KRISTAL AUTO MALL

5200 KINGS HIGHWAY

BROOKLYN, NEW YORK

Remedial Action Work Plan

NYSDEC BCP Number: C224140

Prepared for:

PTMA 5200 Kings Highway LLC
(c/o Bridges Development Group)
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CERTIFICATIONS

I, Charles McGuckin, P.E., certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Charles J. McGuckin, P.E.	August 13, 2018	
NYS Professional Engineer #069509	Date	Signature

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

LIST OF ACRONYMS

Acronym	Definition
ug/kg	Micrograms per Kilogram
ug/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
AOCs	Areas of Concern
ASP	Analytical Services Protocol
AWQSGVs	Ambient Water Quality Standards and Guidance Values
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bls	Below Land Surface
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CSM	Conceptual Site Model
CY	Cubic Yards
DEC	Department of Environmental Conservation
DER-10	NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
EJ	Environmental Justice
ELAP	Environmental Laboratory Approval Program
ft	Feet/Foot
HASP	Health and Safety Plan

Acronym	Definition
HAZWOPER	Hazardous Waste Operations and Emergency Response
HVAC	Heating, Ventilation and Air Conditioning
IC	Institutional Control
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MTA	Metropolitan Transit Authority
MW	Monitoring Well
NAVD 88	North American Vertical Datum of 1988
NYCDEP	New York City Department of Environmental Protection
NYCDOT	New York City Department of Transportation
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety and Health Administration
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene (Perchloroethene)
PEJA	Potential Environmental Justice Area
PDF	Portable Document Format
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RIR	Remedial Investigation Report

Acronym	Definition
SCG	Standards, Criteria and Guidance
SCOs	Soil Cleanup Objectives
SEQRA	State Environmental Quality Review Act
SGC	Short-Term Guidance Concentration
SMP	Site Management Plan
SoMP	Soil Management Plan
SOE	Support of Excavation
SOP	Site Operations Plan
SRI	Supplemental Remedial Investigation
SSDS	Sub-Slab Depressurization System
SSO	Site Safety Officer
SVI	Soil Vapor Intrusion
SVOCs	Semivolatile Organic Compounds
SWPPP	Stormwater Pollution Prevention Plan
TAGM	Technical and Administrative Memorandum
TAL	Target Analyte List
TBCs	To Be Considered
TCE	Trichloroethene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Site Description/Physical Setting/Site History

Roux Environmental Engineering and Geology, D.P.C. (Roux), on behalf of PTMA 5200 Kings Highway LLC (c/o Bridges Development Group) [PTMA 5200 or Volunteer], has prepared this Revised Remedial Action Work Plan (RAWP) for the property identified as the Kristal Auto Mall (KAM) located at 5200 Kings Highway, Brooklyn, New York (Site). The Site location is shown on Figure 1. The Site was accepted into the Brownfield Cleanup Program (BCP) and assigned Site Number C224140. The former owner, Irma C. Pollack, LLC (Pollack or Participant) entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) which was executed on May 1, 2012. In anticipation of the sale of the Site to PTMA 5200, Pollack and PTMA 5200 submitted a Request to Amend the BCA to add PTMA 5200; the Amendment was executed and effective on March 23, 2018. A Site Map showing the BCP boundary is presented as Figure 2 and the proposed redevelopment plan is presented as Figure 3.

The Site is located at 5200 Kings Highway, in Kings County, New York and is identified as Section 3, Block 7969, Lot 9 on the New York City Tax Map. A United States Geological Survey (USGS) topographical quadrangle map of Brooklyn, New York (Figure 1) shows the Site location. The Site is approximately 2.28 acres and is bounded by a plastic manufacturing company, Favorite Plastics Corp., to the north, a car dealership to the south, Utica Avenue to the west and Kings Highway to the east. A single slab-on-grade building is present on the Site, which includes both one story and one and a half story sections. The 53,000 square foot building houses offices, an automobile showroom, auto repair facilities, paint shop, car wash, and employee locker rooms. The remainder of the Site consists of paved parking areas and vehicle storage.

The Site property formerly was occupied by Kristal Auto Mall Corp. f/k/a S&S Cadillac Motors Corp but is currently vacated. KAM is a retail General Motors dealership whose operations include a new car showroom, an auto service area with approximately 24 service bays, parts storage, paint booth/body shop, vehicle storage and administrative offices.

The Site has been in use since its original construction in 1959. From 1959 to 1968, the Site was occupied by a bowling alley. In 1968, new occupants expanded the existing building and began operation of a retail automobile dealership including sales and auto service. The Site was being operated as an auto dealership and repair shop until it was vacated in April 2018.

Prior to 1959, the Site included several single-family homes and vacant lots. As described above, the original building at the Site was constructed in 1959 and operated as a bowling alley until 1968. In 1968, an addition was constructed on the eastern side of the building, bringing the building to its current configuration. Since that time, the Site has been operated as an auto dealership and repair shop.

The proposed redevelopment includes the demolition of the existing building and the construction of a retail development occupying the majority of the Site (Figure 3). The primary retail space, mechanical rooms and covered plaza will include approximately 77,000SF. The building will be set eight feet below grade. Parking for 210 cars will be provided on the roof. An additional 7,000 SF of retail space will be slab-on-grade construction. The remainder of the property, approximately 15,000SF, will consist of paved entrance/exit areas.

A tax map is provided as Figure 4 and the corresponding metes and bounds description is provided in Appendix A. A figure presenting the land use and surrounding property owners is provided as Figure 5.

The following areas of concern (AOCs) were identified during previous investigations:

Above Ground Storage Tanks (ASTs)

Historically, the Kristal Auto Mall operated two ASTs at the Site. The ASTs included one 550-gallon waste oil AST on the northeastern side of the building and one 550-gallon fuel oil AST on the southwest side of the building. Both ASTs were operated on impermeable surfaces and there is no indication releases have occurred from either AST. Both of these ASTs are out of service and are not considered to be potential AOCs.

Underground Storage Tanks (USTs)

A total of three USTs historically has been present at the site. The tanks included two 550-gallon USTs in the eastern corner of the building (hydraulic fluid and motor oil) and one 550-gallon UST outside to the east of the building (waste oil). In July 2011, Energy Fueling Systems, Inc. was contracted to clean the USTs at the Site and close them in place. All three USTs were registered with NYSDEC (PBS #2-610629) and were closed in place on July 7, 2011. Documentation of the registration and closure of the USTs was provided in the RIWP.

Soil samples collected adjacent to the three USTs during previous environmental investigations indicated that releases of various petroleum hydrocarbons have occurred. All three former USTs were considered to be AOCs for the purpose of the RI. Based on the analytical data from Testwell's first round of field work, a spill was reported to NYSDEC and spill number 0701186 was assigned on April 27, 2007. The spill was reported due to hydrocarbon and solvent contamination that was found to have impacted both soil and groundwater.

During the RI, Roux advanced three soil borings to confirm and delineate the results obtained by Testwell in 2007. Two monitoring wells (a shallow and deep pair) were also installed to evaluate groundwater quality in the vicinity of this AOC.

Trench drains

In 1968, when the building was converted from a bowling alley to an auto dealership, a series of trench drains was installed in the service area and the body shop in the rear of the building. A review of the original architect's plans shows the trench drains are simple concrete troughs inset into the floor and covered with a steel grate. The trench drains on the western side of the building appear to be pitched so they drain in two locations on the south side of the building. The trench drains in the center and eastern side of the building are pitched so they drained to a former UST as described below. The drains are believed to be the primary AOC at the site.

Previous investigations have indicated the trench drains in the center and eastern portions of the service area have been the apparent source of petroleum and chlorinated solvent releases based on soil and groundwater sampling conducted around the drains. Available documentation does not indicate that any drains have been sampled directly. During Roux's Site inspection, the drains in the Auto Repair Shop were found to be dry and clear of debris. Historically, the trench drains in the Auto Repair Shop area received fluids generated during auto repair and service activities. These fluids historically were collected in a UST formerly located on the eastern side of the building. This UST has since been closed in place. During the RI, Roux advanced seven soil borings and installed eleven monitoring wells to evaluate the potential impacts from the eastern trench drains.

The drains on the western side of the Site near Utica Avenue currently are used to collect wash water from the Auto Wash. During Roux's inspection, the drains were wet from car wash activities, but clear of debris. During the RI, Roux advanced three soil borings and installed one monitoring well to evaluate the potential impacts from the western trench drains.

Hydraulic lifts

Building plans showing the redevelopment of the site into an auto dealership in 1968 included the installation details for 21 hydraulic lifts. The lifts include a concrete lined pit that houses the hydraulic oil storage unit and the lift machinery. Most of the pits are accessible and open for inspection. The lifts were taken out of service in the past and are no longer used although they remain in place.

During the RI, Roux conducted visual inspections of the lift pits and hydraulic oil storage units to determine whether the lifts are AOCs and warranted adjacent sampling. Seven of the 21 lift pits were found to be dry and clear of debris. Three of the lift pits (#1, 2, and 3) contained a measurable amount of petroleum hydrocarbon that was analytically identified as motor oil not hydraulic fluid. A total of six lift pits (#4, 5, 7, 9, 15, and 16) were found to contain a minimal amount (less than one-inch thickness) of sludge and/or moist debris, but no measurable product. Four of the lifts were inaccessible for the following reasons: two were sealed shut (#19, and 20), one was beneath equipment (#6) and one was beneath shelving and storage (#13). One lift was unable to be located (#14, inside the paint booth).

Based on the inspections, the hydraulic lifts appear to be intact overall and do not represent a concern. It is assumed the free phase motor oil found in the nearby wells seeped into the lift pits based on the analytical typing of the product (motor oil vs. hydraulic fluid), and the depth of the lift pits.

Site-Wide

Groundwater Sampling

Three monitoring wells (MW-1 through MW-3) were installed at the Site as part of Testwell's previous investigations. These wells, however, were installed only to determine groundwater flow direction and the wells were never sampled. During the RI, Roux installed a total of 19 additional monitoring wells (MW-4S, MW-4D, MW-5 through MW-21) and sampled all monitoring wells that didn't contain free phase hydrocarbons to evaluate groundwater conditions.

Soil Vapor Sampling

Soil vapor impacts were not evaluated as part of Testwell's previous investigations. During the RI, Roux collected eleven sub-slab and one soil vapor sample along with one indoor air sample in the office area, two indoor air samples in the auto repair shop and two outdoor ambient air samples.

Summary of Remedial Investigations

Previous investigations conducted by Testwell in 2007 documented the presence of the following areas of contamination:

- PCE, DCE, and petroleum hydrocarbons in groundwater grab samples above AGWQS; and

- TCE, PCE, DCE, and petroleum hydrocarbons in soil above Unrestricted Use (UU) and Protection of Groundwater (PGW) Soil Cleanup Objectives (SCOs) under the central and eastern side of the Repair Shop; Three SVOCs exceed Restricted Commercial (RC) SCOs in one sample in the same area.

Based on the previous environmental investigations and known data gaps, the following objectives were identified for the RIWP:

- Confirm previous data collected by Testwell;

- Delineate the horizontal and vertical extent of previously identified soil contamination;
- Evaluate soil quality in uninvestigated areas at the Site;
- Complete the installation of a comprehensive groundwater monitoring well network to provide coverage for all potential AOCs and accurately determine the direction of groundwater flow;
- Delineate the three-dimensional extent of previously documented VOC impacts to groundwater;
- Evaluate potential soil vapor impacts; and
- Evaluate the potential for offsite soil vapor and groundwater migration.

Environmental data collected during the RI was used to qualitatively assess the potential exposure of receptors to Site contaminants and develop the information necessary to support the development of this RAWP.

A careful inspection of the building was conducted on October 24, 2011 to evaluate and identify all potential areas of environmental concern. The inspection determined the location of one waste oil AST, one former fuel oil AST, three former USTs (closed-in-place), a manifolded concrete trench drain system throughout the facility, a former sump, and a total of 21 former hydraulic lifts. No additional AOCs were identified during the implementation of the RI field work.

Soil

During the RI, a total of 18 soil borings were advanced at the locations shown in Figure 2, and a total of 49 soil samples were collected for laboratory analysis. Soil sample results are summarized on Tables 2 and 3, and Plate 1.

Soil samples were collected for laboratory analysis from two intervals within each borehole for vertical delineation of previously detected contaminants. Soil borings extended to a minimum of 10 feet below the water table, with the exception of MW-4D, which extended to 40 feet below the concrete slab.

In soil borings RSB-1, RSB-3, RSB-4, RSB-5, RSB-6/MW-5, RSB-7, RSB-9, RSB-10, RSB-11, RSB-12/MW-7, RSB-13/MW-6, and MW-4D, two soil samples were collected: one from the two-foot interval immediately above the water table and one from the terminal depth of the boring. In soil borings RSB-2, RSB-8 and RSB-14/MW-4S, soil samples were collected from four intervals; the 1-3-foot interval, 5-7-foot interval, the two-foot interval immediately above the water table, and the terminal depth of the boring to confirm and vertically delineate previously identified soil contamination. In soil borings RSB/MW-14, RSB/MW-15, RSB/MW-16 and RSB/MW-17, soil samples were collected from three intervals; a shallow interval (1-3 or 2-4-foot interval), the two-foot interval immediately above the water table, and the terminal depth of the boring to confirm and horizontally delineate previously identified soil contamination in RSB-2.

Analytical results for soil samples were compared to NYSDEC UU, PGW, and RC SCOs for the Protection of Public Health presented in 6 NYCRR Subpart 375-6. These SCOs were selected based on the future use of the Site, as well as the anticipated BCP cleanup Tracks for soil remediation that are proposed for the Site.

<u>Underground Storage Tanks</u>

Three soil borings (RSB-2, RSB-8, and RSB-14) were advanced in the vicinity of the former UST area located on the northeastern side of the repair shop. These soil borings were intended to confirm and delineate previous sample results obtained by Testwell in 2007. A total of four soil samples were collected from each soil boring.

In general, though there were several detections of VOCs (a total of 10 compounds) that exceeded the UU and PGW SCOs (SCOs are the same for both criteria for the VOCs discussed below, with the exception of total xylenes), none of these exceeded the RC SCOs. The majority of the remainder of the VOC detections were petroleum hydrocarbons, with the exception of three chlorinated hydrocarbons [tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (1,2 DCE)]. There were several VOC detections exceeding the PGW SCOs at or near the water table in soil boring locations RSB-2 and RSB-14/4D. As will be discussed below in the groundwater results section, the compounds also exceeding the respective Ambient Water

Quality Standards and Guidance Values (AWQSGVs) in downgradient groundwater samples included only three compounds: benzene, 1,2-DCE, and MTBE. The remaining VOCs detected in the soil samples were either not detected in corresponding downgradient groundwater samples, or detected at low-level or estimated concentrations not exceeding the AWQSGVs, indicating the impacts are limited and localized in nature.

There were several SVOCs detected in the soil samples collected from this area. As shown on Table 3, the majority of compounds were reported at concentrations below the SCOs or not detected. The only compounds that exceeded the UU, PGW or RC SCOs were polycyclic aromatic hydrocarbons (PAHs) and included: Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Dibenzo[a,h]anthracene, and Indeno[1,2,3-cd]pyrene. Similar to the VOC detections, there were several SVOCs exceeding the respective PGW SCOs at or near the water table in soil boring location RSB-8. As will be discussed below in the groundwater results section, only two compounds also exceeded the respective AWQSGVs in downgradient groundwater samples: benzo[a]anthracene and chrysene. The remaining SVOCs detected in the soil samples were not detected in corresponding downgradient groundwater samples, indicating the impacts are limited and localized in nature.

<u>Trench Drains</u>

Nine soil borings (RSB-3, RSB-4, RSB-5, RSB-6, RSB-7, RSB-9, RSB-10, RSB-11, and RSB-12) were advanced in the vicinity of the trench drains located throughout the Site. These soil borings were intended to evaluate potential impacts in the vicinity of the trench drains. A total of two samples were collected from each soil boring.

There were a total of eight VOCs detected in 12 soil samples collected from the nine soil borings. These included MEK, ethylbenzene, MTBE, toluene, total xylenes, 1,2-DCE, PCE, and TCE. As shown on Table 2, all the compounds were reported at concentrations below the SCOs or not detected at all.

There were a total of 12 SVOCs detected in ten soil samples collected from the nine soil borings. As shown on Table 3, all the compounds were reported at concentrations below the SCOs or not detected at all.

Supplemental RI Delineation Soil Borings

Four soil borings (RSB/MW-14, RSB/MW-15, RSB/MW-16, and RSB/MW-17) were advanced in the vicinity of soil boring RSB-2. These soil borings were intended to evaluate and delineate elevated PCE and TCE detections observed at the water table in RSB-2 during the first sampling round in March 2014. A total of twelve soil samples were collected from these locations, three samples from each soil boring.

In general, though there were several detections of VOCs (a total of five compounds) that exceeded the UU and PGW SCOs (SCOs are the same for both criteria for the VOCs discussed below, with the exception of total xylenes), none of these exceeded the RC SCOs. The two compounds of concern in these borings were either not detected (TCE) or detected at concentrations well below the UU and PGW SCO [PCE ranging from 3.3 µg/kg (estimated) to 5.4 µg/kg].

The only VOC detection exceeding the PGW SCO at or near the water table was 1,2-DCE in soil boring locations RSB/MW-15 and RSB/MW-16. This compound also exceeded the respective AWQSGV in one of the downgradient groundwater samples. The remaining VOCs detected in the soil samples were either not detected in corresponding downgradient groundwater samples or were detected at low-level or estimated concentrations not exceeding the AWQSGVs, indicating that the impacts are limited and localized in nature.

There were a total of ten SVOCs detected in seven of the soil samples collected from the four soil borings. As shown on Table 3, all the compounds were reported at concentrations below the SCOs or not detected at all, with the exception of chrysene in the 1-3-foot interval in soil boring RSB/MW-17, which was detected at an estimated concentration of 1,050 µg/kg. This slightly exceeds both the UU and PGW SCO for this compound (1,000 µg/kg for both criteria), but does not exceed the RC SCO (56,000 µg/kg).

Groundwater

A total of 19 new monitoring wells (MW-4S, MW-4D, and MW-5 through MW-21) were installed at the Site over the course of three field mobilizations, in accordance with the NYSDEC-approved RIWP, and two subsequent Supplemental RIWPs.

Following soil sampling activities, monitoring wells were installed at soil boring locations RSB-6, RSB-12, RSB-13, RSB-14, RSB/MW-14, RSB/MW-15. RSB/MW-16, and RSB/MW-17 to a depth of approximately 20 feet bls, and at MW-4D to a depth of approximately 40 feet bls.

Monitoring wells were constructed of 2-inch-inside-diameter, Schedule 40 polyvinyl chloride (PVC) casing and, 0.020-inch slot, machined screen. Well screens are 10 feet long and were installed from approximately 10 to 20 feet bls in MW-4S, MW-5, MW-6 and MW-7, and from approximately 30 to 40 feet in MW-4D.

All monitoring wells were surveyed to obtain horizontal and vertical survey coordinates, and water level elevations were calculated for each well. Figure 6 shows the groundwater elevation contours. Groundwater at the Site is approximately 10 feet below grade, and groundwater flow is to the southeast.

Following installation and/or development, thirteen of the monitoring wells exhibited free-phase hydrocarbon. Samples of the free-phase hydrocarbon was collected and submitted to the laboratory for identification. The result was reported as “Pattern is similar to Motor Oil”. Motor oil has a higher viscosity than other petroleum hydrocarbons, therefore it’s less mobile in the subsurface. In addition, motor oil has a lower percentage of VOC content compared to other petroleum hydrocarbons such as gasoline or #2 fuel oil and therefore the potential for generation of soil vapor and vapor intrusion issues is lower. The estimated extent of the free-phase hydrocarbon plume is shown on Figure 7.

To characterize groundwater flow and quality conditions, the existing network of monitoring wells was sampled. Nineteen new monitoring wells were also installed at the Site including the north portion of the garage, and the southwest and northwest corners of the Site (MW-4S, MW-4D, and MW-5 through MW-21) to evaluate groundwater quality in these areas. [Note: MW-4S and MW-4D is a shallow (20 ft bls) and deep (40 ft bls) pair of wells to evaluate vertical extent of chlorinated VOC impacts]. The monitoring well locations are shown on Figure 2.

Following well development, one round of groundwater samples was collected and analyzed for:

- TCL VOCs;
- TCL SVOCs (only for the February 24, 2014 and October 27, 2015 sample rounds); and
- Metals (only for the February 24, 2014 and October 27, 2015 sample rounds).

A total of ten groundwater samples and two duplicate samples were collected from MW-1 through MW-3, MW-4D, MW-6, MW-7, MW-9, MW-19 and MW-20 over the course of the three field mobilizations, in accordance with the RIWP, Supplemental RIWPs, and QAPP. A total of 13 monitoring wells were not sampled due to the presence of free-phase hydrocarbons (MW-4S, MW-5, MW-8, MW-10 through MW-17, MW-18, and MW-21).

The groundwater laboratory analytical results were compared to NYSDEC AWQSGVs for Class GA groundwater (even though the groundwater at the Site is not used for drinking since the area is connected to the public water supply). Laboratory analytical data for groundwater are shown on Plate 2, and are summarized in Tables 4, 5, and 6. For reference, the historical groundwater sample results are summarized on Plate 3. It should be noted that the historical groundwater samples were collected as grab samples from soil borings during Testwell's 2007 Site work.

Analytical data for VOCs indicated detections above the NYSDEC AWQSGVs in two of the groundwater samples. Detections above the NYSDEC AWQSGVs included benzene, chloroethane, cis-1,2-dichloroethane, methyl tert butyl ether (MTBE), and vinyl chloride. There were detections also of low-level estimated concentrations of methylene chloride (5.1 ug/l to 14 ug/l) in three out of seven field blanks, and two out of eight trip blanks, indicating these detections likely are laboratory artifacts. This conclusion is confirmed by the non-detect or low-level estimated results for methylene chloride in all ten groundwater samples and the duplicate samples.

A total of nine groundwater samples and one duplicate sample were analyzed for SVOCs. As shown on Table 5, limited SVOCs were detected in three of the groundwater samples collected during this investigation. The only detections of SVOCs that exceeded the NYSDEC AWQSGVs were benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, and indeno[1,2,3-cd]pyrene in MW-6, MW-7, and MW-20.

A total of nine groundwater samples and one duplicate sample were analyzed for metals. As shown on Table 6, five metals (iron, lead, manganese, selenium and sodium) were detected above NYSDEC AWQSGV criteria. Iron, manganese and sodium are naturally occurring in regional groundwater.

Soil Vapor

Soil vapor and sub-slab vapor samples were collected from five locations at the Site. A summary of the soil vapor sampling program conducted during the RI is provided below. The complete soil vapor sampling results are shown on Plate 4 and summarized in Table 7.

Four of the five soil vapor points are located inside the building and one point (SV-2) is located on the southern property boundary, outside the building. In February 2014, the four sub-slab soil vapor points (SV-1, and SV-3 through SV-5) were installed as temporary points due to large void spaces that were encountered in several locations during pre-clearance of the soil borings. In September 2014, temporary sub-slab vapor points SV-4 and SV-5 in the auto repair shop area, were converted to permanent sub-slab vapor points, to facilitate future sample rounds and protect the integrity of the sample points in high traffic areas. In September 2014, an additional sub-slab vapor sample point (SV-6) was installed per the Supplemental RIWP, to evaluate soil vapor conditions on the eastern portion of the Site.

Soil vapor point (SV-2) was installed using a Geoprobe® rig to the target depth of five feet. For the outdoor soil vapor samples, they were advanced 4.5 to 5 feet into the ground.

On February 24, 2014, summa canister soil vapor samples were collected to evaluate the potential VOC soil vapor impacts. One soil vapor sample (SV-2) was collected from the area outside of the building (in the southern portion). Four additional soil vapor samples were collected from directly beneath the building slab [one in the office space (SV-1), one in the northern portion (SV-4), one in the central portion of the Auto Repair Shop (SV-5), and one in the western portion (SV-3)]. Sub-slab vapor samples were collected directly below the slab, using temporary soil vapor points. In addition, one outdoor ambient air sample (Outdoor Ambient) and one indoor air sample from within the office space (IA-1) were collected.

On September 25, 2014 and March 18, 2015, sub-slab vapor samples were collected from SV-4, SV-5 and SV-6. In addition, one indoor air sample and an outdoor ambient sample were collected concurrently with the sub-slab vapor samples.

All vapor samples were collected in 6-liter, laboratory pre-cleaned, Summa canisters fitted with an 8-hour flow controller. All soil vapor samples, sub slab vapor samples, indoor air and ambient air samples were analyzed using USEPA Method TO-15 for VOCs.

The laboratory analytical results for soil vapor samples generated during the RI are summarized on Plate 4 and Table 7. A total of 11 soil vapor samples were collected as part of the multiple RI sampling events. Ten samples (SV-1, SV-3, SV-4, and SV-5) were sub-slab samples collected within the onsite building and the remaining sample point (SV-2) was a soil vapor point collected beneath the asphalt pavement on the south side of the Site. As shown on Table 7, the majority of compounds that were analyzed were reported at low and/or estimated concentrations or not detected in any of the samples.

The following seven (7) compounds are discussed because they are either COCs at the Site (PCE) or present on the NYSDOH Guidance Soil Vapor Matrices. Matrix A provides guidance relative to Carbon Tetrachloride, TCE, and 1,2 DCE; Matrix B provides guidance relative to 1,1,1-Trichloroethane (TCA), Methylene Chloride, and PCE; and Matrix C provides guidance relative to VC.

Matrix A Compounds

- Carbon tetrachloride was not detected during the February 2014 sample event.
  - September 2014 sample event, carbon tetrachloride was detected in the indoor air sample at a concentration of 0.5 $\mu g/m^3$; however, carbon tetrachloride was not detected in any of the sub-slab vapor samples during this sample event. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)

  - March 2015 sample event, carbon tetrachloride was detected in two of the sub-slab vapor samples (SV-4 and SV-6), at concentrations of 0.63 $\mu g/m^3$ and 0.81 $\mu g/m^3$, respectively, but was not detected in any of the sub-slab samples during this sample event. (Matrix Result - No Further Action)

- TCE was detected in samples collected during each sample event.
  - February 2014 sample event, TCE was detected in one of the sub-slab vapor samples (SV-5), at a concentration of 13 $\mu g/m^3$. TCE was also detected in the indoor air sample (IA-1) at a concentration of 1.2 $\mu g/m^3$, but was not detected in the corresponding sub-slab vapor sample (SV-1) collected at this location. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures)

  - September 2014 sample event, TCE was detected in SV-5 at a concentration of 21 $\mu g/m^3$, but was not detected in the corresponding indoor air sample (IA092514). (Matrix Result - No Further Action) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)

  - March 2015 sample event, TCE was detected in SV-4 at a concentration of 1.1 $\mu g/m^3$, and in SV-5 at a concentration of 6.9 $\mu g/m^3$, but was not detected in the corresponding indoor air sample (IA031815). (Matrix Result - No Further Action)

- 1,2-DCE was detected in the indoor air sample (IA-1) during the February 2014 sample event, at a concentration of 0.58 $\mu g/m^3$. 1,2-DCE was not detected in the corresponding sub-slab soil vapor sample (SV-1). 1,2-DCE was not detected in samples collected during any of the subsequent sample events. (Matrix Result- No Further Action)

Matrix B Compounds

- 1,1,1-Trichloroethane was not detected in any of the soil vapor or indoor air samples.

- 1,1-Dichloroethene was not detected in any of the soil vapor or indoor air samples.
- PCE was detected in samples collected during each sample event.
  - February 2014 sample event, PCE was detected in two sub-slab vapor samples, at 88 µg/m^3 and 1,100 µg/m^3 in samples SV-5 and SV-4, respectively. PCE was also detected in the Outdoor Ambient air sample, at a concentration of 0.83 µg/m^3. (Note: These sample results do not have a corresponding data point for indoor air.)
  - September 2014 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5, and SV-6), at concentrations of 220 µg/m^3, 210 µg/m^3, and 43 µg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA092514 at a concentration of 0.47 µg/m^3. PCE was not detected in the outdoor ambient sample. [Matrix Result – Monitor (SV-4 and SV-5), No Further Action (SV-6)]. (Note: The data validator rejected the indoor air sample and SV-6 sample for this sample round due to improper vacuum issues)
  - March 2015 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5 and SV-6), at concentrations of 100 µg/m^3, 70 µg/m^3, and 5.8 µg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA031815 at a concentration of 2.1 µg/m^3. [Matrix Result – Monitor (SV-4), No Further Action (SV-5 and SV-6)]

Matrix C Compounds

- VC was not detected in any of the soil vapor samples.

Qualitative Human Health Exposure Assessment

As described in Appendix 3B of DER-10, "The overall purpose of the Qualitative Human Health Exposure Assessment (or the exposure assessment) is to evaluate and document how people might be exposed to site related contaminants, and to identify and characterize the potentially exposed population(s) now and under the reasonably anticipated future use of the site." The following section details the Qualitative Human Health Exposure Assessment based on data collected during the RI.

According to Section 3.10 of DER-10, and the Fish and Wildlife Resources Impact Analysis Decision Key in DER-10 Appendix 3C, a Fish and Wildlife exposure assessment is not needed.

Soil Exposure

Soil samples collected during the RI indicated the presence of VOCs and SVOCs at concentrations above the UU and PGW SCOs. An individual could be exposed to these contaminants through direct contact with site soil during ground intrusive work at the site. Direct contact without the use of proper personal protective equipment (PPE) and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds. As the Site is fully paved or covered with the existing Site building, and fully fenced, access is controlled; potential contact with Site soil is restricted to remedial contract workers at the Site performing ground intrusive activities. The general public is not exposed to direct contact with Site soil.

The proposed redevelopment includes the demolition of the existing building and the construction of a retail development occupying the majority of the Site area (Figure 3). The primary retail space, mechanical rooms and covered plaza will include approximately 77,000SF. The building will be set eight feet below grade. Parking for 210 cars will be provided on the roof. An additional 7,000 SF of retail space will be slab on grade construction. The remainder of the property, approximately 15,000SF, will consist of paved entrance/exit areas. The proposed remedy for the site is a Track 1 cleanup. The new building will continue to be serviced by the public water supply.

The details of the proposed remedy to address the free-phase hydrocarbons will be described further in this RAWP, but the remedy generally consists of soil excavation, free-phase hydrocarbon recovery through the use of skimming technology such as vacuum trucks and oil absorbent booms, and ISCO application through the use of a sodium persulfate-based technology to address residual free-phase hydrocarbons and associated groundwater impacts, and a groundwater monitoring program to evaluate the success of the ISCO application. Based on this plan, the potential for exposure by direct contact with contaminated soil will be eliminated for both the public and employees of the commercial operation. Direct contact without the use of proper PPE and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds for any future construction workers performing ground intrusive activities at the Site.

Groundwater Exposure

Groundwater samples collected during the RI indicate the presence of limited VOCs, SVOCs and metals above the AWQSGVs, and the presence of free-phase motor oil in 13 monitoring wells. As the groundwater table is encountered at approximately 9.5 to 12.5 ft below land surface, and groundwater is not used for drinking (the area is connected to the New York City public water supply), there is no direct contact with or ingestion of groundwater by the general public. Individuals who perform groundwater sampling, free-phase hydrocarbon recovery, or other remedial activities may come into contact with contaminated groundwater if proper PPE and personal hygiene measures are not used, which could lead to dermal contact and the potential for incidental ingestion of these compounds.

The proposed redevelopment includes the demolition of the existing building and the entire Site will be covered with a new building and pavement. The proposed remedy for the site is a Track 1 cleanup. The new building will continue to be serviced by the public water supply. The details of the proposed remedy to address the free-phase hydrocarbon will be described further in this RAWP, and generally consists of excavation, free-phase hydrocarbon recovery through the use of skimming technology such as vacuum trucks and oil absorbent booms, and ISCO application through the use of a sodium persulfate-based technology to address residual free-phase hydrocarbons and associated groundwater impacts, and a groundwater monitoring program to evaluate the success of the ISCO application. Based on this remedy, the potential for public or employee exposure by direct contact with contaminated groundwater will be reduced or eliminated.

Soil Vapor Exposure

Soil vapor samples collected during the RI indicated the presence of VOCs in sub-slab soil vapor. The Site was formerly an active retail automobile sales and service operation, with an auto wash, paint shop, showroom and office space. Although several VOCs were detected in the indoor air sample collected from the office space, the only VOC compound detected in the corresponding sub-slab soil vapor sample was methylene chloride, indicating there is no vapor intrusion pathway within the office space at the Site.

Currently the vapor intrusion study in the auto repair shop yields either No Further Action or Monitor results when compared to the NYSDOH Guidance Matrix. The building currently has a vehicular exhaust venting system to reduce or eliminate vehicular exhaust from accumulating in the workspace.

At the request of NYSDEC, multiple unsuccessful attempts were made to collect soil vapor and indoor air samples at the adjacent property. As such, the presence of soil vapor impacts at the adjacent property cannot be definitively determined at this time. However; historical soil samples collected on the adjacent property (Plate 1) indicated no detections of VOCs, with the exception of methylene chloride detected at estimated concentrations of 4.5 ug/kg and 5.1 ug/kg, well below the UU SCO of 50 ug/kg for this compound. Based on this data, it is unlikely that impacted soil vapor has migrated to the adjacent property.

As described above, the remedial elements including excavation, free-phase hydrocarbon recovery, ISCO application are proposed to address soil and groundwater and are expected to improve onsite soil vapor quality by reducing or eliminating potential source material.

As part of construction, a waterproofing barrier will be installed below the foundation and the along subsurface walls which will also act as a vapor barrier to reduce vapor migration. The small slab on grade portion of the building will also include a vapor barrier. As a contingency, SSDS piping will be installed underneath the cellar slab, if possible. The SSDS installation determination will be based on the final elevation of the foundation and whether enough vertical space exists between the slab and the water table. If active SSDS operation is not required, an unconditional Track 1 cleanup will be achieved for the Site. If active SSDS operation is required a conditional Track 1 cleanup will be achieved. If SSDS operation is needed for more than 5 years, then a Track 2 Restricted Commercial cleanup will be achieved for the Site. If an unconditional Track 1 cleanup is not achieved, preparation of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including institutional and engineering controls, monitoring, operation and maintenance and reporting will be required.

Exposure Assessment Summary

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	**Human Exposure Assessment**
Direct contact with subsurface soils (and incidental ingestion)	• Remedial workers can come in contact with contaminated soil if they perform ground intrusive activities. • During remediation and construction, remedial workers, trespassers, passersby, and utility workers could come into contact with contaminated soil contained in dust through inhalation, incidental ingestion and dermal contact. This potential exposure will be mitigated through the implementation of the HASP, dust mitigation measures, and CAMP. • Future exposure will be reduced or eliminated by addressing free-phase hydrocarbon that may be acting as a source of contamination to soil via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application.
Ingestion of groundwater	• Contaminated groundwater is not used for drinking water, as the Site is connected to the public water supply.
Direct contact with groundwater (and incidental ingestion)	• Remedial workers and construction workers could come into contact with contaminated groundwater through dermal contact and incidental ingestion during ground intrusive work, free-phase hydrocarbon recovery, ISCO application and sampling activities. This potential exposure will be mitigated through the implementation of the HASP. • Future exposure will be reduced or eliminated by addressing free-phase hydrocarbon that may be acting as a

Environmental Media and Exposure Route	Human Exposure Assessment
	source of contamination to soil via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application.
Inhalation of air (exposures related to soil vapor intrusion)	• Remedial and construction workers may be exposed to contaminated soil vapor inside the building or within open excavations. This potential exposure will be mitigated through the implementation of the HASP. • Future exposure will be reduced through via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application. In addition, a vapor barrier and contingency SSDS piping will be installed underneath the cellar slab (if feasible depending on cellar slab elevation and groundwater table elevation) in the event soil vapor concern is identified after the cellar construction is completed and operation of a SSDS is deemed necessary.

Summary of the Remedy

The selected remedy will result in a Track 1 Unrestricted Use Cleanup. The selected remedy is referred to as the Excavation and Groundwater Treatment remedy. The elements of the selected remedy include: pre-design investigation, remedial design program, support of excavation (SOE) and sheeting installation, excavation, soil disposal, groundwater extraction and treatment (including free-phase product recovery using vacuum truck/oil absorbent booms), ISCO application and vapor intrusion evaluation. Details of each element are described below.

1. A Pre-design Investigation (PDI) will be conducted to collect waste characterization samples and collect in-situ end-point samples that will pre-establish the lower limit of the excavation that is required to meet Unrestricted Use SCOs. Soil sampling on the western edge of the Site along Utica Avenue (which will not be excavated for development purposes) and the east side of the Site along Kings Highway (which will have limited excavation where only slab-on-grade retail construction is proposed) will also be conducted

during the PDI. Soil samples will also be collected from the 24-inch strip between the planned SOE and the adjacent property. A PDI work plan will be submitted to NYSDEC under separate cover.

2. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program.

3. Survey existing soil borings and monitoring well locations prior to demolition.

4. Site mobilization involving Site security setup, equipment mobilization, utility markouts and marking and staking excavation areas.

5. Implementation of erosion and sediment controls.

6. Site monitoring of airborne VOCs and particulates in accordance with a NYSDEC approved CAMP will be conducted during all ground intrusive and soil handling activities. Odor suppression equipment including foaming agents and dispersion pumps and sprayers will be mobilized to the Site before the start of ground intrusive activities.

7. The SOE consisting of a drilled cut-off wall will be installed on the northern side of the Site bordering Favorite Plastics. Approximately 212 linear feet of the drilled cut-off wall will be installed to approximately 29 feet below grade. For structural reasons, the drilled piles will be installed approximately 24 inches away from the property line. The quality of soil in the 24-inch strip will be determined during the PDI.

8. Soils in the 24-inch strip behind the SOE that exceed Track 1 SCOs will be removed to a depth of approximately 12 feet. LNAPL, if present, will also be removed. The total depth of removal will be based on the depth of the Favorite Plastics footings. If PDI results indicate that soils with compounds of concern above impact to groundwater SCOs will remain below the excavation limit, an ISCO application will be completed in this strip prior to backfill (see Item 15 below).

9. Unsaturated soils will be initially excavated to approximately nine feet below grade across the 77,000 SF of the site where below grade construction is proposed. These soils will be disposed of offsite. Soils will also be excavated to a depth of approximately four feet below grade from the 7,000SF area on the east side of the Site where slab-on-grade retail development is proposed.

10. Steel sheet piling will be installed along the perimeter of the LNAPL Zone. This will include approximately 332 linear feet of the steel sheet piling being installed to approximately 28 feet below grade.

11. Four feet of smear zone soils that straddle the water table within the LNAPL Zone will be excavated and disposed of offsite. These saturated soils will be stockpiled for shipping the following day. These soils will be managed with drying agents (such as saw dust or fly

ash) as necessary prior to shipment offsite. The soils will also be covered overnight to manage odors.

12. Free-product recovery will be actively conducted in the open excavation via skimming technology using a combination of vacuum truck and oil absorbent booms. Recovered free-product will be temporarily stored onsite in an aboveground tank or drums (depending on quantity generated) for future offsite disposal. Recovery will continue as long as oil recharge occurs. When only small amounts of sheen are present, oil absorbent booms will be deployed in the area to recover the residual product.

13. Dewatering at the Site will be required to enable the excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. Excavation will be conducted in conjunction with controlled dewatering using well points to final depths ranging from 15 to 19 feet below grade. Actual depths will be based on the results of the in-situ endpoint sampling results that will establish the excavation depth needed to achieve Unrestricted Use SCOs. Onsite treatment or offsite disposal of groundwater will proceed as needed.

14. Appropriate offsite disposal of all material removed from the Site to permitted facilities in accordance with all Federal, State and local rules and regulations for handling, transport and disposal, and this plan. Sampling and analysis of excavated media as required by the disposal facilities.

15. An ISCO application of a sodium persulfate-based technology for treatment of VOCs in soil and groundwater will be conducted following the completion of product recovery and remedial excavation. The chemical will be placed at the bottom of the final excavation depth as well as along sidewalls. ISCO application will also include the 24-inch strip behind the SOE if residual soils with compounds of concern exceed impacted to groundwater SCOS.

16. Controlled backfill of the excavated areas to the desired grade with recycled concrete aggregate (RCA), clean stone and/or reuse clean onsite soil from the excavation (as available). Backfill will be protected from contaminated soils using plastic sheeting as necessary. RCA will meet NYSDEC Part 360-1.15 requirements and will be free of asphalt. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the Site.

17. A waterproofing barrier (Grace Preprufe or equivalent) will be installed on the underside of the foundation slab and on the walls below grade. The waterproofing barrier will act as the primary vapor barrier that will minimize any potential vapor intrusion.

18. Install temporary downgradient monitoring well and collect groundwater samples to evaluate the effectiveness of the ISCO treatment.

19. As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

20. All responsibilities associated with the remedial action, including permitting requirements and pre-treatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

21. Submission of a Final Engineering Report (FER) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site (if applicable), and lists any changes from this RAWP.

Contingent Track 1

The intent of the remedy is to achieve Track 1 Unrestricted Use; therefore, no Environmental Easement or Site Management Plan is anticipated. In the event that a Track 1 Unrestricted Use is not achieved, the following contingent remedial elements will be required and the remedy will achieve a minimum Track 4 Restricted Commercial Cleanup:

- A Site cover system consisting of building foundation and pavement areas will be installed onsite. The site cover system will be required to allow for commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs.

- SSDS piping will be installed underneath the cellar slab as a contingency, if possible. The vertical space between the slab and the water table will determine whether installation of the SSDS piping and the monitoring points is possible.

- If an “unconditional” Track 1 is not achieved, recording of an Environmental Easement, including ICs and ECs, to prevent future exposure to any residual contamination remaining at the Site will be required. A copy of the Environmental Easement will be submitted as part of the FER and it will be recorded in the property title records for the Site.

- If an “unconditional” Track 1 is not achieved, preparation of a Site Management Plan (SMP) is required for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

REMEDIAL ACTION WORK PLAN

1.0 INTRODUCTION

Roux Environmental Engineering and Geology, D.P.C. (Roux), on behalf of PTMA 5200 Kings Highway LLC (c/o Bridges Development Group) [PTMA 5200 or Volunteer], has prepared this Revised Remedial Action Work Plan (RAWP) for the property identified as the Kristal Auto Mall (KAM) located at 5200 Kings Highway, Brooklyn, New York (Site). The Site location is shown on Figure 1. The Site was accepted into the Brownfield Cleanup Program (BCP) and assigned Site Number C224140. The former owner, Irma C. Pollack, LLC (Pollack or Participant) entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) which was executed on May 1, 2012. In anticipation of the sale of the Site to PTMA 5200, Pollack and PTMA 5200 submitted a Request to Amend the BCA to add PTMA 5200; the Amendment was executed and effective on March 23, 2018. Commercial use is proposed for the property.

This RAWP summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI) and Supplemental RI, performed between February and March 2014, September 2014 and March 2015. It provides an evaluation of a Track 1 cleanup and other applicable remedial action alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have determined that this Site does not pose a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring if the remedial program.

Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31 (see Section 4.3).

1.1 SITE LOCATION AND DESCRIPTION

The Site is located in the County of Kings, New York City, New York and is identified as Block 7969, Lot 9 on the New York City Tax Map. A United States Geological Survey (USGS) topographical quadrangle map (Figure 1) shows the Site location. The Site is situated on an approximately 2.28-acre area bounded by a plastic manufacturing company, Favorite Plastics Corp., to the north, a car dealership to the south, Utica Avenue to the west and Kings Highway to the east (see Figure 2). A boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419.

1.2 CONTEMPLATED REDEVELOPMENT PLAN

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP will be implemented independent of the proposed redevelopment plan.

The proposed redevelopment includes the demolition of the existing building and the construction of a retail development occupying the majority of the Site area (Figure 3). The primary retail space, mechanical rooms and covered plaza will include approximately 77,000SF. The building will be set eight feet below grade. Parking for 210 cars will be provided on the roof. An additional 7,000 SF of retail space will be slab on grade construction. The remainder of the property, approximately 15,000SF, will consist of paved entrance/exit areas.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

Review of neighboring properties from the Site and from public thoroughfares, and research of available information regarding the neighboring properties, was performed to identify evidence of environmental concerns that could adversely impact the Site or the results of the RIR.

The Site is bordered to the east and southeast by Kings Highway and to the west by Utica Avenue. The Site is bordered to the south by Premier Ford auto dealership. To the north the Site is bordered by the Favorite Plastics Corporation. The Site is bordered to the northeast at 5226 Kings Highway by the Kristal Auto Mall Used Cars. This site occupies a different tax lot, has a different owner from 5222 Kings Highway and is not part of the BCP.

The site is located in an area that is industrial to the northeast, north, northwest, west and southwest. A warehouse owned by H. Schier, Inc., a food wholesaler occupies the entire block to the west across Utica Avenue. Father to the west and north of the Site is continued industrial and commercial land use. To the east and southeast, across Kings Highway, is a residential community consisting of attached one and two-family homes. The closest residences on the corner of Kings Highway, Foster Avenue, and East 52nd Street are approximately 300 feet away from the front of the auto dealership and 400 feet away from the service area. Approximately ¼ mile southeast of the Site is the Parkway Preschool. Paerdegat Basin, a tidal inlet is located approximately 0.6 miles southeast of the Site. There is no agricultural or recreational land use within 0.5 mile of the Site.

A tax map is provided as Figure 4. A figure presenting the land use and surrounding property owners is provided as Figure 5.

2.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The Site was investigated in accordance with the scope of work presented in the NYSDEC-approved Remedial Investigation (RI) Work Plan dated October 2013. The investigation was conducted between February and March 2014, September 2014 and March 2015. The RI Summary Report was submitted to NYSDEC in January 2016.

2.1 SUMMARY REMEDIAL INVESTIGATIONS PERFORMED

This section presents a detailed description of the RI activities performed to characterize the soil, groundwater and soil vapor at the Site. Previous investigations conducted by Testwell in 2007 documented the presence of the following areas of contamination:

- PCE, DCE, and petroleum hydrocarbons in groundwater grab samples above AGWQS; and
- TCE, PCE, DCE, and petroleum hydrocarbons in soil above Unrestricted Use (UU) and Protection of Groundwater (PGW) Soil Cleanup Objectives (SCOs) under the central and eastern side of the Repair Shop; Three SVOCs exceed Restricted Commercial (RC) SCOs in one sample in the same area.

Environmental data collected during the RI was used to qualitatively assess the potential exposure of receptors to Site contaminants and develop the information necessary to support the development of this RAWP. The sample locations are shown on Figure 2, and sample results are summarized in Tables 1 through 7, and on Plates 1, 2 and 4.

2.1.1 Soil Borings, Monitoring Wells and Soil Vapor Points Installation

Soil Borings

To characterize the soil conditions for the Areas of Concern (AOCs) at the Site, soil borings were advanced at the locations shown in Plate 1. Boring logs are provided as Appendix B.

Soil borings were advanced using a track-mounted direct-push Geoprobe® 7720DT. Geoprobe® samples were collected continuously in five-foot increments using a 2-inch diameter macrocore sampler. Soil samples were collected for laboratory analysis from two intervals within each borehole for vertical delineation of previously detected contaminants. Soil borings extended to a minimum of 10 feet below the water table, with the exception of MW-4D, which extended to 40 feet below the concrete slab.

A total of 18 soil borings were advanced at the locations shown in Figure 2, and a total of 49 soil samples were collected for laboratory analysis.

- Underground Storage Tanks AOC - Roux advanced three soil borings (RSB-2, RSB-8, and RSB-14) to confirm and delineate the results obtained by Testwell in 2007. Two monitoring wells (a shallow and deep pair) were also installed to evaluate groundwater quality in the vicinity of this AOC.
- Trench drains AOC - Roux advanced nine soil borings (RSB-3, RSB-4, RSB-5, RSB-6, RSB-7, RSB-9, RSB-10, RSB-11, and RSB-12) and installed one monitoring well to evaluate the potential impacts from the western trench drains.
- Hydraulic lifts AOC - Roux only conducted visual inspection in this AOC as they appear intact.
- Supplemental RI delineation - Four soil borings (RSB/MW-14, RSB/MW-15, RSB/MW-16, and RSB/MW-17) were advanced in the vicinity of soil boring RSB-2. These soil borings were intended to evaluate and delineate elevated PCE and TCE detections observed at the water table in RSB-2 during the first sampling round in March 2014.

Monitoring Wells

Three monitoring wells (MW-1 through MW-3) were installed at the Site as part of Testwell's previous investigations. These wells, however, were installed only to determine groundwater flow direction and the wells were never sampled. During the RI, Roux installed a total of 19 additional monitoring wells (MW-4S, MW-4D, MW-5 through MW-21) and sampled all monitoring wells that didn't contain free phase hydrocarbons to evaluate groundwater conditions in accordance with the approved RIWP and Supplemental RIWPs.

Monitoring wells were installed at soil boring locations RSB-6, RSB-12, RSB-13, RSB-14, RSB/MW-14, RSB/MW-15, RSB/MW-16, and RSB/MW-17 to a depth of approximately 20 feet bls, and at MW-4S to a depth of approximately 40 feet bls. No soil samples were collected from the soil borings at locations MW-8 through MW-13, and MW-18 through MW-21. Monitoring wells were constructed of 2-inch-inside-diameter, Schedule 40 polyvinyl chloride (PVC) casing and, 0.020-inch slot, machined screen. Well screens are 10 feet long and were installed from approximately 10 to 20 feet bls in MW-4S, MW-5, MW-6, and MW-7, and from approximately 30 to 40 feet in MW-4D. A sand pack was placed around the well screen, extending two feet above the top of the screened zone. A minimum two-foot-thick bentonite pellet seal was placed above the sand pack. Once the pellets were allowed to hydrate, a cement-bentonite grout was pumped into the remaining annular space from the bottom up using a tremie pipe lowered to just above the bentonite seal. The wells are completed using locking well plugs, and flush mounted, bolt down, watertight, manhole covers cemented into place.

Each well that did not exhibit free phase product after installation, was developed to ensure good hydraulic connection and to reduce/eliminate turbidity of the water. The wells were developed using a submersible pump and surged periodically until well yield was consistent and had a turbidity below 50 nephelometric turbidity units (NTUs), if possible.

All monitoring wells were surveyed to obtain horizontal and vertical survey coordinates, and water level elevations were calculated for each well and included on Table 1. Figure 6 shows the groundwater elevation contours. Groundwater at the Site is approximately 10 feet below grade and groundwater flow is to the southeast. Monitoring well development logs and groundwater sampling purge logs are included in Appendix C.

Following installation and/or development, thirteen of the monitoring wells exhibited free-phase hydrocarbon. Samples of the free-phase hydrocarbon was collected and submitted to the laboratory for identification. The result was reported as “Pattern is similar to Motor Oil”. Motor oil has a higher viscosity than other petroleum hydrocarbons, therefore it’s less mobile in the subsurface. In addition, motor oil has a lower percentage of VOC content compared to other petroleum hydrocarbons such as gasoline or #2 fuel oil and therefore the potential for generation of soil vapor and vapor intrusion issues is lower. A copy of the laboratory reports is included in Appendix D. A summary of free-phase hydrocarbon thicknesses from the March 2015 gauging event is provided in Table 1. The estimated extent of the free-phase hydrocarbon plume is shown on Figure 7.

Soil Vapor Points

Soil vapor impacts were not evaluated as part of Testwell’s previous investigations. During the RI, Roux collected eleven sub-slab and one soil vapor sample along with one indoor air sample in the office area, two indoor air samples in the auto repair shop and two outdoor ambient air samples.

Soil vapor and sub-slab vapor samples were collected from five locations at the Site. Soil vapor sampling forms are provided in Appendix E. A summary of the soil vapor sampling program conducted during the RI is provided in the following sections. The complete soil vapor sampling results are shown on Plate 4 and summarized in Table 7.

Four of the five soil vapor points are located inside the building and one point (SV-2) is located on the southern property boundary, outside the building. In February 2014, the four sub-slab soil vapor points (SV-1, and SV-3 through SV-5) were installed as temporary points due to large void spaces that were encountered in several locations during pre-clearance of the soil borings. It was decided that temporary points would require a much smaller penetration through the slab, and therefore would provide a better seal for each location. These points were installed using a hammer drill to penetrate the concrete floor slab. In September 2014, temporary sub-slab vapor points SV-4 and SV-5 in the auto repair shop area, were converted to permanent sub-slab vapor points, to facilitate future sample rounds and protect the integrity of the sample points in high traffic areas. In September 2014, an additional sub-slab vapor sample point (SV-6) was installed per the Supplemental RIWP, to evaluate soil vapor conditions on the eastern portion of the Site.

Soil vapor point (SV-2) was installed using a Geoprobe® rig to the target depth of five feet. For the outdoor soil vapor samples, a Geoprobe® rod equipped with a Geoprobe® soil vapor sampling connector and a disposable drive point was advanced 4.5 to 5 feet into the ground. A temporary soil vapor sampling port consisting of a six-inch long stainless steel screen was advanced to the bottom of the Geoprobe® rod with a Teflon-lined sampling tube running to the surface. The annular space around the screen was filled with sand and a surface seal consisting of bentonite clay was installed to prevent ambient air intrusion. The end of the sampling tube was fitted with Master-Flex flexible tubing and tied off to prevent ambient air and/or water from entering the tubing prior to sample collection.

2.1.2 Samples Collected

Soil Borings

Soil samples were collected using a track-mounted direct-push Geoprobe® 7720DT. Geoprobe® samples were collected continuously in five-foot increments using a 2-inch diameter macrocore sampler. Soil samples were collected for laboratory analysis from two intervals within each borehole for vertical delineation of previously detected contaminants. Soil borings extended to a minimum of 10 feet below the water table, with the exception of MW-4D, which extended to 40 feet below the concrete slab.

During installation of the soil borings, the lithology was recorded and soil was field screened for VOCs using a PID, every two and a half feet. The soil from each five-foot interval was observed for lithology and evidence of contamination (e.g., staining, odors, and/or visible free product) and placed immediately thereafter into large Zip-loc™ bags for recording headspace. After a minimum of 15 minutes for equilibration with the headspace in the Zip-loc™ bag, each sample was screened for organic vapors using a PID. Samples for VOC analysis were placed in a laboratory-supplied jar prior to screening, due to the potential for loss of VOCs through volatilization. In soil borings RSB-1, RSB-3, RSB-4, RSB-5, RSB-6/MW-5, RSB-7, RSB-9, RSB-10, RSB-11, RSB-12/MW-7, RSB-13/MW-6, and MW-4D, two soil samples were collected: one from the two-foot interval immediately above the water table and one from the terminal depth of the boring. The samples were placed in the laboratory-supplied containers and shipped to the laboratory under chain of custody procedures in accordance with Roux standard operating procedures.

In soil borings RSB-2, RSB-8 and RSB-14/MW-4S, soil samples were collected from four intervals; the one to three-foot interval, five to seven-foot interval, the two-foot interval immediately above the water table, and the terminal depth of the boring to confirm and vertically delineate previously identified soil contamination.

In soil borings RSB/MW-14, RSB/MW-15, RSB/MW-16 and RSB/MW-17, soil samples were collected from three intervals; a shallow interval (one to 3- or two to four-foot interval), the two-foot interval immediately above the water table, and the terminal depth of the boring to confirm and horizontally delineate previously identified soil contamination in RSB-2.

Monitoring Wells

To characterize groundwater flow and quality conditions, the existing network of three monitoring wells was sampled. Nineteen new monitoring wells were also installed at the Site including the north portion of the garage, and the southwest and northwest corners of the Site (MW-4S, MW-4D, and MW-5 through MW-21) to evaluate groundwater quality in these areas. [Note: MW-4S and MW-4D is a shallow (20 ft bls) and deep (40 ft bls) pair of wells to evaluate vertical extent of chlorinated VOC impacts]. The monitoring well locations are shown on Figure 2.

A total of ten groundwater samples and two duplicate samples were collected from MW-1 through MW-3, MW-4D, MW-6, MW-7, MW-9, MW-19, and MW-20 over the course of the three field mobilizations, in accordance with the RIWP, Supplemental RIWPs, and QAPP. A total of 13 monitoring wells were not sampled due to the presence of free-phase hydrocarbons (MW-4S, MW-5, MW-8, MW-10 through MW-17, MW-18, and MW-21).

Field parameters, including temperature, pH, conductivity, turbidity, and dissolved oxygen concentration, were also collected during well sampling. Prior to sampling, depth to water was measured at each well using an electronic water level indicator with an accuracy of +/-0.01 feet. At each groundwater sampling location, groundwater samples were collected using low-flow (minimal drawdown) procedures. Prior to sample collection, each point was purged at low-flow evacuation rates of 0.1 to 0.5 liters per minute (L/min) using a peristaltic pump. Groundwater samples were collected at the same flow rate as purging using the same device as was used for purging.

Soil Vapor Points

On February 24, 2014, summa canister soil vapor samples were collected to evaluate the potential VOC soil vapor impacts. One soil vapor sample (SV-2) was collected from the area outside of the building (in the southern portion) from a boring installed using a Geoprobe, to the target depth of five feet. Four additional soil vapor samples were collected from directly beneath the building slab [one in the office space (SV-1), one in the northern portion (SV-4), one in the central portion of the Auto Repair Shop (SV-5), and one in the western portion (SV-3)]. Sub-slab vapor samples were collected directly below the slab, using temporary soil vapor points. In addition, one outdoor ambient air sample (Outdoor Ambient) and one indoor air sample (IA-1) from within the office space were collected.

On September 25, 2014 and March 18, 2015, sub-slab vapor samples were collected from SV-4, SV-5, and SV-6. In addition, one indoor air sample and an outdoor ambient sample were collected concurrently with the sub-slab vapor samples.

2.1.3 Chemical Analytical Work Performed

Soil

Soil samples were packed into laboratory supplied containers and stored on ice. Soil samples were analyzed by York Analytical Laboratories, Inc. (York), an Environmental Laboratory Approval Program (ELAP) certified laboratory (Lab ID #10854) located in Stratford, Connecticut. Selected samples were analyzed for Target Compound List (TCL) VOCs and TCL SVOCs per the NYSDEC-approved RIWP.

Analytical data was provided in NYSDEC ASP Category B deliverable packages with case narratives describing how closely the data met the quality objectives as described by the NYSDEC ASP. A data usability summary report (DUSR) is provided in Appendix F. The DUSR was prepared by an independent party and in accordance with Appendix 2B, Section 2.0 of DER-10 for all samples generated during the RI.

Analytical results for soil samples were compared to NYSDEC UU, PGW, and RC SCOs for the Protection of Public Health presented in 6 NYCRR Subpart 375-6. These SCOs were selected based on the future use of the Site, as well as the anticipated BCP cleanup Tracks for soil remediation that are proposed for the Site. The locations of the soil samples are shown on Plate 1, along with their respective summarized soil sample results. Exceedances of the UU SCOs are shown in black and exceedances of the RC SCOs are shown in yellow. Exceedances of the PGW SCOs are shown in blue when the detection occurs below the water table, and the compound is also detected in groundwater samples. Complete soil sample results are summarized in Tables 2 and 3. Soil boring logs are provided in Appendix B.

Groundwater

Following well development, one round of groundwater samples was collected and analyzed for:

- TCL VOCs;
- TCL SVOCs (only for the February 24, 2014 and October 27, 2015 sample rounds); and
- Metals (only for the February 24, 2014 and October 27, 2015 sample rounds).

Field parameters, including temperature, pH, conductivity, turbidity, and dissolved oxygen concentration, were also collected during well sampling. Prior to sampling, depth to water was measured at each well using an electronic water level indicator with an accuracy of +/-0.01 feet. At each groundwater sampling location, groundwater samples were collected using low-flow (minimal drawdown) procedures. Prior to sample collection, each point was purged at low-flow evacuation rates of 0.1 to 0.5 liters per minute (L/min) using a peristaltic pump. Groundwater samples were collected at the same flow rate as purging using the same device as was used for purging. Groundwater sampling forms are provided in Appendix C.

Soil Vapor

All vapor samples were collected in 6-liter, laboratory pre-cleaned, Summa canisters fitted with an 8-hour flow controller. All soil vapor samples, sub slab vapor samples, indoor air and ambient air samples were analyzed using USEPA Method TO-15 for VOCs.

2.1.4 Documentation

2.1.4.1 Soil Results

Underground Storage Tanks

Three soil borings (RSB-2, RSB-8, and RSB-14) were advanced in the vicinity of the former UST area located on the northeastern side of the repair shop. These soil borings were intended to confirm and delineate previous sample results obtained by Testwell in 2007. A total of four soil samples were collected from each soil boring.

VOCs

In general, though there were several detections of VOCs (a total of 10 compounds) that exceeded the UU and PGW SCOs (SCOs are the same for both criteria for the VOCs discussed below, with the exception of total xylenes), none of these exceeded the RC SCOs. As shown on Tables 2 and 4, the compounds acetone and methylene chloride were detected in every soil sample, and the majority of field blanks, and trip blanks. Methylene chloride sample results were rejected by the data validator in all of the soil samples, and acetone sample results were rejected in all but two of the samples (RSB-8 in the five to seven-foot and eight and half to ten and half-foot intervals) for this reason. These compounds are considered to be common lab contaminants and are not contaminants of concern at the Site; therefore, these results will not be discussed in further detail. The majority of the remainder of the VOC detections were petroleum hydrocarbons, with the exception of three chlorinated hydrocarbons [tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2,-dichloroethene (1,2 DCE)]. The results for the detected compounds are summarized below, and on Table 2.

- 2-butanone (MEK) was detected in four samples, ranging in concentration from 4.4 (estimated) to 1800 µg/kg. MEK exceeded the UU and PWG SCO (120 µg/kg) in one sample, RSB-14/4D__10-11 at a concentration of 1800 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.

- Benzene was detected in three samples, ranging in concentration from 4.4 µg/kg (estimated) to 1200 µg/kg. Benzene exceeded the UU and PGW SCO (60 µg/kg) in two samples, RSB-2_11-13 and RSB-14__10-11 at concentrations of 470 µg/kg (estimated) and 1,200 µg/kg, respectively. Neither of these detections exceeded the RC SCO of 44,000 µg/kg.

- Ethylbenzene was detected in four samples, ranging in concentration from 3 µg/kg (estimated) to 12,000 µg/kg. Ethylbenzene exceeded the UU and PWG SCO (1,000 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (12,000 µg/kg), and RSB-14/14D_10-11 (6,700 µg/kg). Neither of these detections exceeded the RC SCO of 390,000 µg/kg.

- MTBE was detected in two samples, ranging in concentration from 420 µg/kg (estimated) to 2,000 µg/kg. MTBE exceeded the UU and PWG SCO (930 µg/kg) in one sample, RSB-2_11-13 at a concentration of 2,000 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.

- Toluene was detected in 10 samples, ranging in concentration from 5.1 µg/kg (estimated) to 340,000 µg/kg. Toluene exceeded the UU and PGW SCO (700 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (340,000 µg/kg), and RSB-14/4D_10-11 (30,000 µg/kg). Neither of these detections exceeded the RC SCO of 500,000 µg/kg.

- Xylenes (total) were detected in eight samples, ranging in concentration from 7.5 µg/kg (estimated) to 51,000 µg/kg. Xylene exceeded the UU SCO (260 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (51,000 µg/kg), and RSB-14/4D_10-11 (32,000 µg/kg). Neither of these detections exceeded the PGW SCO (1,600 µg/kg) or the RC SCO (500,000 µg/kg).

- 1,2-DCE was detected in three soil samples, ranging in concentration from 3.2 µg/kg (estimated) to 12,000 µg/kg. 1,2-DCE exceeded the UU and PGW SCO (250 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (12,000 µg/kg), and RSB-14/4D_10-11 (2,900 µg/kg). Neither of these detections exceeded the RC SCO of 500,000 µg/kg.

- PCE was detected in seven soil samples, ranging in concentration from 3.1 µg/kg (estimated) to 6,100 µg/kg. PCE exceeded the UU and PGW SCO (1,300 µg/kg) in one sample, RSB-2_11-13, at a concentration of 6,100 µg/kg. This detection does not exceed the RC SCO of 150,000 µg/kg.

- TCE was detected in two soil samples, ranging in concentration from 590 µg/kg (estimated) to 760 µg/kg (estimated). TCE exceeded the UU and PGW SCO (470 µg/kg) in both samples, RSB-2_11-13 and RSB-14_10-11, at 760 µg/kg (estimated) and 590 µg/kg, respectively. Neither of these detections exceeded the RC SCO of 200,000 µg/kg.

There were several VOC detections exceeding the PGW SCOs at or near the water table in soil boring locations RSB-2 and RSB-14/4D. As discussed below in the groundwater results section, three compounds: benzene, 1,2-DCE, and MTBE also exceed the respective Ambient Water Quality Standards and Guidance Values (AWQSGVs) in downgradient groundwater samples.

The remaining VOCs detected in the soil samples did not exceed the AWQSGVs, indicating that the impacts are limited and localized in nature.

<u>SVOCs</u>

There were several SVOCs detected in the soil samples collected from this area. As shown on Table 3, the majority of compounds were reported at concentrations below the SCOs or not detected. The only compounds that exceeded the UU, PGW or RC SCOs were polycyclic aromatic hydrocarbons (PAHs) and included: Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Dibenzo[a,h]anthracene, and Indeno[1,2,3-cd]pyrene. The results for these compounds are summarized below.

- Benzo[a]anthracene was detected in seven soil samples, ranging in concentration from 943 µg/kg (estimated) to 4,750 µg/kg. Benzo[a]anthracene exceeded the UU and PGW SCO (1000 µg/kg, SCO is the same for both criteria) in six samples, ranging in concentration from 1,480 µg/kg (estimated) at RSB-14_10-11 to a concentration of 4,750 µg/kg at RSB-2_1-3. None of these detections exceeded the RC SCO of 5,600 µg/kg.

- Benzo[a]pyrene was detected in seven samples, ranging in concentration from 1,120 µg/kg (estimated) in RSB-2_5-7 to 5,550 µg/kg in RSB-2_1-3. Benzo[a]pyrene exceeded both the UU and RC SCO (1,000 µg/kg, SCO is the same for both criteria) in all seven samples. None of the samples exceeded the PGW SCO (22,000 µg/kg) for this compound.

- Benzo[b]fluoranthene was detected in seven samples, ranging in concentration from 961 µg/kg (estimated) to 4,110 µg/kg (estimated). Benzo[b]fluoranthene exceeded the UU SCO (1,000 µg/kg) in six samples, ranging in concentration from 1,410 µg/kg (estimated) at RSB-8_8.5-10.5 and RSB-14/4D_5-7 to a concentration of 4,110 µg/kg (estimated) at RSB-2_1-3. Benzo[b]fluoranthene exceeded the PGW SCO (1,700 µg/kg) in four samples, ranging in concentration from 4,110 µg/kg (estimated) at RSB-14_5-7 to 1,990 µg/kg at RSB-14/4D_2.5-3. None of these detections exceeded the RC SCO of 5,600 µg/kg.

- Benzo[k]fluoranthene was detected in seven samples, ranging in concentration from 1,070 µg/kg (estimated) to 5,080 µg/kg. Benzo[k]fluoranthene exceeded the UU SCO (800 µg/kg) at all seven locations. Benzo[k]fluoranthene exceeded the PGW SCO (1,700 µg/kg) at four locations, ranging in concentration from 1,780 µg/kg at RSB-14/4D_5-7 to a concentration of 5,080 µg/kg (estimated) at RSB-2_1-3. None of these detections exceeded the RC SCO of 56,000 µg/kg.

- Chrysene was detected in seven samples, ranging in concentration from 1,000 µg/kg (estimated) to 4,760 µg/kg. Chrysene exceeded the UU and PGW SCO (1,000 µg/kg, SCO is the same for both criteria) in six samples, ranging in concentration from 1,610 µg/kg (estimated) at RSB-14_2.5-3 to 4,760 µg/kg at RSB-2_1-3. None of these detections exceeded the RC SCO of 56,000 µg/kg.

- Dibenzo[a,h]anthracene was detected in one sample at a concentration of 510 µg/kg (estimated) at RSB-8_5-7. This exceeds the UU SCO (330 µg/kg), but does not exceed the RC SCO (560 µg/kg) or the PGW SCO (1,000,000 µg/kg).

- Indeno[1,2,3-cd]pyrene was detected in six samples, ranging in concentration from 489 µg/kg (estimated) to 1,280 µg/kg (estimated). Indeno[1,2,3-cd]pyrene exceeded the UU SCO (500 µg/kg) in five samples, ranging in concentration from 522 µg/kg (estimated) in RSB-8_8.5-10.5 to 1,280 µg/kg (estimated) in RSB-2_1-3. None of these detections exceeded the RC SCO (5,600 µg/kg) or the PGW SCO (8,200 µg/kg).

Similar to the VOC detections, there were several SVOCs exceeding the respective PGW SCOs at or near the water table in soil boring location RSB-8. Only two compounds, benzo[a]anthracene and chrysene, also exceeded the respective AWQSGVs in downgradient groundwater samples. The remaining SVOCs detected in the soil samples were not detected in corresponding downgradient groundwater samples, indicating that the impacts are limited and localized in nature.

Trench Drains

Nine soil borings (RSB-3, RSB-4, RSB-5, RSB-6, RSB-7, RSB-9, RSB-10, RSB-11, and RSB-12) were advanced in the vicinity of the trench drains located throughout the Site. These soil borings were intended to evaluate potential impacts in the vicinity of the trench drains. A total of two samples were collected from each soil boring.

VOCs

There were a total of eight VOCs detected in 12 soil samples collected from the nine soil borings. These included MEK, ethylbenzene, MTBE, toluene, total xylenes, 1,2-DCE, PCE, and TCE. As shown on Table 2, all of the compounds were reported at concentrations below the SCOs or not detected at all.

SVOCs

There were a total of 12 SVOCs detected in ten soil samples collected from the nine soil borings. As shown on Table 3, all of the compounds were reported at concentrations below the SCOs or not detected at all.

Supplemental RI Delineation Soil Borings

Four soil borings (RSB/MW-14, RSB/MW-15, RSB/MW-16, and RSB/MW-17) were advanced in the vicinity of soil boring RSB-2. These soil borings were intended to evaluate and delineate elevated PCE and TCE detections observed at the water table in RSB-2 during the first sampling round in March 2014. A total of twelve soil samples were collected from these locations, three samples from each soil boring.

VOCs

In general, though there were several detections of VOCs (a total of five compounds) that exceeded the UU and PGW SCOs (SCOs are the same for both criteria for the VOCs discussed below, with the exception of total xylenes), none of these exceeded the RC SCOs. The two compounds of concern in these borings were either not detected (TCE) or detected at concentrations well below the UU and PGW SCO [PCE ranging from 3.3 µg/kg (estimated) to 5.4 µg/kg]. The results for the detected compounds are summarized below, and on Table 2.

- 2-butanone (MEK) was detected in three samples, ranging in concentration from 2.8 (estimated) to 450 µg/kg. MEK exceeded the UU and PWG SCO (120 µg/kg) in one sample, RSB/MW-14__12-14 at a concentration of 450 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.

- Ethylbenzene was detected in six samples, ranging in concentration from 11 µg/kg to 5,700 µg/kg. Ethylbenzene exceeded the UU and PWG SCO (1,000 µg/kg) in five samples, at concentrations ranging from 1,200 µg/kg in RSB/MW-14__12-14, to 5,700 µg/kg in RSB/MW-15_10-11. None of these detections exceeded the RC SCO of 390,000 µg/kg.

- Toluene was detected in seven samples, ranging in concentration from 23 µg/kg to 100,000 µg/kg. Toluene exceeded the UU and PGW SCO (700 µg/kg) in four samples, at concentrations ranging from 930 µg/kg in RSB/MW-14_12-14 to 100,000 µg/kg in RSB/MW-15_10-11. None of these detections exceeded the RC SCO of 500,000 µg/kg.

- Xylenes (total) were detected in seven samples, ranging in concentration from 7.8 µg/kg (estimated) to 28,000 µg/kg. Xylenes exceeded the UU SCO (260 µg/kg) and PGW SCO (1,600 µg/kg) in four samples, at concentrations ranging from 5,800 µg/kg in RSB/MW-14_12-14 to 28,000 µg/kg in RSB/MW-15. None of these detections exceeded the RC SCO (500,000 µg/kg).

- 1,2-DCE was detected in six soil samples, ranging in concentration from 3.7 µg/kg (estimated) to 2,300 µg/kg. 1,2-DCE exceeded the UU and PGW SCO (250 µg//kg) in three samples, at concentrations ranging from 330 µg/kg (estimated) in RSB/MW-17_13-15 to 4,100 µg/kg in RSB/MW-16_11-13. None of these detections exceeded the RC SCO of 500,000 µg/kg.

- PCE was detected in two soil samples, ranging in concentration from 3.3 µg/kg (estimated) to 5.4 µg/kg. PCE did not exceed the UU and PGW SCO (1,300 µg/kg), or RC SCO (150,000 µg/kg).

The only VOC detections exceeding the PGW SCO at or near the water table were 1,2-DCE in soil boring locations RSB/MW-15 and RSB/MW-16. As discussed below, this compound also exceeded the respective AWQSGV in one of the downgradient groundwater samples. The remaining VOCs detected in the soil samples did not exceed the AWQSGVs, indicating that the impacts are limited and localized in nature.

<u>SVOCs</u>

There were a total of ten SVOCs detected in seven of the soil samples collected from the four soil borings. As shown on Table 3, all of the compounds were reported at concentrations below the SCOs or not detected at all, with the exception of chrysene in the 1-3 foot interval in soil boring RSB/MW-17, which was detected at an estimated concentration of 1,050 µg/kg. This slightly exceeds both the UU and PGW SCO for this compound (1,000 µg/kg for both criteria), but does not exceed the RC SCO (56,000 µg/kg).

In summary, soil sample results confirm previous investigations that identified petroleum contamination surrounding the former USTs in the northeastern corner of the auto repair shop. Only one compound (benzo[a]pyrene) was detected above the RC SCOs in three soil borings in this area. These detections were observed to a maximum depth of 10.5 feet below land surface. Soil sample results from the remainder of the Site show no exceedances of the RC SCOs. Several

VOCs and SVOCs exceeded the PGW SCOs in the vicinity of the water table; however, only five of these compounds were also detected in downgradient groundwater samples. These detections were observed to a maximum depth of 15 feet below land surface.

These sample results illustrate the extremely limited nature of SVOC detections in one small area of the Site (northeast corner of the auto repair shop). The proposed remedial action will include excavation, free-phase hydrocarbon recovery followed by ISCO application to remediate unrecoverable residual free-phase hydrocarbons. The details of the proposed remedy to reduce or eliminate the free-phase hydrocarbons and residual soil impacts present at the Site will be fully described in the RAWP.

2.1.4.2 Groundwater Results

A total of ten groundwater samples and two duplicate samples were collected from MW-1 through MW-3, MW-4D, MW-6, MW-7, MW-9, MW-19, and MW-20 over the course of the three field mobilizations, in accordance with the RIWP, Supplemental RIWPs, and QAPP. A total of 13 monitoring wells were not sampled due to the presence of free-phase hydrocarbons (MW-4S, MW-5, MW-8, MW-10 through MW-17, MW-18, and MW-21).

The groundwater laboratory analytical results were compared to NYSDEC AWQSGVs for Class GA groundwater (even though the groundwater at the Site is not used for drinking since the area is connected to the public water supply). Laboratory analytical data for groundwater are shown on Plate 2, and are summarized in Tables 4, 5, and 6. For reference, the historical groundwater sample results are summarized on Plate 3. It should be noted that the historical groundwater samples were collected as grab samples from soil borings during Testwell's 2007 Site work.

VOCs

A summary of laboratory analytical data for VOCs detected in groundwater is presented in Table 4 and Plate 2. A total of ten groundwater samples and two duplicate samples were analyzed for VOCs. As shown on Table 4, all of compounds were reported at low concentrations or not detected in any of the samples. Analytical data for VOCs indicated detections above the NYSDEC

AWQSGVs in two of the groundwater samples. Detections above the NYSDEC AWQSGVs included benzene, chloroethane, cis-1,2-dichloroethane, methyl tert butyl ether (MTBE), and vinyl chloride. There were also detections of low-level estimated concentrations of methylene chloride (5.1 µg/L to 14 µg/L) in three out of seven field blanks, and two out of eight trip blanks, indicating that these detections are likely laboratory artifacts. This is confirmed by the non-detect or low-level estimated results for methylene chloride in all ten groundwater samples and the duplicate samples. A summary of the exceedances is provided below.

- Benzene exceeded the AWQSGV (1 µg/L) in two samples, at concentrations of 1.2 µg/L in MW-19 and 5.2 µg/L in MW-20.
- Chloroethane exceeded the AWQSGV (5 µg/L) in MW-20 at a concentration of 11 µg/L.
- Cis-1,2-dichloroethane exceeded the AWQSGV (5 µg/L) in MW-20 at a concentration of 350 µg/L.
- MTBE exceeded the AWQSGV (10 µg/L) in two samples, at concentrations of 22 µg/L in MW-19 and 100 µg/L in MW-20.
- Vinyl chloride exceeded the AWQSGV (2 µg/L) in two samples, at concentrations of 42 µg/L in MW-19 and 66 µg/L in MW-20.

<u>SVOCs</u>

A summary of laboratory analytical data for SVOCs detected in groundwater samples is presented in Table 5 and on Plate 2. A total of nine groundwater samples and one duplicate sample were analyzed for SVOCs. As shown on Table 5, limited SVOCs were detected in three of the groundwater samples collected during this investigation. The only detections of SVOCs that exceeded the NYSDEC AWQSGVs were benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, and indeno[1,2,3-cd]pyrene in MW-6, MW-7, and MW-20. A summary of the exceedances is provided below.

- Benzo[a]anthracene exceeded the AWQSGV (0.002 µg/L) in two samples, at concentrations of 0.0686 µg/L in MW-6 and 0.144 µg/L in MW-20.
- Benzo[a]pyrene exceeded the AWQSGV (0 µg/L) in MW-20, at a concentration of 0.144 µg/L.
- Benzo[b]fluoranthene exceeded the AWQSGV (0.002 µg/L) in MW-20, at a concentration of 0.0821 µg/L.

- Bis(2-ethylhexyl) phthalate exceeded the AWQSGV (5 µg/L) in MW-7 and the duplicate of this sample, at estimated concentrations of 39.6 µg/L and 6.98 µg/L, respectively.
- Chrysene exceeded the AWQSGV (0.002 µg/L) in two samples, at concentrations of 0.0686 µg/L in MW-6 and 0.144 µg/L in MW-20.
- Indeno[1,2,3-cd]pyrene exceeded the AWQSGV (0.002 µg/L) in MW-20, at a concentration of 0.0718 µg/L.

<u>Metals</u>

A summary of laboratory analytical data for metals detected in groundwater samples is presented in Table 6 and on Plate 2. A total of nine groundwater samples and one duplicate sample were analyzed for metals. As shown on Table 6, five metals (Iron, Lead, Manganese, Selenium, and Sodium) were detected above NYSDEC AWQSGV criteria. Iron, manganese, and sodium are naturally occurring in regional groundwater. A summary of the detections of Lead and Selenium are described below.

- Lead was detected in four locations at concentrations ranging from 27 µg/L in MW-1 to 63 µg/L in MW-20, exceeding the respective NYSDEC AWQSGV (25 µg/L) in all four locations.
- Selenium was detected in two locations at concentrations ranging from 10 µg/L in MW-7 to 15 µg/L in MW-2, slightly exceeding the respective NYSDEC AWQSGV (10 µg/L) in MW-2.

In summary, groundwater sample results indicate limited pockets of groundwater contamination (SVOCs and metals). There were limited exceedances of VOCs in two monitoring wells (MW-19 and MW-20) located downgradient of the free-phase hydrocarbon extent. Thirteen monitoring wells (MW-4S, MW-5, MW-8, MW-10 through MW-18, and MW-21) could not be sampled due to the presence of free-phase motor oil.

The deep groundwater monitoring well (MW-4D) that was requested by NYSDEC to evaluate potential groundwater impacts by chlorinated VOCs (mainly PCE), showed no exceedances of VOCs, SVOCs, or metals. These results illustrate that there are no major sources, particularly of PCE, impacting deep groundwater at the Site.

Due to the limited nature of groundwater contamination observed at the Site, the proposed remedial action for groundwater at the Site is free-phase hydrocarbon recovery, followed by ISCO application and groundwater monitoring, as needed to evaluate remedial progress. The details of the proposed remedy to reduce or eliminate the free-phase hydrocarbons and residual groundwater impacts present at the Site will be fully described in the RAWP.

2.1.4.3 Soil Vapor Results

The laboratory analytical results for soil vapor samples generated during the RI are summarized on Plate 4 and Table 7. A total of 11 soil vapor samples were collected as part of the multiple RI sampling events. Ten samples (SV-1, SV-3, SV-4, and SV-5) were sub-slab samples collected within the onsite building and the remaining sample point (SV-2) was a soil vapor point collected beneath the asphalt pavement on the south side of the Site. As shown on Table 7, the majority of compounds were reported at low and/or estimated concentrations or not detected in any of the samples.

The following seven (7) compounds are discussed because they are either COCs at the Site (PCE) or present on the NYSDOH Guidance Soil Vapor Matrices. Matrix A provides guidance relative to Carbon Tetrachloride, 1,2-DCE, TCE; and Matrix B provides guidance relative to 1,1,1-Trichloroethane, 1,1-Dichloroethene, and PCE. Matrix C guidance relative to VC. A summary of the detections is described below along with the corresponding Matrix results. Additional compounds besides these seven were detected and are included Table 7.

Matrix A Compounds

- Carbon tetrachloride was not detected during the February 2014 sample event.
  - September 2014 sample event, carbon tetrachloride was detected in the indoor air sample at a concentration of 0.5 μg/m^3; however, carbon tetrachloride was not detected in any of the sub-slab vapor samples during this sample event. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)

  - March 2015 sample event, carbon tetrachloride was detected in two of the sub-slab vapor samples (SV-4 and SV-6), at concentrations of 0.63 μg/m^3 and 0.81 μg/m^3, respectively, but was not detected in any of the sub-slab samples during this sample event. (Matrix Result - No Further Action)

- TCE was detected in samples collected during each sample event.
  - February 2014 sample event, TCE was detected in one of the sub-slab vapor samples (SV-5), at a concentration of 13 μg/m^3. TCE was also detected in the indoor air sample (IA-1) at a concentration of 1.2 μg/m^3, but was not detected in the corresponding sub-slab vapor sample (SV-1) collected at this location. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures)

  - September 2014 sample event, TCE was detected in SV-5 at a concentration of 21 μg/m^3, but was not detected in the corresponding indoor air sample (IA092514). (Matrix Result - No Further Action) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)

  - March 2015 sample event, TCE was detected in SV-4 at a concentration of 1.1 μg/m^3, and in SV-5 at a concentration of 6.9 μg/m^3, but was not detected in the corresponding indoor air sample (IA031815). (Matrix Result - No Further Action)

- 1,2-DCE was detected in the indoor air sample (IA-1) during the February 2014 sample event, at a concentration of 0.58 μg/m^3. 1,2-DCE was not detected in the corresponding sub-slab soil vapor sample (SV-1). 1,2-DCE was not detected in samples collected during any of the subsequent sample events. (Matrix Result- No Further Action)

Matrix B Compounds

- 1,1,1-Trichloroethane was not detected in any of the soil vapor or indoor air samples.

- 1,1-Dichloroethene was not detected in any of the soil vapor or indoor air samples.

- PCE was detected in samples collected during each sample event.
  - February 2014 sample event, PCE was detected in two sub-slab vapor samples, at 88 μg/m^3 and 1,100 μg/m^3 in samples SV-5 and SV-4, respectively. PCE was also detected in the Outdoor Ambient air sample, at a concentration of 0.83 μg/m^3. (Note: These sample results do not have a corresponding data point for indoor air.)

  - September 2014 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5, and SV-6), at concentrations of 220 μg/m^3, 210 μg/m^3, and 43 μg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA092514 at a concentration of 0.47 μg/m^3. PCE was not detected in the outdoor ambient sample. [Matrix Result – Monitor (SV-4 and SV-5), No Further Action

(SV-6)]. (Note: The data validator rejected the indoor air sample and SV-6 sample for this sample round due to improper vacuum issues)

– March 2015 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5 and SV-6), at concentrations of 100 µg/m^3, 70 µg/m^3, and 5.8 µg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA031815 at a concentration of 2.1 µg/m^3. [Matrix Result – Monitor (SV-4), No Further Action (SV-5 and SV-6)]

Matrix C Compounds

- VC was not detected in any of the soil vapor samples.

In summary, soil vapor intrusion results indicate there is no vapor intrusion pathway in the office space at the Site. Currently the vapor intrusion study in the auto repair shop yields either No Further Action or Monitor results when compared to the NYSDOH Guidance Matrix.

No access was granted to evaluate offsite vapor intrusion conditions at the neighboring property to the north. Based on historical soil sample results collected by Testwell (i.e., no VOC detections) it is unlikely that impacted soil vapor has migrated to the north of the Site.

As a contingency, a sub-slab depressurization system (SSDS) piping will be installed underneath the cellar slab, if possible. The SSDS installation determination will be based on the final elevation of the foundation and whether enough vertical space exists between the slab and the water table.

2.2 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have determined that this Site does not pose a significant threat to human health and the environment. Notice of that determination was provided in the Fact Sheet distributed in September 2016 for public review.

2.3 SITE HISTORY

2.3.1 Past Uses and Ownership

The following summary of Site history was based on a review of the following documents and research performed by Roux:

2.3.2 Phase I and Phase II Reports

The following section provides a brief overview of the results of previous environmental investigations at the Site. The historic reports were reviewed by Roux and are included in the RIR and summarized below.

- Phase II Environmental Site Assessment Report prepared by Testwell Laboratories, Inc. on behalf of Benenson Capital Partners, LLC, dated April 27, 2007.
- Additional Remedial Investigation Report prepared by Testwell Laboratories, Inc., dated October 30, 2007.
- Interim Remedial Measure Monthly Report prepared by Roux, Inc. on behalf of Irma C. Pollack, LLC, dated January 18, 2017.

Phase II Environmental Site Assessment Report, 2007

On July 11, 2003, Testwell Laboratories, Inc. (TLI) conducted a Phase II Environmental Investigation by performing ground penetrating radar (GPR) survey and collecting and analyzing subsurface soil samples. Twelve soil borings (SB-1 to SB-12) were advanced around the building and at each soil boring location, soil samples were continuously collected in a 4’ sample tube with liner. Based upon visual inspection and headspace measurement, one grab soil sample was submitted for laboratory analysis from each boring. Samples were analyzed for VOCs (EPA method 8260), SVOCs (EPA method 8270) and heavy metals (EPA method 6010). Groundwater depth ranged from 8 to 16 feet below grade and the direction was reported to be to the northwest.

