilities;** **3. Excessive noise;** **4. Drill rig moving and heated mechanisms;** **5. Muscle strains from lifting;** **6. Eye injury from dust and debris;** **7. Lacerations;** **8. Muscle strain from heavy lifting; and** **9. Slip/Trip/Fall hazards due to equipment, debris, and/or slippery surfaces.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe drilling and installation techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, hearing protection, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely as possible.	
2	Utility Clearance	1. Potential to encounter underground or aboveground utilities while drilling.	Complete utility clearance using State One Call, GPR services, and/or hand augur to 5 feet bgs.	
3	General drill rig operation	1. Excessive noise is generated by rig operations.	When the engine is used at high RPMs or soil samples are being collected, use hearing protection.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	
3	General drill rig operation	2. During drill rig operation, surfaces will become hot and cause burns if touched, and COCs in the soil will more readily vaporize generating airborne contaminates.	Use caution handling equipment and wear proper work gloves. Air monitoring should b e performed in accordance with the HASP to monitor the potential volatilization of COCs.	
		3. Moving parts of the drilling rig can pull you in, causing injury. Pinch points on the rig and auger connections can cause pinching or crushing of body parts.	Stay at least 5 feet away from moving parts of the drill rig. Know where the kill switch is, and have the drillers test it to verify that it is working. Do not wear loose clothing and tie back long hair. Avoid wearing jewelry when drilling. Cone off work area to keep general public away from the drill rig.	
		4. Dust and debris can cause eye injury and soil cuttings and/or water could contain COCs.	Wear safety glasses and stay as far away from actual drilling operation as practicable. Wear appropriate gloves to protect from COCs.	
		5. Drilling equipment laying on the ground (i.e. augurs, split spoons, decon equipment, coolers, etc.) create a tripping hazard. Water from decon buckets generate mud and cause a slipping hazard.	Keep equipment and trash picked up and store away from the primary work area. Wear footwear with ankle support.	
		6. The raised derrick can strike overhead utilities, tree limbs, or other elevated items.	Never move the rig with the derrick up. Ensure there is proper clearance to raise the derrick. Ensure that you are far enough away from overhead power lines.	
4	Monitoring well installation	1. Monitoring well construction materials can clutter the work area causing tripping hazards.	Well construction materials should be picked up during the well installation process.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	
4	Monitoring well installation	2. Heavy lifting can cause muscle strains.	Use proper lifting and reaching techniques and body positioning; don't carry more than you can handle and get help moving heavy or awkward objects.	
		3. Lacerations can occur when cutting materials, such as bags or plastic tubing.	When cutting items, ensure that proper cutting tools are utilized. When possible, wear leather safety gloves.	
		4. Well packed material (i.e. sand, grout, bentonite) can become airborne and get in your eyes.	Wear safety glasses for protection from airborne sand and dust.	
		5. Cutting the top of the well to size can cause jagged/sharp edges on the top of the well casing.	Wear gloves when working with the top of the well casing, and file any sharp jagged edges that resulting from cutting to size.	
5	Soil cutting and purge water management.	1. Moving full drums can cause back injury and/or pinching/crushing injury.	Employ proper lifting techniques and body positioning. Don't carry more than you can handle; get assistance from an associate or a lift assist device for heavy objects. Wear leather work gloves and clear all walking and work areas of debris prior to moving a drum.	

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Task to Be Performed:	**Site Reconnaissance**	**Analyzed By:**	Pat O'Brien
		Date	18-Nov-18
Project Name & Location:	17 Springfield Street, Agawam Ma		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular accident/damage;** **2. Slip, trip, and fall hazards;** **3. Heavy equipment operations;** **4. Scratch, scrape, and impalement hazards;** **5. Muscle strains;** **6. On site traffic;** **7. Lack of communications;** **8. Changing site conditions; and** **9. Personal injury from energized equipment.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe site reconnaissance techniques.
	Personal Protective Equipment at a Glance
	Limited Level D PPE including steel-toe boots and reflective safety vest. Additional Level D PPE including, chemical resistant gloves, work gloves, hard hat, and safety glasses when applicable.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Commuting to and from the work site	1. Vehicular accident/damage.	Wear seatbelts. Drive defensively by: (a) looking down road to determine limiting factors, (b) Minimizing/eliminating distractions, and (c) managing speed and distance. Check vehicle for proper operating systems, such as lights, tires, and mirrors.	
2	Site walkovers and inspections	1. Slips/trips/falls.	Wear footwear with proper ankle support and be vigilant for trip hazards.	
		2. Heavy equipment operations.	Use hearing protection and maintain 15-feet minimum clearance of heavy equipment. Maintain eye contact with equipment operators when possible.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
2	Site walkovers and inspections	3. Scratches/scrapes/impalement from sharp edges/protruding objects.	Be vigilant for hazards and avoid climbing in tight spaces and on equipment.	
		4. On-site traffic.	Watch for vehicular traffic on site and maintain eye contact with operator when possible.	
		5. Lack of site communications.	Carry cell phone or walkie talkie (if necessary). Abandon site activity when conditions are unsafe.	
		6. Changing site conditions.	The work area should be consistently assessed for changing conditions (animals, pedestrians, etc.) to avoid potential safety-related issues.	
3	Equipment assessments	1. Personal injury from energized equipment.	Use LO/TO procedures.	
		2. Back/hand injuries.	Keep back straight when moving equipment and performing inspection. Maintain vigilance for potential hazards.	

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Task to Be Performed:	**Virus Avoidance JSA** ***NOTE:*** *This JSA is meant to cover VERTEX work with an on-site component and be used in conjunction with existing VERTEX's task-specific procedures. This JSA must be modified as needed for the scope of work.* ** Guidance is appropriate for our construction sites, Phase I ESAs, Cause & Origin (C&O) investigations, insurance assessments, asbestos surveys, IAQ assessments, radon sampling, PCAs, and other site visit scopes that require being physically present on-site.* ** Special guidance is provided for multi-tenant facilities and facilities with large numbers of occupants, including apartment complexes, hospitals, schools/higher education, nursing homes, assisted living, office buildings, and hotels; airport; cruise ships.*	**Analyzed By:** **Date**	Philip Platcow and Genevieve Reynolds 17-Sep-20
Project Name & Location:	VERTEX field-activities requiring in-person presence of VERTEX team members at field sites		