Analytical data was compared against the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046. Results indicated that heavy metal (mercury), some VOCs and SVOCs (including fuel and gasoline related and chlorinated compounds) exceeded the soil cleanup objective in multiple boring locations. The results indicate that soil contamination exists and may have impacted the groundwater table.

Additional Remedial Investigation Report, 2007

This additional investigation was conducted by TLI to further delineate the extent of soil contamination that was identified during the initial Phase II Environmental Site Assessment.

On September 8, 2007, TLI performed a GPR survey to attempt to identify the exact location of the three underground storage tanks (USTs) and to determine if obstructions were present at the proposed locations of additional borings. The GPR survey was unable to locate the exact position of the tanks but they were approximately located close to the east wall of the building, based on the location of the tank ports and vents.

On September 15 and 16, 2007, TLI advanced eight soil borings (SB-13 to SB-20). On September 22 and 29, 2007, TLI installed three monitoring wells (MW-1 to MW-3) to determine groundwater flow direction and one additional soil boring (SB-21) was advanced to further delineate the extent of soil contamination found at SB-15. The groundwater flow was determined to be in westerly direction.

Results indicate that of the nine soil samples taken, eight revealed no VOC or SVOCs exceedances of NYSDEC Recommended Soil Cleanup Objectives listed in the NYSDEC TAGM #4046. Only in SB-15 few SVOCs (PAHs) were detected above the soil cleanup objectives.

Interim Remedial Measure Monthly Report, 2017

On March 7, 2017, NYSDEC approved an Interim Remedial Measure Work Plan prepared by Roux for the Site. The work plan prescribed the use of manual bailing of the free-phase product on a bi weekly basis from all accessible wells onsite that exhibited free-phase product. This effort has been ongoing since April 2017 and will continue to be performed by Roux until just before demolition activities are set to begin for the new development or when measurable free-phase product is no longer encountered in any of the wells onsite, whichever comes first. The results of the bailing/gauging activities have been included in the monthly reports submitted to NYSDEC. The last monthly report indicated that an average of 6 gallons of free-product was recovered in the month of April 2018.

2.3.3 Sanborn Maps

A collection of Sanborn fire insurance maps covering the Site for the years 1907, 1930, 1950, 1968, 1969, 1977, 1979, 1980, 1981, 1983, 1987 through 1990, 1992, 1993, 1995, 1996, and 2001 through 2007 were obtained from EDR of Milford, Connecticut. The fire insurance maps were reviewed for historical uses and evidence of environmental concern on or near the Site. The following is a discussion of the fire insurance maps.

1907: The 1907 fire insurance map does not show the actual Site, however "Penn R.R (LIRR) Manhattan Beach Div" is shown crossing to the northwest, and tax blocks 4789, 7969 and 7970 are shown to the north of the area where the Site should be. Utica Avenue is depicted; however, Kings Highway does not yet exist.

1930: Review of the 1930 fire insurance map reveals that the former blocks 4789, 7969 and 1970 were merged into block 7969F, which are occupied by two filling stations to the northeast, an ice manufacturer to the north and Serota Brothers Coal Yard to the north/northwest of the Site. The area of the Site is occupied by a vacant lot and a street named Folger Place. The area to the south of the Site is identified as block 7969G and is vacant. Kings Highway is shown bordering the Site to the east and Utica Avenue borders the Site to the west. The lots to the east across Kings Highway are vacant.

1950: Review of the 1950 fire insurance map shows the area of the site and the lot to the south to be unchanged. The ice manufacturer to the north shows an additional structure, and to the northeast there are three small structures shown. To the south across Glenwood Road, a Laundromat is depicted. The lots to the east across Kings Highway are developed with residences.

1968: Review of the 1968 fire insurance map reveals that Folger Place no longer exists and the subject property is shown to be developed with a building that occupies approximately half of the lot, with the remainder as parking. The building is labeled "Bowling". The property to the north is now identified as Favorite Plastics Corp., and to the north/northeast a Used Auto Sales lot is shown. Further northeast, across Kings Highway, a storage yard is depicted, along with a Con Edison Transit Yard. Lot 7969G to the south is improved with four small buildings identified as Auto Sales and Auto Repair. Further south, across Glenwood Road, a filling station is depicted north of the Laundromat. To the east across Kings Highway are a denser cluster of residences as compared to the 1950 map.

1969: Review of the 1969 fire insurance map reveals no major changes to the Site or surrounding area, with the exception of an addition to the eastern side of the building on the subject property.

1977: Review of the 1977 fire insurance map shows the subject property largely unchanged, with the exception that is now identified as Auto Sales and Service. The surrounding areas appear unchanged.

1979: Review of the 1979 fire insurance map reveals no major changes to the Site or surrounding area, with the exception that the Laundromat south of Glenwood Road is replaced by a filling station that occupies the entire lot.

1980, 1981, 1983, 1987-1990, 1992, 1993, 1995, 1996, 2001-2003, 2005-2007: Review of these fire insurance maps reveals no major changes to the Site or surrounding area.

All Sanborn Maps (Appendix G) available for this Site were reviewed prior to preparation of the RAWP.

2.4 GEOLOGICAL CONDITIONS

Review of the United States Geological Survey (USGS) 7.5-minute series topographic quadrangle map of Brooklyn, New York reveals that the elevation of the Site is approximately 14 feet above mean sea level. The topography of the Site is essentially flat with only a slight grade toward the southeast. According to water level data for Long Island (USGS 1989), the water table at the Site is in the Upper Glacial aquifer and the regional depth to groundwater ranges from 8 to 16 feet below land surface within ½ mile of the Site. The regional groundwater flow direction is South-southeast. Local groundwater is expected to mirror local topography and migrate to the South-southeast.

The site is trapezoidal in shape and is bordered to the east and southeast by Kings Highway and to the west by Utica Avenue. Surface runoff enters the municipal system by storm drains located onsite.

Based on a review of the United States Department of Agriculture, Soil Conservation Service's soil maps as presented in the EDR Report, soils in the area of the Site are classified as Urban land (Ug).

Urban land consists of areas where at least 80-85 percent of the surface is covered by asphalt, concrete, or other impervious building materials.

According to the *Surficial Geologic Map of New York* (1989), outwash and fluvial sand and gravel underlie the Site. Outwash and fluvial sand and gravel consist of deposits of sand and gravel with occasional laterally continuous lenses of silt. The sands and gravel were deposited by glacial activity.

Based on soil borings advanced at the Site, the upper 20 feet of surficial geology is dominated by urban fill consisting of sand, gravel, and minor amounts of brick.

Based on a review of the Hydrologic Framework of Long Island, New York (1989), the principal aquifer in the vicinity of the Site is the Upper Glacial Aquifer. The Upper Glacial Aquifer is known as an unconsolidated coastal plain aquifer and is one of the major aquifers of Brooklyn, New York.

Based on the review of the above referenced document and the USGS topographic quadrangle map of Brooklyn, New York, it is expected that the depth to shallow groundwater is approximately 12 feet below land surface (bls). Previous investigations have reported groundwater depths at the site ranging from 8 to 16 feet bls across the site. Local groundwater is expected to flow toward the southeast based on local topography and the proximity of the Paerdegat Basin to the southeast.

Although there are multiple USGS monitoring wells within ½ mile of the site, there are no public water supply wells within a ½ mile of the Site as reported in the EDR Report.

2.5 CONTAMINATION CONDITIONS

This section applies the general concept of Areas of Concern (AOC) based on past land usage and observed distributions of contamination.

2.5.1 Conceptual Model of Site Contamination

Based on the results of previous investigations and data collected during the RI, impacts related to historical Site operations appear primarily limited to an accumulation of LNAPL beneath the service area and outside the northeast corner of the service area. Free phase product thickness (based on the April 2018 gauging data) ranges from 0.714 to 2.96 ft. Groundwater samples indicate limited pockets of shallow groundwater contamination with primarily VOCs, SVOCs and metals. Groundwater sampling indicates there are no major sources impacting deep groundwater at the Site. Soil vapor sampling indicate that additional delineation is required in the vicinity of the auto repair shop area. Existing data indicate that there is no vapor intrusion pathway in the office space at the Site.

2.5.2 Description of Areas of Concern

Site AOCs for soil, groundwater and soil vapor that have been delineated through the RI are described below:

Free-Phase Hydrocarbons beneath the Service Area

Soil contamination that exceeds either Unrestricted, Restricted Commercial and/or Impact to Groundwater SCOs are located beneath the free-product impacted area located in the northeast portion of the garage and outside the courtyard. The soil exceedances extent from surface to approximately 15 feet below grade. The western boundary of the exceedances in the service area has not been determined. Currently, an interim remedial measure consisting of biweekly bailing of all monitoring wells containing free-phase product is ongoing.

Groundwater

Groundwater is impacted beneath the free-product and downgradient to the south with chlorinated hydrocarbons.

Soil Vapor

Three sub slab soil vapor samples collected in the service area show elevated concentrations of chlorinated hydrocarbons (TCE, PCE). The extent of the sub slab soil vapor impacts has not been fully delineated during the previous investigation.

2.5.3 Identification of Standards, Criteria and Guidance

Standards, Criteria and Guidance (SCGs) are promulgated requirements ("standards" and "criteria") and non-promulgated guidance ("guidance") that govern activities that may affect the environment and are used by the NYSDEC at various stages in the investigation and remediation of a site. SCGs incorporate both the concept of "applicable or relevant and appropriate requirements" (ARARs) and the "to be considered" (TBCs) category of non-enforceable criteria or guidance, consistent with USEPA remediation programs. The following table provides a list of SCGs potentially applicable to the Site. Key SCGs are discussed in greater detail below.

Citation	Title	Regulatory Agency
General		
6 NYCRR Part 375	Environmental Remediation Programs	NYSDEC
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response	US Department of Labor, OSHA
29 CFR 1926	Safety and Health Regulations for Construction	US Department of Labor, OSHA
TAGM HWR-4031	Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites	NYSDEC
No Cite	Analytical Services Protocol	NYSDEC
DER-10	Technical Guidance for Site Investigation and Remediation	NYSDEC
Soil		
6 NYCRR Part 375	Environmental Remediation Programs	NYSDEC
CP-51	Soil Cleanup Guidance	NYSDEC
Groundwater		
6 NYCRR Part 700-705	Surface Water and Ground Water Classification Standards	NYSDEC
TOGS 1.1.1	Ambient Water Quality Standards and Guidance Values (AWQSGVs)	NYSDEC
TOGS 2.1.3	Primary and Principal Aquifer	NYSDEC
Air		
Air Guide No. 1	Guidelines for the control of toxic ambient air contaminants	NYSDEC
No Cite	Final - Guidance for Evaluating Soil Vapor Intrusion in the State of New York	NYSDOH
Solid Waste		
6 NYCRR 360	Solid Waste Management Facilities	NYSDEC
6 NYCRR 364	Waste Transporters	NYSDEC
Hazardous Waste		
6 NYCRR Part 371	Identification and Listing of Hazardous Wastes	NYSDEC
6 NYCRR 372	Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities	NYSDEC
6 NYCRR 376	Land Disposal Restrictions	NYSDEC
Site Management		
No Cite	Groundwater Monitoring Well Decommissioning Procedures	NYSDEC

Legend:

SCG:	Standards, Criteria and Guidelines
NYCRR:	New York Code of Rules and Regulations
NYSDEC:	New York State Department of Environmental Conservation
NYSDOH:	New York State Department of Health
OSHA:	Occupational Safety and Health Administration
TOGS:	Technical Operational Guidance Series
TAGM HWR:	Technical and Administrative Guidance Memorandum - Hazardous Waste Remediation

SCGs for Soil

SCGs for soil at BCP Sites are the numerical soil cleanup objectives presented in Part 375. The soil cleanup objectives are categorized into Unrestricted Use criteria and Restricted Use (Residential, Restricted-Residential, Commercial, or Industrial) criteria, as well as criteria for protection of groundwater and ecological resources (which can also be satisfied by application of the unrestricted use criteria). The applicability of each category of soil cleanup objectives is determined based upon the current and reasonably anticipated future use of the Site, as well as cleanup tracks being evaluated.

The proposed remedy will achieve a Track 1 Unrestricted Use cleanup as set forth in 6 NYCRR Part 375-6 based on the intended future use of the Site. Based upon the evaluation of the current soil data discussed in the RI and the proposed use of the Site, the SCOs for soil are the Unrestricted Use SCOs. All soils exceeding Unrestricted Use SCOs, including grossly contaminated soils, soils impacted with free-phase product will be removed and/or treated.

If a Track 2 or Track 4 Restricted Commercial Cleanup is determined to be the only practicable option for the Site, the Restricted Commercial Use SCOs will be the SCOs.

Soil exceeding Unrestricted SCOs will be addressed by the Remedial Action. Some of these soils contain sources or substantial quantities of mobile contamination in the form of NAPL, as defined in subdivision 375-1.2 (asc), that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is otherwise readily detectable without laboratory analysis. To verify the removal of the mobile LNAPL, grossly contaminated soil will be excavated, LNAPL will be recovered to the extent possible via vacuum truck and absorbent booms, and polished/treated with

ISCO application. Endpoint soil samples will be collected to verify residual concentrations are below the Unrestricted Use SCOs.

SCOs for the Protection of Ecological Resources were considered but were determined not to be applicable based on site-specific conditions. In accordance with the Part 375 Regulations, protection of ecological resources SCOs do not and/will not apply to sites or portion of sites where the condition of the land (e.g., paved, covered by impervious surfaces, buildings and other structures) precludes the existence of an ecological resource that constitutes an important component of the environment. At this site, the on-site areas are either paved or covered by buildings, therefore, us of SCOs for protection of ecological resources is not applicable.

In addition to the Part 375 Regulations, the following SCGs apply to soil:

- 6 NYCRR Part 364- NYS Waste Transporter Permits; and
- 6 NYCRR Part 360 and Part 364- NYS Solid Waste Management Requirements.

<u>SCG for Groundwater</u>

SCOs for the protection of groundwater were considered. In accordance with Part 375, the SCO for soil for protection of groundwater may not be applicable where:

- The groundwater standard exceedances are the result of an onsite source which is addressed by the remedial program.
- An environmental easement will be put in place which provides for a groundwater use restriction on the Site as set forth in paragraph 375 1.8(h)(2).

The Department determines that contaminated groundwater at the Site:

- is not migrating, or likely to migrate, offsite; or
- is migrating, or is likely to migrate, offsite; however, the remedy includes controls or treatment to address offsite migration; and
- the Department determines the groundwater quality will improve over time.

Although the groundwater beneath the Site is not used as drinking water source, based upon the evaluation of the current groundwater data discussed in the RI, the following SCGs will be considered:

- NYSDEC AWQSGVs- TOGS 1.1.1.

The ecological criteria are not applicable since there are no sensitive ecological habitats on the Site.

SCG for Soil Vapor

The Final "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," issued by the NYSDOH in May 2017, presents the guidelines that were used to evaluate potential soil vapor intrusion issues for the Site.

2.5.4 Soil/Fill Contamination

A total of 18 soil borings were advanced at the locations shown in Figure 2, and a total of 49 soil samples were collected for laboratory analysis as part of the RI. Site-wide analytical soil data was compared to the following NYSDEC Subpart 375-6 Soil Cleanup Objectives (SCOs) in order to evaluate Site-wide soil quality and to determine contamination in soil, if present:

- NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives;
- NYSDEC Part 375 Restricted Commercial Soil Cleanup Objectives; and
- NYSDEC Part 375 Protection of Groundwater Soil Cleanup Objectives.

The evaluation of the analytical data and the statistical summary of soil data indicate the following about the Site-wide soil conditions:

Underground Storage Tanks

- 2-butanone (MEK) was detected in four samples, ranging in concentration from 4.4 (estimated) to 1800 µg/kg. MEK exceeded the UU and PWG SCO (120 µg/kg) in one sample, RSB-14/4D__10-11 at a concentration of 1800 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.
- Benzene was detected in three samples, ranging in concentration from 4.4 µg/kg (estimated) to 1200 µg/kg. Benzene exceeded the UU and PGW SCO (60 µg/kg) in two samples, RSB-2_11-13 and RSB-14__10-11 at concentrations of 470 µg/kg (estimated)

and 1,200 µg/kg, respectively. Neither of these detections exceeded the RC SCO of 44,000 µg/kg.

- Ethylbenzene was detected in four samples, ranging in concentration from 3 µg/kg (estimated) to 12,000 µg/kg. Ethylbenzene exceeded the UU and PWG SCO (1,000 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (12,000 µg/kg), and RSB-14/14D_10-11 (6,700 µg/kg). Neither of these detections exceeded the RC SCO of 390,000 µg/kg.

- MTBE was detected in two samples, ranging in concentration from 420 µg/kg (estimated) to 2,000 µg/kg. MTBE exceeded the UU and PWG SCO (930 µg/kg) in one sample, RSB-2_11-13 at a concentration of 2,000 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.

- Toluene was detected in 10 samples, ranging in concentration from 5.1 µg/kg (estimated) to 340,000 µg/kg. Toluene exceeded the UU and PGW SCO (700 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (340,000 µg/kg), and RSB-14/4D_10-11 (30,000 µg/kg). Neither of these detections exceeded the RC SCO of 500,000 µg/kg.

- Xylenes (total) were detected in eight samples, ranging in concentration from 7.5 µg/kg (estimated) to 51,000 µg/kg. Xylene exceeded the UU SCO (260 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (51,000 µg/kg), and RSB-14/4D_10-11 (32,000 µg/kg). Neither of these detections exceeded the PGW SCO (1,600 µg/kg) or the RC SCO (500,000 µg/kg).

- 1,2-DCE was detected in three soil samples, ranging in concentration from 3.2 µg/kg (estimated) to 12,000 µg/kg. 1,2-DCE exceeded the UU and PGW SCO (250 µg/kg) in two samples, at concentrations as follows: RSB-2_11-13 (12,000 µg/kg), and RSB-14/4D_10-11 (2,900 µg/kg). Neither of these detections exceeded the RC SCO of 500,000 µg/kg.

- PCE was detected in seven soil samples, ranging in concentration from 3.1 µg/kg (estimated) to 6,100 µg/kg. PCE exceeded the UU and PGW SCO (1,300 µg/kg) in one sample, RSB-2_11-13, at a concentration of 6,100 µg/kg. This detection does not exceed the RC SCO of 150,000 µg/kg.

- TCE was detected in two soil samples, ranging in concentration from 590 µg/kg (estimated) to 760 µg/kg (estimated). TCE exceeded the UU and PGW SCO (470 µg/kg) in both samples, RSB-2_11-13 and RSB-14_10-11, at 760 µg/kg (estimated) and 590 µg/kg, respectively. Neither of these detections exceeded the RC SCO of 200,000 µg/kg.

- Benzo[a]anthracene was detected in seven soil samples, ranging in concentration from 943 µg/kg (estimated) to 4,750 µg/kg. Benzo[a]anthracene exceeded the UU and PGW SCO (1000 µg/kg, SCO is the same for both criteria) in six samples, ranging in concentration from 1,480 µg/kg (estimated) at RSB-14_10-11 to a concentration of 4,750 µg/kg at RSB-2_1-3. None of these detections exceeded the RC SCO of 5,600 µg/kg.

- Benzo[a]pyrene was detected in seven samples, ranging in concentration from 1,120 µg/kg (estimated) in RSB-2_5-7 to 5,550 µg/kg in RSB-2_1-3. Benzo[a]pyrene exceeded both the UU and RC SCO (1,000 µg/kg, SCO is the same for both criteria) in all seven samples. None of the samples exceeded the PGW SCO (22,000 µg/kg) for this compound.

- Benzo[b]fluoranthene was detected in seven samples, ranging in concentration from 961 µg/kg (estimated) to 4,110 µg/kg (estimated). Benzo[b]fluoranthene exceeded the UU SCO (1,000 µg/kg) in six samples, ranging in concentration from 1,410 µg/kg (estimated) at RSB-8_8.5-10.5 and RSB-14/4D_5-7 to a concentration of 4,110 µg/kg (estimated) at RSB-2_1-3. Benzo[b]fluoranthene exceeded the PGW SCO (1,700 µg/kg) in four samples, ranging in concentration from 4,110 µg/kg (estimated) at RSB-14_5-7 to 1,990 µg/kg at RSB-14/4D_2.5-3. None of these detections exceeded the RC SCO of 5,600 µg/kg.

- Benzo[k]fluoranthene was detected in seven samples, ranging in concentration from 1,070 µg/kg (estimated) to 5,080 µg/kg. Benzo[k]fluoranthene exceeded the UU SCO (800 µg/kg) at all seven locations. Benzo[k]fluoranthene exceeded the PGW SCO (1,700 µg/kg) at four locations, ranging in concentration from 1,780 µg/kg at RSB-14/4D_5-7 to a concentration of 5,080 µg/kg (estimated) at RSB-2_1-3. None of these detections exceeded the RC SCO of 56,000 µg/kg.

- Chrysene was detected in seven samples, ranging in concentration from 1,000 µg/kg (estimated) to 4,760 µg/kg. Chrysene exceeded the UU and PGW SCO (1,000 µg/kg, SCO is the same for both criteria) in six samples, ranging in concentration from 1,610 µg/kg (estimated) at RSB-14_2.5-3 to 4,760 µg/kg at RSB-2_1-3. None of these detections exceeded the RC SCO of 56,000 µg/kg.

- Dibenzo[a,h]anthracene was detected in one sample at a concentration of 510 µg/kg (estimated) at RSB-8_5-7. This exceeds the UU SCO (330 µg/kg), but does not exceed the RC SCO (560 µg/kg) or the PGW SCO (1,000,000 µg/kg).

- Indeno[1,2,3-cd]pyrene was detected in six samples, ranging in concentration from 489 µg/kg (estimated) to 1,280 µg/kg (estimated). Indeno[1,2,3-cd]pyrene exceeded the UU SCO (500 µg/kg) in five samples, ranging in concentration from 522 µg/kg (estimated) in RSB-8_8.5-10.5 to 1,280 µg/kg (estimated) in RSB-2_1-3. None of these detections exceeded the RC SCO (5,600 µg/kg) or the PGW SCO (8,200 µg/kg).

Trench Drains

There were a total of eight VOCs detected in 12 soil samples collected from the nine soil borings. These included MEK, ethylbenzene, MTBE, toluene, total xylenes, 1,2-DCE, PCE, and TCE. As shown on Table 2, all of the compounds were reported at concentrations below the SCOs or not detected at all.

There were a total of 12 SVOCs detected in ten soil samples collected from the nine soil borings. As shown on Table 3, all of the compounds were reported at concentrations below the SCOs or not detected at all.

Supplemental RI Delineation Soil Borings

- 2-butanone (MEK) was detected in three samples, ranging in concentration from 2.8 (estimated) to 450 µg/kg. MEK exceeded the UU and PWG SCO (120 µg/kg) in one sample, RSB/MW-14__12-14 at a concentration of 450 µg/kg. This detection does not exceed the RC SCO of 500,000 µg/kg.

- Ethylbenzene was detected in six samples, ranging in concentration from 11 µg/kg to 5,700 µg/kg. Ethylbenzene exceeded the UU and PWG SCO (1,000 µg/kg) in five samples, at concentrations ranging from 1,200 µg/kg in RSB/MW-14__12-14, to 5,700 µg/kg in RSB/MW-15_10-11. None of these detections exceeded the RC SCO of 390,000 µg/kg.

- Toluene was detected in seven samples, ranging in concentration from 23 µg/kg to 100,000 µg/kg. Toluene exceeded the UU and PGW SCO (700 µg/kg) in four samples, at concentrations ranging from 930 µg/kg in RSB/MW-14_12-14 to 100,000 µg/kg in RSB/MW-15_10-11. None of these detections exceeded the RC SCO of 500,000 µg/kg.

- Xylenes (total) were detected in seven samples, ranging in concentration from 7.8 µg/kg (estimated) to 28,000 µg/kg. Xylenes exceeded the UU SCO (260 µg/kg) and PGW SCO (1,600 µg/kg) in four samples, at concentrations ranging from 5,800 µg/kg in RSB/MW-14_12-14 to 28,000 µg/kg in RSB/MW-15. None of these detections exceeded the RC SCO (500,000 µg/kg).

- 1,2-DCE was detected in six soil samples, ranging in concentration from 3.7 µg/kg (estimated) to 2,300 µg/kg. 1,2-DCE exceeded the UU and PGW SCO (250 µg//kg) in three samples, at concentrations ranging from 330 µg/kg (estimated) in RSB/MW-17_13-15 to 4,100 µg/kg in RSB/MW-16_11-13. None of these detections exceeded the RC SCO of 500,000 µg/kg.

- PCE was detected in two soil samples, ranging in concentration from 3.3 µg/kg (estimated) to 5.4 µg/kg. PCE did not exceed the UU and PGW SCO (1,300 µg/kg), or RC SCO (150,000 µg/kg).

There were a total of ten SVOCs detected in seven of the soil samples collected from the four soil borings. As shown on Table 3, all of the compounds were reported at concentrations below the SCOs or not detected at all, with the exception of chrysene in the 1-3 foot interval in soil boring RSB/MW-17, which was detected at an estimated concentration of 1,050 µg/kg. This slightly exceeds both the UU and PGW SCO for this compound (1,000 µg/kg for both criteria) but does not exceed the RC SCO (56,000 µg/kg).

Tables 2 through 6 shows exceedances from NYSDEC Unrestricted Use, Restricted Commercial Use and Protection of Groundwater SCOs for all soil/fill at the Site. Plate 1 is a spider map that shows the location and summarizes exceedances from these criteria for all soil/fill.

2.5.5 On-Site and Off-Site Groundwater Contamination

A total of ten groundwater samples were collected from nine monitoring wells and submitted for laboratory analysis as part of the RI. Site-wide analytical groundwater data was compared to NYSDEC AWQSGVs for Class GA groundwater in order to evaluate groundwater quality and to determine the contamination in groundwater, if present.

Field parameters measured during groundwater sampling purging activities are provided on field datasheets included in the RIR. The field parameter data were reviewed to evaluate any potential anomalies in general groundwater chemistry that could potentially be influencing the groundwater sampling results. No anomalies were noted and the field parameters measured during purging appear to be consistent with values expected to occur in the natural environment.

Analytes that exceeded NYSDEC Protection of Groundwater SCOs in Site-wide soil were compared to analyte detections in Site-wide groundwater to assess whether, and to what extent, constituents detected in soil are impacting groundwater quality. Five compounds (benzene, 1,2 dichloroethane, MTBE, benzo(a)anthracene, chrysene) were detected at concentrations exceeding NYSDEC Protection of Groundwater SCOs.

The evaluation of the analytical data and the statistical summary of groundwater data indicate the following about the Site-wide groundwater conditions:

- Benzene exceeded the AWQSGV (1 µg/L) in two samples, at concentrations of 1.2 µg/L in MW-19 and 5.2 µg/L in MW-20.
- Chloroethane exceeded the AWQSGV (5 µg/L) in MW-20 at a concentration of 11 µg/L.
- Cis-1,2-dichloroethane exceeded the AWQSGV (5 µg/L) in MW-20 at a concentration of 350 µg/L.
- MTBE exceeded the AWQSGV (10 µg/L) in two samples, at concentrations of 22 µg/L in MW-19 and 100 µg/L in MW-20.
- Vinyl chloride exceeded the AWQSGV (2 µg/L) in two samples, at concentrations of 42 µg/L in MW-19 and 66 µg/L in MW-20.
- Benzo[a]anthracene exceeded the AWQSGV (0.002 µg/L) in two samples, at concentrations of 0.0686 µg/L in MW-6 and 0.144 µg/L in MW-20.
- Benzo[a]pyrene exceeded the AWQSGV (0 µg/L) in MW-20, at a concentration of 0.144 µg/L.
- Benzo[b]fluoranthene exceeded the AWQSGV (0.002 µg/L) in MW-20, at a concentration of 0.0821 µg/L.
- Bis(2-ethylhexyl) phthalate exceeded the AWQSGV (5 µg/L) in MW-7 and the duplicate of this sample, at estimated concentrations of 39.6 µg/L and 6.98 µg/L, respectively.
- Chrysene exceeded the AWQSGV (0.002 µg/L) in two samples, at concentrations of 0.0686 µg/L in MW-6 and 0.144 µg/L in MW-20.
- Indeno[1,2,3-cd]pyrene exceeded the AWQSGV (0.002 µg/L) in MW-20, at a concentration of 0.0718 µg/L.
- Lead was detected in four locations at concentrations ranging from 27 µg/L in MW-1 to 63 µg/L in MW-20, exceeding the respective NYSDEC AWQSGV (25 µg/L) in all four locations.
- Selenium was detected in two locations at concentrations ranging from 10 µg/L in MW-7 to 15 µg/L in MW-2, slightly exceeding the respective NYSDEC AWQSGV (10 µg/L) in MW-2.

A table that indicates exceedances from GA groundwater standards in monitoring wells prior to the remedy is shown in Tables 4 through 6. A spider map that indicates the location(s) of and summarizes exceedances from GA groundwater standards prior to the remedy is shown in Plate 2.

2.5.6 On-Site and Off-Site Soil Vapor Contamination

A total of eleven soil vapor samples were collected from five soil vapor points and submitted for laboratory analysis as part of the RI.

A statistical summary was not generated for soil vapor data since there are no NYSDEC or NYSDOH soil vapor standards for comparison.

Analytical data for soil vapor VOCs indicate that there were detections of seven different VOCs across the Site, including chlorinated VOCs.

VOC Detections in Soil Vapor

Analyte	Detection	Range in Concentration (µg/m^3)	Sample with Maximum Detection
Carbon Tetrachloride	2	0.63-0.81	SV-6
TCE	3	1.1-21	SV-5
Vinyl Chroride	0	--	--
1,1,1-Trichloroethane	0	--	--
1,1-Dichloroethane	0	--	--
1,2-DCE	0	--	--
PCE	5	0.26-210	SV-5

The following seven compounds are discussed because they are either COCs at the Site (namely chlorinated-related compounds) or due to their presence on the NYSDOH Guidance Soil Vapor Matrices (updated May 2017). Matrix A provides guidance relative to Carbon Tetrachloride, 1,2-DCE, and TCE, and Matrix B provides guidance relative to 1,1,1- Trichloroethane, 1,1-

Dichloroethene, and PCE; and Matrix C provides guidance relative to VC. A summary of the detections is described below along with the corresponding Matrix results. A summary of the detections is described below.

Matrix A Compounds

- Carbon tetrachloride was not detected during the February 2014 sample event.
  - September 2014 sample event, carbon tetrachloride was detected in the indoor air sample at a concentration of 0.5 µg/m^3; however, carbon tetrachloride was not detected in any of the sub-slab vapor samples during this sample event. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)
  - March 2015 sample event, carbon tetrachloride was detected in two of the sub-slab vapor samples (SV-4 and SV-6), at concentrations of 0.63 µg/m^3 and 0.81 µg/m^3, respectively, but was not detected in any of the sub-slab samples during this sample event. (Matrix Result - No Further Action)
- TCE was detected in samples collected during each sample event.
  - February 2014 sample event, TCE was detected in one of the sub-slab vapor samples (SV-5), at a concentration of 13 µg/m^3. TCE was also detected in the indoor air sample (IA-1) at a concentration of 1.2 µg/m^3, but was not detected in the corresponding sub-slab vapor sample (SV-1) collected at this location. (Matrix Result - Take reasonable and practical actions to identify source and reduce exposures)
  - September 2014 sample event, TCE was detected in SV-5 at a concentration of 21 µg/m^3, but was not detected in the corresponding indoor air sample (IA092514). (Matrix Result - No Further Action) (Note: The data validator rejected the indoor air sample that corresponded to this location due to improper vacuum issues)
  - March 2015 sample event, TCE was detected in SV-4 at a concentration of 1.1 µg/m^3, and in SV-5 at a concentration of 6.9 µg/m^3, but was not detected in the corresponding indoor air sample (IA031815). (Matrix Result - No Further Action)
- 1,2-DCE was detected in the indoor air sample (IA-1) during the February 2014 sample event, at a concentration of 0.58 µg/m^3. 1,2-DCE was not detected in the corresponding sub-slab soil vapor sample (SV-1). 1,2-DCE was not detected in samples collected during any of the subsequent sample events. (Matrix Result- No Further Action)

Matrix B Compounds

- 1,1,1-Trichloroethane was not detected in any of the soil vapor or indoor air samples.
- 1,1-Dichloroethene was not detected in any of the soil vapor or indoor air samples.
- PCE was detected in samples collected during each sample event.
  - February 2014 sample event, PCE was detected in two sub-slab vapor samples, at 88 µg/m^3 and 1,100 µg/m^3 in samples SV-5 and SV-4, respectively. PCE was also detected in the Outdoor Ambient air sample, at a concentration of 0.83 µg/m^3. (Note: These sample results do not have a corresponding data point for indoor air.)
  - September 2014 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5, and SV-6), at concentrations of 220 µg/m^3, 210 µg/m^3, and 43 µg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA092514 at a concentration of 0.47 µg/m^3. PCE was not detected in the outdoor ambient sample. [Matrix Result – Monitor (SV-4 and SV-5), No Further Action (SV-6)]. (Note: The data validator rejected the indoor air sample and SV-6 sample for this sample round due to improper vacuum issues)
  - March 2015 sample event, PCE was detected in all three sampled sub-slab vapor points (SV-4, SV-5 and SV-6), at concentrations of 100 µg/m^3, 70 µg/m^3, and 5.8 µg/m^3, respectively. PCE was detected in the corresponding indoor air sample IA031815 at a concentration of 2.1 µg/m^3. [Matrix Result – Monitor (SV-4), No Further Action (SV-5 and SV-6)]

Matrix C Compounds

- VC was not detected in any of the soil vapor samples.

A table of soil vapor data collected prior to the remedy is shown in Table 7. A spider map that indicates the location(s) of and summarizes soil vapor data prior to the remedy is shown in Plate 4.

2.6 ENVIRONMENTAL AND PUBLIC HEALTH ASSESSMENTS

2.6.1 Qualitative Human Health Exposure Assessment

As described in Appendix 3B of DER-10, "The overall purpose of the Qualitative Human Health Exposure Assessment (or the exposure assessment) is to evaluate and document how people might be exposed to site related contaminants, and to identify and characterize the potentially exposed population(s) now and under the reasonably anticipated future use of the site." The following section details the Qualitative Human Health Exposure Assessment based on data collected during the RI.

According to Section 3.10 of DER-10, and the Fish and Wildlife Resources Impact Analysis Decision Key in DER-10 Appendix 3C, a Fish and Wildlife exposure assessment is not needed.

<u>Soil Exposure</u>
Soil samples collected during the RI indicated the presence of VOCs and SVOCs at concentrations above the UU and PGW SCOs. An individual could be exposed to these contaminants through direct contact with site soil during ground intrusive work at the site. Direct contact without the use of proper personal protective equipment (PPE) and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds. As the Site is fully paved or covered with the existing Site building, and fully fenced, access is controlled; potential contact with Site soil is restricted to remedial contract workers at the Site performing ground intrusive activities. The general public is not exposed to direct contact with Site soil.

The proposed redevelopment includes the demolition of the existing building and the construction of a retail development occupying the majority of the Site area (Figure 3). The primary retail space, mechanical rooms and covered plaza will include approximately 77,000SF. The building will be set eight feet below grade. Parking for 210 cars will be provided on the roof. An additional 7,000 SF of retail space will be slab on grade construction. The remainder of the property, approximately 15,000SF, will consist of paved entrance/exit areas. The proposed remedy for the site is a Track 1 cleanup. The new building will continue to be serviced by the public water supply.

The details of the proposed remedy to address the free-phase hydrocarbons will be described further in this RAWP, but the remedy generally consists of soil excavation, free-phase hydrocarbon recovery through the use of skimming technology such as vacuum trucks and oil absorbent booms, and ISCO application through the use of a sodium persulfate-based technology to address residual free-phase hydrocarbons and associated groundwater impacts, and a groundwater monitoring program to evaluate the success of the ISCO application. Based on this plan, the potential for exposure by direct contact with contaminated soil will be eliminated for both the public and employees of the commercial operation. Direct contact without the use of proper PPE and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds for any future construction workers performing ground intrusive activities at the Site.

Groundwater Exposure

Groundwater samples collected during the RI indicate the presence of limited VOCs, SVOCs and metals above the AWQSGVs, and the presence of free-phase motor oil in 13 monitoring wells. As the groundwater table is encountered at approximately 9.5 to 12.5 ft below land surface, and groundwater is not used for drinking (the area is connected to the New York City public water supply), there is no direct contact with or ingestion of groundwater by the general public. Individuals who perform groundwater sampling, free-phase hydrocarbon recovery, or other remedial activities may come into contact with contaminated groundwater if proper PPE and personal hygiene measures are not used, which could lead to dermal contact and the potential for incidental ingestion of these compounds.

The proposed redevelopment entails the demolition of the existing building and the entire Site will be covered with a new building and pavement. The proposed remedy for the site is a Track 1 cleanup. The new building will continue to be serviced by the public water supply. The details of the proposed remedy to address the free-phase hydrocarbon will be described further in this RAWP, and generally consists of excavation, free-phase hydrocarbon recovery through the use of skimming technology such as vacuum trucks and oil absorbent booms, and ISCO application through the use of a sodium persulfate-based technology to address residual free-phase hydrocarbons and associated groundwater impacts, and a groundwater monitoring program to evaluate the success of the ISCO application. Based on this remedy, the potential for public or employee exposure by direct contact with contaminated groundwater will be reduced or eliminated.

Soil Vapor Exposure

Soil vapor samples collected during the RI indicated the presence of VOCs in sub-slab soil vapor. The Site was formerly an active retail automobile sales and service operation, with an auto wash, paint shop, showroom and office space. Although several VOCs were detected in the indoor air sample collected from the office space, the only VOC compound detected in the corresponding sub-slab soil vapor sample was methylene chloride, indicating there is no vapor intrusion pathway within the office space at the Site.

Currently the vapor intrusion study in the auto repair shop yields either No Further Action or Monitor results when compared to the NYSDOH Guidance Matrix. The building currently has a vehicular exhaust venting system, the integrity of which should be evaluated and any necessary repairs made to the system to reduce or eliminate vehicular exhaust from accumulating in the workspace.

At the request of NYSDEC, multiple unsuccessful attempts were made to collect soil vapor and indoor air samples at the adjacent property. As such, the presence of soil vapor impacts at the adjacent property cannot be definitively determined at this time. However; historical soil samples collected on the adjacent property indicated no detections of VOCs, with the exception of methylene chloride detected at estimated concentrations of 4.5 ug/kg and 5.1 ug/kg, well below the UU SCO of 50 ug/kg for this compound. Based on this data, it is unlikely that impacted soil vapor has migrated to the adjacent property.

As described above, the remedial elements including excavation, free-phase hydrocarbon recovery, ISCO application are proposed to address soil and groundwater and are expected to improve onsite soil vapor quality by reducing or eliminating potential source material.

A waterproofing barrier will be installed underneath the cellar slab and the along subsurface walls which will also act as a vapor barrier to reduce vapor migration. The small slab on grade portion of the building will also include a vapor barrier.

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

As a contingent Track 1, SSDS piping will be installed underneath the cellar slab, if possible. The SSDS installation determination will be based on the final elevation of the foundation and whether enough vertical space exists between the slab and the water table. . If active SSDS operation is not required, an unconditional Track 1 cleanup will be achieved for the Site. If active SSDS operation is required, a conditional Track 1 cleanup will be achieved. If SSDS operation is needed for more than 5 years, then a Track 2 Restricted Commercial cleanup will be achieved for the Site. If an unconditional Track 1 cleanup is not achieved, preparation of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including institutional and engineering controls, monitoring, operation and maintenance and reporting will be required.

Exposure Assessment Summary

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with subsurface soils (and incidental ingestion)	• Remedial workers can come in contact with contaminated soil if they perform ground intrusive activities. • During remediation and construction, remedial workers, trespassers, passersby, and utility workers could come into contact with contaminated soil contained in dust through inhalation, incidental ingestion and dermal contact. This potential exposure will be mitigated through the implementation of the HASP, dust mitigation measures, and CAMP. • Future exposure will be reduced or eliminated by addressing free-phase

Environmental Media and Exposure Route	Human Exposure Assessment
	hydrocarbon that may be acting as a source of contamination to soil via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application.
Ingestion of groundwater	• Contaminated groundwater is not used for drinking water, as the Site is connected to the public water supply.
Direct contact with groundwater (and incidental ingestion)	• Remedial workers and construction workers could come into contact with contaminated groundwater through dermal contact and incidental ingestion during ground intrusive work, free-phase hydrocarbon recovery, ISCO application and sampling activities. This potential exposure will be mitigated through the implementation of the HASP. • Future exposure will be reduced or eliminated by addressing free-phase hydrocarbon that may be acting as a source of contamination to soil via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application.
Inhalation of air (exposures related to soil vapor intrusion)	• Remedial and construction workers may be exposed to contaminated soil vapor inside the building or within open excavations. This potential exposure will be mitigated through the implementation of the HASP. • Future exposure will be reduced through via excavation and offsite disposal of contaminated soil, free-phase product recovery and ISCO application. In addition, a vapor barrier and contingency SSDS piping will be installed underneath the cellar slab (if feasible depending on cellar slab elevation and groundwater table elevation) in the event soil vapor concern is identified after the cellar construction is completed and operation of a SSDS is deemed necessary.

2.6.2 Fish and Wildlife Remedial Impact Analysis

There are no identified wetlands on or adjacent to the Site. There are no mapped wetlands within ½ mile of the Site.

There are no surface water bodies on or adjacent to the site, however, Paerdegat Basin (a tidal inlet), and Jamaica Bay are approximately 6/10 of a mile and 2 miles southeast of the Site, respectively.

A fish and wildlife remedial impact analysis is not required since there are no important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species impacted by the Site.

2.7 INTERIM REMEDIAL ACTION

An Interim Remedial Measure (IRM) Work Plan dated January 18, 2017 was submitted and approved by the NYSDEC on March 7, 2017. The work plan prescribed the use of manual bailing of the free-phase product on a bi weekly basis from all accessible wells onsite that exhibited free-phase product. This effort has been ongoing since April 2017 and will continue to be performed by Roux until just before demolition activities are set to begin for the new development or when measurable free-phase product is no longer encountered in any of the wells onsite, whichever comes first. The results of the bailing/gauging activities have been included in the monthly reports submitted to NYSDEC. The last monthly report indicated that an average of 6 gallons of free-product was recovered in the month of April 2018.

2.8 REMEDIAL ACTION OBJECTIVES

The goal of the remedy selection process in the BCP is to select a remedy for a site that is protective of public health and the environment, taking into account the current, intended and reasonably anticipated land use of the site.

The remedial goals for soil at the Site are to meet the Unrestricted Use SCOs for all onsite areas. Groundwater beneath the Site will be addressed through LNAPL recovery, in-situ chemical oxidation treatment and removal of grossly contaminated soil. Consistent with Part 375, the proposed remedies for the site will be fully protective of public health and the environment, taking into account the current, intended and potential future land use.

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.8.1 Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

2.8.2 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater contamination.

2.8.3 Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site.

3.0 DESCRIPTION OF REMEDIAL ACTION PLAN

This section of the RAWP was prepared in accordance with Subpart 375 - 3.8(f), Subpart 375 – 1.8(f), and Section 4.3 of DER-10. Three remedial alternatives (one being an unrestricted use scenario) are evaluated, as follows:

- One alternative (Remedial Alternative 1) that will achieve unrestricted use relative to onsite soil (Track 1) without the use of long-term ICs or ECs;
- One alternative (Remedial Alternative 2) that will achieve a restricted use (Restricted Commercial) cleanup scenario coupled with the use of ICs and ECs (Track 2); and
- One alternative (Remedial Alternative 3) that will achieve a restricted use (Restricted Commercial) cleanup scenario coupled with the use of ICs and ECs (Track 4).

The following is a detailed description of the alternatives analysis and remedy selection process to address impacted media at the Site.

Remedial Alternative 1: Track 1 Unrestricted Use Cleanup (Plate 5):

- A Pre-design Investigation (PDI) will be conducted to collect waste characterization samples and collect in-situ end-point samples that will pre-establish the lower limit of the excavation that is required to meet Unrestricted Use SCOs. Soil sampling on the western edge of the Site along Utica Avenue (which will not be excavated for development purposes) and the east side of the Site along Kings Highway (which will have limited excavation where only slab-on-grade retail construction is proposed) will also be conducted during the PDI. Soil samples will also be collected from the 24-inch strip between the planned SOE and the adjacent property. A PDI work plan will be submitted to NYSDEC under separate cover.
- A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program.
- Survey existing soil borings and monitoring well locations prior to demolition.
- Site mobilization involving Site security setup, equipment mobilization, utility markouts and marking and staking excavation areas.
- Implementation of erosion and sediment controls.

- Site monitoring of airborne VOCs and particulates in accordance with a NYSDEC approved CAMP will be conducted during all ground intrusive and soil handling activities. Odor suppression equipment including foaming agents and dispersion pumps and sprayers will be mobilized to the Site before the start of ground intrusive activities.

- Excavation and offsite disposal of approximately 33,000 cubic yards (cy) of fill/soil (i.e., all soil exceeding Unrestricted Use SCOs) over the majority of the Site. The excavation depth would be up to approximately 19 feet below grade in the LNAPL zone and shallower for the remainder of the Site (to 9 feet below grade across the area where the cellar is proposed and to 4 feet below grade across the east side of the Site where only slab-on-grade retail development is proposed.

- The SOE consisting of a drilled cut-off wall will be installed on the northern side of the Site bordering Favorite Plastics. Approximately 212 linear feet of the tangent grout filled piles will be installed to approximately 29 feet below grade. The drilled pile size is to be confirmed but is expected to be approximately 24 inches in diameter. For structural reasons, the drilled piles will be installed approximately 24 inches away from the property line. The quality of soil between the SOE and the Favorite Plastics building will be determined by installing five soil borings during the PDI. Soil samples from the borings will be collected to a planned depth of 16 feet below grade.

- Unsaturated soils will be initially excavated to approximately nine feet below grade across the 77,000 SF of the site where below grade construction is proposed. Immediately adjacent to Favorite Plastics, soils will be excavated only to a depth of five to seven feet. These soils will be disposed of offsite. Soils will also be excavated to a depth of approximately four feet below grade from the 7,000SF area on the east side of the Site where slab-on-grade retail development is proposed.

    - Steel sheet piling will be installed along the perimeter of the LNAPL Zone. This will include approximately 332 linear feet of the steel sheet piling being installed to approximately 28 feet below grade.

    - Soils that exceed Track 1 SCOs between the SOE and Favorite Plastics will be excavated to a depth of approximately 12 feet, the depth of the Favorite Plastics footings. LNAPL will also be removed during the excavation.

    - Four feet of smear zone soils that straddle the water table within the LNAPL Zone will be excavated and disposed of offsite. These saturated soils will be stockpiled for shipping the following day. These soils will be managed with drying agents (such as saw dust or fly ash) as necessary prior to shipment offsite. The soils will also be covered overnight to manage odors.

    - Free-product recovery will be actively conducted in the open excavation via skimming technology using a combination of vacuum truck and oil absorbent booms. Recovered free-product will be temporarily stored onsite in an aboveground tank or drums (depending on quantity generated) for future offsite disposal. Recovery will continue as long as oil recharge occurs. When only small amounts of sheen are present, oil absorbent booms will be deployed in the area to recover the residual product.

- Dewatering at the Site will be required to enable the excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. Excavation in the LNAPL area will be conducted in conjunction with controlled dewatering using well points to final depths ranging from 15 to 19 feet below grade. Actual depths will be based on the results of the in-situ endpoint sampling results that will establish the excavation depth needed to achieve Unrestricted Use SCOs. Onsite treatment or offsite disposal of groundwater will proceed as needed.

- Appropriate offsite disposal of all material removed from the Site to permitted facilities in accordance with all Federal, State and local rules and regulations for handling, transport and disposal, and this plan. Sampling and analysis of excavated media as required by the disposal facilities.

- ISCO application of a sodium persulfate-based technology for treatment of VOCs in soil and groundwater after product recovery and remedial excavation have been completed. The chemical will be placed at the bottom of the final excavation depth as well as along sidewalls. ISCO application will also include the 24-inch strip behind the SOE if residual soil with compounds of concern exceed impact to groundwater SCOs.

- Controlled backfill of the excavated areas to the desired grade with recycled concrete aggregate (RCA), clean stone and/or reuse clean onsite soil from the excavation (as available). Backfill will be protected from contaminated soils using plastic sheeting as necessary. RCA will meet NYSDEC Part 360-1.15 requirements and will be free of asphalt. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the Site.

- A waterproofing barrier (Grace Preprufe or equivalent) will be installed on the underside of the foundation slab and on the walls below grade. The waterproofing barrier will act as the primary vapor barrier that will minimize any potential vapor intrusion.

- Install temporary downgradient monitoring well and collect groundwater samples to evaluate the effectiveness of the ISCO treatment.

- As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

- All responsibilities associated with the remedial action, including permitting requirements and pre-treatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

- Submission of a Final Engineering Report (FER) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site (if applicable), and lists any changes from this RAWP.

Contingent Track 1

The intent of the remedy is to achieve Track 1 Unrestricted Use; therefore, no Environmental Easement or Site Management Plan is anticipated. In the event that a Track 1 Unrestricted Use is not achieved, the following contingent remedial elements will be required and the remedy will achieve a minimum Track 4 Restricted Commercial Cleanup:

- A Site cover system consisting of building foundation and pavement areas will be installed onsite. The site cover system will be required to allow for commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs.

- SSDS piping will be installed underneath the cellar slab as a contingency, if possible. The vertical space between the slab and the water table will determine whether installation of the SSDS piping is possible. Following enclosure of the cellar,

- If an “unconditional” Track 1 is not achieved, recording of an Environmental Easement, including ICs and ECs, to prevent future exposure to any residual contamination remaining at the Site will be required. A copy of the Environmental Easement will be submitted as part of the FER and it will be recorded in the property title records for the Site.

- If an “unconditional” Track 1 is not achieved, preparation of a Site Management Plan (SMP) is required for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

Remedial Alternative 2: Track 2 Restricted Commercial Use Cleanup

The Remedial Alternative 2 has the same remedial components described above for the Remedial Alternative 1 (excavation, soil disposal, installation of the SOE, free-product recovery, dewatering, ISCO application, backfilling and installation of contingency SSDS). The Remedial Alternative 2 is a fall back alternative in case the Remedial Alternative 1 cannot be achieved. As such, if endpoint samples results do not meet Track 1, a Track 2 Restricted Commercial cleanup will be achieved for the Site which will include the preparation of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including institutional and engineering controls, monitoring, operation and maintenance and reporting. For the Track 2, excavation will meet Restricted Commercial Use Cleanup in the upper 15 feet. .

Remedial Alternative 3: Track 4 Restricted Commercial Use Cleanup

The Remedial Alternative 3 has the same remedial components described above for the Remedial Alternatives 1 and 2 (excavation, soil disposal, installation of the SOE, free-product recovery, dewatering, ISCO application, backfilling and installation of contingency SSDS piping [if feasible]). The Remedial Alternative 3 is a fall back alternative in case Remedial Alternative 2 cannot be achieved based on endpoint and delineation sampling results. Some residual contaminated Site soils above 15 feet below grade will remain in place and addressed with a site cover system comprised of building foundation, vapor/waterproofing barrier and pavement areas will be in place and serve as engineering controls. The Track 4 will be achieved for the Site and will include the preparation of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including institutional and engineering controls, monitoring, operation and maintenance and reporting.

3.1 EVALUATION OF REMEDIAL ALTERNATIVES

The goal of the remedy selection process under the BCP is to select a remedy that is protective of human health and the environment taking into consideration the current, intended, and reasonably anticipated future use of the property. Each remedial alternative is evaluated based on the factors listed below:

- Protection of human health and the environment;

- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance; and
- Land use.

SCGs applicable to the Site remediation are discussed in Section 2.4.3 of this RAWP and described briefly below.

- 6 NYCRR Part 375-6 Soil Cleanup Objectives- The Unrestricted Use, Restricted Commercial Use, and Protection of Groundwater SCOs listed in the guidance were used to evaluate soils, delineate areas with impacts, and specify cleanup objectives;

- New York State Groundwater Quality Standards – 6 NYCRR Part 703- 6 NYCRR Subpart 703; the standards listed in the guidance were used to evaluate groundwater quality, delineate areas with impacts, and specify cleanup objectives;

- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1- the standards listed in the guidance were used to evaluate groundwater quality, delineate areas with impacts, and specify cleanup objectives (TOGS 1.1.1 incorporates the same standards as listed in 6 NYCRR Part 703 for the constituents of concern at the Site);

- NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation - May 2010 - the proposed remedial alternatives were developed in accordance with the abovementioned document;

- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004- the project is part of the BCP, and as such, the abovementioned guidance document was used to prepare this report;

- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) – will be required for all ground intrusive activities, and the abovementioned document was used to prepare the CAMP;

- NYS Waste Transporter Permits – 6 NYCRR Part 364 - As the remedial alternatives may include excavation and disposal of soil, the abovementioned guidance document applies; and
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364 - As the remedial alternatives include excavation and disposal of soil, the abovementioned guidance document applies.

3.1.1 Overall Protection of Human Health and the Environment

This criterion is an evaluation of the ability of each alternative remedy to protect public health and the environment.

Remedial Alternative 1 will be protective of human health and the environment by removing all soil at the Site that exceeds the Unrestricted Use SCOs and backfilling any areas as needed with material meeting the Unrestricted Use SCOs, thus eliminating the potential for human and environmental exposure to contaminated soil/fill once construction is complete and eliminating the risk of contamination leaching from the soil/fill into underlying groundwater and soil vapor intrusion. Though there is minimal potential for contact with contaminated groundwater as it is not used for potable purposes, the concentration of any contaminants in groundwater will be addressed by the removal of the impacted soil, LNAPL product recovery and ISCO application to address residual contamination. Removal of source material will remove sources of potential impacts to soil vapor. The building foundation and a waterproofing barrier will be installed during construction that will serve as a vapor barrier to minimize vapor intrusion. If feasible (depending on the final elevation of the foundation and whether sufficient vertical space exists between the cellar slab and the water table), SSDS piping will be installed below the foundation. The only area that may not be included in Remedial Alternative 1 Track 1 is the area between the north property line and the proposed SOE location, which will be installed approximately 2 feet away from the property line. This area is approximately 420SF of the 99,300SF total Site area.

Remedial Alternative 2 will also be protective of human health and the environment by removing all soil at the Site that exceeds the Restricted Commercial Use SCOs in the upper 15 feet and backfilling any areas as needed with material meeting the Restricted Commercial Use SCOs.

Though there is minimal potential for contact with contaminated groundwater as it may not be used for potable purposes, the concentration of any contaminants in groundwater will be addressed by the removal of the grossly contaminated soil, LNAPL product recovery and ISCO application to address residual soil and groundwater contamination. Removal of source material will remove sources of potential impacts to soil vapor. The building foundation and a waterproofing barrier will be installed during construction that will serve as a vapor barrier to minimize vapor intrusion. If feasible (depending on the final elevation of the foundation and whether sufficient vertical space exists between the cellar slab and the water table), SSDS piping will be installed underneath the cellar slab.. Implementing ICs and ECs including a Site Management Plan (SMP) and Environmental Easement will ensure that use of groundwater is restricted, and the SSDS operation will be protective of human health from any potential soil vapor intrusion.

Remedial Alternative 3 will also be protective of human health and the environment by removing all grossly impacted soils and COC source areas and backfilling any areas as needed with material meeting the Restricted Commercial Use SCOs. The difference between the Remedial Alternative 2 and 3 is that some soil in the upper 15 feet will not be excavated in Remedial Alternative 3 but will be addressed with a site cover system consisting of building slab and pavement, which will prevent direct contact with any remaining onsite soils, soil vapor and groundwater.

For all alternatives, during Site remediation and other construction activities, workers may be exposed to impacted soil, groundwater and soil vapor. Potential worker and community exposure to contaminated media during remediation activities will be mitigated through the implementation of the Site-Specific HASP, which includes the CAMP, and required worker training.

3.1.2 Standards, Criteria, and Guidance

The remedy must conform to officially promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance as appropriate.

Remedial Alternative 1 will achieve compliance with the Track 1 Unrestricted Use SCOs for all onsite areas (with the possible exception of the 420SF area between the north property line and the proposed drilled cutoff wall location). Removal of soil exceeding Unrestricted Use SCOs, LNAPL product recovery and ISCO application is expected to result in significant reductions in soil vapor and onsite groundwater concentrations that will meet AWQSGVs or contain only residual contamination demonstrating there has been a bulk reduction in groundwater contamination to asymptotic conditions. The handling, management and disposal of contaminated materials will be in compliance with the applicable SCGs. The remedial excavation will be backfilled as needed with material meeting Unrestricted Use SCOs and/or clean stone.

Remedial Alternative 2 will achieve compliance with the remedial goals, SCGs and RAOs for soil through the removal of grossly contaminated soil and impacted groundwater in LNAPL source areas to meet Protection of Groundwater SCOs, removal of LNAPL through vacuum truck/absorbent booms and in-situ chemical oxidation as a final polishing step. The SMP would ensure that these engineering controls remain protective for the long term.

Remedial Alternative 3 will achieve compliance with the remedial goals, SCGs and RAOs for soil through the removal of grossly contaminated soil and impacted groundwater in LNAPL source areas to meet Protection of Groundwater SCOs, removal of LNAPL through vacuum truck/absorbent booms and in-situ chemical oxidation as a final polishing step. All grossly impacted soils and COC source areas will be removed and backfilled with material meeting Restricted Commercial Use SCO, but any remnant soil above Track 2 will meet RAOs through implementation of site cover system consisting of the building foundation and pavement. The SMP would ensure that these engineering controls remain protective for the long term.

For all alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with the applicable SCGs.

3.1.3 Long-Term Effectiveness and Permanence

This criterion is an evaluation of the long-term effectiveness and permanence of an alternative or remedy after implementation.

Remedial Alternative 1 removes all soil that was impacted by the historical releases/historical fill that exceeds the Unrestricted Use SCOs. Groundwater will improve based on the removal of source material. Free-product will be pumped out and ISCO application will provide the final polishing step. Sources of potential impacts to soil vapor are addressed. Therefore, incremental risk from soil, groundwater, and soil vapor impacts will be eliminated, ECs and ICs are not necessary, and the remedy will continue to meet RAOs in the future, thus providing a permanent solution for the Site.

Remedial Alternative 2 provides a long-term solution for the Site using ICs and ECs to mitigate human health and environmental exposures to and offsite migration of impacted soil, soil vapor and groundwater by removing/treating the impacted soil that exceeds the Unrestricted Use SCOs and Protection of Groundwater SCOs (via excavation of the upper 15 feet, free product recovery, in-situ chemical application), by installation of a site cover system comprised of the building foundation and pavement, a waterproofing/vapor barrier, and, if feasible, the installation of SSDS piping underneath the cellar slab to address any potential vapor intrusion. Establishing institutional controls to ensure long term management including use restrictions, an SMP, and placement of an Environmental Easement to memorialize these controls for the long term will ensure long-term effectiveness by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as intended and assuring that protections designed by the remedy will provide continued high level of protection, in perpetuity.

Remedial Alternative 3 provides the same long-term solution for the Site in comparison to Remedial Alternative 2 using ICs and ECs to mitigate human health and environmental exposures to and offsite migration of impacted soil, soil vapor and groundwater by removing all grossly impacted soils and COC source areas and backfilling with material meeting Restricted Commercial Use SCOs, free product recovery, in-situ chemical application), by installation of a site cover system comprised of the building foundation and pavement, a waterproofing/vapor barrier, and, if feasible, the installation of SSDS piping underneath the cellar slab to address any potential vapor intrusion. Establishing institutional controls to ensure long term management including use restrictions, an SMP, and placement of an Environmental Easement to memorialize these controls for the long term will ensure long-term effectiveness by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as intended and assuring that protections designed by the remedy will provide continued high level of protection, in perpetuity.

3.1.4 Reduction Toxicity, Mobility or Volume of Contamination through Treatment

This criterion is an evaluation of the ability of an alternative or remedy to reduce the toxicity, mobility and volume of Site contamination. Preference should be given to remedies that permanently or significantly reduce the toxicity, mobility, or volume of the contamination at the Site.

- removal and/or treatment;
- containment;
- elimination of exposure; and
- treatment of source at the point of exposure.

Remedial alternatives that use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media are preferable.

Remedial Alternative 1 permanently eliminates the toxicity, mobility, and volume of contaminants within the Site by removing all soil with concentrations that exceeded the Unrestricted Use SCOs, as well as LNAPL product recovery and ISCO application as a final polishing step. Removal of impacted soil and LNAPL is expected to result in significant reductions in onsite groundwater concentrations and meet AWQSGVs or achieve bulk reductions in groundwater concentrations. Removal of source material and in situ groundwater treatment will also remove sources of potential impacts to soil vapor.

Remedial Alternative 2 will also permanently eliminate the toxicity, mobility, and volume of contaminants from on-site soil and groundwater by removing soil in the upper 15 feet that exceeded the Restricted Commercial Use SCOs and groundwater in LNAPL source area, LNAPL product recovery and ISCO application as a final polishing step and a waterproofing/vapor barrier. A SSDS will be installed, if feasible, underneath the cellar slab to address any potential soil vapor intrusion. The site will be capped to permanently eliminate exposures and associated toxicity.

Remedial Alternative 3 will also permanently eliminate the toxicity, mobility, and volume of contaminants from on-site soil and groundwater by removing all grossly contaminated soils and COC source areas and backfilling with material meeting Restricted Commercial Use SCOs, LNAPL product recovery and ISCO application as a final polishing step and a waterproofing/vapor barrier. A SSDS will be installed, if feasible, underneath the cellar slab to address any potential soil vapor intrusion. Some soils above 15 feet will remain in place but they will be addressed by implementation of EC and ICs. The site will be capped to permanently eliminate exposures and associated toxicity.

An environmental easement will ensure long-term management of ECs and implementation of use restrictions. The SMP will ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as intended.

3.1.5 Short-Term Impacts and Effectiveness

This criterion is an evaluation of the potential short-term adverse environmental impacts and human exposures during the construction and/or implementation of an alternative or remedy.

Remedial Alternative 1 poses minimal health and environmental risks during implementation. The remedy implementation time (approximately 6 months) is relatively short and the potential adverse impacts to the community and workers (e.g., increased traffic or exposure to contaminants during soil excavation and transportation, LNALP recovery) can be mitigated with ECs (e.g., dust, odor and traffic controls). Other potential risks include material and equipment handling, electrical shock, off-gas vapor inhalation, general trip hazards, and noise. These potential impacts will be mitigated through implementation of the Site-specific HASP and CAMP and the Soil/Materials Management Plan (SoMP), which detail monitoring during the construction and describe ECs to be implemented as necessary (e.g., dust/odor suppression and traffic control). The handling of chemicals during the application of oxidants will be managed by proper PPE and by following the manufacturer's instructions.

Remedial Alternative 2 poses the same minimal health and environmental risks during implementation and will be effectively mitigated in the same manner as for Remedial Alternative 1. Potential worker exposure to soil, LNALP and groundwater during remediation activities will be mitigated through the required OSHA training and appropriate HASPs. Construction workers operating under appropriate management procedures and a HASP will be protected from onsite contaminants. Any potential environmental exposure will be mitigated by engineering controls implemented during construction, including a vacuum truck to immediately remove LNAPL that may accumulate in the excavation. The handling of chemicals during the application of oxidants will be managed by proper PPE and by following the manufacturer's instructions.

Remedial Alternative 3 poses the same minimal health and environmental risks during implementation and will be effectively mitigated in the same manner as for Remedial Alternatives 1 and 2. Potential worker exposure to soil, LNALP and groundwater during remediation activities will be mitigated through the required OSHA training and appropriate HASPs. Construction workers operating under appropriate management procedures and a HASP will be protected from onsite contaminants. Any potential environmental exposure will be mitigated by engineering controls implemented during construction, including a vacuum truck to immediately remove LNAPL that may accumulate in the excavation. The handling of chemicals during the application of oxidants will be managed by proper PPE and by following the manufacturer's instructions.

3.1.6 Implementability

This criterion is an evaluation of the technical and administrative feasibility of implementing an alternative or remedy.

The techniques, materials and equipment to implement **Remedial Alternatives 1, 2 and 3** are readily-available and have been proven effective in remediating the contaminants associated with the Site. Standard materials, services, and well-established technologies will be implemented. There are no specific difficulties associated with any of the activities proposed, which utilize standard construction methods.

In all Alternatives, the existing building will be demolished and SOE will need to be installed in the area of the LNAPL zone. To address free-product, vacuum trucks and absorbent booms will be deployed and in-situ chemical application will be performed as a final polishing step. In addition, if feasible, SSDS piping will be installed underneath the cellar slab to address any potential soil vapor intrusion in the cellar. Remedial Alternative 1 would require excavation of all soils above Unrestricted SCO. Remedial Alternative 2 would require excavation of all soils above Restricted Commercial Use SCO to at least 15 feet below grade. For Remedial Alternative 3, all grossly contaminated impacted soils and COC source areas will be removed. Any remaining soils above Track 2 will be addressed by the implementation of ECs and ICs.

3.1.7 Cost Effectiveness

This criterion is an evaluation of the overall cost effectiveness of an alternative or remedy, including capital costs (such as construction costs, equipment costs, disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a Remedial Action.

Cost estimates for each alternative are shown in Tables 8, 9 and 10.

The total cost for **Remedial Alternative 1** is **$11,532,762** for implementation of the remedy.

The total cost for **Remedial Alternative 2** is $**10,971,102** for implementation of this remedy.

The total cost for **Remedial Alternative 3** is $**10,365,691** for implementation of this remedy.

3.1.8 Community Acceptance

This criterion is evaluated after the public review of the remedy selection process as part of the final DER selection/approval of a remedy for a site. Any public comment relative to these criteria will be considered by DER after the close of the public comment period. Documentation of the public comments received is to be consistent with the Citizen Participation Plan (CPP) identified for a remedial program in accordance with applicable DEC policy.

A full evaluation of this criterion cannot be made until after the public comment period is complete, but because the measures to be employed for both alternatives consist of standard construction methods, including ECs to minimize impacts to the surrounding community, community acceptance of both alternatives is anticipated.

3.1.9 Land Use

This criterion is an evaluation of the current, intended, and reasonably anticipated future use of the Site and its surroundings, as it relates to an alternative or remedy, when unrestricted levels would not be achieved.

This evaluation has considered reasonably-anticipated future uses of the Site and takes into account:

- current use and historical and/or recent development patterns;
- applicable zoning laws and maps;
- NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law;
- applicable land use plans;

- proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas;
- environmental justice impacts, Federal or State land use designations;
- population growth patterns and projections;
- accessibility to existing infrastructure;
- proximity of the Site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the Site, proximity to flood plains, geography and geology; and
- current ICs applicable to the Site.

Remedial Alternative 1, would render the Site available for unrestricted use following remedial construction.

Remedial Alternatives 2 and 3, will allow the Site to be used for restricted commercial use and less restrictive uses such as industrial use. The planned use of the Site will ensure that the remedy is protective of human health and the environment by eliminating potential exposure pathways to residual contamination.

3.2 SELECTION OF THE PREFERRED REMEDY

The Preferred Remedy for the Site, Remedial Alternative 1, was selected for implementation since it meets each of the evaluation criteria. In summary, the Preferred Remedy for the Site:

- Is protective of public health and the environment.
- Complies with the appropriate Track 1 Unrestricted Use SCOs.
- Provides long-term effectiveness and permanence through removal of all soil above unrestricted levels, including soil impacted with free-phase product, coupled with product recovery pumping and final polishing step with the use of chemical oxidant.
- Provides short-term effectiveness, including minimal impacts to workers or the surrounding neighborhood through the implementation of ECs during construction.
- Is readily implementable.

- Is compatible with the existing and proposed land use.

The Preferred Remedy for the Site is consistent with the approach for a Track 1 scenario described in the Part 375 Regulations.

A land use factor evaluation of the Preferred Remedy for the Site is provided below based on the following criteria as required by Article 27, Title 14 of the Environmental Conservation Law 27-1415.

Zoning

As depicted in the Land Use Map (Figure 5), the redevelopment of the Site is consistent with the local land use in the surrounding area.

Applicable land use plan

As depicted in the Land Use Map (Figure 5), the redevelopment of Site is consistent with the surrounding community redevelopment plans.

3.2.1 Surrounding Property Uses

As described in the BCP application, the property uses surrounding the Site are commercial and residential. Adjacent uses are shown on the Land Use and Adjacent Property Owners Map provided as Figure 5.

3.2.2 Citizen Participation

Citizen participation will be pursued throughout the remedial process in accordance with the BCP guide and the CPP for the Site.

3.2.3 Environmental Justice Concerns

As presented in the BCP application, according to the NYSDEC data base for environmental justice concerns, 5200 Kings Highway, Brooklyn, New York is not part of any Potential Environmental Justice Area (PEJA).

3.2.4 Land Use Designations

As presented in the BCP application, there are no federal or state land use designations related to the Site.

3.2.5 Population Growth Patterns

As indicated in the BCP application for the Site, according to population growth patterns and projections, the proposed redevelopment of the Site into commercial, will be supportive of the growing community and the surrounding land use.

3.2.6 Accessibility to Existing Infrastructure

As indicated in the BCP application for the Site, the Site's location in Brooklyn is accessible to existing infrastructure.

3.2.7 Proximity to Cultural Resources

As indicated in the BCP application for the Site, there are no historic landmarks and historic districts within ½ mile of the Site.

3.2.8 Proximity to Natural Resources

Paerdegat Basin, a tidal inlet is located approximately 0.6 miles southeast of the Site. Removal of all impacted soil, including grossly contaminated soil, installation of product recovery pumps and polishing with chemical oxidant will eliminate any potential impacts to the basin. Natural resources will not be endangered by the preferred remedy for the Site.

3.2.9 Off-Site Groundwater Impacts

There are no known wellhead protection areas or specifically designated groundwater recharge areas in the vicinity of the Site. Based on information generated during the RI, contamination migrating from the Site would likely flow in a southeast direction towards the Paerdegat Basin.

3.2.10 Proximity to Floodplains

As described in the BCP Application, there are no floodplains within ½ mile of the Site.

3.2.11 Geography and Geology of the Site

The site is trapezoidal in shape and is bordered to the east and southeast by Kings Highway and to the west by Utica Avenue. The site topography is generally flat with an elevation of approximately 20 feet above mean sea level. Regional elevation slopes gently to the east and south. Surface runoff enters the municipal system by storm drains located onsite.

Based on soil borings advanced at the Site, the upper 20 feet of surficial geology is dominated by urban fill consisting of sand, gravel, and minor amounts of brick. Groundwater was encountered at depths ranging from 8 to 16 feet below land surface.

3.2.12 Current Institutional Controls

As described in the BCP Application, there currently are no ICs on the property.

3.3 SUMMARY OF SELECTED REMEDIAL ACTIONS

The Remedial Action will consist of the following remedial components:

1. A Pre-design Investigation (PDI) will be conducted to collect waste characterization samples and collect in-situ end-point samples that will pre-establish the lower limit of the excavation that is required to meet Unrestricted Use SCOs. Soil sampling on the western edge of the Site along Utica Avenue (which will not be excavated for development purposes) and the east side of the Site along Kings Highway (which will have limited excavation where only slab-on-grade retail construction is proposed) will also be conducted during the PDI. Soil samples will also be collected from the 24-inch strip between the planned SOE and the adjacent property. A PDI work plan will be submitted to NYSDEC under separate cover.

2. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program.

3. Survey existing soil borings and monitoring well locations prior to demolition.

4. Site mobilization involving Site security setup, equipment mobilization, utility markouts and marking and staking excavation areas.

5. Implementation of erosion and sediment controls.

6. Site monitoring of airborne VOCs and particulates in accordance with a NYSDEC approved CAMP will be conducted during all ground intrusive and soil handling activities. Odor suppression equipment including foaming agents and dispersion pumps and sprayers will be mobilized to the Site before the start of ground intrusive activities.

7. The SOE consisting of a drilled cut-off wall will be installed on the northern side of the Site bordering Favorite Plastics. Approximately 212 linear feet of the drilled cut-off wall will be installed to approximately 29 feet below grade. For structural reasons, the drilled piles will be installed approximately 24 inches away from the property line. The quality of soil in the 24-inch strip will be determined during the PDI.

8. Soils in the 24-inch strip behind the SOE that exceed Track 1 SCOs will be removed to a depth of approximately 12 feet. LNAPL, if present, will also be removed. The total depth of removal will be based on the depth of the Favorite Plastics footings. If PDI results indicate that soils with compounds of concern above impact to groundwater SCOs will remain below the excavation limit, an ISCO application will be completed in this strip prior to backfill (see Item 15 below).

9. Unsaturated soils will be initially excavated to approximately nine feet below grade across the 77,000 SF of the site where below grade construction is proposed. These soils will be disposed of offsite. Soils will also be excavated to a depth of approximately four feet below grade from the 7,000SF area on the east side of the Site where slab-on-grade retail development is proposed.

10. Steel sheet piling will be installed along the perimeter of the LNAPL Zone. This will include approximately 332 linear feet of the steel sheet piling being installed to approximately 28 feet below grade.

11. Four feet of smear zone soils that straddle the water table within the LNAPL Zone will be excavated and disposed of offsite. These saturated soils will be stockpiled for shipping the following day. These soils will be managed with drying agents (such as saw dust or fly ash) as necessary prior to shipment offsite. The soils will also be covered overnight to manage odors.

12. Free-product recovery will be actively conducted in the open excavation via skimming technology using a combination of vacuum truck and oil absorbent booms. Recovered free-product will be temporarily stored onsite in an aboveground tank or drums (depending on quantity generated) for future offsite disposal. Recovery will continue as long as oil recharge occurs. When only small amounts of sheen are present, oil absorbent booms will be deployed in the area to recover the residual product.

13. Dewatering at the Site will be required to enable the excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. Excavation will be conducted in conjunction with controlled dewatering using well points to final depths ranging from 15 to 19 feet below grade. Actual depths will be based on the results of the in-situ endpoint sampling results that will establish the excavation depth needed to achieve Unrestricted Use SCOs. Onsite treatment or offsite disposal of groundwater will proceed as needed.

14. Appropriate offsite disposal of all material removed from the Site to permitted facilities in accordance with all Federal, State and local rules and regulations for handling, transport and disposal, and this plan. Sampling and analysis of excavated media as required by the disposal facilities.

15. An ISCO application of a sodium persulfate-based technology for treatment of VOCs in soil and groundwater will be conducted following the completion of product recovery and remedial excavation. The chemical will be placed at the bottom of the final excavation depth as well as along sidewalls. ISCO application will also include the 24-inch strip behind the SOE if residual soils with compounds of concern exceed impacted to groundwater SCOS.

16. Controlled backfill of the excavated areas to the desired grade with recycled concrete aggregate (RCA), clean stone and/or reuse clean onsite soil from the excavation (as available). Backfill will be protected from contaminated soils using plastic sheeting as necessary. RCA will meet NYSDEC Part 360-1.15 requirements and will be free of asphalt. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the Site.

17. A waterproofing barrier (Grace Preprufe or equivalent) will be installed on the underside of the foundation slab and on the walls below grade. The waterproofing barrier will act as the primary vapor barrier that will minimize any potential vapor intrusion.

18. Install temporary downgradient monitoring well and collect groundwater samples to evaluate the effectiveness of the ISCO treatment.

19. As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

20. All responsibilities associated with the remedial action, including permitting requirements and pre-treatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

21. Submission of a Final Engineering Report (FER) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries,

and describes all Engineering and Institutional Controls to be implemented at the Site (if applicable), and lists any changes from this RAWP.

Contingent Track 1

The intent of the remedy is to achieve Track 1 Unrestricted Use; therefore, no Environmental Easement or Site Management Plan is anticipated. In the event that a Track 1 Unrestricted Use is not achieved, the following contingent remedial elements will be required and the remedy will achieve a minimum Track 4 Restricted Commercial Cleanup:

- A Site cover system consisting of building foundation and pavement areas will be installed onsite. The site cover system will be required to allow for commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs.

- SSDS piping will be installed underneath the cellar slab as a contingency, if possible. The vertical space between the slab and the water table will determine whether installation of the SSDS piping is possible.

- If an “unconditional” Track 1 is not achieved, recording of an Environmental Easement, including ICs and ECs, to prevent future exposure to any residual contamination remaining at the Site will be required. A copy of the Environmental Easement will be submitted as part of the FER and it will be recorded in the property title records for the Site.

- If an “unconditional” Track 1 is not achieved, preparation of a Site Management Plan (SMP) is required for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the Department-issued Decision Document. All deviations from the RAWP and/or Decision Document will be promptly reported to NYSDEC for approval and fully explained in the FER.

4.0 REMEDIAL ACTION PROGRAM

The following sections describe the Remedial Action program.

4.1 GOVERNING DOCUMENTS

The applicable documents governing the remedial action are described below.

4.1.1 Site Specific Health and Safety Plan (HASP)

The Site-specific HASP is included in Appendix H and the CAMP is included within the HASP. All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Volunteer and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate HASP and for the appropriate performance of work according to that plan and applicable laws.

The HASP and requirements defined in this Remedial Action Work Plan pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion.

The Roux Site Safety Coordinator will be determined prior to implementation of the Remedial Action. A resume will be provided to NYSDEC prior to the start of remedial construction.

If required, confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gasses.

4.1.2 Quality Assurance Project Plan (QAPP)

The Quality Assurance Project Plan (QAPP, Appendix I) includes all procedures to be followed for sampling and analysis during the remedial action. The QAPP includes all requirements outlined in DER-10 Section 2.4.

4.1.3 Construction Quality Assurance Plan (CQAP)

Quality assurance/quality control procedures for all construction activities associated implementation of the remedial action construction are established in the Construction Quality Assurance Plan (CQAP), which is included in this section of the RAWP. The CQAP describes the site-specific construction quality assurance and control measures that will be performed during remediation that will be implemented at the Site during implementation of the RAWP. The CQAP includes a program for construction observation and testing to verify performance of the remedial construction in accordance with the RAWP.

4.1.3.1 Organization/ Personnel

The implementation of the remedial action construction will be sequenced based on construction requirements, environmental considerations, and logistic limitations posed by the size of the Site and proximity of adjacent structures. The project team is comprised of the Owner (PTMA 5200 Kings Highway LLC), contractors, and consultants specializing in one or more critical aspects of the project. It is understood by the project team that close coordination and proper sequencing of all activities occurring on the Site will be crucial to the success of the remediation. The project team and associated responsibilities are as follows. If changes are made the project team, the CQAP will be amended.

4.1.3.2 Owner/Volunteer – Site Redevelopment and Regulatory Interaction

Craig Werle, Project Coordination

As the site owner's representative, Craig Werle, Principal at Roux [Project Manager], will coordinate communications with regulatory agencies and will provide general oversight of all aspects of the remediation. Mr. Werle will be responsible for the review of all documents, reports, correspondence, etc., required by the RAWP and/or the BCA with the NYSDEC dated May 1, 2012 and amended March 23, 2018.

PTMA 5200's Project Manager will be responsible for community notifications and addressing concerns with the adjacent property owners and local community on all remediation-related issues.

Mr. Werle will be immediately notified by the onsite team of any complaints or concerns regarding the work raised by the adjacent property owners and or the general public.

4.1.3.3 – General Contractor/ Construction Manager

TBD, Project Quality Control Officer

The General Contractor/ Construction Manager and will be responsible for the quality assurance of all of the tasks being implemented. The General Contractor/ Construction Manager will confirm that all components of the Site activities are conducted according to the requirements of the RAWP. The General Contractor/ Construction Manager will be responsible for verifying that the daily Site construction activities are in compliance with all of the safety requirements and regulations governing the Site activity, however, each subcontractor is responsible for the health and safety of their own personnel.

4.1.3.4 Roux – RAWP and Environmental Monitoring Compliance

Craig Werle	***– Roux/ Quality Assurance Officer***
Wendy Shen	***– Quality Control Project Manager***
TBD	***– Field Manager/ Site Safety Officer (SSO)***

Roux will coordinate all Site activities being implemented to achieve the remedial objectives defined in the RAWP and will act as the SSO. Roux will provide continual review of all quality control measures implemented by the contractors to ensure compliance with the Site's remedial objectives and the Site-specific HASP. As such, Roux will provide oversight services for the duration of the remedial activities. Roux will be responsible for managing the transportation and disposal of contaminated waste and materials generated during the construction, including:

- fill/soil;
- free-product;
- impacted groundwater;
- contaminated concrete, bricks or other construction debris; and
- personal protective equipment and other miscellaneous debris.

Roux will implement the CAMP. CAMP monitoring data will be reported daily to the SSO and will be maintained onsite. Action level exceedances will be reported to the SSO, the Project Manager and appropriate communication and action taken. All CAMP monitoring records will be included in the overall FER that will be submitted to the NYSDEC and NYSDOH and will include all the CAMP data collected, daily monitoring station location maps, and copies of the action limit reports (if any). If an action limit report is generated due to VOC exceedances, the NYSDEC and NYSDOH will be notified within 24 hours of the exceedance. Action limit exceedances for dust, if any, will be discussed in the daily report. A brief summary of CAMP activities, including any action limit reports generated, will be provided in the daily report.

All onsite quality control persons identified in the CQAP will provide daily briefings and/or reports to Roux onsite personnel, identifying the tasks completed, the remedial measures achieved, and any other issues of concern. Additionally, Mr. Charles J. McGuckin, the “Remedial Engineer”, a professional engineer licensed in the State of New York, will be responsible for certifying that the remediation construction was completed in substantial conformance with the approved RAWP and/or any NYSDEC-approved field changes.

4.1.3.5 Environmental Laboratory

Alpha Analytical (Alpha) will be utilized for all remediation construction-related analytical requirements. Alpha is a NYSDOH ELAP certified laboratory. All results will be reported in EDDs prepared in accordance with NYSDEC requirements. Formal laboratory qualifications and QA/QC information packages for Alpha and any other analytical laboratories proposed for the project will be submitted to the NYSDEC, if requested.

4.1.3.6 Surveying Firm

A NYS-licensed surveying firm, will be contracted by PTMA 5200 Kings Highway LLC to provide lines, grades, boundaries, benchmarks, topographic surveys, as-built drawings, and any other survey work required for the proper execution and documentation of the work as required by the RAWP.

4.1.3.7 Waste Disposal Facilities

Waste from the Site will be transported to appropriately-permitted waste disposal facilities. This CQAP will be updated with the names of the facility or facilities, as required. If any is generated, non-impacted construction debris will be transported to a registered construction and demolition disposal facility.

4.1.3.8 Waste Transporter and Disposal Facility Qualifications

As required, a qualifications package will be provided by each vendor contracted to transport waste from the Site to the designated soil disposal facilities and each designated disposal facility. The package shall include the following:

- Proof of insurance and all current necessary waste transport permits for the waste type(s) being transported.
- Letters of Commitment or other appropriate documentation from all waste haulers and from all transfer, treatment, storage and disposal facilities to be used for the project. The letters of commitment shall specifically identify the types and quantities of waste that the facility will be able to accept, the permit numbers for all facilities at which the waste will be accepted and all waste characterization requirements, if additional to waste characterization samples already collected. In the event that a facility (such as a privately-owned treatment works) is prohibited from issuing a letter of commitment without a sample of the waste, a conditional type letter will be acceptable. Such a conditional letter shall specifically state what types and quantities of waste the facility will accept.
- For each waste hauler:
  - Name and federal and state identification numbers, as applicable.
  - Address.
  - Name of responsible contact for the hauler.
  - Telephone number for the contact.
  - List of types and sizes of all transport vehicles and equipment to be used.
  - A description of proposed transportation route, method and procedures for hauling waste material, including type of vehicles that will be used for each type of waste.
  - Copies of any and all necessary permits and authorizations for each type of waste transported.

- For each transfer, treatment, storage and disposal facility, the Contractor shall submit the following information:
  - Facility name and federal and state identification numbers.
  - Facility location.
  - Name of responsible contact for the facility.
  - Telephone number for contact.
  - Signed letter of agreement to accept waste.
  - Unit of measure utilized at facility for costing purposes.
  - Copies of all permits, licenses, letters of approval, and other authorizations to operate, held by the proposed facility as they pertain to receipt and management of waste derived from this Contract.

4.1.3.9 Construction Quality Control Testing

Implementation of quality control testing and measurement will be performed by the contractors conducting the specific Site tasks, as required. The quality control officers, defined in Section 4.1.3, will be responsible for providing documentation of all testing and measurement results to Roux. Roux will be responsible for verifying that all quality control testing has been conducted in compliance with the RAWP and as specified herein.

Prior to initial quality control testing procedures:

1. Verify that the testing procedures are within the manufacturer's recommendations.
2. Verify that the facilities' testing equipment is available and comply with testing standards.
3. Check testing instrument calibrations against certified standards.
4. Verify the recording forms, including all the test documentation requirements have been prepared.

Specific task-driven testing/certification obligations as they relate to environmental aspects of the project are as follows:

- A New York State-licensed surveyor will conduct all of the necessary measurements.

- Excavated soil will require waste characterization analyses prior to disposal. Waste characterization analysis parameters and frequency for waste leaving the Site are determined by the waste disposal facility's acceptance requirements. As required, waste will be tested in accordance with the soil disposal facility's analytical acceptance requirements. Results will be provided to the disposal facility for review.

- The CAMP requires continuous real-time monitoring of VOCs and particulates during all intrusive Site activities. This monitoring equipment will be inspected periodically throughout each day to check and manually record the concentrations of VOCs and particulates and to ensure that the equipment is working properly. The equipment will be repaired, recalibrated, or replaced, as necessary. The periodic measurements will be used to identify any potential risks of offsite migration. This monitoring data will be collected and logged for review daily by Roux and made available for regulatory agency review. Action Limit Reports will be completed to document any and all action level exceedances, as defined in the CAMP.

All testing data will be managed in accordance with the above requirements and will be included in the FER to be prepared by Roux upon completion of all remedial objectives defined in the RAWP.

4.1.3.10 Project Coordination

During implementation of the remedial action construction, progress meetings/conference calls will be conducted periodically to assess the progress of the work, overall progress to date, quality control requirements, environmental and construction health and safety requirements, and future progress expectations. Those in attendance will include representatives from the Owner/Contractor, Roux and other subcontractors, as necessary. The NYSDEC and NYSDOH will attend the progress meetings at their discretion. This will provide the opportunity for all Site tasks to be integrated and discussed collectively and provide for coordination of all Site activities to maintain the overall construction schedule. Routine task meetings will also be conducted on an as-needed basis to insure proper communication between the contractors, tradesman, and supervisory personnel.