Possible Risks at a Glance	Engineering Controls at a Glance
* Possible exposure to the virus that causes COVID-19 Note: This guidance must be combined with JSAs for site-work tasks have their own risks and precautions that must be addressed, such as electrical risks, falling, tripping, chemicals, etc.	* Do not go to the site if you can achieve your objectives remotely. * Good preparation before you go to a project site can avoid incidents of all types. * For construction sites, order construction trailers that are large enough to allow at least a separation between employees of 6 feet/2m. * Determine if any restrictions in the location to which you are going might limit the effectiveness of the visit and impact achieving all the goals of the visit.
	Work Practice Controls at a Glance
	* Establishing a distance of 6 feet/2m between people, when possible. * Conducting work off-hours, when fewer people are around, when possible. * Avoid any contact with confirmed positive COVID-19 or presumptive positive cases. * Obey any restrictions imposed by the various states of emergency or other community restrictions. * Implement cleaning/disinfection procedures in job trailers. * Discuss wellness *daily* to ensure that all project participants are feeling well at the beginning of every shift.
	Personal Protective Equipment at a Glance
	* Bring gloves, hand sanitizer, to the visit to use. If hand sanitizer is in short supply, use cleaning/disinfectant wipes, or simply identify places where you can wash your hands with soap and water. *Depending on the VERTEX task(s), some level of respiratory protection may be needed. Please contact Philip Platcow to discuss the task, airborne hazards and the need for protection. * You should wear a surgical or N/KN-95 when more substantial respiratory protection is <u>not</u> required. Cloth masks are not preferred when better protection is available. When you are walking around a site or traveling to and from, you should wear a mask. If there is more than one VERTEX colleague on a project site or at a meeting, an effort should be made to wear the same mask for uniformity. *Utilize other PPE as required for the specific task, such as steel-toed work boots, safety glasses, hardhats, etc.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Preparing for a site visit or other work task requiring that the VERTEX team member be physically present at a site.		Determine if going to the location is absolutely necessary to achieve the project goal. * Can we use a technology tool to avoid the need to be on a site? * Can we attend a meeting by remote video?	Project managers/field colleagues
			When setting up a site visit: * Ask if the facility is open and operating, and which hours may have fewer people present at the site. * Ask your site contact if any cases or voluntary isolations/quarantines have been reported among employees/tenants/etc. at the location. * Tactfully ask if there is anyone else who might be aware of cases.	Project managers/field colleagues
			For sites between 3 and 6 hours from your office, consider driving rather than taking a train or plane to your destination.	Field colleagues
			If you must take a plane: * Wear a sugical or cloth mask while traveling these areas. * Make an effort to avoid crowds, create a 6 feet/2m (or greater if possible) distance between you and others while in the waiting areas and in lines to the extent possible. * Although you may feel uncomfortable, it is fine to wear nitrile gloves. * Bring disinfectant wipes for seats, arm rests, tray tables, etc. * Wash hands frequentily and carry a small container of hand sanitizer.	Field colleagues

			* Select a good level hotel, such as, Courtyard and above, where you can count on it being clean under normal circumstances. * Call the hotel and ask if they have had any COVID-19 cases. * When checking in/out, keep a 6 foot/2m distance from the hotel employees and any other guests. * Bring your own pen to sign documents. Many people may have used those hotel pens. * Bring disinfectant wipes to go back over surfaces and high touch areas like knobs, lights, thermostat, and stay away from people as possible. * Use a wipe to disinfect the room key and the TV remote control. If you use any glasses, wash them again prior to use. * Wear a sugical or cloth mask and gloves as you go through the hotel. * Do not use the fitness center during this time at all; go for a run or walk outdoors if it's in a safe area. * Select a hotel with a refrigerator so that you do a bit of shopping (breakfast and lunch anyway) and minimize the meals you take in the presence of others. Indeed, these common areas may be closed anyway. * Follow other, typical safety procedures, such as parking under lights, choose a hotel that requires you to enter through the lobby, etc. * During this time, it is even more important to consider wellness: eat properly, get some exercise, get a good amount of sleep.	
			Make sure you have nitrile gloves and hand sanitizer, or other available and appropriate sanitization supplies and PPE, in your field kit before you set out for the project location.	Field colleagues
			For scopes that require a municipal research component, consider calling or submitting a FOIA to local offices to confirm records are available before visiting in person. Give yourself enough time for the office visit so that you can wait, if needed, to get in a cabinet/folder that someone else may be standing near. Then approach when they move. Wear a surgical or cloth mask in these offices.	Project managers/field colleagues
			Obey all local/State/Federal restrictions in place on work in the site area, such as stop-work orders for construction sites, shelter-in-place orders, etc.	Project managers/field colleagues
			For multi-tenant residential visits: Ask the site management to notify more units than you need, to complete the scope. For example, if your scope requires access to 20% of the units, request that the property notify 25% or even 30%. This will allow you to skip units during the visit if it becomes necessary. This is always a good approach because all sorts of scenarios may come up that prohibit you from getting into one unit or space or another.	Project managers/field colleagues

			For multi-tenant residential visits: request access to vacant units when the scope can be completed by visiting vacant units. Note that this may not be appropriate for all scopes.	Project managers/field colleagues
2	During your task		At the start of the on-site portion of the assessment, ask the site contacts again if any cases (confirmed or presumptive positive) or voluntary isolations have been reported at the property. This is an evolving situation, and cases may have been reported since you set up the visit.	Field colleagues
			Please bring a surgical or cloth mask, gloves, hand sanitizer, etc. to the visit to use.	Field colleagues
			As much as possible, avoid touching high-contact surfaces (railings, knobs, switches, etc.), particularly in high-occupancy areas like clubhouses. We want to avoid touching railings, but we also need to be careful walking up/down stairs as well. Use your surgical or cloth mask, and nitrile gloves for protection.	Field colleagues
Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	**Responsible Person**
			As always, wash hands frequently (esp. before eating) for about 20 second, up to the elbow, and avoid touching your face. This actually takes some practice to get used to.	Field colleagues
			* While at the property, maintain a distance of 6 feet/2m (or greater, if possible) between people, when possible. Remember that people who are not showing visible symptoms or even exhibiting an elevated temperature may still be capable of spreading COVID-19. * Wear your mask, unless the scope of work requires a higher level of respiratory protection.	Field colleagues
			For Construction Sites: * Discuss measuring temperatures of individuals coming on to the site. * Signage about proper hygiene practices should be installed on the outside of job trailers or at the gate wherever possible. * Ensure an adequate number of hand-washing stations on job sites to facilitate better hygiene. * Minimize sharing of tools and wipe down tools with disinfectant prior to another worker using a tool. * Have daily discussions about wellness with colleagues and workers at the beginning of each shift to ensure that all are feeling well. Anyone who is sick should be sent home. * Wear your mask.	Project Managers and Field colleagues

			* Site meetings should be done at a distance and outdoors whenever possible. Meetings in trailers should be avoided. If possible, people who do not need to attend a meeting in person, should attend remotely. * Wear your mask. * No hand-shaking.	Field colleagues
			At the end of your visit, wash your hands and clean your camera/phone, pen, clipboard, etc. before getting back in your vehicle.	Field colleagues
			* For multi-tenant residential visits: When knocking on unit doors, stand back and to the side when a tenant answers, to increase distance between you and the tenant. With respiratory syndromes such as COVID-19, when possible, you want to maintain a 6 feet/2m (or greater, when possible) distance from people. * Wear your mask.	Field colleagues
			* For multi-tenant residential visits: If a tenant/occupant appears visibly ill (coughing, sneezing, obvious sweating, etc.), tactfully apologize for the interruption, and skip the unit and move on. This is an example of why it is a good idea to request access to more units than the scope requires. Requesting additional units may also be important if tenants deny access to site inspectors due to COVID-19-related concerns. * Wear your mask.	Field colleagues
			Remember, you do not have to enter work areas, spaces or units if you do not feel comfortable. If you have questions, please feel free to reach out to your manager or the HandS Team.	Field colleagues

VERTEX®

DAILY TAILGATE SAFETY MEETING FORMS

THE VERTEX® COMPANIES, INC.

DAILY SAFETY LOG

DATE: _____ SITE LOCATION: _____

WEATHER: _____ PROJECT NUMBER: _____

TOPICS DISCUSSED

- ☐ Expected Activities
- ☐ Health and Safety Emergency Numbers
- ☐ Hospital Location
- ☐ Work Areas (Posted)
- ☐ Standing Orders
- ☐ Confined Space Entry
- ☐ Slip, Trip, Fall
- ☐ Manual Lifting
- ☐ Utility Locations
- ☐ Mechanical Hazards
- ☐ Emergency Communications
- ☐ Electrical Hazards
- ☐ Other_____
- ☐ Chemical Hazards
- ☐ Bonding and Grounding
- ☐ Heavy Equipment
- ☐ Traffic hazards
- ☐ Heat/Cold Stress
- ☐ Noise Hazards
- ☐ Lock-out/Tag-out
- ☐ Excavation Hazards
- ☐ Venting/Inerting
- ☐ Biological Hazards
- ☐ Meeting Place
- ☐ Other_____

PERSONAL PROTECTIVE EQUIPMENT

- ☐ Energized Systems
- ☐ Eye Protection
- ☐ Hearing Protection
- ☐ Gloves (Specify Type)
- ☐ Respiratory Protection (Specify Type)
- ☐ Engineering Controls (Specify Type)
- ☐ Other_____
- ☐ Hard Hat
- ☐ Protective Clothing
- ☐ Retrieval System
- ☐ Backup system
- ☐ Lighting
- ☐ Other_____

Additional Comments Observations, Deficiencies / Corrective Actions Taken:

_____

_____

_____

MEETING CONDUCTED BY:_____

Meeting Attended By:

_____ _____

_____ _____

_____ _____

_____ _____

VERTEX®

NEAR MISS/INCIDENT REPORT FORMS

VERTEX®

INCIDENT INVESTIGATION REPORT

To: _____

cc: _____
Workers Compensation Administrator (if employee injured)

Project name: _____

_____

Project number: _____

Date of the incident: _____

Prepared by: _____

Position: _____

Office: _____

Telephone number: _____

Fax number: _____

Time of the incident: _____ a.m. ☐ p.m. ☐

☐ Check if time cannot be determined

LOCATION OF THE INCIDENT

Street address: _____

City, State, Zip Code: _____ County: _____

Did the incident occur on VERTEX premises? Yes ☐ No ☐

EMPLOYEES INVOLVED

VERTEX employees involved: _____

_____

_____

Subcontractors involved: _____

_____

Other parties involved: _____

_____

INFORMATION ABOUT THE INCIDENT

What was the employee(s) doing just before the incident occurred? *Describe the activity as well as the tools, equipment, or material the employee was using. Be specific. Examples: "Climbing a ladder while carrying roofing material"; "Daily computer key-entry"; "Verifying masonry installation from scaffolding"; "Operating an aerial lift*

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

Revision Date: 1/10/2017

VERTEX®

INCIDENT INVESTIGATION REPORT (Continued)

INFORMATION ABOUT THE INCIDENT (continued)

What happened? *Clearly describe how the incident occurred. Examples: "When ladder slipped on wet floor, worker fell 20 feet"; "Worker developed soreness in wrist over time"; "Worker displaced loose brick which fell 25 feet and landed on a parked vehicle;" "Worker raised work platform while railing was beneath exterior light fixture, contacting the fixture and knocking it off the wall."*

Was the employee performing regular job duties? Yes ☐ No ☐

Was safety equipment provided? Yes ☐ No ☐ Was safety equipment used? Yes ☐ No ☐

REPORT OF INJURY

Did an injury or illness occur? Yes ☐ No ☐ *(skip to next section if "No")*

Injured Employee Information

Name: _____ Office: _____

Home address: _____ Gender: M ☐ F ☐ No. of dependents: _____

_____ Marital status: _____

Home telephone number: _____ Date of birth: _____

Occupation (regular job title): _____

Department: _____

What was the injury or illness? *Describe the part(s) of the body affected and how it was affected. Be more specific than "hurt," "pain," or "sore." Examples: "Strained back"; "Carpal tunnel syndrome, left wrist"*

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VERTEX®

INCIDENT INVESTIGATION REPORT (Continued)

REPORT OF INJURY (continued)

Describe the object or substance that directly harmed the employee. *Examples: "Concrete floor"; "Chlorine."*

Did the employee die? Yes ☐ No ☐ Date of death: _____

NOTE: Attach any police reports or related diagrams to this report.