4.1.4 Soil/Materials Management Plan (SoMP)

The SoMP is included in Section 5.4 of this RAWP.

4.1.5 Storm-Water Pollution Prevention Plan (SWPPP)

The erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. A Stormwater Pollution Prevention Plan (SWPPP) is required for the remedial action since the area of disturbance will be more than one acre.

4.1.6 Community Air Monitoring Plan (CAMP)

All invasive work will be completed in accordance with the CAMP that is included as Appendix H within the HASP.

4.1.7 Contractors Site Operations Plan (SOP)

Contractor plans for remediation have not been prepared at this time. The Remedial Engineer will review all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirm that they are in compliance with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor and sub-contractor document submittals, are in compliance with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.8 Citizen Participation Plan

A certification of mailing will be sent by the Volunteer to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed, (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

The approved Citizen Participation Plan for this project is attached in Appendix J.

Document repositories have been established at the following locations and contain all applicable project documents:

Brooklyn Public Library
Rugby Branch
1000 Utica Avenue
Brooklyn, New York 11203-4310
Phone: (718) 566-0054

Brooklyn Community Board 18
1097 Bergen Avenue
Brooklyn, New York 11234-4841
Phone: (718) 241-0422
Fax: (718) 531-3199
Email: bkbrd18@optonline.net
Chair: Saul Needle
District Manager: Dorothy Turano

4.2 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.2.1 Project Organization

Once established, a listing of key personnel involved in the Remedial Action will be provided to the NYSDEC. A copy of professional profiles for the Project Principal and Remedial Engineer for Roux and for the data validator are presented in Appendix K.

4.2.2 Remedial Engineer

The Remedial Engineer for this project will be Charles J. McGuckin. The Remedial Engineer is a registered professional engineer licensed by the State of New York. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the PTMA 5200 Kings Highway LLC Site (NYSDEC BCA Index No. C224140-02-12 Site No. C224140). The Remedial Engineer will certify in the FER that the remedial activities were observed by qualified environmental professionals under his supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan. Other Remedial Engineer certification requirements are listed later in this RAWP.

The Remedial Engineer will coordinate the work of other contractors and subcontractors involved in all aspects of remedial construction, including soil excavation, stockpiling, characterization, removal and disposal, free-product recovery, ISCO application, air monitoring, emergency spill response services, import of backfill material, and management of waste transport and disposal. The Remedial Engineer will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this Remedial Action Work Plan and will certify compliance in the FER.

The Remedial Engineer will provide the certifications listed in Section 10.1 in the FER.

4.2.3 Remedial Action Construction Schedule

A schedule for the major elements of the remedial construction and the redevelopment construction is presented on Figure 9.

Work Hours

The hours for operation of remedial construction will conform to the New York City Department of Buildings construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer of any variances issued by the Department of Buildings. NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.4 Site Security

Security for the work, equipment, materials, supplies, facilities, personnel, and incidentals will be provided throughout the performance of the work at the Site. A perimeter chain-link fence is in place and will be maintained and upgraded to construction fence, as appropriate, by the Volunteer during implementation of the remedial action and redevelopment. The Site security will maintain a sign in/sign out sheet for all visitors to the Site.

4.2.5 Traffic Control

All construction work will occur between 7 A.M. and 6 P.M. from Monday to Friday. The General Contractor may work longer hours and/or weekends, as permitted by the proper authorities. If work beyond these hours or on weekends is required, the proper authorities will be notified. Disturbances to the local community will be minimized to the extent practical.

Trucking for waste disposal from the Site and for backfill materials into the Site is anticipated based on the preferred remedy described in this RAWP. For any trucking required, the proposed truck routes for ingress and egress to the Site are shown in Figure 8.

The inbound truck route to the Site is:

- From Nassau Expressway take Linden Boulevard West
- Take Kings Highway South
- Site is located on the right

The outbound truck route from the Site is:

- Exit the Site on Kings Highway and go north
- Take Linden Boulevard East
- Get on Nassau Expressway

All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. These are the most appropriate routes and take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting offsite queuing of trucks entering the facility, to the extent practicable; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site, to the extent practical.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation.

The contractors operating on the Site will be responsible for providing all necessary personnel and materials (i.e., traffic lanes, safety cones, etc.) to control traffic entering and exiting the Site and for coordinating traffic control measures with the New York City Police Department, as necessary. Contractors operating on the Site shall be responsible for all applicable New York City Department of Transportation (NYCDOT) traffic control and notification requirements and incorporating those elements into this Traffic Control Plan.

4.2.6 Contingency Plan

The Contingency Plan is described in Section 5.5.11.

4.2.7 Worker Training and Monitoring

All general Site workers (as defined in OSHA 1910.120 (e)(3)(i)) that will be involved with earth disturbance activities will have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations (40-Hour HAZWOPER training) and meet the medical surveillance requirements included in the HASP.

4.2.8 Agency Approvals

The Volunteer has addressed all SEQRA requirements for this Site. All permits or government approvals required for remedial construction have been, or will be, obtained prior to the start of remedial construction.

The planned end use for the Site is in conformance with the current zoning for the property as determined by New York City Department of Planning. A Certificate of Completion will not be issued for the project unless conformance with zoning designation is demonstrated.

A complete list of all local, regional and national governmental permits, certificates or other approvals or authorizations required to perform the remedial and development work is attached in Table 11. This list includes a citation of the law, statute or code to be complied with, the originating agency, and a contact name and phone number in that agency. This list will be updated in the FER.

All planned remedial or construction work in regulated wetlands and adjacent areas will be specifically approved by the NYSDEC Division of Natural Resources to ensure that it meets the requirements for substantive compliance with those regulations prior to the start of construction. Nothing in the approved Remedial Action Work Plan or its approval by NYSDEC should be construed as an approval for this purpose.

4.2.9 NYSDEC BCP Signage

A project sign will be erected at the main entrance to the Site prior to the start of any remedial activities. The sign will indicate that the project is being performed under the New York State Brownfield Cleanup Program. The sign will meet the detailed specifications provided by the NYSDEC Project Manager and contained in Appendix L.

4.2.10 Pre-Construction Meeting with NYSDEC

A project kick-off meeting will be conducted with the Volunteer, Roux and the major subcontractors prior to the commencement of any intrusive remedial activities proposed in this RAWP. The NYSDEC and NYSDOH will be notified at least seven days in advance of the proposed meeting date and will attend the pre-construction meeting at their discretion.

4.2.11 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in Table 12. That document will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

4.2.12 Remedial Action Costs

The total estimated cost of the Remedial Action is $11,532,762. An itemized and detailed summary of estimated costs for all remedial activity is attached as Table 8. This will be revised based on actual costs and submitted as an Appendix to the FER.

4.3 REMEDIAL DESIGN

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31.

The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable redevelopment.

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this Site, any future on-site buildings will include, at a minimum, a 20-mil vapor/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

4.4 SITE PREPARATION

The following sections describe the Site preparation activities associated with the preferred remedy for the Site.

4.4.1 Mobilization

Mobilization and Site preparation activities include:

1. Mobilization of equipment to the work area.
2. Traffic control measures.
3. Work zone demarcation.
4. Installation of erosion and sediment control measures in accordance with the New York Guidelines for Urban Erosion and Sediment Control.
5. Set-up of decontamination facilities.
6. Installation of temporary facilities.
7. Installation of perimeter air monitoring system.

4.4.2 Erosion and Sedimentation Controls

Soil erosion and sediment control measures for management of storm water will be installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control. Hay bales and/or silt fence will be placed by the remedial contractor at locations surrounding excavation areas, within the perimeter fencing, to control storm water runoff and surface water from entering or exiting the excavation. These control measures will be installed prior to initiating the soil excavation.

4.4.3 Stabilized Construction Entrance(s)

Stabilized construction entrances will be installed at the egress points from the Site. Any soil spilled on the sidewalk or street immediately adjacent to the Site will be promptly removed and the street will be cleaned.

4.4.4 Utility Marker and Easements Layout

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

4.4.5 Foundation

The proposed redevelopment will include a two-story commercial building occupying the majority of the Site area (Figure 3). The primary retail space, mechanical rooms and covered plaza will include approximately 77,000SF. The building will be set eight feet below grade. Parking for 210 cars will be provided on the roof. An additional 7,000 SF of retail space will be slab on grade construction. The foundation will consist of reinforced concrete slabs supported on spread footings and/or grade beams. Subgrade walls will be reinforced concrete supported on the slab and footings. A waterproofing barrier (Grace Preprufe or equivalent) will be installed on the underside of the foundation slab and on the walls below grade. The foundation and the waterproofing barrier will act as a vapor barrier and will minimize any potential vapor intrusion.

4.4.6 Support of Excavation

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities including excavation is the sole responsibility of the Volunteer and its contractors. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan. The Volunteer and its contractors must obtain any local, State or

Federal permits or approvals that may be required to perform work under this Plan. Further, the Volunteer and its contractors are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved Plan. As described previously, the support of excavation will consist of approximately 212 linear feet of drilled cutoff pile wall (24-inch diameter tangent grout filled piles) which will be installed to approximately 29 feet below grade. For structural reasons, the drilled cutoff wall will be installed approximately 2 feet from the property line.

Steel sheet piling will be installed along the perimeter of the LNAPL zone. This will include approximately 332 linear feet of steel sheeting being installed to approximately 28 feet below grade. This will facilitate excavation and product recovery of the LNAPL zone.

4.4.7 SSDS

If sufficient vertical clearance exists between the underside of the foundation and the water table, SSDS piping will be installed. This will consist of 4-inch perforated PVC piping set in a gravel backfill envelope. If it is installed, it is anticipated that the piping network will include approximately 900 feet of PVC.

4.4.8 Equipment and Material Staging

Equipment and materials for the remedial construction will be onsite in a designated area.

4.4.9 Decontamination Area

A temporary decontamination pad will be constructed to decontaminate excavation equipment prior to leaving the Site. The decontamination pad will be constructed using polyethylene liner sloped to a low-lying sump to collect any liquids. All decontamination material will be collected and properly disposed of offsite. All trucks will be kept away from the petroleum source area to reduce the potential for contamination of truck tires.

4.4.10 Site Fencing

The fences and gates will be closed and locked when there is no activity on the Site and any breaks or gaps will be repaired immediately. Temporary fencing (e.g., cones, caution tape, etc.) will supplement the perimeter fencing to delineate and secure the area of ongoing remediation activities within the Site such as soil stockpiles, and health and safety exclusion zones.

4.4.11 Demobilization

Remedial action construction and redevelopment construction will likely occur concurrently onsite. However, redevelopment construction not involving disturbance of existing Site soil could extend beyond the completion of the remedial action construction. The Demobilization plan will include:

- Restoration of areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management area[s], and access area);
- Removal of temporary access areas (whether on-Site or off-Site) and restoration of disturbed access areas to pre-remediation conditions;
- Removal of sediment and erosion control measures and disposal of materials in accordance with acceptable rules and regulations;
- Equipment decontamination; and
- General refuse disposal.

4.5 REPORTING

All daily and monthly Reports will be included in the FER.

4.5.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by the end of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;

- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions; and
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

Daily Reports will include a description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public.

A Site map that shows a predefined alpha-numeric grid for use in identifying locations described in reports submitted to NYSDEC will be provided in the waste characterization plan.

The NYSDEC assigned project number will appear on all reports.

4.5.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers within one week following the end of the month of the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e. tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

4.5.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photos will illustrate all remedial program elements and will be of acceptable quality. Representative photos of the Site prior to any Remedial Actions will be provided. Representative photos will be provided of each contaminant source, source area and Site structures before, during and after remediation. Photos will be included in the daily reports as needed, and a comprehensive collection of photos will be included in the FER.

Job-site record keeping for all remedial work will be appropriately documented. These records will be maintained on-Site at all times during the project and be available for inspection by NYSDEC and NYSDOH staff.

4.5.4 Complaint Management Plan

If an odor or dust complaint is received, the following procedure will be implemented:

1. Work in the affected area will be halted, and the source of odors/dust will be identified.
2. NYSDEC, NYSDOH, and the Volunteer will be notified of the complaint.
3. Nuisance odors, if any, will be abated through covering/containerizing excavated materials, backfilling open excavations in a timely manner; and/or using a foam suppressing agents or other appropriate measures.
4. Nuisance dust, if any, will be abated through covering/containerizing excavated materials, and/or using water on excavations.
5. Work will resume in the affected area when the nuisance odors/dust have been abated, as determined by the Roux onsite personnel.

4.5.5 Deviations from the Remedial Action Work Plan

Deviations from the RAWP will be reported to NYSDEC for approval and fully explained in the FER. At a minimum, it should include the following:

- Reasons for deviating from the approved RAWP;
- Approval process to be followed for changes/editions to the RAWP; and
- Effect of the deviations on overall remedy.

5.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

The preferred soil remediation alternative is a Track 1 cleanup. The remedial action will include the following components:

- Pre-excavation (soil) and post-excavation (groundwater, soil vapor) confirmation/documentation sampling;
- Support of excavation and dewatering;
- Excavation of all soil above Unrestricted Use SCO, including grossly contaminated soil in the LNAPL source area;
- Offsite disposal of excavated soils exceeding unrestricted SCOs;
- Free-product recovery via vacuum truck/absorbent socks; and
- In-situ chemical application as a final polishing step.

These elements are described in detail in the subsections below.

5.1 SOIL CLEANUP OBJECTIVES

The SCOs for this Site are to remove all soils exceeding Unrestricted Use SCOs, including grossly contaminated soils that are acting as LNAPL source areas. LNAPL will be recovered via vacuum truck/absorbent booms to the extent possible and ISCO application will be performed as a final polishing step following the LNAPL recovery efforts. The SCOs for this Site are listed in Table 13.

Soil and materials management on-Site and off-Site will be conducted in accordance with the Soil Management Plan as described below.

Tables 2 through 6 summarize all soil samples that exceed the SCOs proposed for this Remedial Action. A spider map that shows all soil samples that exceed the SCOs proposed for this Remedial Action is shown in Plate 1.

UST closures, if required will be performed in accordance with the criteria defined in DER-10.

5.2 PRE-EXCAVATION DELINEATION AND REMEDIAL PERFORMANCE EVALUATION

A pre-excavation delineation sampling will be conducted in the areas it was not previously delineated during the RI and where excavation is limited to none for development purposes: the west side of the Site along Utica Avenue and southeast corner of the Site will not be excavated since it will be a loading dock area/parking area and encompasses approximately 15,000 square feet. The east side of the Site along Kings Highway will be slab-on-grade retail and therefore will only be excavated to approximately 4 feet below grade. This area encompasses approximately 7,000 square feet. Delineation sampling will also be conducted in the 24-inch strip between the planned SOE and the adjacent northern side of the property.

In-situ end-point confirmation sampling will be conducted (concurrently with in-situ waste characterization sampling for soil disposal) to satisfy DER-10 requirements related to documentation of the limits of soil removal for remedial purposes.

Pre-excavation delineation samples will be collected from the areas mentioned above to verify compliance with SCOs. This is included in the Pre-Design Investigation (PDI) work plan which was submitted to the NYSDEC on May 9, 2018 under separate cover for review and approval.

5.2.1 Sampling Frequency

End-point samples will be collected to verify compliance with SCOs. End-point excavation bottom samples will be collected at a frequency of one per 900 square feet of excavation bottom inside the LNAPL zone and one per approximately 1,400 square feet outside the LNAPL zone. Sidewall samples will be collected at a frequency of one per 30 liner feet of excavation in accordance with NYSDEC DER-10 Section 5.4.

Delineation sampling adjacent to Utica Avenue, southeast corner of the Site, Kings Highway area and SOE area will be completed concurrently with the endpoint sampling event. The sampling frequency is described in the PDI.

The end-point, sidewall and delineation samples will be analyzed for VOCs, SVOCs, Metals, PCBs and Pesticides/Herbicides.

Waste characterization sampling frequency will be dictated by the requirements from the disposal facilities.

5.2.2 Methodology

Each sample will be inspected for visual evidence of contamination (i.e., staining, presence of petroleum or odors) and field screened for VOCs using a portable photoionization detector (PID). If samples are free from visual evidence of contamination and PID indicates soil is not contaminated, the sample will be sent to a lab. Soil samples to be submitted for analysis will be place into a laboratory sample jar and transported to the laboratory in an iced container. Laboratory analysis will be performed by a NYSDOH ELAP-approved laboratory.

5.2.3 Reporting of Results

The laboratory will report analytical results for the pre-excavation delineation and end-point confirmation samples in ASP Category B deliverable packages. An EDD in the required NYSDEC format will also be provided by the laboratory.

All pre-excavation delineation and end-point confirmation sample data generated for the Remedial Action will be logged in a database and organized to facilitate data review and evaluation. The electronic dataset will include the data flags provided in accordance with USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organic Analysis and Inorganic Analyses, as well as additional comments of the data review for ASP/CLP analyses. The data flags include such items as: 1) concentration below required detection limit, 2) estimated concentration due to poor recovery below required detection limit, 3) estimated concentration due to poor spike recovery, and 4) concentration of chemical also found in laboratory blank.

5.2.4 QA/QC

Quality control (QC) samples serve as checks on both the sampling and measurements systems and assist in determining the overall data quality with regard to representation, accuracy, and precision. The QAPP, included as Appendix I to this RAWP, describes QA/QC procedures and sampling for the project.

5.2.5 DUSR

A DUSR will be prepared to evaluate the pre-excavation delineation and end-point confirmation samples by a party independent from the laboratory performing the analysis in accordance with Appendix 2B of DER-10. The QAPP, included as Appendix I to this RAWP, describes the DUSR to be prepared for the project.

5.2.6 Reporting of Data in FER

Chemical labs used for all sample results and contingency sampling will be NYSDOH ELAP certified.

Delineation and end-point sampling will be performed in accordance with DER-10 sample frequency requirements. Bottom samples will be collected at a rate of one for every 900 to 1,400 square feet. Sidewall samples will be collected at a rate of approximately one for every 30 linear feet. The FER will provide a tabular and map summary of all end-point sample results and exceedances of SCOs.

5.3 ESTIMATED MATERIAL REMOVAL QUANTITIES

The estimated quantity of material to be removed from the Site is 33,000 cubic yards.

5.4 SOIL/MATERIALS MANAGEMENT PLAN

The following sections provide the Soil/Material Management Plan (SoMP) to be implemented during the Remedial Action, as necessary.

5.4.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field geologist under the direction of the Remedial Engineer during all remedial and development excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy and during development phase, such as excavations for foundations and utility work, prior to issuance of the COC.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. This information will be provided on maps in the FER.

Screening will be performed by qualified environmental professionals. Resumes will be provided for all personnel responsible for field screening (i.e. those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and development work.

5.4.2 Stockpile Methods

If possible, excavated soils will be directly loaded into trucks. It is anticipated that excavated soils from the LNAPL zone will be saturated, therefore temporary stockpiling may be necessary so drying agents can be mixed with the soil prior to loading the material onto the trucks.

Stockpiles will be inspected periodically and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Soil stockpiles will be continuously encircled with silt fences. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Water will be available on-site at suitable supply and pressure for use in dust control.

5.4.3 Materials Excavation and Load Out

The Remedial Engineer or a qualified environmental professional under his/her supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

The remedy includes excavation and off-site disposal of contaminant source areas, including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid; and
- soils which exceed the Protection of Groundwater Soil Cleanup Objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in Site groundwater above standards.

Excavation and offsite disposal of all onsite soils which exceed Unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 is achieved, a cover system will not be a required element of the remedy.

Approximately 33,000 CY of contaminated soil will be removed from the Site. The excavation depth would be to approximately 19 feet below grade in the LNAPL zone and shallower for the remainder of the Site.

Any excavated saturated soils will be managed with the use of drying agents such as fly ash or sawdust to minimize loading of soils with high moisture content.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-Site. The Remedial Engineer will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the remedial construction is complete.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site sediment tracking.

The Remedial Engineer will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the Site during Site remediation and development. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site -derived materials.

The Volunteer and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).

The Remedial Engineer will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this Remedial Action Work Plan.

Each hotspot and structure to be remediated (USTs, vaults and associated piping, etc.) will be removed and end-point remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot or structure.

Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this plan.

Mechanical processing of historical fill and contaminated soil on-Site is prohibited.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the FER.

5.4.4 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Truck transport routes are described in Section 4.2.6. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes.

Proposed in-bound and out-bound truck routes to the Site are shown in Figure 8. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be minimized to the extent practical.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

5.4.5 Materials Disposal Off-Site

The disposal locations have not yet been determined. Disposal locations will be reported to the NYSDEC Project Manager when established.

The total quantity of material expected to be disposed off-Site is approximately 33,000 cubic yards.

All soil/fill/solid/liquid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Any excavated soil with significant moisture content (sediments, wet soil) must be pre-treated onsite with the use of drying agents before it can be disposed of offsite.

Material that does not meet Track 1 Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a completed disposal facility application for each receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This application will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The application will provide the project identity and the name and phone number of the Remedial Engineer. The application will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2

Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360-16 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the Division of Materials Management (DMM) in NYSDEC to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC Region 2 DMM. This material is prohibited from being sent or redirected to a Part 360-16 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C/D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-Site or off-Site Soil Recycling Facilities. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported.

The FER will include an accounting of the destination of all material removed from the Site during this Remedial Action, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the FER.

Hazardous wastes derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Appropriately licensed haulers will be used for material removed from this Site and will be in full compliance with all applicable local, State and Federal regulations.

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt.

5.4.6 Materials Reuse On-Site

Where appropriate, on-site soil will be reused for backfill. In the event this occurs, chemical criteria for on-Site reuse of material has been approved by NYSDEC. This criterion is listed in Table 13. The Remedial Engineer will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-Site.

Acceptable demolition material proposed for reuse on-Site, if any, will be sampled for asbestos.

Concrete crushing or processing on-Site is prohibited.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site.

Contaminated on-Site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused onsite. This will be expressed in the final Site Management Plan.

5.4.7 Fluids Management

Dewatering at the Site will be required to enable the excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system. The well point system will lower the groundwater level to approximately two feet below the proposed depth of excavation.

All liquids to be removed from the Site, including dewatering fluids (free-product, groundwater), will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by NYCDEP.

Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-Site.

Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream or river) is prohibited without a SPDES permit.

Free-product recovery will be actively conducted in the open excavation via skimming technology using a combination of vacuum truck and oil absorbent booms. Recovered free-product will be temporarily stored onsite in an appropriate above ground tank or disposed of offsite daily. The free-product will be trucked off site periodically by a licensed waste hauler for disposal at an NYSDEC-licensed facility.

5.4.8 Demarcation

A Track 1 Unrestricted Use cleanup is anticipated for the Site, therefore a physical demarcation is not required. A land survey will be performed by a New York State licensed surveyor.

5.4.9 Backfill from Off-Site Sources

RCA and/or pea gravel may be used to backfill any area to meet the redevelopment grade. The RCA will be free of asphalt. Pea gravel will be from a virgin source and will meet the requirements of DER-10 Section 5.4. Any additional soil required to backfill the excavated areas will meet the clean fill requirements of 6 NYCRR Part 375-6(d). All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The FER will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. These NYSDEC approved backfill or cover soil quality objectives are the Unrestricted Use Soil Cleanup Objectives set forth in Table 375-6.8(a) of 6 NYCRR Part 375 and listed in Table 13. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in the approved Remedial Action Work Plan or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this Remedial Action Work Plan should be construed as an approval for this purpose.

Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers.

5.4.10 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the RAWP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the remedial construction area.

5.4.11 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during on-Site remedial excavation or development related construction, sampling will be performed on product, sediment and surrounding soils, etc. Chemical analytical work will be for full scan parameters (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs). These analyses will not be limited to STARS parameters where tanks are identified without prior approval by NYSDEC. Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily and periodic electronic media reports.

5.4.12 Community Air Monitoring Plan

The CAMP is included within the HASP in Appendix H. Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report.

5.4.13 Odor, Dust and Nuisance Control Plan

The FER will include the following certification by the Remedial Engineer: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

5.4.13.1 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site. Odor suppression equipment including foaming agents and dispersion pumps and sprayers will be mobilized to the Site before the start of ground intrusive activities. Specific odor control methods to be used on a routine basis will include limiting open excavation areas and covering excavated soil. In addition, a vacuum truck will be deployed at all times during excavation if any LNAPL accumulates in the excavation area that could potentially cause odors. The LNAPL is comprised of motor oil based on previous fingerprinting during the RI and as such, is a petroleum hydrocarbon with high viscosity and low volatility compared to other petroleum hydrocarbons such as gasoline or diesel. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the FER.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils; If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

5.4.13.2 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-Site work, will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water spraying.

5.4.13.3 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

5.5 VAPOR INTRUSION EVALUATION

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6.0 ENGINEERING CONTROLS: TREATMENT SYSTEMS

6.1 LNAPL RECOVERY

LNAPL recovery using a combination of vacuum truck and absorbent socks will be performed to collect any mobile LNAPL. All recovered LNAPL will be either temporarily stored onsite in an aboveground storage tank or disposed of offsite at the end of the day depending on the quantity of product recovered. This recovery effort will be managed in a controlled manner to avoid odors and minimize the spread of contamination to other site areas. Soil will be excavated in segments to just below the water table until the LNAPL is exposed and recovery can be initiated. Once the majority of the LNAPL is recovered from the first segment, then excavation will proceed to the next segment along with controlled dewatering efforts. This will minimize odor generation and facilitate the LNAPL recovery gradually. If necessary, odor suppression techniques will be applied in the event odors become a nuisance.

6.2 IN SITU CHEMICAL OXIDATION

Following the LNAPL recovery and excavation, ISCO application is proposed to address residual VOCs in soil and groundwater in the excavated LNAPL zone. One temporary monitoring well is proposed to be installed downgradient of the LNALP area to verify the effectiveness of the remedy.

6.2.1 Chemical Oxidant

As discussed above, an in situ chemical oxidation application program will be performed to address contaminated soil and groundwater in the LNAPL area. The proposed chemical oxidant will be applied at the base and sidewalls of the excavation to destroy the contaminants in the LNAPL area and in the 24-inch strip behind the SOE if residual soils with compounds of concern exceed groundwater protection SCOs.

The proposed chemical oxidant will be comprised of Oxygen BioChem (OBC) from Redox Tech, LLC, which is a mixture of sodium persulfate and calcium peroxide as the main chemical agents. The sodium persulfate is a strong oxidant that will remediate the VOC and SVOC compounds. The calcium peroxide will add the benefit of providing long-term show release source of hydrogen peroxide (which will decompose to oxygen and water) and calcium hydroxide, providing extended oxygen source for subsequent bioremediation of petroleum hydrocarbons. Specifications of this product is included in Appendix M.

The OBC will be applied to the open excavation at rates of 1 to 2 lbs per square foot of open excavation. The product will be applied in the bottom of the excavation and along the sidewalls prior to backfilling. It is anticipated that approximately 18,000 lbs of OBC will be required for the application pending results of a bench test to be completed during the pre-design investigation.

During performance of the ISCO application, the staging and work areas will be kept clean and well-maintained and the Site-specific health and safety plan discussing personal protective equipment, material handling, storage procedures, and spill response will be utilized. Community air monitoring will not be performed due to the negligible quantity of VOC vapors that could be released. Wastes will be containerized in 55-gallon drums to be disposed off-Site at an approved facility.

6.2.2 Groundwater Monitoring

To assess the performance of the oxidant application, a groundwater monitoring program will be performed. This will include two components: baseline sampling and performance monitoring. The sampling, sample handling, decontamination, and field instrument calibration procedures will be performed in accordance with DER-10 and established procedures for the Site during the RI.

Baseline Sampling

The results of the groundwater sampling performed during the RI will be considered the baseline round against which remedial progress will be measured. The amount of oxidant proposed to be injected will be based on the baseline sampling results and the results of the pre-excavation sampling program.

Performance Monitoring

New wells (MW-21, MW-22 and MW-23) will be installed on a temporary basis following the remedial excavation of petroleum hydrocarbon impacted soils. The location of the new wells will be hydraulically downgradient of the LNAPL zone as shown on Plate 5.

Approximately four weeks after the oxidant application event, performance monitoring samples will be collected from these wells, based on construction progress. If the sample results demonstrate attainment of AWQSVGs or bulk reduction in groundwater concentrations, no further monitoring will be conducted. The monitoring wells will be sampled for Target Compound List (TCL) of VOCs using USEPA SW846 Method 8260. The construction schedule may limit the opportunity to assess the performance of the application of the oxidant and complete additional application of the oxidant.

6.2.3 Data Evaluation and Reporting

After the application and the performance monitoring have been completed, Roux will evaluate the results the chemical application round to determine the effectiveness of the oxidant at reducing the residual impacts in the soil and groundwater. The evaluation and recommended course of action will be summarized in a report to NYSDEC, and as necessary, any additional rounds of chemical application and monitoring will be conducted as needed.

All as-built drawings, diagrams, calculation and manufacturer documentation for treatment components will be presented in the FER.

7.0 CRITERIA FOR COMPLETION OF REMEDIATION/TERMINATION OF REMEDIAL SYSTEMS

The remediation will be considered complete when all soil impacted above Unrestricted Use SCOs is excavated and/or treated and groundwater has been remediated to AWQSGSs or asymptotic bulk reduction of residual groundwater concentrations has been achieved. To meet Track 1, a post-construction soil vapor intrusion evaluation will be performed in the new building.

If remediation is not successful, the contingency plan described below in Sections 8 through 10 will be implemented.

8.0 RESIDUAL CONTAMINATION TO REMAIN ON -SITE

The selected remedial alternative is designed to eliminate/reduce the concentrations of Site contaminates to below the Unrestricted Use SCOs and AWQSGVs (asymptotic bulk reduction of residual groundwater concentrations) through soil excavation, followed by product recovery and in-situ chemical oxidation as a polishing step. A temporary groundwater well will be installed downgradient of the LNAPL source area to verify the success of the remedy. In addition, as a contingency and if feasible, SSDS piping will be installed underneath the cellar slab.

It is anticipated that there will be no residual contaminated soil, groundwater and soil vapor beneath the Site after all the remedy is complete, therefore long-term Engineering and Institutional Controls (ECs and ICs) will not be required to protect human health and the environment.

If a Track 1 SCO is not achieved, then a Track 2 (or Track 4 if Track 2 is not achieved) Restricted Commercial Use SCO will be achieved, and long-term management of EC/ICs of any residual contamination will be executed under a site-specific SMP that will be developed and included in the FER.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. For Track 2 or 4, the Controlled Property (the Site) will have two primary ECs:

- Site cover system comprised of concrete building slab and pavement (Track 4); and
- SSDS (if feasible).

The FER will report any residual contamination on the Site in tabular and map form.

9.0 CONTINGENCY PLAN ENGINEERING CONTROLS

If a Track 1 is achieved, long-term ECs are not required, however, SSDS piping will be installed if possible as a contingency (see Section 9.2 below). If a Track 4 Restricted Commercial Use is achieved, the following a composite cover system ECs will be applicable as described below.

9.1 COMPOSITE COVER SYSTEM

A composite cover system will be required to allow for restricted commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs. Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative cover. Soil cover material, including any fill brought to the Site, will meet the SCOs for cover material for the use of the Site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of Site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs. The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

A Soil and Underground Structure Management Plan will be included in the SMP and will outline the procedures to be followed in the event that the composite cover system and underlying residual contamination are disturbed after the Remedial Action is complete. Maintenance of this composite cover system will be described in the SMP in the FER.

9.2 SSDS

Migration of soil vapor into the new building will be mitigated with the construction of an active SSDS (if feasible). The active SSDS will consist of 4-inch diameter perforated piping installed in a gravel trench below the new concrete slab. The gravel trench will be wrapped with a 10-ounce non-woven geo-textile fabric to prevent entry of fines into the piping. A 3-horsepower regenerative blower would be procured and installed in the new building. The blower cut sheet is provided in Appendix M. The discharge of the blower will be connected to a 6-inch diameter riser steel pipe that will extend internally to the outside. The configuration of the anticipated SSDS design for the Site is shown on Plate 6. Start up and system performance verification procedures would be provided in the Site Management Plan as necessary.

The SSDS will be inspected and its performance certified at specified intervals as required by this RAWP and the SMP. Maintenance of this SSDS will be described in the SMP in the Remedial Action Report. The location and layout of the SSDS is shown in Plate 6.

10.0 CONTINGENCY PLAN INSTITUTIONAL CONTROLS

As the preferred remedial alternative consists of Track 1 remedy, long-term ECs and/or ICs are not required. If the remediation is not successful (i.e., UU SCOs are not achieved), long-term ECs and/or ICs are required. ECs will be incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management if residual contamination in perpetuity: an Environmental Easement and a SMP.

A Site-specific Environmental Easement will be recorded with Kings County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all ECs and ICs placed on this Site by the NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs.

The SMP describes appropriate method and procedures to ensure compliance with all ECs and ICs required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

The specific requirements of the Environmental Easement and SMP are detailed below.

10.1 ENVIRONMENTAL EASEMENT

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the Kings County Office of the City Register. The Environmental Easement will be submitted as part of the FER.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the Kings County Office of the City Register before the Certificate of Completion can be issued by NYSDEC. A series of ICs are required under this remedy to implement, maintain and monitor these EC systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to Restricted Commercial use only. These ICs are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. ICs can, generally, be subdivided between controls that support ECs, and those that place general restrictions on Site usage or other requirements. ICs in both of these groups are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The ICs that support ECs are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All ECs must be operated and maintained as specified in this SMP;
- A composite cover system consisting of concrete building slabs and asphalt pavement must be inspected, certified and maintained as required in the SMP;
- Vapor mitigation through the installation and operation of a SSDS underneath the building cellar slab must be inspected, operated and maintained as required by the SMP;
- Sampling and analysis of all appropriate media will be required by the SMP;
- All ECs on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Groundwater, soil vapor and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP;
- On-Site environmental monitoring devices, including but not limited to, groundwater monitor wells, must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP; and
- ECs may not be discontinued without an amendment or extinguishment of the Environmental Easement.

Note: ICs may be modified, added or deleted from this list as warranted by Site conditions and deemed necessary by NYSDEC.

Adherence to these ICs for the Site is mandated by the Environmental Easement and will be implemented under the SMP (discussed in the next section). The Controlled Property (Site) will also have a series of ICs in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose as determined by the NYSDOH or County DOH;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for Restricted Commercial use only, provided the long-term ECs and ICs included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as Restricted Residential use without an amendment or extinguishment of this Environmental Easement; and
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable and must be in accordance with Part 375-1.8(h)(3).

10.2 SITE MANAGEMENT PLAN

Site Management is the last phase of remediation and begins with the approval of the FER and issuance of the Certificate of Completion (COC) for the Remedial Action. The SMP is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the SMP are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all EC and ICs; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

The SMP will include the following:

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the Site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
    - Institutional Controls: The Environmental Easement discussed in Section 10.1 above.
    - Engineering Controls: This Plan includes, but may not be limited to:
    - • an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination; and
    - • descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions.
        - a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the Site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
        - provisions for the management and inspection of the identified engineering controls;
        - maintaining Site access controls and Department notification; and
        - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater to assess performance and effectiveness of remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for soil vapor intrusion for any buildings developed on the Site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining Site access controls and Department notification; and
- providing the Department access to the Site and O&M records.

The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

11.0 FINAL ENGINEERING REPORT

A FER will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The FER will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, bills of lading as well as the complete Site Management Plan (formerly the Operation and Maintenance Plan). The FER will provide a description of the changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the Site Management Plan and Environmental Easement. This determination will be made by NYSDEC in the context of the FER review.

The FER will include written and photographic documentation of all remedial work performed under this remedy.

The FER will include an itemized tabular description of actual costs incurred during all aspects of the Remedial Action.

The FER will provide a thorough summary of all residual contamination left on the Site, if any, after the remedy is complete. Residual contamination includes all contamination that exceeds the Track 1 Unrestricted Use SCO in 6NYCRR Part 375-6. A table that shows exceedances from

Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action and a map that shows the location and summarizes exceedances from Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action will be included in the FER.

The FER will provide a thorough summary of all residual contamination that exceeds the SCOs defined for the Site in the RAWP and must provide an explanation for why the material was not removed as part of the Remedial Action. A table that shows residual contamination in excess of Site SCOs and a map that shows residual contamination in excess of Site SCOs will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

Before approval of a FER and issuance of a Certificate of Completion, all project reports must be submitted in digital form on electronic media (PDF).

11.1 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the FER. The certification will be signed by the Remedial Engineer, Charles J. McGuckin, who is a Professional Engineer registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, Charles J. McGuckin, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the PTMA 5200 Kings Highway LLC Site (NYSDEC BCA Index No. C224140-02-12 Site No. C224140).

I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for PTMA 5200 Kings Highway LLC and related amendments.

I certify that the Remedial Action Work Plan dated May 11, 2018 and Stipulations [if any] in a letter dated [month day year] and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded. A Site Management Plan has been submitted by the Volunteer for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water or other material from the property was performed in accordance with the Remedial Action Work Plan and were taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all import of soils from off-Site, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.

12.0 SCHEDULE

A proposed schedule of Remedial Actions is provided in Figure 9.

TABLES

Table 1. Summary of Water Level Elevations and Product Thickness, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

MW ID	GAUGING DATE	MEASURING POINT ELEVATION	DEPTH TO WATER	DEPTH TO PRODUCT	GROUNDWATER ELEVATION	PRODUCT THICKNESS	COMMENTS
MW-12	5/11/2015	89.34	12.02	10.06	NA	1.96	
MW-21	5/11/2015	89.35	11.76	10.21	NA	1.55	
MW-3	5/11/2015	89.49	10.5	--	78.99	--	
MW-7	5/11/2015	89.47	8.77	--	80.7	--	
MW-6	5/11/2015	89.31	8.16	--	81.15	--	
MW-5	5/11/2015	89.33	11.56	10.04	NA	1.52	
MW-19	5/11/2015	89.45	10.29	--	79.16	--	
MW-13	5/11/2015	89.28	12.35	10.13	NA	2.22	
MW-20	5/11/2015	89.46	10.4	--	79.06	--	
MW-16	5/11/2015	89.43	10.64	10.24	NA	0.4	
MW-18	5/11/2015	89.46	9.66	9.64	NA	0.02	
MW-9	5/11/2015	89.46	10.35	--	79.11	--	
MW-14	5/11/2015	89.39	10.53	10.16	NA	0.37	
MW-15	5/11/2015	89.32	11.7	10.12	NA	1.58	
MW-17	5/11/2015	90.10	11.66	9.28	NA	2.38	
MW-4S	5/11/2015	89.27	12.67	10.08	NA	2.59	
MW-11	5/11/2015	89.23	12.8	10.08	NA	2.72	

NA - Not applicable

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-1 2/20/2014 10	RSB-1 2/20/2014 20	RSB-2 2/21/2014 1	RSB-2 2/21/2014 5
1,1,1-Trichloroethane	680	680	500000		2.6 U	2.8 U	3.2 U	2.4 U
1,1,2,2-Tetrachloroethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,1,2-Trichloroethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,1-Dichloroethane	270	270	240000		2.6 U	2.8 U	3.2 U	2.4 U
1,1-Dichloroethene	330	330	500000		2.6 U	2.8 U	3.2 U	2.4 U
1,2,3-Trichlorobenzene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,2,4-Trichlorobenzene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,2-Dibromoethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,2-Dichlorobenzene	1100	1100	500000		2.6 U	2.8 U	3.2 U	2.4 U
1,2-Dichloroethane	20	20	30000		2.6 U	2.8 U	3.2 U	2.4 U
1,2-Dichloropropane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
1,3-Dichlorobenzene	2400	2400	280000		2.6 U	2.8 U	3.2 U	2.4 U
1,4-Dichlorobenzene	1800	1800	130000		2.6 U	2.8 U	3.2 U	2.4 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		2.6 U	2.8 U	4.4 J	2.4 U
2-Hexanone	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Acetone	50	50	500000		10 UV	7.3 UV	79 UV	19 UV
Benzene	60	60	44000		2.6 U	2.8 U	4.4 J	2.4 U
Bromochloromethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Bromodichloromethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Bromoform	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Bromomethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Carbon disulfide	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Carbon tetrachloride	760	760	22000		2.6 U	2.8 U	3.2 U	2.4 U
Chlorobenzene	1100	1100	500000		2.6 U	2.8 U	3.2 U	2.4 U
Chloroethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Chloroform	370	370	350000		2.6 U	2.8 U	3.2 U	2.4 U
Chloromethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
cis-1,2-Dichloroethene	250	250	500000		2.6 U	2.8 U	3.2 U	2.4 U
cis-1,3-Dichloropropene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Cyclohexane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Dibromochloromethane	--	--	--		2.6 UJV	2.8 UJV	3.2 UJV	2.4 UJV
Dibromochloropropane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Dichlorodifluoromethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-1 2/20/2014 10	RSB-1 2/20/2014 20	RSB-2 2/21/2014 1	RSB-2 2/21/2014 5
Ethylbenzene	1000	1000	390000		2.6 U	2.8 U	3.2 U	2.4 U
Freon 113	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Isopropylbenzene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
m+p-Xylene	--	--	--		5.3 U	5.7 U	7 J	4.8 U
Methyl acetate	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Methylcyclohexane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Methylene chloride	50	50	500000		3.6 UV	3.1 UV	6.3 UV	4.6 UV
MTBE	930	930	500000		2.6 U	2.8 U	3.2 U	2.4 U
o-Xylene	--	--	--		2.6 U	2.8 U	3.2 J	2.4 U
Styrene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Tetrachloroethene	1300	1300	150000		2.6 U	2.8 U	21	3.1 J
Toluene	700	700	500000		2.6 U	2.8 U	20	2.4 U
trans-1,2-Dichloroethene	190	190	500000		2.6 U	2.8 U	3.2 U	2.4 U
trans-1,3-Dichloropropene	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Trichloroethene	470	470	200000		2.6 U	2.8 U	3.2 U	2.4 U
Trichlorofluoromethane	--	--	--		2.6 U	2.8 U	3.2 U	2.4 U
Vinyl chloride	20	20	13000		2.6 U	2.8 U	3.2 U	2.4 U
Xylenes (total)	260	1600	500000		7.9 U	8.5 U	10 J	7.2 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwater Standards
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-2 2/21/2014 11	RSB-2 2/21/2014 18	RSB-3 2/20/2014 8	RSB-3 2/20/2014 18
1,1,1-Trichloroethane	680	680	500000		440 U	2.8 U	2.7 U	2.7 U
1,1,2,2-Tetrachloroethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
1,1,2-Trichloroethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
1,1-Dichloroethane	270	270	240000		440 U	2.8 U	2.7 U	2.7 U
1,1-Dichloroethene	330	330	500000		440 U	2.8 U	2.7 U	2.7 U
1,2,3-Trichlorobenzene	--	--	--		440 U	2.8 U	2.7 U	2.7 U
1,2,4-Trichlorobenzene	--	--	--		440 U	2.8 UV	2.7 U	2.7 U
1,2-Dibromoethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
1,2-Dichlorobenzene	1100	1100	500000		440 U	2.8 U	2.7 U	2.7 U
1,2-Dichloroethane	20	20	30000		440 U	2.8 U	2.7 U	2.7 U
1,2-Dichloropropane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
1,3-Dichlorobenzene	2400	2400	280000		440 U	2.8 U	2.7 U	2.7 U
1,4-Dichlorobenzene	1800	1800	130000		440 U	2.8 U	2.7 U	2.7 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		440 UV	2.8 U	7	2.7 U
2-Hexanone	--	--	--		440 U	2.8 U	2.7 U	2.7 U
4-Methyl-2-pentanone (MIBK)	--	--	--		4000 D	2.8 U	2.7 U	2.7 U
Acetone	50	50	500000		6200 UV	28 UV	42 UV	16 UV
Benzene	60	60	44000		**470 JD**	2.8 U	2.7 U	2.7 U
Bromochloromethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Bromodichloromethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Bromoform	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Bromomethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Carbon disulfide	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Carbon tetrachloride	760	760	22000		440 U	2.8 U	2.7 U	2.7 U
Chlorobenzene	1100	1100	500000		440 U	2.8 U	2.7 U	2.7 U
Chloroethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Chloroform	370	370	350000		440 U	2.8 U	2.7 U	2.7 U
Chloromethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
cis-1,2-Dichloroethene	250	250	500000		**12000 D**	2.8 U	2.7 U	2.7 U
cis-1,3-Dichloropropene	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Cyclohexane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Dibromochloromethane	--	--	--		440 UJV	2.8 UJV	2.7 UJV	2.7 UJV
Dibromochloropropane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Dichlorodifluoromethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-2 2/21/2014 11	RSB-2 2/21/2014 18	RSB-3 2/20/2014 8	RSB-3 2/20/2014 18
Ethylbenzene	1000	1000	390000		**12000 D**	2.8 U	2.7 U	2.7 U
Freon 113	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Isopropylbenzene	--	--	--		790 JD	2.8 U	2.7 U	2.7 U
m+p-Xylene	--	--	--		39000 D	5.6 U	5.3 U	5.4 U
Methyl acetate	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Methylcyclohexane	--	--	--		2100 D	2.8 U	2.7 U	2.7 U
Methylene chloride	50	50	500000		440 U	4.5 UV	3.1 UV	5 UV
MTBE	930	930	500000		**2000 D**	2.8 U	2.7 U	2.7 U
o-Xylene	--	--	--		12000 D	2.8 U	2.7 U	2.7 U
Styrene	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Tetrachloroethene	1300	1300	150000		**6100 D**	2.8 U	2.7 U	2.7 U
Toluene	700	700	500000		**340000 D**	11	2.7 U	2.7 U
trans-1,2-Dichloroethene	190	190	500000		440 U	2.8 U	2.7 U	2.7 U
trans-1,3-Dichloropropene	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Trichloroethene	470	470	200000		**760 JD**	2.8 U	2.7 U	2.7 U
Trichlorofluoromethane	--	--	--		440 U	2.8 U	2.7 U	2.7 U
Vinyl chloride	20	20	13000		440 U	2.8 U	2.7 U	2.7 U
Xylenes (total)	260	1600	500000		**51000 D**	8.3 U	8 U	8.1 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-4 2/21/2014 8	RSB-4 2/21/2014 18	RSB-5 2/18/2014 8.5	RSB-5 2/18/2014 18.5
1,1,1-Trichloroethane	680	680	500000		3.1 U	2 U	2.7 U	2.5 U
1,1,2,2-Tetrachloroethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,1,2-Trichloroethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,1-Dichloroethane	270	270	240000		3.1 U	2 U	2.7 U	2.5 U
1,1-Dichloroethene	330	330	500000		3.1 U	2 U	2.7 U	2.5 U
1,2,3-Trichlorobenzene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,2,4-Trichlorobenzene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,2-Dibromoethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,2-Dichlorobenzene	1100	1100	500000		3.1 U	2 U	2.7 U	2.5 U
1,2-Dichloroethane	20	20	30000		3.1 U	2 U	2.7 U	2.5 U
1,2-Dichloropropane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
1,3-Dichlorobenzene	2400	2400	280000		3.1 U	2 U	2.7 U	2.5 U
1,4-Dichlorobenzene	1800	1800	130000		3.1 U	2 U	2.7 U	2.5 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		7.1	2 U	2.7 U	2.5 U
2-Hexanone	--	--	--		3.1 U	2 U	2.7 U	2.5 U
4-Methyl-2-pentanone (MIBK)	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Acetone	50	50	500000		84 UV	37 UV	18 UV	20 UV
Benzene	60	60	44000		3.1 U	2 U	2.7 U	2.5 U
Bromochloromethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Bromodichloromethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Bromoform	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Bromomethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Carbon disulfide	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Carbon tetrachloride	760	760	22000		3.1 U	2 U	2.7 U	2.5 U
Chlorobenzene	1100	1100	500000		3.1 U	2 U	2.7 U	2.5 U
Chloroethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Chloroform	370	370	350000		3.1 U	2 U	2.7 U	2.5 U
Chloromethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
cis-1,2-Dichloroethene	250	250	500000		64	9.2	2.7 U	2.5 U
cis-1,3-Dichloropropene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Cyclohexane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Dibromochloromethane	--	--	--		3.1 UJV	2 UJV	2.7 U	2.5 U
Dibromochloropropane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Dichlorodifluoromethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-4 2/21/2014 8	RSB-4 2/21/2014 18	RSB-5 2/18/2014 8.5	RSB-5 2/18/2014 18.5
Ethylbenzene	1000	1000	390000		3.1 U	2 U	2.7 U	2.5 U
Freon 113	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Isopropylbenzene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
m+p-Xylene	--	--	--		6.3 U	4 U	5.3 U	5 U
Methyl acetate	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Methylcyclohexane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Methylene chloride	50	50	500000		5.4 UV	3.2 UV	4.6 UV	7 UV
MTBE	930	930	500000		3.1 U	3.3 J	2.7 U	5.1
o-Xylene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Styrene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Tetrachloroethene	1300	1300	150000		3.1 U	2 U	2.7 U	2.5 U
Toluene	700	700	500000		4 J	3.3 J	2.7 U	2.5 U
trans-1,2-Dichloroethene	190	190	500000		3.1 U	2 U	2.7 U	2.5 U
trans-1,3-Dichloropropene	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Trichloroethene	470	470	200000		3.1 U	2 U	2.7 U	2.5 U
Trichlorofluoromethane	--	--	--		3.1 U	2 U	2.7 U	2.5 U
Vinyl chloride	20	20	13000		3.1 U	2 U	2.7 U	2.5 U
Xylenes (total)	260	1600	500000		9.4 U	6 U	8 U	7.4 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
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Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-6 2/18/2014 9	RSB-6 2/18/2014 19	RSB-7 2/19/2014 8.5	RSB-7 2/19/2014 18.5
1,1,1-Trichloroethane	680	680	500000		2.3 U	2.3 U	3 U	2.7 U
1,1,2,2-Tetrachloroethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,1,2-Trichloroethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,1-Dichloroethane	270	270	240000		2.3 U	2.3 U	3 U	2.7 U
1,1-Dichloroethene	330	330	500000		2.3 U	2.3 U	3 U	2.7 U
1,2,3-Trichlorobenzene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,2,4-Trichlorobenzene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,2-Dibromoethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,2-Dichlorobenzene	1100	1100	500000		2.3 U	2.3 U	3 U	2.7 U
1,2-Dichloroethane	20	20	30000		2.3 U	2.3 U	3 U	2.7 U
1,2-Dichloropropane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
1,3-Dichlorobenzene	2400	2400	280000		2.3 U	2.3 U	3 U	2.7 U
1,4-Dichlorobenzene	1800	1800	130000		2.3 U	2.3 U	3 U	2.7 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		2.3 U	2.3 U	3 U	2.7 U
2-Hexanone	--	--	--		2.3 U	2.3 U	3 U	2.7 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Acetone	50	50	500000		49 UV	47 UV	38 UV	19 UV
Benzene	60	60	44000		2.3 U	2.3 U	3 U	2.7 U
Bromochloromethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Bromodichloromethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Bromoform	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Bromomethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Carbon disulfide	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Carbon tetrachloride	760	760	22000		2.3 U	2.3 U	3 U	2.7 U
Chlorobenzene	1100	1100	500000		2.3 U	2.3 U	3 U	2.7 U
Chloroethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Chloroform	370	370	350000		2.3 U	2.3 U	3 U	2.7 U
Chloromethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
cis-1,2-Dichloroethene	250	250	500000		18	2.3 U	3 U	2.7 U
cis-1,3-Dichloropropene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Cyclohexane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Dibromochloromethane	--	--	--		2.3 U	2.3 U	RV	RV
Dibromochloropropane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Dichlorodifluoromethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB-6	RSB-6	RSB-7	RSB-7
				Sample Date:	2/18/2014	2/18/2014	2/19/2014	2/19/2014
				Sample Depth (ft bls):	9	19	8.5	18.5
Ethylbenzene	1000	1000	390000		2.3 U	2.3 U	3 U	2.7 U
Freon 113	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Isopropylbenzene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
m+p-Xylene	--	--	--		4.5 U	4.7 U	6.1 U	5.4 U
Methyl acetate	--	--	--		2.3 U	2.3 U	3 U	2.9 J
Methylcyclohexane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Methylene chloride	50	50	500000		8.4 UV	8.9 UV	4.3 UV	4 UV
MTBE	930	930	500000		3.1 J	2.3 U	3 U	2.7 U
o-Xylene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Styrene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Tetrachloroethene	1300	1300	150000		2.3 U	2.3 U	3 U	2.7 U
Toluene	700	700	500000		2.3 J	2.4 J	3.2 J	2.7 U
trans-1,2-Dichloroethene	190	190	500000		2.3 U	2.3 U	3 U	2.7 U
trans-1,3-Dichloropropene	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Trichloroethene	470	470	200000		2.3 U	2.3 U	3 U	2.7 U
Trichlorofluoromethane	--	--	--		2.3 U	2.3 U	3 U	2.7 U
Vinyl chloride	20	20	13000		2.3 U	2.3 U	3 U	2.7 U
Xylenes (total)	260	1600	500000		6.8 U	7 U	9.1 U	8.2 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
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Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-8 2/19/2014 1.5	RSB-8 2/19/2014 5	RSB-8 2/19/2014 8.5	RSB-8 2/19/2014 18.5
1,1,1-Trichloroethane	680	680	500000		3.4 U	2.8 U	2.4 U	2.4 U
1,1,2,2-Tetrachloroethane	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
1,1,2-Trichloroethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
1,1-Dichloroethane	270	270	240000		3.4 U	2.8 U	2.4 U	2.4 U
1,1-Dichloroethene	330	330	500000		3.4 U	2.8 U	2.4 U	2.4 U
1,2,3-Trichlorobenzene	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
1,2,4-Trichlorobenzene	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
1,2-Dibromoethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
1,2-Dichlorobenzene	1100	1100	500000		3.4 U	2.8 UJV	2.4 U	2.4 U
1,2-Dichloroethane	20	20	30000		3.4 U	2.8 U	2.4 U	2.4 U
1,2-Dichloropropane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
1,3-Dichlorobenzene	2400	2400	280000		3.4 U	2.8 UJV	2.4 U	2.4 U
1,4-Dichlorobenzene	1800	1800	130000		3.4 U	2.8 UJV	2.4 U	2.4 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		3.4 U	2.8 U	8.5	2.4 U
2-Hexanone	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
4-Methyl-2-pentanone (MIBK)	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Acetone	50	50	500000		54 UV	**680 JD**	**99**	27 UV
Benzene	60	60	44000		3.4 U	2.8 U	2.4 U	2.4 U
Bromochloromethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Bromodichloromethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Bromoform	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
Bromomethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Carbon disulfide	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Carbon tetrachloride	760	760	22000		3.4 U	2.8 U	2.4 U	2.4 U
Chlorobenzene	1100	1100	500000		3.4 U	2.8 U	2.4 U	2.4 U
Chloroethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Chloroform	370	370	350000		3.4 U	2.8 U	2.4 U	2.4 U
Chloromethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
cis-1,2-Dichloroethene	250	250	500000		3.4 U	2.8 U	3.2 J	2.4 U
cis-1,3-Dichloropropene	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Cyclohexane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Dibromochloromethane	--	--	--		RV	2.8 UJV	2.4 UJV	RV
Dibromochloropropane	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
Dichlorodifluoromethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-8 2/19/2014 1.5	RSB-8 2/19/2014 5	RSB-8 2/19/2014 8.5	RSB-8 2/19/2014 18.5
Ethylbenzene	1000	1000	390000		3.4 U	4.3 JV	3 J	2.4 U
Freon 113	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Isopropylbenzene	--	--	--		3.4 U	2.8 UJV	2.4 U	2.4 U
m+p-Xylene	--	--	--		8.6 J	14 JV	10	5.6 J
Methyl acetate	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Methylcyclohexane	--	--	--		3.6 J	2.8 U	3 J	2.4 U
Methylene chloride	50	50	500000		8.8 UV	8.5 UV	3.5 UV	5 UV
MTBE	930	930	500000		3.4 U	2.8 U	2.4 U	2.4 U
o-Xylene	--	--	--		3.4 U	4.4 JV	4.7	2.4 U
Styrene	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Tetrachloroethene	1300	1300	150000		3.4 U	23 JV	4.2 J	2.4 U
Toluene	700	700	500000		16	64 JV	46	9.7
trans-1,2-Dichloroethene	190	190	500000		3.4 U	2.8 U	2.4 U	2.4 U
trans-1,3-Dichloropropene	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Trichloroethene	470	470	200000		3.4 U	2.8 U	2.4 U	2.4 U
Trichlorofluoromethane	--	--	--		3.4 U	2.8 U	2.4 U	2.4 U
Vinyl chloride	20	20	13000		3.4 U	2.8 U	2.4 U	2.4 U
Xylenes (total)	260	1600	500000		12 J	18 JV	15	7.5 J

J - Estimated value
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D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
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NYSDEC - New York State Department of Environmental Conservation
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Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-9 2/19/2014 8.5	RSB-9 2/19/2014 18.5	RSB-10 2/20/2014 7.5	RSB-10 2/20/2014 17.5
1,1,1-Trichloroethane	680	680	500000		2.1 UJV	2.5 U	2 U	2.6 U
1,1,2,2-Tetrachloroethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,1,2-Trichloroethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,1-Dichloroethane	270	270	240000		2.1 UJV	2.5 U	2 U	2.6 U
1,1-Dichloroethene	330	330	500000		2.1 UJV	2.5 U	2 U	2.6 U
1,2,3-Trichlorobenzene	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,2,4-Trichlorobenzene	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,2-Dibromoethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,2-Dichlorobenzene	1100	1100	500000		2.1 UJV	2.5 U	2 U	2.6 U
1,2-Dichloroethane	20	20	30000		2.1 UJV	2.5 U	2 U	2.6 U
1,2-Dichloropropane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
1,3-Dichlorobenzene	2400	2400	280000		2.1 UJV	2.5 U	2 U	2.6 U
1,4-Dichlorobenzene	1800	1800	130000		2.1 UJV	2.5 U	2 U	2.6 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		2.1 UJV	2.5 U	2 U	2.6 U
2-Hexanone	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Acetone	50	50	500000		64 U V	35 UV	14 UV	25 UV
Benzene	60	60	44000		2.1 UJV	2.5 U	2 U	2.6 U
Bromochloromethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Bromodichloromethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Bromoform	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Bromomethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Carbon disulfide	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Carbon tetrachloride	760	760	22000		2.1 UJV	2.5 U	2 U	2.6 U
Chlorobenzene	1100	1100	500000		2.1 UJV	2.5 U	2 U	2.6 U
Chloroethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Chloroform	370	370	350000		2.1 UJV	2.5 U	2 U	2.6 U
Chloromethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
cis-1,2-Dichloroethene	250	250	500000		2.1 UJV	2.5 U	2 U	2.6 U
cis-1,3-Dichloropropene	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Cyclohexane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Dibromochloromethane	--	--	--		RV	RV	2 UJV	2.6 UJV
Dibromochloropropane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Dichlorodifluoromethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-9 2/19/2014 8.5	RSB-9 2/19/2014 18.5	RSB-10 2/20/2014 7.5	RSB-10 2/20/2014 17.5
Ethylbenzene	1000	1000	390000		78 JV	2.5 U	2 U	2.6 U
Freon 113	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Isopropylbenzene	--	--	--		81 JV	2.5 U	2 U	2.6 U
m+p-Xylene	--	--	--		16 JV	5 U	4.1 U	5.2 U
Methyl acetate	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Methylcyclohexane	--	--	--		100 JV	2.5 U	2 U	2.6 U
Methylene chloride	50	50	500000		2.1 UJV	6.7 UV	3.5 UV	3.7 UV
MTBE	930	930	500000		2.1 UJV	2.5 U	2 U	2.6 U
o-Xylene	--	--	--		18 JV	2.5 U	2 U	2.6 U
Styrene	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Tetrachloroethene	1300	1300	150000		170 JV	2.5 U	2 U	2.6 U
Toluene	700	700	500000		15 JV	3.7 J	2 U	2.6 U
trans-1,2-Dichloroethene	190	190	500000		2.1 UJV	2.5 U	2 U	2.6 U
trans-1,3-Dichloropropene	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Trichloroethene	470	470	200000		9.7 JV	2.5 U	2 U	2.6 U
Trichlorofluoromethane	--	--	--		2.1 UJV	2.5 U	2 U	2.6 U
Vinyl chloride	20	20	13000		2.1 UJV	2.5 U	2 U	2.6 U
Xylenes (total)	260	1600	500000		34 JV	7.6 U	6.1 U	7.8 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-11 2/20/2014 7.5	RSB-11 2/20/2014 7.5	RSB-11 2/20/2014 17.5	RSB-12 2/12/2014 9
1,1,1-Trichloroethane	680	680	500000		2.8 U	2.3 U	3.5 U	1.5 U
1,1,2,2-Tetrachloroethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,1,2-Trichloroethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,1-Dichloroethane	270	270	240000		2.8 U	2.3 U	3.5 U	1.5 U
1,1-Dichloroethene	330	330	500000		2.8 U	2.3 U	3.5 U	1.5 U
1,2,3-Trichlorobenzene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,2,4-Trichlorobenzene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,2-Dibromoethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,2-Dichlorobenzene	1100	1100	500000		2.8 U	2.3 U	3.5 U	1.5 U
1,2-Dichloroethane	20	20	30000		2.8 U	2.3 U	3.5 U	1.5 U
1,2-Dichloropropane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
1,3-Dichlorobenzene	2400	2400	280000		2.8 U	2.3 U	3.5 U	1.5 U
1,4-Dichlorobenzene	1800	1800	130000		2.8 U	2.3 U	3.5 U	1.5 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		9.2	13	15	1.5 U
2-Hexanone	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Acetone	50	50	500000		35 UV	40 UV	94 UV	7 UV
Benzene	60	60	44000		2.8 U	2.3 U	3.5 U	1.5 U
Bromochloromethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Bromodichloromethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Bromoform	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Bromomethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Carbon disulfide	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Carbon tetrachloride	760	760	22000		2.8 U	2.3 U	3.5 U	1.5 U
Chlorobenzene	1100	1100	500000		2.8 U	2.3 U	3.5 U	1.5 U
Chloroethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Chloroform	370	370	350000		2.8 U	2.3 U	3.5 U	1.5 U
Chloromethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
cis-1,2-Dichloroethene	250	250	500000		2.8 U	2.3 U	3.5 U	1.5 U
cis-1,3-Dichloropropene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Cyclohexane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Dibromochloromethane	--	--	--		2.8 UJV	2.3 UJV	3.5 UJV	1.5 U
Dibromochloropropane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Dichlorodifluoromethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-11 / 2/20/2014 / 7.5	RSB-11 / 2/20/2014 / 7.5	RSB-11 / 2/20/2014 / 17.5	RSB-12 / 2/12/2014 / 9
Ethylbenzene	1000	1000	390000		2.8 U	2.3 U	3.5 U	1.5 U
Freon 113	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Isopropylbenzene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
m+p-Xylene	--	--	--		5.6 U	4.6 U	7 U	3.1 U
Methyl acetate	--	--	--		2.8 U	3.2 J	17	1.5 U
Methylcyclohexane	--	--	--		2.8 U	3.9 J	3.5 U	1.5 U
Methylene chloride	50	50	500000		6.5 UV	3.7 UV	5 UV	2.7 UV
MTBE	930	930	500000		2.8 U	2.3 U	3.5 U	1.5 U
o-Xylene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Styrene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Tetrachloroethene	1300	1300	150000		2.8 U	2.3 U	3.5 U	1.5 U
Toluene	700	700	500000		2.8 U	10	3.5 U	1.5 U
trans-1,2-Dichloroethene	190	190	500000		2.8 U	2.3 U	3.5 U	1.5 U
trans-1,3-Dichloropropene	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Trichloroethene	470	470	200000		2.8 U	2.3 U	3.5 U	1.5 U
Trichlorofluoromethane	--	--	--		2.8 U	2.3 U	3.5 U	1.5 U
Vinyl chloride	20	20	13000		2.8 U	2.3 U	3.5 U	1.5 U
Xylenes (total)	260	1600	500000		8.5 U	7 U	10 U	4.6 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
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Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-12 2/12/2014 18	RSB-13 2/12/2014 9	RSB-13 2/12/2014 9	RSB-13 2/12/2014 19
1,1,1-Trichloroethane	680	680	500000		2.5 U	2.1 U	1.2 U	1.8 U
1,1,2,2-Tetrachloroethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,1,2-Trichloroethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,1-Dichloroethane	270	270	240000		2.5 U	2.1 U	1.2 U	1.8 U
1,1-Dichloroethene	330	330	500000		2.5 U	2.1 U	1.2 U	1.8 U
1,2,3-Trichlorobenzene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,2,4-Trichlorobenzene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,2-Dibromoethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,2-Dichlorobenzene	1100	1100	500000		2.5 U	2.1 U	1.2 U	1.8 U
1,2-Dichloroethane	20	20	30000		2.5 U	2.1 U	1.2 U	1.8 U
1,2-Dichloropropane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
1,3-Dichlorobenzene	2400	2400	280000		2.5 U	2.1 U	1.2 U	1.8 U
1,4-Dichlorobenzene	1800	1800	130000		2.5 U	2.1 U	1.2 U	1.8 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		2.5 U	2.1 U	2.5	1.8 U
2-Hexanone	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Acetone	50	50	500000		9.2 UV	15 UV	8.9 UV	5.3 UV
Benzene	60	60	44000		2.5 U	2.1 U	1.2 U	1.8 U
Bromochloromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Bromodichloromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Bromoform	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Bromomethane	--	--	--		2.5 U	2.1 UJV	1.2 UJV	1.8 UJV
Carbon disulfide	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Carbon tetrachloride	760	760	22000		2.5 U	2.1 U	1.2 U	1.8 U
Chlorobenzene	1100	1100	500000		2.5 U	2.1 U	1.2 U	1.8 U
Chloroethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Chloroform	370	370	350000		2.5 U	2.1 U	1.2 U	1.8 U
Chloromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
cis-1,2-Dichloroethene	250	250	500000		2.5 U	2.1 U	1.2 U	1.8 U
cis-1,3-Dichloropropene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Cyclohexane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Dibromochloromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Dibromochloropropane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Dichlorodifluoromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-12 2/12/2014 18	RSB-13 2/12/2014 9	RSB-13 2/12/2014 9	RSB-13 2/12/2014 19
Ethylbenzene	1000	1000	390000		2.5 U	2.1 U	1.2 U	1.8 U
Freon 113	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Isopropylbenzene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
m+p-Xylene	--	--	--		4.9 U	4.3 U	2.3 U	3.6 U
Methyl acetate	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Methylcyclohexane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Methylene chloride	50	50	500000		2.5 U	2.1 U	1.2 U	1.8 U
MTBE	930	930	500000		2.5 U	2.1 U	1.2 U	1.8 U
o-Xylene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Styrene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Tetrachloroethene	1300	1300	150000		2.5 U	2.1 U	1.2 U	1.8 U
Toluene	700	700	500000		2.5 U	2.1 U	1.2 U	1.8 U
trans-1,2-Dichloroethene	190	190	500000		2.5 U	2.1 U	1.2 U	1.8 U
trans-1,3-Dichloropropene	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Trichloroethene	470	470	200000		2.5 U	2.1 U	1.2 U	1.8 U
Trichlorofluoromethane	--	--	--		2.5 U	2.1 U	1.2 U	1.8 U
Vinyl chloride	20	20	13000		2.5 U	2.1 U	1.2 U	1.8 U
Xylenes (total)	260	1600	500000		7.4 U	6.4 U	3.5 U	5.5 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
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Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-14/4D 2/10/2014 2.5	RSB-14/4D 2/10/2014 5	RSB-14/4D 2/10/2014 10	RSB-14/4D 2/10/2014 38
1,1,1-Trichloroethane	680	680	500000		2.8 U	3.3 U	210 U	2.4 U
1,1,2,2-Tetrachloroethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,1,2-Trichloroethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,1-Dichloroethane	270	270	240000		2.8 U	3.3 U	210 U	2.4 U
1,1-Dichloroethene	330	330	500000		2.8 U	3.3 U	210 U	2.4 U
1,2,3-Trichlorobenzene	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,2,4-Trichlorobenzene	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,2-Dibromoethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,2-Dichlorobenzene	1100	1100	500000		2.8 U	3.3 U	210 U	2.4 U
1,2-Dichloroethane	20	20	30000		2.8 U	3.3 U	210 U	2.4 U
1,2-Dichloropropane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
1,3-Dichlorobenzene	2400	2400	280000		2.8 U	3.3 U	210 U	2.4 U
1,4-Dichlorobenzene	1800	1800	130000		2.8 U	3.3 U	210 U	2.4 U
1,4-Dioxane	100	100	130000		RV	RV	RV	RV
2-Butanone (MEK)	120	120	500000		12	3.3 U	**1800 D**	2.4 U
2-Hexanone	--	--	--		2.8 U	3.3 U	210 U	2.4 U
4-Methyl-2-pentanone (MIBK)	--	--	--		4.2 J	3.3 U	210 U	2.4 U
Acetone	50	50	500000		190 UV	50 UV	1300 UV	100 UV
Benzene	60	60	44000		2.8 U	3.3 U	**1200 D**	2.4 U
Bromochloromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Bromodichloromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Bromoform	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Bromomethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Carbon disulfide	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Carbon tetrachloride	760	760	22000		2.8 U	3.3 U	210 U	2.4 U
Chlorobenzene	1100	1100	500000		2.8 U	3.3 U	210 U	2.4 U
Chloroethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Chloroform	370	370	350000		2.8 U	3.3 U	210 U	2.4 U
Chloromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
cis-1,2-Dichloroethene	250	250	500000		2.8 U	3.3 U	**2900 D**	2.4 U
cis-1,3-Dichloropropene	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Cyclohexane	--	--	--		2.8 U	3.3 U	3200 D	2.4 U
Dibromochloromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Dibromochloropropane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Dichlorodifluoromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-14/4D 2/10/2014 2.5	RSB-14/4D 2/10/2014 5	RSB-14/4D 2/10/2014 10	RSB-14/4D 2/10/2014 38
Ethylbenzene	1000	1000	390000		2.8 U	3.3 U	**6700 D**	2.4 U
Freon 113	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Isopropylbenzene	--	--	--		2.8 U	3.3 U	820 D	2.4 U
m+p-Xylene	--	--	--		5.7 U	6.5 U	22000 D	6.2 J
Methyl acetate	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Methylcyclohexane	--	--	--		2.8 U	3.3 U	2200 D	2.4 U
Methylene chloride	50	50	500000		2.8 U	3.3 U	210 U	2.4 U
MTBE	930	930	500000		2.8 U	3.3 U	420 JD	2.4 U
o-Xylene	--	--	--		2.8 U	3.3 U	10000 D	2.4 U
Styrene	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Tetrachloroethene	1300	1300	150000		2.8 U	4 J	930 D	2.4 U
Toluene	700	700	500000		5.1 J	3.3 U	**30000 D**	12
trans-1,2-Dichloroethene	190	190	500000		2.8 U	3.3 U	210 U	2.4 U
trans-1,3-Dichloropropene	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Trichloroethene	470	470	200000		2.8 U	3.3 U	**590 D**	2.4 U
Trichlorofluoromethane	--	--	--		2.8 U	3.3 U	210 U	2.4 U
Vinyl chloride	20	20	13000		2.8 U	3.3 U	210 U	2.4 U
Xylenes (total)	260	1600	500000		8.5 U	9.8 U	**32000 D**	8.4 J

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB/MW-14 9/10/2014 12	RSB/MW-14 9/10/2014 17	RSB/MW-14 9/9/2014 1	RSB/MW-15 9/10/2014 4
1,1,1-Trichloroethane	680	680	500000		220 U	2.1 U	2 U	2.4 U
1,1,2,2-Tetrachloroethane	--	--	--		220 U	2.1 U	2 U	2.4 U
1,1,2-Trichloroethane	--	--	--		220 U	2.1 U	2 U	2.4 U
1,1-Dichloroethane	270	270	240000		220 U	2.1 U	2 U	2.4 U
1,1-Dichloroethene	330	330	500000		220 U	2.1 U	2 U	2.4 U
1,2,3-Trichlorobenzene	--	--	--		220 U	2.1 U	2 U	2.4 U
1,2,4-Trichlorobenzene	--	--	--		220 U	2.1 U	2 U	2.4 U
1,2-Dibromoethane	--	--	--		220 U	2.1 U	2 U	2.4 U
1,2-Dichlorobenzene	1100	1100	500000		220 U	2.1 U	2 U	2.4 U
1,2-Dichloroethane	20	20	30000		220 U	2.1 U	2 U	2.4 U
1,2-Dichloropropane	--	--	--		220 U	2.1 U	2 U	2.4 U
1,3-Dichlorobenzene	2400	2400	280000		220 U	2.1 U	2 U	2.4 U
1,4-Dichlorobenzene	1800	1800	130000		220 U	2.1 U	2 U	2.4 U
1,4-Dioxane	100	100	130000		4300 U	43 U	41 U	48 U
2-Butanone (MEK)	120	120	500000		**450 BD**	2.1 U	2.8 J	3.6 J
2-Hexanone	--	--	--		220 U	2.1 U	2 U	2.4 U
4-Methyl-2-pentanone (MIBK)	--	--	--		220 U	2.1 U	2 U	2.4 U
Acetone	50	50	500000		**4400 BD**	2.1 U	40	43 UV
Benzene	60	60	44000		220 U	2.1 U	2 U	2.4 U
Bromochloromethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Bromodichloromethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Bromoform	--	--	--		220 U	2.1 U	2 U	2.4 U
Bromomethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Carbon disulfide	--	--	--		220 U	2.1 U	2 U	2.4 U
Carbon tetrachloride	760	760	22000		220 U	2.1 U	2 U	2.4 U
Chlorobenzene	1100	1100	500000		220 U	2.1 U	2 U	2.4 U
Chloroethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Chloroform	370	370	350000		220 U	2.1 U	2 U	2.4 U
Chloromethane	--	--	--		220 U	2.1 U	2 UJV	2.4 U
cis-1,2-Dichloroethene	250	250	500000		220 U	3.7 J	2 U	2.4 U
cis-1,3-Dichloropropene	--	--	--		220 U	2.1 U	2 U	2.4 U
Cyclohexane	--	--	--		220 U	2.1 U	2 U	2.4 U
Dibromochloromethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Dibromochloropropane	--	--	--		220 U	2.1 U	2 U	2.4 U
Dichlorodifluoromethane	--	--	--		220 U	2.1 U	2 UJV	2.4 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB/MW-14	RSB/MW-14	RSB/MW-14	RSB/MW-15
				Sample Date:	9/10/2014	9/10/2014	9/9/2014	9/10/2014
				Sample Depth (ft bls):	12	17	1	4
Ethylbenzene	1000	1000	390000		**1200 D**	24	2 U	2.4 U
Freon 113	--	--	--		220 U	2.1 U	2 U	2.4 U
Isopropylbenzene	--	--	--		220 U	2.9 J	2 U	2.4 U
m+p-Xylene	--	--	--		4700 D	89	4.1 U	4.8 U
Methyl acetate	--	--	--		220 U	4.9	2 U	2.4 U
Methylcyclohexane	--	--	--		220 U	5.6	2 U	2.4 U
Methylene chloride	50	50	500000		220 U	2.1 U	2 U	2.4 U
MTBE	930	930	500000		220 U	2.1 U	2 U	2.4 U
o-Xylene	--	--	--		1200 D	27	2 U	2.4 U
Styrene	--	--	--		220 U	2.1 U	2 U	2.4 U
Tetrachloroethene	1300	1300	150000		220 U	2.1 U	2 U	3.3 J
Toluene	700	700	500000		**930 D**	23	2 U	2.4 U
trans-1,2-Dichloroethene	190	190	500000		220 U	2.1 U	2 U	2.4 U
trans-1,3-Dichloropropene	--	--	--		220 U	2.1 U	2 U	2.4 U
Trichloroethene	470	470	200000		220 U	2.1 U	2 U	2.4 U
Trichlorofluoromethane	--	--	--		220 U	2.1 U	2 U	2.4 U
Vinyl chloride	20	20	13000		220 U	2.1 U	2 U	2.4 U
Xylenes (total)	260	1600	500000		**5800 D**	120	6.1 U	7.2 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 10	RSB/MW-15 9/10/2014 14	RSB/MW-16 9/9/2014 1
1,1,1-Trichloroethane	680	680	500000		2.3 U	240 U	2.3 U	2.3 U
1,1,2,2-Tetrachloroethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,1,2-Trichloroethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,1-Dichloroethane	270	270	240000		2.3 U	240 U	2.3 U	2.3 U
1,1-Dichloroethene	330	330	500000		2.3 U	240 U	2.3 U	2.3 U
1,2,3-Trichlorobenzene	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,2,4-Trichlorobenzene	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,2-Dibromoethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,2-Dichlorobenzene	1100	1100	500000		2.3 U	240 U	2.3 U	2.3 U
1,2-Dichloroethane	20	20	30000		2.3 U	240 U	2.3 U	2.3 U
1,2-Dichloropropane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
1,3-Dichlorobenzene	2400	2400	280000		2.3 U	240 U	2.3 U	2.3 U
1,4-Dichlorobenzene	1800	1800	130000		2.3 U	240 U	2.3 U	2.3 U
1,4-Dioxane	100	100	130000		46 U	4800 U	47 U	45 U
2-Butanone (MEK)	120	120	500000		2.3 U	240 U	2.3 U	2.3 U
2-Hexanone	--	--	--		2.3 U	240 U	2.3 UV	2.3 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Acetone	50	50	500000		44 UV	240 U	12 UV	9.9
Benzene	60	60	44000		2.3 U	240 U	2.3 U	2.3 U
Bromochloromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Bromodichloromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Bromoform	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Bromomethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Carbon disulfide	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Carbon tetrachloride	760	760	22000		2.3 U	240 U	2.3 U	2.3 U
Chlorobenzene	1100	1100	500000		2.3 U	240 U	2.3 U	2.3 U
Chloroethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Chloroform	370	370	350000		2.3 U	240 U	2.3 U	2.3 U
Chloromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 UJV
cis-1,2-Dichloroethene	250	250	500000		2.3 U	**2300 D**	2.3 U	2.3 U
cis-1,3-Dichloropropene	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Cyclohexane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Dibromochloromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Dibromochloropropane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Dichlorodifluoromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 UJV

Table 2. **Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York**

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 10	RSB/MW-15 9/10/2014 14	RSB/MW-16 9/9/2014 1
Ethylbenzene	1000	1000	390000		2.3 U	**5700 D**	2.3 U	2.3 U
Freon 113	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Isopropylbenzene	--	--	--		2.3 U	450 JD	2.3 U	2.3 U
m+p-Xylene	--	--	--		4.6 U	21000 D	4.7 U	5.4 J
Methyl acetate	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Methylcyclohexane	--	--	--		2.3 U	1000 D	2.3 U	2.3 U
Methylene chloride	50	50	500000		2.3 U	240 U	2.3 U	2.3 U
MTBE	930	930	500000		2.3 U	240 U	2.3 U	2.3 U
o-Xylene	--	--	--		2.3 U	6400 D	2.3 U	2.4 J
Styrene	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Tetrachloroethene	1300	1300	150000		2.3 U	240 U	2.3 U	5.4
Toluene	700	700	500000		2.3 U	**100000 D**	2.3 U	2.3 U
trans-1,2-Dichloroethene	190	190	500000		2.3 U	240 U	2.3 U	2.3 U
trans-1,3-Dichloropropene	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Trichloroethene	470	470	200000		2.3 U	240 U	2.3 U	2.3 U
Trichlorofluoromethane	--	--	--		2.3 U	240 U	2.3 U	2.3 U
Vinyl chloride	20	20	13000		2.3 U	240 U	2.3 U	2.3 U
Xylenes (total)	260	1600	500000		6.9 U	**28000 D**	7 U	7.8 J

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB/MW-16 9/9/2014 11	RSB/MW-16 9/9/2014 17	RSB/MW-17 9/10/2014 1	RSB/MW-17 9/10/2014 13
1,1,1-Trichloroethane	680	680	500000		390 U	2.3 U	2.3 U	220 U
1,1,2,2-Tetrachloroethane	--	--	--		390 U	2.3 U	2.3 U	220 U
1,1,2-Trichloroethane	--	--	--		390 U	2.3 U	2.3 U	220 U
1,1-Dichloroethane	270	270	240000		390 U	2.3 U	2.3 U	220 U
1,1-Dichloroethene	330	330	500000		390 U	2.3 U	2.3 U	220 U
1,2,3-Trichlorobenzene	--	--	--		390 U	2.3 U	2.3 U	220 U
1,2,4-Trichlorobenzene	--	--	--		390 U	2.3 U	2.3 U	220 U
1,2-Dibromoethane	--	--	--		390 U	2.3 U	2.3 U	220 U
1,2-Dichlorobenzene	1100	1100	500000		390 U	2.3 U	2.3 U	220 U
1,2-Dichloroethane	20	20	30000		390 U	2.3 U	2.3 U	220 U
1,2-Dichloropropane	--	--	--		390 U	2.3 U	2.3 U	220 U
1,3-Dichlorobenzene	2400	2400	280000		390 U	2.3 U	2.3 U	220 U
1,4-Dichlorobenzene	1800	1800	130000		390 U	2.3 U	2.3 U	220 U
1,4-Dioxane	100	100	130000		7800 U	46 U	46 U	4500 U
2-Butanone (MEK)	120	120	500000		390 U	2.3 U	2.3 U	220 U
2-Hexanone	--	--	--		390 U	2.3 U	2.3 U	220 U
4-Methyl-2-pentanone (MIBK)	--	--	--		390 U	2.3 U	2.3 J	220 U
Acetone	50	50	500000		390 U	20	10 UV	340 UV
Benzene	60	60	44000		390 U	2.3 U	2.3 U	220 U
Bromochloromethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Bromodichloromethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Bromoform	--	--	--		390 U	2.3 U	2.3 U	220 U
Bromomethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Carbon disulfide	--	--	--		390 U	2.3 U	2.3 U	220 U
Carbon tetrachloride	760	760	22000		390 U	2.3 U	2.3 U	220 U
Chlorobenzene	1100	1100	500000		390 U	2.3 U	2.3 U	220 U
Chloroethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Chloroform	370	370	350000		390 U	2.3 U	2.3 U	220 U
Chloromethane	--	--	--		390 UJV	2.3 UJV	2.3 U	220 U
cis-1,2-Dichloroethene	250	250	500000		**4100 D**	8.7	8.2	**330 JD**
cis-1,3-Dichloropropene	--	--	--		390 U	2.3 U	2.3 U	220 U
Cyclohexane	--	--	--		390 U	2.3 U	2.3 U	220 U
Dibromochloromethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Dibromochloropropane	--	--	--		390 U	2.3 U	2.3 U	220 U
Dichlorodifluoromethane	--	--	--		390 UJV	2.3 UJV	2.3 U	220 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB/MW-16 9/9/2014 11	RSB/MW-16 9/9/2014 17	RSB/MW-17 9/10/2014 1	RSB/MW-17 9/10/2014 13
Ethylbenzene	1000	1000	390000		**4500 D**	2.3 U	11	**2900 D**
Freon 113	--	--	--		390 U	2.3 U	2.3 U	220 U
Isopropylbenzene	--	--	--		390 U	2.3 U	2.3 U	330 JD
m+p-Xylene	--	--	--		15000 D	4.6 U	39	10000 D
Methyl acetate	--	--	--		390 U	2.3 U	2.3 U	220 U
Methylcyclohexane	--	--	--		860 D	2.3 U	2.3 U	410 JD
Methylene chloride	50	50	500000		390 U	2.3 U	2.3 U	220 U
MTBE	930	930	500000		390 U	2.3 U	2.3 U	220 U
o-Xylene	--	--	--		5400 D	2.3 U	17	3700 D
Styrene	--	--	--		390 U	2.3 U	2.3 U	220 U
Tetrachloroethene	1300	1300	150000		390 U	2.3 U	2.3 U	220 U
Toluene	700	700	500000		**70000 D**	27	85	**27000 D**
trans-1,2-Dichloroethene	190	190	500000		390 U	2.3 U	2.3 U	220 U
trans-1,3-Dichloropropene	--	--	--		390 U	2.3 U	2.3 U	220 U
Trichloroethene	470	470	200000		390 U	2.3 U	2.3 U	220 U
Trichlorofluoromethane	--	--	--		390 U	2.3 U	2.3 U	220 U
Vinyl chloride	20	20	13000		390 U	2.3 U	2.3 U	220 U
Xylenes (total)	260	1600	500000		**20000 D**	6.9 U	56	**14000 D**

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwate
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial Standards
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB/MW-17 9/10/2014 17
1,1,1-Trichloroethane	680	680	500000		2.5 U
1,1,2,2-Tetrachloroethane	--	--	--		2.5 U
1,1,2-Trichloroethane	--	--	--		2.5 U
1,1-Dichloroethane	270	270	240000		2.5 U
1,1-Dichloroethene	330	330	500000		2.5 U
1,2,3-Trichlorobenzene	--	--	--		2.5 U
1,2,4-Trichlorobenzene	--	--	--		2.5 U
1,2-Dibromoethane	--	--	--		2.5 U
1,2-Dichlorobenzene	1100	1100	500000		2.5 U
1,2-Dichloroethane	20	20	30000		2.5 U
1,2-Dichloropropane	--	--	--		2.5 U
1,3-Dichlorobenzene	2400	2400	280000		2.5 U
1,4-Dichlorobenzene	1800	1800	130000		2.5 U
1,4-Dioxane	100	100	130000		50 U
2-Butanone (MEK)	120	120	500000		2.5 U
2-Hexanone	--	--	--		2.5 U
4-Methyl-2-pentanone (MIBK)	--	--	--		2.5 U
Acetone	50	50	500000		2.5 UV
Benzene	60	60	44000		2.5 U
Bromochloromethane	--	--	--		2.5 U
Bromodichloromethane	--	--	--		2.5 U
Bromoform	--	--	--		2.5 U
Bromomethane	--	--	--		2.5 U
Carbon disulfide	--	--	--		2.5 U
Carbon tetrachloride	760	760	22000		2.5 U
Chlorobenzene	1100	1100	500000		2.5 U
Chloroethane	--	--	--		2.5 U
Chloroform	370	370	350000		2.5 U
Chloromethane	--	--	--		2.5 U
cis-1,2-Dichloroethene	250	250	500000		2.5 U
cis-1,3-Dichloropropene	--	--	--		2.5 U
Cyclohexane	--	--	--		2.5 U
Dibromochloromethane	--	--	--		2.5 U
Dibromochloropropane	--	--	--		2.5 U
Dichlorodifluoromethane	--	--	--		2.5 U

Table 2. Summary of Volatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB/MW-17 9/10/2014 17
Ethylbenzene	1000	1000	390000		2.5 U
Freon 113	--	--	--		2.5 U
Isopropylbenzene	--	--	--		2.5 U
m+p-Xylene	--	--	--		5 U
Methyl acetate	--	--	--		7.6
Methylcyclohexane	--	--	--		2.5 U
Methylene chloride	50	50	500000		2.5 U
MTBE	930	930	500000		2.5 U
o-Xylene	--	--	--		2.5 U
Styrene	--	--	--		2.5 U
Tetrachloroethene	1300	1300	150000		2.5 U
Toluene	700	700	500000		10 UV
trans-1,2-Dichloroethene	190	190	500000		2.5 U
trans-1,3-Dichloropropene	--	--	--		2.5 U
Trichloroethene	470	470	200000		2.5 U
Trichlorofluoromethane	--	--	--		2.5 U
Vinyl chloride	20	20	13000		2.5 U
Xylenes (total)	260	1600	500000		7.5 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
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V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-1 2/20/2014 10	RSB-1 2/20/2014 20	RSB-2 2/21/2014 1	RSB-2 2/21/2014 5	RSB-2 2/21/2014 11
1,1'-Biphenyl	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
1,2,4,5-Tetrachlorobenzene	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
2,2'-oxybis (1-chloropropane)	--	--	--		48 UJV	49.6 UJV	1160 U	464 U	4800 U
2,4,5-Trichlorophenol	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2,4,6-Trichlorophenol	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2,4-Dichlorophenol	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
2,4-Dimethylphenol	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2,4-Dinitrophenol	--	--	--		191 U	197 U	4600 U	1850 U	19100 U
2,4-Dinitrotoluene	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
2,6-Dinitrotoluene	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2-Chloronaphthalene	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2-Chlorophenol	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2-Methylnaphthalene	--	--	--		48 U	49.6 U	1160 U	464 U	13000 JD
2-Methylphenol	330	330	500000		96 U	99.3 U	2320 U	928 U	9610 U
2-Nitroaniline	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
2-Nitrophenol	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
3&4-Methylphenol	330	330	500000		96 U	99.3 U	2320 U	928 U	9610 U
3,3'-Dichlorobenzidine	--	--	--		191 UJV	197 UJV	4600 U	1850 U	19100 U
3-Nitroaniline	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
4,6-Dinitro-2-methylphenol	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
4-Bromophenyl phenyl ether	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
4-Chloro-3-methylphenol	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
4-Chloroaniline	--	--	--		96 UJV	99.3 UJV	2320 U	928 U	9610 U
4-Chlorophenyl phenyl ether	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
4-Nitroaniline	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
4-Nitrophenol	--	--	--		96 U	99.3 U	2320 U	928 U	9610 U
Acenaphthene	20000	98000	500000		48 U	49.6 U	1160 U	464 U	4800 U
Acenaphthylene	100000	107000	500000		48 U	49.6 U	1160 U	464 U	4800 U
Acetophenone	--	--	--		48 UJV	49.6 UJV	1160 U	464 U	4800 U
Anthracene	100000	1000000	500000		48 U	49.6 U	2590 JD	464 U	4800 U
Atrazine	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB-1	RSB-1	RSB-2	RSB-2	RSB-2
				Sample Date:	2/20/2014	2/20/2014	2/21/2014	2/21/2014	2/21/2014
				Sample Depth (ft bls):	10	20	1	5	11
Benzaldehyde	--	--	--		48 UJV	49.6 UJV	1160 U	464 U	4800 U
Benzo[a]anthracene	1000	1000	5600		48.4 J	49.6 U	**4750 D**	943 JD	4800 U
Benzo[a]pyrene	1000	22000	1000		58.6 J	49.6 U	**5500 D**	**1120 JD**	4800 U
Benzo[b]fluoranthene	1000	1700	5600		48 U	49.6 U	**4110 JD**	961 JD	4800 U
Benzo[g,h,i]perylene	100000	1000000	500000		96 U	99.3 U	2320 U	928 U	9610 U
Benzo[k]fluoranthene	800	1700	56000		49.9 J	49.6 U	**5080 D**	**1070 JD**	4800 U
Bis(2-chloroethoxy)methane	--	--	--		48 UJV	49.6 UJV	1160 U	464 U	4800 U
Bis(2-chloroethyl) ether	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Bis(2-ethylhexyl) phthalate	--	--	--		48 UJV	49.6 UJV	1160 U	464 U	4800 U
Butylbenzyl phthalate	--	--	--		48 U	49.6 U	1160 U	464 U	8430 JD
Caprolactam	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Carbazole	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Chrysene	1000	1000	56000		52.2 J	49.6 U	**4760 D**	1000 JD	4800 U
Dibenzo[a,h]anthracene	330	1000000	560		48 U	49.6 U	1160 U	464 U	4800 U
Dibenzofuran	7000	210000	350000		48 U	49.6 U	1160 U	464 U	4800 U
Diethyl phthalate	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Dimethyl phthalate	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Di-n-butyl phthalate	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Di-n-octyl phthalate	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Fluoranthene	100000	1000000	500000		104 J	49.6 U	11500 D	1810 JD	4800 U
Fluorene	30000	386000	500000		48 U	49.6 U	1200 JD	464 U	4800 U
Hexachlorobenzene	330	3200	6000		48 U	49.6 U	1160 U	464 U	4800 U
Hexachlorobutadiene	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Hexachlorocyclopentadiene	--	--	--		96 UJV	99.3 UJV	2320 U	928 U	9610 U
Hexachloroethane	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		48 U	49.6 U	**1280 JD**	464 U	4800 U
Isophorone	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
Naphthalene	12000	12000	500000		48 U	49.6 U	1160 U	464 U	6980 JD
Nitrobenzene	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
n-Nitrosodi-n-propylamine	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U
n-Nitrosodiphenylamine	--	--	--		48 U	49.6 U	1160 U	464 U	4800 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-1 2/20/2014 10	RSB-1 2/20/2014 20	RSB-2 2/21/2014 1	RSB-2 2/21/2014 5	RSB-2 2/21/2014 11
Pentachlorophenol	800	800	6700		96 U	99.3 U	2320 U	928 U	9610 U
Phenanthrene	100000	1000000	500000		59 J	49.6 U	10100 D	578 JD	4800 U
Phenol	330	330	500000		48 U	49.6 U	1160 U	464 U	4800 U
Pyrene	100000	1000000	500000		93.3 J	49.6 U	11900 D	1870 D	4800 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-2 2/21/2014 18	RSB-3 2/20/2014 8	RSB-3 2/20/2014 18	RSB-4 2/21/2014 8	RSB-4 2/21/2014 18
1,1'-Biphenyl	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
1,2,4,5-Tetrachlorobenzene	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
2,2'-oxybis (1-chloropropane)	--	--	--		51.5 UJV	49.8 UJV	99.6 UJV	49.5 UJV	51.3 UJV
2,4,5-Trichlorophenol	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2,4,6-Trichlorophenol	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2,4-Dichlorophenol	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
2,4-Dimethylphenol	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2,4-Dinitrophenol	--	--	--		205 U	198 U	396 U	197 U	204 U
2,4-Dinitrotoluene	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
2,6-Dinitrotoluene	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2-Chloronaphthalene	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2-Chlorophenol	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2-Methylnaphthalene	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2-Methylphenol	330	330	500000		103 U	99.5 U	199 U	98.9 U	103 U
2-Nitroaniline	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
2-Nitrophenol	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
3&4-Methylphenol	330	330	500000		103 U	99.5 U	199 U	98.9 U	103 U
3,3'-Dichlorobenzidine	--	--	--		205 UJV	198 UJV	396 UJV	197 UJV	204 UJV
3-Nitroaniline	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
4,6-Dinitro-2-methylphenol	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
4-Bromophenyl phenyl ether	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
4-Chloro-3-methylphenol	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
4-Chloroaniline	--	--	--		103 UJV	99.5 UJV	199 UJV	98.9 UJV	103 UJV
4-Chlorophenyl phenyl ether	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
4-Nitroaniline	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
4-Nitrophenol	--	--	--		103 U	99.5 U	199 U	98.9 U	103 U
Acenaphthene	20000	98000	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Acenaphthylene	100000	107000	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Acetophenone	--	--	--		51.5 UJV	49.8 UJV	99.6 UJV	49.5 UJV	51.3 UJV
Anthracene	100000	1000000	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Atrazine	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-2 2/21/2014 18	RSB-3 2/20/2014 8	RSB-3 2/20/2014 18	RSB-4 2/21/2014 8	RSB-4 2/21/2014 18
Benzaldehyde	--	--	--		51.5 UJV	49.8 UJV	99.6 UJV	49.5 UJV	51.3 UJV
Benzo[a]anthracene	1000	1000	5600		51.5 U	49.8 U	232 JD	49.5 U	51.3 U
Benzo[a]pyrene	1000	22000	1000		51.5 U	49.8 U	270 JD	49.5 U	51.3 U
Benzo[b]fluoranthene	1000	1700	5600		51.5 U	49.8 U	233 JD	49.5 U	51.3 U
Benzo[g,h,i]perylene	100000	1000000	500000		103 U	99.5 U	199 U	98.9 U	103 U
Benzo[k]fluoranthene	800	1700	56000		51.5 U	49.8 U	254 JD	49.5 U	51.3 U
Bis(2-chloroethoxy)methane	--	--	--		51.5 UJV	49.8 UJV	99.6 UJV	49.5 UJV	51.3 UJV
Bis(2-chloroethyl) ether	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Bis(2-ethylhexyl) phthalate	--	--	--		51.5 UJV	49.8 UJV	99.6 UJV	49.5 UJV	51.3 UJV
Butylbenzyl phthalate	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Caprolactam	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Carbazole	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Chrysene	1000	1000	56000		51.5 U	49.8 U	247 JD	49.5 U	51.3 U
Dibenzo[a,h]anthracene	330	1000000	560		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Dibenzofuran	7000	210000	350000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Diethyl phthalate	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Dimethyl phthalate	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Di-n-butyl phthalate	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Di-n-octyl phthalate	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Fluoranthene	100000	1000000	500000		51.5 U	49.8 U	500 D	49.5 U	51.3 U
Fluorene	30000	386000	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Hexachlorobenzene	330	3200	6000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Hexachlorobutadiene	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Hexachlorocyclopentadiene	--	--	--		103 UJV	99.5 UJV	199 UJV	98.9 UJV	103 UJV
Hexachloroethane	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		51.5 U	49.8 U	101 JD	49.5 U	51.3 U
Isophorone	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Naphthalene	12000	12000	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Nitrobenzene	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
n-Nitrosodi-n-propylamine	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
n-Nitrosodiphenylamine	--	--	--		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **;ample Depth (ft bls):**	RSB-2 / 2/21/2014 / 18	RSB-3 / 2/20/2014 / 8	RSB-3 / 2/20/2014 / 18	RSB-4 / 2/21/2014 / 8	RSB-4 / 2/21/2014 / 18
Pentachlorophenol	800	800	6700		103 U	99.5 U	199 U	98.9 U	103 U
Phenanthrene	100000	1000000	500000		51.5 U	49.8 U	350 JD	49.5 U	51.3 U
Phenol	330	330	500000		51.5 U	49.8 U	99.6 U	49.5 U	51.3 U
Pyrene	100000	1000000	500000		51.5 U	49.8 U	422 D	49.5 U	51.3 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
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Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
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V - Value altered or qualifier added during data validation
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UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-5 2/18/2014 8.5	RSB-5 2/18/2014 18.5	RSB-6 2/18/2014 9	RSB-6 2/18/2014 19	RSB-7 2/19/2014 8.5
1,1'-Biphenyl	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
1,2,4,5-Tetrachlorobenzene	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
2,2'-oxybis (1-chloropropane)	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2,4,5-Trichlorophenol	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2,4,6-Trichlorophenol	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2,4-Dichlorophenol	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
2,4-Dimethylphenol	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2,4-Dinitrophenol	--	--	--		208 U	191 U	190 U	195 U	195 U
2,4-Dinitrotoluene	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
2,6-Dinitrotoluene	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2-Chloronaphthalene	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2-Chlorophenol	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2-Methylnaphthalene	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2-Methylphenol	330	330	500000		104 U	95.9 U	95.4 U	97.9 U	98.2 U
2-Nitroaniline	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
2-Nitrophenol	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
3&4-Methylphenol	330	330	500000		104 U	95.9 U	95.4 U	97.9 U	98.2 U
3,3'-Dichlorobenzidine	--	--	--		208 U	191 U	190 U	195 U	195 U
3-Nitroaniline	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
4,6-Dinitro-2-methylphenol	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
4-Bromophenyl phenyl ether	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
4-Chloro-3-methylphenol	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
4-Chloroaniline	--	--	--		104 UJV	95.9 UJV	95.4 UJV	97.9 UJV	98.2 UJV
4-Chlorophenyl phenyl ether	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
4-Nitroaniline	--	--	--		104 U	95.9 U	95.4 U	97.9 U	98.2 U
4-Nitrophenol	--	--	--		RV	RV	RV	RV	RV
Acenaphthene	20000	98000	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Acenaphthylene	100000	107000	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Acetophenone	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Anthracene	100000	1000000	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Atrazine	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-5 2/18/2014 8.5	RSB-5 2/18/2014 18.5	RSB-6 2/18/2014 9	RSB-6 2/18/2014 19	RSB-7 2/19/2014 8.5
Benzaldehyde	--	--	--		52.2 UJV	48 UJV	47.7 UJV	49 UJV	49.1 UJV
Benzo[a]anthracene	1000	1000	5600		52.2 U	48 U	104 J	49 U	170 J
Benzo[a]pyrene	1000	22000	1000		55.1 J	48 U	125 J	49 U	192 J
Benzo[b]fluoranthene	1000	1700	5600		52.2 U	48 U	131 J	49 U	194 J
Benzo[g,h,i]perylene	100000	1000000	500000		104 U	95.9 U	95.4 U	97.9 U	98.2 U
Benzo[k]fluoranthene	800	1700	56000		69.6 J	48 U	122 J	49 U	193 J
Bis(2-chloroethoxy)methane	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Bis(2-chloroethyl) ether	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Bis(2-ethylhexyl) phthalate	--	--	--		101 J	48 U	47.7 U	49 U	49.1 U
Butylbenzyl phthalate	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Caprolactam	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Carbazole	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Chrysene	1000	1000	56000		56.3 J	48 U	113 J	49 U	179 J
Dibenzo[a,h]anthracene	330	1000000	560		52.2 U	48 U	47.7 U	49 U	49.1 U
Dibenzofuran	7000	210000	350000		52.2 U	48 U	47.7 U	49 U	49.1 U
Diethyl phthalate	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Dimethyl phthalate	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Di-n-butyl phthalate	--	--	--		70 J	48 U	47.7 U	100 J	49.1 U
Di-n-octyl phthalate	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Fluoranthene	100000	1000000	500000		103 J	48 U	198	49 U	325
Fluorene	30000	386000	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Hexachlorobenzene	330	3200	6000		52.2 U	48 U	47.7 U	49 U	49.1 U
Hexachlorobutadiene	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Hexachlorocyclopentadiene	--	--	--		104 UJV	95.9 UJV	95.4 UJV	97.9 UJV	98.2 UJV
Hexachloroethane	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		52.2 U	48 U	47.7 U	49 U	54.2 J
Isophorone	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
Naphthalene	12000	12000	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Nitrobenzene	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
n-Nitrosodi-n-propylamine	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U
n-Nitrosodiphenylamine	--	--	--		52.2 U	48 U	47.7 U	49 U	49.1 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-5 2/18/2014 8.5	RSB-5 2/18/2014 18.5	RSB-6 2/18/2014 9	RSB-6 2/18/2014 19	RSB-7 2/19/2014 8.5
Pentachlorophenol	800	800	6700		104 U	95.9 U	95.4 U	97.9 U	98.2 U
Phenanthrene	100000	1000000	500000		52.2 U	48 U	106 J	49 U	192 J
Phenol	330	330	500000		52.2 U	48 U	47.7 U	49 U	49.1 U
Pyrene	100000	1000000	500000		94.9 J	48 U	200	49 U	334

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial S
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-7 2/19/2014 18.5	RSB-8 2/19/2014 1.5	RSB-8 2/19/2014 5	RSB-8 2/19/2014 8.5	RSB-8 2/19/2014 18.5
1,1'-Biphenyl	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
1,2,4,5-Tetrachlorobenzene	--	--	--		100 U	915 U	951 U	960 U	101 U
2,2'-oxybis (1-chloropropane)	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2,4,5-Trichlorophenol	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2,4,6-Trichlorophenol	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2,4-Dichlorophenol	--	--	--		100 U	915 U	951 U	960 U	101 U
2,4-Dimethylphenol	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2,4-Dinitrophenol	--	--	--		200 U	1820 U	1890 U	1910 U	200 U
2,4-Dinitrotoluene	--	--	--		100 U	915 U	951 U	960 U	101 U
2,6-Dinitrotoluene	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2-Chloronaphthalene	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2-Chlorophenol	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2-Methylnaphthalene	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2-Methylphenol	330	330	500000		100 U	915 U	951 U	960 U	101 U
2-Nitroaniline	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
2-Nitrophenol	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
3&4-Methylphenol	330	330	500000		100 U	915 U	951 U	960 U	101 U
3,3'-Dichlorobenzidine	--	--	--		200 U	1820 U	1890 U	1910 U	200 U
3-Nitroaniline	--	--	--		100 U	915 U	951 U	960 U	101 U
4,6-Dinitro-2-methylphenol	--	--	--		100 U	915 U	951 U	960 U	101 U
4-Bromophenyl phenyl ether	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
4-Chloro-3-methylphenol	--	--	--		100 U	915 U	951 U	960 U	101 U
4-Chloroaniline	--	--	--		100 UJV	915 UJV	951 UJV	960 UJV	101 UJV
4-Chlorophenyl phenyl ether	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
4-Nitroaniline	--	--	--		100 U	915 U	951 U	960 U	101 U
4-Nitrophenol	--	--	--		RV	R V	RV	RV	RV
Acenaphthene	20000	98000	500000		50.2 U	457 U	476 U	480 U	50.3 U
Acenaphthylene	100000	107000	500000		50.2 U	457 U	476 U	480 U	50.3 U
Acetophenone	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Anthracene	100000	1000000	500000		50.2 U	827 JD	1270 JD	625 JD	50.3 U
Atrazine	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-7 2/19/2014 18.5	RSB-8 2/19/2014 1.5	RSB-8 2/19/2014 5	RSB-8 2/19/2014 8.5	RSB-8 2/19/2014 18.5
Benzaldehyde	--	--	--		50.2 UJV	457 UJV	476 UJV	480 UJV	50.3 UJV
Benzo[a]anthracene	1000	1000	5600		50.2 U	**2580 D**	**3430 D**	**1680 JD**	50.3 U
Benzo[a]pyrene	1000	22000	1000		50.2 U	**2710 D**	**3510 D**	**1690 JD**	50.3 U
Benzo[b]fluoranthene	1000	1700	5600		50.2 U	**2080 D**	**2750 D**	**1410 JD**	50.3 U
Benzo[g,h,i]perylene	100000	1000000	500000		100 U	1030 JD	1050 JD	960 U	101 U
Benzo[k]fluoranthene	800	1700	56000		50.2 U	**2530 D**	**3490 D**	**1690 JD**	50.3 U
Bis(2-chloroethoxy)methane	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Bis(2-chloroethyl) ether	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Bis(2-ethylhexyl) phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Butylbenzyl phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Caprolactam	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Carbazole	--	--	--		50.2 U	457 U	517 JD	480 U	50.3 U
Chrysene	1000	1000	56000		50.2 U	**2540 D**	**3420 D**	**1650 JD**	50.3 U
Dibenzo[a,h]anthracene	330	1000000	560		50.2 U	457 U	**510 JD**	480 U	50.3 U
Dibenzofuran	7000	210000	350000		50.2 U	457 U	476 U	480 U	50.3 U
Diethyl phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Dimethyl phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Di-n-butyl phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Di-n-octyl phthalate	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Fluoranthene	100000	1000000	500000		50.2 U	5240 D	7200 D	3940 D	50.3 U
Fluorene	30000	386000	500000		50.2 U	457 U	476 JD	480 U	50.3 U
Hexachlorobenzene	330	3200	6000		50.2 U	457 U	476 U	480 U	50.3 U
Hexachlorobutadiene	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Hexachlorocyclopentadiene	--	--	--		100 UJV	915 UJV	951 UJV	960 UJV	101 UJV
Hexachloroethane	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		50.2 U	**929 JD**	**1050 JD**	**522 JD**	50.3 U
Isophorone	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
Naphthalene	12000	12000	500000		50.2 U	457 U	476 U	480 U	50.3 U
Nitrobenzene	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
n-Nitrosodi-n-propylamine	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U
n-Nitrosodiphenylamine	--	--	--		50.2 U	457 U	476 U	480 U	50.3 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB-7	RSB-8	RSB-8	RSB-8	RSB-8
				Sample Date:	2/19/2014	2/19/2014	2/19/2014	2/19/2014	2/19/2014
				;ample Depth (ft bls):	18.5	1.5	5	8.5	18.5
Pentachlorophenol	800	800	6700		100 U	915 U	951 U	960 U	101 U
Phenanthrene	100000	1000000	500000		50.2 U	2940 D	4930 D	2880 D	50.3 U
Phenol	330	330	500000		50.2 U	457 U	476 U	480 U	50.3 U
Pyrene	100000	1000000	500000		50.2 U	4940 D	6710 D	3690 D	50.3 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-9 2/19/2014 8.5	RSB-9 2/19/2014 18.5	RSB-10 2/20/2014 7.5	RSB-10 2/20/2014 17.5	RSB-11 2/20/2014 7.5
1,1'-Biphenyl	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
1,2,4,5-Tetrachlorobenzene	--	--	--		198 UJV	103 U	97 U	99.6 U	95 U
2,2'-oxybis (1-chloropropane)	--	--	--		99.1 U	51.3 U	48.5 UJV	49.8 UJV	47.5 UJV
2,4,5-Trichlorophenol	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2,4,6-Trichlorophenol	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2,4-Dichlorophenol	--	--	--		198 U	103 U	97 U	99.6 U	95 U
2,4-Dimethylphenol	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2,4-Dinitrophenol	--	--	--		394 U	204 U	193 U	198 U	189 U
2,4-Dinitrotoluene	--	--	--		198 U	103 U	97 U	99.6 U	95 U
2,6-Dinitrotoluene	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2-Chloronaphthalene	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2-Chlorophenol	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2-Methylnaphthalene	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2-Methylphenol	330	330	500000		198 U	103 U	97 U	99.6 U	95 U
2-Nitroaniline	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
2-Nitrophenol	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
3&4-Methylphenol	330	330	500000		198 U	103 U	97 U	99.6 U	95 U
3,3'-Dichlorobenzidine	--	--	--		7860 U	204 U	193 UJV	198 UJV	189 UJV
3-Nitroaniline	--	--	--		198 U	103 U	97 U	99.6 U	95 U
4,6-Dinitro-2-methylphenol	--	--	--		198 U	103 U	97 U	99.6 U	95 U
4-Bromophenyl phenyl ether	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
4-Chloro-3-methylphenol	--	--	--		198 U	103 U	97 U	99.6 U	95 U
4-Chloroaniline	--	--	--		198 UJV	103 UJV	97 UJV	99.6 UJV	95 UJV
4-Chlorophenyl phenyl ether	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
4-Nitroaniline	--	--	--		198 U	103 U	97 U	99.6 U	95 U
4-Nitrophenol	--	--	--		RV	RV	97 U	99.6 U	95 U
Acenaphthene	20000	98000	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Acenaphthylene	100000	107000	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Acetophenone	--	--	--		99.1 U	51.3 U	48.5 UJV	49.8 UJV	47.5 UJV
Anthracene	100000	1000000	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Atrazine	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB-9 2/19/2014 8.5	RSB-9 2/19/2014 18.5	RSB-10 2/20/2014 7.5	RSB-10 2/20/2014 17.5	RSB-11 2/20/2014 7.5
Benzaldehyde	--	--	--		99.1 UJV	51.3 UJV	48.5 UJV	49.8 UJV	47.5 UJV
Benzo[a]anthracene	1000	1000	5600		3930 U	51.3 U	48.5 U	88.2 J	47.5 U
Benzo[a]pyrene	1000	22000	1000		3930 U	51.3 U	48.5 U	114 J	47.5 U
Benzo[b]fluoranthene	1000	1700	5600		3930 U	51.3 U	48.5 U	71.2 J	47.5 U
Benzo[g,h,i]perylene	100000	1000000	500000		3930 U	103 U	97 U	99.6 U	95 U
Benzo[k]fluoranthene	800	1700	56000		3930 U	51.3 U	48.5 U	88.5 J	47.5 U
Bis(2-chloroethoxy)methane	--	--	--		99.1 U	51.3 U	48.5 UJV	49.8 UJV	47.5 UJV
Bis(2-chloroethyl) ether	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Bis(2-ethylhexyl) phthalate	--	--	--		3930 U	51.3 U	48.5 UJV	49.8 UJV	81.5 JV
Butylbenzyl phthalate	--	--	--		3930 U	51.3 U	48.5 U	49.8 U	47.5 U
Caprolactam	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Carbazole	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Chrysene	1000	1000	56000		3930 U	51.3 U	48.5 U	92.1 J	47.5 U
Dibenzo[a,h]anthracene	330	1000000	560		3930 U	51.3 U	48.5 U	49.8 U	47.5 U
Dibenzofuran	7000	210000	350000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Diethyl phthalate	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Dimethyl phthalate	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Di-n-butyl phthalate	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Di-n-octyl phthalate	--	--	--		3930 U	51.3 U	48.5 U	49.8 U	47.5 U
Fluoranthene	100000	1000000	500000		99.1 U	51.3 U	48.5 U	183 J	47.5 U
Fluorene	30000	386000	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Hexachlorobenzene	330	3200	6000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Hexachlorobutadiene	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Hexachlorocyclopentadiene	--	--	--		198 UJV	103 UJV	97 UJV	99.6 UJV	95 UJV
Hexachloroethane	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		3930 U	51.3 U	48.5 U	68.8 J	47.5 U
Isophorone	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Naphthalene	12000	12000	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Nitrobenzene	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
n-Nitrosodi-n-propylamine	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
n-Nitrosodiphenylamine	--	--	--		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **ample Depth (ft bls):**	RSB-9 2/19/2014 8.5	RSB-9 2/19/2014 18.5	RSB-10 2/20/2014 7.5	RSB-10 2/20/2014 17.5	RSB-11 2/20/2014 7.5
Pentachlorophenol	800	800	6700		198 U	103 U	97 U	99.6 U	95 U
Phenanthrene	100000	1000000	500000		255 JD	51.3 U	48.5 U	130 J	47.5 U
Phenol	330	330	500000		99.1 U	51.3 U	48.5 U	49.8 U	47.5 U
Pyrene	100000	1000000	500000		3930 U	51.3 U	48.5 U	166 J	47.5 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial S
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-11 2/20/2014 7.5	RSB-11 2/20/2014 17.5	RSB-12 2/12/2014 9	RSB-12 2/12/2014 18	RSB-13 2/12/2014 9
1,1'-Biphenyl	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
1,2,4,5-Tetrachlorobenzene	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
2,2'-oxybis (1-chloropropane)	--	--	--		47.9 UJV	49.1 UJV	47.6 UJV	48 UJV	50.8 U
2,4,5-Trichlorophenol	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2,4,6-Trichlorophenol	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2,4-Dichlorophenol	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
2,4-Dimethylphenol	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2,4-Dinitrophenol	--	--	--		190 U	195 U	189 UJV	191 UJV	202 UJV
2,4-Dinitrotoluene	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
2,6-Dinitrotoluene	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2-Chloronaphthalene	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2-Chlorophenol	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2-Methylnaphthalene	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2-Methylphenol	330	330	500000		95.7 U	98.2 U	95.3 U	96 U	102 UJV
2-Nitroaniline	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
2-Nitrophenol	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
3&4-Methylphenol	330	330	500000		95.7 U	98.2 U	95.3 U	96 U	102 U
3,3'-Dichlorobenzidine	--	--	--		190 UJV	195 UJV	189 U	191 U	202 U
3-Nitroaniline	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
4,6-Dinitro-2-methylphenol	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
4-Bromophenyl phenyl ether	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
4-Chloro-3-methylphenol	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
4-Chloroaniline	--	--	--		95.7 UJV	98.2 UJV	95.3 U	96 U	102 U
4-Chlorophenyl phenyl ether	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
4-Nitroaniline	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
4-Nitrophenol	--	--	--		95.7 U	98.2 U	95.3 U	96 U	102 U
Acenaphthene	20000	98000	500000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Acenaphthylene	100000	107000	500000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Acetophenone	--	--	--		47.9 UJV	49.1 UJV	47.6 U	48 U	50.8 U
Anthracene	100000	1000000	500000		47.9 U	49.1 U	76.4 J	48 U	144 J
Atrazine	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB-11 2/20/2014 7.5	RSB-11 2/20/2014 17.5	RSB-12 2/12/2014 9	RSB-12 2/12/2014 18	RSB-13 2/12/2014 9
Benzaldehyde	--	--	--		47.9 UJV	49.1 UJV	47.6 UJV	48 UJV	50.8 U
Benzo[a]anthracene	1000	1000	5600		47.9 U	49.1 U	248	48 U	327
Benzo[a]pyrene	1000	22000	1000		47.9 U	49.1 U	214	48 U	268
Benzo[b]fluoranthene	1000	1700	5600		47.9 U	49.1 U	171 J	48 U	267
Benzo[g,h,i]perylene	100000	1000000	500000		95.7 U	98.2 U	95.3 UJV	96 UJV	113 J
Benzo[k]fluoranthene	800	1700	56000		47.9 U	49.1 U	214	48 U	219
Bis(2-chloroethoxy)methane	--	--	--		47.9 UJV	49.1 UJV	47.6 U	48 U	50.8 U
Bis(2-chloroethyl) ether	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Bis(2-ethylhexyl) phthalate	--	--	--		72.9 JV	49.1 UJV	47.6 UJV	48 UJV	50.8 UJV
Butylbenzyl phthalate	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Caprolactam	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Carbazole	--	--	--		47.9 U	49.1 U	47.6 U	48 U	55.7 J
Chrysene	1000	1000	56000		47.9 U	49.1 U	269	48 U	358
Dibenzo[a,h]anthracene	330	1000000	560		47.9 U	49.1 U	47.6 UJV	48 UJV	50.8 U
Dibenzofuran	7000	210000	350000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Diethyl phthalate	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Dimethyl phthalate	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Di-n-butyl phthalate	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Di-n-octyl phthalate	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Fluoranthene	100000	1000000	500000		47.9 U	49.1 U	606	48 U	742 JV
Fluorene	30000	386000	500000		47.9 U	49.1 U	47.6 U	48 U	98 J
Hexachlorobenzene	330	3200	6000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Hexachlorobutadiene	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Hexachlorocyclopentadiene	--	--	--		95.7 UJV	98.2 UJV	95.3 UJV	96 UJV	102 UJV
Hexachloroethane	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		47.9 U	49.1 U	50.3 JV	48 UJV	131 J
Isophorone	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Naphthalene	12000	12000	500000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Nitrobenzene	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
n-Nitrosodi-n-propylamine	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U
n-Nitrosodiphenylamine	--	--	--		47.9 U	49.1 U	47.6 U	48 U	50.8 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB-11 2/20/2014 7.5	RSB-11 2/20/2014 17.5	RSB-12 2/12/2014 9	RSB-12 2/12/2014 18	RSB-13 2/12/2014 9
Pentachlorophenol	800	800	6700		95.7 U	98.2 U	95.3 U	96 U	102 U
Phenanthrene	100000	1000000	500000		47.9 U	49.1 U	418	48 U	535
Phenol	330	330	500000		47.9 U	49.1 U	47.6 U	48 U	50.8 U
Pyrene	100000	1000000	500000		47.9 U	49.1 U	555	48 U	513

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Us
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V - Value altered or qualifier added during data validation
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-13 2/12/2014 9	RSB-13 2/12/2014 19	RSB-14/4D 2/10/2014 2.5	RSB-14/4D 2/10/2014 5
1,1'-Biphenyl	--	--	--		51.1 U	50.5 U	428 U	437 U
1,2,4,5-Tetrachlorobenzene	--	--	--		102 U	101 U	857 U	874 U
2,2'-oxybis (1-chloropropane)	--	--	--		51.1 U	50.5 U	428 U	437 U
2,4,5-Trichlorophenol	--	--	--		51.1 U	50.5 U	428 U	437 U
2,4,6-Trichlorophenol	--	--	--		51.1 U	50.5 U	428 U	437 U
2,4-Dichlorophenol	--	--	--		102 U	101 U	857 U	874 U
2,4-Dimethylphenol	--	--	--		51.1 U	50.5 U	428 U	437 U
2,4-Dinitrophenol	--	--	--		203 UJV	201 UJV	RV	RV
2,4-Dinitrotoluene	--	--	--		102 U	101 U	857 U	874 U
2,6-Dinitrotoluene	--	--	--		51.1 U	50.5 U	428 U	437 U
2-Chloronaphthalene	--	--	--		51.1 U	50.5 U	428 U	437 U
2-Chlorophenol	--	--	--		51.1 U	50.5 U	428 U	437 U
2-Methylnaphthalene	--	--	--		51.1 U	50.5 U	428 U	437 U
2-Methylphenol	330	330	500000		102 UJV	101 UJV	857 U	874 U
2-Nitroaniline	--	--	--		51.1 U	50.5 U	428 U	437 U
2-Nitrophenol	--	--	--		51.1 U	50.5 U	428 U	437 U
3&4-Methylphenol	330	330	500000		102 U	101 U	857 U	874 U
3,3'-Dichlorobenzidine	--	--	--		203 U	201 U	1700 UJV	1740 UJV
3-Nitroaniline	--	--	--		102 U	101 U	857 U	874 U
4,6-Dinitro-2-methylphenol	--	--	--		102 U	101 U	RV	RV
4-Bromophenyl phenyl ether	--	--	--		51.1 U	50.5 U	428 U	437 U
4-Chloro-3-methylphenol	--	--	--		102 U	101 U	857 U	874 U
4-Chloroaniline	--	--	--		102 U	101 U	857 UJV	874 UJV
4-Chlorophenyl phenyl ether	--	--	--		51.1 U	50.5 U	428 U	437 U
4-Nitroaniline	--	--	--		102 U	101 U	857 U	874 U
4-Nitrophenol	--	--	--		102 U	101 U	857 U	874 U
Acenaphthene	20000	98000	500000		78.3 J	50.5 U	428 U	437 U
Acenaphthylene	100000	107000	500000		51.1 U	50.5 U	428 U	437 U
Acetophenone	--	--	--		51.1 U	50.5 U	428 U	437 U
Anthracene	100000	1000000	500000		252	50.5 U	503 JD	707 JD
Atrazine	--	--	--		51.1 U	50.5 U	428 U	437 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB-13	RSB-13	RSB-14/4D	RSB-14/4D
				Sample Date:	2/12/2014	2/12/2014	2/10/2014	2/10/2014
				Sample Depth (ft bls):	9	19	2.5	5
Benzaldehyde	--	--	--		51.1 U	50.5 U	428 U	437 U
Benzo[a]anthracene	1000	1000	5600		527	50.5 U	**1480 JD**	**1730 D**
Benzo[a]pyrene	1000	22000	1000		440	50.5 U	**1470 JD**	**1560 JD**
Benzo[b]fluoranthene	1000	1700	5600		456	50.5 U	**1990 D**	**1410 JD**
Benzo[g,h,i]perylene	100000	1000000	500000		214	101 U	857 U	874 U
Benzo[k]fluoranthene	800	1700	56000		400	50.5 U	**1660 JD**	**1780 D**
Bis(2-chloroethoxy)methane	--	--	--		51.1 U	50.5 U	428 U	437 U
Bis(2-chloroethyl) ether	--	--	--		51.1 U	50.5 U	428 U	437 U
Bis(2-ethylhexyl) phthalate	--	--	--		51.1 UJV	50.5 UJV	428 UJV	437 UJV
Butylbenzyl phthalate	--	--	--		51.1 U	50.5 U	428 UJV	437 UJV
Caprolactam	--	--	--		51.1 U	50.5 U	428 U	437 U
Carbazole	--	--	--		105 J	50.5 U	428 U	437 U
Chrysene	1000	1000	56000		581	50.5 U	**1610 JD**	**1900 D**
Dibenzo[a,h]anthracene	330	1000000	560		51.1 U	50.5 U	428 U	437 U
Dibenzofuran	7000	210000	350000		51.1 U	50.5 U	428 U	437 U
Diethyl phthalate	--	--	--		51.1 U	50.5 U	428 U	437 U
Dimethyl phthalate	--	--	--		51.1 U	50.5 U	428 U	437 U
Di-n-butyl phthalate	--	--	--		51.1 U	50.5 U	428 U	437 U
Di-n-octyl phthalate	--	--	--		51.1 U	50.5 U	428 U	437 U
Fluoranthene	100000	1000000	500000		1230 JV	50.5 U	3450 D	4180 D
Fluorene	30000	386000	500000		138 J	50.5 U	428 U	437 U
Hexachlorobenzene	330	3200	6000		51.1 U	50.5 U	428 U	437 U
Hexachlorobutadiene	--	--	--		51.1 U	50.5 U	428 U	437 U
Hexachlorocyclopentadiene	--	--	--		102 UJV	101 UJV	RV	RV
Hexachloroethane	--	--	--		51.1 U	50.5 U	428 U	437 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		230	50.5 U	**557 JD**	489 JD
Isophorone	--	--	--		51.1 U	50.5 U	428 U	437 U
Naphthalene	12000	12000	500000		51.1 U	50.5 U	428 U	437 U
Nitrobenzene	--	--	--		51.1 U	50.5 U	428 U	437 U
n-Nitrosodi-n-propylamine	--	--	--		51.1 U	50.5 U	428 U	437 U
n-Nitrosodiphenylamine	--	--	--		51.1 U	50.5 U	428 U	437 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)		RSB-13	RSB-13	RSB-14/4D	RSB-14/4D
				Sample Designation:	RSB-13	RSB-13	RSB-14/4D	RSB-14/4D
				Sample Date:	2/12/2014	2/12/2014	2/10/2014	2/10/2014
				;ample Depth (ft bls):	9	19	2.5	5
Pentachlorophenol	800	800	6700		102 U	101 U	857 U	874 U
Phenanthrene	100000	1000000	500000		820	50.5 U	2390 D	3110 D
Phenol	330	330	500000		51.1 U	50.5 U	428 U	437 U
Pyrene	100000	1000000	500000		783	50.5 U	2290 D	2770 D

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-14/4D 2/10/2014 10	RSB-14/4D 2/10/2014 38	RSB/MW-14 9/10/2014 12	RSB/MW-14 9/10/2014 17
1,1'-Biphenyl	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
1,2,4,5-Tetrachlorobenzene	--	--	--		2410 U	101 U	93.7 U	95.3 U
2,2'-oxybis (1-chloropropane)	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2,4,5-Trichlorophenol	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2,4,6-Trichlorophenol	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2,4-Dichlorophenol	--	--	--		2410 U	101 U	93.7 U	95.3 U
2,4-Dimethylphenol	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2,4-Dinitrophenol	--	--	--		RV	RV	186 U	189 U
2,4-Dinitrotoluene	--	--	--		2410 U	101 U	93.7 U	95.3 U
2,6-Dinitrotoluene	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2-Chloronaphthalene	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2-Chlorophenol	--	--	--		1930 JD	50.3 U	46.9 U	47.7 U
2-Methylnaphthalene	--	--	--		4540 JD	50.3 U	497	47.7 U
2-Methylphenol	330	330	500000		2410 U	101 U	93.7 U	95.3 U
2-Nitroaniline	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
2-Nitrophenol	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
3&4-Methylphenol	330	330	500000		2410 U	101 U	93.7 U	95.3 U
3,3'-Dichlorobenzidine	--	--	--		4800 U	200 UJV	186 UJV	189 U
3-Nitroaniline	--	--	--		2410 U	101 U	93.7 U	95.3 U
4,6-Dinitro-2-methylphenol	--	--	--		RV	RV	93.7 U	95.3 U
4-Bromophenyl phenyl ether	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
4-Chloro-3-methylphenol	--	--	--		2410 U	101 U	93.7 U	95.3 U
4-Chloroaniline	--	--	--		2410 U	101 UJV	93.7 U	95.3 U
4-Chlorophenyl phenyl ether	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
4-Nitroaniline	--	--	--		2410 U	101 U	93.7 U	95.3 U
4-Nitrophenol	--	--	--		2410 U	101 U	93.7 U	95.3 U
Acenaphthene	20000	98000	500000		1210 U	50.3 U	46.9 U	47.7 U
Acenaphthylene	100000	107000	500000		1210 U	50.3 U	46.9 U	47.7 U
Acetophenone	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Anthracene	100000	1000000	500000		1210 U	50.3 U	46.9 U	47.7 U
Atrazine	--	--	--		1210 U	50.3 U	46.9 U	47.7 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB-14/4D / 2/10/2014 / 10	RSB-14/4D / 2/10/2014 / 38	RSB/MW-14 / 9/10/2014 / 12	RSB/MW-14 / 9/10/2014 / 17
Benzaldehyde	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Benzo[a]anthracene	1000	1000	5600		1210 U	50.3 U	46.9 UJV	47.7 U
Benzo[a]pyrene	1000	22000	1000		1210 U	50.3 U	RV	47.7 U
Benzo[b]fluoranthene	1000	1700	5600		1210 U	50.3 U	RV	47.7 U
Benzo[g,h,i]perylene	100000	1000000	500000		2410 U	101 U	RV	95.3 U
Benzo[k]fluoranthene	800	1700	56000		1210 U	50.3 U	RV	47.7 U
Bis(2-chloroethoxy)methane	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Bis(2-chloroethyl) ether	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Bis(2-ethylhexyl) phthalate	--	--	--		1210 UJV	50.3 UJV	260 JV	47.7 U
Butylbenzyl phthalate	--	--	--		1210 U	50.3 UJV	48.7 JV	47.7 U
Caprolactam	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Carbazole	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Chrysene	1000	1000	56000		1210 U	50.3 U	46.9 UJV	47.7 U
Dibenzo[a,h]anthracene	330	1000000	560		1210 U	50.3 U	RV	47.7 U
Dibenzofuran	7000	210000	350000		1210 U	50.3 U	46.9 U	47.7 U
Diethyl phthalate	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Dimethyl phthalate	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Di-n-butyl phthalate	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Di-n-octyl phthalate	--	--	--		1210 U	50.3 U	RV	47.7 U
Fluoranthene	100000	1000000	500000		1210 U	50.3 U	52.1 JV	47.7 U
Fluorene	30000	386000	500000		1210 U	50.3 U	46.9 U	47.7 U
Hexachlorobenzene	330	3200	6000		1210 U	50.3 U	46.9 U	47.7 U
Hexachlorobutadiene	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Hexachlorocyclopentadiene	--	--	--		RV	RV	93.7 U	95.3 U
Hexachloroethane	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		1210 U	50.3 U	RV	47.7 U
Isophorone	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
Naphthalene	12000	12000	500000		2630 JD	50.3 U	218	47.7 U
Nitrobenzene	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
n-Nitrosodi-n-propylamine	--	--	--		1210 U	50.3 U	46.9 U	47.7 U
n-Nitrosodiphenylamine	--	--	--		1210 U	50.3 U	46.9 U	47.7 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:**	RSB-14/4D	RSB-14/4D	RSB/MW-14	RSB/MW-14
				Sample Date:	2/10/2014	2/10/2014	9/10/2014	9/10/2014
				Sample Depth (ft bls):	10	38	12	17
Pentachlorophenol	800	800	6700		2410 U	101 U	93.7 U	95.3 U
Phenanthrene	100000	1000000	500000		1210 U	50.3 U	123 J	47.7 U
Phenol	330	330	500000		1210 U	50.3 U	46.9 U	47.7 U
Pyrene	100000	1000000	500000		1210 U	50.3 U	84.1 J	47.7 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial S
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB/MW-14 9/9/2014 1	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 10
1,1'-Biphenyl	--	--	--		457 U	465 U	224 U	224 U
1,2,4,5-Tetrachlorobenzene	--	--	--		914 U	929 U	448 U	449 U
2,2'-oxybis (1-chloropropane)	--	--	--		457 U	465 U	224 U	224 U
2,4,5-Trichlorophenol	--	--	--		457 U	465 U	224 U	224 U
2,4,6-Trichlorophenol	--	--	--		457 U	465 U	224 U	224 U
2,4-Dichlorophenol	--	--	--		914 U	929 U	448 U	449 U
2,4-Dimethylphenol	--	--	--		457 U	465 U	224 U	224 U
2,4-Dinitrophenol	--	--	--		1820 U	1850 U	890 U	892 U
2,4-Dinitrotoluene	--	--	--		914 U	929 U	448 U	449 U
2,6-Dinitrotoluene	--	--	--		457 U	465 U	224 U	224 U
2-Chloronaphthalene	--	--	--		457 U	465 U	224 U	224 U
2-Chlorophenol	--	--	--		457 U	465 U	224 U	224 U
2-Methylnaphthalene	--	--	--		457 U	465 U	224 U	1500 D
2-Methylphenol	330	330	500000		914 U	929 U	448 U	449 U
2-Nitroaniline	--	--	--		457 U	465 U	224 U	224 U
2-Nitrophenol	--	--	--		457 U	465 U	224 U	224 U
3&4-Methylphenol	330	330	500000		914 U	929 U	448 U	449 U
3,3'-Dichlorobenzidine	--	--	--		1820 U	1850 UJV	890 UJV	892 UJV
3-Nitroaniline	--	--	--		914 U	929 U	448 U	449 U
4,6-Dinitro-2-methylphenol	--	--	--		914 U	929 U	448 U	449 U
4-Bromophenyl phenyl ether	--	--	--		457 U	465 U	224 U	224 U
4-Chloro-3-methylphenol	--	--	--		914 U	929 U	448 U	449 U
4-Chloroaniline	--	--	--		914 U	929 U	448 U	449 U
4-Chlorophenyl phenyl ether	--	--	--		457 U	465 U	224 U	224 U
4-Nitroaniline	--	--	--		914 U	929 U	448 U	449 U
4-Nitrophenol	--	--	--		914 UJV	929 U	448 U	449 U
Acenaphthene	20000	98000	500000		457 U	465 U	224 U	224 U
Acenaphthylene	100000	107000	500000		457 U	465 U	224 U	224 U
Acetophenone	--	--	--		457 U	465 U	224 U	224 U
Anthracene	100000	1000000	500000		457 U	465 U	291 JD	224 U
Atrazine	--	--	--		457 U	465 U	224 U	224 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB/MW-14 9/9/2014 1	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 10
Benzaldehyde	--	--	--		457 U	465 U	224 U	224 U
Benzo[a]anthracene	1000	1000	5600		457 U	752 JV	705 JV	224 UJV
Benzo[a]pyrene	1000	22000	1000		457 U	465 UJV	272 JV	RV
Benzo[b]fluoranthene	1000	1700	5600		457 UJV	465 UJV	266 JV	RV
Benzo[g,h,i]perylene	100000	1000000	500000		914 U	929 UJV	448 UJV	RV
Benzo[k]fluoranthene	800	1700	56000		457 U	465 UJV	334 JV	RV
Bis(2-chloroethoxy)methane	--	--	--		457 U	465 U	224 U	224 U
Bis(2-chloroethyl) ether	--	--	--		457 U	465 U	224 U	224 U
Bis(2-ethylhexyl) phthalate	--	--	--		457 U	465 UJV	224 UJV	224 UJV
Butylbenzyl phthalate	--	--	--		457 U	465 UJV	224 UJV	224 UJV
Caprolactam	--	--	--		457 U	465 U	224 U	224 U
Carbazole	--	--	--		457 U	465 U	224 U	224 U
Chrysene	1000	1000	56000		457 U	944 JV	787 JV	224 UJV
Dibenzo[a,h]anthracene	330	1000000	560		457 U	465 UJV	224 UJV	RV
Dibenzofuran	7000	210000	350000		457 U	465 U	224 U	224 U
Diethyl phthalate	--	--	--		457 U	465 U	224 U	224 U
Dimethyl phthalate	--	--	--		457 U	465 U	224 U	224 U
Di-n-butyl phthalate	--	--	--		457 U	465 U	224 U	224 U
Di-n-octyl phthalate	--	--	--		457 U	465 UJV	224 UJV	RV
Fluoranthene	100000	1000000	500000		457 U	2160 JV	1800 JV	224 UJV
Fluorene	30000	386000	500000		457 U	465 U	224 U	224 U
Hexachlorobenzene	330	3200	6000		457 U	465 U	224 U	224 U
Hexachlorobutadiene	--	--	--		457 U	465 U	224 U	224 U
Hexachlorocyclopentadiene	--	--	--		914 U	929 U	448 U	449 U
Hexachloroethane	--	--	--		457 U	465 U	224 U	224 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		457 U	465 UJV	224 UJV	RV
Isophorone	--	--	--		457 U	465 U	224 U	224 U
Naphthalene	12000	12000	500000		457 U	465 U	224 U	1040 D
Nitrobenzene	--	--	--		457 U	465 U	224 U	224 U
n-Nitrosodi-n-propylamine	--	--	--		457 U	465 U	224 U	224 U
n-Nitrosodiphenylamine	--	--	--		457 U	465 U	224 U	224 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **ample Depth (ft bls):**	RSB/MW-14 9/9/2014 1	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 4	RSB/MW-15 9/10/2014 10
Pentachlorophenol	800	800	6700		914 U	929 U	448 U	449 U
Phenanthrene	100000	1000000	500000		457 U	1400 JD	1280 D	372 JD
Phenol	330	330	500000		457 U	465 U	224 U	224 U
Pyrene	100000	1000000	500000		457 U	1840 D	1510 D	224 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
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V - Value altered or qualifier added during data validation
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Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	RSB/MW-15 9/10/2014 14	RSB/MW-16 9/9/2014 1	RSB/MW-16 9/9/2014 11	RSB/MW-16 9/9/2014 17
1,1'-Biphenyl	--	--	--		49.6 U	234 U	1170 U	50.6 U
1,2,4,5-Tetrachlorobenzene	--	--	--		99.2 U	468 U	2340 U	101 U
2,2'-oxybis (1-chloropropane)	--	--	--		49.6 U	234 U	1170 UJV	50.6 U
2,4,5-Trichlorophenol	--	--	--		49.6 U	234 U	1170 U	50.6 U
2,4,6-Trichlorophenol	--	--	--		49.6 U	234 U	1170 U	50.6 U
2,4-Dichlorophenol	--	--	--		99.2 U	468 U	2340 U	101 U
2,4-Dimethylphenol	--	--	--		49.6 U	234 U	1170 U	50.6 U
2,4-Dinitrophenol	--	--	--		197 U	930 U	4640 U	201 U
2,4-Dinitrotoluene	--	--	--		99.2 UV	468 U	2340 U	101 U
2,6-Dinitrotoluene	--	--	--		49.6 U	234 U	1170 U	50.6 U
2-Chloronaphthalene	--	--	--		49.6 U	234 U	1170 U	50.6 U
2-Chlorophenol	--	--	--		49.6 U	234 U	1170 U	50.6 U
2-Methylnaphthalene	--	--	--		49.6 U	234 U	1170 U	50.6 U
2-Methylphenol	330	330	500000		99.2 U	468 U	2340 U	101 U
2-Nitroaniline	--	--	--		49.6 U	234 U	1170 U	50.6 U
2-Nitrophenol	--	--	--		49.6 U	234 U	1170 U	50.6 U
3&4-Methylphenol	330	330	500000		99.2 U	468 U	2340 U	101 U
3,3'-Dichlorobenzidine	--	--	--		197 U	930 U	4640 U	201 U
3-Nitroaniline	--	--	--		99.2 U	468 U	2340 U	101 U
4,6-Dinitro-2-methylphenol	--	--	--		99.2 U	468 U	2340 U	101 U
4-Bromophenyl phenyl ether	--	--	--		49.6 U	234 U	1170 U	50.6 U
4-Chloro-3-methylphenol	--	--	--		99.2 U	468 U	2340 U	101 U
4-Chloroaniline	--	--	--		99.2 U	468 U	2340 U	101 U
4-Chlorophenyl phenyl ether	--	--	--		49.6 U	234 U	1170 U	50.6 U
4-Nitroaniline	--	--	--		99.2 U	468 U	2340 U	101 U
4-Nitrophenol	--	--	--		99.2 U	468 UJV	2340 U	101 UJV
Acenaphthene	20000	98000	500000		49.6 U	234 U	1170 U	50.6 U
Acenaphthylene	100000	107000	500000		49.6 U	234 U	1170 U	50.6 U
Acetophenone	--	--	--		49.6 U	234 U	1170 U	50.6 U
Anthracene	100000	1000000	500000		49.6 U	234 U	1170 U	50.6 U
Atrazine	--	--	--		49.6 U	234 U	1170 U	50.6 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB/MW-15 9/10/2014 14	RSB/MW-16 9/9/2014 1	RSB/MW-16 9/9/2014 11	RSB/MW-16 9/9/2014 17
Benzaldehyde	--	--	--		49.6 U	234 U	1170 UJV	50.6 U
Benzo[a]anthracene	1000	1000	5600		49.6 U	462 JD	1170 U	50.6 U
Benzo[a]pyrene	1000	22000	1000		49.6 U	355 JD	1170 UJV	50.6 U
Benzo[b]fluoranthene	1000	1700	5600		49.6 U	271 JV	1170 UJV	50.6 UJV
Benzo[g,h,i]perylene	100000	1000000	500000		99.2 U	468 U	2340 UJV	101 U
Benzo[k]fluoranthene	800	1700	56000		49.6 U	360 JD	1170 UJV	50.6 U
Bis(2-chloroethoxy)methane	--	--	--		49.6 U	234 U	1170 U	50.6 U
Bis(2-chloroethyl) ether	--	--	--		49.6 U	234 U	1170 U	50.6 U
Bis(2-ethylhexyl) phthalate	--	--	--		49.6 U	234 U	1170 UJV	50.6 U
Butylbenzyl phthalate	--	--	--		49.6 U	234 U	1170 U	50.6 U
Caprolactam	--	--	--		49.6 U	234 U	1170 U	50.6 U
Carbazole	--	--	--		49.6 U	234 U	1170 U	50.6 U
Chrysene	1000	1000	56000		49.6 U	457 JD	1170 U	50.6 U
Dibenzo[a,h]anthracene	330	1000000	560		49.6 U	234 U	1170 UJV	50.6 U
Dibenzofuran	7000	210000	350000		49.6 U	234 U	1170 U	50.6 U
Diethyl phthalate	--	--	--		49.6 U	234 U	1170 U	50.6 U
Dimethyl phthalate	--	--	--		49.6 U	234 U	1170 U	50.6 U
Di-n-butyl phthalate	--	--	--		49.6 U	234 U	1170 U	50.6 U
Di-n-octyl phthalate	--	--	--		49.6 U	234 U	1170 UJV	50.6 U
Fluoranthene	100000	1000000	500000		49.6 U	830 JD	1170 U	50.6 U
Fluorene	30000	386000	500000		49.6 U	234 U	1170 U	50.6 U
Hexachlorobenzene	330	3200	6000		49.6 U	234 U	1170 U	50.6 U
Hexachlorobutadiene	--	--	--		49.6 U	234 U	1170 U	50.6 U
Hexachlorocyclopentadiene	--	--	--		99.2 U	468 U	2340 U	101 U
Hexachloroethane	--	--	--		49.6 U	234 U	1170 U	50.6 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		49.6 U	234 U	1170 UJV	50.6 U
Isophorone	--	--	--		49.6 U	234 U	1170 U	50.6 U
Naphthalene	12000	12000	500000		49.6 U	234 U	1170 U	50.6 U
Nitrobenzene	--	--	--		49.6 U	234 U	1170 U	50.6 U
n-Nitrosodi-n-propylamine	--	--	--		49.6 U	234 U	1170 U	50.6 U
n-Nitrosodiphenylamine	--	--	--		49.6 U	234 U	1170 U	50.6 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	RSB/MW-15 9/10/2014 14	RSB/MW-16 9/9/2014 1	RSB/MW-16 9/9/2014 11	RSB/MW-16 9/9/2014 17
Pentachlorophenol	800	800	6700		99.2 U	468 U	2340 U	101 U
Phenanthrene	100000	1000000	500000		49.6 U	549 JD	1170 U	50.6 U
Phenol	330	330	500000		49.6 U	234 U	1170 U	50.6 U
Pyrene	100000	1000000	500000		49.6 U	759 JD	1170 U	50.6 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
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NYSDEC - New York State Department of Environmental Conservation
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Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
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V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: / Sample Date: / Sample Depth (ft bls):	RSB/MW-17 9/10/2014 1	RSB/MW-17 9/10/2014 13	RSB/MW-17 9/10/2014 17
1,1'-Biphenyl	--	--	--		212 U	46.1 U	50.1 U
1,2,4,5-Tetrachlorobenzene	--	--	--		424 U	92.2 U	100 U
2,2'-oxybis (1-chloropropane)	--	--	--		212 U	46.1 U	50.1 U
2,4,5-Trichlorophenol	--	--	--		212 U	46.1 U	50.1 U
2,4,6-Trichlorophenol	--	--	--		212 U	46.1 U	50.1 U
2,4-Dichlorophenol	--	--	--		424 U	92.2 U	100 U
2,4-Dimethylphenol	--	--	--		212 U	46.1 U	50.1 U
2,4-Dinitrophenol	--	--	--		842 U	183 U	199 U
2,4-Dinitrotoluene	--	--	--		424 U	92.2 U	100 U
2,6-Dinitrotoluene	--	--	--		212 U	46.1 U	50.1 U
2-Chloronaphthalene	--	--	--		212 U	46.1 U	50.1 U
2-Chlorophenol	--	--	--		212 U	46.1 U	50.1 U
2-Methylnaphthalene	--	--	--		212 U	364	50.1 U
2-Methylphenol	330	330	500000		424 U	92.2 U	100 U
2-Nitroaniline	--	--	--		212 U	46.1 U	50.1 U
2-Nitrophenol	--	--	--		212 U	46.1 U	50.1 U
3&4-Methylphenol	330	330	500000		424 U	92.2 U	100 U
3,3'-Dichlorobenzidine	--	--	--		842 UJV	183 UJV	199 U
3-Nitroaniline	--	--	--		424 U	92.2 U	100 U
4,6-Dinitro-2-methylphenol	--	--	--		424 U	92.2 U	100 U
4-Bromophenyl phenyl ether	--	--	--		212 U	46.1 U	50.1 U
4-Chloro-3-methylphenol	--	--	--		424 U	92.2 U	100 U
4-Chloroaniline	--	--	--		424 U	92.2 U	100 U
4-Chlorophenyl phenyl ether	--	--	--		212 U	46.1 U	50.1 U
4-Nitroaniline	--	--	--		424 U	92.2 U	100 U
4-Nitrophenol	--	--	--		424 U	92.2 U	100 U
Acenaphthene	20000	98000	500000		212 U	46.1 U	50.1 U
Acenaphthylene	100000	107000	500000		212 U	46.1 U	50.1 U
Acetophenone	--	--	--		212 U	46.1 U	50.1 U
Anthracene	100000	1000000	500000		410 JD	46.1 U	50.1 U
Atrazine	--	--	--		212 U	46.1 U	50.1 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation: Sample Date: Sample Depth (ft bls):	RSB/MW-17 9/10/2014 1	RSB/MW-17 9/10/2014 13	RSB/MW-17 9/10/2014 17
Benzaldehyde	--	--	--		212 U	46.1 U	50.1 U
Benzo[a]anthracene	1000	1000	5600		900 JV	46.1 UJV	50.1 U
Benzo[a]pyrene	1000	22000	1000		353 JV	RV	50.1 U
Benzo[b]fluoranthene	1000	1700	5600		341 JV	RV	50.1 U
Benzo[g,h,i]perylene	100000	1000000	500000		424 UJV	RV	100 U
Benzo[k]fluoranthene	800	1700	56000		434 JV	RV	50.1 U
Bis(2-chloroethoxy)methane	--	--	--		212 U	46.1 U	50.1 U
Bis(2-chloroethyl) ether	--	--	--		212 U	46.1 U	50.1 U
Bis(2-ethylhexyl) phthalate	--	--	--		212 UJV	210 JV	50.1 U
Butylbenzyl phthalate	--	--	--		212 UJV	79.7 JV	50.1 U
Caprolactam	--	--	--		212 U	46.1 U	50.1 U
Carbazole	--	--	--		212 U	46.1 U	50.1 U
Chrysene	1000	1000	56000		**1050 JV**	46.1 UJV	50.1 U
Dibenzo[a,h]anthracene	330	1000000	560		212 UJV	RV	50.1 U
Dibenzofuran	7000	210000	350000		212 U	46.1 U	50.1 U
Diethyl phthalate	--	--	--		212 U	46.1 U	50.1 U
Dimethyl phthalate	--	--	--		212 U	46.1 U	50.1 U
Di-n-butyl phthalate	--	--	--		212 U	46.1 U	50.1 U
Di-n-octyl phthalate	--	--	--		212 UJV	RV	50.1 U
Fluoranthene	100000	1000000	500000		2380 JV	55.6 JV	50.1 U
Fluorene	30000	386000	500000		212 U	46.1 U	50.1 U
Hexachlorobenzene	330	3200	6000		212 U	46.1 U	50.1 U
Hexachlorobutadiene	--	--	--		212 U	46.1 U	50.1 U
Hexachlorocyclopentadiene	--	--	--		424 U	92.2 U	100 U
Hexachloroethane	--	--	--		212 U	46.1 U	50.1 U
Indeno[1,2,3-cd]pyrene	500	8200	5600		212 UJV	RV	50.1 U
Isophorone	--	--	--		212 U	46.1 U	50.1 U
Naphthalene	12000	12000	500000		212 U	183	50.1 U
Nitrobenzene	--	--	--		212 U	46.1 U	50.1 U
n-Nitrosodi-n-propylamine	--	--	--		212 U	46.1 U	50.1 U
n-Nitrosodiphenylamine	--	--	--		212 U	46.1 U	50.1 U

Table 3. Summary of Semivolatile Organic Compounds in Soil, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	NYSDEC Part 375 Protection of Groundwater	NYSDEC Part 375 Commercial (µg/kg)	Sample Designation:	RSB/MW-17	RSB/MW-17	RSB/MW-17
				Sample Date:	9/10/2014	9/10/2014	9/10/2014
				ample Depth (ft bls):	1	13	17
Pentachlorophenol	800	800	6700		424 U	92.2 U	100 U
Phenanthrene	100000	1000000	500000		1810 D	137 J	50.1 U
Phenol	330	330	500000		212 U	46.1 U	50.1 U
Pyrene	100000	1000000	500000		2040 D	77.9 J	50.1 U

J - Estimated value
U - Indicates that the compound was analyzed for but not detected
B - The analyte was found in an associated blank as well as in the sample
NA - Compound was not analyzed by laboratory
D - A secondary analysis after dilution due to exceedance of the calibration range in the origina
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Protection of
Boxed data indicates that parameter was detected above the NYSDEC Part 375 Commercial S
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 4. Summary of Volatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: / **Sample Date:**	DUP092614 9/26/2014	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014
1,1,1-Trichloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2,2-Tetrachloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	1		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromoethane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	0.6		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	1		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Butanone (MEK)	50		0.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Methyl-2-pentanone (MIBK)	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acetone	50		1 U	2.4 UJV	13 UJV	4.7 UJV	4.7 UJV	8.8 UJV
Benzene	1		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromochloromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromoform	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	5		0.2 U	0.2 UJV	0.2 UJV	0.2 UJV	0.2 UJV	0.2 UJV
Carbon disulfide	60		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Carbon tetrachloride	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroform	7		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	5		0.2 U	1.4	0.56	0.2 U	0.2 U	0.75
cis-1,3-Dichloropropene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cyclohexane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 J
Dibromochloromethane	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloropropane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dichlorodifluoromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Table 4. Summary of Volatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: / **Sample Date:**	DUP092614 9/26/2014	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014
Freon 113	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Isopropylbenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m+p-Xylene	5		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.4
Methyl acetate	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylcyclohexane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.36 J
Methylene chloride	5		1.6 J	1 U	1 U	1 U	1 U	1 U
MTBE	10		0.2 U	0.27 J	0.2 U	0.2 U	0.2 U	0.23 J
o-Xylene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.96
Styrene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	5		0.2 U	0.27 J	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.47 J
trans-1,2-Dichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.22 J
Trichlorofluoromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl chloride	2		0.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes (total)	5		0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	2.4

NYSDEC - New York State Department of Environmental Conservation
AWQSGVs - Ambient Water-Quality Standards and Guidance Values
µg/L -Micrograms per liter
J - Estimated Value
U - Compound was analyzed for but not detected
DUP - Duplicate
- - No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs
NA - Compound was not analyzed by laboratory
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 4. Summary of Volatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: **Sample Date:**	MW-6 2/24/2014	MW-7 2/24/2014	MW-7 DUP 2/24/2014	MW-9 9/26/2014	MW-19 10/27/2015	MW-20 10/27/2015
1,1,1-Trichloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2,2-Tetrachloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	1		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.42 J
1,2,3-Trichlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromoethane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	0.6		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	1		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	3		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Butanone (MEK)	50		5	0.97	0.5 U	0.2 U	0.2 U	0.2 U
2-Hexanone	50		8.1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Methyl-2-pentanone (MIBK)	--		3.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acetone	50		28 UJV	3 UJV	6 UJV	1 U	1 U	1.2 J
Benzene	1		0.2 U	0.2 U	0.2 U	0.2 U	**1.2**	**5.2**
Bromochloromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromoform	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	5		0.2 UJV	0.2 UJV	0.2 UJV	0.2 U	0.2 U	0.2 U
Carbon disulfide	60		1	0.41 JV	0.2 U	0.2 U	0.2 U	0.2 U
Carbon tetrachloride	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroethane	5		0.2 U	0.2 U	0.2 U	0.2 U	1.6	**11**
Chloroform	7		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	2.4	**350 D**
cis-1,3-Dichloropropene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cyclohexane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.33 J
Dibromochloromethane	50		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloropropane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dichlorodifluoromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Table 4. Summary of Volatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: **Sample Date:**	MW-6 2/24/2014	MW-7 2/24/2014	MW-7 DUP 2/24/2014	MW-9 9/26/2014	MW-19 10/27/2015	MW-20 10/27/2015
Freon 113	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Isopropylbenzene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21 J
m+p-Xylene	5		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylcyclohexane	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.26 J
Methylene chloride	5		1 U	1 U	1 U	1.6 J	1 U	1 U
MTBE	10		0.2 U	0.2 U	0.2 U	0.2 U	**22**	**100**
o-Xylene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.82	0.2 U
Styrene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5
trans-1,3-Dichloropropene	--		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.52
Trichlorofluoromethane	5		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl chloride	2		0.5 U	0.5 U	0.5 U	0.2 U	**42**	**66**
Xylenes (total)	5		0.6 U	0.6 U	0.6 U	0.6 U	0.82 J	0.6 U

NYSDEC - New York State Department of Environmental Conservation
AWQSGVs - Ambient Water-Quality Standards and Guidance Values
µg/L -Micrograms per liter
J - Estimated Value
U - Compound was analyzed for but not detected
DUP - Duplicate
- - No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs
NA - Compound was not analyzed by laboratory
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	**Sample Designation:** / **Sample Date:**	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014	MW-6 2/24/2014	MW-7 2/24/2014
1,1'-Biphenyl	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
1,2,4,5-Tetrachlorobenzene	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2,2'-oxybis (1-chloropropane	5		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV
2,4,5-Trichlorophenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2,4,6-Trichlorophenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2,4-Dichlorophenol	5		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2,4-Dimethylphenol	50		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2,4-Dinitrophenol	10		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2,4-Dinitrotoluene	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2,6-Dinitrotoluene	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2-Chloronaphthalene	10		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2-Chlorophenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2-Methylnaphthalene	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2-Methylphenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
2-Nitroaniline	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
2-Nitrophenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
3&4-Methylphenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
3,3'-Dichlorobenzidine	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
3-Nitroaniline	5		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV
4,6-Dinitro-2-methylphenol	--		0.133 UJV	0.103 UJV	RV	RV	0.118 UJV	0.114 UJV	0.121 UJV
4-Bromophenyl phenyl ether	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
4-Chloro-3-methylphenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
4-Chloroaniline	5		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV
4-Chlorophenyl phenyl ether	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
4-Nitroaniline	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
4-Nitrophenol	--		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
Acenaphthene	20		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.149	0.0727
Acenaphthylene	20		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Acetophenone	--		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV
Anthracene	50		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.137	0.0606 U
Atrazine	--		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Benzaldehyde	--		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: / Sample Date:	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014	MW-6 2/24/2014	MW-7 2/24/2014
Benzo[a]anthracene	0.002		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	**0.0686**	0.0606 U
Benzo[a]pyrene	0		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Benzo[b]fluoranthene	0.002		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Benzo[g,h,i]perylene	--		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Benzo[k]fluoranthene	0.002		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Bis(2-chloroethoxy)methane	5		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	3.03 UJV
Bis(2-chloroethyl) ether	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Bis(2-ethylhexyl) phthalate	5		0.0667 UJV	0.0513 UJV	0.0513 UJV	0.0513 UJV	0.0588 UJV	0.0571 UJV	**39.6 JV**
Butylbenzyl phthalate	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Caprolactam	--		RV	RV	RV	RV	RV	RV	RV
Carbazole	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Chrysene	0.002		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	**0.0686**	0.0606 U
Dibenzo[a,h]anthracene	--		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Dibenzofuran	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Diethyl phthalate	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Dimethyl phthalate	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Di-n-butyl phthalate	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Di-n-octyl phthalate	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Fluoranthene	50		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.106	0.263	0.097
Fluorene	50		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0706	0.206	0.0606 U
Hexachlorobenzene	0.04		0.0267 U	0.0205 U	0.0205 U	0.0205 U	0.0235 U	0.0229 U	0.0242 U
Hexachlorobutadiene	0.5		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Hexachlorocyclopentadiene	5		3.33 UJV	2.56 UJV	2.56 UJV	2.56 UJV	2.94 UJV	2.86 UJV	RV
Hexachloroethane	5		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Indeno[1,2,3-cd]pyrene	0.002		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.0588 U	0.0571 U	0.0606 U
Isophorone	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Naphthalene	10		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.353	0.171	0.097
Nitrobenzene	0.4		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
n-Nitrosodi-n-propylamine	--		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
n-Nitrosodiphenylamine	50		3.33 U	2.56 U	2.56 U	2.56 U	2.94 U	2.86 U	3.03 U
Pentachlorophenol	1		0.0667 U	0.0513 U	RV	RV	0.0588 U	0.0571 U	0.0606 U
Phenanthrene	50		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.2	0.697	0.109

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	**Sample Designation:** **Sample Date:**	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014	MW-6 2/24/2014	MW-7 2/24/2014
Phenol	1		3.33 U	2.56 U	RV	RV	2.94 U	2.86 U	3.03 U
Pyrene	50		0.0667 U	0.0513 U	0.0513 U	0.0513 U	0.106	0.194	0.0606 U

NYSDEC - New York State Department of Environmental Conservation

AWQSGVs - Ambient Water-Quality Standards and Guidance Values

µg/L -Micrograms per liter

J - Estimated Value

U - Compound was analyzed for but not detected

DUP - Duplicate

- - No NYSDEC AWQSGV available

Bold data indicates that parameter was detected above the NYSDEC AWQSGVs

NA - Compound was not analyzed by laboratory

V - Value altered or qualifier added during data validation

R - Sample results rejected by validator

UJ - Analyte was not detected. The associated reported quantitation limit is an estimate

NJ - Detection is tentative in identification and estimated in value

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: / Sample Date:	MW-7 DUP 2/24/2014	MW-19 10/27/2015	MW-20 10/27/2015
1,1'-Biphenyl	--		2.94 U	2.7 U	2.56 U
1,2,4,5-Tetrachlorobenzene	--		2.94 U	2.7 U	2.56 U
2,2'-oxybis (1-chloropropane	5		2.94 UJV	2.7 U	2.56 U
2,4,5-Trichlorophenol	--		2.94 U	2.7 U	2.56 U
2,4,6-Trichlorophenol	--		2.94 U	2.7 U	2.56 U
2,4-Dichlorophenol	5		2.94 U	2.7 U	2.56 U
2,4-Dimethylphenol	50		2.94 U	2.7 U	2.56 U
2,4-Dinitrophenol	10		2.94 U	2.7 U	2.56 U
2,4-Dinitrotoluene	5		2.94 U	2.7 U	2.56 U
2,6-Dinitrotoluene	5		2.94 U	2.7 U	2.56 U
2-Chloronaphthalene	10		2.94 U	2.7 U	2.56 U
2-Chlorophenol	--		2.94 U	2.7 U	2.56 U
2-Methylnaphthalene	--		2.94 U	2.7 U	2.56 U
2-Methylphenol	--		2.94 U	2.7 U	2.56 U
2-Nitroaniline	5		2.94 U	2.7 U	2.56 U
2-Nitrophenol	--		2.94 U	2.7 U	2.56 U
3&4-Methylphenol	--		2.94 U	2.7 U	2.56 U
3,3'-Dichlorobenzidine	5		2.94 U	2.7 U	2.56 U
3-Nitroaniline	5		2.94 UJV	2.7 U	2.56 U
4,6-Dinitro-2-methylphenol	--		0.118 UJV	2.7 U	2.56 U
4-Bromophenyl phenyl ether	--		2.94 U	2.7 U	2.56 U
4-Chloro-3-methylphenol	--		2.94 U	2.7 U	2.56 U
4-Chloroaniline	5		2.94 UJV	2.7 U	2.56 U
4-Chlorophenyl phenyl ether	--		2.94 U	2.7 U	2.56 U
4-Nitroaniline	5		2.94 U	2.7 U	2.56 U
4-Nitrophenol	--		2.94 U	0.0541 U	0.0513
Acenaphthene	20		0.0824	0.0541 U	0.0513 U
Acenaphthylene	20		0.0588 U	2.7 U	2.56 U
Acetophenone	--		2.94 UJV	0.0541 U	0.226
Anthracene	50		0.0588 U	0.541 U	0.513 U
Atrazine	--		0.0588 U	2.7 U	2.56 U
Benzaldehyde	--		2.94 UJV	0.0541 U	0.164

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	**Sample Designation:** / **Sample Date:**	MW-7 DUP 2/24/2014	MW-19 10/27/2015	MW-20 10/27/2015
Benzo[a]anthracene	0.002		0.0588 U	0.0541 U	**0.144**
Benzo[a]pyrene	0		0.0588 U	0.0541 U	**0.144**
Benzo[b]fluoranthene	0.002		0.0588 U	0.0541 U	0.0821
Benzo[g,h,i]perylene	--		0.0588 U	0.0541 U	0.123
Benzo[k]fluoranthene	0.002		0.0588 U	2.7 U	2.56 U
Bis(2-chloroethoxy)methane	5		2.94 UJV	2.7 U	2.56 U
Bis(2-chloroethyl) ether	--		2.94 U	2.7 U	2.56 U
Bis(2-ethylhexyl) phthalate	5		**6.98 JV**	0.541 U	0.513 U
Butylbenzyl phthalate	50		2.94 U	2.7 U	2.56 U
Caprolactam	--		RV	2.7 U	2.56 U
Carbazole	--		2.94 U	2.7 U	2.56 U
Chrysene	0.002		0.0588 U	0.0541 U	**0.144**
Dibenzo[a,h]anthracene	--		0.0588 U	0.0541 U	0.0513 U
Dibenzofuran	--		2.94 U	2.7 U	2.56 U
Diethyl phthalate	50		2.94 U	2.7 U	2.56 U
Dimethyl phthalate	50		2.94 U	2.7 U	2.56 U
Di-n-butyl phthalate	50		2.94 U	2.7 U	2.56 U
Di-n-octyl phthalate	--		2.94 U	2.7 U	2.56 U
Fluoranthene	50		0.0941	0.108	0.503
Fluorene	50		0.0588 U	0.0541 U	0.113
Hexachlorobenzene	0.04		0.0235 U	0.0216 U	0.0205 U
Hexachlorobutadiene	0.5		0.0588 U	0.541 U	0.513 U
Hexachlorocyclopentadiene	5		2.94 UJV	2.7 U	2.56 U
Hexachloroethane	5		2.94 U	0.541 U	0.513 U
Indeno[1,2,3-cd]pyrene	0.002		0.0588 U	0.0541 U	**0.0718**
Isophorone	50		2.94 U	2.7 U	2.56 U
Naphthalene	10		0.106	0.0541 U	0.0513 U
Nitrobenzene	0.4		2.94 U	0.27 U	0.256 U
n-Nitrosodi-n-propylamine	--		2.94 U	2.7 U	2.56 U
n-Nitrosodiphenylamine	50		2.94 U	2.7 U	2.56 U
Pentachlorophenol	1		0.0588 U	0.27 U	0.256 U
Phenanthrene	50		0.129	0.0649	0.636

Table 5. Summary of Semivolatile Organic Compounds in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	Sample Designation: / Sample Date:	MW-7 DUP 2/24/2014	MW-19 10/27/2015	MW-20 10/27/2015
Phenol	1		2.94 U	2.7 U	2.56 U
Pyrene	50		0.0588 U	0.108	0.4

NYSDEC - New York State Department of Environmental Conservation

AWQSGVs - Ambient Water-Quality Standards and Guidance Values

µg/L -Micrograms per liter

J - Estimated Value

U - Compound was analyzed for but not detected

DUP - Duplicate

- - No NYSDEC AWQSGV available

Bold data indicates that parameter was detected above the NYSDEC AWQSGVs

NA - Compound was not analyzed by laboratory

V - Value altered or qualifier added during data validation

R - Sample results rejected by validator

UJ - Analyte was not detected. The associated reported quantitation limit is an esti

NJ - Detection is tentative in identification and estimated in value

Table 6. Summary of Metals in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	**Sample Designation:** **Sample Date:**	MW-1 2/24/2014	MW-2 2/24/2014	MW-3 2/24/2014	MW-3 9/26/2014	MW-4D 2/24/2014	MW-6 2/24/2014	MW-7 2/24/2014
Aluminum	--		1210	10 U	130	130	299	1790	23 JV
Antimony	3		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Arsenic	25		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Barium	1000		224	86	38	38	44	48	81
Beryllium	3		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5		3 U	3 U	3 U	3 U	3 U	3 U	3 U
Calcium	--		54400	115000	53900	53900	38000	45300	38600
Chromium	50		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cobalt	--		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Copper	200		28 JV	3 U	3	3	3 U	7	3 U
Iron	300		**33800**	20 U	106	106	**363**	**800**	41
Lead	25		**39**	3 UJV	3 UJV	3 UJV	3 UJV	**27**	3 UJV
Magnesium	--		8810	10900	8930	8930	13000	1020	7050
Manganese	300		**1080**	15	**830**	**830**	**2180**	112	**6050**
Mercury	0.7		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100		5 U	5 U	5 U	5 U	7	6	5 U
Potassium	--		7740	5050	6090	6090	2890	2500	3310
Selenium	10		10 U	**15**	10 U	10 U	10 U	10 U	10
Silver	50		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Sodium	20000		**69400**	11400	**39700**	**39700**	**92100**	**25100**	**52400**
Thallium	0.5		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vanadium	--		10 U	10 U	10 U	10 U	10 U	31	10 U
Zinc	2000		72	45	13	13	16	31	10

NYSDEC - New York State Department of Environmental Conservation
AWQSGVs - Ambient Water-Quality Standards and Guidance Values
µg/L -Micrograms per liter
J - Estimated Value
U - Compound was analyzed for but not detected
DUP - Duplicate
- - No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs
NA - Compound was not analyzed by laboratory
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 6. Summary of Metals in Groundwater, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/L)	NYSDEC AWQSGVs (µg/L)	**Sample Designation:** **Sample Date:**	MW-7 DUP 2/24/2014	MW-19 10/27/2015	MW-20 10/27/2015
Aluminum	--		15 JV	17500	6400
Antimony	3		5 U	6 U	6 U
Arsenic	25		4 U	5	7
Barium	1000		82	148	236
Beryllium	3		1 U	1 U	1 U
Cadmium	5		3 U	3 U	3 U
Calcium	--		39700	43700	73000
Chromium	50		5 U	42	17
Cobalt	--		5 U	11	6 U
Copper	200		3 U	20	12
Iron	300		37	**14700**	**4530**
Lead	25		3 UJV	**55**	**63**
Magnesium	--		7070	11600	15200
Manganese	300		**6070**	**2030**	**7710**
Mercury	0.7		0.2 U	0.2 U	0.2 U
Nickel	100		5	55	16
Potassium	--		3340	6680	7550
Selenium	10		10 U	11 U	11 U
Silver	50		5 U	6 U	6 U
Sodium	20000		**52700**	**38200 B**	**47000 B**
Thallium	0.5		5 U	6 U	**11**
Vanadium	--		10 U	29	14
Zinc	2000		12	90	131

NYSDEC - New York State Department of Environmental Conservation
AWQSGVs - Ambient Water-Quality Standards and Guidance Values
µg/L -Micrograms per liter
J - Estimated Value
U - Compound was analyzed for but not detected
DUP - Duplicate
- - No NYSDEC AWQSGV available
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs
NA - Compound was not analyzed by laboratory
V - Value altered or qualifier added during data validation
R - Sample results rejected by validator
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate
NJ - Detection is tentative in identification and estimated in value

Table 7. Summary of Volatile Organic Compounds in Vapor Samples, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/m^3) — Sample Designation: / Sample Date:	IA-1 2/24/2014	SV-1 2/24/2014	SV-2 2/28/2014	SV-3 2/24/2014	SV-4 2/24/2014	SV-5 2/24/2014	Outdoor Ambient 2/24/2014	SV-4 9/25/2014	SV-5 9/25/2014
1,1,1-Trichloroethane	0.55 U	11 U	12 U	11 U	12 U	9.6 U	0.55 U	14 U	13 U
1,1-Dichloroethane	0.41 U	8.5 U	9 U	8 U	8.8 U	7.2 U	0.41 U	10 U	9.5 U
Carbon tetrachloride	0.32 U	6.6 U	7 U	6.2 U	6.9 U	5.6 U	0.32 U	4.1 U	3.8 U
cis-1,2-Dichloroethene	**0.48**	8.3 U	8.8 U	7.8 U	8.6 U	7 U	0.4 U	10 U	9.5 U
Tetrachloroethene	**0.69**	14 U	15 U	13 U	**1100 D**	**88 D**	**0.83**	**220 D**	**210 D**
Trichloroethene	**1.2**	5.6 U	6 U	5.3 U	5.9 U	**13 D**	0.27 U	3.5 U	**21 D**
Vinyl chloride	0.26 U	5.3 U	5.7 U	5 U	5.6 U	4.5 U	0.26 U	1.7 U	1.5 U
1,1,2,2-Tetrachloroethane	0.7 U	14 U	15 U	14 U	15 U	12 U	0.7 U	18 U	16 U
1,1,2-Trichloroethane	0.55 U	11 U	12 U	11 U	12 U	9.6 U	0.55 U	14 U	13 U
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	0.4 U	8.3 U	8.8 U	7.8 U	8.6 U	7 U	0.4 U	10 U	9.7 U
1,2,4-Trichlorobenzene	0.75 U	16 U	17 U	15 U	16 U	13 U	0.75 U	19 U	18 U
1,2,4-Trimethylbenzene	0.5 U	10 U	11 U	9.7 U	11 U	8.7 U	**1.2**	**13 D**	**18 D**
1,2-Dibromoethane	0.78 U	16 U	17 U	15 U	17 U	14 U	0.78 U	20 U	18 U
1,2-Dichlorobenzene	0.61 U	13 U	13 U	12 U	13 U	11 U	0.61 U	16 U	14 U
1,2-Dichloroethane	**0.58**	8.5 U	9 U	8 U	8.8 U	7.2 U	0.41 U	10 U	9.7 U
1,2-Dichloropropane	0.47 U	9.7 U	10 U	9.1 U	10 U	8.2 U	0.47 U	12 U	11 U
1,3,5-Trimethylbenzene	0.5 U	10 U	11 U	9.7 U	11 U	8.7 U	0.5 U	13 U	12 U
1,3-BUTADIENE	0.44 U	9.1 U	9.7 U	8.5 U	9.5 U	7.7 U	0.44 U	11 U	10 U
1,3-Dichlorobenzene	0.61 U	13 U	13 U	12 U	13 U	11 U	0.61 U	16 U	14 U
1,3-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	0.61 U	13 U	13 U	12 U	13 U	11 U	0.61 U	16 U	14 U
1,4-Dioxane	0.37 U	7.5 U	8 U	7.1 U	7.9 U	6.4 U	0.37 U	9.3 U	8.6 U
2-Butanone (MEK)	**0.9**	6.2 U	6.6 U	5.8 U	6.4 U	5.2 U	**1.6**	**27 D**	**18 D**
2-Hexanone	0.83 U	17 U	18 U	16 U	18 U	14 U	0.83 U	21 U	20 U
4-Ethyltoluene	0.5 U	10 U	11 U	9.7 U	11 U	8.7 U	**1.4**	**14 D**	**26 D**
4-Methyl-2-pentanone (MIBK)	0.42 U	8.6 U	9.1 U	8.1 U	8.9 U	7.2 U	0.42 U	**13 D**	**36 D**
Acetone	**1.7**	5 U	5.3 U	**13 D**	**34 D**	**13 D**	**8**	**160 D**	**220 D**
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA
Allyl Chloride	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	**0.39**	6.7 U	7.1 U	6.3 U	7 U	5.6 U	**0.88**	8.3 U	**9.2 D**
Benzyl chloride	0.53 U	11 U	12 U	10 U	11 U	9.2 U	0.53 U	13 U	12 U
Bromodichloromethane	0.63 U	13 U	14 U	12 U	14 U	11 U	0.63 U	16 U	15 U
Bromoethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	1.1 U	22 U	23 U	20 U	23 U	18 U	1.1 U	27 U	25 U
Bromomethane	0.39 U	8.1 U	8.7 U	7.7 U	8.5 U	6.9 U	0.39 U	10 U	9.3 U

Table 7. Summary of Volatile Organic Compounds in Vapor Samples, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/m³) — Sample Designation: / Sample Date:	IA-1 2/24/2014	SV-1 2/24/2014	SV-2 2/28/2014	SV-3 2/24/2014	SV-4 2/24/2014	SV-5 2/24/2014	Outdoor Ambient 2/24/2014	SV-4 9/25/2014	SV-5 9/25/2014
Carbon disulfide	0.32 U	6.5 U	6.9 U	6.1 U	6.8 U	5.5 U	0.32 U	8 U	**11 D**
Chlorobenzene	**0.47**	9.6 U	10 U	9.1 U	10 U	8.1 U	0.47 U	12 U	11 U
Chloroethane	0.27 U	5.5 U	5.9 U	5.2 U	5.8 U	4.7 U	0.27 U	6.8 U	6.3 U
Chloroform	0.5 U	10 U	11 U	9.6 U	11 U	8.6 U	0.5 U	13 U	12 U
Chloromethane	0.21 U	4.3 U	4.6 U	4.1 U	4.5 U	3.7 U	**1.1**	5.3 U	5 U
cis-1,3-Dichloropropene	0.46 U	9.5 U	10 U	8.9 U	9.9 U	8 U	0.46 U	12 U	11 U
Cyclohexane	0.35 U	7.2 U	7.7 U	6.8 U	7.5 U	6.1 U	0.35 U	8.9 U	8.3 U
Dibromochloromethane	0.82 U	17 U	18 U	16 U	18 U	14 U	0.82 U	21 U	19 U
Dichlorodifluoromethane	0.5 U	10 U	11 U	9.7 U	11 U	8.7 U	**2.4**	13 U	12 U
Ethyl Acetate	0.37 U	7.5 U	8 U	7.1 U	7.9 U	6.4 U	0.37 U	19 U	17 U
Ethylbenzene	0.44 U	9.1 U	9.7 U	8.6 U	9.5 U	7.7 U	**0.88**	**17 D**	**30 D**
Freon 113	0.78 U	16 U	17 U	15 U	17 U	14 U	0.78 U	20 U	18 U
Freon 114	0.71 U	15 U	16 U	14 U	15 U	12 U	0.71 U	18 U	17 U
Hexachlorobutadiene	1.1 U	22 U	24 U	21 U	23 U	19 U	1.1 U	28 U	26 U
ISOPROPANOL	0.5 U	10 U	11 U	9.7 U	11 U	8.7 U	0.5 U	**38 D**	**78 D**
m+p-Xylene	0.88 U	18 U	19 U	**31 D**	19 U	15 U	**2.7**	**59 D**	**100 D**
Methyl Methacrylate	0.42 U	8.6 U	9.1 U	8.1 U	8.9 U	7.2 U	0.42 U	11 U	9.8 U
Methylene chloride	**1.1 B**	**11 BD**	**8.5 BD**	**7.5 BD**	**9.1 BD**	**16 BD**	**1.2 B**	18 U	17 U
MTBE	0.37 U	7.5 U	8 U	7.1 U	7.9 U	6.4 U	0.37 U	9.3 U	8.6 U
N-HEPTANE	0.42 U	8.6 U	9.1 U	8.1 U	8.9 U	7.2 U	**0.54**	11 U	**28 D**
N-HEXANE	0.36 U	7.4 U	7.9 U	6.9 U	7.7 U	6.2 U	**0.39**	9.1 U	8.5 U
o-Xylene	0.44 U	9.1 U	9.7 U	**8.6 D**	9.5 U	7.7 U	**0.84**	**21 D**	**40 D**
Propene	0.18 U	3.6 U	3.8 U	3.4 U	3.8 U	3 U	0.18 U	4.4 U	4.1 U
Styrene	0.43 U	8.9 U	9.5 U	8.4 U	9.3 U	7.5 U	0.43 U	11 U	10 U
TETRAHYDROFURAN	**0.66**	6.2 U	6.6 U	5.8 U	6.4 U	5.2 U	0.3 U	7.6 U	7.1 U
Toluene	**0.5**	7.9 U	8.4 U	**24 D**	8.2 U	6.7 U	**3.3**	**59 D**	**1100 D**
trans-1,2-Dichloroethene	0.4 U	8.3 U	8.8 U	7.8 U	8.6 U	7 U	0.4 U	10 U	9.5 U
trans-1,3-Dichloropropene	0.46 U	9.5 U	10 U	8.9 U	9.9 U	8 U	0.46 U	12 U	11 U
Trichlorofluoromethane	0.57 U	12 U	13 U	11 U	12 U	9.9 U	**1.2**	15 U	13 U
Vinyl acetate	0.36 U	7.4 U	7.8 U	6.9 U	7.7 U	6.2 U	0.36 U	9.1 U	8.5 U

B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.
Data users should consider anything <10x the blank value as artifact.