Medical treatment required? Yes ☐ No ☐ First Aid Only ☐

Name of physician of health care professional: _____

If treatment was provided away from the work site, provide the information below:

Facility name: _____

Street address: _____

City: _____ State: _____ Zip code: _____

Telephone number: _____

Was the employee treated in an emergency room? Yes ☐ No ☐

Was the employee hospitalized overnight as an in-patient? Yes ☐ No ☐

PROPERTY DAMAGE

Did property damage occur? Yes ☐ No ☐ *(skip to next section if "No")*

VERTEX property damaged: _____

_____

VERTEX client property damaged: _____

_____

Other property damaged: _____

_____

Trespassers, vandalism or illegal activity: _____

_____

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VERTEX®

INCIDENT INVESTIGATION REPORT (Continued)

PROPERTY DAMAGE (continued)

Wildlife or environmental damage: _____

_____

Motor vehicle involved? Yes ☐ No ☐ - If "Yes", **attach police report** and insurance information.

WITNESS INFORMATION (attach additional sheets for other witnesses)

Were there witnesses to the incident? Yes ☐ No ☐

Name: _____ Company: _____

Street Address: _____

City: _____ State: _____ Zip code: _____

Telephone number: _____

CORRECTIVE ACTION(S)

Corrective action(s) taken by unit reporting the incident:

Corrective action still to be taken (by whom and when) with suggestions to prevent a similar incident:

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INCIDENT INVESTIGATION REPORT (Continued)

REPORTING AND ACKNOWLEDGEMENT

Name of employee the incident was first reported to: _____

Date of Report: _____ Time of Report: _____

I have reviewed this investigation report and agree, to the best of my recollection, with its contents.

Name of reporting employee (print): _____ Telephone Number: _____

Signature of reporting employee: _____ Date: _____

Name of injured employee (print): _____ Telephone Number: _____

Signature of injured employee: _____ Date: _____

The signatures below indicate that appropriate personnel have been notified of the incident.

Title	Printed Name	Signature	Telephone Number	Date
Corporate Health & Safety Manager				
Supervisor				
Site Safety Coordinator (if applicable)				

Subsequent pages to be completed by the Health and Safety Representative, Human Resources, and Workers Compensation Carrier, respectively.

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

VERTEX®

INCIDENT INVESTIGATION REPORT (Continued)

To Be Completed by the Health and Safety Representative

Classification of Incident:

☐ Injury ☐ Illness ☐ Property damage with no injury or illness

Result of Incident:

☐ Property damage

☐ First aid only

☐ Days away from work

☐ Remained at work but incident resulted in job transfer or work restriction

☐ Incident involved days away and job transfer or work restriction

☐ Medical treatment only

☐ Was incident investigated?

No. of days away from work _____

Date employee left work _____

Date employee returned to work _____

No. of days placed on restriction or job transfer: _____

OSHA Recordable Case Number _____

Reason for Incident: ☐ Lack of Knowledge/Experience ☐ Improper Attitude

☐ Human Limitation ☐ Condition

Corrective Action: ☐ Instruction/Training

☐ Motivation/Discipline

☐ Proper Placement

☐ Repair/Eliminate

☐ Recommended Management

Suggestions for Changes to Avoid a Similar Incident? _____

_____

Signed: _____ Date: _____

Printed Name: _____

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VERTEX®

INCIDENT INVESTIGATION REPORT (Continued)

To Be Completed by Human Resources

Date of hire: _____ Hire date for current job: _____

Wage information: $ _____ per ☐ Hour ☐ Day ☐ Week ☐ Month ☐ Year

Position at time of hire: _____

Current position: _____ Shift hours: _____

State in which employee was hired: _____

Status: ☐ Full-time ☐ Part-time Hours per week: _____ Days per week: _____

Temporary job end date: _____

To Be Completed during Report to Workers Compensation Carrier

Date reported: _____ Reported by: _____

Confirmation number: _____

Name of contact: _____

Field office of claims adjuster: _____

For claims:

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

THE VERTEX® COMPANIES, INC.

NEAR MISS FORM

This is an official document to be initiated by a VERTEX employee, please answer correctly and with much detail as possible. This report should be forwarded to the OHSM within 24 hours of the near miss.

EMPLOYEE(S) INVOLVED: _____ DATE & TIME OF INCIDENT:

PERSON COMPLETING FORM: _____ DATE: _____

PROJECT NAME / NUMBER: _____ TIME: _____ AM/PM

NEAR MISS LOCATION (ADDRESS): _____

DESCRIBE NEAR MISS: (Defined as an event or situation that could have resulted in an accident, injury, or illness but DID NOT, either by chance of time/distance or through timely intervention). Describe fully, the protocol / procedures being followed including all substances, machinery, equipment (including personnel protective equipment) being used as related to the near miss.

_____

_____

SUBCONTRACTORS OR OTHER COMPANY INVOLVED? NO ☐ IF YES, DESCRIBE

_____

ON A SCALE OF 1 TO 10 HOW SEVERE COULD THE EVENT HAVE BEEN?

Least Severe 1 2 3 4 5 6 7 8 9 10 Most Severe

WHAT IS THE PROBABILITY OF AN INCIDENT IF THIS WERE TO OCCUR AGAIN (HIGH, MEDIUM, LOW)?
(Example: HIGH = task occurs frequently and by numerous individuals; MEDIUM = task occurs on a regular basis by certain individuals; LOW = minor or no injury, no lost dollar)