D - a secondary analysis after dilution due to exceedance of the calibration range in the original sample.

U - Indicates that the compound was analyzed for but not detected

µg/m³ - Micrograms per cubic meter

Bold data indicates that parameter was detected

Table 7. Summary of Volatile Organic Compounds in Vapor Samples, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameter (Concentrations in µg/m³) — Sample Designation: / Sample Date:	SV-6 9/25/2014	IA092514 9/25/2014	AMB031815 3/18/2015	IA031815 3/18/2015	SV-4 3/18/2015	SV-5 3/18/2015	SV-6 3/18/2015
1,1,1-Trichloroethane	31 U	0.55 U	0.55 U	0.68 U	0.61 U	1.3 U	0.7 U
1,1-Dichloroethane	23 U	0.4 U	0.4 U	0.51 U	0.45 U	0.95 U	0.52 U
Carbon tetrachloride	9 U	**0.5**	0.16 U	0.2 U	**0.63 D**	0.37 U	**0.81 D**
cis-1,2-Dichloroethene	23 U	0.4 U	0.4 U	0.5 U	0.44 U	0.93 U	0.51 U
Tetrachloroethene	**43 D**	**0.47**	0.17 U	**2.1 D**	**100 D**	**70 D**	**5.8 D**
Trichloroethene	7.7 U	0.13 U	0.13 U	0.17 U	**1.1 D**	**6.9 D**	0.17 U
Vinyl chloride	3.7 U	0.064 U	0.064 U	0.08 U	0.072 U	0.15 U	0.082 U
1,1,2,2-Tetrachloroethane	39 U	0.69 U	0.69 U	0.86 U	0.77 U	1.6 U	0.88 U
1,1,2-Trichloroethane	31 U	0.55 U	0.55 U	0.68 U	0.61 U	1.3 U	0.7 U
1,1,2-Trichloroethane	NA	NA	0.55 U	0.68 U	0.61 U	1.3 U	0.7 U
1,1-Dichloroethane	NA	NA	0.4 U	0.51 U	0.45 U	0.95 U	0.52 U
1,1-Dichloroethene	23 U	0.4 U	0.4 U	0.5 U	0.44 U	0.93 U	0.51 U
1,2,4-Trichlorobenzene	43 U	0.74 U	0.74 U	0.93 U	0.83 U	1.7 U	0.95 U
1,2,4-Trimethylbenzene	28 U	**3.7**	**0.64**	**120 D**	**2.6 D**	**17 D**	**12 D**
1,2-Dibromoethane	44 U	0.77 U	0.77 U	0.96 U	0.86 U	1.8 U	0.98 U
1,2-Dichlorobenzene	35 U	0.6 U	0.6 U	0.75 U	0.67 U	1.4 U	0.77 U
1,2-Dichloroethane	23 U	0.4 U	0.4 U	0.51 U	0.45 U	0.95 U	0.52 U
1,2-Dichloropropane	27 U	0.46 U	0.46 U	0.58 U	0.52 U	1.1 U	0.59 U
1,3,5-Trimethylbenzene	28 U	**1.2**	0.49 U	**34 D**	**2.2 D**	**5.4 D**	**3.6 D**
1,3-BUTADIENE	25 U	0.43 U	0.43 U	**16 D**	0.49 U	**7.3 D**	0.55 U
1,3-Dichlorobenzene	35 U	0.6 U	0.6 U	0.75 U	0.67 U	1.4 U	0.77 U
1,3-Dichloropropane	NA	NA	0.46 U	0.58 U	0.52 U	1.1 U	0.59 U
1,4-Dichlorobenzene	35 U	0.6 U	0.6 U	**8.9 D**	**1.8 D**	1.4 U	**1.2 D**
1,4-Dioxane	21 U	0.36 U	0.36 U	0.45 U	0.4 U	0.84 U	0.46 U
2-Butanone (MEK)	17 U	**2.2**	**1.3**	**53 D**	**0.36 D**	**2.4 D**	**0.57 D**
2-Hexanone	47 U	0.82 U	0.82 U	1 U	0.92 U	1.9 U	1 U
4-Ethyltoluene	28 U	**3.2**	**0.54**	**120 D**	**3.4 D**	**16 D**	**12 D**
4-Methyl-2-pentanone (MIBK)	24 U	0.41 U	0.41 U	0.51 U	0.46 U	0.96 U	0.52 U
Acetone	**81 D**	**1500 D**	**20**	**4700 D**	**8.3 D**	**20 D**	**5.6 D**
Acrylonitrile	NA	NA	0.22 U	0.27 U	0.24 U	0.51 U	0.28 U
Allyl Chloride	NA	NA	0.31 U	0.39 U	0.35 U	0.73 U	0.4 U
Benzene	18 U	**3.9**	**0.99**	**140 D**	**0.64 D**	**31 D**	0.41 U
Benzyl chloride	30 U	0.52 U	0.52 U	0.65 U	0.58 U	1.2 U	0.66 U
Bromodichloromethane	36 U	0.62 U	0.62 U	0.78 U	0.7 U	1.5 U	0.79 U
Bromoethene	NA	NA	0.44 U	0.55 U	0.49 U	1 U	0.56 U
Bromoform	59 U	1 U	1 U	1.3 U	1.2 U	2.4 U	1.3 U
Bromomethane	22 U	0.39 U	0.39 U	0.49 U	0.43 U	0.91 U	0.5 U

Table 7. Summary of Volatile Organic Compounds in Vapor Samples, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Sample Designation:	SV-6	IA092514	AMB031815	IA031815	SV-4	SV-5	SV-6
Parameter (Concentrations in μg/m³) Sample Date:	9/25/2014	9/25/2014	3/18/2015	3/18/2015	3/18/2015	3/18/2015	3/18/2015
Carbon disulfide	18 U	**0.47**	0.31 U	0.39 U	**0.56 D**	0.73 U	**1.7 D**
Chlorobenzene	26 U	0.46 U	0.46 U	0.58 U	0.52 U	1.1 U	0.59 U
Chloroethane	15 U	0.26 U	0.26 U	0.33 U	0.3 U	0.62 U	0.34 U
Chloroform	28 U	0.49 U	0.49 U	0.61 U	0.55 U	1.1 U	0.62 U
Chloromethane	12 U	**2**	**1.6**	**1.2 D**	0.23 U	0.48 U	0.26 U
cis-1,3-Dichloropropene	26 U	0.45 U	0.45 U	0.57 U	0.51 U	1.1 U	0.58 U
Cyclohexane	20 U	**3.6**	0.34 U	**130 D**	**0.58 D**	**32 D**	**0.66 D**
Dibromochloromethane	46 U	0.8 U	0.8 U	1 U	0.9 U	1.9 U	1 U
Dichlorodifluoromethane	28 U	**2.5**	**2.4**	**1.7 D**	**2.4 D**	**2.3 D**	**2.7 D**
Ethyl Acetate	41 U	0.72 U	0.72 U	0.9 U	0.81 U	1.7 U	0.92 U
Ethylbenzene	25 U	**30**	**1.1**	**200 D**	**5.1 D**	**36 D**	**21 D**
Freon 113	44 U	0.77 U	0.77 U	0.96 U	0.86 U	1.8 U	0.98 U
Freon 114	40 U	0.7 U	0.7 U	0.87 U	0.78 U	1.6 U	0.89 U
Hexachlorobutadiene	61 U	1.1 U	1.1 U	1.3 U	1.2 U	2.5 U	1.4 U
ISOPROPANOL	**31 D**	**180 D**	**6.1**	**15 D**	**1.6 D**	1.2 U	**0.88 D**
m+p-Xylene	**57 D**	**120**	**3.5**	**780 D**	**20 D**	**150 D**	**97 D**
Methyl Methacrylate	23 U	0.41 U	0.41 U	0.51 U	0.46 U	0.96 U	0.52 U
Methylene chloride	40 U	**120**	**32**	**3.7 D**	**17 D**	**3.1 D**	0.89 U
MTBE	21 U	0.36 U	0.36 U	0.45 U	0.4 U	0.84 U	0.46 U
N-HEPTANE	24 U	**42**	0.41 U	**270 D**	**1.2 D**	**54 D**	**11 D**
N-HEXANE	20 U	**110**	**8.3**	**350 D**	**7.1 D**	**110 D**	**14 D**
o-Xylene	25 U	**29**	**1.1**	**240 D**	**17 D**	**47 D**	**28 D**
Propene	9.9 U	0.17 U	0.17 U	0.22 U	0.19 U	0.4 U	0.22 U
Styrene	24 U	0.43 U	0.43 U	0.53 U	0.48 U	1 U	0.55 U
TETRAHYDROFURAN	17 U	0.29 U	0.29 U	0.37 U	0.33 U	0.69 U	0.38 U
Toluene	**220 D**	**410 D**	**5.7**	**1800 D**	**31 D**	**390 D**	**61 D**
trans-1,2-Dichloroethene	23 U	0.4 U	0.4 U	0.5 U	0.44 U	0.93 U	0.51 U
trans-1,3-Dichloropropene	26 U	0.45 U	0.45 U	0.57 U	0.51 U	1.1 U	0.58 U
Trichlorofluoromethane	32 U	**4.4**	**1.9**	**1.2 D**	**1.7 D**	**1.3 D**	**1.3 D**
Vinyl acetate	20 U	0.35 U	0.35 U	0.44 U	0.39 U	0.83 U	0.45 U

B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.
Data users should consider anything <10x the blank value as artifact.

D - a secondary analysis after dilution due to exceedance of the calibration range in the original sample.

U - Indicates that the compound was analyzed for but not detected

μg/m³ - Micrograms per cubic meter

Bold data indicates that parameter was detected

TABLE 8. TRACK 1 UNRESTRICTED CLEANUP COST ESTIMATE

FORMER KRISTAL AUTO MALL
5200 KINGS HIGHWAY, BROOKLYN, NY
ENVIRONMENTAL REMEDIATION COST ESTIMATE - MAY 2018

ITEM	Description	UNIT	QUANTITY	UNIT COST	TOTAL
	Demolition & Disposal				
1	1-Story Show Room and Offices	LS	1	$ 50,000	$50,000
2	1-Story Auto Repair Shop/Auto Storage/Auto Body Shop	LS	1	$ 500,000	$500,000
					$550,000
	Soil Handling and Removal				
3	Excavation support system	LS	1	$ 2,000,000	$2,000,000
4	Soil Excavation	CY	33,000	$ 40	$1,320,000
5	Soil Transport & Disposal Cost assuming 65% of soil is Non Hazardous	Ton	32,175	$ 55	$1,769,625
6	Soil Transport & Disposal Cost assuming 35% of soil is Petroleum Impacted	Ton	17,325	$ 75	$1,299,375
7	Soil Transport & Disposal Cost assuming 5% of soil is Hazardous	Ton	2,413	$ 275	$663,609
8	Importation and Placement of Clean Backfill	CY	5,000	$ 45	$225,000
					$7,277,609
	Product Recovery, Dewatering and Treatment/Disposal				
9	Dewatering Water Container Rental, Treatment/Disposal	Month	5	$ 50,000	$250,000
10	Product Recovery (Vacuum Truck, Sump Pumps, Absorbent Booms)	Month	4	$ 70,000	$280,000
					$530,000
	In-Situ Chemical Oxidation				
11	Application and Performance Sampling	LS	1	$ 100,000	$100,000
					$100,000
	SSDS				
1	Installation of Contingency SSDS	LS	1	$ 50,000	$50,000
					$50,000
	Supplemental Remediation Costs				
12	Mobilization/Demobilization	LS	1	$ 75,000	$75,000
13	In-Situ Waste Characterization, Endpoint Sampling and Additional Soil Sampling Delineation	LS	1	$ 240,000	$240,000
14	Community Air Monitoring Plan (CAMP) Implementation (during excavation and soil handling)	Month	6	$ 30,000	$180,000
15	Vapor, Dust, and Odor Suppression	LS	1	$ 60,000	$60,000
16	Engineering support and disposal coordination	Month	6	$ 15,000	$90,000
					$645,000
	Demolition, Soil handling, Product Recovery, Dewatering, ISCO and Remediation Cost Subtotal				**$9,152,609**
	20% cost contingency				**$1,830,521.88**
	5% fees, insurance and bonds				**$457,630**
	BCP Record Keeping				
17	Citizen Participation: Public Meeting, Fact Sheet Distribution, CPP development	Lump Sum	1	$ 20,000	$20,000
18	BCP weekly and monthly reporting requirements	month	8	$ 4,000	$32,000
19	Final Engineering Report	Lump Sum	1	$ 40,000	$40,000
					$92,000
	Total Remediation Costs				**$11,532,762**

Notes
1. Soil handling and removal costs subject to change pending actual remediation costs and excavation extents.
2. Soil handling and removal assumes excavation to the depths detailed in the RAWP.
3. CAMP implementation assumes one CAMP Technician and two CAMP monitoring stations operating 40 hours per week.
4. Excavation screening, end-point sampling, and disposal supervision assumes one part-time engineer/geologist onsite during excavation for field screening of excavated materials, end point soil sampling and waste disposal tracking.

TABLE 9. TRACK 2 RESTRICTED COMMERCIAL CLEANUP COST ESTIMATE

FORMER KRISTAL AUTO MALL
5200 KINGS HIGHWAY, BROOKLYN, NY
ENVIRONMENTAL REMEDIATION COST ESTIMATE - MAY 2018

ITEM	Description	UNIT	QUANTITY	UNIT COST	TOTAL
	Demolition & Disposal				
1	1-Story Show Room and Offices	LS	1	$ 50,000	$50,000
2	1-Story Auto Repair Shop/Auto Storage/Auto Body Shop	LS	1	$ 500,000	$500,000
					$550,000
	Soil Handling and Removal				
3	Excavation support system	LS	1	$ 2,000,000	$2,000,000
4	Soil Excavation	CY	30,000	$ 40	$1,200,000
5	Soil Transport & Disposal Cost assuming 65% of soil is Non Hazardous	Ton	29,250	$ 55	$1,608,750
6	Soil Transport & Disposal Cost assuming 35% of soil is Petroleum Impacted	Ton	15,750	$ 75	$1,181,250
7	Soil Transport & Disposal Cost assuming 5% of soil is Hazardous	Ton	2,194	$ 275	$603,281
8	Importation and Placement of Clean Backfill	CY	5,000	$ 45	$225,000
					$6,818,281
	Product Recovery, Dewatering and Treatment/Disposal				
9	Dewatering Water Container Rental, Treatment/Disposal	Month	4	$ 50,000	$200,000
10	Product Recovery (Vacuum Truck, Sump Pumps, Absorbent Booms)	Month	4	$ 70,000	$280,000
					$480,000
	In-Situ Chemical Oxidation				
11	Application and Performance Sampling	LS	1	$ 100,000	$100,000
					$100,000
	SSDS				
12	Installation of Contingency SSDS	LS	1	$ 50,000	$50,000
					$50,000
	Supplemental Remediation Costs				
13	Mobilization/Demobilization	LS	1	$ 75,000	$75,000
14	In-Situ Waste Characterization, Endpoint Sampling and Additional Soil Sampling Delineation	LS	1	$ 240,000	$240,000
15	Community Air Monitoring Plan (CAMP) Implementation (during excavation and soil handling)	Month	6	$ 30,000	$180,000
16	Vapor, Dust, and Odor Suppression	LS	1	$ 60,000	$60,000
17	Engineering support and disposal coordination	Month	6	$ 15,000	$90,000
					$645,000
	Demolition, Soil handling, Product Recovery, Dewatering, ISCO and Remediation Cost Subtotal				**$8,643,281**
	20% cost contingency				**$1,728,656**
	5% fees, insurance and bonds				**$432,164**
	BCP Record Keeping				
18	Citizen Participation: Public Meeting, Fact Sheet Distribution, CPP Development	Lump Sum	1	$ 20,000	$20,000
19	BCP weekly and monthly reporting requirements	Month	8	$ 4,000	$32,000
20	Final Engineering Report	Lump Sum	1	$ 40,000	$40,000
21	Environmental Easement	Lump Sum	1	$ 35,000	$35,000
22	Site Management Plan	Lump Sum	1	$ 25,000	$25,000
23	Annual Engineer Certification for SMP	Year	1	$ 5,000	$5,000
24	Annual Brownfield Redevelopment Report	Year	1	$ 10,000	$10,000
					$167,000
	Total Remediation Costs plus Engineering and Institutional Controls				**$10,971,102**

Notes
1. Soil handling and removal costs subject to change pending actual remediation costs and excavation extents.
2. Soil handling and removal assumes excavation to the depths detailed in the RAWP.
3. CAMP implementation assumes one CAMP Technician and two CAMP monitoring stations operating 40 hours per week.
4. Excavation screening, end-point sampling, and disposal supervision assumes one part-time engineer/geologist onsite during excavation for field screening of excavated materials, end point soil sampling and waste disposal tracking.
5. Environmental Easement and Site Management Plan Costs will be highly dependent upon legal review and editing.
6. Only one year of Annual cost items are shown in the table. Annual reports will be required for multiple years.

TABLE 10. TRACK 4 RESTRICTED COMMERCIAL CLEANUP COST ESTIMATE

FORMER KRISTAL AUTO MALL

5200 KINGS HIGHWAY, BROOKLYN, NY

ENVIRONMENTAL REMEDIATION COST ESTIMATE - MAY 2018

ITEM	Description	UNIT	QUANTITY	UNIT COST	TOTAL
	Demolition & Disposal				
1	1-Story Show Room and Offices	LS	1	$ 50,000	$50,000
2	1-Story Auto Repair Shop/Auto Storage/Auto Body Shop	LS	1	$ 500,000	$500,000
					$550,000
	Soil Handling and Removal				
3	Excavation support system	LS	1	$ 2,000,000	$2,000,000
4	Soil Excavation	CY	27,000	$ 40	$1,080,000
5	Soil Transport & Disposal Cost assuming 65% of soil is Non Hazardous	Ton	26,325	$ 55	$1,447,875
6	Soil Transport & Disposal Cost assuming 35% of soil is Petroleum Impacted	Ton	14,175	$ 75	$1,063,125
7	Soil Transport & Disposal Cost assuming 5% of soil is Hazardous	Ton	1,974	$ 275	$542,953
8	Importation and Placement of Clean Backfill	CY	5,000	$ 45	$225,000
					$6,358,953
	Product Recovery, Dewatering and Treatment/Disposal				
9	Dewatering Water Container Rental, Treatment/Disposal	Month	4	$ 50,000	$175,000
10	Product Recovery (Vacuum Truck, Sump Pumps, Absorbent Booms)	Month	4	$ 70,000	$280,000
					$455,000
	In-Situ Chemical Oxidation				
11	Application and Performance Sampling	LS	1	$ 100,000	$100,000
					$100,000
	SSDS				
12	Installation of Contingency SSDS	LS	1	$ 50,000	$50,000
					$50,000
	Supplemental Remediation Costs				
13	Mobilization/Demobilization	LS	1	$ 75,000	$75,000
14	In-Situ Waste Characterization, Endpoint Sampling and Additional Soil Sampling Delineation	LS	1	$ 240,000	$240,000
15	Community Air Monitoring Plan (CAMP) Implementation (during excavation and soil handling)	Month	6	$ 30,000	$180,000
16	Vapor, Dust, and Odor Suppression	LS	1	$ 60,000	$60,000
17	Engineering support and disposal coordination	Month	6	$ 15,000	$90,000
					$645,000
	Demolition, Soil handling, Product Recovery, Dewatering, ISCO and Remediation Cost Subtotal				**$8,158,953**
	20% cost contingency				**$1,631,791**
	5% fees, insurance and bonds				**$407,948**
	BCP Record Keeping				
18	Citizen Participation: Public Meeting, Fact Sheet Distribution, CPP Development	Lump Sum	1	$ 20,000	$20,000
19	BCP weekly and monthly reporting requirements	Month	8	$ 4,000	$32,000
20	Final Engineering Report	Lump Sum	1	$ 40,000	$40,000
21	Environmental Easement	Lump Sum	1	$ 35,000	$35,000
22	Site Management Plan	Lump Sum	1	$ 25,000	$25,000
23	Annual Engineer Certification for SMP	Year	1	$ 5,000	$5,000
24	Annual Brownfield Redevelopment Report	Year	1	$ 10,000	$10,000
					$167,000
	Total Remediation Costs plus Engineering and Institutional Controls				**$10,365,691**

Notes
1. Soil handling and removal costs subject to change pending actual remediation costs and excavation extents.
2. Soil handling and removal assumes excavation to the depths detailed in the RAWP.
3. CAMP implementation assumes one CAMP Technician and two CAMP monitoring stations operating 40 hours per week.
4. Excavation screening, end-point sampling, and disposal supervision assumes one part-time engineer/geologist onsite during excavation for field screening of excavated materials, end point soil sampling and waste disposal tracking.
5. Environmental Easement and Site Management Plan Costs will be highly dependent upon legal review and editing.
6. Only one year of Annual cost items are shown in the table. Annual reports will be required for multiple years.

Table 11. List of Permits, Former Kristal Auto Mall Site, 5200 Kings Highway, Brooklyn, New York

Regulatory Agency	Permit
NYCDEP	Sewer Certification and Sewer Permit (for new building connection)
NYCDOB	New Building (NB) Permit
NYCDOB	Fence Permit
NYCDOB	Foundation/Earthwork Permit
NYCDOB	Builder's Paving Plan
NYCDOB	Underground Plumbing Permit
NYCBSA	Zoning Variance

Note: This list only accounts for permits required from the street level and below. Permits for aboveground portions of the building are not listed.

NYCDEP - New York City Department of Environmental Protection
NYCDOB - New York City Department of Buildings
NYCDOT - New York City Department of Transportation
NYCBSA - New York City Board of Standards and Appeals

TABLE 12

Project Management/Health and Safety Personnel

Title	Contact	Telephone/Cell
5200 Kings Highway	**(Owner/General Contractor)**	
Project Manager	Michael Berfield	(212) 750-1918
Roux Associates		
Project Principal	Craig Werle	(631) 232-2600
Principal Engineer	Charles McGuckin	(631) 232-2600
Field Manager/Site Safety Officer	Wendy Shen	(631) 232-2600
Corporate Health and Safety Manager	Joseph Gentile	(856) 423-8800
Office Health and Safety Manager	Brian Hobbs	(631) 232-2600

Emergency Phone Numbers

Emergency Medical Service 911

Police: New York City Police Department (NYPD) 911

Fire: New York City Fire Department (NYFD) 911

CityMD Occupational Health Center 718-280-5172

Hospital: University Hospital of Brooklyn 718-270-1000

National Response Center 800-424-8802

Poison Control Center 800-222-1222

CHEMTREC® 800-262-8200

Centers for Disease Control 800-311-3435

USEPA (Region II) 212-637-5000

NYSDEC Emergency Spill Response 800-457-7362

AllOne Health Care Management 800-350-4511

(For all medical services)

Table 13. Soil Cleanup Objectives, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

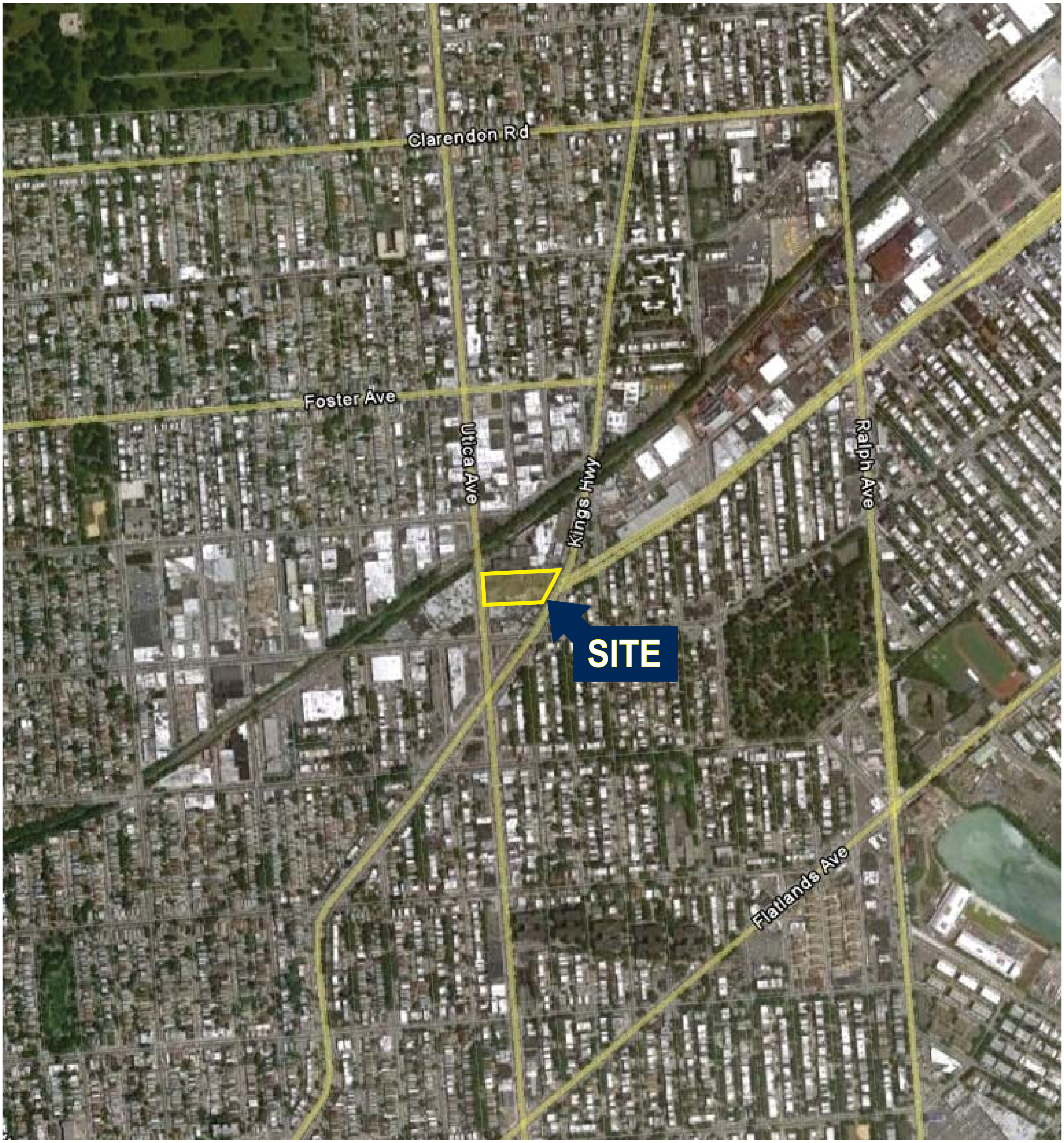
Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Protection of Groundwater SCO	NYSDEC Part 375 Commercial SCO
Volatile Organic Compounds (Concentrations in µg/kg)			
1,1,1-Trichloroethane	680	680	500000
1,1-Dichloroethane	270	270	240000
1,1-Dichloroethene	330	330	500000
1,2,4-Trimethylbenzene	3600	3600	190000
1,2-Dichlorobenzene	1100	1100	500000
1,2-Dichloroethane	20	20	30000
1,3,5-Trimethylbenzene	8400	8400	190000
1,3-Dichlorobenzene	2400	2400	280000
1,4-Dichlorobenzene	1800	1800	130000
1,4-Dioxane	100	100	130000
Acetone	50	50	500000
Benzene	60	60	44000
Carbon tetrachloride	760	760	22000
Chlorobenzene	1100	1100	500000
Chloroform	370	370	350000
cis-1,2-Dichloroethene	250	250	500000
Ethylbenzene	1000	1000	390000
2-Butanone (MEK)	120	120	500000
Methylene Chloride	50	50	500000
MTBE	930	930	500000
n-Butylbenzene	12000	12000	500000
n-Propylbenzene	3900	3900	500000
sec-Butylbenzene	11000	11000	500000
tert-Butylbenzene	5900	5900	500000
Tetrachloroethene	1300	1300	150000
Toluene	700	700	500000
trans-1,2-Dichloroethene	190	190	500000
Trichloroethene	470	470	200000
Vinyl chloride	20	20	13000
Xylenes (total)	260	1600	500000
Semivolatile Organic Compounds (Concentrations in µg/kg)			
Acenaphthene	20000	98000	500000
Acenaphthylene	100000	107000	500000
Anthracene	100000	1000000	500000
Benzo[a]anthracene	1000	1000	5600
Benzo[a]pyrene	1000	22000	1000
Benzo[b]fluoranthene	1000	1700	5600
Benzo[g,h,i]perylene	100000	1000000	500000
Benzo[k]fluoranthene	800	1700	56000
Chrysene	1000	1000	56000
Dibenzo[a,h]anthracene	330	1000000	560
Dibenzofuran	7000	210000	350000
Fluoranthene	100000	1000000	500000
Fluorene	30000	386000	500000
Hexachlorobenzene	330	3200	6000
Indeno[1,2,3-cd]pyrene	500	8200	5600
Naphthalene	12000	12000	500000
Semivolatile Organic Compounds— continued			
2-Methylphenol	330	330	500000

Table 13. Soil Cleanup Objectives, Former Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Parameters	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Protection of Groundwater SCO	NYSDEC Part 375 Commercial SCO
3-Methylphenol	330	330	500000
4-Methylphenol	330	330	500000
Pentachlorophenol	800	800	6700
Phenanthrene	100000	1000000	500000
Phenol	330	330	500000
Pyrene	100000	1000000	500000
Metals (Concentrations in mg/kg)			
Arsenic	13	16	16
Barium	350	820	400
Beryllium	7.2	47	590
Cadmium	2.5	7.5	9.3
Chromium	30	--	1500
Chromium, Hexavalent	1	19	400
Chromium, Trivalent	30	--	1500
Copper	50	1720	270
Cyanide	27	40	27
Lead	63	450	1000
Manganese	1600	2000	10000
Mercury	0.18	0.73	2.8
Nickel	30	130	310
Selenium	3.9	4	1500
Silver	2	8.3	1500
Zinc	109	2480	10000
Herbicides/Pesticides (Concentrations in µg/kg)			
2,4,5-TP	3800	3800	500000
4,4'-DDD	3.3	14000	92000
4,4'-DDE	3.3	17000	62000
4,4'-DDT	3.3	136000	47000
Aldrin	5	190	680
alpha-BHC	20	20	3400
alpha-Chlordane	94	2900	24000
beta-BHC	36	90	3000
delta-BHC	40	250	500000
Dieldrin	5	100	1400
Endosulfan I	2400	102000	200000
Endosulfan II	2400	102000	200000
Endosulfan sulfate	2400	1000000	200000
Endrin	14	60	89000
gamma-BHC (Lindane)	100	100	9200
Heptachlor	42	380	15000
Polychlorinated Biphenyls (Concentrations in µg/kg)			
Polychlorinated biphenyls (PCBs) - total	100	3200	1000

µg/kg - Micrograms per kilogram
mg/kg - Milligrams per kilogram
NYSDEC - New York State Department of Environmental Conservation
SCO - Soil Cleanup Objectives

FIGURES



N

0 1000'

SOURCE:
GOOGLE EARTH
IMAGERY DATE: 6/17/2010

Title:

SITE LOCATION MAP

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN , NEW YORK 11234

Prepared for:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	1
Project Mgr.: W.S.	Project No.: 2861.0001Y000	
File: 2861.0001Y102.01.CDR		

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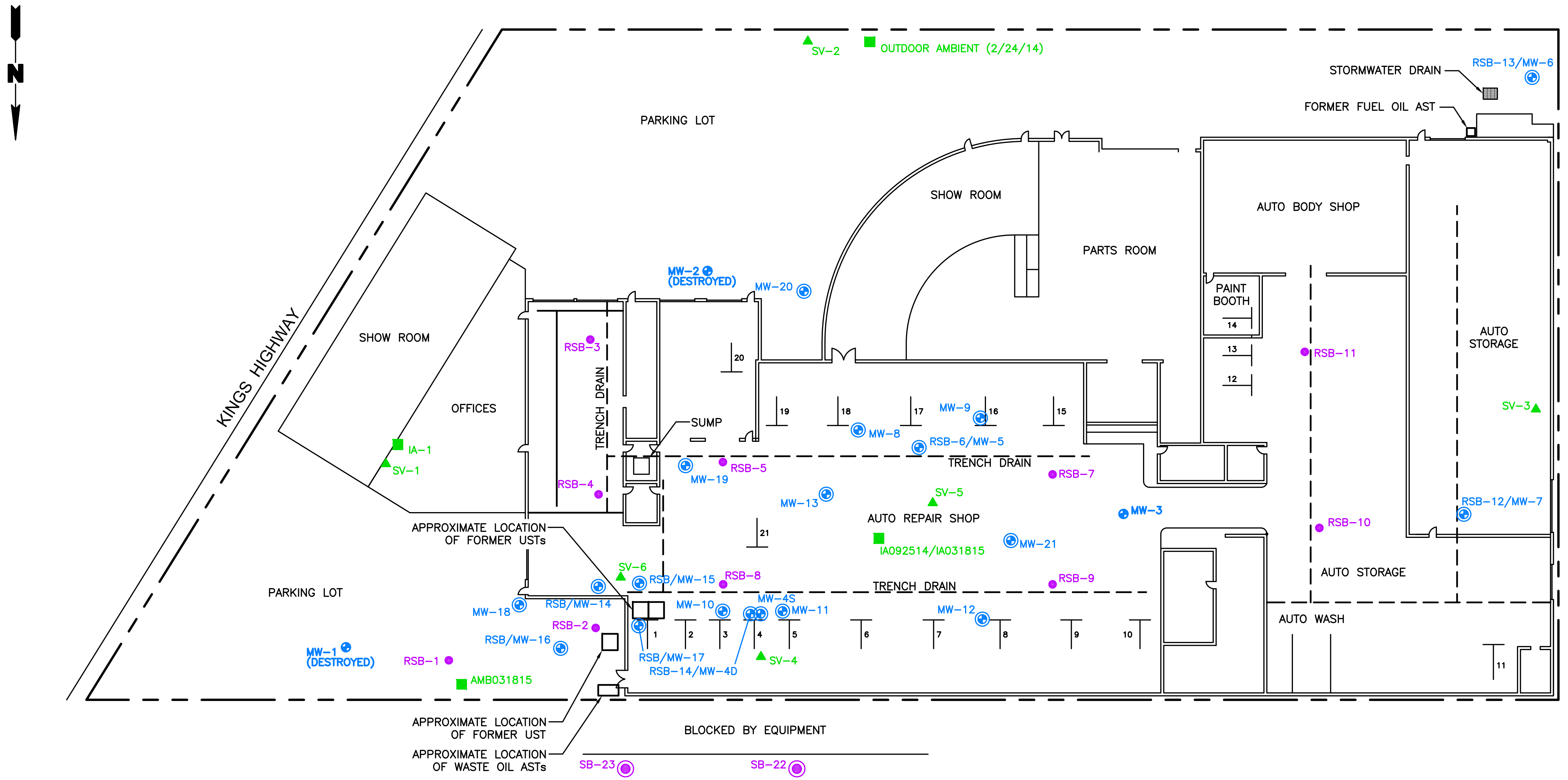

LEGEND

MW-1	EXISTING MONITORING WELL
MW-4	EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
RSB-5	EXISTING SOIL SAMPLE
SV-1	EXISTING SOIL VAPOR SAMPLE POINT
SB-22	SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
IA-1	INDOOR/AMBIENT AIR SAMPLE
16	NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION

40' 0 40'

Title:

SITE PLAN

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	2
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.02.DWG		

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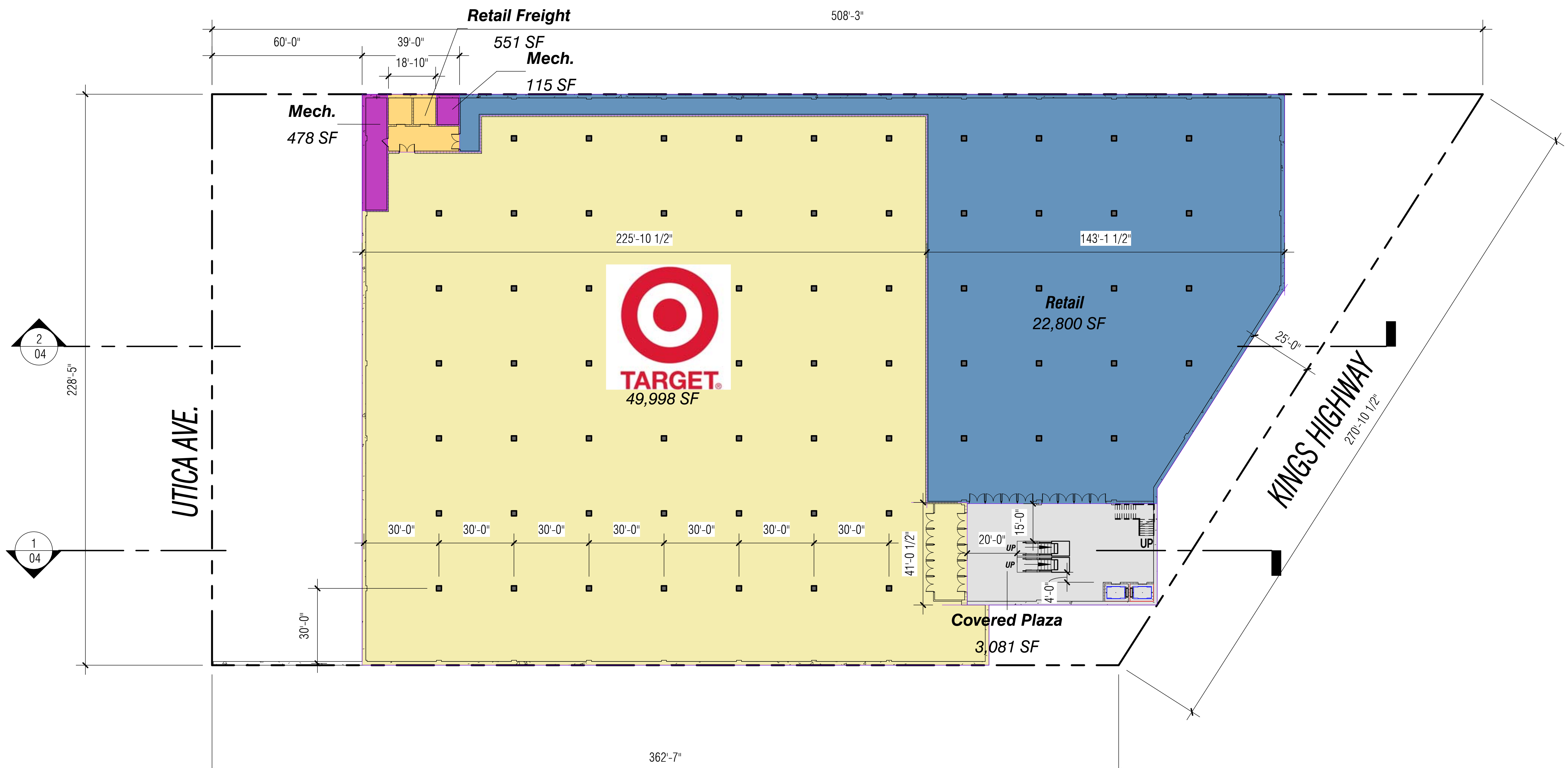
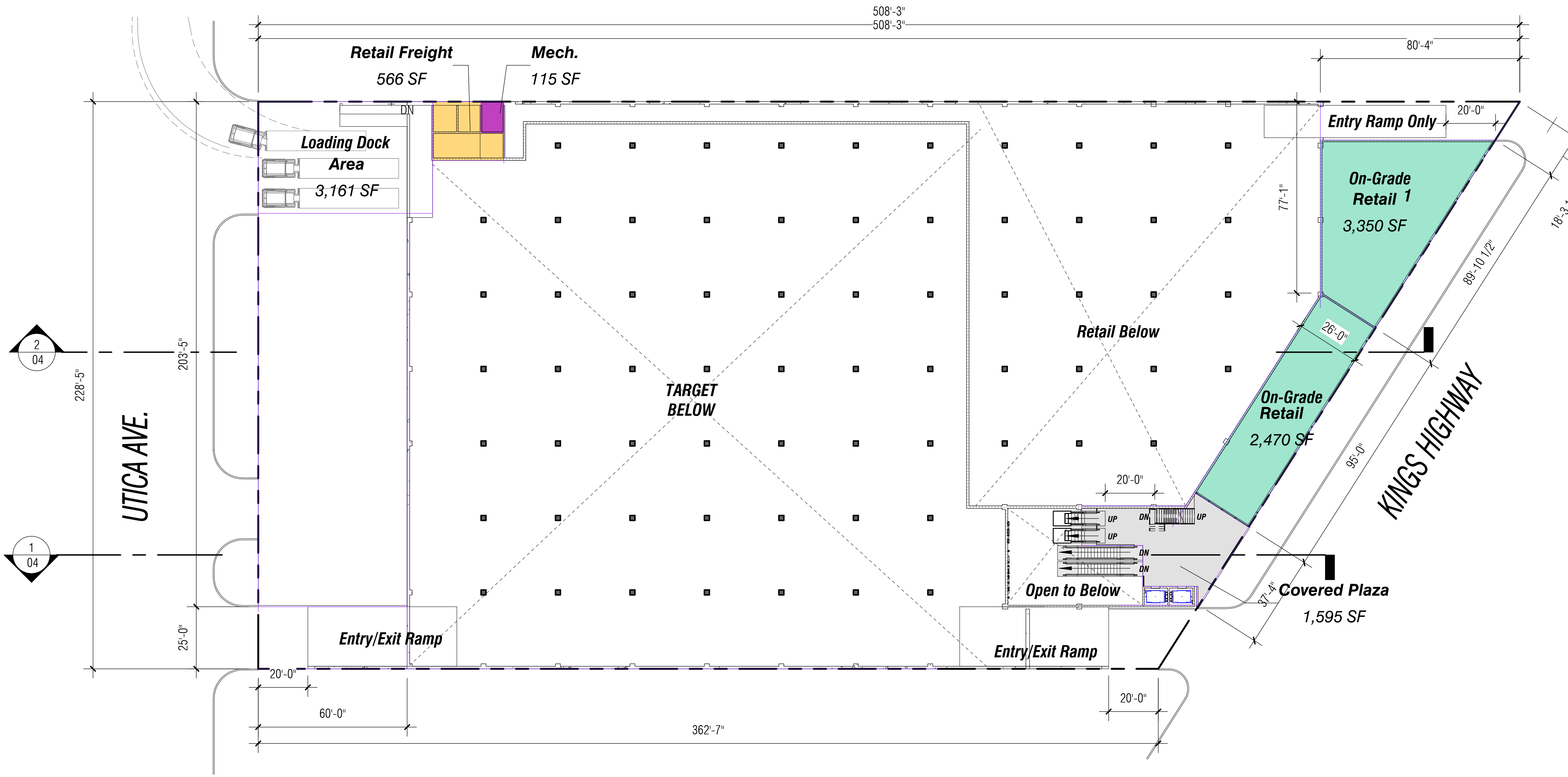
FIGURE 3



16104NYKH **5200 KINGS HIGHWAY, BROOKLYN, NY** | CONCEPT | CELLAR LEVEL PLAN | 1" = 40'-0" | 12/21/2017

ZYSCOVICH ARCHITECTS
270 Lafayette St . Suite 700
New York . NY 10012
t 212.343.0044 f 212.343.0046
e info@zyscovich.com
w www.zyscovich.com



16104NYKH **5200 KINGS HIGHWAY, BROOKLYN, NY**	CONCEPT	LEVEL 1 GRADE	1" = 40'-0"	12/21/2017

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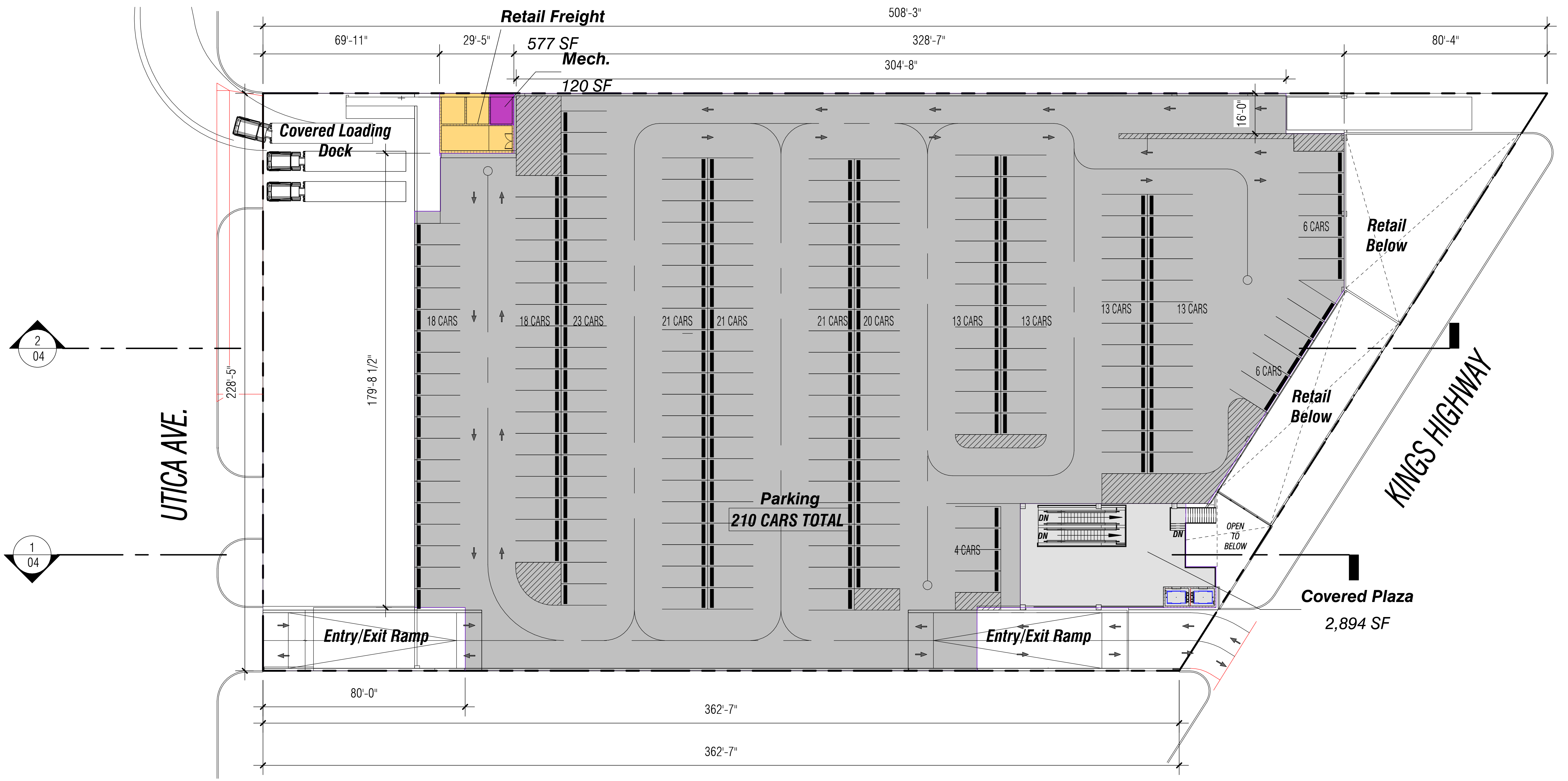
New York . NY 10012
t 212.343.0044 f 212.343.0046
e info@zyscovich.com
w www.zyscovich.com

FIGURE 3



16104NYKH **5200 KINGS HIGHWAY, BROOKLYN, NY** | CONCEPT | LEVEL 2 DECK | 1" = 40'-0" | 12/21/2017

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270 Lafayette St . Suite 700
New York . NY 10012
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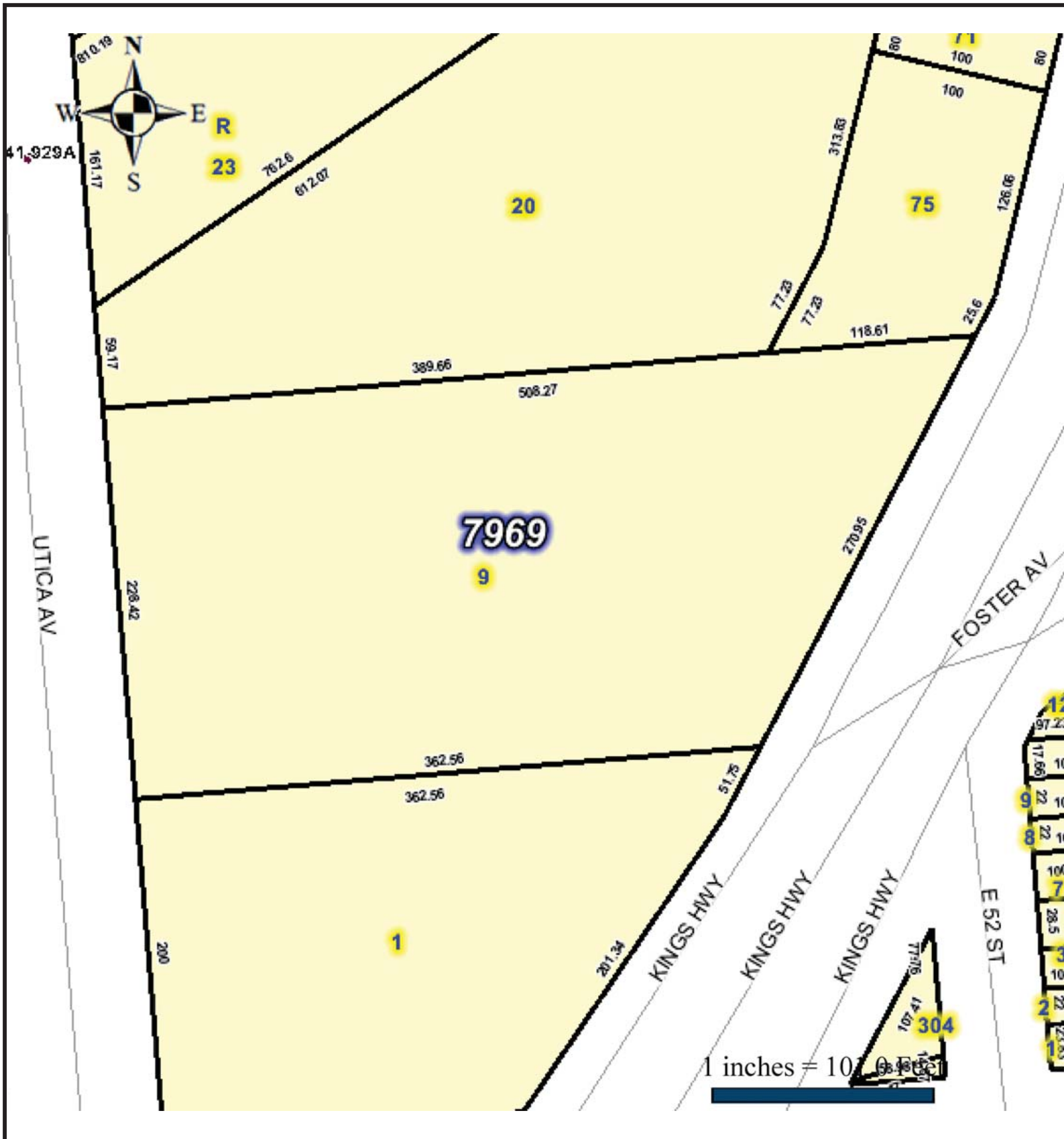
w www.zyscovich.com



Boroughs

Tax Blocks

Tax Lots

Boundary Lines

Streets

Title:

TAX MAP

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN , NEW YORK 11234

Prepared for:

BRIDGES DEVELOPMENT GROUP

ROUX	Compiled by: W.S.	Date: 27MAR18	FIGURE
	Prepared by: G.M.	Scale: AS SHOWN	4
	Project Mgr.: W.S.	Project No.: 2861.0001Y000	
	File: 2861.0001Y102.01.CDR		

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LEGEND

(purple)	COMMERCIAL
(yellow)	RESIDENTIAL
(blue)	INDUSTRIAL
(orange)	VACANT LOT

Title:

SURROUNDING LAND USAGE

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared for:
BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	5
Project Mgr.: W.S.	Project No.: 2861.0001Y000	
File: 2861.0001Y102.03.CDR		

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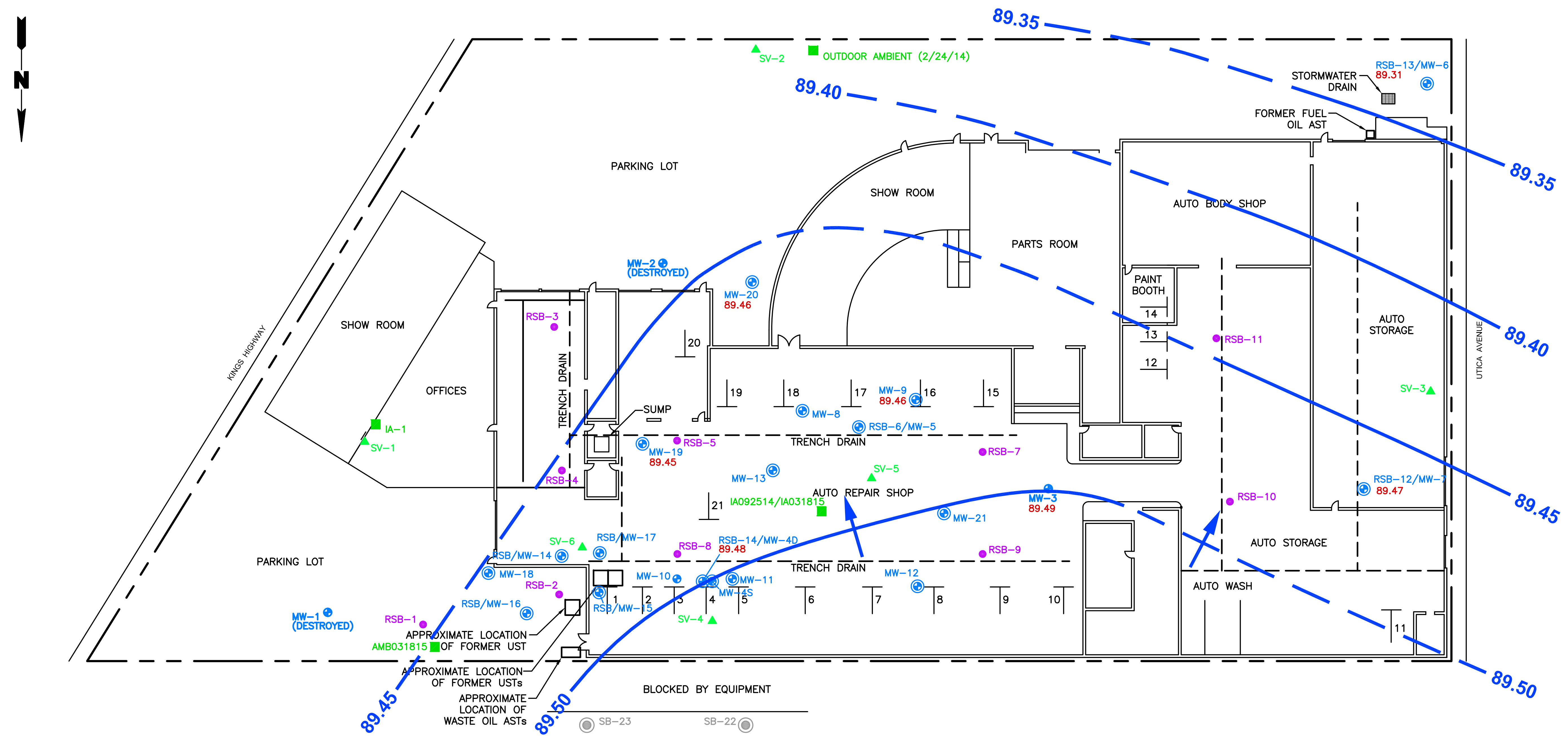

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LEGEND

MW-1	EXISTING MONITORING WELL	16	NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION
MW-4	EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES	89.31	GROUNDWATER ELEVATIONS (FEET RELATIVE TO SITE DATUM)
RSB-5	EXISTING SOIL SAMPLE	89.35	LINE OF EQUAL GROUNDWATER ELEVATION (DASHED WHERE INFERRED)
SV-1	EXISTING SOIL VAPOR SAMPLE POINT		GROUNDWATER FLOW DIRECTION
SB-22	SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007		
IA-1	INDOOR/AMBIENT AIR SAMPLE		

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

NOTE

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. RSB-14/MW-4D IS A DEEP WELL SCREENED FROM 30-40' BELOW LAND SURFACE. THIS WELL DOES NOT HAVE ANY FREE-PHASE PRODUCT.
3. WELLS WITH FREE PHASE PRODUCT WERE NOT USED.

40' 0 40'

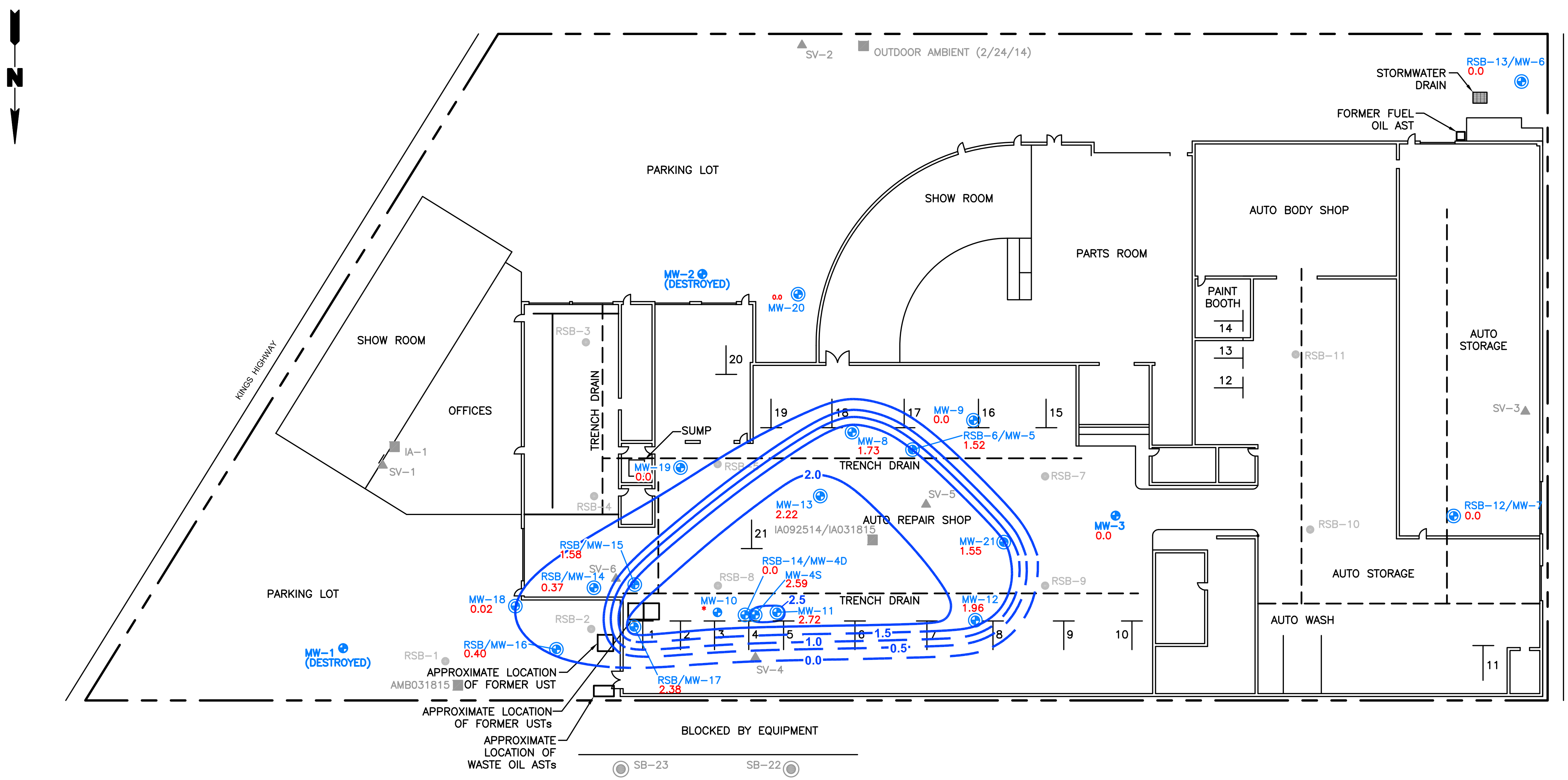
Title:
GROUNDWATER ELEVATION CONTOURS MAY 11, 2015

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:
BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	6
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.06.DWG		



LEGEND

MW-1	EXISTING MONITORING WELL	16	NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION
MW-4	EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES	0.0	LINE OF EQUAL FREE-PRODUCT THICKNESS, IN FEET (DASHED WHERE INFERRED)
RSB-5	EXISTING SOIL SAMPLE	2.72	FREE PRODUCT THICKNESS, IN FEET
SV-1	EXISTING SOIL VAPOR SAMPLE POINT	*	PRODUCT THICKNESS NOT MEASURED AT MW-10 DUE TO INTERFACE PROBE MALFUNCTION
SB-22	SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007		
IA-1	INDOOR/AMBIENT AIR SAMPLE		

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

NOTE

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. RSB-14/MW-4D IS A DEEP WELL SCREENED FROM 30-40' BELOW LAND SURFACE. THIS WELL DOES NOT HAVE ANY FREE-PHASE PRODUCT.

Title:
EXTENT OF FREE PHASE HYDROCARBONS MAY 11, 2015

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:
BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	7
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.07.DWG		

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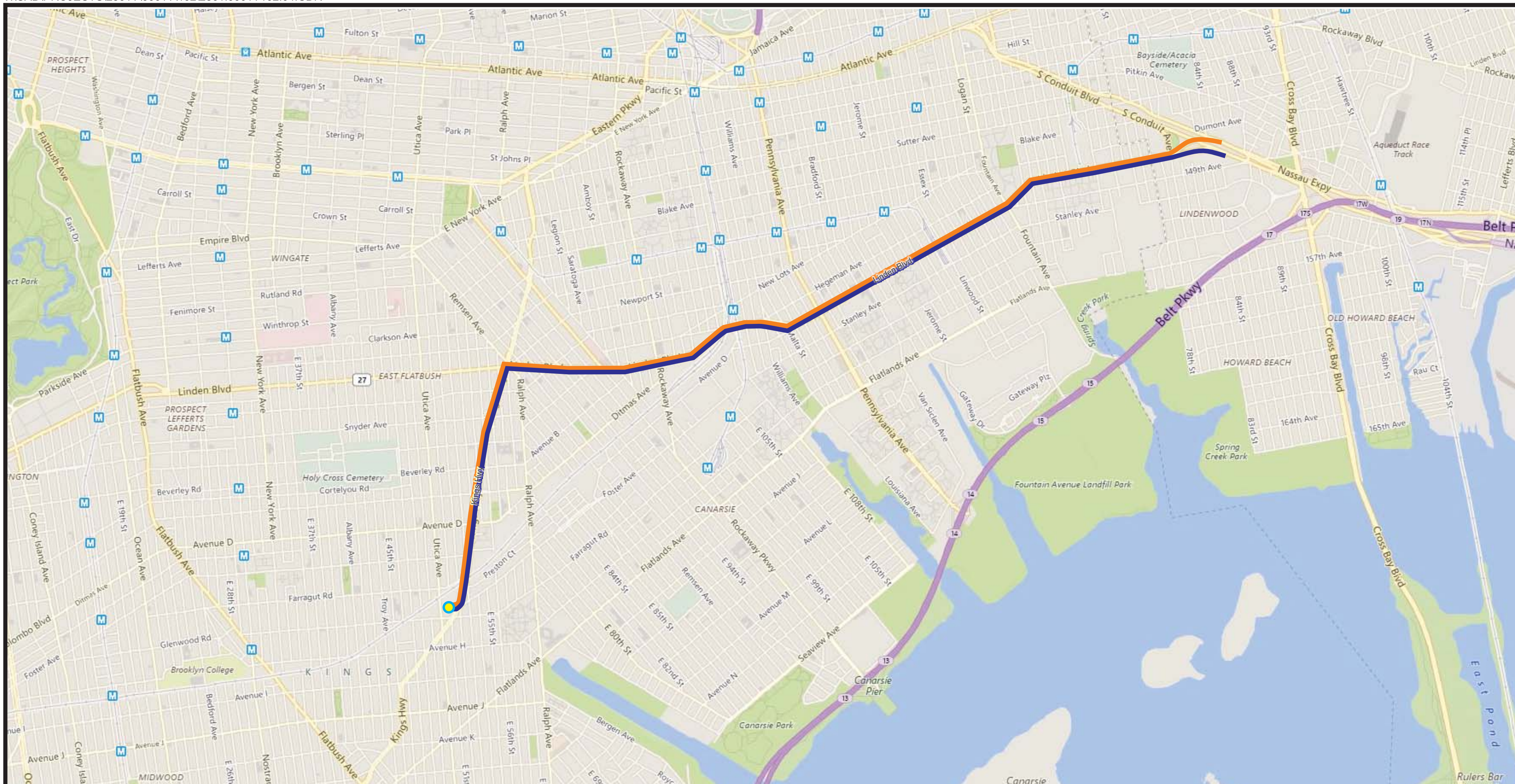

LEGEND

INBOUND

- FROM NASSAU EXPRESSWAY TAKE LINDEN BOULEVARD WEST
- TAKE KINGS HIGHWAY SOUTH
- SITE IS LOCATED ON THE RIGHT

OUTBOUND

- EXIT THE SITE ON KINGS HIGHWAY AND GO NORTH
- TAKE LINDEN BOULEVARD EAST
- GET ON NASSAU EXPRESSWAY

N

0 4000'

SOURCE:
BING MAPS 2017

Title:

TRUCK TRANSPORT ROUTE

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared for:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	8
Project Mgr.: W.S.	Project No.: 2861.0001Y000	
File: 2861.0001Y102.04.CDR		

FIGURE 9. PROPOSED REMEDIAL CONSTRUCTION SCHEDULE

Kristal Auto Mall, 5200 Kings Highway, Brooklyn, New York

Task Name	Start	Finish
Mobilization and Site Preparation	5/15/2018	6/15/2018
Existing Building Demolition	6/15/2018	7/15/2018
Excavation and Offsite Disposal of Grossly Contaminated Soil	8/1/2018	11/15/2018
Free Product Recovery	8/15/2018	11/15/2018
ISCO Application and Monitoring	11/15/2018	12/15/2018
Remedial Completion/Demobilization	12/15/2018	1/15/2019
Final Engineering Report	1/15/2019	2/15/2019

APPENDICES

A. Tax Map, Metes and Bounds
B. Soil Boring and Well Construction Logs
C. Groundwater Sampling Forms
D. Laboratory Reports
E. Soil Vapor Sampling Forms
F. Data Usability Summary Reports
G. Sanborn Maps
H. Health and Safety Plan and Community Air Monitoring Plan
I. Quality Assurance Project Plan
J. Citizen Participation Plan
K. Resumes of Key Personnel
L. BCP Site Sign Requirements
M. Engineering Controls Product Sheets
N. Proposed Support of Excavation

APPENDIX A

Tax Map, Metes and Bounds

Section 3, Block 7969, Lot 9

ALL that certain plot, piece or parcel of land situate, lying and being and the Borough of Manhattan, and County, City and State of New York bounded and described as follows:

BEGINNING at a point on the Easterly side of Utica Avenue distant 200 feet northerly from the corner formed by the intersection of the Easterly side of Utica Avenue and the northerly side of Glenwood Road;

RUNNING THENCE easterly along the southerly side of former Folger Place now closed 362.56 feet to the westerly side of Kings Highway 270.93 feet to the land formerly of Bertha Campbell;

RUNNING THENCE westerly along said land formerly of Bertha Campbell and parallel with the northerly side of former Folger Place 508.28 feet to the easterly side of Utica Avenue;

RUNNING THENCE southerly along the easterly side of Utica Avenue 228.42 feet to the point or place of BEGINNING.

Said premises being known as and by the street number 5200 Kings Highway, Brooklyn, New York.

APPENDIX B

Soil Boring and Well Construction Logs

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

209 Shafter Street
Islandia, NY 11749
Telephone: (631) 232-2600
Fax: (631) 232-9898

SOIL BORING LOG

WELL NO. **RSB-1**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of the Eastern Parking Lot**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/20/14-2/20/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		ASPHALT.			
		Light Brown, Fine to Coarse SAND, some Gravel (fill); dry.			
			G		
5		Brown, Fine to Coarse SAND, little gravel (fill); dry.		0.0 ppm	Hand-cleared to 5' bls. 3' Recovery.
		Brown, Fine to Coarse SAND, some brick fragments (fill); dry.			
10		Brown, Fine to Coarse SAND, little gravel; wet at 10'.		0.0 ppm	
		Brown, Fine to Coarse SAND, some Gravel; wet.		0.0 ppm	2' Recovery. Sample collected 10'-12' for TCL VOCs and TCL SVOCs.
				0.0 ppm	
15				0.0 ppm	2' Recovery.
20				0.0 ppm	Sample collected 20'-22' for TCL VOCs and TCL SVOCs.

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

209 Shafter Street
Islandia, NY 11749
Telephone: (631) 232-2600
Fax: (631) 232-9898

SOIL BORING LOG

WELL NO. **RSB-2**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of the Eastern Parking Lot**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/21/14-2/21/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	ASPHALT.			
	Dark Brown, Fine to Coarse SAND and GRAVEL, some Brick (fill); dry.		0.0 ppm	Sample collected 1'-3' for TCL VOCs and TCL SVOCs.
	Light Brown Fine to Coarse SAND, some Gravel (fill); dry.	G	0.4 ppm	
	Brown, Fine to Coarse SAND, some Gravel. Concrete at 3.5' (fill); dry.		0.5 ppm	Hand-cleared to 5' bls.
5	Brown, Fine to Coarse SAND, some Gravel, little brick and concrete fragments (fill); dry.		2.0 ppm	2' Recovery Sample collected 5'-7' for TCL VOCs and TCL SVOCs.
	Brown, Fine to Coarse SAND, some Silt, little Gravel (fill); dry.			
	Grey, and Dark Brown Fine to Coarse SAND, some Gravel, little silt; dry.		43.3 ppm	
10	Grey, Fine to Coarse SAND, some Silt, little gravel; wet at 10'.		386 ppm 440 ppm	3' Recovery. Sample collected 11'-13' for TCL VOCs and TCL SVOCs.
	Grey, Fine to Coarse SAND, some Gravel, little silt; wet.		138 ppm	
15			70 ppm 6.0 ppm	4' Recovery.
	Light Brown, Fine to Coarse SAND, some Gravel; wet.		7.5 ppm	Sample collected 18'-20' for TCL VOCs and TCL SVOCs.
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SOIL BORING LOG

WELL NO. **RSB-3**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Auto Storage Area Near Offices**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/20/14-2/20/14**

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
Not Measured	**Not Measured**	

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	Brown, Fine to Coarse SAND and GRAVEL, some Brick (fill); dry.		0.3 ppm	
5				Hand-cleared to 5' bls.
			0.0 ppm	2' Recovery.
			0.0 ppm	Sample collected from 8'-10' for TCL VOCs and TCL SVOCs.
10	Brown, Fine to Coarse SAND, some Silt, little gravel; wet at 10'.		0.0 ppm	2' Recovery.
	Brown, Fine to Coarse SAND, some Gravel; wet.		0.3 ppm	
15			0.0 ppm	3' Recovery.
			1.2 ppm	
			0.0 ppm	Sample collected from 18'-20' for TCL VOCs and TCL SVOCs.
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SOIL BORING LOG

WELL NO.	NORTHING	EASTING	
RSB-4	**Not Measured**	**Not Measured**	
PROJECT NO./NAME: **1575.0002Y000 / Kristal Auto Mall**		LOCATION: **5200 Kings Highway, Brooklyn, NY**	
APPROVED BY	LOGGED BY: **Joe Gavin**		
DRILLING CONTRACTOR/DRILLER: **Trinity / Joe S.**		GEOGRAPHIC AREA: **Auto Storage Area Near Offices**	
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**; START-FINISH DATE: **2/21/14-2/21/14**
LAND SURFACE ELEVATION: **Not Measured**	DEPTH TO WATER: **Not Measured**	BACKFILL	

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	VOID.			
	Brown, Fine to Coarse SAND, some Gravel, little silt (fill); dry.		1.2 ppm	
5			0.0 ppm	Hand-cleared to 5' bls. 2.5' Recovery.
	Brown, Fine to Coarse SAND, some Gravel, some Brick, little silt (fill); dry.		2.2 ppm	
	Grey, Fine to Coarse SAND and GRAVEL, wet at 10'.		2.5 ppm	Sample collected 8'-10' for TCL VOCs and TCL SVOCs.
10	Brown, Fine to Coarse SAND, some Gravel; wet.		8.7 ppm	2.5' Recovery.
			7.3 ppm	
15			1.9 ppm	5' Recovery.
			5.9 ppm	
			3.4 ppm	Sample collected 18'-20' for TCL VOCs and TCL SVOCs.
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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
RSB-5	**Not Measured**	**Not Measured**		
PROJECT NO./NAME: **1575.0002Y000 / Kristal Auto Mall**		LOCATION: **5200 Kings Highway, Brooklyn, NY**		
APPROVED BY:	LOGGED BY: **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER: **Trinity / Joe S.**		GEOGRAPHIC AREA: **South Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **2/18/14-2/18/14**
LAND SURFACE ELEVATION: **Not Measured**	DEPTH TO WATER: **Not Measured**	BACKFILL:		

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	CONCRETE.			
	Void.			
	Brown, Fine to Medium SAND, little gravel (fill); dry.		3.7 ppm	
5	Brown, Fine to Coarse SAND, some Gravel (fill); dry.		7.3 ppm	Hand-cleared to 5' bls.
	Grey and Brown, Fine to Medium SAND and SILT, little gravel and coarse sand; dry.		4.2 ppm	2' Recovery.
	Brown, Fine SAND, little gravel; dry.		5.1 ppm	
	Grey and Brown, Fine to Medium SAND and SILT, little gravel and coarse sand; wet at 10.5'.		4.2 ppm	Sample collected 8.5'-10.5' for TCL VOCs and TCL SVOCs.
10			4.0 ppm	2' Recovery.
	Brown, Fine to Coarse SAND, little gravel; wet.		5.0 ppm	
15			4.7 ppm	4' Recovery.
	Grey, Fine to Coarse SAND, little gravel; wet.		5.5 ppm	Sample collected 18.5'-20.5' for TCL VOCs and TCL SVOCs.
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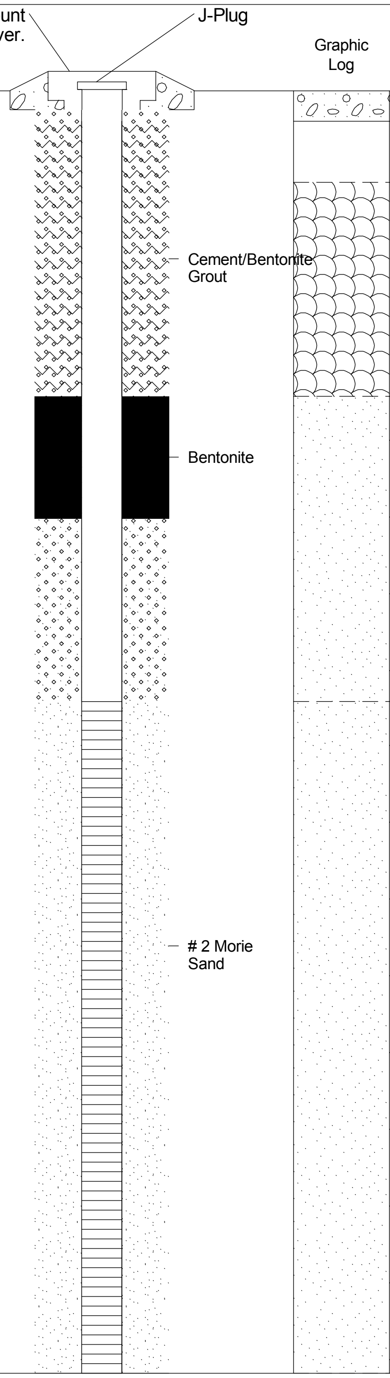
WELL CONSTRUCTION LOG

WELL NO. **RSB-6/MW-5**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **South Side of Auto Repair Shop**
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**
SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/18/14-2/18/14**	
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**
ELEVATION OF: (Feet) GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN **/**
GRAVEL PACK SIZES **#2 Morie**		



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.		0.0 ppm	
	VOID.			
	Brown, Fine to Coarse SAND, little gravel (fill); dry.		0.0 ppm	
			0.0 ppm	Hand-cleared to 5' bls.
5	Light Brown, Fine to Coarse SAND, little gravel; dry.			1.5' Recovery.
			10.1 ppm	Sample collected 9'-11' for TCL VOCs and TCL SVOCs.
10	Brown, Fine to Coarse SAND, trace gravel; wet at 11'.			2' Recovery.
15			14.2 ppm	5' Recovery.
			8.3 ppm	
			7.4 ppm	Sample collected 19'-21' for TCL VOCs and TCL SVOCs.
20				

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SOIL BORING LOG

WELL NO. **RSB-7**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway** **Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **South Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/19/14-2/19/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown, Fine to Coarse SAND and GRAVEL, some Brick (fill); dry.	G	0.0 ppm	
5					Hand-cleared to 5' bls.
5		Brown, Fine to Coarse SAND and GRAVEL; wet at 10.5'.		2.5	2' Recovery.
					Sample collected 8.5'-10.5' for TCL VOCs and TCL SVOCs.
10				5.3 ppm	3.5' Recovery.
		Brown, Fine to Coarse SAND, little silt and gravel; wet.		3.8	
		Brown, Fine to Coarse SAND, some Gravel; wet.		3.1 ppm	
15				4.9 ppm	4' Recovery.
				4.5 ppm	Sample collected 18.5'-20.5' for TCL VOCs and TCL SVOCs.
20					

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SOIL BORING LOG

WELL NO. **RSB-8**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/19/14-2/19/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	CONCRETE.			
	VOID.			
	Brown, Fine to Coarse SAND, little gravel (fill); dry.	G	0.4 ppm	Sample collected 1.5'-3.5' TCL VOCs and TCL SVOCs.
			0.3 ppm	
5				Hand-cleared to 5' bls.
	Brown, Fine to Coarse SAND and GRAVEL, little brick fragments (fill); dry.		0.5 ppm	2' Recovery. Sample collected 5'-7' TCL VOCs and TCL SVOCs.
	Brown, Fine to Coarse SAND and GRAVEL with some Brick (fill); dry.		0.7 ppm	
				Sample collected 8.5'-10.5' TCL VOCs and TCL SVOCs.
10	Brown, Fine to Coarse SAND and GRAVEL; wet at 10.5'.		0.4 ppm	4' Recovery.
	Grey, Fine to Medium SAND, some Silt, trace coarse sand; wet.		5.5 ppm	
	Grey, Fine to Coarse SAND, some Gravel; wet.		11.8 ppm	
	Brown, Fine to Coarse SAND, some Gravel; wet.		1.5 ppm	
15			3.2 ppm	5' Recovery.
			2.4 ppm	
			2.0 ppm	Sample collected 18.5'-20.5' TCL VOCS and TCL SVOCs.
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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
RSB-9	**Not Measured**	**Not Measured**		
PROJECT NO./NAME: **1575.0002Y000 / Kristal Auto Mall**		LOCATION: **5200 Kings Highway, Brooklyn, NY**		
APPROVED BY	LOGGED BY: **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER: **Trinity / Joe S.**		GEOGRAPHIC AREA: **North Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **2/19/14-2/19/14**
LAND SURFACE ELEVATION: **Not Measured**	DEPTH TO WATER: **Not Measured**	BACKFILL		

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0–5	Fine to Coarse SAND and GRAVEL; dry.	G		Hand-cleared to 5' bls.
5	Brown, Fine to Coarse SAND, some Gravel; dry.			2' Recovery.
	Brown, Fine SAND and SILT, some Coarse Sand, trace clay; dry.		3.2 ppm	Sample collected 8.5'-10.5' TCL VOCs and TCL SVOCs.
10	Grey and Brown, Fine SAND and SILT, some Coarse Sand, trace clay. Wet at 10.5'.		8.0 ppm	5' Recovery.
	Grey, Fine to Coarse SAND, little gravel; wet.		4.8 ppm	
	Brown, Fine to Coarse SAND, little gravel; wet.		3.5 ppm	
15	Brown and Grey, Fine to Coarse SAND, some Gravel; wet.		3.5 ppm	5' Recovery.
	Brown, Fine to Coarse SAND, some Gravel; wet.		4.1 ppm	
20			3.5 ppm	Sample collected 18.5'-20.5' TCL VOCs and TCL SVOCs.

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SOIL BORING LOG

WELL NO. **RSB-10**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Auto Storage / Auto Wash Area**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/20/14-2/20/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	VOID.			
	Brown, Fine to Coarse SAND and GRAVEL (fill); dry.		1.6 ppm	
			2.6 ppm	
	Brown, Fine to Coarse SAND, some Gravel (fill); dry.		0.4 ppm	Hand-cleared to 5' bls.
5	Light Brown, Fine to Coarse SAND, little gravel (fill); wet at 9.5'.			5' Recovery.
				Sample collected 7.5'-9.5' for TCL VOCs and TCL SVOCs.
10	Brown, Fine to Coarse SAND, little gravel; wet.		5.0 ppm	2.5' Recovery.
			3.3 ppm	
			2.5 ppm	
15			4.3 ppm	5' Recovery.
			5.3 ppm	Sample collected 17.5'-19.5' for TCL VOCs and TCL SVOCs.
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SOIL BORING LOG

WELL NO. **RSB-11**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Outside Paint Booth Area**		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/20/14-2/20/14**
LAND SURFACE ELEVATION **Not Measured**	DEPTH TO WATER **Not Measured**	BACKFILL		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		CONCRETE.			
		VOID.			
		Brown, Fine to Coarse SAND, some Gravel (fill); dry.			Hand-cleared to 5' bls.
5		Brown, Fine to Coarse SAND, little Gravel (fill); wet at 9.5'.		2.6 ppm	2' Recovery.
				2.5 ppm	Sample collected 7.5'-9.5' for TCL VOCs and TCL SVOCs.
10		Brown, Fine to Coarse SAND, some Gravel; wet.		2.6 ppm	4' Recovery.
		Grey, Fine to Coarse SAND, some Gravel; wet.		1.8 ppm	
15		Grey, Fine to Coarse SAND, some Gravel; wet.		1.8 ppm	4' Recovery.
		Brown, Fine to Coarse SAND, some Gravel; wet.		2.0 ppm	Sample collected 17.5'-19.5' for TCL VOCs and TCL SVOCs.
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WELL CONSTRUCTION LOG

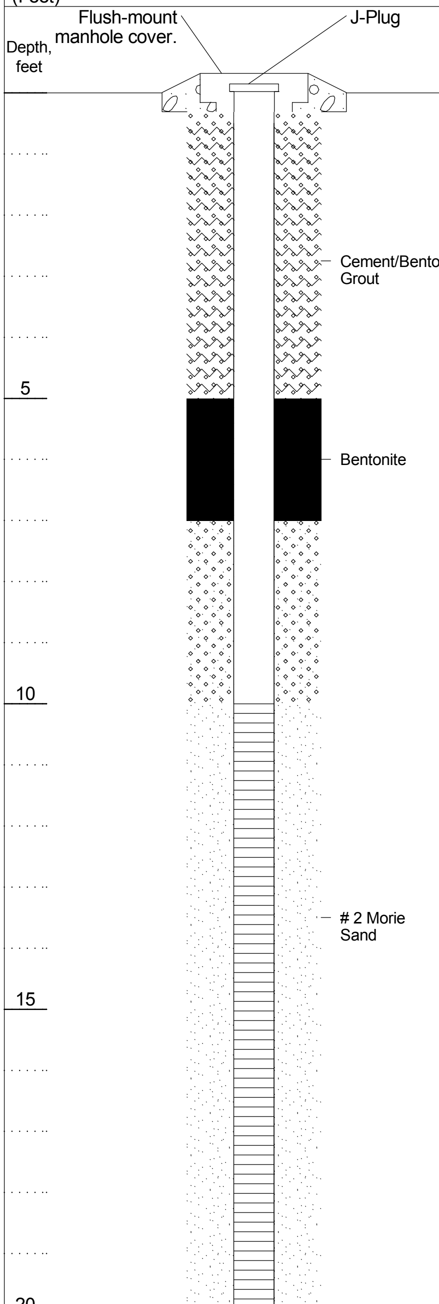
WELL NO. **RSB-12/MW-7**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Storage Area**

DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/12/14-2/12/14**

CASING MAT./DIA. **PVC / 4-inch**

SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	CONCRETE.			
	Brown, Fine to Coarse SAND and GRAVEL (fill); dry.		2.0 ppm	
5				Hand-cleared to 5' bls.
	Brown, Fine to Medium SAND, some Coarse Sand, trace gravel; dry.		1.4 ppm	2' Recovery.
	Brown, Fine to Coarse SAND, some Gravel; wet at 11'.		1.6 ppm	
			1.8 ppm	Sample collected 9'-11' TCL VOCs and TCL SVOCs.
10			1.1 ppm	3.5' Recovery.
	Brown, Fine to Coarse SAND, trace gravel; wet.		1.0 ppm	
	Brown and Grey, Fine to Coarse SAND, trace gravel; wet.		2.2 ppm	
	Grey, Fine to Coarse SAND, trace gravel; wet.		2.6 ppm	
15	Brown, Fine to Coarse SAND, trace gravel; wet.		2.0 ppm	5' Recovery.
			2.7 ppm	
			2.6 ppm	Sample collected 18'-20' for TCL VOCs and TCL SVOCs.
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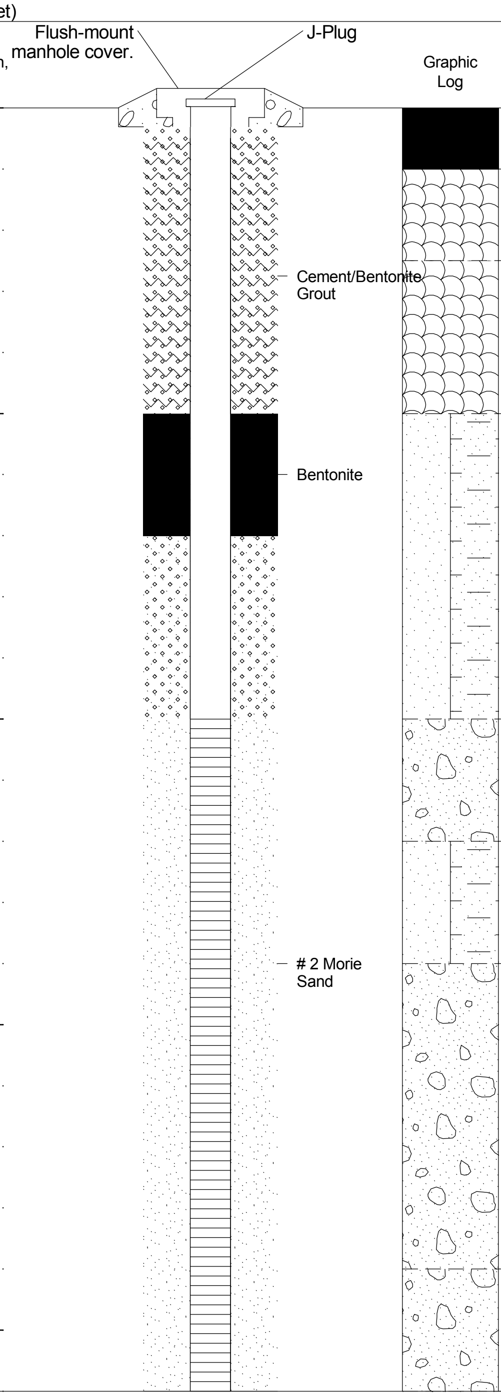
WELL CONSTRUCTION LOG

WELL NO. RSB-13/MW-6	NORTHING Not Measured	EASTING Not Measured		
PROJECT NO./NAME 1575.0002Y000 / Kristal Auto Mall		LOCATION 5200 Kings Highway Brooklyn, NY		
APPROVED BY	LOGGED BY Joe Gavin			
DRILLING CONTRACTOR/DRILLER Trinity / Joe S.		GEOGRAPHIC AREA Southwest Corner of South Parking Lot		
DRILL BIT DIAMETER/TYPE 4.25-in. / Drive Sampler	BOREHOLE DIAMETER 8-inches	DRILLING EQUIPMENT/METHOD / Geoprobe	SAMPLING METHOD 2" Macro-Core	START-FINISH DATE 2/12/14-2/12/14
CASING MAT./DIA. PVC / 4-inch	SCREEN: TYPE Slotted	MAT. PVC	TOTAL LENGTH 11.0ft	DIA. 4-inch SLOT SIZE 20-Slot
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES #2 Morie



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		ASPHALT.			
1		Dark Brown, Fine to Coarse SAND and Gravel (fill); dry.		0.0 ppm	
2.5		Dark Brown, Fine to Medium SAND, some Silt, little coarse sand (fill); dry.		0.0 ppm	Hand-cleared to 5' bls.
5		Dark Brown, Fine to Medium SAND, some Silt, little coarse sand; dry.		0.3 0.0 ppm	2' Recovery. Sample collected 9'-11' TCL VOCs and TCL SVOCs.
10		Dark Brown, Fine to Coarse SAND, some Gravel; wet at 10.5'.		0.5 ppm	3' Recovery.
12		Grey, Fine to Medium SAND and SILT, trace coarse sand/gravel; wet.		0.9 ppm	
14		Brown and Grey, Fine to Coarse SAND, some Gravel; wet.		0.7 ppm 0.0 ppm	2.5' Recovery. Groundwater sample collected for TCL VOCs, TCL SVOCs, and TAL Metals.
19		Brown, Fine to Coarse SAND, some Gravel; wet.		0.0 ppm 0.0 ppm	Sample collected 19'-21' for TCL VOCs and TCL SVOCs.

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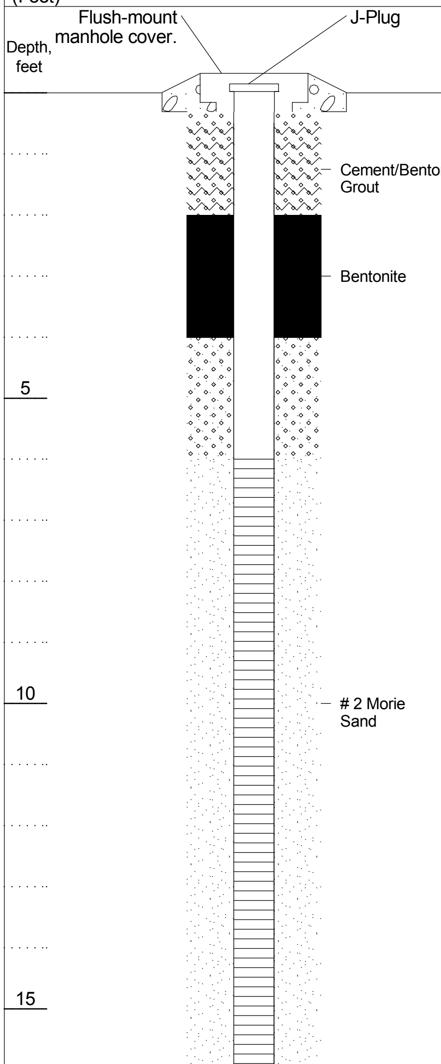
WELL CONSTRUCTION LOG

WELL NO. **RSB/MW-14**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Southeast Corner of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**	**2" Macro-Core**	**9/9/14-9/11/14**

CASING MAT./DIA. **PVC / 4-inch** — SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	Brown, Fine to Coarse SAND, some GRAVEL, trace silt (fill); dry.		1.4 ppm	
			1.1 ppm	Sample collected 1'-3' TCL VOCs and TCL SVOCs.
			2.1 ppm	
5				Hand-cleared to 5' bls.
	Brown, Fine to Coarse SAND, some GRAVEL (fill); dry.		1.0 ppm	2' Recovery.
	Brown, Fine to Coarse SAND, some SILT, trace gravel (fill); wet at 8'.		0.5 ppm	
			0.5 ppm	
	Brown and Grey, Fine to Coarse SAND, some GRAVEL; wet.		1.4 ppm	
10			83.6 ppm	3' Recovery.
	Brown and Grey, Fine to Coarse SAND, some SILT, trace gravel; wet.		186.4 ppm	
	Brown and Grey, Fine to Coarse SAND, some GRAVEL, trace silt; wet.		211 ppm	Sample collected 12'-14' TCL VOCs and TCL SVOCs.
			182 ppm	
15			156.6 ppm	5' Recovery.
			16.3 ppm	Sample collected 17'-18' for TCL VOCs and TCL SVOCs.
	Brown Fine to Coarse SAND, some Gravel; wet.		2.2 ppm	
20				

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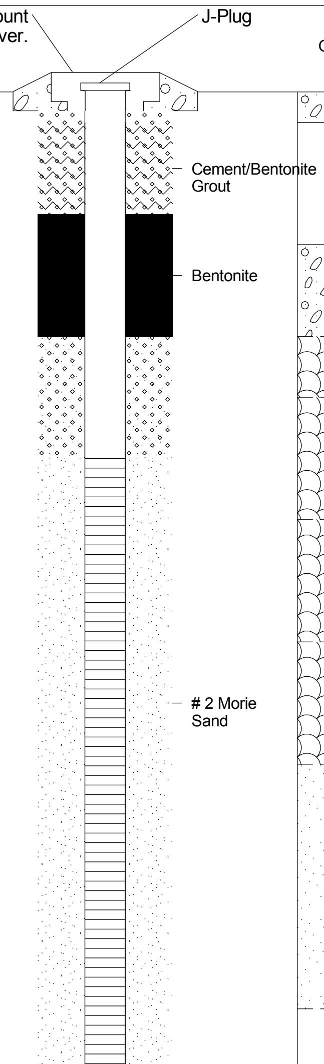
WELL CONSTRUCTION LOG

WELL NO. **RSB/MW-15**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Southeast Corner of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**	**2" Macro-Core**	**9/10/14-9/11/14**

CASING MAT./DIA.	SCREEN: TYPE	MAT.	TOTAL LENGTH	DIA.	SLOT SIZE
PVC / 4-inch	**Slotted**	**PVC**	**10.0**ft	**4-inch**	**20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	VOID.			
	CONCRETE DEBRIS.			
	Brown Fine to Coarse SAND, some Gravel with concrete; dry.		1.3 ppm	Sample collected 4'-5' TCL VOCs and TCL SVOCs. Hand-cleared to 5' bls. 1.5' Recovery.
5	Brown, Fine to Coarse SAND, some GRAVEL (fill); dry.		2.0 ppm	
	Brown, Fine to Coarse SAND, some SILT, trace gravel (fill); wet at 8'.		1.8 ppm 1.1 ppm	
	Brown Fine to Coarse SAND, trace gravel; wet.		1.3 ppm 427.2 ppm	2.5' Recovery. Sample collected 10'-11' TCL VOCs and TCL SVOCs.
10				
	Brown and Grey, Fine to Coarse SAND, trace gravel; wet.		368.7 ppm 101.2 ppm 7.8 ppm	Sample collected 14'-15' for TCL VOCs and TCL SVOCs.
15	Brown Fine to Coarse SAND, trace gravel; wet.		14.1 ppm 9.4 ppm 3.6 ppm	3' Recovery.
20				

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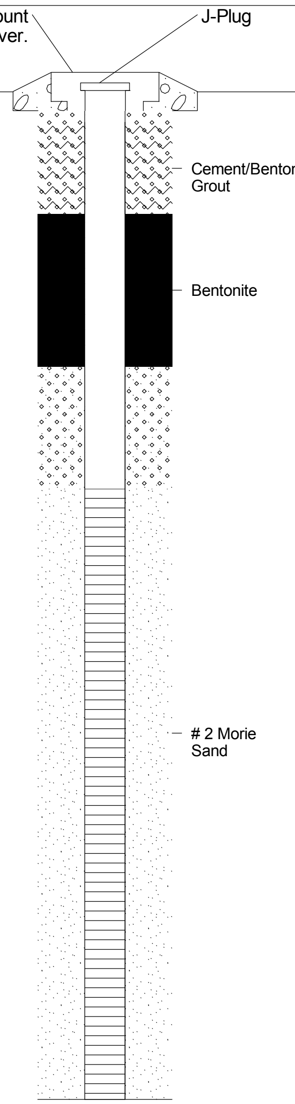
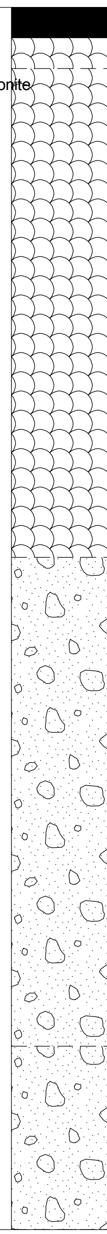
WELL CONSTRUCTION LOG

WELL NO.: **RSB/MW-16**	NORTHING: **Not Measured**	EASTING: **Not Measured**		
PROJECT NO./NAME: **1575.0002Y000 / Kristal Auto Mall**		LOCATION: **5200 Kings Highway Brooklyn, NY**		
APPROVED BY:	LOGGED BY: **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER: **Trinity / Joe S.**		GEOGRAPHIC AREA: **North Side of the Eastern Parking Lot**		
DRILL BIT DIAMETER/TYPE: **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER: **8-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **9/9/14-9/12/14**
CASING MAT./DIA.: **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE:	TOP OF WELL CASING:	TOP & BOTTOM SCREEN: /	GRAVEL PACK SIZES: **#2 Morie**





Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		ASPHALT.			
		Brown, Fine to Medium SAND, some Coarse SAND, trace silt (fill); dry.		1.5 ppm	
		Brown, Fine to Medium SAND, some SILT, trace coarse sand with gravel (fill); wet at 8.5'.		0.2 ppm	Sample collected 1'-3' TCL VOCs and TCL SVOCs.
				0.0 ppm	
5					Hand-cleared to 5' bls.
				0.0 ppm	4' Recovery.
				8.5 ppm	
		Brown and Grey, Fine to Coarse SAND, some GRAVEL, trace silt; wet.		19.8 ppm	
10				446.2 ppm	2' Recovery.
					Sample collected 11'-13' TCL VOCs and TCL SVOCs.
				201 ppm	
				170 ppm	
15				213.1 ppm	5' Recovery.
				191.9 ppm	
		Brown, Fine to Coarse SAND, some GRAVEL; wet.		3.4 ppm	Sample collected 17'-18' for TCL VOCs and TCL SVOCs.
				0.6 ppm	
20					

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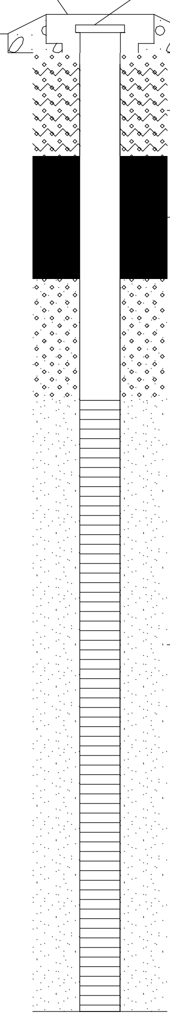
WELL CONSTRUCTION LOG

WELL NO. **RSB/MW-17**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Southeast Corner of Auto Repair Shop**
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**; SAMPLING METHOD **2" Macro-Core**; START-FINISH DATE **9/10/14-9/11/14**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**
ELEVATION OF: (Feet) GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN **/**; GRAVEL PACK SIZES **#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	VOID.			
1	Brown, Fine to Coarse SAND, some GRAVEL (fill); dry.		0.2 ppm	Sample collected 1'-3' TCL VOCs and TCL SVOCs.
3			0.3 ppm	
5			0.3 ppm	Hand-cleared to 5' bls. 2' Recovery.
6	Brown and Grey, Fine to Coarse SAND, some GRAVEL, trace silt (fill); wet at 8'.		0.6 ppm	
8			0.2 ppm	
10			0.2 ppm	3' Recovery.
11	Brown and Grey, Fine to Coarse SAND, some SILT, trace gravel; wet.		333.1 ppm	
13	Brown and Grey, Fine to Coarse SAND, some GRAVEL; wet.		458.2 ppm	Sample collected 13'-15' TCL VOCs and TCL SVOCs.
15			376.1 ppm	4' Recovery.
17	Brown Fine to Coarse SAND, some Gravel; wet.		36.2 ppm	Sample collected 17'-18' for TCL VOCs and TCL SVOCs.
18			6.4 ppm	
20				

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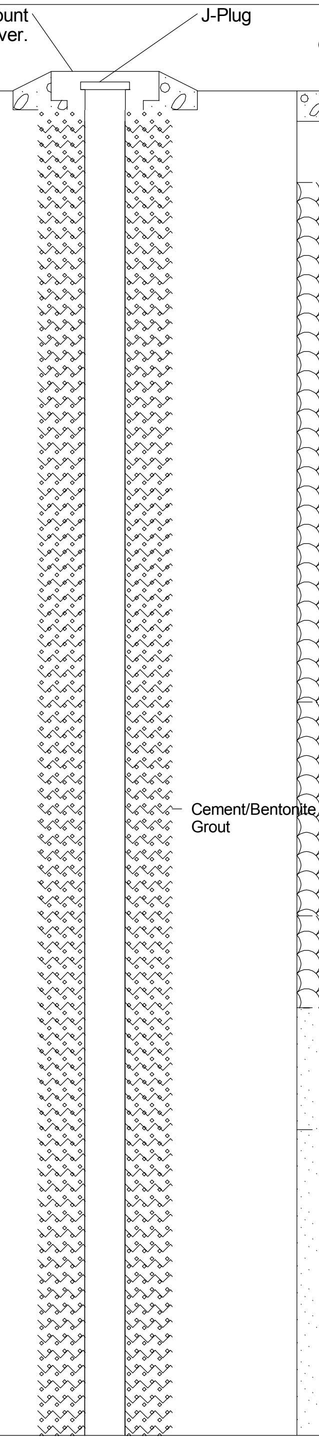
WELL CONSTRUCTION LOG

WELL NO. **RSB-14/MW-4D**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/10/14-2/11/14**

CASING MAT./DIA. **PVC / 4-inch**
SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		CONCRETE.			
		VOID.			
		Brown, Fine to Medium SAND, some Coarse Sand (fill); dry.		2.0 ppm	
				3.0 ppm	Sample collected 2.5'-3' for TCL SVOCs and TCL SVOCs.
				2.0 ppm	
5					Hand-cleared to 5'bls.
				6.0 ppm	1.5' Recovery. Sample collected 5'-7' for TCL VOCs and TCL SVOCs.
10		Brown, Fine to Medium SAND, some Silt (fill); wet at 12.5'.		7.0 ppm	2.5' Recovery. Sample collected 10'-11' for TCL VOCs and TCL SVOCs.
		Brown, Fine to Medium SAND, some Silt, Some Wood Fragments (fill); wet.			
15		Grey and Brown, Medium to Coarse SAND, little Gravel, little Fine Sand; wet.		16.4 ppm	4' Recovery.
		Brown, Medium to Coarse SAND, little gravel and fine sand; wet.		7.4 ppm	
20				8.7 ppm	3' Recovery.

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
RSB-14/MW-4D	**Not Measured**	**Not Measured**

PROJECT NO./NAME		LOCATION
1575.0002Y000 / Kristal Auto Mall		**5200 Kings Highway** **Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	

Depth, feet	Well Construction	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
			Grey and Brown, Medium to Coarse SAND, little gravel and fine sand; wet.		4.6 ppm	
25	Bentonite		Brown and Grey, Fine to Coarse SAND, little gravel; wet.		10.7 ppm	
			Red and Brown, Fine to Coarse SAND, little gravel; wet.		7.7 ppm	
30					2.1 ppm	2' Recovery.
	# 2 Morie Sand					
35					1.0 ppm	2.5' Recovery.
						Sample collected 38'-40' for TCL VOCs and TCL SVOCs.
40						

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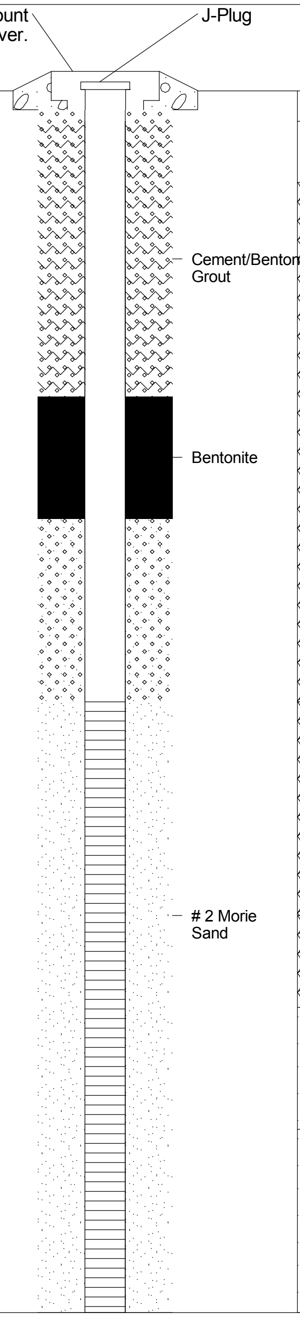
WELL CONSTRUCTION LOG

Field	Value
WELL NO.	**MW-4S**
NORTHING	**Not Measured**
EASTING	**Not Measured**
PROJECT NO./NAME	**1575.0002Y000 / Kristal Auto Mall**
LOCATION	**5200 Kings Highway Brooklyn, NY**
APPROVED BY	
LOGGED BY	**Joe Gavin**
DRILLING CONTRACTOR/DRILLER	**Trinity / Joe S.**
GEOGRAPHIC AREA	**North Side of Auto Repair Shop**
DRILL BIT DIAMETER/TYPE	**4.25-in. / Drive Sampler**
BOREHOLE DIAMETER	**8-inches**
DRILLING EQUIPMENT/METHOD	**/ Geoprobe**
SAMPLING METHOD	**2" Macro-Core**
START-FINISH DATE	**2/11/14-2/11/14**
CASING MAT./DIA.	**PVC / 4-inch**
SCREEN: TYPE	**Slotted**
MAT.	**PVC**
TOTAL LENGTH	**10.0**ft
DIA.	**4-inch**
SLOT SIZE	**20-Slot**
ELEVATION OF: (Feet) GROUND SURFACE	
TOP OF WELL CASING	
TOP & BOTTOM SCREEN	**/**
GRAVEL PACK SIZES	**#2 Morie**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		CONCRETE.			
		VOID.			
		Brown, Fine to Medium SAND, some Coarse Sand (fill).			Lithology adapted from RSB-14/MW-4D.
5					Hand-cleared to 5 ft. bls.
10		Brown, Fine to Medium SAND, some Silt (fill); wet at 12.5'.			
		Brown, Fine to Medium SAND, some Silt, Some Wood Fragments (fill); wet.			
15		Grey and Brown, Medium to Coarse SAND, little Gravel, little Fine Sand; wet.			
		Brown, Medium to Coarse SAND, little Gravel and Fine Sand; wet.			
20					

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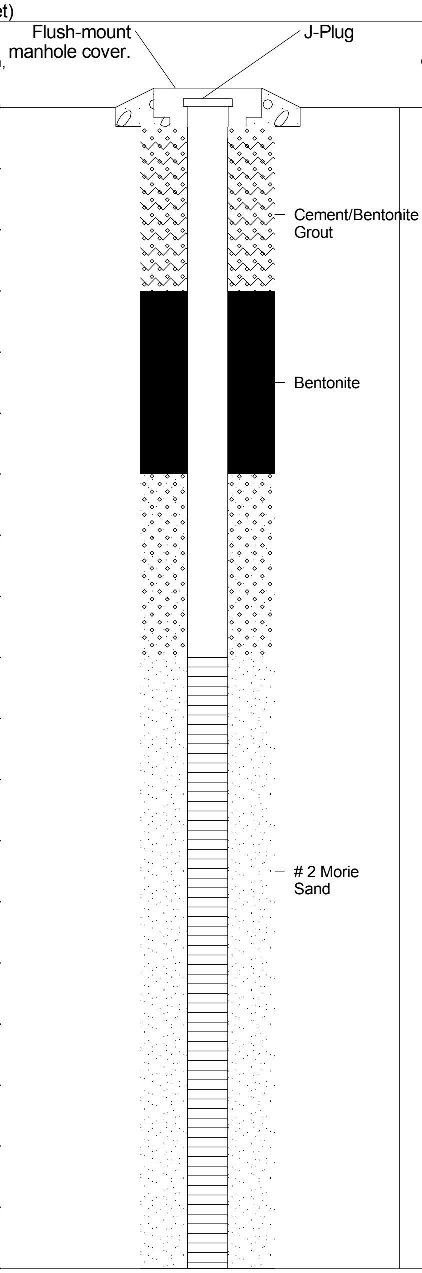
WELL CONSTRUCTION LOG

WELL NO. **MW-8**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **South Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD	START-FINISH DATE **9/15/14-9/15/14**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft DIA. **4-inch**	SLOT SIZE **20-Slot**	
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **#2 Morie**

Depth, feet		Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
5						Hand-cleared to 5' bls.
10						
15						



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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-9	**Not Measured**	**Not Measured**

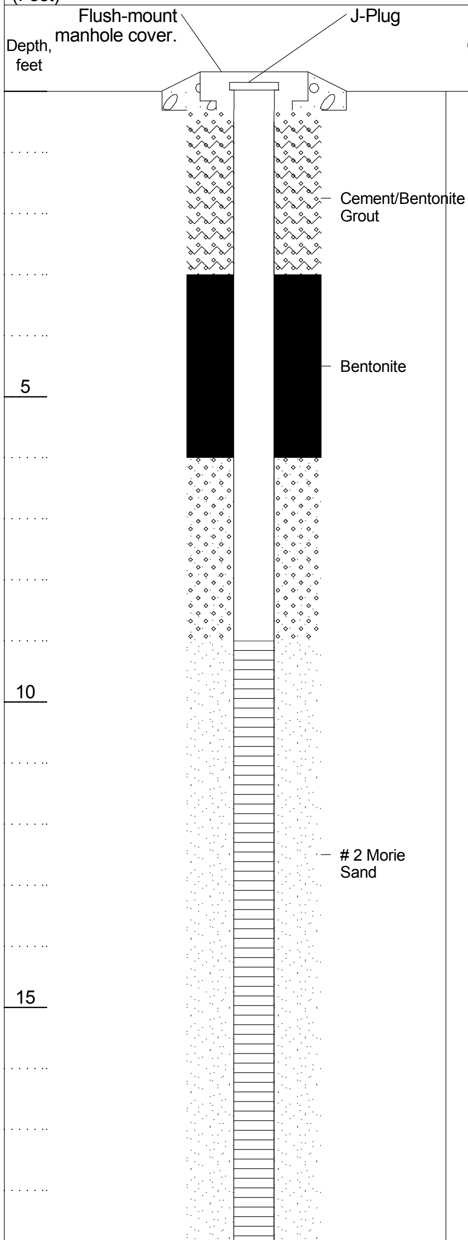
PROJECT NO./NAME		LOCATION
1575.0002Y000 / Kristal Auto Mall		**5200 Kings Highway** **Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **South Side of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**		**9/19/14-9/19/14**

CASING MAT./DIA.	SCREEN: TYPE	MAT.	TOTAL LENGTH	DIA.	SLOT SIZE
PVC / 4-inch	**Slotted**	**PVC**	**10.0**ft	**4-inch**	**20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
5					Hand-cleared to 5' bls.
10					
15					



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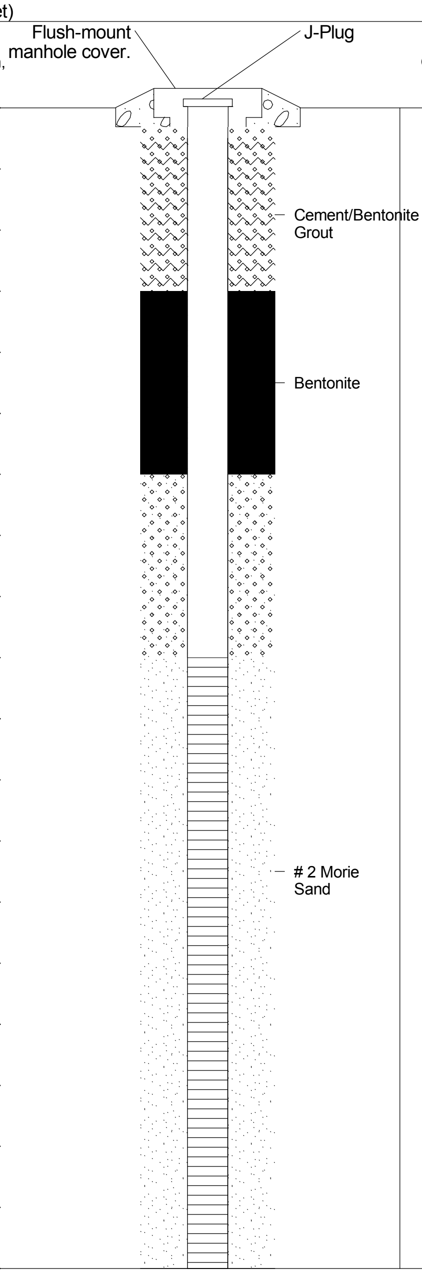
WELL CONSTRUCTION LOG

WELL NO. **MW-10**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD	START-FINISH DATE **9/18/14-9/18/14**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **#2 Morie**

Depth, feet	Well Construction	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS	
5						Hand-cleared to 5' bls.	5
10							10
15							15



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WELL CONSTRUCTION LOG

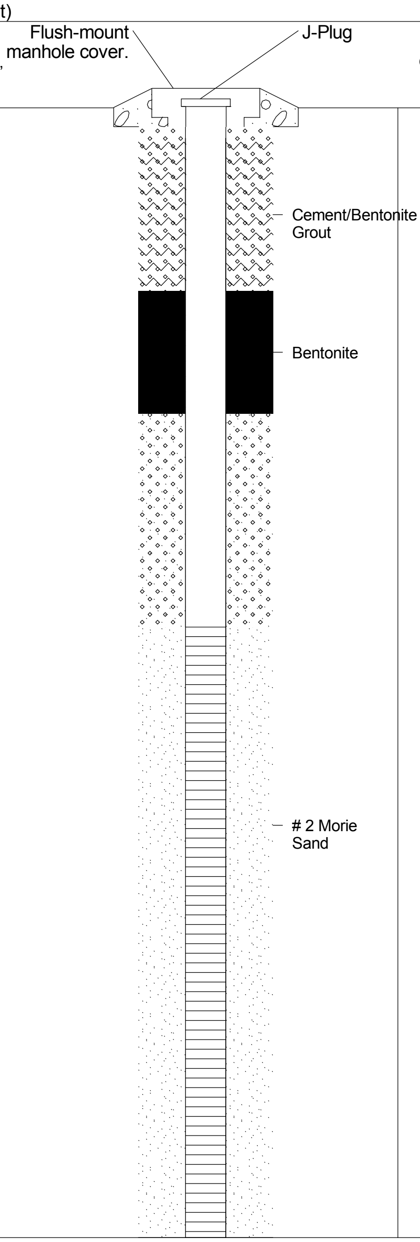
WELL NO. **MW-11**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**		**9/12/14-9/12/14**

CASING MAT./DIA. **PVC / 4-inch**
SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
5					Hand-cleared to 5' bls.
10					
15					



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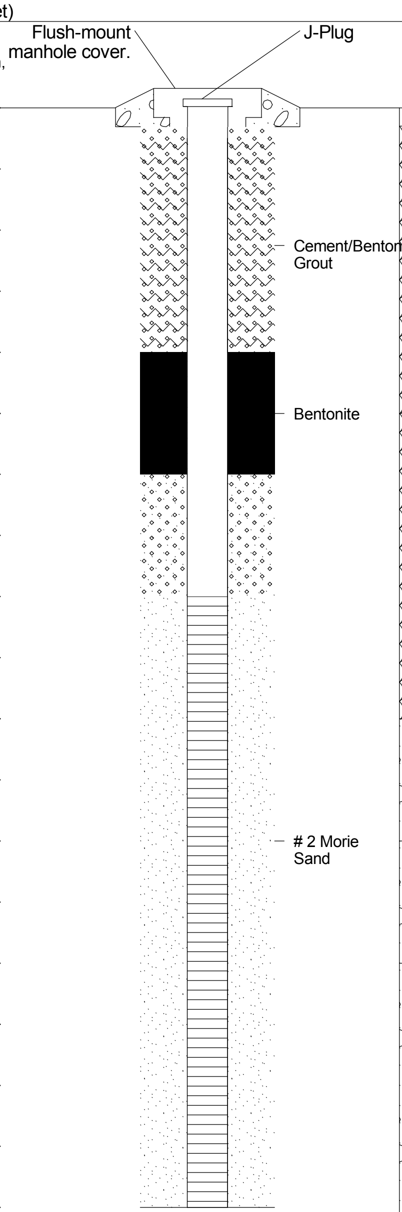
WELL CONSTRUCTION LOG

WELL NO. **MW-12**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/16/15-3/16/15**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted**	MAT. **PVC** TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	Brown, Fine to Coarse SAND, little Gravel, trace silt with brick and glass (fill); dry.		0.0 ppm	
			0.0 ppm	
			0.0 ppm	Hand-cleared to 5' bls.
5	Brown, Fine to Medium SAND, some Gravel with brick (fill); dry.		0.1 ppm	1' Recovery.
10	Grey Fine to Coarse SAND little GRAVEL; wet at 10'bls.		51.3 ppm	3.5' Recovery.
	Brown Medium to Coarse SAND, some GRAVEL; wet.		27.1 ppm	
	Brown Medium to Coarse SAND, little GRAVEL; wet.		15.3 ppm	
15			0.0 ppm	5' Recovery.
20				

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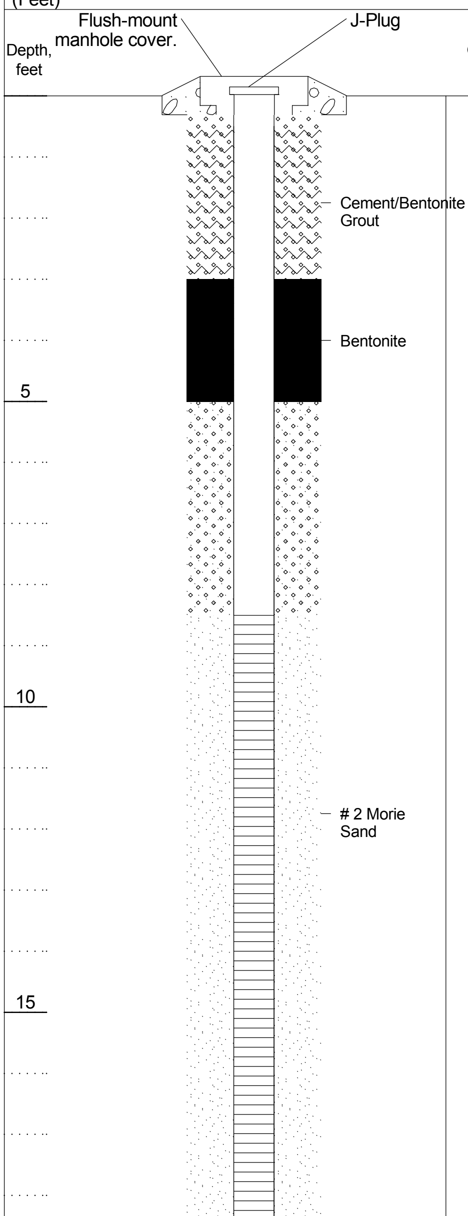
WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING		
MW-13	**Not Measured**	**Not Measured**		
PROJECT NO./NAME		LOCATION		
1575.0002Y000 / Kristal Auto Mall		**5200 Kings Highway**		
APPROVED BY	LOGGED BY	**Brooklyn, NY**		
	Joe Gavin			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Trinity / Joe S.		**Center of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**		**9/15/14-9/15/14**

CASING MAT./DIA.	SCREEN:				
PVC / 4-inch	TYPE **Slotted**	MAT. **PVC**	TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
5					Hand-cleared to 5' bls.
10					
15					



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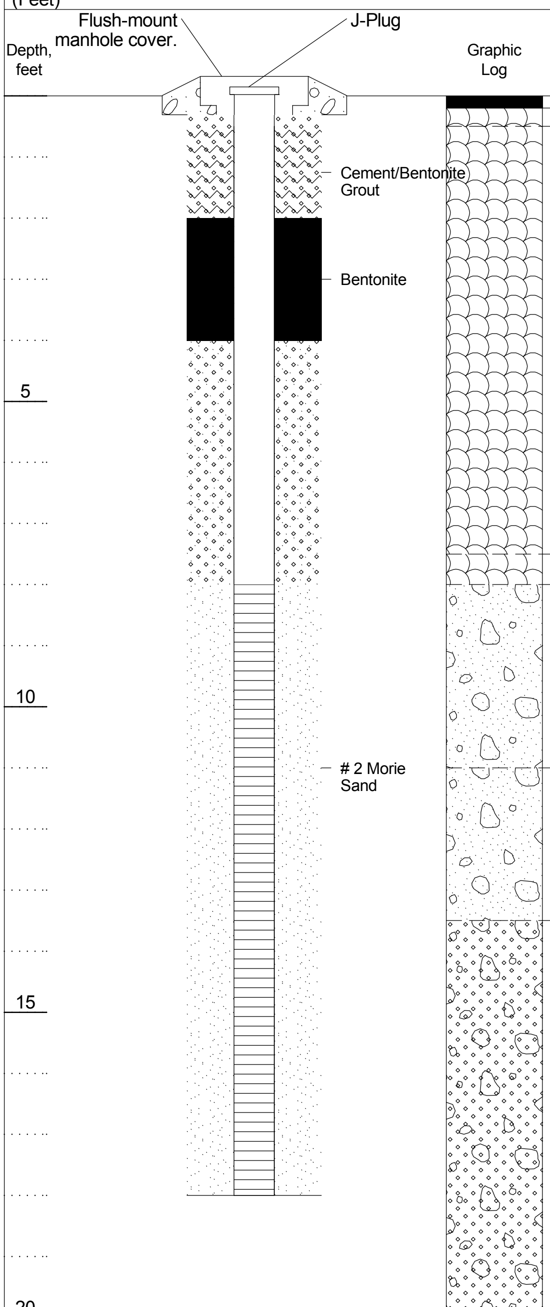
WELL CONSTRUCTION LOG

WELL NO. **MW-18**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of the Eastern Parking Lot**		
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/17/15-3/17/15**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **#2 Morie**



Depth, feet	Visual Description	PID Values (ppm)	REMARKS
0	ASPHALT.		
	Brown, Fine to Coarse SAND with GRAVEL, asphalt layer at ~6" (fill); dry.	0.0 ppm	
	Brown, Fine to Coarse SAND, some GRAVEL with Brick and Concrete (fill); dry.	0.0 ppm	
5		0.0 ppm	Hand-cleared to 5' bls. 3' Recovery.
	Brick and Concrete; dry.		
	Brown, Fine to Coarse SAND, little Gravel; wet at 9.5'.	0.0 ppm	
10		0.0 ppm	4' Recovery.
	Brown and Grey, Fine to Coarse SAND, little Gravel; wet.	74 ppm	
	Brown Fine to Coarse SAND, some GRAVEL; wet.		
15		4.8 ppm	5' Recovery.
		0.0 ppm	
		0.0 ppm	
20			

Blow Counts per 6": (none recorded)

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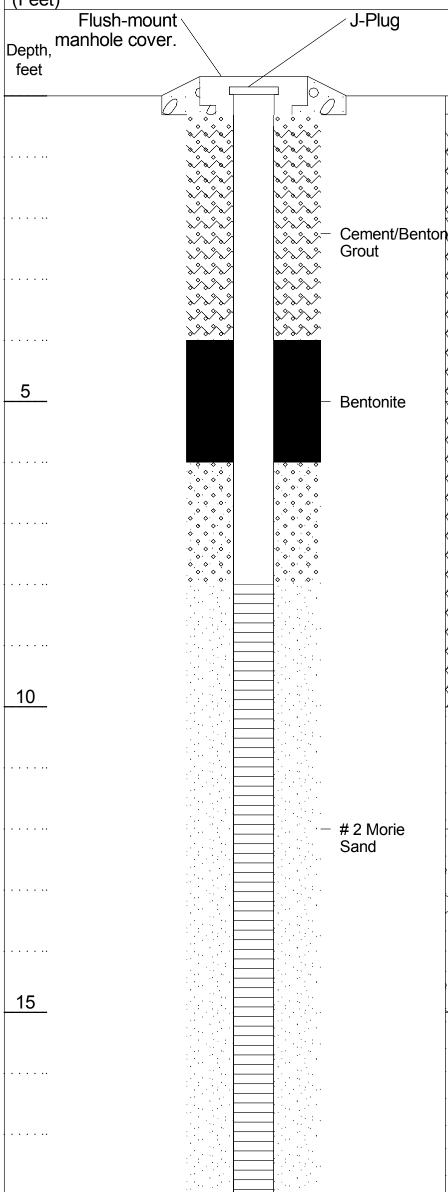
WELL CONSTRUCTION LOG

WELL NO. **MW-19**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **South Side of Auto Repair Shop**

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Drive Sampler	**8-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/16/15-3/16/15**

CASING MAT./DIA. **PVC / 4-inch**
SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	CONCRETE.			
	VOID			
	Brown, Fine to Medium SAND, little Gravel, trace silt (fill); dry.		0.0 ppm	
2	Brown, Fine to Medium SAND, little Gravel, trace silt with brick and concrete (fill); dry.		0.0 ppm	
			0.0 ppm	Hand-cleared to 5' bls.
5	Brown, Fine to Coarse SAND, some Gravel, trace silt with concrete (fill); dry.		0.0 ppm	1.5' Recovery.
10	Brown Fine to Coarse SAND with SILT, some Gravel; wet at 10' bls.		0.3 ppm	3.5' Recovery.
12	Brown Fine to Coarse SAND, some GRAVEL; wet.		0.0 ppm	
15	Brown Fine to Coarse SAND, little GRAVEL; wet.		0.0 ppm	5' Recovery.
			0.0 ppm	
20				

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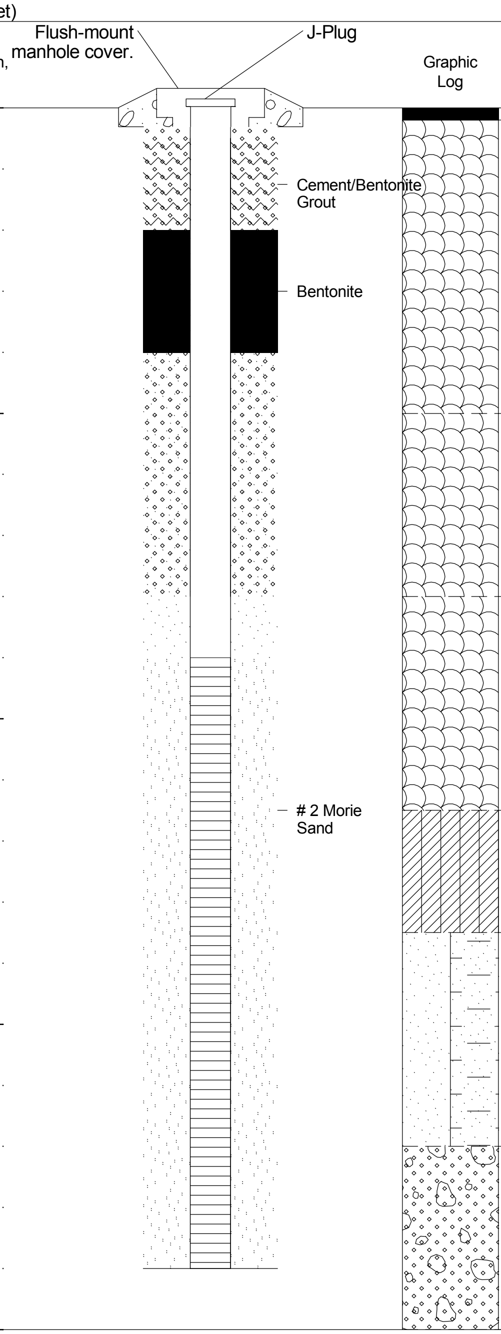
WELL CONSTRUCTION LOG

WELL NO. **MW-20**	NORTHING **Not Measured**	EASTING **Not Measured**
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**
APPROVED BY	LOGGED BY **Joe Gavin**	
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **North Side of South Parking Lot**

DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/17/15-3/17/15**

CASING MAT./DIA. **PVC / 4-inch** — SCREEN: TYPE **Slotted** MAT. **PVC** TOTAL LENGTH **10.0**ft DIA. **4-inch** SLOT SIZE **20-Slot**

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
			/	**#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0	ASPHALT.			
0–5	Brown, Fine to Coarse SAND with GRAVEL, COBBLE and Brick and Concrete (fill); dry.		0.0 ppm; 0.0 ppm; 0.0 ppm	Hand-cleared to 5' bls.
5–8	Brown, Fine to Coarse SAND, some GRAVEL with Brick and Concrete (fill); dry.		0.0 ppm	3' Recovery.
8–11.5	Brick and Concrete, little Brown, Fine to Coarse SAND (fill); wet at 11' bls.		0.0 ppm; 0.0 ppm	4' Recovery.
11.5–13.5	Grey SILT and CLAY; wet.		0.0 ppm	
13.5–17	Brown and Grey, Fine to Coarse SAND, some SILT; wet.		0.0 ppm; 0.0 ppm	5' Recovery.
17–20	Brown Fine to Coarse SAND, some GRAVEL; wet.		0.0 ppm	

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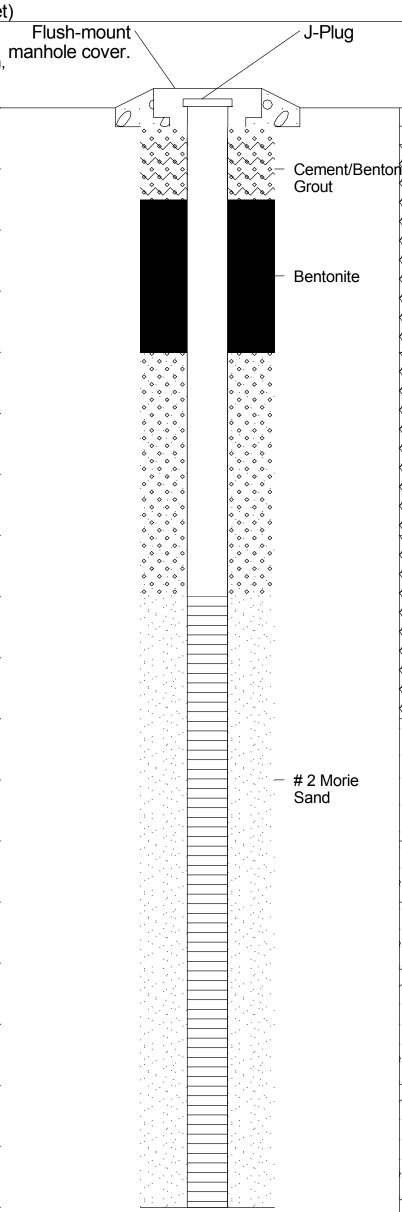
WELL CONSTRUCTION LOG

WELL NO. **MW-21**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **1575.0002Y000 / Kristal Auto Mall**		LOCATION **5200 Kings Highway Brooklyn, NY**		
APPROVED BY	LOGGED BY **Joe Gavin**			
DRILLING CONTRACTOR/DRILLER **Trinity / Joe S.**		GEOGRAPHIC AREA **Center of Auto Repair Shop**		
DRILL BIT DIAMETER/TYPE **4.25-in. / Drive Sampler**	BOREHOLE DIAMETER **8-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/13/15-3/13/15**
CASING MAT./DIA. **PVC / 4-inch**	SCREEN: TYPE **Slotted**	MAT. **PVC** TOTAL LENGTH **10.0**ft	DIA. **4-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **#2 Morie**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	CONCRETE.			
	VOID			
	Brown, Fine to Coarse SAND, some GRAVEL and COBBLE with Brick and Concrete (fill); dry.		1.9 ppm	
			1.8 ppm	
	Brown, Fine to Coarse SAND, some GRAVEL and COBBLE with Brick, Concrete, Glass and Plactic (fill); dry.		1.5 ppm	Hand-cleared to 5' bls.
5			0.8 ppm	2' Recovery.
	GRAVEL and COBBLE with Brick and Concrete, some Brown, Fine to Coarse SAND (fill); dry.		0.7 ppm	
			0.7 ppm	
10	Brown and Grey, Fine to Medium SAND with SILT, trace coarse sand; wet at 11' bls.		22 ppm	3.5' Recovery.
	Brown and Grey, Fine to Coarse SAND, some GRAVEL; wet.		64.3ppm	
	Brown Fine to Coarse SAND, some GRAVEL; wet.		2.3 ppm	
			1.5 ppm	
15			8.0 ppm	5' Recovery.
			3.4 ppm	
			0.8 ppm	
			1.0 ppm	
20				

APPENDIX C

Groundwater Sampling Forms

Well Sampling Data Form

Client:	Irma C. Pollack	**Project Number:**	1575.0002y
Site Location:	5200 Kings Highway, Brooklyn		

Well No:	MW-1	Weather:	mid 20s to low 30sF, partly cloudy, windy
Date:	2/24/2014	Purge Water Disposal:	Drummed
Sampled By:	JG	Well Diameter / Type:	2 in PVC
Depth of Well (ft):	18.40	Water Column (ft):	8.62
Depth to Water(ft):	9.78	Volume of Water in Well (gal)	1.407
Depth to Product (ft):	N/A	Volume of Water to Remove (gal):	n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.61

Start Purging:	1410	Purge Rate:	250 mL/min
End Purging:	1505	Volume of Water Removed (gal):	3 gallon
Method of Purge:	low-flow	Method of Sampling:	low-flow

Physical Appearance/ Comments: Initial purge cloudy then cleared up. Sample: cloudy, brown in color, no visible suspendid solids; no odor or sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

Time: 1505 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C°** - *F°* **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1414	9.98	250	71	0.655	62.6	8.61	9	18.65
1417	9.98	250	105	0.790	52.8	7.46	9.75	2.45
1420	9.98	250	114	0.796	70.2	7.29	10.02	1.21
1425	9.98	250	125	0.795	54.6	7.06	10.60	0.00
1430	9.98	250	115	0.799	56.2	6.81	11.02	0.00
1435	9.98	250	86	0.806	55.6	6.65	11.24	0.00
1440	9.98	250	64	0.806	44.3	6.54	11.44	0.00
1445	9.98	250	55	0.810	43.8	6.49	11.61	0.00
1450	9.98	250	42	0.807	34.8	6.46	11.8	0.00
1455	9.98	250	37	0.808	41.5	6.42	11.99	0.00
1500	9.98	250	34	0.806	36.5	6.4	12.11	0.00

Well Sampling Data Form

Client: Irma C. Pollack **Project Number:** 1575.0002y

Site Location: 5200 Kings Highway, Brooklyn

Well No: MW-2 Weather: mid 20s to low 30sF, partly cloudy, windy

Date: 2/24/2014 Purge Water Disposal: Drummed

Sampled By: BK Well Diameter / Type: 2 in PVC

Depth of Well (ft): 16.38 Water Column (ft): 6.18

Depth to Water(ft): 10.2 Volume of Water in Well (gal) 1.009

Depth to Product (ft): N/A Volume of Water to Remove (gal): n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.61

Start Purging: 1340 Purge Rate: 250 mL/min

End Purging: 1440 Volume of Water Removed (gal): 4 gallon

Method of Purge: low-flow Method of Sampling: low-flow

Physical Appearance/ Comments: Clear, little sediment; no odor or sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

Time: 1440 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** C^o - F^o **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1345	10.21	250	64	0.000	158.0	3.36	19.14	11.33
1350	10.21	250	74	0.706	52.0	7.26	18.45	2.82
1359	10.21	250	113	0.761	8.2	7.17	14.45	2.05
1404	10.21	250	131	0.760	1.5	7.03	14.33	1.66
1409	10.21	250	141	0.765	0.0	7.04	14.05	1.28
1414	10.21	250	152	0.768	0.1	6.97	13.9	0.92
1419	10.21	250	161	0.770	0.0	6.96	13.69	0.67
1425	10.21	250	169	0.775	0.0	6.96	13.5	0.81
1430	10.21	250	171	0.788	0	6.99	13.38	0.18
1435	10.21	250	172	0.78	0	7	13.31	0.11

Well Sampling Data Form

Client: Irma C. Pollack **Project Number:** 1575.0002y

Site Location: 5200 Kings Highway, Brooklyn

Well No: MW-3 Weather: mid 20s to low 30sF, partly cloudy, windy

Date: 2/24/2014 Purge Water Disposal: Drummed

Sampled By: BK Well Diameter / Type: 2 in PVC

Depth of Well (ft): 18.87 Water Column (ft): 8.28

Depth to Water(ft): 10.59 Volume of Water in Well (gal) 1.351

Depth to Product (ft): N/A Volume of Water to Remove (gal): n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.61

Start Purging: 1550 Purge Rate: 250 mL/min

End Purging: 1630 Volume of Water Removed (gal): 3 gallon

Method of Purge: low-flow Method of Sampling: low-flow

Physical Appearance/ Comments: Clear, little sediment; no odor or sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

Time: 1640 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C°** - *F°* **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1555	10.59	250	148	0.648	11.5	6.80	14.94	0.10
1600	10.6	250	142	0.621	12.6	6.79	16.54	0.06
1605	10.6	250	141	0.615	7.7	6.79	17.09	0.04
1610	10.59	250	143	0.611	5.7	6.78	17.22	0.04
1615	10.6	250	146	0.608	2.8	6.78	17.33	0.03
1620	10.6	250	149	0.606	1.3	6.77	17.41	0.03
1625	10.6	250	151	0.606	0.2	6.77	17.52	0.02
1630	10.6	250	154	0.604	0.0	6.76	17.61	0.02

Well Sampling Data Form

Client: Irma C. Pollack **Project Number:** 1575.0002y
Site Location: 5200 Kings Highway, Brooklyn

Well No: MW-3 Weather: 60s to 70s, clear
Date: 9/26/2014 Purge Water Disposal: Drummed
Sampled By: JG Well Diameter / Type: 2 in PVC

Depth of Well (ft): 18.87 Water Column (ft): 8.07
Depth to Water(ft): 10.8 Volume of Water in Well (gal) 1.3171
Depth to Product (ft): N/A Volume of Water to Remove (gal): n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.611

Start Purging: 1210 Purge Rate: 200 mL/min
End Purging: 1250 Volume of Water Removed (gal): 3 gallons
Method of Purge: low-flow Method of Sampling: low-flow

Physical Appearance/ Comments: Clear, no visible suspendid solids; no odor / sheen

Samples Collected: (analyses / no. bottles) TCL VOCs (3-40mL vials with HCl)

Time: 1250 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C^o** - F^o **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1215	10.83	200	185	56.200	1.0	6.67	20.69	3.41
1220	10.83	200	186	50.600	7.0	6.52	20.58	2.20
1225	10.83	200	186	49.500	2.0	6.45	20.67	1.52
1230	10.83	200	185	49.200	4.0	6.43	20.74	1.42
1235	10.83	200	183	49.000	5.0	6.42	20.83	1.36
1240	10.83	200	182	48.900	4.0	6.42	20.92	1.37
1245	10.83	200	181	51.100	4.0	6.41	21	1.43

Well Sampling Data Form

Client:	Irma C. Pollack	**Project Number:**	1575.0002y
Site Location:	5200 Kings Highway, Brooklyn		
Well No:	MW-4D	Weather:	mid 20s to low 30sF, partly cloudy, windy
Date:	2/24/2014	Purge Water Disposal:	Drummed
Sampled By:	JG	Well Diameter / Type:	2 in PVC
Depth of Well (ft):	39.85	Water Column (ft):	29.5
Depth to Water(ft):	10.36	Volume of Water in Well (gal)	4.813
Depth to Product (ft):	N/A	Volume of Water to Remove (gal):	n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.611

Start Purging:	1050	Purge Rate:	200 mL/min
End Purging:	1120	Volume of Water Removed (gal):	3 gallon
Method of Purge:	low-flow	Method of Sampling:	low-flow

Physical Appearance/ Comments: Clear, little sediment

No visible suspendid solids, clear, no odor or sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

Time: 1120 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C°** - *F°* **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1053	10.37	200	50	1.020	22.2	7.56	10.5	17.87
1056	10.37	200	84	0.977	21.4	6.79	12.16	2.44
1059	10.37	200	96	0.900	58.0	6.64	15.49	0.43
1104	10.37	200	103	0.891	51.9	6.60	15.98	0.00
1109	10.37	200	108	0.888	50.7	6.58	16.14	0.00
1114	10.37	200	116	0.891	32.1	6.55	16.32	0.00
1119	10.37	200	118	0.885	31.1	6.54	16.43	0.00

Well Sampling Data Form

Client: Irma C. Pollack **Project Number:** 1575.0002y

Site Location: 5200 Kings Highway, Brooklyn

Well No: MW-6 Weather: mid 20s to low 30sF, partly cloudy, windy

Date: 2/24/2014 Purge Water Disposal: Drummed

Sampled By: JG Well Diameter / Type: 2 in PVC

Depth of Well (ft): 20.00 Water Column (ft): 11.79

Depth to Water(ft): 8.21 Volume of Water in Well (gal) 1.924

Depth to Product (ft): N/A Volume of Water to Remove (gal): n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.611

Start Purging: 1217 Purge Rate: 250 mL/min

End Purging: 1305 Volume of Water Removed (gal): 3 gallon

Method of Purge: low-flow Method of Sampling: low-flow

Physical Appearance/ Comments: Clear, no visible suspendid solids; no odor / sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

Time: 1305 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C°** - *F°* **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1221	8.23	250	59	0.538	29.3	9.40	12.63	14.11
1224	8.23	250	38	0.428	24.2	9.81	11.88	10.55
1227	8.23	250	23	0.405	40.5	9.88	11.7	9.28
1232	8.23	250	9	0.401	80.1	9.97	11.63	7.92
1237	8.23	250	-8	0.394	84.2	10.07	11.73	5.83
1242	8.23	250	-10	0.394	81.7	10.07	11.71	5.68
1247	8.23	250	-15	0.390	75.9	10.07	11.68	4.26
1252	8.23	250	-17	0.387	67.1	10.04	11.64	3.99
1257	8.23	250	-18	0.385	60.2	10	11.59	3.74
1302	8.23	250	-19	0.385	50.2	9.97	11.59	3.71

Well Sampling Data Form

Client: Irma C. Pollack **Project Number:** 1575.0002y

Site Location: 5200 Kings Highway, Brooklyn

Well No: MW-7 Weather: mid 20s to low 30sF, partly cloudy, windy

Date: 2/24/2014 Purge Water Disposal: Drummed

Sampled By: JG Well Diameter / Type: 2 in PVC

Depth of Well (ft): 19.84 Water Column (ft): 10.96

Depth to Water(ft): 8.88 Volume of Water in Well (gal) 1.7888

Depth to Product (ft): N/A Volume of Water to Remove (gal): n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.611

Start Purging: 1554 Purge Rate: 250 mL/min

End Purging: 1635 Volume of Water Removed (gal): 3 gallon

Method of Purge: low-flow Method of Sampling: low-flow

Physical Appearance/ Comments: Clear, no visible suspendid solids; no odor / sheen

Samples Collected: (analyses / no. bottles) TCL VOCs + TIC (3-40mL vials with HCl); TCL SVOCs + TIC (2-1L ambers); TAL Metals (1-250 mL plastic with HNO3)

1640-DUP022414 collected, 1645-MS022414 collected, 1650-MSD022414 collected.

Time: 1635 Laboratory : York Ananlytical

Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity **mS/m** - S/m **(w/in 3%)**	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature **C°** - *F°* **(w/in 3%)**	Dissolved O_2 mg/L (w/in 10%)
1557	8.9	250	118	0.597	277.0	6.90	12.39	10.28
1600	8.9	250	118	5.800	27.0	6.77	13.63	3.53
1603	8.9	250	112	0.572	2.6	6.74	14.12	0.95
1608	8.9	250	99	0.563	5.0	6.74	14.59	0.00
1613	8.9	250	88	0.560	0.0	6.73	14.75	0.00
1618	8.9	250	72	0.559	0.0	6.73	14.9	0.00
1623	8.9	250	58	0.559	0.0	6.72	15.04	0.00
1628	8.9	250	49	0.560	0.0	6.71	15.15	0.00
1633	8.9	250	48	0.55	0.0	6.71	15.2	0.00

Well Sampling Data Form

Client:	Irma C. Pollack	**Project Number:**	1575.0002y
Site Location:	5200 Kings Highway, Brooklyn		

Well No:	MW-9	Weather:	60s to 70s, clear
Date:	9/26/2014	Purge Water Disposal:	Drummed
Sampled By:	JG	Well Diameter / Type:	2 in PVC

Depth of Well (ft):	18.91	Water Column (ft):	8.26
Depth to Water(ft):	10.65	Volume of Water in Well (gal)	1.3481
Depth to Product (ft):	N/A	Volume of Water to Remove (gal):	n/a

well diameter:	1 in	**2 in**	4 in	6 in	8 in
gallons per foot:	0.04	**0.16**	0.65	1.47	2.611

Start Purging:	1047	Purge Rate:	150 mL/min
End Purging:	1125	Volume of Water Removed (gal):	2 gallon
Method of Purge:	low-flow	Method of Sampling:	low-flow

Physical Appearance/ Comments: Clear, no visible suspendid solids; no odor / sheen

Samples Collected: (analyses / no. bottles) TCL VOCs (3-40mL vials with HCl)

Time: 1125 Laboratory : York Ananlytical

Field Measurements:

Time	**DTW** ft	**Flow Rate** ml/min	**ORP** mV (+/- 10 mV)	**Conductivity** **mS/m** - S/m **(w/in 3%)**	**Turbidity** NTU (w/in %10)	**pH** SU (+/- 0.1)	**Temperature** **C^o** - F^o **(w/in 3%)**	**Dissolved O_2** mg/L (w/in 10%)
1050	10.63	150	187	80.000	29.0	6.13	21.27	3.12
1055	10.63	150	179	79.500	17.0	6.20	21.06	1.76
1100	10.63	150	175	79.300	19.0	6.22	21.1	1.63
1105	10.63	150	172	79.100	21.0	6.23	21.16	1.45
1110	10.63	150	171	79.100	18.0	6.24	21.21	1.36
1115	10.63	150	169	80.000	12.0	6.25	21.24	1.39
1120	10.63	150	168	80.100	11.0	6.27	21.26	1.41

APPENDIX D

Laboratory Reports

Technical Report

prepared for:

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Report Date: 02/28/2014

Client Project ID: 1575.00024

York Project (SDG) No.: 14B0560

Report Date: 02/28/2014
Client Project ID: 1575.00024
York Project (SDG) No.: 14B0560

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on February 21, 2014 and listed below. The project was identified as your project: **1575.00024**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
14B0560-01	RSB-10/7.5-9.5	Soil	02/20/2014	02/21/2014
14B0560-02	RSB-10/17.5-19.5	Soil	02/20/2014	02/21/2014
14B0560-03	RSB-11/7.5-9.5	Soil	02/20/2014	02/21/2014
14B0560-04	RSB-11/17.5-19.5	Soil	02/20/2014	02/21/2014
14B0560-05	RSB-1/10-12	Soil	02/20/2014	02/21/2014
14B0560-06	RSB-1/20-22	Soil	02/20/2014	02/21/2014
14B0560-07	DUP022014	Soil	02/20/2014	02/21/2014
14B0560-08	FB022014	Water	02/20/2014	02/21/2014
14B0560-09	RSB-3/8-10	Soil	02/20/2014	02/21/2014
14B0560-10	RSB-3/18-20	Soil	02/20/2014	02/21/2014
14B0560-11	TripBlank	Water	02/20/2014	02/21/2014
14B0560-12	MW-4S	Oil	02/20/2014	02/21/2014
14B0560-13	Lift-1	Oil	02/20/2014	02/21/2014

General Notes for York Project (SDG) No.: 14B0560

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 02/28/2014

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **RSB-10/7.5-9.5** | **York Sample ID:** **14B0560-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:40 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**14**		ug/kg dry	2.0	8.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
71-43-2	Benzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-25-2	Bromoform	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
67-66-3	Chloroform	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	41	82	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS

Sample Information

Client Sample ID: RSB-10/7.5-9.5 **York Sample ID:** 14B0560-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:40 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-09-2	Methylene chloride	**3.5**	J, B	ug/kg dry	2.0	8.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
100-42-5	Styrene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
108-88-3	Toluene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.0	4.1	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.1	8.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.1	12	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*110 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*104 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*98.5 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:22	SS

Sample Information

Client Sample ID: RSB-10/7.5-9.5 **York Sample ID:** 14B0560-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
98-86-2	Acetophenone	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
120-12-7	Anthracene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
1912-24-9	Atrazine	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
105-60-2	Caprolactam	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
86-74-8	Carbazole	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
218-01-9	Chrysene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	193	385	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR

Sample Information

Client Sample ID: **RSB-10/7.5-9.5** | **York Sample ID:** **14B0560-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
84-66-2	Diethyl phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	193	385	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
206-44-0	Fluoranthene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
86-73-7	Fluorene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
78-59-1	Isophorone	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
91-20-3	Naphthalene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
85-01-8	Phenanthrene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR

Sample Information

Client Sample ID: **RSB-10/7.5-9.5** **York Sample ID:** **14B0560-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-95-2	Phenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
129-00-0	Pyrene	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	97.0	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	48.5	193	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*51.6 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*54.0 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*54.6 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*59.6 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*89.2 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*82.4 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octadcenamide isomer	**154**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:22	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**86.6**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **RSB-10/17.5-19.5** **York Sample ID:** **14B0560-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**25**		ug/kg dry	2.6	10	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
71-43-2	Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS

Sample Information

Client Sample ID: RSB-10/17.5-19.5 **York Sample ID:** 14B0560-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
74-97-5	Bromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-25-2	Bromoform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
67-66-3	Chloroform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	52	100	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS

Sample Information

Client Sample ID: **RSB-10/17.5-19.5** | **York Sample ID:** **14B0560-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
79-20-9	Methyl acetate	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-09-2	Methylene chloride	**3.7**	B, J	ug/kg dry	2.6	10	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
100-42-5	Styrene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
108-88-3	Toluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.2	10	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.8	16	1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*104 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*98.1 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*96.3 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 13:18	02/25/2014 01:56	SS

Sample Information

Client Sample ID: **RSB-10/17.5-19.5** **York Sample ID:** **14B0560-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
98-86-2	Acetophenone	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
120-12-7	Anthracene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
1912-24-9	Atrazine	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
56-55-3	Benzo(a)anthracene	**88.2**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
50-32-8	Benzo(a)pyrene	**114**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
205-99-2	Benzo(b)fluoranthene	**71.2**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
207-08-9	Benzo(k)fluoranthene	**88.5**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
105-60-2	Caprolactam	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
86-74-8	Carbazole	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
218-01-9	Chrysene	**92.1**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	198	395	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR

Sample Information

Client Sample ID: **RSB-10/17.5-19.5** **York Sample ID:** **14B0560-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	198	395	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
206-44-0	Fluoranthene	**183**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
86-73-7	Fluorene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
193-39-5	Indeno(1,2,3-cd)pyrene	**68.8**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
78-59-1	Isophorone	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
91-20-3	Naphthalene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
85-01-8	Phenanthrene	**130**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
108-95-2	Phenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
129-00-0	Pyrene	**166**	J	ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR

Sample Information

Client Sample ID: **RSB-10/17.5-19.5** **York Sample ID:** **14B0560-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 9:50 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	99.6	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	49.8	198	1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*47.1 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*49.2 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*49.8 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*59.4 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*90.1 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*78.9 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	methyl pentanmide isomer	**474**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 12:56	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**84.3**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **RSB-11/7.5-9.5** **York Sample ID:** **14B0560-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**40**		ug/kg dry	2.3	9.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
71-43-2	Benzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS

Sample Information

Client Sample ID: **RSB-11/7.5-9.5** **York Sample ID:** **14B0560-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-25-2	Bromoform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
78-93-3	2-Butanone	**13**		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
67-66-3	Chloroform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	46	93	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
79-20-9	Methyl acetate	**3.2**	J	ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
108-87-2	Methylcyclohexane	**3.9**	J	ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS

Sample Information

Client Sample ID: RSB-11/7.5-9.5 **York Sample ID:** 14B0560-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	**3.7**	B, J	ug/kg dry	2.3	9.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
100-42-5	Styrene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
108-88-3	Toluene	**10**		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.6	9.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.0	14	1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS

CAS No.	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*111 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*95.2 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*101 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 13:18	02/25/2014 02:30	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
98-86-2	Acetophenone	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR

Sample Information

Client Sample ID: **RSB-11/7.5-9.5** **York Sample ID:** **14B0560-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-12-7	Anthracene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
1912-24-9	Atrazine	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
105-60-2	Caprolactam	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
86-74-8	Carbazole	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
218-01-9	Chrysene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	190	380	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR

Sample Information

Client Sample ID: **RSB-11/7.5-9.5** **York Sample ID:** **14B0560-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	190	380	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
117-81-7	Bis(2-ethylhexyl)phthalate	**72.9**	J	ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
206-44-0	Fluoranthene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
86-73-7	Fluorene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
78-59-1	Isophorone	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
91-20-3	Naphthalene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
85-01-8	Phenanthrene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
108-95-2	Phenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
129-00-0	Pyrene	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	95.7	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR

Sample Information

Client Sample ID: **RSB-11/7.5-9.5** **York Sample ID:** **14B0560-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 10:40 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	47.9	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*58.1 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*60.6 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*63.7 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*70.1 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*102 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*86.1 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octadecenamide isomer	**190**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR
NA	nonylphenol isomer	**190**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 13:31	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**87.7**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **RSB-11/17.5-19.5** **York Sample ID:** **14B0560-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**94**		ug/kg dry	3.5	14	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
71-43-2	Benzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-25-2	Bromoform	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS

Sample Information

Client Sample ID: **RSB-11/17.5-19.5** **York Sample ID:** **14B0560-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
74-83-9	Bromomethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
78-93-3	2-Butanone	**15**		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-00-3	Chloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
67-66-3	Chloroform	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
74-87-3	Chloromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
110-82-7	Cyclohexane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	70	140	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
591-78-6	2-Hexanone	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
79-20-9	Methyl acetate	**17**		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-09-2	Methylene chloride	**5.0**	B, J	ug/kg dry	3.5	14	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS

Sample Information

Client Sample ID: RSB-11/17.5-19.5 **York Sample ID:** 14B0560-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
100-42-5	Styrene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
108-88-3	Toluene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
95-47-6	o-Xylene	ND		ug/kg dry	3.5	7.0	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	7.0	14	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	10	21	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*99.7 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*104 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*95.9 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:04	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
98-86-2	Acetophenone	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
120-12-7	Anthracene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR

Sample Information

Client Sample ID: RSB-11/17.5-19.5 **York Sample ID:** 14B0560-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1912-24-9	Atrazine	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
105-60-2	Caprolactam	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
86-74-8	Carbazole	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
218-01-9	Chrysene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	195	389	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	195	390	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR

Sample Information

Client Sample ID: **RSB-11/17.5-19.5** | **York Sample ID:** **14B0560-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
206-44-0	Fluoranthene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
86-73-7	Fluorene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
78-59-1	Isophorone	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
91-20-3	Naphthalene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
85-01-8	Phenanthrene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
108-95-2	Phenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
129-00-0	Pyrene	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	98.2	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	49.1	195	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR

Sample Information

Client Sample ID: RSB-11/17.5-19.5 **York Sample ID:** 14B0560-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 11:00 am	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*48.7 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*50.2 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*48.5 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*54.9 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*86.9 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*82.2 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octadecenamide isomer	**662**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:04	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**85.5**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: RSB-1/10-12 **York Sample ID:** 14B0560-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**10**	J	ug/kg dry	2.6	11	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
71-43-2	Benzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-25-2	Bromoform	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS

Sample Information

Client Sample ID: **RSB-1/10-12** **York Sample ID:** **14B0560-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-15-0	Carbon disulfide	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
67-66-3	Chloroform	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	53	110	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-09-2	Methylene chloride	**3.6**	J, B	ug/kg dry	2.6	11	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS

Sample Information

Client Sample ID: **RSB-1/10-12** **York Sample ID:** **14B0560-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-42-5	Styrene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
108-88-3	Toluene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.6	5.3	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.3	11	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.9	16	1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*105 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*98.2 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*97.4 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 13:18	02/25/2014 03:38	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
98-86-2	Acetophenone	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
120-12-7	Anthracene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
1912-24-9	Atrazine	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR

Sample Information

Client Sample ID: **RSB-1/10-12** | **York Sample ID:** **14B0560-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-52-7	Benzaldehyde	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
56-55-3	Benzo(a)anthracene	**48.4**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
50-32-8	Benzo(a)pyrene	**58.6**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
207-08-9	Benzo(k)fluoranthene	**49.9**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
105-60-2	Caprolactam	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
86-74-8	Carbazole	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
218-01-9	Chrysene	**52.2**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	191	380	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	191	381	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR

Sample Information

Client Sample ID: **RSB-1/10-12** **York Sample ID:** **14B0560-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
206-44-0	Fluoranthene	**104**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
86-73-7	Fluorene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
78-59-1	Isophorone	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
91-20-3	Naphthalene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
85-01-8	Phenanthrene	**59.0**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
108-95-2	Phenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
129-00-0	Pyrene	**93.3**	J	ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	96.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	48.0	190	1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*53.4 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*58.6 %*	*10-124*

Sample Information

Client Sample ID: **RSB-1/10-12** **York Sample ID:** **14B0560-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:40 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
4165-60-0	*Surrogate: Nitrobenzene-d5*	*60.6 %*			*10-148*						
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*68.9 %*			*10-111*						
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*75.7 %*			*10-142*						
1718-51-0	*Surrogate: Terphenyl-d14*	*83.4 %*			*10-147*						

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	methyl Butanamide isomer	**381**	J	ug/kg dry			1	EPA 8270D	02/24/2014 17:00	02/25/2014 14:39	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**87.5**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **RSB-1/20-22** **York Sample ID:** **14B0560-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**7.3**	J	ug/kg dry	2.8	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
71-43-2	Benzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-25-2	Bromoform	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS

Sample Information

Client Sample ID: **RSB-1/20-22** **York Sample ID:** **14B0560-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-90-7	Chlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
67-66-3	Chloroform	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	57	110	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-09-2	Methylene chloride	**3.1**	J, B	ug/kg dry	2.8	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
100-42-5	Styrene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS

Sample Information

Client Sample ID: RSB-1/20-22 **York Sample ID:** 14B0560-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
108-88-3	Toluene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.7	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.5	17	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:05	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*102 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*101 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*98.2 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 08:58	02/24/2014 15:05	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
98-86-2	Acetophenone	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
120-12-7	Anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
1912-24-9	Atrazine	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR

Sample Information

Client Sample ID: **RSB-1/20-22** **York Sample ID:** **14B0560-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
105-60-2	Caprolactam	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
86-74-8	Carbazole	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
218-01-9	Chrysene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	197	394	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	197	394	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR

Sample Information

Client Sample ID: **RSB-1/20-22** | **York Sample ID:** **14B0560-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
206-44-0	Fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
86-73-7	Fluorene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
78-59-1	Isophorone	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
91-20-3	Naphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
85-01-8	Phenanthrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
108-95-2	Phenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
129-00-0	Pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	99.3	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*61.9 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*63.7 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*63.0 %*	*10-148*

Sample Information

Client Sample ID: RSB-1/20-22 | **York Sample ID:** 14B0560-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 1:50 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*68.1 %*			*10-111*						
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*94.5 %*			*10-142*						
1718-51-0	*Surrogate: Terphenyl-d14*	*81.9 %*			*10-147*						

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octadcenamide isomer	**749**	J	ug/kg dry			1	EPA 8270D	02/24/2014 18:00	02/25/2014 15:13	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**84.6**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: DUP022014 | **York Sample ID:** 14B0560-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**35**		ug/kg dry	2.8	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
71-43-2	Benzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-25-2	Bromoform	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
78-93-3	2-Butanone	**9.2**		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS

Sample Information

Client Sample ID: **DUP022014** | **York Sample ID:** **14B0560-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-00-3	Chloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
67-66-3	Chloroform	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	56	110	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-09-2	Methylene chloride	**6.5**	B, J	ug/kg dry	2.8	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
100-42-5	Styrene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS

Sample Information

Client Sample ID: DUP022014 **York Sample ID:** 14B0560-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-88-3	Toluene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.8	5.6	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.6	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.5	17	1	EPA 8260C	02/24/2014 08:23	02/24/2014 15:40	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*110 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*94.7 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*99.8 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 08:58	02/24/2014 15:40	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
98-86-2	Acetophenone	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
120-12-7	Anthracene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
1912-24-9	Atrazine	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR

Sample Information

Client Sample ID: DUP022014 **York Sample ID:** 14B0560-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
105-60-2	Caprolactam	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
86-74-8	Carbazole	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
218-01-9	Chrysene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	189	377	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	189	377	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
117-81-7	Bis(2-ethylhexyl)phthalate	**81.5**	J	ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR

Sample Information

Client Sample ID:	DUP022014		York Sample ID:	14B0560-07
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
86-73-7	Fluorene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
78-59-1	Isophorone	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
91-20-3	Naphthalene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
85-01-8	Phenanthrene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
108-95-2	Phenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
129-00-0	Pyrene	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	95.0	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	47.5	189	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*60.6 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*63.9 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*65.5 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*71.5 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*105 %*	*10-142*

YORK ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: DUP022014 | **York Sample ID:** 14B0560-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 12:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1718-51-0	*Surrogate: Terphenyl-d14*	*89.0 %*			*10-147*						

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	nonyl phenol isomer	**151**	J	ug/kg dry			1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR
NA	Octadecenamide isomer	**415**	J	ug/kg dry			1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:22	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**88.4**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: FB022014 | **York Sample ID:** 14B0560-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**8.8**	J	ug/L	2.5	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
71-43-2	Benzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
74-97-5	Bromochloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-27-4	Bromodichloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-25-2	Bromoform	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
74-83-9	Bromomethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
78-93-3	2-Butanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-15-0	Carbon disulfide	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
56-23-5	Carbon tetrachloride	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
108-90-7	Chlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-00-3	Chloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS

Sample Information

Client Sample ID: FB022014 | **York Sample ID:** 14B0560-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-66-3	Chloroform	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
74-87-3	Chloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
110-82-7	Cyclohexane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
124-48-1	Dibromochloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
106-93-4	1,2-Dibromoethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-35-4	1,1-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
123-91-1	1,4-Dioxane	ND		ug/L	50	100	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
100-41-4	Ethyl Benzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
591-78-6	2-Hexanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
98-82-8	Isopropylbenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
79-20-9	Methyl acetate	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
108-87-2	Methylcyclohexane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-09-2	Methylene chloride	**4.2**	CCV-E, J, B	ug/L	2.5	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
100-42-5	Styrene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
127-18-4	Tetrachloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
108-88-3	Toluene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS

Sample Information

Client Sample ID: FB022014 **York Sample ID:** 14B0560-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
79-01-6	Trichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-69-4	Trichlorofluoromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
75-01-4	Vinyl Chloride	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
95-47-6	o-Xylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
179601-23-1	p- & m- Xylenes	ND		ug/L	5.0	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS
1330-20-7	Xylenes, Total	ND		ug/L	7.5	15	1	EPA 8260C	02/25/2014 11:49	02/25/2014 20:56	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*94.6 %*	*87-112*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*110 %*	*78-122*
2037-26-5	*Surrogate: Toluene-d8*	*102 %*	*91-110*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/L			1	EPA 8260C	02/25/2014 11:51	02/25/2014 20:56	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
208-96-8	Acenaphthylene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
98-86-2	Acetophenone	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
120-12-7	Anthracene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
1912-24-9	Atrazine	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
100-52-7	Benzaldehyde	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
56-55-3	Benzo(a)anthracene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
50-32-8	Benzo(a)pyrene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR

Sample Information

Client Sample ID: **FB022014** | **York Sample ID:** **14B0560-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
85-68-7	Benzyl butyl phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
92-52-4	1,1'-Biphenyl	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
105-60-2	Caprolactam	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
86-74-8	Carbazole	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
106-47-8	4-Chloroaniline	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
91-58-7	2-Chloronaphthalene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
95-57-8	2-Chlorophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
218-01-9	Chrysene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
132-64-9	Dibenzofuran	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
84-74-2	Di-n-butyl phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
120-83-2	2,4-Dichlorophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
84-66-2	Diethyl phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
105-67-9	2,4-Dimethylphenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
131-11-3	Dimethyl phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
51-28-5	2,4-Dinitrophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
117-84-0	Di-n-octyl phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
206-44-0	Fluoranthene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR

Sample Information

Client Sample ID: **FB022014** **York Sample ID:** **14B0560-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	Fluorene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
118-74-1	Hexachlorobenzene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
87-68-3	Hexachlorobutadiene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
67-72-1	Hexachloroethane	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
78-59-1	Isophorone	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
91-57-6	2-Methylnaphthalene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
95-48-7	2-Methylphenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
91-20-3	Naphthalene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
99-09-2	3-Nitroaniline	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
100-01-6	4-Nitroaniline	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
88-74-4	2-Nitroaniline	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
98-95-3	Nitrobenzene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
100-02-7	4-Nitrophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
88-75-5	2-Nitrophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
87-86-5	Pentachlorophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
85-01-8	Phenanthrene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
108-95-2	Phenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
129-00-0	Pyrene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/L	3.57	7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*26.0 %*	*10-52*
4165-62-2	*Surrogate: Phenol-d5*	*15.8 %*	*10-117*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*58.7 %*	*12-112*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*60.8 %*	*14-101*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*87.1 %*	*17-127*
1718-51-0	*Surrogate: Terphenyl-d14*	*84.0 %*	*10-151*

Sample Information

Client Sample ID: **FB022014** | **York Sample ID:** **14B0560-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 1:00 pm	02/21/2014

Semi-Volatiles, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	ND		ug/L		7.14	1	EPA 8270D	02/26/2014 10:00	02/27/2014 15:48	SR

Sample Information

Client Sample ID: **RSB-3/8-10** | **York Sample ID:** **14B0560-09**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 3:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**42**		ug/kg dry	2.7	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
71-43-2	Benzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-25-2	Bromoform	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
78-93-3	2-Butanone	**7.0**		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
67-66-3	Chloroform	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS

Sample Information

Client Sample ID: **RSB-3/8-10** | **York Sample ID:** **14B0560-09**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 3:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	53	110	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-09-2	Methylene chloride	**3.1**	B, J	ug/kg dry	2.7	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
100-42-5	Styrene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
108-88-3	Toluene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.7	5.3	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.3	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS

Sample Information

Client Sample ID:	RSB-3/8-10	York Sample ID:	14B0560-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 3:40 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.0	16	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:14	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*119 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*101 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*111 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 08:58	02/24/2014 16:14	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
98-86-2	Acetophenone	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
120-12-7	Anthracene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
1912-24-9	Atrazine	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
105-60-2	Caprolactam	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
86-74-8	Carbazole	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR

Sample Information

Client Sample ID: **RSB-3/8-10** | **York Sample ID:** **14B0560-09**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 3:40 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
218-01-9	Chrysene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	198	395	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	198	395	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
206-44-0	Fluoranthene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
86-73-7	Fluorene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
78-59-1	Isophorone	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR

Sample Information

Client Sample ID: RSB-3/8-10 **York Sample ID:** 14B0560-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 3:40 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-20-3	Naphthalene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
85-01-8	Phenanthrene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
108-95-2	Phenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
129-00-0	Pyrene	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	99.5	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	49.8	197	1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*61.9 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*64.0 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*67.2 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*71.8 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*98.7 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*87.4 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octadecenamide isomer	**908**	J	ug/kg dry			1	EPA 8270D	02/24/2014 18:00	02/25/2014 16:57	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**84.4**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **RSB-3/18-20** **York Sample ID:** **14B0560-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 4:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**16**		ug/kg dry	2.7	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
71-43-2	Benzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-25-2	Bromoform	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
67-66-3	Chloroform	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	54	110	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS

Sample Information

Client Sample ID: **RSB-3/18-20** **York Sample ID:** **14B0560-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 4:00 pm	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-09-2	Methylene chloride	**5.0**	J, B	ug/kg dry	2.7	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
100-42-5	Styrene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
108-88-3	Toluene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.4	11	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.1	16	1	EPA 8260C	02/24/2014 08:23	02/24/2014 16:49	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*103 %*	*72-138*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*102 %*	*72-137*
2037-26-5	*Surrogate: Toluene-d8*	*97.4 %*	*85-118*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	02/24/2014 08:58	02/24/2014 16:49	SS