☐ LOW ☐ MEDIUM ☐ High

WHAT ARE THE SUGGESTED CORRECTIVE ACTIONS? _____

_____

_____

_____

_____

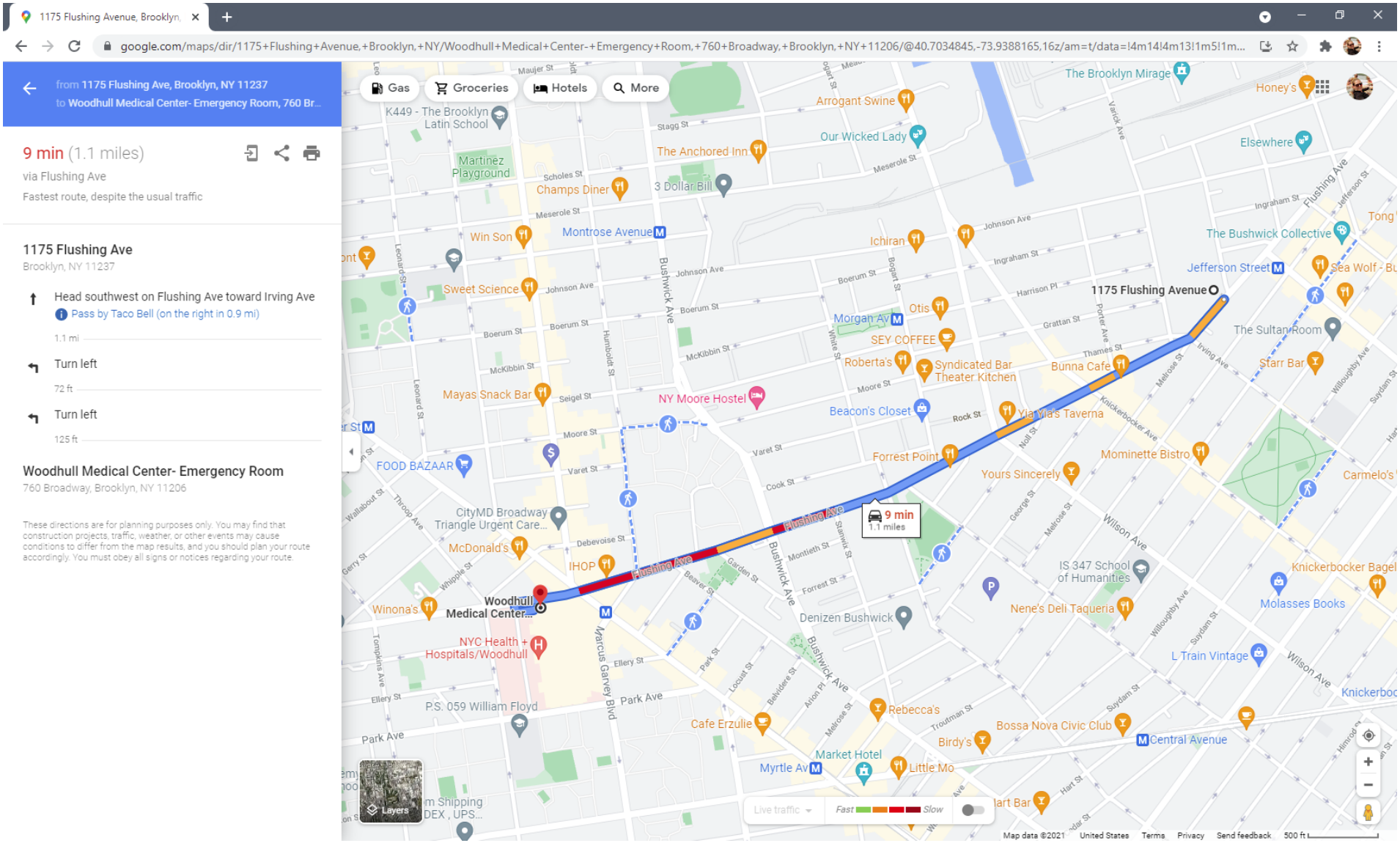
_____

EMPLOYEE _____ _____ _____
Printed Name Signature Date

CHSM _____ _____ _____
Printed Name Signature Date

ATTACHMENTS ☐ YES ☐ NO

DIRECTIONS TO THE HOSPITAL


1175 Flushing Avenue, Brooklyn,
google.com/maps/dir/1175+Flushing+Avenue,+Brooklyn,+NY/Woodhull+Medical+Center-+Emergency+Room,+760+Broadway,+Brooklyn,+NY+11206/@40.7034845,-73.9388165,16z/am=t/data=!4m14!4m13!1m5!1m...
from 1175 Flushing Ave, Brooklyn, NY 11237
to Woodhull Medical Center- Emergency Room, 760 Br...
9 min (1.1 miles)
via Flushing Ave
Fastest route, despite the usual traffic
1175 Flushing Ave
Brooklyn, NY 11237
Head southwest on Flushing Ave toward Irving Ave
Pass by Taco Bell (on the right in 0.9 mi)
1.1 mi
Turn left
72 ft
Turn left
125 ft
Woodhull Medical Center- Emergency Room
760 Broadway, Brooklyn, NY 11206
These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.
Gas
Groceries
Hotels
More
9 min
1.1 miles
1175 Flushing Avenue
Woodhull Medical Center...
Flushing Ave
Bushwick Ave
Myrtle Av
Morgan Av
Montrose Avenue
Jefferson Street
Central Avenue
Layers
Live traffic
Fast
Slow
Map data ©2021
United States
Terms
Privacy
Send feedback
500 ft

SITE VISITOR LOG

VTX Consulting Services, Inc.

Daily Site Sign-In/Out Log

Project Name:_____

Date:_____

	Name	Company	Time In	Time Out

1._____ 2._____

APPENDIX B:
LAB CERTIFICATION

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2019
Issued April 01, 2018
Revised June 05, 2018

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. JOHN TRIMBLE
ALPHA ANALYTICAL
320 FORBES BOULEVARD
MANSFIELD, MA 02048

NY Lab Id No: 11627

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Metals I

Arsenic, Total	EPA 200.8 Rev. 5.4
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
Lead, Total	EPA 200.8 Rev. 5.4
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Mercury, Total	EPA 245.1 Rev. 3.0
Selenium, Total	EPA 200.8 Rev. 5.4
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Metals II

Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Antimony, Total	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.8 Rev. 5.4
Nickel, Total	EPA 200.7 Rev. 4.4

Metals II

Nickel, Total	EPA 200.8 Rev. 5.4
Thallium, Total	EPA 200.8 Rev. 5.4
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Metals III

Boron, Total	EPA 200.7 Rev. 4.4
Calcium, Total	EPA 200.7 Rev. 4.4
Magnesium, Total	EPA 200.7 Rev. 4.4
Potassium, Total	EPA 200.7 Rev. 4.4
Sodium, Total	EPA 200.7 Rev. 4.4

Miscellaneous

1,4-Dioxane	EPA 522

Non-Metals

Calcium Hardness	EPA 200.7 Rev. 4.4

Perfluorinated Alkyl Acids

Perfluorooctanesulfonic acid (PFOS)	EPA 537
Perfluorooctanoic acid (PFOA)	EPA 537

Serial No.: 58392

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

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Issued April 01, 2018
Revised January 04, 2019

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All approved analytes are listed below:

Amines

1,2-Diphenylhydrazine	EPA 8270D
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D
Pyridine	EPA 8270D

Benzidines

3,3'-Dichlorobenzidine	EPA 8270D
Benzidine	EPA 8270D

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
delta-BHC	EPA 8081B
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B

Chlorinated Hydrocarbon Pesticides

Endrin	EPA 8081B
Endrin aldehyde	EPA 8081B
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Mirex	EPA 8081B
Toxaphene	EPA 8081B

Chlorinated Hydrocarbons

1,2,4,5-Tetrachlorobenzene	EPA 8270D
1,2,4-Trichlorobenzene	EPA 8270D
2-Chloronaphthalene	EPA 8270D
Hexachlorobenzene	EPA 8081B
	EPA 8270D
Hexachlorobutadiene	EPA 8270D
Hexachlorocyclopentadiene	EPA 8270D
Hexachloroethane	EPA 8270D

Dioxins and Furans

1,2,3,4,6,7,8,9-Octachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-diox	EPA 8290A
	EPA 1613B
1,2,3,4,6,7,8-Heptachlorodibenzofuran	EPA 8290A

Serial No.: 58991

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All approved analytes are listed below:

Dioxins and Furans	
1,2,3,4,6,7,8-Heptachlorodibenzofuran	EPA 1613B
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxi	EPA 8290A
	EPA 1613B
1,2,3,4,7,8,9-Heptachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
1,2,3,6,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
1,2,3,7,8,9-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
1,2,3,7,8-Pentachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
2,3,4,6,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
2,3,4,7,8-Pentachlorodibenzofuran	EPA 8290A
	EPA 1613B
2,3,7,8-Tetrachlorodibenzofuran	EPA 8290A
Dioxins and Furans	
2,3,7,8-Tetrachlorodibenzofuran	EPA 1613B
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
Dissolved Gases	
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Propane	RSK-175
Fuel Oxygenates	
Ethanol	EPA 8015D
tert-amyl alcohol	EPA 8015D
tert-butyl alcohol	EPA 8015D
Haloethers	
2,2'-Oxybis(1-chloropropane)	EPA 8270D
4-Bromophenylphenyl ether	EPA 8270D
4-Chlorophenylphenyl ether	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 8270D
Bis(2-chloroethyl)ether	EPA 8270D
Low Level Polynuclear Aromatics	
Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM

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MANSFIELD, MA 02048

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All approved analytes are listed below:

Low Level Polynuclear Aromatics	
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM
Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM
Metals I	
Barium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Cadmium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Calcium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
Chromium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Metals I	
Chromium, Total	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Copper, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Iron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Lead, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Magnesium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
Manganese, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Nickel, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Potassium, Total	EPA 200.7, Rev. 4.4 (1994)

Serial No.: 58991

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All approved analytes are listed below:

Metals I

Potassium, Total	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Silver, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Sodium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Strontium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B

Metals II

Aluminum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Antimony, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Arsenic, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D

Metals II

Arsenic, Total	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Beryllium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Mercury, Low Level	EPA 1631E
Mercury, Total	EPA 245.1, Rev. 3.0 (1994)
	EPA 7470A
Selenium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Vanadium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Zinc, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)

Metals III

Cobalt, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B

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All approved analytes are listed below:

Metals III	
Cobalt, Total	EPA 200.8, Rev. 5.4 (1994)
Molybdenum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Thallium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
	EPA 200.8, Rev. 5.4 (1994)
Tin, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
Titanium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
Mineral	
Hardness, Total	EPA 200.7, Rev. 4.4 (1994)
	SM 2340B-2011
Miscellaneous	
Boron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010D
	EPA 6020B
Silica, Dissolved	EPA 200.7, Rev. 4.4 (1994)

Nitroaromatics and Isophorone	
2,4-Dinitrotoluene	EPA 8270D
2,6-Dinitrotoluene	EPA 8270D
Isophorone	EPA 8270D
Nitrobenzene	EPA 8270D
Nitrosoamines	
N-Nitrosodimethylamine	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 8270D
N-Nitrosodiphenylamine	EPA 8270D
Organophosphate Pesticides	
Atrazine	EPA 8270D
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 8270D
Diethyl phthalate	EPA 8270D
Dimethyl phthalate	EPA 8270D
Di-n-butyl phthalate	EPA 8270D
Di-n-octyl phthalate	EPA 8270D
Polychlorinated Biphenyls	
Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A

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All approved analytes are listed below:

Polychlorinated Biphenyls

Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A
PCB 118	EPA 8082A
PCB 128	EPA 8082A
PCB 138	EPA 8082A
PCB 170	EPA 8082A
PCB 18	EPA 8082A
PCB 206	EPA 8082A
PCB 44	EPA 8082A
PCB 52	EPA 8082A
PCB 66	EPA 8082A

Polynuclear Aromatics

Acenaphthene	EPA 8270D
Acenaphthylene	EPA 8270D
Anthracene	EPA 8270D
Benzo(a)anthracene	EPA 8270D
Benzo(a)pyrene	EPA 8270D
Benzo(b)fluoranthene	EPA 8270D
Benzo(g,h,i)perylene	EPA 8270D
Benzo(k)fluoranthene	EPA 8270D
Chrysene	EPA 8270D

Polynuclear Aromatics

Dibenzo(a,h)anthracene	EPA 8270D
Fluoranthene	EPA 8270D
Fluorene	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 8270D
Naphthalene	EPA 8270D
Phenanthrene	EPA 8270D
Pyrene	EPA 8270D

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 8270D
2,4-Dichlorophenol	EPA 8270D
2,4-Dimethylphenol	EPA 8270D
2,4-Dinitrophenol	EPA 8270D
2-Chlorophenol	EPA 8270D
2-Methyl-4,6-dinitrophenol	EPA 8270D
2-Methylphenol	EPA 8270D
2-Nitrophenol	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 8270D
Pentachlorophenol	EPA 8270D
Phenol	EPA 8270D

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All approved analytes are listed below:

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270D
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
Acetophenone	EPA 8270D
Benzaldehyde	EPA 8270D
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Caprolactam	EPA 8270D
Dibenzofuran	EPA 8270D

Volatiles Organics

1,4-Dioxane	EPA 8270D SIM
Ethylene Glycol	EPA 8015D
Isobutyl alcohol	EPA 8015D
Methanol	EPA 8015D

Sample Preparation Methods

EPA 3015A
EPA 3005A
EPA 3510C

Serial No.: 58991

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

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320 FORBES BOULEVARD
MANSFIELD, MA 02048

NY Lab Id No: 11627

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Amines

1,2-Diphenylhydrazine	EPA 8270D
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D