Sample Information

Client Sample ID: **RSB-3/18-20** **York Sample ID:** **14B0560-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 4:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
98-86-2	Acetophenone	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
120-12-7	Anthracene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
1912-24-9	Atrazine	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
56-55-3	Benzo(a)anthracene	**232**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
50-32-8	Benzo(a)pyrene	**270**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
205-99-2	Benzo(b)fluoranthene	**233**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
207-08-9	Benzo(k)fluoranthene	**254**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
105-60-2	Caprolactam	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
86-74-8	Carbazole	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
218-01-9	Chrysene	**247**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	396	789	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR

Sample Information

Client Sample ID: **RSB-3/18-20** **York Sample ID:** **14B0560-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 4:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	396	790	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
206-44-0	Fluoranthene	**500**		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
86-73-7	Fluorene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
193-39-5	Indeno(1,2,3-cd)pyrene	**101**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
78-59-1	Isophorone	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
91-20-3	Naphthalene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
85-01-8	Phenanthrene	**350**	J	ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
108-95-2	Phenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
129-00-0	Pyrene	**422**		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR

Sample Information

Client Sample ID: **RSB-3/18-20** | **York Sample ID:** **14B0560-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Soil	February 20, 2014 4:00 pm	02/21/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	199	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	99.6	395	2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*40.0 %*	*10-109*
4165-62-2	*Surrogate: Phenol-d5*	*51.3 %*	*10-124*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*51.9 %*	*10-148*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*63.7 %*	*10-111*
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*40.4 %*	*10-142*
1718-51-0	*Surrogate: Terphenyl-d14*	*83.7 %*	*10-147*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	Octecenamide isomer	0.00	J	ug/kg dry			2	EPA 8270D	02/24/2014 18:00	02/25/2014 17:31	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**84.4**		%	0.100	0.100	1	SM 2540G	02/25/2014 11:47	02/26/2014 11:07	KK

Sample Information

Client Sample ID: **TripBlank** | **York Sample ID:** **14B0560-11**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 12:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	**4.8**	J	ug/L	2.5	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
71-43-2	Benzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
74-97-5	Bromochloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-27-4	Bromodichloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS

Sample Information

Client Sample ID: **TripBlank** **York Sample ID:** **14B0560-11**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 12:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-25-2	Bromoform	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
74-83-9	Bromomethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
78-93-3	2-Butanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-15-0	Carbon disulfide	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
56-23-5	Carbon tetrachloride	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
108-90-7	Chlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-00-3	Chloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
67-66-3	Chloroform	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
74-87-3	Chloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
110-82-7	Cyclohexane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
124-48-1	Dibromochloromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
106-93-4	1,2-Dibromoethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-35-4	1,1-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
123-91-1	1,4-Dioxane	ND		ug/L	50	100	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
100-41-4	Ethyl Benzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
591-78-6	2-Hexanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
98-82-8	Isopropylbenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
79-20-9	Methyl acetate	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS

Sample Information

Client Sample ID: TripBlank | **York Sample ID:** 14B0560-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Water	February 20, 2014 12:00 am	02/21/2014

Volatile Organics, 8260 - TCL/SOM | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-09-2	Methylene chloride	**4.0**	CCV-E, J, B	ug/L	2.5	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
100-42-5	Styrene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
127-18-4	Tetrachloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
108-88-3	Toluene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
79-01-6	Trichloroethylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-69-4	Trichlorofluoromethane	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 11:	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
75-01-4	Vinyl Chloride	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
95-47-6	o-Xylene	ND		ug/L	2.5	5.0	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
179601-23-1	p- & m- Xylenes	ND		ug/L	5.0	10	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS
1330-20-7	Xylenes, Total	ND		ug/L	7.5	15	1	EPA 8260C	02/25/2014 11:49	02/25/2014 21:31	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*94.6 %*	*87-112*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*109 %*	*78-122*
2037-26-5	*Surrogate: Toluene-d8*	*96.4 %*	*91-110*

Volatile Organics, Tentatively Identified Cmpds. | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/L			1	EPA 8260C	02/25/2014 11:51	02/25/2014 21:31	SS

Sample Information

Client Sample ID: MW-4S **York Sample ID:** 14B0560-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Oil	February 20, 2014 3:15 pm	02/21/2014

Petroleum Identification **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	EPA 8015D	02/26/2014 12:56	02/27/2014 09:52	JW

Sample Information

Client Sample ID: Lift-1 **York Sample ID:** 14B0560-13

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14B0560	1575.00024	Oil	February 20, 2014 3:10 pm	02/21/2014

Petroleum Identification **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	EPA 8015D	02/26/2014 12:56	02/27/2014 09:52	JW

Analytical Batch Summary

Batch ID: BB40873 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-06	RSB-1/20-22	02/24/14
14B0560-07	DUP022014	02/24/14
14B0560-09	RSB-3/8-10	02/24/14
14B0560-10	RSB-3/18-20	02/24/14
BB40873-BLK1	Blank	02/24/14
BB40873-BS1	LCS	02/24/14
BB40873-BSD1	LCS Dup	02/24/14

Batch ID: BB40881 **Preparation Method:** EPA 3550C **Prepared By:** SA

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-01	RSB-10/7.5-9.5	02/24/14
14B0560-02	RSB-10/17.5-19.5	02/24/14
14B0560-03	RSB-11/7.5-9.5	02/24/14
14B0560-04	RSB-11/17.5-19.5	02/24/14
14B0560-05	RSB-1/10-12	02/24/14
14B0560-06	RSB-1/20-22	02/24/14
14B0560-07	DUP022014	02/24/14
14B0560-09	RSB-3/8-10	02/24/14
14B0560-10	RSB-3/18-20	02/24/14
BB40881-BLK1	Blank	02/24/14
BB40881-BS1	LCS	02/24/14
BB40881-MS1	Matrix Spike	02/24/14
BB40881-MSD1	Matrix Spike Dup	02/24/14

Batch ID: BB40891 **Preparation Method:** EPA 5035A **Prepared By:** BK

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-01	RSB-10/7.5-9.5	02/24/14
14B0560-02	RSB-10/17.5-19.5	02/24/14
14B0560-03	RSB-11/7.5-9.5	02/24/14
14B0560-04	RSB-11/17.5-19.5	02/24/14
14B0560-05	RSB-1/10-12	02/24/14
BB40891-BLK1	Blank	02/24/14
BB40891-BS1	LCS	02/24/14
BB40891-BSD1	LCS Dup	02/24/14
BB40891-MS1	Matrix Spike	02/24/14
BB40891-MSD1	Matrix Spike Dup	02/24/14

Batch ID: BB40892 **Preparation Method:** EPA 5035A **Prepared By:** BK

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-01	RSB-10/7.5-9.5	02/24/14
14B0560-02	RSB-10/17.5-19.5	02/24/14

14B0560-03	RSB-11/7.5-9.5	02/24/14
14B0560-04	RSB-11/17.5-19.5	02/24/14
14B0560-05	RSB-1/10-12	02/24/14

Batch ID: BB40912 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-06	RSB-1/20-22	02/24/14
14B0560-07	DUP022014	02/24/14
14B0560-09	RSB-3/8-10	02/24/14
14B0560-10	RSB-3/18-20	02/24/14

Batch ID: BB40928 **Preparation Method:** % Solids Prep **Prepared By:** KK

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-01	RSB-10/7.5-9.5	02/25/14
14B0560-02	RSB-10/17.5-19.5	02/25/14
14B0560-03	RSB-11/7.5-9.5	02/25/14
14B0560-04	RSB-11/17.5-19.5	02/25/14
14B0560-05	RSB-1/10-12	02/25/14
14B0560-06	RSB-1/20-22	02/25/14
14B0560-07	DUP022014	02/25/14
14B0560-09	RSB-3/8-10	02/25/14
14B0560-10	RSB-3/18-20	02/25/14

Batch ID: BB40946 **Preparation Method:** EPA 5030B **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-08	FB022014	02/25/14
14B0560-11	TripBlank	02/25/14
BB40946-BLK1	Blank	02/25/14
BB40946-BS1	LCS	02/25/14
BB40946-BSD1	LCS Dup	02/25/14
BB40946-DUP1	Duplicate	02/25/14
BB40946-MS1	Matrix Spike	02/25/14

Batch ID: BB40947 **Preparation Method:** EPA 5030B **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-08	FB022014	02/25/14
14B0560-11	TripBlank	02/25/14

Batch ID: BB40969 **Preparation Method:** EPA 3510C **Prepared By:** KAT

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-08	FB022014	02/26/14
BB40969-BLK1	Blank	02/26/14
BB40969-BLK2	Blank	02/26/14

BB40969-BS1	LCS	02/26/14

Batch ID: BB40998 **Preparation Method:** Oil Preparation for GC **Prepared By:** JW

YORK Sample ID	Client Sample ID	Preparation Date
14B0560-12	MW-4S	02/26/14
14B0560-13	Lift-1	02/26/14

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40873 - EPA 5035A

Blank (BB40873-BLK1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units
Acetone	ND	10	ug/kg wet
Benzene	ND	5.0	"
Bromochloromethane	ND	5.0	"
Bromodichloromethane	ND	5.0	"
Bromoform	ND	5.0	"
Bromomethane	ND	5.0	"
2-Butanone	ND	5.0	"
Carbon disulfide	ND	5.0	"
Carbon tetrachloride	ND	5.0	"
Chlorobenzene	ND	5.0	"
Chloroethane	ND	5.0	"
Chloroform	ND	5.0	"
Chloromethane	ND	5.0	"
Cyclohexane	ND	5.0	"
1,2-Dibromo-3-chloropropane	ND	5.0	"
Dibromochloromethane	ND	5.0	"
1,2-Dibromoethane	ND	5.0	"
1,2-Dichlorobenzene	ND	5.0	"
1,3-Dichlorobenzene	ND	5.0	"
1,4-Dichlorobenzene	ND	5.0	"
Dichlorodifluoromethane	ND	5.0	"
1,1-Dichloroethane	ND	5.0	"
1,2-Dichloroethane	ND	5.0	"
1,1-Dichloroethylene	ND	5.0	"
trans-1,2-Dichloroethylene	ND	5.0	"
cis-1,2-Dichloroethylene	ND	5.0	"
1,2-Dichloropropane	ND	5.0	"
trans-1,3-Dichloropropylene	ND	5.0	"
cis-1,3-Dichloropropylene	ND	5.0	"
1,4-Dioxane	ND	100	"
Ethyl Benzene	ND	5.0	"
2-Hexanone	ND	5.0	"
Isopropylbenzene	ND	5.0	"
Methyl acetate	ND	5.0	"
Methyl tert-butyl ether (MTBE)	ND	5.0	"
Methylcyclohexane	ND	5.0	"
Methylene chloride	2.9	10	"
4-Methyl-2-pentanone	ND	5.0	"
Styrene	ND	5.0	"
1,1,2,2-Tetrachloroethane	ND	5.0	"
Tetrachloroethylene	ND	5.0	"
Toluene	ND	5.0	"
1,2,4-Trichlorobenzene	ND	5.0	"
1,2,3-Trichlorobenzene	ND	5.0	"
1,1,1-Trichloroethane	ND	5.0	"
1,1,2-Trichloroethane	ND	5.0	"
Trichloroethylene	ND	5.0	"
Trichlorofluoromethane	ND	5.0	"
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"
Vinyl Chloride	ND	5.0	"
o-Xylene	ND	5.0	"

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40873 - EPA 5035A											
Blank (BB40873-BLK1)								Prepared & Analyzed: 02/24/2014			
p- & m- Xylenes	ND	10	ug/kg wet								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*53.6*		*ug/L*	*50.0*		*107*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*51.1*		*"*	*50.0*		*102*	*72-137*				
Surrogate: Toluene-d8	*49.1*		*"*	*50.0*		*98.2*	*85-118*				
LCS (BB40873-BS1)								Prepared & Analyzed: 02/24/2014			
Acetone	55		ug/L	50.0		111	26-119				
Benzene	49		"	50.0		98.3	81-117				
Bromochloromethane	49		"	50.0		97.5	79-118				
Bromodichloromethane	52		"	50.0		104	88-123				
Bromoform	56		"	50.0		112	85-122				
Bromomethane	46		"	50.0		92.0	43-137				
2-Butanone	50		"	50.0		99.3	60-129				
Carbon disulfide	48		"	100		48.1	18-145				
Carbon tetrachloride	50		"	50.0		100	79-135				
Chlorobenzene	48		"	50.0		96.9	87-112				
Chloroethane	49		"	50.0		98.3	60-132				
Chloroform	49		"	50.0		97.5	80-126				
Chloromethane	48		"	50.0		96.5	36-133				
Cyclohexane	54		"	50.0		108	70-130				
1,2-Dibromo-3-chloropropane	56		"	50.0		112	72-131				
Dibromochloromethane	43		"	50.0		85.7	86-128	Low Bias			
1,2-Dibromoethane	51		"	50.0		101	86-114				
1,2-Dichlorobenzene	49		"	50.0		97.9	85-114				
1,3-Dichlorobenzene	51		"	50.0		102	84-114				
1,4-Dichlorobenzene	51		"	50.0		101	82-116				
Dichlorodifluoromethane	48		"	50.0		95.8	10-156				
1,1-Dichloroethane	50		"	50.0		99.3	80-119				
1,2-Dichloroethane	49		"	50.0		97.5	72-136				
1,1-Dichloroethylene	48		"	50.0		95.8	58-139				
trans-1,2-Dichloroethylene	49		"	50.0		98.7	68-131				
cis-1,2-Dichloroethylene	49		"	50.0		98.9	80-119				
1,2-Dichloropropane	51		"	50.0		101	79-119				
trans-1,3-Dichloropropylene	53		"	50.0		107	81-127				
cis-1,3-Dichloropropylene	52		"	50.0		104	87-125				
1,4-Dioxane	530		"	1000		53.0	10-208				
Ethyl Benzene	51		"	50.0		102	88-117				
2-Hexanone	54		"	50.0		108	58-129				
Isopropylbenzene	51		"	50.0		102	84-116				
Methyl acetate	45		"	50.0		90.4	75-184				
Methyl tert-butyl ether (MTBE)	49		"	50.0		98.1	58-137				
Methylcyclohexane	52		"	50.0		104	70-130				
Methylene chloride	45		"	50.0		90.4	47-140				
4-Methyl-2-pentanone	38		"	50.0		76.6	46-121				
Styrene	50		"	50.0		99.4	85-119				
1,1,2,2-Tetrachloroethane	54		"	50.0		107	82-119				
Tetrachloroethylene	47		"	50.0		94.9	74-127				
Toluene	50		"	50.0		101	83-114				
1,2,4-Trichlorobenzene	54		"	50.0		107	69-135				
1,2,3-Trichlorobenzene	53		"	50.0		107	72-133				
1,1,1-Trichloroethane	50		"	50.0		99.6	76-135				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40873 - EPA 5035A

LCS (BB40873-BS1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,2-Trichloroethane	51		ug/L	50.0		103	82-114				
Trichloroethylene	50		"	50.0		99.1	84-118				
Trichlorofluoromethane	48		"	50.0		96.2	59-148				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50		"	50.0		101	68-144				
Vinyl Chloride	50		"	50.0		100	46-133				
o-Xylene	50		"	50.0		100	88-111				
p- & m- Xylenes	100		"	100		103	86-117				
Surrogate: p-Bromofluorobenzene	*52.0*		*"*	*50.0*		*104*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*50.4*		*"*	*50.0*		*101*	*72-137*				
Surrogate: Toluene-d8	*49.8*		*"*	*50.0*		*99.7*	*85-118*				

LCS Dup (BB40873-BSD1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	42		ug/L	50.0		83.4	26-119		28.1	30	
Benzene	50		"	50.0		100	81-117		2.09	30	
Bromochloromethane	49		"	50.0		97.0	79-118		0.494	30	
Bromodichloromethane	52		"	50.0		103	88-123		0.503	30	
Bromoform	54		"	50.0		108	85-122		4.14	30	
Bromomethane	47		"	50.0		93.2	43-137		1.30	30	
2-Butanone	45		"	50.0		89.5	60-129		10.3	30	
Carbon disulfide	48		"	100		48.4	18-145		0.601	30	
Carbon tetrachloride	51		"	50.0		102	79-135		1.87	30	
Chlorobenzene	51		"	50.0		101	87-112		4.48	30	
Chloroethane	50		"	50.0		100	60-132		1.72	30	
Chloroform	49		"	50.0		97.1	80-126		0.391	30	
Chloromethane	49		"	50.0		98.6	36-133		2.19	30	
Cyclohexane	54		"	50.0		108	70-130		0.648	30	
1,2-Dibromo-3-chloropropane	52		"	50.0		105	72-131		6.57	30	
Dibromochloromethane	22		"	50.0		43.5	86-128	Low Bias	65.4	30	Non-dir.
1,2-Dibromoethane	50		"	50.0		101	86-114		0.575	30	
1,2-Dichlorobenzene	52		"	50.0		103	85-114		5.21	30	
1,3-Dichlorobenzene	50		"	50.0		101	84-114		1.52	30	
1,4-Dichlorobenzene	53		"	50.0		105	82-116		3.74	30	
Dichlorodifluoromethane	47		"	50.0		94.8	10-156		1.11	30	
1,1-Dichloroethane	49		"	50.0		98.7	80-119		0.626	30	
1,2-Dichloroethane	51		"	50.0		101	72-136		3.70	30	
1,1-Dichloroethylene	48		"	50.0		95.4	58-139		0.439	30	
trans-1,2-Dichloroethylene	49		"	50.0		98.4	68-131		0.223	30	
cis-1,2-Dichloroethylene	50		"	50.0		99.0	80-119		0.0808	30	
1,2-Dichloropropane	49		"	50.0		97.7	79-119		3.32	30	
trans-1,3-Dichloropropylene	53		"	50.0		107	81-127		0.0937	30	
cis-1,3-Dichloropropylene	51		"	50.0		103	87-125		1.57	30	
1,4-Dioxane	500		"	1000		50.2	10-208		5.53	30	
Ethyl Benzene	50		"	50.0		99.7	88-117		1.95	30	
2-Hexanone	51		"	50.0		103	58-129		4.45	30	
Isopropylbenzene	52		"	50.0		104	84-116		2.08	30	
Methyl acetate	47		"	50.0		94.7	75-184		4.69	30	
Methyl tert-butyl ether (MTBE)	49		"	50.0		97.2	58-137		0.860	30	
Methylcyclohexane	52		"	50.0		104	70-130		0.865	30	
Methylene chloride	47		"	50.0		94.0	47-140		3.88	30	
4-Methyl-2-pentanone	37		"	50.0		73.4	46-121		4.21	30	
Styrene	50		"	50.0		100	85-119		1.10	30	
1,1,2,2-Tetrachloroethane	52		"	50.0		104	82-119		3.35	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40873 - EPA 5035A

LCS Dup (BB40873-BSD1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Tetrachloroethylene	46		ug/L	50.0		92.5	74-127		2.52	30	
Toluene	51		"	50.0		101	83-114		0.396	30	
1,2,4-Trichlorobenzene	54		"	50.0		108	69-135		0.964	30	
1,2,3-Trichlorobenzene	57		"	50.0		113	72-133		5.73	30	
1,1,1-Trichloroethane	50		"	50.0		101	76-135		0.919	30	
1,1,2-Trichloroethane	50		"	50.0		100	82-114		2.47	30	
Trichloroethylene	49		"	50.0		97.5	84-118		1.63	30	
Trichlorofluoromethane	50		"	50.0		99.6	59-148		3.45	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	51		"	50.0		103	68-144		1.73	30	
Vinyl Chloride	49		"	50.0		98.4	46-133		1.75	30	
o-Xylene	50		"	50.0		100	88-111		0.00	30	
p- & m- Xylenes	100		"	100		102	86-117		1.58	30	
Surrogate: p-Bromofluorobenzene	*51.7*		*"*	*50.0*		*103*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*51.0*		*"*	*50.0*		*102*	*72-137*				
Surrogate: Toluene-d8	*49.8*		*"*	*50.0*		*99.5*	*85-118*				

Batch BB40891 - EPA 5035A

Blank (BB40891-BLK1) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	ND	10	ug/kg wet								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
2-Butanone	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
Cyclohexane	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
Ethyl Benzene	ND	5.0	"								
2-Hexanone	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BB40891 - EPA 5035A

Blank (BB40891-BLK1) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Methyl acetate	ND	5.0	ug/kg wet								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	2.7	10	"								
4-Methyl-2-pentanone	ND	5.0	"								
Styrene	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
o-Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*49.9*		*ug/L*	*50.0*		*99.9*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*52.4*		*"*	*50.0*		*105*	*72-137*				
Surrogate: Toluene-d8	*50.5*		*"*	*50.0*		*101*	*85-118*				

LCS (BB40891-BS1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	48		ug/L	50.0		96.4	26-119				
Benzene	53		"	50.0		107	81-117				
Bromochloromethane	54		"	50.0		108	79-118				
Bromodichloromethane	53		"	50.0		106	88-123				
Bromoform	54		"	50.0		107	85-122				
Bromomethane	48		"	50.0		95.6	43-137				
2-Butanone	50		"	50.0		101	60-129				
Carbon disulfide	51		"	100		50.7	18-145				
Carbon tetrachloride	53		"	50.0		106	79-135				
Chlorobenzene	52		"	50.0		103	87-112				
Chloroethane	50		"	50.0		100	60-132				
Chloroform	51		"	50.0		103	80-126				
Chloromethane	48		"	50.0		96.8	36-133				
Cyclohexane	55		"	50.0		109	70-130				
1,2-Dibromo-3-chloropropane	57		"	50.0		114	72-131				
Dibromochloromethane	37		"	50.0		73.5	86-128	Low Bias			
1,2-Dibromoethane	53		"	50.0		106	86-114				
1,2-Dichlorobenzene	51		"	50.0		102	85-114				
1,3-Dichlorobenzene	51		"	50.0		103	84-114				
1,4-Dichlorobenzene	53		"	50.0		105	82-116				
Dichlorodifluoromethane	45		"	50.0		89.3	10-156				
1,1-Dichloroethane	52		"	50.0		104	80-119				
1,2-Dichloroethane	53		"	50.0		105	72-136				
1,1-Dichloroethylene	50		"	50.0		101	58-139				
trans-1,2-Dichloroethylene	52		"	50.0		104	68-131				
cis-1,2-Dichloroethylene	52		"	50.0		103	80-119				
1,2-Dichloropropane	52		"	50.0		104	79-119				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40891 - EPA 5035A

LCS (BB40891-BS1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
trans-1,3-Dichloropropylene	52		ug/L	50.0		105	81-127				
cis-1,3-Dichloropropylene	52		"	50.0		104	87-125				
1,4-Dioxane	660		"	1000		66.5	10-208				
Ethyl Benzene	52		"	50.0		105	88-117				
2-Hexanone	55		"	50.0		110	58-129				
Isopropylbenzene	51		"	50.0		103	84-116				
Methyl acetate	52		"	50.0		104	75-184				
Methyl tert-butyl ether (MTBE)	54		"	50.0		107	58-137				
Methylcyclohexane	53		"	50.0		107	70-130				
Methylene chloride	49		"	50.0		98.9	47-140				
4-Methyl-2-pentanone	53		"	50.0		106	46-121				
Styrene	51		"	50.0		103	85-119				
1,1,2,2-Tetrachloroethane	53		"	50.0		106	82-119				
Tetrachloroethylene	50		"	50.0		100	74-127				
Toluene	52		"	50.0		103	83-114				
1,2,4-Trichlorobenzene	55		"	50.0		111	69-135				
1,2,3-Trichlorobenzene	56		"	50.0		113	72-133				
1,1,1-Trichloroethane	54		"	50.0		108	76-135				
1,1,2-Trichloroethane	52		"	50.0		104	82-114				
Trichloroethylene	51		"	50.0		101	84-118				
Trichlorofluoromethane	52		"	50.0		104	59-148				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	53		"	50.0		106	68-144				
Vinyl Chloride	51		"	50.0		101	46-133				
o-Xylene	51		"	50.0		103	88-111				
p- & m- Xylenes	110		"	100		106	86-117				
Surrogate: p-Bromofluorobenzene	*51.0*		*"*	*50.0*		*102*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*49.7*		*"*	*50.0*		*99.4*	*72-137*				
Surrogate: Toluene-d8	*49.4*		*"*	*50.0*		*98.9*	*85-118*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40891 - EPA 5035A											
LCS Dup (BB40891-BSD1)							Prepared & Analyzed: 02/24/2014				
Acetone	45		ug/L	50.0		90.1	26-119		6.80	30	
Benzene	53		"	50.0		106	81-117		0.319	30	
Bromochloromethane	53		"	50.0		106	79-118		2.51	30	
Bromodichloromethane	53		"	50.0		107	88-123		1.17	30	
Bromoform	57		"	50.0		114	85-122		6.05	30	
Bromomethane	47		"	50.0		93.9	43-137		1.86	30	
2-Butanone	49		"	50.0		97.0	60-129		3.80	30	
Carbon disulfide	51		"	100		51.1	18-145		0.767	30	
Carbon tetrachloride	54		"	50.0		107	79-135		1.67	30	
Chlorobenzene	52		"	50.0		104	87-112		0.212	30	
Chloroethane	52		"	50.0		103	60-132		3.13	30	
Chloroform	52		"	50.0		104	80-126		1.31	30	
Chloromethane	48		"	50.0		95.6	36-133		1.25	30	
Cyclohexane	55		"	50.0		109	70-130		0.201	30	
1,2-Dibromo-3-chloropropane	62		"	50.0		123	72-131		7.61	30	
Dibromochloromethane	64		"	50.0		129	86-128	High Bias	54.8	30	Non-dir.
1,2-Dibromoethane	52		"	50.0		104	86-114		1.66	30	
1,2-Dichlorobenzene	53		"	50.0		105	85-114		3.05	30	
1,3-Dichlorobenzene	53		"	50.0		107	84-114		4.09	30	
1,4-Dichlorobenzene	55		"	50.0		109	82-116		3.84	30	
Dichlorodifluoromethane	44		"	50.0		88.6	10-156		0.765	30	
1,1-Dichloroethane	53		"	50.0		105	80-119		1.26	30	
1,2-Dichloroethane	53		"	50.0		106	72-136		0.928	30	
1,1-Dichloroethylene	52		"	50.0		104	58-139		3.36	30	
trans-1,2-Dichloroethylene	53		"	50.0		106	68-131		1.12	30	
cis-1,2-Dichloroethylene	53		"	50.0		106	80-119		2.01	30	
1,2-Dichloropropane	52		"	50.0		103	79-119		0.386	30	
trans-1,3-Dichloropropylene	52		"	50.0		105	81-127		0.0381	30	
cis-1,3-Dichloropropylene	52		"	50.0		105	87-125		0.479	30	
1,4-Dioxane	610		"	1000		61.1	10-208		8.47	30	
Ethyl Benzene	52		"	50.0		104	88-117		0.903	30	
2-Hexanone	53		"	50.0		107	58-129		2.86	30	
Isopropylbenzene	53		"	50.0		106	84-116		3.37	30	
Methyl acetate	52		"	50.0		105	75-184		0.287	30	
Methyl tert-butyl ether (MTBE)	52		"	50.0		105	58-137		2.59	30	
Methylcyclohexane	55		"	50.0		110	70-130		2.80	30	
Methylene chloride	49		"	50.0		97.4	47-140		1.47	30	
4-Methyl-2-pentanone	54		"	50.0		108	46-121		1.71	30	
Styrene	52		"	50.0		104	85-119		0.910	30	
1,1,2,2-Tetrachloroethane	52		"	50.0		105	82-119		1.00	30	
Tetrachloroethylene	52		"	50.0		104	74-127		3.14	30	
Toluene	52		"	50.0		105	83-114		1.42	30	
1,2,4-Trichlorobenzene	56		"	50.0		111	69-135		0.288	30	
1,2,3-Trichlorobenzene	59		"	50.0		118	72-133		4.22	30	
1,1,1-Trichloroethane	54		"	50.0		107	76-135		0.650	30	
1,1,2-Trichloroethane	52		"	50.0		105	82-114		0.845	30	
Trichloroethylene	52		"	50.0		103	84-118		1.70	30	
Trichlorofluoromethane	53		"	50.0		106	59-148		1.66	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	54		"	50.0		109	68-144		2.40	30	
Vinyl Chloride	50		"	50.0		100	46-133		0.794	30	
o-Xylene	53		"	50.0		106	88-111		2.99	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40891 - EPA 5035A

LCS Dup (BB40891-BSD1) Prepared & Analyzed: 02/24/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
p- & m- Xylenes	100		ug/L	100		104	86-117		1.50	30	
Surrogate: p-Bromofluorobenzene	*52.8*		*"*	*50.0*		*106*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*50.6*		*"*	*50.0*		*101*	*72-137*				
Surrogate: Toluene-d8	*48.4*		*"*	*50.0*		*96.9*	*85-118*				

Matrix Spike (BB40891-MS1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	100		ug/L	50.0	99	4.32	17-123	Low Bias			
Benzene	53		"	50.0	ND	106	57-128				
Bromochloromethane	52		"	50.0	ND	104	68-120				
Bromodichloromethane	50		"	50.0	ND	99.0	54-144				
Bromoform	48		"	50.0	ND	95.8	36-143				
Bromomethane	48		"	50.0	ND	95.5	23-127				
2-Butanone	63		"	50.0	15	94.6	37-133				
Carbon disulfide	49		"	100	ND	49.0	10-135				
Carbon tetrachloride	55		"	50.0	ND	109	42-146				
Chlorobenzene	47		"	50.0	ND	94.6	39-127				
Chloroethane	51		"	50.0	ND	101	52-132				
Chloroform	54		"	50.0	ND	107	61-135				
Chloromethane	50		"	50.0	ND	99.6	32-135				
Cyclohexane	53		"	50.0	ND	107	70-130				
1,2-Dibromo-3-chloropropane	44		"	50.0	ND	88.6	10-166				
Dibromochloromethane	34		"	50.0	ND	68.6	44-145				
1,2-Dibromoethane	48		"	50.0	ND	95.7	58-124				
1,2-Dichlorobenzene	44		"	50.0	ND	87.1	20-126				
1,3-Dichlorobenzene	43		"	50.0	ND	85.8	24-120				
1,4-Dichlorobenzene	42		"	50.0	ND	84.0	14-124				
Dichlorodifluoromethane	43		"	50.0	ND	85.1	10-131				
1,1-Dichloroethane	53		"	50.0	ND	105	54-140				
1,2-Dichloroethane	51		"	50.0	ND	101	58-139				
1,1-Dichloroethylene	51		"	50.0	ND	102	32-149				
trans-1,2-Dichloroethylene	51		"	50.0	ND	101	42-133				
cis-1,2-Dichloroethylene	53		"	50.0	ND	107	60-126				
1,2-Dichloropropane	50		"	50.0	ND	101	50-142				
trans-1,3-Dichloropropylene	46		"	50.0	ND	92.4	37-135				
cis-1,3-Dichloropropylene	47		"	50.0	ND	94.1	48-132				
1,4-Dioxane	610		"	1000	ND	61.2	33-178				
Ethyl Benzene	49		"	50.0	ND	98.1	37-133				
2-Hexanone	46		"	50.0	ND	91.1	22-132				
Isopropylbenzene	49		"	50.0	ND	98.3	34-133				
Methyl acetate	57		"	50.0	18	78.4	10-218				
Methyl tert-butyl ether (MTBE)	48		"	50.0	ND	96.2	50-146				
Methylcyclohexane	50		"	50.0	ND	100	70-130				
Methylene chloride	51		"	50.0	5.3	90.5	21-163				
4-Methyl-2-pentanone	44		"	50.0	1.3	84.8	38-110				
Styrene	46		"	50.0	ND	92.3	20-138				
1,1,2,2-Tetrachloroethane	44		"	50.0	ND	87.9	17-159				
Tetrachloroethylene	62		"	50.0	ND	124	27-163				
Toluene	50		"	50.0	1.8	97.0	46-129				
1,2,4-Trichlorobenzene	37		"	50.0	ND	74.3	10-121				
1,2,3-Trichlorobenzene	41		"	50.0	ND	82.1	10-126				
1,1,1-Trichloroethane	55		"	50.0	ND	109	49-148				
1,1,2-Trichloroethane	49		"	50.0	ND	98.7	50-139				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40891 - EPA 5035A											
Matrix Spike (BB40891-MS1)	*Source sample: 14B0560-04 (RSB-11/17.5-19.5)						Prepared: 02/24/2014 Analyzed: 02/25/2014				
Trichloroethylene	50		ug/L	50.0	ND	101	55-135				
Trichlorofluoromethane	53		"	50.0	ND	105	40-142				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	52		"	50.0	ND	103	32-139				
Vinyl Chloride	52		"	50.0	ND	103	30-137				
o-Xylene	49		"	50.0	ND	98.1	37-131				
p- & m- Xylenes	98		"	100	ND	98.0	34-131				
Surrogate: p-Bromofluorobenzene	*51.4*		*"*	*50.0*		*103*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*49.3*		*"*	*50.0*		*98.7*	*72-137*				
Surrogate: Toluene-d8	*49.0*		*"*	*50.0*		*98.0*	*85-118*				
Matrix Spike Dup (BB40891-MSD1)	*Source sample: 14B0560-04 (RSB-11/17.5-19.5)						Prepared: 02/24/2014 Analyzed: 02/25/2014				
Acetone	78		ug/L	50.0	95	NR	17-123	Low Bias	25.5	150	
Benzene	53		"	50.0	ND	106	57-128		0.0567	64	
Bromochloromethane	50		"	50.0	ND	99.5	68-120		4.07	30	
Bromodichloromethane	52		"	50.0	ND	104	54-144		5.14	37	
Bromoform	51		"	50.0	ND	102	36-143		6.19	51	
Bromomethane	48		"	50.0	ND	96.8	23-127		1.39	42	
2-Butanone	48		"	50.0	15	67.2	37-133		25.6	67	
Carbon disulfide	49		"	100	ND	48.6	10-135		0.798	36	
Carbon tetrachloride	52		"	50.0	ND	103	42-146		5.55	31	
Chlorobenzene	49		"	50.0	ND	97.8	39-127		3.31	32	
Chloroethane	52		"	50.0	ND	104	52-132		2.36	40	
Chloroform	52		"	50.0	ND	105	61-135		2.34	29	
Chloromethane	47		"	50.0	ND	94.9	32-135		4.92	31	
Cyclohexane	51		"	50.0	ND	102	70-130		4.49	30	
1,2-Dibromo-3-chloropropane	52		"	50.0	ND	103	10-166		15.2	54	
Dibromochloromethane	46		"	50.0	ND	92.1	44-145		29.3	41	
1,2-Dibromoethane	50		"	50.0	ND	99.7	58-124		4.05	39	
1,2-Dichlorobenzene	47		"	50.0	ND	94.2	20-126		7.88	52	
1,3-Dichlorobenzene	45		"	50.0	ND	89.8	24-120		4.49	51	
1,4-Dichlorobenzene	45		"	50.0	ND	89.4	14-124		6.27	52	
Dichlorodifluoromethane	38		"	50.0	ND	76.9	10-131		10.1	34	
1,1-Dichloroethane	51		"	50.0	ND	102	54-140		3.30	36	
1,2-Dichloroethane	51		"	50.0	ND	103	58-139		1.82	32	
1,1-Dichloroethylene	50		"	50.0	ND	99.9	32-149		1.67	31	
trans-1,2-Dichloroethylene	51		"	50.0	ND	102	42-133		0.963	34	
cis-1,2-Dichloroethylene	53		"	50.0	ND	105	60-126		1.42	30	
1,2-Dichloropropane	50		"	50.0	ND	100	50-142		0.418	37	
trans-1,3-Dichloropropylene	47		"	50.0	ND	94.1	37-135		1.80	39	
cis-1,3-Dichloropropylene	49		"	50.0	ND	97.1	48-132		3.20	39	
1,4-Dioxane	590		"	1000	ND	58.6	33-178		4.33	196	
Ethyl Benzene	50		"	50.0	ND	100	37-133		2.16	42	
2-Hexanone	46		"	50.0	ND	93.0	22-132		2.06	60	
Isopropylbenzene	49		"	50.0	ND	98.3	34-133		0.0610	57	
Methyl acetate	50		"	50.0	17	64.8	10-218		13.9	64	
Methyl tert-butyl ether (MTBE)	51		"	50.0	ND	102	50-146		6.34	47	
Methylcyclohexane	49		"	50.0	ND	98.0	70-130		2.18	30	
Methylene chloride	48		"	50.0	5.1	85.7	21-163		5.34	49	
4-Methyl-2-pentanone	48		"	50.0	1.3	93.9	38-110		9.79	47	
Styrene	47		"	50.0	ND	94.2	20-138		1.97	39	
1,1,2,2-Tetrachloroethane	50		"	50.0	ND	99.4	17-159		12.3	56	
Tetrachloroethylene	55		"	50.0	ND	109	27-163		12.9	33	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BB40891 - EPA 5035A

Matrix Spike Dup (BB40891-MSD1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Toluene	56		ug/L	50.0	1.8	109	46-129		11.3	50	
1,2,4-Trichlorobenzene	42		"	50.0	ND	85.0	10-121		13.4	52	
1,2,3-Trichlorobenzene	48		"	50.0	ND	96.2	10-126		15.8	47	
1,1,1-Trichloroethane	54		"	50.0	ND	107	49-148		1.62	30	
1,1,2-Trichloroethane	50		"	50.0	ND	101	50-139		2.01	40	
Trichloroethylene	50		"	50.0	ND	99.4	55-135		1.44	33	
Trichlorofluoromethane	48		"	50.0	ND	96.1	40-142		8.89	32	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46		"	50.0	ND	92.8	32-139		10.9	31	
Vinyl Chloride	50		"	50.0	ND	100	30-137		3.08	35	
o-Xylene	51		"	50.0	ND	102	37-131		3.78	51	
p- & m- Xylenes	100		"	100	ND	100	34-131		2.08	47	
Surrogate: p-Bromofluorobenzene	*51.2*		*"*	*50.0*		*102*	*72-138*				
Surrogate: 1,2-Dichloroethane-d4	*47.7*		*"*	*50.0*		*95.3*	*72-137*				
Surrogate: Toluene-d8	*49.5*		*"*	*50.0*		*99.0*	*85-118*				

Batch BB40946 - EPA 5030B

Blank (BB40946-BLK1) Prepared & Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	ND	10	ug/L								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
2-Butanone	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
Cyclohexane	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
Ethyl Benzene	ND	5.0	"								
2-Hexanone	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40946 - EPA 5030B											
Blank (BB40946-BLK1)							Prepared & Analyzed: 02/25/2014				
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	4.0	10	"								
4-Methyl-2-pentanone	ND	5.0	"								
Styrene	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1,1-Trichloroethane	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
o-Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*47.6*		*"*	*50.0*		*95.2*	*87-112*				
Surrogate: 1,2-Dichloroethane-d4	*54.5*		*"*	*50.0*		*109*	*78-122*				
Surrogate: Toluene-d8	*50.5*		*"*	*50.0*		*101*	*91-110*				
LCS (BB40946-BS1)							Prepared & Analyzed: 02/25/2014				
Acetone	45		ug/L	50.0		89.6	30-112				
Benzene	52		"	50.0		105	88-113				
Bromochloromethane	51		"	50.0		102	80-120				
Bromodichloromethane	57		"	50.0		113	87-122				
Bromoform	55		"	50.0		111	83-127				
Bromomethane	47		"	50.0		93.9	36-135				
2-Butanone	56		"	50.0		112	59-127				
Carbon disulfide	43		"	100		43.1	35-126				
Carbon tetrachloride	52		"	50.0		104	82-128				
Chlorobenzene	51		"	50.0		102	90-111				
Chloroethane	48		"	50.0		96.3	60-132				
Chloroform	53		"	50.0		106	89-116				
Chloromethane	57		"	50.0		114	39-131				
Cyclohexane	55		"	50.0		110	70-130				
1,2-Dibromo-3-chloropropane	66		"	50.0		132	69-134				
Dibromochloromethane	52		"	50.0		105	82-132				
1,2-Dibromoethane	55		"	50.0		110	85-118				
1,4-Dichlorobenzene	52		"	50.0		105	84-116				
1,2-Dichlorobenzene	53		"	50.0		106	87-116				
1,3-Dichlorobenzene	54		"	50.0		108	85-116				
Dichlorodifluoromethane	57		"	50.0		115	10-143				
1,2-Dichloroethane	52		"	50.0		105	79-125				
1,1-Dichloroethane	55		"	50.0		111	82-121				
cis-1,2-Dichloroethylene	48		"	50.0		96.0	90-112				
trans-1,2-Dichloroethylene	53		"	50.0		106	73-123				
1,1-Dichloroethylene	46		"	50.0		92.7	59-135				
1,2-Dichloropropane	57		"	50.0		115	82-119				
cis-1,3-Dichloropropylene	55		"	50.0		110	89-124				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40946 - EPA 5030B

LCS (BB40946-BS1) Prepared & Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
trans-1,3-Dichloropropylene	57		ug/L	50.0		114	85-123				
1,4-Dioxane	950		"	1000		94.9	10-210				
Ethyl Benzene	53		"	50.0		107	91-117				
2-Hexanone	60		"	50.0		121	59-127				
Isopropylbenzene	56		"	50.0		112	82-122				
Methyl acetate	44		"	50.0		88.0	64-185				
Methyl tert-butyl ether (MTBE)	55		"	50.0		109	59-135				
Methylcyclohexane	53		"	50.0		105	70-130				
Methylene chloride	61		"	50.0		121	51-136				
4-Methyl-2-pentanone	64		"	50.0		128	50-119	High Bias			
Styrene	48		"	50.0		96.7	88-121				
1,1,2,2-Tetrachloroethane	62		"	50.0		124	84-122	High Bias			
Tetrachloroethylene	49		"	50.0		97.3	67-138				
Toluene	52		"	50.0		104	88-113				
1,2,4-Trichlorobenzene	60		"	50.0		119	72-133				
1,2,3-Trichlorobenzene	56		"	50.0		113	74-132				
1,1,2-Trichloroethane	56		"	50.0		112	83-116				
1,1,1-Trichloroethane	52		"	50.0		103	83-125				
Trichloroethylene	52		"	50.0		104	83-120				
Trichlorofluoromethane	55		"	50.0		109	62-138				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	45		"	50.0		89.9	66-141				
Vinyl Chloride	51		"	50.0		102	49-127				
o-Xylene	54		"	50.0		107	91-110				
p- & m- Xylenes	110		"	100		108	86-118				
Surrogate: p-Bromofluorobenzene	*51.5*		*"*	*50.0*		*103*	*87-112*				
Surrogate: 1,2-Dichloroethane-d4	*51.3*		*"*	*50.0*		*103*	*78-122*				
Surrogate: Toluene-d8	*48.8*		*"*	*50.0*		*97.7*	*91-110*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40946 - EPA 5030B											
LCS Dup (BB40946-BSD1)							Prepared & Analyzed: 02/25/2014				
Acetone	56		ug/L	50.0		112	30-112		22.0	30	
Benzene	52		"	50.0		104	88-113		0.535	30	
Bromochloromethane	52		"	50.0		103	80-120		0.819	30	
Bromodichloromethane	58		"	50.0		116	87-122		2.39	30	
Bromoform	56		"	50.0		113	83-127		1.88	30	
Bromomethane	48		"	50.0		96.9	36-135		3.17	30	
2-Butanone	60		"	50.0		120	59-127		6.98	30	
Carbon disulfide	46		"	100		46.2	35-126		6.94	30	
Carbon tetrachloride	50		"	50.0		100	82-128		4.27	30	
Chlorobenzene	52		"	50.0		105	90-111		2.49	30	
Chloroethane	52		"	50.0		103	60-132		6.84	30	
Chloroform	53		"	50.0		107	89-116		1.15	30	
Chloromethane	60		"	50.0		119	39-131		4.36	30	
Cyclohexane	54		"	50.0		109	70-130		0.862	30	
1,2-Dibromo-3-chloropropane	73		"	50.0		146	69-134	High Bias	9.69	30	
Dibromochloromethane	56		"	50.0		113	82-132		7.23	30	
1,2-Dibromoethane	59		"	50.0		118	85-118		7.32	30	
1,4-Dichlorobenzene	52		"	50.0		105	84-116		0.0763	30	
1,2-Dichlorobenzene	51		"	50.0		101	87-116		5.20	30	
1,3-Dichlorobenzene	52		"	50.0		103	85-116		4.19	30	
Dichlorodifluoromethane	57		"	50.0		114	10-143		0.524	30	
1,2-Dichloroethane	56		"	50.0		113	79-125		7.55	30	
1,1-Dichloroethane	56		"	50.0		111	82-121		0.541	30	
cis-1,2-Dichloroethylene	49		"	50.0		97.8	90-112		1.78	30	
trans-1,2-Dichloroethylene	53		"	50.0		106	73-123		0.378	30	
1,1-Dichloroethylene	49		"	50.0		98.0	59-135		5.50	30	
1,2-Dichloropropane	60		"	50.0		120	82-119	High Bias	4.50	30	
cis-1,3-Dichloropropylene	57		"	50.0		113	89-124		2.97	30	
trans-1,3-Dichloropropylene	60		"	50.0		120	85-123		5.33	30	
1,4-Dioxane	1100		"	1000		107	10-210		12.3	30	
Ethyl Benzene	56		"	50.0		111	91-117		3.84	30	
2-Hexanone	68		"	50.0		136	59-127	High Bias	11.9	30	
Isopropylbenzene	53		"	50.0		106	82-122		5.10	30	
Methyl acetate	54		"	50.0		108	64-185		20.7	30	
Methyl tert-butyl ether (MTBE)	57		"	50.0		113	59-135		3.45	30	
Methylcyclohexane	55		"	50.0		110	70-130		4.36	30	
Methylene chloride	61		"	50.0		123	51-136		1.00	30	
4-Methyl-2-pentanone	69		"	50.0		139	50-119	High Bias	8.27	30	
Styrene	52		"	50.0		104	88-121		7.16	30	
1,1,2,2-Tetrachloroethane	63		"	50.0		125	84-122	High Bias	0.833	30	
Tetrachloroethylene	50		"	50.0		99.6	67-138		2.40	30	
Toluene	53		"	50.0		105	88-113		0.784	30	
1,2,4-Trichlorobenzene	57		"	50.0		113	72-133		4.89	30	
1,2,3-Trichlorobenzene	56		"	50.0		112	74-132		0.693	30	
1,1,2-Trichloroethane	59		"	50.0		118	83-116	High Bias	5.27	30	
1,1,1-Trichloroethane	52		"	50.0		103	83-125		0.213	30	
Trichloroethylene	54		"	50.0		107	83-120		2.78	30	
Trichlorofluoromethane	54		"	50.0		108	62-138		1.27	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	47		"	50.0		93.4	66-141		3.80	30	
Vinyl Chloride	55		"	50.0		110	49-127		6.78	30	
o-Xylene	56		"	50.0		112	91-110	High Bias	4.48	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40946 - EPA 5030B											
LCS Dup (BB40946-BSD1)							Prepared & Analyzed: 02/25/2014				
p- & m- Xylenes	110		ug/L	100		109	86-118		0.940	30	
Surrogate: p-Bromofluorobenzene	*50.7*		*"*	*50.0*		*101*	*87-112*				
Surrogate: 1,2-Dichloroethane-d4	*53.2*		*"*	*50.0*		*106*	*78-122*				
Surrogate: Toluene-d8	*51.2*		*"*	*50.0*		*102*	*91-110*				
Duplicate (BB40946-DUP1)	*Source sample: 14B0560-11 (TripBlank)						Prepared & Analyzed: 02/25/2014				
Acetone	3.0	10	ug/L		4.8				45.8	200	
Benzene	ND	5.0	"		ND					200	
Bromochloromethane	ND	5.0	"		ND					200	
Bromodichloromethane	ND	5.0	"		ND					200	
Bromoform	ND	5.0	"		ND					200	
Bromomethane	ND	5.0	"		ND					200	
2-Butanone	ND	5.0	"		ND					200	
Carbon disulfide	ND	5.0	"		ND					200	
Carbon tetrachloride	ND	5.0	"		ND					200	
Chlorobenzene	ND	5.0	"		ND					200	
Chloroethane	ND	5.0	"		ND					200	
Chloroform	ND	5.0	"		ND					200	
Chloromethane	ND	5.0	"		ND					200	
Cyclohexane	ND	5.0	"		ND					200	
1,2-Dibromo-3-chloropropane	ND	5.0	"		ND					200	
Dibromochloromethane	ND	5.0	"		ND					200	
1,2-Dibromoethane	ND	5.0	"		ND					200	
1,4-Dichlorobenzene	ND	5.0	"		ND					200	
1,2-Dichlorobenzene	ND	5.0	"		ND					200	
1,3-Dichlorobenzene	ND	5.0	"		ND					200	
Dichlorodifluoromethane	ND	5.0	"		ND					200	
1,2-Dichloroethane	ND	5.0	"		ND					200	
1,1-Dichloroethane	ND	5.0	"		ND					200	
cis-1,2-Dichloroethylene	ND	5.0	"		ND					200	
trans-1,2-Dichloroethylene	ND	5.0	"		ND					200	
1,1-Dichloroethylene	ND	5.0	"		ND					200	
1,2-Dichloropropane	ND	5.0	"		ND					200	
cis-1,3-Dichloropropylene	ND	5.0	"		ND					200	
trans-1,3-Dichloropropylene	ND	5.0	"		ND					200	
1,4-Dioxane	ND	100	"		ND					200	
Ethyl Benzene	ND	5.0	"		ND					200	
2-Hexanone	ND	5.0	"		ND					200	
Isopropylbenzene	ND	5.0	"		ND					200	
Methyl acetate	ND	5.0	"		ND					200	
Methyl tert-butyl ether (MTBE)	ND	5.0	"		ND					200	
Methylcyclohexane	ND	5.0	"		ND					200	
Methylene chloride	4.0	10	"		4.0				2.25	200	
4-Methyl-2-pentanone	ND	5.0	"		ND					200	
Styrene	ND	5.0	"		ND					200	
1,1,2,2-Tetrachloroethane	ND	5.0	"		ND					200	
Tetrachloroethylene	ND	5.0	"		ND					200	
Toluene	ND	5.0	"		ND					200	
1,2,4-Trichlorobenzene	ND	5.0	"		ND					200	
1,2,3-Trichlorobenzene	ND	5.0	"		ND					200	
1,1,2-Trichloroethane	ND	5.0	"		ND					200	
1,1,1-Trichloroethane	ND	5.0	"		ND					200	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40946 - EPA 5030B											
Duplicate (BB40946-DUP1)	*Source sample: 14B0560-11 (TripBlank)						Prepared & Analyzed: 02/25/2014				
Trichloroethylene	ND	5.0	ug/L		ND					200	
Trichlorofluoromethane	ND	5.0	"		ND					200	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"		ND					200	
Vinyl Chloride	ND	5.0	"		ND					200	
o-Xylene	ND	5.0	"		ND					200	
p- & m- Xylenes	ND	10	"		ND					200	
Xylenes, Total	ND	15	"		ND					200	
Surrogate: p-Bromofluorobenzene	*47.2*		*"*	*50.0*		*94.4*	*87-112*				
Surrogate: 1,2-Dichloroethane-d4	*53.4*		*"*	*50.0*		*107*	*78-122*				
Surrogate: Toluene-d8	*50.4*		*"*	*50.0*		*101*	*91-110*				
Matrix Spike (BB40946-MS1)	*Source sample: 14B0560-11 (TripBlank)						Prepared & Analyzed: 02/25/2014				
Acetone	43		ug/L	50.0	4.8	76.1	15-115				
Benzene	51		"	50.0	ND	102	84-119				
Bromochloromethane	56		"	50.0	ND	112	84-120				
Bromodichloromethane	54		"	50.0	ND	109	86-124				
Bromoform	53		"	50.0	ND	106	79-124				
Bromomethane	44		"	50.0	ND	88.8	25-132				
2-Butanone	54		"	50.0	ND	108	41-143				
Carbon disulfide	43		"	100	ND	42.9	40-123				
Carbon tetrachloride	51		"	50.0	ND	103	79-131				
Chlorobenzene	50		"	50.0	ND	100	88-112				
Chloroethane	48		"	50.0	ND	95.3	66-128				
Chloroform	52		"	50.0	ND	103	84-123				
Chloromethane	52		"	50.0	ND	103	46-117				
Cyclohexane	53		"	50.0	ND	106	70-130				
1,2-Dibromo-3-chloropropane	62		"	50.0	ND	125	72-125				
Dibromochloromethane	52		"	50.0	ND	104	91-121				
1,2-Dibromoethane	54		"	50.0	ND	108	89-114				
1,4-Dichlorobenzene	51		"	50.0	ND	102	71-120				
1,2-Dichlorobenzene	51		"	50.0	ND	101	80-117				
1,3-Dichlorobenzene	50		"	50.0	ND	100	72-121				
Dichlorodifluoromethane	44		"	50.0	ND	87.7	10-139				
1,2-Dichloroethane	54		"	50.0	ND	108	76-132				
1,1-Dichloroethane	54		"	50.0	ND	108	76-129				
cis-1,2-Dichloroethylene	48		"	50.0	ND	95.8	85-119				
trans-1,2-Dichloroethylene	52		"	50.0	ND	104	73-125				
1,1-Dichloroethylene	49		"	50.0	ND	98.9	56-138				
1,2-Dichloropropane	56		"	50.0	ND	112	84-120				
cis-1,3-Dichloropropylene	53		"	50.0	ND	106	83-123				
trans-1,3-Dichloropropylene	54		"	50.0	ND	109	76-121				
1,4-Dioxane	940		"	1000	ND	93.6	10-224				
Ethyl Benzene	51		"	50.0	ND	102	89-117				
2-Hexanone	60		"	50.0	ND	120	62-117	High Bias			
Isopropylbenzene	52		"	50.0	ND	105	76-122				
Methyl acetate	44		"	50.0	ND	88.1	50-166				
Methyl tert-butyl ether (MTBE)	55		"	50.0	ND	110	52-138				
Methylcyclohexane	51		"	50.0	ND	103	70-130				
Methylene chloride	60		"	50.0	4.0	111	44-141				
4-Methyl-2-pentanone	60		"	50.0	ND	121	58-111	High Bias			
Styrene	49		"	50.0	ND	98.2	83-121				
1,1,2,2-Tetrachloroethane	58		"	50.0	ND	116	81-124				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40946 - EPA 5030B											
Matrix Spike (BB40946-MS1)	*Source sample: 14B0560-11 (TripBlank)						Prepared & Analyzed: 02/25/2014				
Tetrachloroethylene	47		ug/L	50.0	ND	93.6	69-113				
Toluene	51		"	50.0	ND	102	84-116				
1,2,4-Trichlorobenzene	54		"	50.0	ND	109	54-134				
1,2,3-Trichlorobenzene	54		"	50.0	ND	109	60-134				
1,1,2-Trichloroethane	56		"	50.0	ND	111	85-114				
1,1,1-Trichloroethane	52		"	50.0	ND	104	80-129				
Trichloroethylene	51		"	50.0	ND	102	81-122				
Trichlorofluoromethane	51		"	50.0	ND	103	63-137				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46		"	50.0	ND	91.7	65-141				
Vinyl Chloride	49		"	50.0	ND	97.7	54-119				
o-Xylene	53		"	50.0	ND	105	88-111				
p- & m- Xylenes	100		"	100	ND	105	83-118				
Surrogate: p-Bromofluorobenzene	*47.6*		*"*	*50.0*		*95.1*	*87-112*				
Surrogate: 1,2-Dichloroethane-d4	*51.4*		*"*	*50.0*		*103*	*78-122*				
Surrogate: Toluene-d8	*48.6*		*"*	*50.0*		*97.2*	*91-110*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40881 - EPA 3550C

Blank (BB40881-BLK1) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	ND	167	ug/kg wet								
Acenaphthylene	ND	167	"								
Acetophenone	ND	167	"								
Anthracene	ND	167	"								
Atrazine	ND	167	"								
Benzaldehyde	ND	167	"								
Benzo(a)anthracene	ND	167	"								
Benzo(a)pyrene	ND	167	"								
Benzo(b)fluoranthene	ND	167	"								
Benzo(g,h,i)perylene	ND	167	"								
Benzo(k)fluoranthene	ND	167	"								
Benzyl butyl phthalate	ND	167	"								
1,1'-Biphenyl	ND	167	"								
4-Bromophenyl phenyl ether	ND	167	"								
Caprolactam	ND	167	"								
Carbazole	ND	167	"								
4-Chloro-3-methylphenol	ND	167	"								
4-Chloroaniline	ND	167	"								
Bis(2-chloroethoxy)methane	ND	167	"								
Bis(2-chloroethyl)ether	ND	167	"								
Bis(2-chloroisopropyl)ether	ND	167	"								
2-Chloronaphthalene	ND	167	"								
2-Chlorophenol	ND	167	"								
4-Chlorophenyl phenyl ether	ND	167	"								
Chrysene	ND	167	"								
Dibenzo(a,h)anthracene	ND	167	"								
Dibenzofuran	ND	167	"								
Di-n-butyl phthalate	ND	167	"								
3,3'-Dichlorobenzidine	ND	333	"								
2,4-Dichlorophenol	ND	167	"								
Diethyl phthalate	ND	167	"								
2,4-Dimethylphenol	ND	167	"								
Dimethyl phthalate	ND	167	"								
4,6-Dinitro-2-methylphenol	ND	167	"								
2,4-Dinitrophenol	ND	333	"								
2,4-Dinitrotoluene	ND	167	"								
2,6-Dinitrotoluene	ND	167	"								
Di-n-octyl phthalate	ND	167	"								
Bis(2-ethylhexyl)phthalate	ND	167	"								
Fluoranthene	ND	167	"								
Fluorene	ND	167	"								
Hexachlorobenzene	ND	167	"								
Hexachlorobutadiene	ND	167	"								
Hexachlorocyclopentadiene	ND	167	"								
Hexachloroethane	ND	167	"								
Indeno(1,2,3-cd)pyrene	ND	167	"								
Isophorone	ND	167	"								
2-Methylnaphthalene	ND	167	"								
2-Methylphenol	ND	167	"								
3- & 4-Methylphenols	ND	167	"								
Naphthalene	ND	167	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40881 - EPA 3550C											
Blank (BB40881-BLK1)							Prepared: 02/24/2014 Analyzed: 02/25/2014				
4-Nitroaniline	ND	167	ug/kg wet								
2-Nitroaniline	ND	167	"								
3-Nitroaniline	ND	167	"								
Nitrobenzene	ND	167	"								
2-Nitrophenol	ND	167	"								
4-Nitrophenol	ND	167	"								
N-nitroso-di-n-propylamine	ND	167	"								
N-Nitrosodiphenylamine	ND	167	"								
Pentachlorophenol	ND	167	"								
Phenanthrene	ND	167	"								
Phenol	ND	167	"								
Pyrene	ND	167	"								
1,2,4,5-Tetrachlorobenzene	ND	167	"								
2,4,6-Trichlorophenol	ND	167	"								
2,4,5-Trichlorophenol	ND	167	"								
Surrogate: 2-Fluorophenol	*1800*		*"*	*2520*		*71.5*	*10-109*				
Surrogate: Phenol-d5	*1810*		*"*	*2520*		*71.9*	*10-124*				
Surrogate: Nitrobenzene-d5	*1300*		*"*	*1700*		*76.3*	*10-148*				
Surrogate: 2-Fluorobiphenyl	*1400*		*"*	*1690*		*82.6*	*10-111*				
Surrogate: 2,4,6-Tribromophenol	*2740*		*"*	*2480*		*111*	*10-142*				
Surrogate: Terphenyl-d14	*1670*		*"*	*1690*		*99.1*	*10-147*				
LCS (BB40881-BS1)							Prepared: 02/24/2014 Analyzed: 02/25/2014				
Acenaphthene	1330	167	ug/kg wet	1670		79.6	35-127				
Acenaphthylene	1260	167	"	1670		75.7	37-121				
Acetophenone	1070	167	"	1670		63.9	40-140				
Anthracene	1360	167	"	1670		81.8	38-131				
Atrazine	1330	167	"	1670		79.9	40-140				
Benzaldehyde	920	167	"	1670		55.2	40-140				
Benzo(a)anthracene	1450	167	"	1670		87.1	37-137				
Benzo(a)pyrene	2100	167	"	1670		126	33-162				
Benzo(b)fluoranthene	1340	167	"	1670		80.4	26-160				
Benzo(g,h,i)perylene	2290	167	"	1670		138	10-154				
Benzo(k)fluoranthene	1530	167	"	1670		91.7	34-143				
Benzyl butyl phthalate	1360	167	"	1670		81.5	30-143				
1,1'-Biphenyl	1070	167	"	1670		64.1	40-140				
4-Bromophenyl phenyl ether	1590	167	"	1670		95.5	35-135				
Caprolactam	1030	167	"	1670		62.1	40-140				
Carbazole	1410	167	"	1670		84.7	10-241				
4-Chloro-3-methylphenol	1390	167	"	1670		83.6	34-133				
4-Chloroaniline	845	167	"	1670		50.7	17-175				
Bis(2-chloroethoxy)methane	1180	167	"	1670		70.7	31-119				
Bis(2-chloroethyl)ether	1110	167	"	1670		66.7	18-124				
Bis(2-chloroisopropyl)ether	927	167	"	1670		55.6	10-141				
2-Chloronaphthalene	1310	167	"	1670		78.8	34-117				
2-Chlorophenol	1240	167	"	1670		74.7	32-123				
4-Chlorophenyl phenyl ether	1270	167	"	1670		76.1	25-142				
Chrysene	1230	167	"	1670		73.9	38-132				
Dibenzo(a,h)anthracene	2100	167	"	1670		126	14-153				
Dibenzofuran	1400	167	"	1670		83.8	39-123				
Di-n-butyl phthalate	1260	167	"	1670		75.3	35-132				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40881 - EPA 3550C											
LCS (BB40881-BS1)									Prepared: 02/24/2014 Analyzed: 02/25/2014		
3,3'-Dichlorobenzidine	1250	333	ug/kg wet	1670		74.9	16-177				
2,4-Dichlorophenol	1530	167	"	1670		91.7	30-134				
Diethyl phthalate	1390	167	"	1670		83.4	41-125				
2,4-Dimethylphenol	1290	167	"	1670		77.6	33-120				
Dimethyl phthalate	1450	167	"	1670		86.7	39-125				
4,6-Dinitro-2-methylphenol	1260	167	"	1670		75.5	10-165				
2,4-Dinitrophenol	1460	333	"	1670		87.6	53-209				
2,4-Dinitrotoluene	1540	167	"	1670		92.6	41-129				
2,6-Dinitrotoluene	1470	167	"	1670		88.2	42-130				
Di-n-octyl phthalate	1310	167	"	1670		78.4	19-162				
Bis(2-ethylhexyl)phthalate	1070	167	"	1670		64.3	35-137				
Fluoranthene	1470	167	"	1670		88.3	35-136				
Fluorene	1230	167	"	1670		73.9	33-134				
Hexachlorobenzene	1220	167	"	1670		73.2	31-139				
Hexachlorobutadiene	1670	167	"	1670		100	19-137				
Hexachlorocyclopentadiene	1050	167	"	1670		63.2	10-145				
Hexachloroethane	1100	167	"	1670		65.9	12-125				
Indeno(1,2,3-cd)pyrene	2070	167	"	1670		124	11-155				
Isophorone	1220	167	"	1670		73.4	30-125				
2-Methylnaphthalene	1270	167	"	1670		76.4	30-125				
2-Methylphenol	1200	167	"	1670		72.3	30-128				
3- & 4-Methylphenols	1120	167	"	1670		67.2	30-120				
Naphthalene	1220	167	"	1670		73.4	28-121				
4-Nitroaniline	1240	167	"	1670		74.7	10-208				
2-Nitroaniline	1370	167	"	1670		82.0	38-130				
3-Nitroaniline	1360	167	"	1670		81.7	10-234				
Nitrobenzene	1260	167	"	1670		75.7	28-118				
2-Nitrophenol	1360	167	"	1670		81.6	23-129				
4-Nitrophenol	1380	167	"	1670		82.9	10-185				
N-nitroso-di-n-propylamine	1100	167	"	1670		66.2	21-136				
N-Nitrosodiphenylamine	1500	167	"	1670		90.0	36-163				
Pentachlorophenol	1560	167	"	1670		93.4	15-182				
Phenanthrene	1350	167	"	1670		81.2	37-132				
Phenol	1060	167	"	1670		63.8	28-124				
Pyrene	1530	167	"	1670		92.0	30-147				
1,2,4,5-Tetrachlorobenzene	1350	167	"	1670		80.9	40-140				
2,4,6-Trichlorophenol	1570	167	"	1670		94.4	36-130				
2,4,5-Trichlorophenol	1600	167	"	1670		95.8	34-126				
Surrogate: 2-Fluorophenol	*1930*		*"*	*2520*		*76.6*	*10-109*				
Surrogate: Phenol-d5	*1790*		*"*	*2520*		*71.2*	*10-124*				
Surrogate: Nitrobenzene-d5	*1330*		*"*	*1700*		*78.0*	*10-148*				
Surrogate: 2-Fluorobiphenyl	*1340*		*"*	*1690*		*79.3*	*10-111*				
Surrogate: 2,4,6-Tribromophenol	*2900*		*"*	*2480*		*117*	*10-142*				
Surrogate: Terphenyl-d14	*1710*		*"*	*1690*		*101*	*10-147*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40881 - EPA 3550C

Matrix Spike (BB40881-MS1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	1100	195	ug/kg dry	1950	ND	56.7	10-143				
Acenaphthylene	1040	195	"	1950	ND	53.5	10-137				
Acetophenone	841	195	"	1950	ND	43.2	40-140				
Anthracene	1250	195	"	1950	ND	64.1	18-140				
Atrazine	1210	195	"	1950	ND	61.9	40-140				
Benzaldehyde	794	195	"	1950	ND	40.7	40-140				
Benzo(a)anthracene	1380	195	"	1950	ND	71.1	10-154				
Benzo(a)pyrene	1940	195	"	1950	ND	99.3	12-172				
Benzo(b)fluoranthene	1420	195	"	1950	ND	72.7	18-163				
Benzo(g,h,i)perylene	2270	195	"	1950	ND	117	10-158				
Benzo(k)fluoranthene	1480	195	"	1950	ND	75.7	14-157				
Benzyl butyl phthalate	1230	195	"	1950	ND	63.2	10-152				
1,1'-Biphenyl	908	195	"	1950	ND	46.6	40-140				
4-Bromophenyl phenyl ether	1380	195	"	1950	ND	71.0	11-146				
Caprolactam	973	195	"	1950	ND	49.9	40-140				
Carbazole	1240	195	"	1950	ND	63.4	10-233				
4-Chloro-3-methylphenol	1150	195	"	1950	ND	59.1	10-156				
4-Chloroaniline	1080	195	"	1950	ND	55.5	10-168				
Bis(2-chloroethoxy)methane	918	195	"	1950	ND	47.1	10-135				
Bis(2-chloroethyl)ether	882	195	"	1950	ND	45.3	10-127				
Bis(2-chloroisopropyl)ether	762	195	"	1950	ND	39.1	10-142				
2-Chloronaphthalene	1100	195	"	1950	ND	56.3	12-129				
2-Chlorophenol	977	195	"	1950	ND	50.1	10-133				
4-Chlorophenyl phenyl ether	1180	195	"	1950	ND	60.5	13-138				
Chrysene	1210	195	"	1950	ND	62.0	22-140				
Dibenzo(a,h)anthracene	1890	195	"	1950	ND	96.8	10-146				
Dibenzofuran	1210	195	"	1950	ND	61.9	15-136				
Di-n-butyl phthalate	1180	195	"	1950	ND	60.3	20-138				
3,3'-Dichlorobenzidine	1340	389	"	1950	ND	69.0	10-154				
2,4-Dichlorophenol	1190	195	"	1950	ND	61.2	10-140				
Diethyl phthalate	1270	195	"	1950	ND	65.3	20-132				
2,4-Dimethylphenol	1020	195	"	1950	ND	52.4	10-130				
Dimethyl phthalate	1270	195	"	1950	ND	65.2	22-128				
4,6-Dinitro-2-methylphenol	1340	195	"	1950	ND	68.7	10-145				
2,4-Dinitrophenol	1430	390	"	1950	ND	73.5	10-175				
2,4-Dinitrotoluene	1430	195	"	1950	ND	73.2	10-145				
2,6-Dinitrotoluene	1290	195	"	1950	ND	66.3	18-135				
Di-n-octyl phthalate	1220	195	"	1950	ND	62.8	10-177				
Bis(2-ethylhexyl)phthalate	1050	195	"	1950	ND	53.8	22-144				
Fluoranthene	1360	195	"	1950	ND	70.0	10-155				
Fluorene	1130	195	"	1950	ND	57.9	18-139				
Hexachlorobenzene	1100	195	"	1950	ND	56.5	16-150				
Hexachlorobutadiene	1250	195	"	1950	ND	64.1	10-135				
Hexachlorocyclopentadiene	717	195	"	1950	ND	36.8	10-120				
Hexachloroethane	785	195	"	1950	ND	40.3	10-115				
Indeno(1,2,3-cd)pyrene	2060	195	"	1950	ND	106	10-158				
Isophorone	946	195	"	1950	ND	48.6	10-136				
2-Methylnaphthalene	1130	195	"	1950	ND	58.0	10-143				
2-Methylphenol	997	195	"	1950	ND	51.2	10-160				
3- & 4-Methylphenols	929	195	"	1950	ND	47.7	10-130				
Naphthalene	992	195	"	1950	ND	50.9	10-143				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40881 - EPA 3550C

Matrix Spike (BB40881-MS1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4-Nitroaniline	1280	195	ug/kg dry	1950	ND	65.7	10-189				
2-Nitroaniline	1220	195	"	1950	ND	62.7	19-137				
3-Nitroaniline	1340	195	"	1950	ND	68.9	10-196				
Nitrobenzene	978	195	"	1950	ND	50.2	10-146				
2-Nitrophenol	1090	195	"	1950	ND	55.7	10-148				
4-Nitrophenol	1150	195	"	1950	ND	59.0	10-180				
N-nitroso-di-n-propylamine	920	195	"	1950	ND	47.2	10-150				
N-Nitrosodiphenylamine	1390	195	"	1950	ND	71.1	13-166				
Pentachlorophenol	1490	195	"	1950	ND	76.4	10-189				
Phenanthrene	1240	195	"	1950	ND	63.8	12-151				
Phenol	883	195	"	1950	ND	45.3	10-134				
Pyrene	1420	195	"	1950	ND	72.7	10-156				
1,2,4,5-Tetrachlorobenzene	1070	195	"	1950	ND	54.7	40-140				
2,4,6-Trichlorophenol	1270	195	"	1950	ND	65.3	10-144				
2,4,5-Trichlorophenol	1320	195	"	1950	ND	68.0	17-131				
Surrogate: 2-Fluorophenol	*1490*		*"*	*2950*		*50.4*	*10-109*				
Surrogate: Phenol-d5	*1490*		*"*	*2940*		*50.6*	*10-124*				
Surrogate: Nitrobenzene-d5	*1050*		*"*	*1990*		*52.7*	*10-148*				
Surrogate: 2-Fluorobiphenyl	*1150*		*"*	*1980*		*57.9*	*10-111*				
Surrogate: 2,4,6-Tribromophenol	*2690*		*"*	*2900*		*92.6*	*10-142*				
Surrogate: Terphenyl-d14	*1600*		*"*	*1980*		*80.8*	*10-147*				

Matrix Spike Dup (BB40881-MSD1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	1270	195	ug/kg dry	1950	ND	65.3	10-143		14.1	30	
Acenaphthylene	1220	195	"	1950	ND	62.6	10-137		15.7	30	
Acetophenone	993	195	"	1950	ND	51.0	40-140		16.5	30	
Anthracene	1330	195	"	1950	ND	68.5	18-140		6.61	30	
Atrazine	1320	195	"	1950	ND	67.5	40-140		8.65	30	
Benzaldehyde	868	195	"	1950	ND	44.5	40-140		8.91	30	
Benzo(a)anthracene	1470	195	"	1950	ND	75.2	10-154		5.69	30	
Benzo(a)pyrene	2080	195	"	1950	ND	107	12-172		7.28	30	
Benzo(b)fluoranthene	1700	195	"	1950	ND	87.1	18-163		18.0	30	
Benzo(g,h,i)perylene	2440	195	"	1950	ND	125	10-158		7.08	30	
Benzo(k)fluoranthene	1480	195	"	1950	ND	75.8	14-157		0.106	30	
Benzyl butyl phthalate	1340	195	"	1950	ND	68.7	10-152		8.33	30	
1,1'-Biphenyl	1040	195	"	1950	ND	53.6	40-140		13.9	30	
4-Bromophenyl phenyl ether	1540	195	"	1950	ND	79.0	11-146		10.7	30	
Caprolactam	1160	195	"	1950	ND	59.5	40-140		17.5	30	
Carbazole	1360	195	"	1950	ND	69.8	10-233		9.55	30	
4-Chloro-3-methylphenol	1380	195	"	1950	ND	71.0	10-156		18.4	30	
4-Chloroaniline	1320	195	"	1950	ND	67.6	10-168		19.7	30	
Bis(2-chloroethoxy)methane	1070	195	"	1950	ND	55.1	10-135		15.6	30	
Bis(2-chloroethyl)ether	976	195	"	1950	ND	50.1	10-127		10.2	30	
Bis(2-chloroisopropyl)ether	833	195	"	1950	ND	42.7	10-142		8.84	30	
2-Chloronaphthalene	1240	195	"	1950	ND	63.8	12-129		12.4	30	
2-Chlorophenol	1100	195	"	1950	ND	56.2	10-133		11.4	30	
4-Chlorophenyl phenyl ether	1320	195	"	1950	ND	67.6	13-138		11.1	30	
Chrysene	1290	195	"	1950	ND	66.1	22-140		6.41	30	
Dibenzo(a,h)anthracene	2020	195	"	1950	ND	104	10-146		7.00	30	
Dibenzofuran	1390	195	"	1950	ND	71.1	15-136		13.8	30	
Di-n-butyl phthalate	1250	195	"	1950	ND	64.3	20-138		6.39	30	

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40881 - EPA 3550C

Matrix Spike Dup (BB40881-MSD1) *Source sample: 14B0560-04 (RSB-11/17.5-19.5) Prepared: 02/24/2014 Analyzed: 02/25/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
3,3'-Dichlorobenzidine	1380	389	ug/kg dry	1950	ND	71.1	10-154		3.00	30	
2,4-Dichlorophenol	1420	195	"	1950	ND	72.9	10-140		17.4	30	
Diethyl phthalate	1380	195	"	1950	ND	70.6	20-132		7.89	30	
2,4-Dimethylphenol	1200	195	"	1950	ND	61.4	10-130		15.7	30	
Dimethyl phthalate	1420	195	"	1950	ND	72.8	22-128		10.9	30	
4,6-Dinitro-2-methylphenol	1380	195	"	1950	ND	70.9	10-145		3.12	30	
2,4-Dinitrophenol	1570	390	"	1950	ND	80.3	10-175		8.95	30	
2,4-Dinitrotoluene	1550	195	"	1950	ND	79.4	10-145		8.18	30	
2,6-Dinitrotoluene	1470	195	"	1950	ND	75.2	18-135		12.6	30	
Di-n-octyl phthalate	1310	195	"	1950	ND	67.4	10-177		7.13	30	
Bis(2-ethylhexyl)phthalate	1130	195	"	1950	ND	57.9	22-144		7.23	30	
Fluoranthene	1480	195	"	1950	ND	75.8	10-155		7.98	30	
Fluorene	1240	195	"	1950	ND	63.8	18-139		9.73	30	
Hexachlorobenzene	1210	195	"	1950	ND	62.1	16-150		9.48	30	
Hexachlorobutadiene	1430	195	"	1950	ND	73.3	10-135		13.4	30	
Hexachlorocyclopentadiene	855	195	"	1950	ND	43.9	10-120		17.6	30	
Hexachloroethane	893	195	"	1950	ND	45.8	10-115		12.8	30	
Indeno(1,2,3-cd)pyrene	2210	195	"	1950	ND	114	10-158		7.15	30	
Isophorone	1120	195	"	1950	ND	57.7	10-136		17.1	30	
2-Methylnaphthalene	1290	195	"	1950	ND	66.0	10-143		12.8	30	
2-Methylphenol	1130	195	"	1950	ND	57.9	10-160		12.4	30	
3- & 4-Methylphenols	1050	195	"	1950	ND	53.9	10-130		12.2	30	
Naphthalene	1110	195	"	1950	ND	57.1	10-143		11.4	30	
4-Nitroaniline	1390	195	"	1950	ND	71.3	10-189		8.24	30	
2-Nitroaniline	1390	195	"	1950	ND	71.5	19-137		13.1	30	
3-Nitroaniline	1500	195	"	1950	ND	77.1	10-196		11.3	30	
Nitrobenzene	1140	195	"	1950	ND	58.4	10-146		15.0	30	
2-Nitrophenol	1250	195	"	1950	ND	64.0	10-148		13.8	30	
4-Nitrophenol	1270	195	"	1950	ND	65.0	10-180		9.68	30	
N-nitroso-di-n-propylamine	1020	195	"	1950	ND	52.4	10-150		10.4	30	
N-Nitrosodiphenylamine	1510	195	"	1950	ND	77.5	13-166		8.59	30	
Pentachlorophenol	1600	195	"	1950	ND	82.3	10-189		7.38	30	
Phenanthrene	1330	195	"	1950	ND	68.1	12-151		6.49	30	
Phenol	974	195	"	1950	ND	50.0	10-134		9.78	30	
Pyrene	1520	195	"	1950	ND	78.2	10-156		7.18	30	
1,2,4,5-Tetrachlorobenzene	1240	195	"	1950	ND	63.5	40-140		14.8	30	
2,4,6-Trichlorophenol	1490	195	"	1950	ND	76.7	10-144		16.0	30	
2,4,5-Trichlorophenol	1590	195	"	1950	ND	81.7	17-131		18.3	30	
Surrogate: 2-Fluorophenol	*1640*		*"*	*2950*		*55.6*	*10-109*				
Surrogate: Phenol-d5	*1610*		*"*	*2940*		*54.8*	*10-124*				
Surrogate: Nitrobenzene-d5	*1170*		*"*	*1990*		*59.1*	*10-148*				
Surrogate: 2-Fluorobiphenyl	*1270*		*"*	*1980*		*64.4*	*10-111*				
Surrogate: 2,4,6-Tribromophenol	*2920*		*"*	*2900*		*101*	*10-142*				
Surrogate: Terphenyl-d14	*1710*		*"*	*1980*		*86.5*	*10-147*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40969 - EPA 3510C

Blank (BB40969-BLK1) Prepared: 02/26/2014 Analyzed: 02/27/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	ND	5.00	ug/L								
Acenaphthylene	ND	5.00	"								
Acetophenone	ND	5.00	"								
Anthracene	ND	5.00	"								
Atrazine	ND	5.00	"								
Benzaldehyde	ND	5.00	"								
Benzo(a)anthracene	ND	5.00	"								
Benzo(a)pyrene	ND	5.00	"								
Benzo(b)fluoranthene	ND	5.00	"								
Benzo(g,h,i)perylene	ND	5.00	"								
Benzo(k)fluoranthene	ND	5.00	"								
Benzyl butyl phthalate	ND	5.00	"								
1,1'-Biphenyl	ND	5.00	"								
4-Bromophenyl phenyl ether	ND	5.00	"								
Caprolactam	ND	5.00	"								
Carbazole	ND	5.00	"								
4-Chloro-3-methylphenol	ND	5.00	"								
4-Chloroaniline	ND	5.00	"								
Bis(2-chloroethoxy)methane	ND	5.00	"								
Bis(2-chloroethyl)ether	ND	5.00	"								
Bis(2-chloroisopropyl)ether	ND	5.00	"								
2-Chloronaphthalene	ND	5.00	"								
2-Chlorophenol	ND	5.00	"								
4-Chlorophenyl phenyl ether	ND	5.00	"								
Chrysene	ND	5.00	"								
Dibenzo(a,h)anthracene	ND	5.00	"								
Dibenzofuran	ND	5.00	"								
Di-n-butyl phthalate	ND	5.00	"								
3,3'-Dichlorobenzidine	ND	5.00	"								
2,4-Dichlorophenol	ND	5.00	"								
Diethyl phthalate	ND	5.00	"								
2,4-Dimethylphenol	ND	5.00	"								
Dimethyl phthalate	ND	5.00	"								
4,6-Dinitro-2-methylphenol	ND	5.00	"								
2,4-Dinitrophenol	ND	5.00	"								
2,4-Dinitrotoluene	ND	5.00	"								
2,6-Dinitrotoluene	ND	5.00	"								
Di-n-octyl phthalate	ND	5.00	"								
Bis(2-ethylhexyl)phthalate	ND	5.00	"								
Fluoranthene	ND	5.00	"								
Fluorene	ND	5.00	"								
Hexachlorobenzene	ND	5.00	"								
Hexachlorobutadiene	ND	5.00	"								
Hexachlorocyclopentadiene	ND	5.00	"								
Hexachloroethane	ND	5.00	"								
Indeno(1,2,3-cd)pyrene	ND	5.00	"								
Isophorone	ND	5.00	"								
2-Methylnaphthalene	ND	5.00	"								
2-Methylphenol	ND	5.00	"								
3- & 4-Methylphenols	ND	5.00	"								
Naphthalene	ND	5.00	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40969 - EPA 3510C

Blank (BB40969-BLK1) Prepared: 02/26/2014 Analyzed: 02/27/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
3-Nitroaniline	ND	5.00	ug/L								
4-Nitroaniline	ND	5.00	"								
2-Nitroaniline	ND	5.00	"								
Nitrobenzene	ND	5.00	"								
4-Nitrophenol	ND	5.00	"								
2-Nitrophenol	ND	5.00	"								
N-nitroso-di-n-propylamine	ND	5.00	"								
N-Nitrosodiphenylamine	ND	5.00	"								
Pentachlorophenol	ND	5.00	"								
Phenanthrene	ND	5.00	"								
Phenol	ND	5.00	"								
Pyrene	ND	5.00	"								
1,2,4,5-Tetrachlorobenzene	ND	5.00	"								
2,4,6-Trichlorophenol	ND	5.00	"								
2,4,5-Trichlorophenol	ND	5.00	"								
Surrogate: 2-Fluorophenol	*16.3*		*"*	*75.6*		*21.6*	*10-52*				
Surrogate: Phenol-d5	*8.92*		*"*	*75.5*		*11.8*	*10-117*				
Surrogate: Nitrobenzene-d5	*29.9*		*"*	*51.0*		*58.5*	*12-112*				
Surrogate: 2-Fluorobiphenyl	*31.2*		*"*	*50.8*		*61.4*	*14-101*				
Surrogate: 2,4,6-Tribromophenol	*68.6*		*"*	*74.4*		*92.2*	*17-127*				
Surrogate: Terphenyl-d14	*47.5*		*"*	*50.7*		*93.8*	*10-151*				

Blank (BB40969-BLK2) Prepared: 02/26/2014 Analyzed: 02/27/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	ND	10.0	ug/L								
Acenaphthylene	ND	10.0	"								
Acetophenone	ND	10.0	"								
Anthracene	ND	10.0	"								
Atrazine	ND	10.0	"								
Benzaldehyde	ND	10.0	"								
Benzo(a)anthracene	ND	10.0	"								
Benzo(a)pyrene	ND	10.0	"								
Benzo(b)fluoranthene	ND	10.0	"								
Benzo(g,h,i)perylene	ND	10.0	"								
Benzo(k)fluoranthene	ND	10.0	"								
Benzyl butyl phthalate	ND	10.0	"								
1,1'-Biphenyl	ND	10.0	"								
4-Bromophenyl phenyl ether	ND	10.0	"								
Caprolactam	ND	10.0	"								
Carbazole	ND	10.0	"								
4-Chloro-3-methylphenol	ND	10.0	"								
4-Chloroaniline	ND	10.0	"								
Bis(2-chloroethoxy)methane	ND	10.0	"								
Bis(2-chloroethyl)ether	ND	10.0	"								
Bis(2-chloroisopropyl)ether	ND	10.0	"								
2-Chloronaphthalene	ND	10.0	"								
2-Chlorophenol	ND	10.0	"								
4-Chlorophenyl phenyl ether	ND	10.0	"								
Chrysene	ND	10.0	"								
Dibenzo(a,h)anthracene	ND	10.0	"								
Dibenzofuran	ND	10.0	"								
Di-n-butyl phthalate	ND	10.0	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40969 - EPA 3510C											
Blank (BB40969-BLK2)								Prepared: 02/26/2014 Analyzed: 02/27/2014			
3,3'-Dichlorobenzidine	ND	10.0	ug/L								
2,4-Dichlorophenol	ND	10.0	"								
Diethyl phthalate	ND	10.0	"								
2,4-Dimethylphenol	ND	10.0	"								
Dimethyl phthalate	ND	10.0	"								
4,6-Dinitro-2-methylphenol	ND	10.0	"								
2,4-Dinitrophenol	ND	10.0	"								
2,4-Dinitrotoluene	ND	10.0	"								
2,6-Dinitrotoluene	ND	10.0	"								
Di-n-octyl phthalate	ND	10.0	"								
Bis(2-ethylhexyl)phthalate	ND	10.0	"								
Fluoranthene	ND	10.0	"								
Fluorene	ND	10.0	"								
Hexachlorobenzene	ND	10.0	"								
Hexachlorobutadiene	ND	10.0	"								
Hexachlorocyclopentadiene	ND	10.0	"								
Hexachloroethane	ND	10.0	"								
Indeno(1,2,3-cd)pyrene	ND	10.0	"								
Isophorone	ND	10.0	"								
2-Methylnaphthalene	ND	10.0	"								
2-Methylphenol	ND	10.0	"								
3- & 4-Methylphenols	ND	10.0	"								
Naphthalene	ND	10.0	"								
3-Nitroaniline	ND	10.0	"								
4-Nitroaniline	ND	10.0	"								
2-Nitroaniline	ND	10.0	"								
Nitrobenzene	ND	10.0	"								
4-Nitrophenol	ND	10.0	"								
2-Nitrophenol	ND	10.0	"								
N-nitroso-di-n-propylamine	ND	10.0	"								
N-Nitrosodiphenylamine	ND	10.0	"								
Pentachlorophenol	ND	10.0	"								
Phenanthrene	ND	10.0	"								
Phenol	ND	10.0	"								
Pyrene	ND	10.0	"								
1,2,4,5-Tetrachlorobenzene	ND	10.0	"								
2,4,6-Trichlorophenol	ND	10.0	"								
2,4,5-Trichlorophenol	ND	10.0	"								
Surrogate: 2-Fluorophenol	*54.6*		*"*	*151*		*36.1*	*10-52*				
Surrogate: Phenol-d5	*36.5*		*"*	*151*		*24.1*	*10-117*				
Surrogate: Nitrobenzene-d5	*64.9*		*"*	*102*		*63.6*	*12-112*				
Surrogate: 2-Fluorobiphenyl	*62.1*		*"*	*102*		*61.1*	*14-101*				
Surrogate: 2,4,6-Tribromophenol	*152*		*"*	*149*		*102*	*17-127*				
Surrogate: Terphenyl-d14	*94.5*		*"*	*101*		*93.2*	*10-151*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BB40969 - EPA 3510C

LCS (BB40969-BS1) Prepared: 02/26/2014 Analyzed: 02/27/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	31.4	5.00	ug/L	50.0		62.8	31-101				
Acenaphthylene	30.1	5.00	"	50.0		60.2	29-98				
Acetophenone	23.4	5.00	"	50.0		46.7	40-140				
Anthracene	32.0	5.00	"	50.0		64.1	24-108				
Atrazine	30.6	5.00	"	50.0		61.2	40-140				
Benzaldehyde	20.9	5.00	"	50.0		41.8	40-140				
Benzo(a)anthracene	34.6	5.00	"	50.0		69.2	28-117				
Benzo(a)pyrene	43.0	5.00	"	50.0		86.0	24-131				
Benzo(b)fluoranthene	45.2	5.00	"	50.0		90.5	11-145				
Benzo(g,h,i)perylene	18.3	5.00	"	50.0		36.6	10-110				
Benzo(k)fluoranthene	47.4	5.00	"	50.0		94.8	10-161				
Benzyl butyl phthalate	33.7	5.00	"	50.0		67.3	14-134				
1,1'-Biphenyl	25.9	5.00	"	50.0		51.8	40-140				
4-Bromophenyl phenyl ether	36.7	5.00	"	50.0		73.4	28-109				
Caprolactam	3.84	5.00	"	50.0		7.68	40-140	Low Bias			
Carbazole	34.4	5.00	"	50.0		68.9	10-207				
4-Chloro-3-methylphenol	28.2	5.00	"	50.0		56.4	23-100				
4-Chloroaniline	38.7	5.00	"	50.0		77.4	17-168				
Bis(2-chloroethoxy)methane	26.7	5.00	"	50.0		53.5	23-106				
Bis(2-chloroethyl)ether	23.8	5.00	"	50.0		47.5	14-116				
Bis(2-chloroisopropyl)ether	22.5	5.00	"	50.0		45.1	10-155				
2-Chloronaphthalene	30.8	5.00	"	50.0		61.7	32-94				
2-Chlorophenol	21.2	5.00	"	50.0		42.5	16-99				
4-Chlorophenyl phenyl ether	32.3	5.00	"	50.0		64.6	26-113				
Chrysene	30.1	5.00	"	50.0		60.2	26-112				
Dibenzo(a,h)anthracene	19.6	5.00	"	50.0		39.3	12-104				
Dibenzofuran	33.9	5.00	"	50.0		67.8	36-96				
Di-n-butyl phthalate	29.8	5.00	"	50.0		59.6	20-119				
3,3'-Dichlorobenzidine	39.4	5.00	"	50.0		78.8	25-154				
2,4-Dichlorophenol	30.6	5.00	"	50.0		61.3	28-97				
Diethyl phthalate	33.6	5.00	"	50.0		67.3	34-104				
2,4-Dimethylphenol	25.0	5.00	"	50.0		50.1	23-94				
Dimethyl phthalate	34.1	5.00	"	50.0		68.2	33-104				
4,6-Dinitro-2-methylphenol	8.85	5.00	"	50.0		17.7	10-133				
2,4-Dinitrophenol	9.08	5.00	"	50.0		18.2	10-145				
2,4-Dinitrotoluene	35.9	5.00	"	50.0		71.7	32-104				
2,6-Dinitrotoluene	34.8	5.00	"	50.0		69.6	34-105				
Di-n-octyl phthalate	52.0	5.00	"	50.0		104	10-144				
Bis(2-ethylhexyl)phthalate	29.6	5.00	"	50.0		59.2	10-171				
Fluoranthene	33.8	5.00	"	50.0		67.5	27-110				
Fluorene	30.8	5.00	"	50.0		61.6	32-107				
Hexachlorobenzene	27.7	5.00	"	50.0		55.4	16-127				
Hexachlorobutadiene	31.1	5.00	"	50.0		62.2	22-95				
Hexachlorocyclopentadiene	ND	5.00	"	50.0			10-101	Low Bias			
Hexachloroethane	18.3	5.00	"	50.0		36.6	10-99				
Indeno(1,2,3-cd)pyrene	19.9	5.00	"	50.0		39.8	10-107				
Isophorone	27.7	5.00	"	50.0		55.4	19-119				
2-Methylnaphthalene	31.3	5.00	"	50.0		62.6	27-97				
2-Methylphenol	15.0	5.00	"	50.0		30.0	10-88				
3- & 4-Methylphenols	14.1	5.00	"	50.0		28.3	10-71				
Naphthalene	26.7	5.00	"	50.0		53.4	27-95				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB40969 - EPA 3510C											
LCS (BB40969-BS1)								Prepared: 02/26/2014 Analyzed: 02/27/2014			
3-Nitroaniline	33.8	5.00	ug/L	50.0		67.7	10-221				
4-Nitroaniline	36.5	5.00	"	50.0		73.0	10-139				
2-Nitroaniline	32.4	5.00	"	50.0		64.9	33-106				
Nitrobenzene	27.0	5.00	"	50.0		53.9	16-114				
4-Nitrophenol	32.2	5.00	"	50.0		64.5	10-55	High Bias			
2-Nitrophenol	28.2	5.00	"	50.0		56.5	24-101				
N-nitroso-di-n-propylamine	25.9	5.00	"	50.0		51.8	14-133				
N-Nitrosodiphenylamine	37.2	5.00	"	50.0		74.4	39-123				
Pentachlorophenol	33.7	5.00	"	50.0		67.4	15-150				
Phenanthrene	31.2	5.00	"	50.0		62.4	26-109				
Phenol	6.24	5.00	"	50.0		12.5	10-57				
Pyrene	37.4	5.00	"	50.0		74.8	23-126				
1,2,4,5-Tetrachlorobenzene	30.5	5.00	"	50.0		61.0	40-140				
2,4,6-Trichlorophenol	35.2	5.00	"	50.0		70.4	34-100				
2,4,5-Trichlorophenol	35.5	5.00	"	50.0		71.1	30-102				
Surrogate: 2-Fluorophenol	*14.6*		*"*	*75.6*		*19.3*	*10-52*				
Surrogate: Phenol-d5	*10.2*		*"*	*75.5*		*13.5*	*10-117*				
Surrogate: Nitrobenzene-d5	*30.7*		*"*	*51.0*		*60.2*	*12-112*				
Surrogate: 2-Fluorobiphenyl	*33.1*		*"*	*50.8*		*65.2*	*14-101*				
Surrogate: 2,4,6-Tribromophenol	*72.7*		*"*	*74.4*		*97.7*	*17-127*				
Surrogate: Terphenyl-d14	*44.8*		*"*	*50.7*		*88.3*	*10-151*				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
14B0560-01	RSB-10/7.5-9.5	40mL 01_Clear Vial Cool to 4° C
14B0560-01	RSB-10/7.5-9.5	40mL Vial with Stir Bar-Cool 4° C
14B0560-02	RSB-10/17.5-19.5	40mL Vial with Stir Bar-Cool 4° C
14B0560-03	RSB-11/7.5-9.5	40mL Vial with Stir Bar-Cool 4° C
14B0560-04	RSB-11/17.5-19.5	40mL 01_Clear Vial Cool to 4° C
14B0560-04	RSB-11/17.5-19.5	40mL Vial with Stir Bar-Cool 4° C
14B0560-05	RSB-1/10-12	40mL 01_Clear Vial Cool to 4° C
14B0560-05	RSB-1/10-12	40mL Vial with Stir Bar-Cool 4° C
14B0560-06	RSB-1/20-22	40mL Vial with Stir Bar-Cool 4° C
14B0560-06	RSB-1/20-22	40mL Vial with Stir Bar-Cool 4° C
14B0560-07	DUP022014	40mL Vial with Stir Bar-Cool 4° C
14B0560-07	DUP022014	40mL Vial with Stir Bar-Cool 4° C
14B0560-08	FB022014	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
14B0560-08	FB022014	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
14B0560-09	RSB-3/8-10	40mL Vial with Stir Bar-Cool 4° C
14B0560-09	RSB-3/8-10	40mL Vial with Stir Bar-Cool 4° C
14B0560-10	RSB-3/18-20	40mL Vial with Stir Bar-Cool 4° C
14B0560-10	RSB-3/18-20	40mL Vial with Stir Bar-Cool 4° C
14B0560-11	TripBlank	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
GC-20	Pattern is similar to Motor Oil
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for averge Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

ND	Analyte NOT DETECTED at the stated Reporting Limit (RL) or above.
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
MDL	METHOD DETECTION LIMIT - the minimum concentration that can be measured and reported with a 99% confidence that the concentration is greater than zero. If requested or required, a value reported below the RL and above the MDL is considered estimated and is noted with a "J" flag.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis

Low Bias Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.