Benzidines

3,3'-Dichlorobenzidine	EPA 8270D
Benzidine	EPA 8270D

Chlorinated Hydrocarbon Pesticides

4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
delta-BHC	EPA 8081B
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B
Endrin	EPA 8081B

Chlorinated Hydrocarbon Pesticides

Endrin aldehyde	EPA 8081B
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Mirex	EPA 8081B
Pentachloronitrobenzene	EPA 8270D
Toxaphene	EPA 8081B

Chlorinated Hydrocarbons

1,2,4,5-Tetrachlorobenzene	EPA 8270D
1,2,4-Trichlorobenzene	EPA 8270D
2-Chloronaphthalene	EPA 8270D
Hexachlorobenzene	EPA 8270D
Hexachlorobutadiene	EPA 8270D
Hexachlorocyclopentadiene	EPA 8270D
Hexachloroethane	EPA 8270D

Dioxins and Furans

1,2,3,4,6,7,8,9-Octachlorodibenzofuran	EPA 8290A
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-diox	EPA 8290A
1,2,3,4,6,7,8-Heptachlorodibenzofuran	EPA 8290A
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxi	EPA 8290A
1,2,3,4,7,8,9-Heptachlorodibenzofuran	EPA 8290A
1,2,3,4,7,8-Hexachlorodibenzofuran	EPA 8290A

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Dioxins and Furans

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,6,7,8-Hexachlorodibenzofuran	EPA 8290A
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,7,8,9-Hexachlorodibenzofuran	EPA 8290A
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,7,8-Pentachlorodibenzofuran	EPA 8290A
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	EPA 8290A
2,3,4,6,7,8-Hexachlorodibenzofuran	EPA 8290A
2,3,4,7,8-Pentachlorodibenzofuran	EPA 8290A
2,3,7,8-Tetrachlorodibenzofuran	EPA 8290A
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 8290A

Haloethers

2,2'-Oxybis(1-chloropropane)	EPA 8270D
4-Bromophenylphenyl ether	EPA 8270D
4-Chlorophenylphenyl ether	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 8270D
Bis(2-chloroethyl)ether	EPA 8270D

Low Level Polynuclear Aromatic Hydrocarbons

Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM

Low Level Polynuclear Aromatic Hydrocarbons

Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM

Metals I

Barium, Total	EPA 6010D
	EPA 6020B
Cadmium, Total	EPA 6010D
	EPA 6020B
Calcium, Total	EPA 6010D
	EPA 6020B
Chromium, Total	EPA 6010D
	EPA 6020B
Copper, Total	EPA 6010D
	EPA 6020B
Iron, Total	EPA 6010D
	EPA 6020B
Lead, Total	EPA 6010D
	EPA 6020B
Magnesium, Total	EPA 6010D

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Metals I	
Magnesium, Total	EPA 6020B
Manganese, Total	EPA 6010D
	EPA 6020B
Nickel, Total	EPA 6010D
	EPA 6020B
Potassium, Total	EPA 6010D
	EPA 6020B
Silver, Total	EPA 6010D
	EPA 6020B
Sodium, Total	EPA 6010D
	EPA 6020B
Strontium, Total	EPA 6010D
	EPA 6020B
Metals II	
Aluminum, Total	EPA 6010D
	EPA 6020B
Antimony, Total	EPA 6010D
	EPA 6020B
Arsenic, Total	EPA 6010D
	EPA 6020B
Beryllium, Total	EPA 6010D
	EPA 6020B
Mercury, Total	EPA 7471B
	EPA 7474
Selenium, Total	EPA 6010D

Metals II	
Selenium, Total	EPA 6020B
Vanadium, Total	EPA 6010D
	EPA 6020B
Zinc, Total	EPA 6010D
	EPA 6020B
Metals III	
Cobalt, Total	EPA 6010D
	EPA 6020B
Molybdenum, Total	EPA 6010D
	EPA 6020B
Thallium, Total	EPA 6010D
	EPA 6020B
Tin, Total	EPA 6010D
	EPA 6020B
Titanium, Total	EPA 6010D
	EPA 6020B
Miscellaneous	
Boron, Total	EPA 6010D
	EPA 6020B
Organic Carbon, Total	Lloyd Kahn Method
	EPA 9060A
Nitroaromatics and Isophorone	
2,4-Dinitrotoluene	EPA 8270D
2,6-Dinitrotoluene	EPA 8270D

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Nitroaromatics and Isophorone	
Isophorone	EPA 8270D
Nitrobenzene	EPA 8270D
Pyridine	EPA 8270D
Nitrosoamines	
N-Nitrosodimethylamine	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 8270D
N-Nitrosodiphenylamine	EPA 8270D
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 8270D
Diethyl phthalate	EPA 8270D
Dimethyl phthalate	EPA 8270D
Di-n-butyl phthalate	EPA 8270D
Di-n-octyl phthalate	EPA 8270D
Polychlorinated Biphenyls	
Aroclor 1016 (PCB-1016)	EPA 8082A
Aroclor 1221 (PCB-1221)	EPA 8082A
Aroclor 1232 (PCB-1232)	EPA 8082A
Aroclor 1242 (PCB-1242)	EPA 8082A
Aroclor 1248 (PCB-1248)	EPA 8082A
Aroclor 1254 (PCB-1254)	EPA 8082A
Aroclor 1260 (PCB-1260)	EPA 8082A

Polychlorinated Biphenyls	
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A
PCB 1	EPA 8082A
PCB 101	EPA 8082A
PCB 110	EPA 8082A
PCB 118	EPA 8082A
PCB 128	EPA 8082A
PCB 138	EPA 8082A
PCB 141	EPA 8082A
PCB 151	EPA 8082A
PCB 153	EPA 8082A
PCB 170	EPA 8082A
PCB 18	EPA 8082A
PCB 180	EPA 8082A
PCB 183	EPA 8082A
PCB 187	EPA 8082A
PCB 206	EPA 8082A
PCB 31	EPA 8082A
PCB 44	EPA 8082A
PCB 5	EPA 8082A
PCB 52	EPA 8082A
PCB 66	EPA 8082A
PCB 87	EPA 8082A
Polynuclear Aromatic Hydrocarbons	
Acenaphthene	EPA 8270D

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Polynuclear Aromatic Hydrocarbons

Acenaphthylene	EPA 8270D
Anthracene	EPA 8270D
Benzo(a)anthracene	EPA 8270D
Benzo(a)pyrene	EPA 8270D
Benzo(b)fluoranthene	EPA 8270D
Benzo(g,h,i)perylene	EPA 8270D
Benzo(k)fluoranthene	EPA 8270D
Chrysene	EPA 8270D
Dibenzo(a,h)anthracene	EPA 8270D
Fluoranthene	EPA 8270D
Fluorene	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 8270D
Naphthalene	EPA 8270D
Phenanthrene	EPA 8270D
Pyrene	EPA 8270D

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 8270D
2,4-Dichlorophenol	EPA 8270D
2,4-Dimethylphenol	EPA 8270D
2,4-Dinitrophenol	EPA 8270D
2-Chlorophenol	EPA 8270D
2-Methyl-4,6-dinitrophenol	EPA 8270D
2-Methylphenol	EPA 8270D

Priority Pollutant Phenols

2-Nitrophenol	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 8270D
Pentachlorophenol	EPA 8270D
Phenol	EPA 8270D

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270D
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
Acetophenone	EPA 8270D
Benzaldehyde	EPA 8270D
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Caprolactam	EPA 8270D
Dibenzofuran	EPA 8270D

Volatile Organics

Ethylene Glycol	EPA 8015D
Isobutyl alcohol	EPA 8015D
tert-butyl alcohol	EPA 8015D

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Sample Preparation Methods

EPA 3570
EPA 3580A
EPA 3050B
EPA 3540C
EPA 3051A

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All approved analytes are listed below:

Acrylates	
Acetonitrile	EPA TO-15
Acrylonitrile	EPA TO-15
Methyl methacrylate	EPA TO-15
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA TO-15
Hexachlorobutadiene	EPA TO-15
Metals I	
Lead, Total	40 CFR PART 50 2013 APP G
Miscellaneous	
Formaldehyde	EPA TO-11A
Polychlorinated Biphenyls	
PCBs and Aroclors	EPA TO-10A
Polynuclear Aromatics	
Acenaphthene	EPA TO-13A
Acenaphthylene	EPA TO-13A
Anthracene	EPA TO-13A
Benzo(a)anthracene	EPA TO-13A
Benzo(a)pyrene	EPA TO-13A
Benzo(b)fluoranthene	EPA TO-13A
Benzo(ghi)perylene	EPA TO-13A
Benzo(k)fluoranthene	EPA TO-13A
Chrysene	EPA TO-13A
Dibenzo(a,h)anthracene	EPA TO-13A
Polynuclear Aromatics	
Fluoranthene	EPA TO-13A
Fluorene	EPA TO-13A
Indeno(1,2,3-cd)pyrene	EPA TO-13A
Naphthalene	EPA TO-13A EPA TO-15
Phenanthrene	EPA TO-13A
Pyrene	EPA TO-13A
Purgeable Aromatics	
1,2,4-Trimethylbenzene	EPA TO-15
1,2-Dichlorobenzene	EPA TO-15
1,3,5-Trimethylbenzene	EPA TO-15
1,3-Dichlorobenzene	EPA TO-15
1,4-Dichlorobenzene	EPA TO-15
2-Chlorotoluene	EPA TO-15
Benzene	EPA TO-15
Chlorobenzene	EPA TO-15
Ethyl benzene	EPA TO-15
Isopropylbenzene	EPA TO-15
m/p-Xylenes	EPA TO-15
o-Xylene	EPA TO-15
Styrene	EPA TO-15
Toluene	EPA TO-15
Total Xylenes	EPA TO-15
Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA TO-15

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All approved analytes are listed below:

Purgeable Halocarbons	
1,1,2,2-Tetrachloroethane	EPA TO-15
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA TO-15
1,1,2-Trichloroethane	EPA TO-15
1,1-Dichloroethane	EPA TO-15
1,1-Dichloroethene	EPA TO-15
1,2-Dibromo-3-chloropropane	EPA TO-15
1,2-Dibromoethane	EPA TO-15
1,2-Dichloroethane	EPA TO-15
1,2-Dichloropropane	EPA TO-15
3-Chloropropene (Allyl chloride)	EPA TO-15
Bromodichloromethane	EPA TO-15
Bromoform	EPA TO-15
Bromomethane	EPA TO-15
Carbon tetrachloride	EPA TO-15
Chloroethane	EPA TO-15
Chloroform	EPA TO-15
Chloromethane	EPA TO-15
cis-1,2-Dichloroethene	EPA TO-15
cis-1,3-Dichloropropene	EPA TO-15
Dibromochloromethane	EPA TO-15
Dichlorodifluoromethane	EPA TO-15
Methylene chloride	EPA TO-15
Tetrachloroethene	EPA TO-15
trans-1,2-Dichloroethene	EPA TO-15
trans-1,3-Dichloropropene	EPA TO-15
Trichloroethene	EPA TO-15
Trichlorofluoromethane	EPA TO-15
Vinyl bromide	EPA TO-15
Vinyl chloride	EPA TO-15
Volatile Chlorinated Organics	
Benzyl chloride	EPA TO-15
Volatile Organics	
1,2-Dichlorotetrafluoroethane	EPA TO-15
1,3-Butadiene	EPA TO-15
1,4-Dioxane	EPA TO-15
2,2,4-Trimethylpentane	EPA TO-15
2,5-Dimethylbenzaldehyde	EPA TO-11A
2-Butanone (Methylethyl ketone)	EPA TO-15
4-Methyl-2-Pentanone	EPA TO-15
Acetaldehyde	EPA TO-11A
	EPA TO-15
Acetone	EPA TO-11A
	EPA TO-15
Acrolein (Propenal)	EPA TO-15
Benzaldehyde	EPA TO-11A
Butyraldehyde	EPA TO-11A
Carbon Disulfide	EPA TO-15
Crotonaldehyde	EPA TO-11A
Cyclohexane	EPA TO-15
Hexanaldehyde	EPA TO-11A
Hexane	EPA TO-15

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Volatile Organics

Isopropanol	EPA TO-15
Isovaleraldehyde	EPA TO-11A
Methanol	EPA TO-15
Methyl tert-butyl ether	EPA TO-15
m-Tolualdehyde	EPA TO-11A
n-Heptane	EPA TO-15
o-Tolualdehyde	EPA TO-11A
Propionaldehyde	EPA TO-11A
p-Tolualdehyde	EPA TO-11A
tert-butyl alcohol	EPA TO-15
Valeraldehyde	EPA TO-11A
Vinyl acetate	EPA TO-15

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