High Bias High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.

Non-Dir. Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the MDL, with values between the MDL and the RL being "J" flagged as estimated results.

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14B0560

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux	Company: Same	Company: Same	1575.0002Y	RUSH - Same Day ☐	Summary Report
Address: 209 Shafter Islandia	Address:	Address:		RUSH - Next Day ☐	Summary w/ QA Summary
Phone No. 631-232-2600	Phone No.	Phone No.	Purchase Order No.	RUSH - Two Day ☐	CT RCP Package
Contact Person: Wendy Mott + Bilo	Attention:	Attention:		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT__ NY X NJ__	RUSH - Four Day ☐	NY ASP A Package
				Standard(5-7 Days) X	NY ASP B Package X
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature): [signature]

Name (printed): Joe Gavin

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel
NYSDEC EQuIS X
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison
Excel Spreadsheet
Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
RSB-10/7.5-9.5	2/20/14 - 940	S	TCL VOC + TIC; TCL SVOC + TIC	
RSB-10/17.5-19.5	950	S	" " ; " "	
RSB-11/7.5-9.5	1040	S	" ; "	
RSB-11/17.5-19.5	1100	S	" ; "	
RSB-1/10-12	1340	S	" ; "	
RSB-1/20-22	1350	S	" ; "	
DUP022014	-1200	S	" ; "	
FB022014	-1300	W	" ; "	
RSB-3/8-10	-1540	S	" ; "	
RSB-3/18-20	-1600	S	" ; "	

Comments: MS/MSD022014 Collected From RSB-11/17.5-19.5

Preservation (Check those Applicable): 4°C ✓ Frozen __ HCl ✓ MeOH ✓ HNO3 __ H2SO4 __ NaOH __ ZnAc __ Ascorbic Acid __ Other __

Special Instructions: Field Filtered ☐ Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
Roux Coulee	2/21/14 12pm	K Baker	2/21/14 12pm
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		[signature]	2/21/14-1620

Temperature on Receipt: 3.6 °C

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14B0560

YOUR Information
Company: Roux
Address: 209 Shafter Islandia
Phone No. 631-232-2600
Contact Person:
E-Mail Address:

Report To:
Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

Invoice To:
Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

YOUR Project ID
1575.0002y

Purchase Order No.

Samples from: CT __ NY ✗ NJ __

Turn-Around Time
- RUSH - Same Day ☐
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☐
- RUSH - Four Day ☐
- Standard(5-7 Days) ☒

Report Type
- Summary Report
- Summary w/ QA Summary
- CT RCP Package
- CTRCP DQA/DUE Pkg
- NY ASP A Package
- NY ASP B Package ✗
- NJDEP Red. Deliv.

Electronic Data Deliverables (EDD)
- Simple Excel
- NYSDEC EQuIS ✗
- EQuIS (std)
- EZ-EDD (EQuIS)
- NJDEP SRP HazSite EDD
- GIS/KEY (std)
- Other

York Regulatory Comparison
Excel Spreadsheet
Compare to the following Regs. (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature): [signature]
Name (printed): Joe Gavin

Matrix Codes
- S - soil
- Other - specify(oil, etc.)
- WW - wastewater
- GW - groundwater
- DW - drinking water
- Air-A - ambient air
- Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
TRIPBLANK	2/20/14-lab	W	TCL VOC + TIC	
MW-45	2/20/14-1515	Oil	*	
Lift-1	2/20/14-1510	Oil	*	

Comments: *Confirm specific Analysis For MW-45 & Lift-1

Preservation — Check those Applicable: 4°C ✗ Frozen ___ HCl ✗ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
Roux Cooler	2/21/14 12pm	Kyle Baker	2/21/14 12pm

Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		[signature]	2/21/14-1620

Temperature on Receipt: 3.6 °C

Technical Report

prepared for:

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Report Date: 09/18/2014
Client Project ID: 1575.00024
York Project (SDG) No.: 14I0505

Report Date: 09/18/2014
Client Project ID: 1575.00024
York Project (SDG) No.: 14I0505

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on September 11, 2014 and listed below. The project was identified as your project: **1575.00024**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
14I0505-01	RSB/MW-15/4-5	Soil	09/10/2014	09/11/2014
14I0505-02	RSB/MW-15/10-11	Soil	09/10/2014	09/11/2014
14I0505-03	RSB/MW-15/14-15	Soil	09/10/2014	09/11/2014
14I0505-04	RSB/MW-14/12-14	Soil	09/10/2014	09/11/2014
14I0505-05	RSB/MW-14/17-18	Soil	09/10/2014	09/11/2014
14I0505-06	FB091014	Water	09/10/2014	09/11/2014
14I0505-07	TB091014	Water	09/10/2014	09/11/2014
14I0505-08	DUP091014	Soil	09/10/2014	09/11/2014
14I0505-09	RSB/MW-17/1-3	Soil	09/10/2014	09/11/2014
14I0505-10	RSB/MW-17/13-15	Soil	09/10/2014	09/11/2014
14I0505-11	RSB/MW-17/17-18	Soil	09/10/2014	09/11/2014
14I0505-12	MW-5	Oil	09/10/2014	09/11/2014

General Notes for York Project (SDG) No.: 14I0505

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By:

Date: 09/18/2014

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: RSB/MW-15/4-5 **York Sample ID:** 14I0505-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:20 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**44**	Cal-E, CCV-E, B	ug/kg dry	2.3	9.2	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
71-43-2	Benzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-25-2	Bromoform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
67-66-3	Chloroform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	46	92	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS

Sample Information

Client Sample ID: RSB/MW-15/4-5 **York Sample ID:** 14I0505-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:20 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
79-20-9	Methyl acetate	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.3	9.2	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
100-42-5	Styrene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
108-88-3	Toluene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.6	9.2	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.9	14	1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*98.7 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*102 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*94.4 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 03:14	SS

Sample Information

Client Sample ID: **RSB/MW-15/4-5** **York Sample ID:** **14I0505-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:20 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
98-86-2	Acetophenone	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
120-12-7	**Anthracene**	**291**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
1912-24-9	Atrazine	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
56-55-3	**Benzo(a)anthracene**	**705**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
50-32-8	**Benzo(a)pyrene**	**272**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
205-99-2	**Benzo(b)fluoranthene**	**266**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
207-08-9	**Benzo(k)fluoranthene**	**334**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
105-60-2	Caprolactam	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
86-74-8	Carbazole	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
218-01-9	**Chrysene**	**787**	J	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	890	1770	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR

Sample Information

Client Sample ID: RSB/MW-15/4-5 **York Sample ID:** 14I0505-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:20 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	890	1780	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
206-44-0	**Fluoranthene**	**1800**		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
86-73-7	Fluorene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
78-59-1	Isophorone	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
91-20-3	Naphthalene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
85-01-8	**Phenanthrene**	**1280**		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
108-95-2	Phenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
129-00-0	**Pyrene**	**1510**		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	448	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	224	888	5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*78.7 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*92.5 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*80.9 %*	*10-140*

Sample Information

Client Sample ID: **RSB/MW-15/4-5** **York Sample ID:** **14I0505-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:20 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*90.9 %*			*10-126*						
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*66.4 %*			*10-150*						
1718-51-0	*Surrogate: Terphenyl-d14*	*87.5 %*			*10-137*						

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			5	EPA 8270D	09/16/2014 07:49	09/16/2014 22:50	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**93.8**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:01	09/18/2014 17:31	PAM

Sample Information

Client Sample ID: **RSB/MW-15/10-11** **York Sample ID:** **14I0505-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	ND		ug/kg dry	240	960	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
71-43-2	Benzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-25-2	Bromoform	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
74-83-9	Bromomethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
78-93-3	2-Butanone	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-00-3	Chloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS

Sample Information

Client Sample ID: **RSB/MW-15/10-11** **York Sample ID:** **14I0505-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-66-3	Chloroform	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
74-87-3	Chloromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
110-82-7	Cyclohexane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
156-59-2	**cis-1,2-Dichloroethylene**	**2300**		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	4800	9600	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
100-41-4	**Ethyl Benzene**	**5700**		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
591-78-6	2-Hexanone	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
98-82-8	**Isopropylbenzene**	**450**	J	ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
79-20-9	Methyl acetate	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
108-87-2	**Methylcyclohexane**	**1000**		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-09-2	Methylene chloride	ND		ug/kg dry	240	960	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
100-42-5	Styrene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
108-88-3	**Toluene**	**100000**		ug/kg dry	1200	2400	500	EPA 8260C	09/17/2014 16:30	09/18/2014 16:28	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS

Sample Information

Client Sample ID: **RSB/MW-15/10-11** **York Sample ID:** **14I0505-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
95-47-6	**o-Xylene**	**6400**		ug/kg dry	240	480	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
179601-23-1	**p- & m- Xylenes**	**21000**		ug/kg dry	480	960	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
1330-20-7	**Xylenes, Total**	**28000**		ug/kg dry	720	1400	100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*98.0 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*86.3 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*103 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**dihydro methyl indene isomers**	**3100**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**Ethyl Dimethyl Benzene isomer**	**1900**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**ethyl methyl Benzene isomers**	**7200**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**methyl (methylethyl) benzene isomers**	**2200**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**propenyl benzene isomer**	**3200**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**Tetramethyl Benzene isomer**	**1800**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**trimethyl Hexane isomer**	**4300**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**Trimethyl pentane isomers**	**5500**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS
NA	**trimethylbenzene isomer**	**1900**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 03:43	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
98-86-2	Acetophenone	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
120-12-7	Anthracene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
1912-24-9	Atrazine	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
50-32-8	Benzo(a)pyrene	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR

Sample Information

Client Sample ID: RSB/MW-15/10-11 **York Sample ID:** 14I0505-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
205-99-2	Benzo(b)fluoranthene	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
207-08-9	Benzo(k)fluoranthene	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
105-60-2	Caprolactam	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
86-74-8	Carbazole	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
218-01-9	Chrysene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	892	1780	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	892	1780	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
117-84-0	Di-n-octyl phthalate	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
206-44-0	Fluoranthene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
86-73-7	Fluorene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR

YORK ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: RSB/MW-15/10-11 **York Sample ID:** 14I0505-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
118-74-1	Hexachlorobenzene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
78-59-1	Isophorone	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
91-57-6	**2-Methylnaphthalene**	**1500**		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
91-20-3	**Naphthalene**	**1040**		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
85-01-8	**Phenanthrene**	**372**	J	ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
108-95-2	Phenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
129-00-0	Pyrene	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	449	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	224	890	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*35.4 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*47.9 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*48.7 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*57.5 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*46.8 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*36.9 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **RSB/MW-15/10-11** **York Sample ID:** **14I0505-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:32 am	09/11/2014

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:20	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**93.6**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:01	09/18/2014 17:31	PAM

Sample Information

Client Sample ID: **RSB/MW-15/14-15** **York Sample ID:** **14I0505-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:35 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**12**	Cal-E, CCV-E, B	ug/kg dry	2.3	9.4	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
71-43-2	Benzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-25-2	Bromoform	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
67-66-3	Chloroform	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS

Sample Information

Client Sample ID: RSB/MW-15/14-15 **York Sample ID:** 14I0505-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:35 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	47	94	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
591-78-6	**2-Hexanone**	**2.4**	CCV-E, J	ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.3	9.4	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
100-42-5	Styrene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
108-88-3	Toluene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.3	4.7	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS

Sample Information

Client Sample ID: **RSB/MW-15/14-15** | **York Sample ID:** **14I0505-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:35 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.7	9.4	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.0	14	1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
	Surrogate Recoveries	**Result**		**Acceptance Range**							
460-00-4	*Surrogate: p-Bromofluorobenzene*	*93.9 %*		*75-127*							
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*99.3 %*		*67-130*							
2037-26-5	*Surrogate: Toluene-d8*	*98.8 %*		*90-112*							

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**dimethyl Naphthalene isomer**	**6.2**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS
NA	**Unknown c14 hydrocarbon**	**22**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 04:12	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
98-86-2	Acetophenone	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
120-12-7	Anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
1912-24-9	Atrazine	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
105-60-2	Caprolactam	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
86-74-8	Carbazole	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR

Sample Information

Client Sample ID:	RSB/MW-15/14-15	York Sample ID:	14I0505-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:35 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
218-01-9	Chrysene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	197	393	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	197	394	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
121-14-2	**2,4-Dinitrotoluene**	**440**		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
206-44-0	Fluoranthene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
86-73-7	Fluorene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
78-59-1	Isophorone	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
91-20-3	Naphthalene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR

Sample Information

Client Sample ID:	**RSB/MW-15/14-15**			**York Sample ID:**	**14I0505-03**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time		Date Received
14I0505	1575.00024	Soil	September 10, 2014 8:35 am		09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-02-7	4-Nitrophenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
85-01-8	Phenanthrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
108-95-2	Phenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
129-00-0	Pyrene	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	99.2	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	49.6	197	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*77.8 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*82.7 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*67.0 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*70.9 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*79.1 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*83.4 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:16	SR

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**84.7**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:01	09/18/2014 17:31	PAM

Sample Information

Client Sample ID:	**RSB/MW-14/12-14**			**York Sample ID:**	**14I0505-04**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time		Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am		09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Information

Client Sample ID: **RSB/MW-14/12-14** **York Sample ID:** **14I0505-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am	09/11/2014

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**4400**	B, Cal-E, CCV-E	ug/kg dry	220	870	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
71-43-2	Benzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
74-97-5	Bromochloromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-27-4	Bromodichloromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-25-2	Bromoform	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
74-83-9	Bromomethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
78-93-3	**2-Butanone**	**450**	B	ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-15-0	Carbon disulfide	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
56-23-5	Carbon tetrachloride	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
108-90-7	Chlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-00-3	Chloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
67-66-3	Chloroform	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
74-87-3	Chloromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
110-82-7	Cyclohexane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
124-48-1	Dibromochloromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
123-91-1	1,4-Dioxane	ND		ug/kg dry	4300	8700	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
100-41-4	**Ethyl Benzene**	**1200**		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
591-78-6	2-Hexanone	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
98-82-8	Isopropylbenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
79-20-9	Methyl acetate	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK

Sample Information

Client Sample ID: RSB/MW-14/12-14 **York Sample ID:** 14I0505-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-09-2	Methylene chloride	ND		ug/kg dry	220	870	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
100-42-5	Styrene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
127-18-4	Tetrachloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
108-88-3	**Toluene**	**930**		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
79-01-6	Trichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
75-01-4	Vinyl Chloride	ND		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
95-47-6	**o-Xylene**	**1200**		ug/kg dry	220	430	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
179601-23-1	**p- & m- Xylenes**	**4700**		ug/kg dry	430	870	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK
1330-20-7	**Xylenes, Total**	**5800**		ug/kg dry	650	1300	100	EPA 8260C	09/18/2014 08:25	09/18/2014 11:25	BK

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*101 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*112 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*98.0 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
527-53-7	**1,2,4,5-Tetramethylbenzene**	**3300**	JN	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
95-63-6	**1,2,4-Trimethylbenzene**	**11000**	JN	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
108-67-8	**1,3,5-Trimethylbenzene**	**3200**	JN	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Diethyl Benzene isomer**	**7700**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**dihydro methyl indene isomer**	**2600**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**ethenyl ethyl benzene isomer**	**2200**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Ethyl Dimethyl Benzene isomers**	**5500**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**ethyl methyl Benzene isomers**	**15000**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Methyl (methylethyl) benzene isomer**	**5400**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**methyl (propenyl) benzene isomer**	**5300**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS

Sample Information

Client Sample ID: **RSB/MW-14/12-14** **York Sample ID:** **14I0505-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am	09/11/2014

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**methyl propyl benzene isomer**	**6900**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
91-20-3	**Naphthalene**	**5500**	JN	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
103-65-1	**n-Propylbenzene**	**1300**	JN	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Tetramethyl Benzene isomer**	**4200**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Trimethyl Benzene isomer**	**4400**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS
NA	**Trimethyl pentane isomers**	**6900**	J	ug/kg dry			200	EPA 8260C	09/18/2014 04:41	09/18/2014 04:41	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
98-86-2	Acetophenone	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
120-12-7	Anthracene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
1912-24-9	Atrazine	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
50-32-8	Benzo(a)pyrene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
205-99-2	Benzo(b)fluoranthene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
207-08-9	Benzo(k)fluoranthene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
85-68-7	**Benzyl butyl phthalate**	**48.7**	J	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
105-60-2	Caprolactam	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
86-74-8	Carbazole	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR

Sample Information

Client Sample ID: **RSB/MW-14/12-14** **York Sample ID:** **14I0505-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
218-01-9	Chrysene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	186	372	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	186	372	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
117-84-0	Di-n-octyl phthalate	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
117-81-7	**Bis(2-ethylhexyl)phthalate**	**260**		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
206-44-0	**Fluoranthene**	**52.1**	J	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
86-73-7	Fluorene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
78-59-1	Isophorone	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
91-57-6	**2-Methylnaphthalene**	**497**		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
91-20-3	**Naphthalene**	**218**		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR

Sample Information

Client Sample ID: RSB/MW-14/12-14 **York Sample ID:** 14I0505-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:25 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
85-01-8	**Phenanthrene**	**123**	J	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
108-95-2	Phenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
129-00-0	**Pyrene**	**84.1**	J	ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	93.7	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	46.9	186	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*64.9 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*69.7 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*63.6 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*70.5 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*71.6 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*41.6 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:17	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**89.6**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:01	09/18/2014 17:31	PAM

Sample Information

Client Sample ID: RSB/MW-14/17-18 **York Sample ID:** 14I0505-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: RSB/MW-14/17-18 **York Sample ID:** 14I0505-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	ND		ug/kg dry	2.1	8.5	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
71-43-2	Benzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-25-2	Bromoform	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
67-66-3	Chloroform	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
156-59-2	**cis-1,2-Dichloroethylene**	**3.7**	J	ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	43	85	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
100-41-4	**Ethyl Benzene**	**24**		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
98-82-8	**Isopropylbenzene**	**2.9**	J	ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
79-20-9	**Methyl acetate**	**4.9**		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
108-87-2	**Methylcyclohexane**	**5.6**		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.1	8.5	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS

Sample Information

Client Sample ID: RSB/MW-14/17-18 **York Sample ID:** 14I0505-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
100-42-5	Styrene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
108-88-3	**Toluene**	**23**		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
95-47-6	**o-Xylene**	**27**		ug/kg dry	2.1	4.3	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
179601-23-1	**p- & m- Xylenes**	**89**		ug/kg dry	4.3	8.5	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
1330-20-7	**Xylenes, Total**	**120**		ug/kg dry	6.4	13	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*103 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*87.8 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*95.4 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
527-53-7	**1,2,4,5-Tetramethylbenzene**	**12**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
95-63-6	**1,2,4-Trimethylbenzene**	**79**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
108-67-8	**1,3,5-Trimethylbenzene**	**25**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**dihydro methyl indene isomer**	**14**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**dimethyl Heptane isomer**	**10**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**Dimethyl Pentane isomer**	**13**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**Ethyl Dimethyl Benzene isomer**	**15**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**Ethyl Methyl Benzene isomer**	**60**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	ethyl methyl Benzene isomers	0.0	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
91-20-3	**Naphthalene**	**28**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
103-65-1	**n-Propylbenzene**	**12**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**propenyl benzene isomer**	**24**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**Tetramethyl Benzene isomer**	**13**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS

Sample Information

Client Sample ID: **RSB/MW-14/17-18** **York Sample ID:** **14I0505-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**Trimethyl Benzene isomer**	**18**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**trimethyl Hexane isomer**	**10**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS
NA	**Trimethyl pentane isomers**	**66**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:09	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
98-86-2	Acetophenone	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
120-12-7	Anthracene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
1912-24-9	Atrazine	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
105-60-2	Caprolactam	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
86-74-8	Carbazole	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
218-01-9	Chrysene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR

Sample Information

Client Sample ID: RSB/MW-14/17-18 **York Sample ID:** 14I0505-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	189	378	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	189	378	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
206-44-0	Fluoranthene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
86-73-7	Fluorene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
78-59-1	Isophorone	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
91-20-3	Naphthalene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
85-01-8	Phenanthrene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
108-95-2	Phenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
129-00-0	Pyrene	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	95.3	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR

Sample Information

Client Sample ID: **RSB/MW-14/17-18** **York Sample ID:** **14I0505-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 9:35 am	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	47.7	189	1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR
	Surrogate Recoveries	**Result**		**Acceptance Range**							
367-12-4	*Surrogate: 2-Fluorophenol*	*75.0 %*		*10-105*							
4165-62-2	*Surrogate: Phenol-d5*	*78.4 %*		*10-118*							
4165-60-0	*Surrogate: Nitrobenzene-d5*	*71.7 %*		*10-140*							
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*73.5 %*		*10-126*							
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*74.0 %*		*10-150*							
1718-51-0	*Surrogate: Terphenyl-d14*	*75.7 %*		*10-137*							

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			1	EPA 8270D	09/16/2014 07:49	09/16/2014 20:47	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**88.1**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:02	09/18/2014 17:39	PAM

Sample Information

Client Sample ID: **FB091014** **York Sample ID:** **14I0505-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM (low level)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS

Sample Information

Client Sample ID: **FB091014** **York Sample ID:** **14I0505-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM (low level) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
106-93-4	1,2-Dibromoethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
78-93-3	2-Butanone	ND		ug/L	0.50	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
591-78-6	**2-Hexanone**	**2.7**	CCV-E, B, J	ug/L	0.20	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
67-64-1	**Acetone**	**1.8**	Cal-E, CCV-E, J, B	ug/L	1.0	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
74-97-5	Bromochloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-27-4	Bromodichloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-25-2	Bromoform	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
74-83-9	Bromomethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-15-0	Carbon disulfide	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
56-23-5	Carbon tetrachloride	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
108-90-7	Chlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-00-3	Chloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
67-66-3	Chloroform	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
74-87-3	Chloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
110-82-7	Cyclohexane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
124-48-1	Dibromochloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
79-20-9	Methyl acetate	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS

Sample Information

Client Sample ID: **FB091014** **York Sample ID:** **14I0505-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM (low level)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-09-2	**Methylene chloride**	**2.4**	B, J	ug/L	1.0	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
127-18-4	Tetrachloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
108-88-3	**Toluene**	**1.0**	J	ug/L	0.20	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
79-01-6	Trichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-69-4	Trichlorofluoromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
75-01-4	Vinyl Chloride	ND		ug/L	0.50	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*93.8 %*	*81-123*
2037-26-5	*Surrogate: Toluene-d8*	*97.5 %*	*88-114*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*94.3 %*	*70-128*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**cyclotetrasiloxane isomer**	**6.2**	J	ug/L			1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:34	SS

Semi-Volatiles, 8270 - TCL/SOM - Low Level

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
208-96-8	Acenaphthylene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
98-86-2	Acetophenone	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
120-12-7	Anthracene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
1912-24-9	Atrazine	ND		ug/L	0.606	0.606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
100-52-7	Benzaldehyde	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH

Sample Information

Client Sample ID: FB091014 **York Sample ID:** 14I0505-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM - Low Level **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
85-68-7	Benzyl butyl phthalate	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
92-52-4	1,1'-Biphenyl	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
101-55-3	4-Bromophenyl phenyl ether	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
105-60-2	Caprolactam	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
86-74-8	Carbazole	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
59-50-7	4-Chloro-3-methylphenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
106-47-8	4-Chloroaniline	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
111-44-4	Bis(2-chloroethyl)ether	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
91-58-7	2-Chloronaphthalene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
95-57-8	2-Chlorophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
218-01-9	Chrysene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
132-64-9	Dibenzofuran	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
84-74-2	Di-n-butyl phthalate	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
120-83-2	2,4-Dichlorophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
84-66-2	Diethyl phthalate	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
105-67-9	2,4-Dimethylphenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
131-11-3	Dimethyl phthalate	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
51-28-5	2,4-Dinitrophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
117-84-0	Di-n-octyl phthalate	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
117-81-7	**Bis(2-ethylhexyl)phthalate**	**69.6**		ug/L	3.03	3.03	5	EPA 8270D	09/16/2014 08:13	09/17/2014 16:57	KH
206-44-0	Fluoranthene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
86-73-7	Fluorene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
118-74-1	Hexachlorobenzene	ND		ug/L	0.0242	0.0242	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
87-68-3	Hexachlorobutadiene	ND		ug/L	0.606	0.606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
67-72-1	Hexachloroethane	ND		ug/L	0.606	0.606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH

Sample Information

Client Sample ID: FB091014 — **York Sample ID:** 14I0505-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM - Low Level

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-59-1	Isophorone	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
91-57-6	2-Methylnaphthalene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
95-48-7	2-Methylphenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
91-20-3	Naphthalene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
99-09-2	3-Nitroaniline	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
100-01-6	4-Nitroaniline	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
88-74-4	2-Nitroaniline	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
98-95-3	Nitrobenzene	ND		ug/L	0.303	0.303	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
100-02-7	4-Nitrophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
88-75-5	2-Nitrophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
87-86-5	Pentachlorophenol	ND		ug/L	0.303	0.303	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
85-01-8	Phenanthrene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
108-95-2	Phenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
129-00-0	Pyrene	ND		ug/L	0.0606	0.0606	1	EPA 8270D	09/16/2014 08:13	09/16/2014 22:28	KH
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/L	3.03	6.06	1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*28.2 %*	*10-53*
4165-62-2	*Surrogate: Phenol-d5*	*18.3 %*	*10-39*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*79.1 %*	*10-120*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*64.2 %*	*10-108*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*66.4 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*74.6 %*	*10-143*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/L			1	EPA 8270D	09/16/2014 08:13	09/17/2014 00:28	KH

Sample Information

Client Sample ID: TB091014 **York Sample ID:** 14I0505-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM (low level) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
106-93-4	1,2-Dibromoethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
78-93-3	2-Butanone	ND		ug/L	0.50	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
591-78-6	**2-Hexanone**	**2.1**	CCV-E, J, B	ug/L	0.20	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
67-64-1	**Acetone**	**2.4**	Cal-E, CCV-E, J, B	ug/L	1.0	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
74-97-5	Bromochloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-27-4	Bromodichloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-25-2	Bromoform	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
74-83-9	Bromomethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-15-0	Carbon disulfide	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
56-23-5	Carbon tetrachloride	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
108-90-7	Chlorobenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-00-3	Chloroethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
67-66-3	Chloroform	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
74-87-3	Chloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
110-82-7	Cyclohexane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS

Sample Information

Client Sample ID: **TB091014** **York Sample ID:** **14I0505-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Water	September 10, 2014 12:00 am	09/11/2014

Volatile Organics, 8260 - TCL/SOM (low level)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
124-48-1	Dibromochloromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
79-20-9	Methyl acetate	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
108-87-2	Methylcyclohexane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-09-2	**Methylene chloride**	**1.7**	B, J	ug/L	1.0	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
127-18-4	Tetrachloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
79-01-6	Trichloroethylene	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-69-4	Trichlorofluoromethane	ND		ug/L	0.20	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
75-01-4	Vinyl Chloride	ND		ug/L	0.50	0.50	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*96.8 %*	*81-123*
2037-26-5	*Surrogate: Toluene-d8*	*98.8 %*	*88-114*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*94.2 %*	*70-128*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.0		ug/L			1	EPA 8260C	09/17/2014 16:30	09/18/2014 08:02	SS

Sample Information

Client Sample ID: **DUP091014** **York Sample ID:** **14I0505-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: DUP091014 | **York Sample ID:** 14I0505-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**43**	Cal-E, CCV-E, B	ug/kg dry	2.4	9.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
71-43-2	Benzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-25-2	Bromoform	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
78-93-3	**2-Butanone**	**3.6**	J	ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
67-66-3	Chloroform	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	48	96	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS

Sample Information

Client Sample ID: DUP091014 | **York Sample ID:** 14I0505-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	ND		ug/kg dry	2.4	9.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
100-42-5	Styrene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
127-18-4	**Tetrachloroethylene**	**3.3**	CCV-E, J	ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
108-88-3	Toluene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.8	9.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.2	14	1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*122 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*99.3 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*106 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	dimethyl naphthalene isomers	0.0		ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 05:38	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
98-86-2	Acetophenone	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
120-12-7	Anthracene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
1912-24-9	Atrazine	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR

Sample Information

Client Sample ID: DUP091014 **York Sample ID:** 14I0505-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-52-7	Benzaldehyde	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
56-55-3	**Benzo(a)anthracene**	**752**	J	ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
105-60-2	Caprolactam	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
86-74-8	Carbazole	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
218-01-9	**Chrysene**	**944**	J	ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	1850	3680	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	1850	3690	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
206-44-0	**Fluoranthene**	**2160**		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR

Sample Information

Client Sample ID:	DUP091014			York Sample ID:	14I0505-08
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received	
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014	

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	Fluorene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
78-59-1	Isophorone	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
91-20-3	Naphthalene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
85-01-8	**Phenanthrene**	**1400**	J	ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
108-95-2	Phenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
129-00-0	**Pyrene**	**1840**		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	929	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	465	1840	10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*56.2 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*76.2 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*68.3 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*80.0 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*32.6 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*74.9 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Information

Client Sample ID: **DUP091014** **York Sample ID:** **14I0505-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:00 pm	09/11/2014

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			10	EPA 8270D	09/16/2014 07:49	09/17/2014 00:22	SR

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**90.4**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:02	09/18/2014 17:39	PAM

Sample Information

Client Sample ID: **RSB/MW-17/1-3** **York Sample ID:** **14I0505-09**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:15 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**10**	Cal-E, CCV-E, B	ug/kg dry	2.3	9.1	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
71-43-2	Benzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-25-2	Bromoform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
67-66-3	Chloroform	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS

Sample Information

Client Sample ID: RSB/MW-17/1-3 **York Sample ID:** 14I0505-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:15 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
156-59-2	**cis-1,2-Dichloroethylene**	**8.2**		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	46	91	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
100-41-4	**Ethyl Benzene**	**11**		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.3	9.1	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
108-10-1	**4-Methyl-2-pentanone**	**2.3**	J	ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
100-42-5	Styrene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
108-88-3	**Toluene**	**85**		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
95-47-6	**o-Xylene**	**17**		ug/kg dry	2.3	4.6	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
179601-23-1	**p- & m- Xylenes**	**39**		ug/kg dry	4.6	9.1	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
1330-20-7	**Xylenes, Total**	**56**		ug/kg dry	6.9	14	1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
	Surrogate Recoveries	**Result**		**Acceptance Range**							

Sample Information

Client Sample ID: RSB/MW-17/1-3 **York Sample ID:** 14I0505-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:15 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
460-00-4	*Surrogate: p-Bromofluorobenzene*	*103 %*			*75-127*						
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*96.7 %*			*67-130*						
2037-26-5	*Surrogate: Toluene-d8*	*101 %*			*90-112*						

Volatile Organics, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**28**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
108-67-8	**1,3,5-Trimethylbenzene**	**7.5**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
NA	**ethylmethylbenzene isomer**	**19**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
NA	**methylbenzene isomer**	**10**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
NA	**methylethenyl benzene isomer**	**11**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
NA	**methylmethylene benzene isomer**	**11**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS
91-20-3	**Naphthalene**	**6.6**	JN	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 06:07	SS

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
98-86-2	Acetophenone	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
120-12-7	**Anthracene**	**410**	J	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
1912-24-9	Atrazine	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
56-55-3	**Benzo(a)anthracene**	**900**		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
50-32-8	**Benzo(a)pyrene**	**353**	J	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
205-99-2	**Benzo(b)fluoranthene**	**341**	J	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
207-08-9	**Benzo(k)fluoranthene**	**434**	J	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
105-60-2	Caprolactam	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
86-74-8	Carbazole	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR

Sample Information

Client Sample ID: **RSB/MW-17/1-3** **York Sample ID:** **14I0505-09**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:15 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
218-01-9	**Chrysene**	**1050**		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	842	1680	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	842	1680	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
206-44-0	**Fluoranthene**	**2380**		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
86-73-7	Fluorene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
78-59-1	Isophorone	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
91-20-3	Naphthalene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR

Sample Information

Client Sample ID:	RSB/MW-17/1-3			York Sample ID:	14I0505-09
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time		Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:15 pm		09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
99-09-2	3-Nitroaniline	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
85-01-8	**Phenanthrene**	**1810**		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
108-95-2	Phenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
129-00-0	**Pyrene**	**2040**		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	424	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	212	841	5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR

	Surrogate Recoveries	Result		Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*119 %*	S-08	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*133 %*	S-08	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*116 %*		*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*116 %*		*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*89.2 %*		*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*112 %*		*10-137*

Semi-Volatiles, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			5	EPA 8270D	09/16/2014 07:49	09/16/2014 23:51	SR

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**99.1**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:02	09/18/2014 17:39	PAM

Sample Information

Client Sample ID: **RSB/MW-17/13-15** **York Sample ID:** **14I0505-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:40 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**340**	Cal-E, CCV-E, J, B	ug/kg dry	220	890	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
71-43-2	Benzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-25-2	Bromoform	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
74-83-9	Bromomethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
78-93-3	2-Butanone	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-00-3	Chloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
67-66-3	Chloroform	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
74-87-3	Chloromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
110-82-7	Cyclohexane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
156-59-2	**cis-1,2-Dichloroethylene**	**330**	J	ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	4500	8900	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
100-41-4	**Ethyl Benzene**	**2900**		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
591-78-6	2-Hexanone	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
98-82-8	**Isopropylbenzene**	**330**	J	ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
79-20-9	Methyl acetate	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS

Sample Information

Client Sample ID: RSB/MW-17/13-15 **York Sample ID:** 14I0505-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:40 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
108-87-2	**Methylcyclohexane**	**410**	J	ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-09-2	Methylene chloride	ND		ug/kg dry	220	890	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
100-42-5	Styrene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
108-88-3	**Toluene**	**27000**		ug/kg dry	560	1100	250	EPA 8260C	09/17/2014 16:30	09/18/2014 11:58	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
95-47-6	**o-Xylene**	**3700**		ug/kg dry	220	450	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
179601-23-1	**p- & m- Xylenes**	**10000**		ug/kg dry	450	890	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
1330-20-7	**Xylenes, Total**	**14000**		ug/kg dry	670	1300	100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*99.4 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*92.5 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*104 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-94-3	**1,2,4,5-Tetrachlorobenzene**	**2000**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
95-63-6	**1,2,4-Trimethylbenzene**	**9800**	JN	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
108-67-8	**1,3,5-Trimethylbenzene**	**2700**	JN	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**dihydromethylindene isomer**	**2300**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**dimethyl hexane isomer**	**500**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**Dimethylheptane isomer**	**760**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**ethylmethylbenzene isomer**	**1900**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**methylmethylene benzene isomer**	**2200**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
91-20-3	**Naphthalene**	**2900**	JN	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
104-51-8	**n-Butylbenzene**	**1000**	JN	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS

Sample Information

Client Sample ID: RSB/MW-17/13-15 | **York Sample ID:** 14I0505-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:40 pm	09/11/2014

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
103-65-1	**n-Propylbenzene**	**1400**	JN	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**propenyl benzene isomer**	**1000**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**Trimethyl Benzene isomer**	**1000**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS
NA	**trimethyl Pentane isomer**	**1200**	J	ug/kg dry			100	EPA 8260C	09/17/2014 16:30	09/18/2014 06:36	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
98-86-2	Acetophenone	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
120-12-7	Anthracene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
1912-24-9	Atrazine	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
50-32-8	Benzo(a)pyrene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
205-99-2	Benzo(b)fluoranthene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
191-24-2	Benzo(g,h,i)perylene	ND	ISTD-LO	ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
207-08-9	Benzo(k)fluoranthene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
85-68-7	**Benzyl butyl phthalate**	**79.7**	J	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
105-60-2	Caprolactam	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
86-74-8	Carbazole	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
218-01-9	Chrysene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR

Sample Information

Client Sample ID: RSB/MW-17/13-15 **York Sample ID:** 14I0505-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:40 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53-70-3	Dibenzo(a,h)anthracene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	183	365	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	183	366	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
117-84-0	Di-n-octyl phthalate	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
117-81-7	**Bis(2-ethylhexyl)phthalate**	**210**		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
206-44-0	**Fluoranthene**	**55.6**	J	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
86-73-7	Fluorene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND	ISTD-LO	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
78-59-1	Isophorone	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
91-57-6	**2-Methylnaphthalene**	**364**		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
91-20-3	**Naphthalene**	**183**		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR

Sample Information

Client Sample ID: **RSB/MW-17/13-15** **York Sample ID:** **14I0505-10**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 12:40 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-86-5	Pentachlorophenol	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
85-01-8	**Phenanthrene**	**137**	J	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
108-95-2	Phenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
129-00-0	**Pyrene**	**77.9**	J	ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	92.2	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	46.1	183	1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*75.1 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*80.3 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*73.1 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*87.0 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*88.0 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*45.8 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds. **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			1	EPA 8270D	09/16/2014 07:49	09/16/2014 22:19	SR

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**91.1**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:02	09/18/2014 17:39	PAM

Sample Information

Client Sample ID: **RSB/MW-17/17-18** **York Sample ID:** **14I0505-11**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: RSB/MW-17/17-18 **York Sample ID:** 14I0505-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**9.5**	CCV-E, Cal-E, J, B	ug/kg dry	2.5	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
71-43-2	Benzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-25-2	Bromoform	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
67-66-3	Chloroform	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	50	100	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
79-20-9	**Methyl acetate**	**7.6**		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS

Sample Information

Client Sample ID: RSB/MW-17/17-18 **York Sample ID:** 14I0505-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Volatile Organics, 8260 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.5	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
100-42-5	Styrene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
108-88-3	**Toluene**	**10**		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.0	10	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.5	15	1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*93.8 %*	*75-127*
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*95.5 %*	*67-130*
2037-26-5	*Surrogate: Toluene-d8*	*99.4 %*	*90-112*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**Dimethylnaphthalene isomer**	**26**	J	ug/kg dry			1	EPA 8260C	09/17/2014 16:30	09/18/2014 07:05	SS

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
98-86-2	Acetophenone	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR

Sample Information

Client Sample ID: RSB/MW-17/17-18 **York Sample ID:** 14I0505-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-12-7	Anthracene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
1912-24-9	Atrazine	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
100-52-7	Benzaldehyde	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
105-60-2	Caprolactam	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
86-74-8	Carbazole	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
218-01-9	Chrysene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	199	397	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	199	397	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR

Sample Information

Client Sample ID: RSB/MW-17/17-18 | **York Sample ID:** 14I0505-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Semi-Volatiles, 8270 - TCL/SOM

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
86-73-7	Fluorene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
78-59-1	Isophorone	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
91-20-3	Naphthalene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
85-01-8	Phenanthrene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
108-95-2	Phenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
129-00-0	Pyrene	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	100	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	50.1	199	1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR

CAS No.	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*87.4 %*	*10-105*
4165-62-2	*Surrogate: Phenol-d5*	*94.7 %*	*10-118*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*77.9 %*	*10-140*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*85.0 %*	*10-126*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*92.8 %*	*10-150*
1718-51-0	*Surrogate: Terphenyl-d14*	*96.1 %*	*10-137*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **RSB/MW-17/17-18** **York Sample ID:** **14I0505-11**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Soil	September 10, 2014 1:00 pm	09/11/2014

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			1	EPA 8270D	09/16/2014 07:49	09/16/2014 21:48	SR

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**83.9**		%	0.100	0.100	1	SM 2540G	09/18/2014 09:02	09/18/2014 17:39	PAM

Sample Information

Client Sample ID: **MW-5** **York Sample ID:** **14I0505-12**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0505	1575.00024	Oil	September 10, 2014 11:40 am	09/11/2014

Petroleum Identification **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	EPA 8015D	09/18/2014 08:42	09/18/2014 16:05	JW

Analytical Batch Summary

Batch ID: BI40724 **Preparation Method:** EPA 3550C **Prepared By:** TB

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-01	RSB/MW-15/4-5	09/16/14
14I0505-02	RSB/MW-15/10-11	09/16/14
14I0505-03	RSB/MW-15/14-15	09/16/14
14I0505-04	RSB/MW-14/12-14	09/16/14
14I0505-05	RSB/MW-14/17-18	09/16/14
14I0505-08	DUP091014	09/16/14
14I0505-09	RSB/MW-17/1-3	09/16/14
14I0505-10	RSB/MW-17/13-15	09/16/14
14I0505-11	RSB/MW-17/17-18	09/16/14
BI40724-BLK1	Blank	09/16/14
BI40724-BS1	LCS	09/16/14
BI40724-MS1	Matrix Spike	09/16/14
BI40724-MSD1	Matrix Spike Dup	09/16/14

Batch ID: BI40731 **Preparation Method:** EPA 3510C **Prepared By:** KAT

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-06	FB091014	09/16/14
BI40731-BLK1	Blank	09/16/14
BI40731-BS1	LCS	09/16/14
BI40731-BS2	LCS	09/16/14
BI40731-BSD1	LCS Dup	09/16/14

Batch ID: BI40885 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-01	RSB/MW-15/4-5	09/17/14
14I0505-02	RSB/MW-15/10-11	09/17/14
14I0505-03	RSB/MW-15/14-15	09/17/14
14I0505-05	RSB/MW-14/17-18	09/17/14
14I0505-08	DUP091014	09/17/14
14I0505-09	RSB/MW-17/1-3	09/17/14
14I0505-10	RSB/MW-17/13-15	09/17/14
14I0505-11	RSB/MW-17/17-18	09/17/14
BI40885-BLK1	Blank	09/17/14
BI40885-BS1	LCS	09/17/14
BI40885-BSD1	LCS Dup	09/17/14
BI40885-MS1	Matrix Spike	09/17/14
BI40885-MSD1	Matrix Spike Dup	09/17/14

Batch ID: BI40886 **Preparation Method:** EPA 5030B **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-06	FB091014	09/17/14

14I0505-07	TB091014	09/17/14
BI40886-BLK1	Blank	09/17/14
BI40886-BS1	LCS	09/17/14
BI40886-BSD1	LCS Dup	09/17/14

Batch ID: BI40896 **Preparation Method:** Oil Preparation for GC **Prepared By:** JW

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-12	MW-5	09/18/14

Batch ID: BI40903 **Preparation Method:** % Solids Prep **Prepared By:** KK

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-01	RSB/MW-15/4-5	09/18/14
14I0505-02	RSB/MW-15/10-11	09/18/14
14I0505-03	RSB/MW-15/14-15	09/18/14
14I0505-04	RSB/MW-14/12-14	09/18/14
BI40903-DUP1	Duplicate	09/18/14

Batch ID: BI40904 **Preparation Method:** % Solids Prep **Prepared By:** KK

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-05	RSB/MW-14/17-18	09/18/14
14I0505-08	DUP091014	09/18/14
14I0505-09	RSB/MW-17/1-3	09/18/14
14I0505-10	RSB/MW-17/13-15	09/18/14
14I0505-11	RSB/MW-17/17-18	09/18/14

Batch ID: BI40920 **Preparation Method:** EPA 5035A **Prepared By:** BK

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-04	RSB/MW-14/12-14	09/18/14
14I0505-04	RSB/MW-14/12-14	09/18/14
14I0505-10RE1	RSB/MW-17/13-15	09/18/14
BI40920-BLK1	Blank	09/18/14
BI40920-BS1	LCS	09/18/14
BI40920-BSD1	LCS Dup	09/18/14

Batch ID: BI40923 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14I0505-02RE1	RSB/MW-15/10-11	09/18/14
BI40923-BLK1	Blank	09/18/14
BI40923-BS1	LCS	09/18/14
BI40923-BSD1	LCS Dup	09/18/14

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40885 - EPA 5035A

Blank (BI40885-BLK1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	11	10	ug/kg wet								
Tentatively Identified Compounds	0.0		"								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
2-Butanone	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
Cyclohexane	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
Ethyl Benzene	ND	5.0	"								
2-Hexanone	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	ND	10	"								
4-Methyl-2-pentanone	ND	5.0	"								
Styrene	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40885 - EPA 5035A

Blank (BI40885-BLK1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
o-Xylene	ND	5.0	ug/kg wet								
p- & m- Xylenes	ND	10	"								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*47.8*		*ug/L*	*50.0*		*95.7*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*43.9*		*"*	*50.0*		*87.8*	*67-130*				
Surrogate: Toluene-d8	*51.3*		*"*	*50.0*		*103*	*90-112*				

LCS (BI40885-BS1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	40		ug/L	50.0		80.6	32-173				
Benzene	50		"	50.0		101	83-126				
Bromochloromethane	49		"	50.0		98.9	73-128				
Bromodichloromethane	50		"	50.0		100	74-126				
Bromoform	53		"	50.0		105	63-137				
Bromomethane	59		"	50.0		118	24-144				
2-Butanone	44		"	50.0		88.0	58-159				
Carbon disulfide	49		"	50.0		97.8	29-64	High Bias			
Carbon tetrachloride	49		"	50.0		97.9	68-132				
Chlorobenzene	51		"	50.0		103	87-115				
Chloroethane	57		"	50.0		114	39-146				
Chloroform	50		"	50.0		101	84-120				
Chloromethane	49		"	50.0		97.0	35-153				
Cyclohexane	49		"	50.0		97.9	70-130				
1,2-Dibromo-3-chloropropane	49		"	50.0		98.4	48-152				
Dibromochloromethane	50		"	50.0		101	41-149				
1,2-Dibromoethane	53		"	50.0		105	81-123				
1,2-Dichlorobenzene	51		"	50.0		102	81-117				
1,3-Dichlorobenzene	51		"	50.0		101	84-117				
1,4-Dichlorobenzene	50		"	50.0		101	85-118				
Dichlorodifluoromethane	50		"	50.0		99.3	52-143				
1,1-Dichloroethane	51		"	50.0		102	80-125				
1,2-Dichloroethane	49		"	50.0		98.8	67-129				
1,1-Dichloroethylene	47		"	50.0		93.8	62-136				
trans-1,2-Dichloroethylene	50		"	50.0		99.1	66-136				
cis-1,2-Dichloroethylene	53		"	50.0		106	86-121				
1,2-Dichloropropane	50		"	50.0		100	74-127				
trans-1,3-Dichloropropylene	49		"	50.0		98.5	71-128				
cis-1,3-Dichloropropylene	48		"	50.0		96.3	78-122				
1,4-Dioxane	1400		"	1000		139	31-190				
Ethyl Benzene	49		"	50.0		98.5	81-118				
2-Hexanone	52		"	50.0		103	50-154				
Isopropylbenzene	50		"	50.0		99.6	78-122				
Methyl acetate	50		"	50.0		99.0	41-143				
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	62-140				
Methylcyclohexane	51		"	50.0		101	70-130				
Methylene chloride	48		"	50.0		95.0	48-143				
4-Methyl-2-pentanone	47		"	50.0		94.2	53-149				
Styrene	52		"	50.0		103	85-115				
1,1,2,2-Tetrachloroethane	50		"	50.0		101	72-133				
Tetrachloroethylene	56		"	50.0		111	76-129				
Toluene	50		"	50.0		99.1	85-116				
1,2,4-Trichlorobenzene	52		"	50.0		103	61-158				
1,2,3-Trichlorobenzene	52		"	50.0		104	63-154				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40885 - EPA 5035A											
LCS (BI40885-BS1)							Prepared: 09/17/2014 Analyzed: 09/18/2014				
1,1,1-Trichloroethane	49		ug/L	50.0		97.9	74-126				
1,1,2-Trichloroethane	50		"	50.0		100	81-124				
Trichloroethylene	51		"	50.0		101	83-118				
Trichlorofluoromethane	48		"	50.0		95.0	54-141				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	48		"	50.0		96.5	47-160				
Vinyl Chloride	50		"	50.0		101	38-147				
o-Xylene	50		"	50.0		101	81-118				
p- & m- Xylenes	110		"	100		105	80-120				
Surrogate: p-Bromofluorobenzene	*50.4*		*"*	*50.0*		*101*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*47.9*		*"*	*50.0*		*95.8*	*67-130*				
Surrogate: Toluene-d8	*49.2*		*"*	*50.0*		*98.3*	*90-112*				
LCS Dup (BI40885-BSD1)							Prepared: 09/17/2014 Analyzed: 09/18/2014				
Acetone	38		ug/L	50.0		75.0	32-173		7.14	30	
Benzene	52		"	50.0		104	83-126		2.82	30	
Bromochloromethane	52		"	50.0		103	73-128		4.47	30	
Bromodichloromethane	52		"	50.0		103	74-126		2.90	30	
Bromoform	54		"	50.0		108	63-137		2.75	30	
Bromomethane	59		"	50.0		119	24-144		0.186	30	
2-Butanone	46		"	50.0		91.7	58-159		4.10	30	
Carbon disulfide	51		"	50.0		102	29-64	High Bias	4.21	30	
Carbon tetrachloride	50		"	50.0		99.1	68-132		1.18	30	
Chlorobenzene	53		"	50.0		107	87-115		3.63	30	
Chloroethane	56		"	50.0		112	39-146		1.59	30	
Chloroform	53		"	50.0		107	84-120		5.59	30	
Chloromethane	46		"	50.0		92.7	35-153		4.53	30	
Cyclohexane	48		"	50.0		95.5	70-130		2.54	30	
1,2-Dibromo-3-chloropropane	52		"	50.0		103	48-152		4.78	30	
Dibromochloromethane	55		"	50.0		110	41-149		8.28	30	
1,2-Dibromoethane	55		"	50.0		110	81-123		4.73	30	
1,2-Dichlorobenzene	53		"	50.0		107	81-117		4.69	30	
1,3-Dichlorobenzene	53		"	50.0		107	84-117		5.30	30	
1,4-Dichlorobenzene	53		"	50.0		106	85-118		4.78	30	
Dichlorodifluoromethane	52		"	50.0		103	52-143		3.66	30	
1,1-Dichloroethane	50		"	50.0		99.3	80-125		2.53	30	
1,2-Dichloroethane	52		"	50.0		104	67-129		5.03	30	
1,1-Dichloroethylene	47		"	50.0		94.7	62-136		0.934	30	
trans-1,2-Dichloroethylene	49		"	50.0		97.7	66-136		1.38	30	
cis-1,2-Dichloroethylene	54		"	50.0		107	86-121		1.14	30	
1,2-Dichloropropane	51		"	50.0		103	74-127		2.46	30	
trans-1,3-Dichloropropylene	50		"	50.0		100	71-128		1.99	30	
cis-1,3-Dichloropropylene	51		"	50.0		102	78-122		6.14	30	
1,4-Dioxane	1400		"	1000		144	31-190		3.50	30	
Ethyl Benzene	51		"	50.0		103	81-118		4.23	30	
2-Hexanone	59		"	50.0		118	50-154		13.4	30	
Isopropylbenzene	52		"	50.0		105	78-122		4.99	30	
Methyl acetate	50		"	50.0		99.7	41-143		0.704	30	
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	62-140		0.432	30	
Methylcyclohexane	51		"	50.0		102	70-130		0.845	30	
Methylene chloride	51		"	50.0		101	48-143		6.34	30	
4-Methyl-2-pentanone	53		"	50.0		106	53-149		11.5	30	
Styrene	54		"	50.0		107	85-115		3.90	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40885 - EPA 5035A

LCS Dup (BI40885-BSD1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,2,2-Tetrachloroethane	54		ug/L	50.0		108	72-133		6.84	30	
Tetrachloroethylene	58		"	50.0		116	76-129		4.32	30	
Toluene	53		"	50.0		106	85-116		6.27	30	
1,2,4-Trichlorobenzene	54		"	50.0		107	61-158		3.82	30	
1,2,3-Trichlorobenzene	57		"	50.0		114	63-154		8.83	30	
1,1,1-Trichloroethane	50		"	50.0		99.9	74-126		1.98	30	
1,1,2-Trichloroethane	53		"	50.0		106	81-124		5.80	30	
Trichloroethylene	53		"	50.0		106	83-118		3.92	30	
Trichlorofluoromethane	49		"	50.0		97.1	54-141		2.17	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	48		"	50.0		96.5	47-160		0.0207	30	
Vinyl Chloride	48		"	50.0		96.6	38-147		4.39	30	
o-Xylene	53		"	50.0		105	81-118		3.92	30	
p- & m- Xylenes	110		"	100		108	80-120		3.17	30	
Surrogate: p-Bromofluorobenzene	*51.5*		*"*	*50.0*		*103*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*47.9*		*"*	*50.0*		*95.9*	*67-130*				
Surrogate: Toluene-d8	*51.0*		*"*	*50.0*		*102*	*90-112*				

Matrix Spike (BI40885-MS1) *Source sample: 14I0505-03 (RSB/MW-15/14-15) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	89		ug/L	50.0	14	150	10-200				
Benzene	53		"	50.0	ND	106	32-136				
Bromochloromethane	52		"	50.0	ND	104	52-120				
Bromodichloromethane	51		"	50.0	ND	103	42-132				
Bromoform	54		"	50.0	ND	107	35-135				
Bromomethane	70		"	50.0	ND	139	10-123	High Bias			
2-Butanone	68		"	50.0	ND	135	23-181				
Carbon disulfide	52		"	50.0	ND	104	10-67	High Bias			
Carbon tetrachloride	50		"	50.0	ND	99.7	19-138				
Chlorobenzene	53		"	50.0	ND	106	24-130				
Chloroethane	62		"	50.0	ND	123	22-129				
Chloroform	53		"	50.0	ND	106	41-133				
Chloromethane	53		"	50.0	ND	106	10-147				
Cyclohexane	50		"	50.0	ND	99.4	70-130				
1,2-Dibromo-3-chloropropane	46		"	50.0	ND	92.7	17-146				
Dibromochloromethane	52		"	50.0	ND	103	38-131				
1,2-Dibromoethane	52		"	50.0	ND	104	53-123				
1,2-Dichlorobenzene	53		"	50.0	ND	107	10-128				
1,3-Dichlorobenzene	52		"	50.0	ND	104	10-127				
1,4-Dichlorobenzene	53		"	50.0	ND	106	10-125				
Dichlorodifluoromethane	51		"	50.0	ND	102	10-144				
1,1-Dichloroethane	52		"	50.0	ND	105	23-145				
1,2-Dichloroethane	51		"	50.0	ND	101	54-119				
1,1-Dichloroethylene	51		"	50.0	ND	101	10-161				
trans-1,2-Dichloroethylene	53		"	50.0	ND	105	20-146				
cis-1,2-Dichloroethylene	56		"	50.0	ND	112	43-130				
1,2-Dichloropropane	51		"	50.0	ND	103	38-142				
trans-1,3-Dichloropropylene	51		"	50.0	ND	103	36-123				
cis-1,3-Dichloropropylene	52		"	50.0	ND	104	35-125				
1,4-Dioxane	1300		"	1000	ND	128	33-179				
Ethyl Benzene	51		"	50.0	ND	103	10-136				
2-Hexanone	63		"	50.0	2.7	121	10-171				
Isopropylbenzene	50		"	50.0	ND	101	10-147				
Methyl acetate	50		"	50.0	ND	99.2	10-149				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40885 - EPA 5035A											
Matrix Spike (BI40885-MS1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)							Prepared: 09/17/2014 Analyzed: 09/18/2014			
Methyl tert-butyl ether (MTBE)	53		ug/L	50.0	ND	106	54-133				
Methylcyclohexane	48		"	50.0	ND	95.3	70-130				
Methylene chloride	52		"	50.0	1.5	100	10-147				
4-Methyl-2-pentanone	51		"	50.0	ND	101	27-150				
Styrene	52		"	50.0	ND	104	13-129				
1,1,2,2-Tetrachloroethane	54		"	50.0	ND	108	25-149				
Tetrachloroethylene	55		"	50.0	ND	110	10-166				
Toluene	52		"	50.0	2.2	99.4	34-128				
1,2,4-Trichlorobenzene	49		"	50.0	ND	98.8	10-135				
1,2,3-Trichlorobenzene	50		"	50.0	ND	99.3	10-131				
1,1,1-Trichloroethane	51		"	50.0	ND	102	11-147				
1,1,2-Trichloroethane	52		"	50.0	ND	104	45-135				
Trichloroethylene	53		"	50.0	ND	106	36-134				
Trichlorofluoromethane	53		"	50.0	ND	106	21-128				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	51		"	50.0	ND	101	10-170				
Vinyl Chloride	52		"	50.0	ND	105	10-138				
o-Xylene	51		"	50.0	ND	102	21-132				
p- & m- Xylenes	110		"	100	ND	109	13-132				
Surrogate: p-Bromofluorobenzene	*50.2*		*"*	*50.0*		*100*	*70-130*				
Surrogate: 1,2-Dichloroethane-d4	*49.4*		*"*	*50.0*		*98.7*	*67-130*				
Surrogate: Toluene-d8	*49.3*		*"*	*50.0*		*98.5*	*90-112*				
Matrix Spike Dup (BI40885-MSD1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)							Prepared: 09/17/2014 Analyzed: 09/18/2014			
Acetone	84		ug/L	50.0	13	143	10-200		5.19	150	
Benzene	54		"	50.0	ND	107	32-136		0.712	64	
Bromochloromethane	51		"	50.0	ND	102	52-120		2.12	30	
Bromodichloromethane	50		"	50.0	ND	100	42-132		2.60	37	
Bromoform	54		"	50.0	ND	108	35-135		0.926	51	
Bromomethane	68		"	50.0	ND	135	10-123	High Bias	3.06	42	
2-Butanone	62		"	50.0	ND	124	23-181		8.92	67	
Carbon disulfide	51		"	50.0	ND	101	10-67	High Bias	2.34	36	
Carbon tetrachloride	51		"	50.0	ND	102	19-138		2.77	31	
Chlorobenzene	54		"	50.0	ND	107	24-130		1.35	32	
Chloroethane	60		"	50.0	ND	121	22-129		2.04	40	
Chloroform	53		"	50.0	ND	106	41-133		0.378	29	
Chloromethane	50		"	50.0	ND	99.9	10-147		6.04	31	
Cyclohexane	53		"	50.0	ND	105	70-130		5.65	30	
1,2-Dibromo-3-chloropropane	47		"	50.0	ND	94.1	17-146		1.50	54	
Dibromochloromethane	51		"	50.0	ND	103	38-131		0.0777	41	
1,2-Dibromoethane	54		"	50.0	ND	108	53-123		4.35	39	
1,2-Dichlorobenzene	55		"	50.0	ND	110	10-128		3.50	52	
1,3-Dichlorobenzene	54		"	50.0	ND	108	10-127		4.21	51	
1,4-Dichlorobenzene	55		"	50.0	ND	110	10-125		4.25	52	
Dichlorodifluoromethane	51		"	50.0	ND	102	10-144		0.0984	34	
1,1-Dichloroethane	52		"	50.0	ND	104	23-145		0.614	36	
1,2-Dichloroethane	50		"	50.0	ND	101	54-119		0.713	32	
1,1-Dichloroethylene	50		"	50.0	ND	99.2	10-161		2.04	31	
trans-1,2-Dichloroethylene	51		"	50.0	ND	103	20-146		2.15	30	
cis-1,2-Dichloroethylene	56		"	50.0	ND	112	43-130		0.0892	30	
1,2-Dichloropropane	53		"	50.0	ND	105	38-142		2.48	37	
trans-1,3-Dichloropropylene	51		"	50.0	ND	103	36-123		0.117	30	
cis-1,3-Dichloropropylene	53		"	50.0	ND	106	35-125		2.15	39	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40885 - EPA 5035A											
Matrix Spike Dup (BI40885-MSD1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)						Prepared: 09/17/2014 Analyzed: 09/18/2014				
1,4-Dioxane	1300		ug/L	1000	ND	133	33-179		3.30	196	
Ethyl Benzene	53		"	50.0	ND	106	10-136		2.94	42	
2-Hexanone	61		"	50.0	2.6	117	10-171		3.87	60	
Isopropylbenzene	52		"	50.0	ND	105	10-147		3.91	57	
Methyl acetate	48		"	50.0	ND	95.2	10-149		4.09	64	
Methyl tert-butyl ether (MTBE)	51		"	50.0	ND	101	54-133		4.94	47	
Methylcyclohexane	52		"	50.0	ND	103	70-130		7.80	30	
Methylene chloride	50		"	50.0	1.4	96.9	10-147		3.45	49	
4-Methyl-2-pentanone	48		"	50.0	ND	96.0	27-150		5.24	47	
Styrene	53		"	50.0	ND	106	13-129		1.56	39	
1,1,2,2-Tetrachloroethane	53		"	50.0	ND	106	25-149		1.88	56	
Tetrachloroethylene	54		"	50.0	ND	108	10-166		1.54	33	
Toluene	57		"	50.0	2.1	110	34-128		9.68	50	
1,2,4-Trichlorobenzene	50		"	50.0	ND	100	10-135		1.63	52	
1,2,3-Trichlorobenzene	51		"	50.0	ND	102	10-131		2.53	47	
1,1,1-Trichloroethane	51		"	50.0	ND	103	11-147		0.351	30	
1,1,2-Trichloroethane	51		"	50.0	ND	102	45-135		1.96	40	
Trichloroethylene	53		"	50.0	ND	106	36-134		0.189	30	
Trichlorofluoromethane	51		"	50.0	ND	102	21-128		4.77	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	49		"	50.0	ND	98.0	10-170		3.09	31	
Vinyl Chloride	50		"	50.0	ND	101	10-138		3.88	35	
o-Xylene	52		"	50.0	ND	105	21-132		3.08	51	
p- & m- Xylenes	110		"	100	ND	109	13-132		0.110	47	
Surrogate: p-Bromofluorobenzene	*49.7*		*"*	*50.0*		*99.4*	*70-130*				
Surrogate: 1,2-Dichloroethane-d4	*46.7*		*"*	*50.0*		*93.4*	*67-130*				
Surrogate: Toluene-d8	*48.6*		*"*	*50.0*		*97.1*	*90-112*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40886 - EPA 5030B

Blank (BI40886-BLK1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units
1,1,1-Trichloroethane	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	0.50	"
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"
1,1,2-Trichloroethane	ND	0.50	"
1,1-Dichloroethane	ND	0.50	"
1,1-Dichloroethylene	ND	0.50	"
1,2,3-Trichlorobenzene	1.9	0.50	"
1,2,4-Trichlorobenzene	1.1	0.50	"
1,2-Dibromo-3-chloropropane	ND	0.50	"
1,2-Dibromoethane	ND	0.50	"
1,2-Dichlorobenzene	ND	0.50	"
1,2-Dichloroethane	ND	0.50	"
1,2-Dichloropropane	ND	0.50	"
1,3-Dichlorobenzene	ND	0.50	"
1,4-Dichlorobenzene	ND	0.50	"
2-Butanone	ND	0.50	"
2-Hexanone	2.2	0.50	"
4-Methyl-2-pentanone	ND	0.50	"
Acetone	11	2.0	"
Benzene	ND	0.50	"
Bromochloromethane	ND	0.50	"
Bromodichloromethane	ND	0.50	"
Bromoform	ND	0.50	"
Bromomethane	ND	0.50	"
Carbon disulfide	ND	0.50	"
Carbon tetrachloride	ND	0.50	"
Chlorobenzene	ND	0.50	"
Chloroethane	ND	0.50	"
Chloroform	ND	0.50	"
Chloromethane	ND	0.50	"
cis-1,2-Dichloroethylene	ND	0.50	"
cis-1,3-Dichloropropylene	ND	0.50	"
Cyclohexane	ND	0.50	"
Dibromochloromethane	ND	0.50	"
Dichlorodifluoromethane	ND	0.50	"
Ethyl Benzene	ND	0.50	"
Isopropylbenzene	ND	0.50	"
Methyl acetate	ND	0.50	"
Methyl tert-butyl ether (MTBE)	ND	0.50	"
Methylcyclohexane	ND	0.50	"
Methylene chloride	1.4	2.0	"
o-Xylene	ND	0.50	"
p- & m- Xylenes	ND	1.0	"
Styrene	ND	0.50	"
Tetrachloroethylene	ND	0.50	"
Toluene	ND	0.50	"
trans-1,2-Dichloroethylene	ND	0.50	"
trans-1,3-Dichloropropylene	ND	0.50	"
Trichloroethylene	ND	0.50	"
Trichlorofluoromethane	ND	0.50	"
Vinyl Chloride	ND	0.50	"

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40886 - EPA 5030B

Blank (BI40886-BLK1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Xylenes, Total	ND	1.5	ug/L								
Surrogate: 1,2-Dichloroethane-d4	*43.9*		*"*	*50.0*		*87.8*	*81-123*				
Surrogate: Toluene-d8	*51.3*		*"*	*50.0*		*103*	*88-114*				
Surrogate: p-Bromofluorobenzene	*47.8*		*"*	*50.0*		*95.7*	*70-128*				

LCS (BI40886-BS1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1-Trichloroethane	49		ug/L	50.0		97.9	74-128				
1,1,2,2-Tetrachloroethane	50		"	50.0		101	71-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	48		"	50.0		96.5	51-157				
1,1,2-Trichloroethane	50		"	50.0		100	80-122				
1,1-Dichloroethane	51		"	50.0		102	70-131				
1,1-Dichloroethylene	47		"	50.0		93.8	60-143				
1,2,3-Trichlorobenzene	52		"	50.0		104	68-140				
1,2,4-Trichlorobenzene	52		"	50.0		103	65-143				
1,2-Dibromo-3-chloropropane	49		"	50.0		98.4	60-146				
1,2-Dibromoethane	53		"	50.0		105	82-122				
1,2-Dichlorobenzene	51		"	50.0		102	85-115				
1,2-Dichloroethane	49		"	50.0		98.8	72-126				
1,2-Dichloropropane	50		"	50.0		100	78-119				
1,3-Dichlorobenzene	51		"	50.0		101	83-117				
1,4-Dichlorobenzene	50		"	50.0		101	83-118				
2-Butanone	44		"	50.0		88.0	48-156				
2-Hexanone	52		"	50.0		103	50-151				
4-Methyl-2-pentanone	47		"	50.0		94.2	55-147				
Acetone	40		"	50.0		80.6	21-172				
Benzene	50		"	50.0		101	82-120				
Bromochloromethane	49		"	50.0		98.9	69-125				
Bromodichloromethane	50		"	50.0		100	84-117				
Bromoform	53		"	50.0		105	77-130				
Bromomethane	59		"	50.0		118	16-162				
Carbon disulfide	49		"	50.0		97.8	21-78	High Bias			
Carbon tetrachloride	49		"	50.0		97.9	72-132				
Chlorobenzene	51		"	50.0		103	88-112				
Chloroethane	57		"	50.0		114	29-172				
Chloroform	50		"	50.0		101	77-124				
Chloromethane	49		"	50.0		97.0	37-131				
cis-1,2-Dichloroethylene	53		"	50.0		106	77-124				
cis-1,3-Dichloropropylene	48		"	50.0		96.3	81-117				
Cyclohexane	49		"	50.0		97.9	70-130				
Dibromochloromethane	50		"	50.0		101	72-131				
Dichlorodifluoromethane	50		"	50.0		99.3	47-152				
Ethyl Benzene	49		"	50.0		98.5	86-114				
Isopropylbenzene	50		"	50.0		99.6	84-118				
Methyl acetate	50		"	50.0		99.0	20-177				
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	49-156				
Methylcyclohexane	51		"	50.0		101	70-130				
Methylene chloride	48		"	50.0		95.0	51-145				
o-Xylene	50		"	50.0		101	85-114				
p- & m- Xylenes	110		"	100		105	84-117				
Styrene	52		"	50.0		103	77-126				
Tetrachloroethylene	56		"	50.0		111	75-129				
Toluene	50		"	50.0		99.1	86-113				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40886 - EPA 5030B											
LCS (BI40886-BS1)							Prepared: 09/17/2014 Analyzed: 09/18/2014				
trans-1,2-Dichloroethylene	50		ug/L	50.0		99.1	55-148				
trans-1,3-Dichloropropylene	49		"	50.0		98.5	77-120				
Trichloroethylene	51		"	50.0		101	85-115				
Trichlorofluoromethane	48		"	50.0		95.0	69-131				
Vinyl Chloride	50		"	50.0		101	44-152				
Surrogate: 1,2-Dichloroethane-d4	*47.9*		*"*	*50.0*		*95.8*	*81-123*				
Surrogate: Toluene-d8	*49.2*		*"*	*50.0*		*98.3*	*88-114*				
Surrogate: p-Bromofluorobenzene	*50.4*		*"*	*50.0*		*101*	*70-128*				
LCS Dup (BI40886-BSD1)							Prepared: 09/17/2014 Analyzed: 09/18/2014				
1,1,1-Trichloroethane	50		ug/L	50.0		99.9	74-128		1.98	30	
1,1,2,2-Tetrachloroethane	54		"	50.0		108	71-130		6.84	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	48		"	50.0		96.5	51-157		0.0207	30	
1,1,2-Trichloroethane	53		"	50.0		106	80-122		5.80	30	
1,1-Dichloroethane	50		"	50.0		99.3	70-131		2.53	30	
1,1-Dichloroethylene	47		"	50.0		94.7	60-143		0.934	30	
1,2,3-Trichlorobenzene	57		"	50.0		114	68-140		8.83	30	
1,2,4-Trichlorobenzene	54		"	50.0		107	65-143		3.82	30	
1,2-Dibromo-3-chloropropane	52		"	50.0		103	60-146		4.78	30	
1,2-Dibromoethane	55		"	50.0		110	82-122		4.73	30	
1,2-Dichlorobenzene	53		"	50.0		107	85-115		4.69	30	
1,2-Dichloroethane	52		"	50.0		104	72-126		5.03	30	
1,2-Dichloropropane	51		"	50.0		103	78-119		2.46	30	
1,3-Dichlorobenzene	53		"	50.0		107	83-117		5.30	30	
1,4-Dichlorobenzene	53		"	50.0		106	83-118		4.78	30	
2-Butanone	46		"	50.0		91.7	48-156		4.10	30	
2-Hexanone	59		"	50.0		118	50-151		13.4	30	
4-Methyl-2-pentanone	53		"	50.0		106	55-147		11.5	30	
Acetone	38		"	50.0		75.0	21-172		7.14	30	
Benzene	52		"	50.0		104	82-120		2.82	30	
Bromochloromethane	52		"	50.0		103	69-125		4.47	30	
Bromodichloromethane	52		"	50.0		103	84-117		2.90	30	
Bromoform	54		"	50.0		108	77-130		2.75	30	
Bromomethane	59		"	50.0		119	16-162		0.186	30	
Carbon disulfide	51		"	50.0		102	21-78	High Bias	4.21	30	
Carbon tetrachloride	50		"	50.0		99.1	72-132		1.18	30	
Chlorobenzene	53		"	50.0		107	88-112		3.63	30	
Chloroethane	56		"	50.0		112	29-172		1.59	30	
Chloroform	53		"	50.0		107	77-124		5.59	30	
Chloromethane	46		"	50.0		92.7	37-131		4.53	30	
cis-1,2-Dichloroethylene	54		"	50.0		107	77-124		1.14	30	
cis-1,3-Dichloropropylene	51		"	50.0		102	81-117		6.14	30	
Cyclohexane	48		"	50.0		95.5	70-130		2.54	30	
Dibromochloromethane	55		"	50.0		110	72-131		8.28	30	
Dichlorodifluoromethane	52		"	50.0		103	47-152		3.66	30	
Ethyl Benzene	51		"	50.0		103	86-114		4.23	30	
Isopropylbenzene	52		"	50.0		105	84-118		4.99	30	
Methyl acetate	50		"	50.0		99.7	20-177		0.704	30	
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	49-156		0.432	30	
Methylcyclohexane	51		"	50.0		102	70-130		0.845	30	
Methylene chloride	51		"	50.0		101	51-145		6.34	30	
o-Xylene	53		"	50.0		105	85-114		3.92	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40886 - EPA 5030B

LCS Dup (BI40886-BSD1) Prepared: 09/17/2014 Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
p- & m- Xylenes	110		ug/L	100		108	84-117		3.17	30	
Styrene	54		"	50.0		107	77-126		3.90	30	
Tetrachloroethylene	58		"	50.0		116	75-129		4.32	30	
Toluene	53		"	50.0		106	86-113		6.27	30	
trans-1,2-Dichloroethylene	49		"	50.0		97.7	55-148		1.38	30	
trans-1,3-Dichloropropylene	50		"	50.0		100	77-120		1.99	30	
Trichloroethylene	53		"	50.0		106	85-115		3.92	30	
Trichlorofluoromethane	49		"	50.0		97.1	69-131		2.17	30	
Vinyl Chloride	48		"	50.0		96.6	44-152		4.39	30	
Surrogate: 1,2-Dichloroethane-d4	*47.9*		*"*	*50.0*		*95.9*	*81-123*				
Surrogate: Toluene-d8	*51.0*		*"*	*50.0*		*102*	*88-114*				
Surrogate: p-Bromofluorobenzene	*51.5*		*"*	*50.0*		*103*	*70-128*				

Batch BI40920 - EPA 5035A

Blank (BI40920-BLK1) Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	51	10	ug/kg wet								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
2-Butanone	2.8	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
Cyclohexane	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
Ethyl Benzene	ND	5.0	"								
2-Hexanone	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40920 - EPA 5035A											
Blank (BI40920-BLK1)								Prepared & Analyzed: 09/18/2014			
Methylene chloride	ND	10	ug/kg wet								
4-Methyl-2-pentanone	ND	5.0	"								
Styrene	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
o-Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*55.2*		*ug/L*	*50.0*		*110*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*51.7*		*"*	*50.0*		*103*	*67-130*				
Surrogate: Toluene-d8	*50.2*		*"*	*50.0*		*100*	*90-112*				
LCS (BI40920-BS1)								Prepared & Analyzed: 09/18/2014			
Acetone	80		ug/L	50.0		159	32-173				
Benzene	50		"	50.0		99.4	83-126				
Bromochloromethane	53		"	50.0		106	73-128				
Bromodichloromethane	60		"	50.0		119	74-126				
Bromoform	63		"	50.0		126	63-137				
Bromomethane	49		"	50.0		97.6	24-144				
2-Butanone	59		"	50.0		118	58-159				
Carbon disulfide	55		"	50.0		109	29-64	High Bias			
Carbon tetrachloride	61		"	50.0		122	68-132				
Chlorobenzene	54		"	50.0		109	87-115				
Chloroethane	52		"	50.0		104	39-146				
Chloroform	56		"	50.0		112	84-120				
Chloromethane	41		"	50.0		82.3	35-153				
Cyclohexane	48		"	50.0		96.1	70-130				
1,2-Dibromo-3-chloropropane	68		"	50.0		135	48-152				
Dibromochloromethane	63		"	50.0		125	41-149				
1,2-Dibromoethane	56		"	50.0		113	81-123				
1,2-Dichlorobenzene	56		"	50.0		112	81-117				
1,3-Dichlorobenzene	56		"	50.0		113	84-117				
1,4-Dichlorobenzene	58		"	50.0		116	85-118				
Dichlorodifluoromethane	47		"	50.0		93.2	52-143				
1,1-Dichloroethane	51		"	50.0		102	80-125				
1,2-Dichloroethane	60		"	50.0		121	67-129				
1,1-Dichloroethylene	58		"	50.0		116	62-136				
trans-1,2-Dichloroethylene	52		"	50.0		104	66-136				
cis-1,2-Dichloroethylene	52		"	50.0		105	86-121				
1,2-Dichloropropane	50		"	50.0		99.9	74-127				
trans-1,3-Dichloropropylene	58		"	50.0		117	71-128				
cis-1,3-Dichloropropylene	54		"	50.0		108	78-122				
1,4-Dioxane	1300		"	1000		134	31-190				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40920 - EPA 5035A

LCS (BI40920-BS1) Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Ethyl Benzene	54		ug/L	50.0		109	81-118				
2-Hexanone	56		"	50.0		113	50-154				
Isopropylbenzene	54		"	50.0		109	78-122				
Methyl acetate	55		"	50.0		110	41-143				
Methyl tert-butyl ether (MTBE)	56		"	50.0		112	62-140				
Methylcyclohexane	51		"	50.0		103	70-130				
Methylene chloride	46		"	50.0		91.2	48-143				
4-Methyl-2-pentanone	53		"	50.0		106	53-149				
Styrene	56		"	50.0		111	85-115				
1,1,2,2-Tetrachloroethane	53		"	50.0		107	72-133				
Tetrachloroethylene	54		"	50.0		109	76-129				
Toluene	53		"	50.0		106	85-116				
1,2,4-Trichlorobenzene	59		"	50.0		118	61-158				
1,2,3-Trichlorobenzene	61		"	50.0		122	63-154				
1,1,1-Trichloroethane	59		"	50.0		119	74-126				
1,1,2-Trichloroethane	54		"	50.0		108	81-124				
Trichloroethylene	55		"	50.0		111	83-118				
Trichlorofluoromethane	59		"	50.0		119	54-141				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	58		"	50.0		116	47-160				
Vinyl Chloride	49		"	50.0		98.6	38-147				
o-Xylene	56		"	50.0		112	81-118				
p- & m- Xylenes	110		"	100		113	80-120				
Surrogate: p-Bromofluorobenzene	*51.3*		*"*	*50.0*		*103*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*54.5*		*"*	*50.0*		*109*	*67-130*				
Surrogate: Toluene-d8	*50.1*		*"*	*50.0*		*100*	*90-112*				

LCS Dup (BI40920-BSD1) Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	97		ug/L	50.0		193	32-173	High Bias	19.1	30	
Benzene	52		"	50.0		104	83-126		4.83	30	
Bromochloromethane	54		"	50.0		108	73-128		2.29	30	
Bromodichloromethane	61		"	50.0		122	74-126		2.42	30	
Bromoform	63		"	50.0		126	63-137		0.0951	30	
Bromomethane	50		"	50.0		99.7	24-144		2.09	30	
2-Butanone	54		"	50.0		107	58-159		9.37	30	
Carbon disulfide	57		"	50.0		114	29-64	High Bias	4.66	30	
Carbon tetrachloride	64		"	50.0		128	68-132		4.49	30	
Chlorobenzene	55		"	50.0		110	87-115		1.11	30	
Chloroethane	54		"	50.0		108	39-146		4.10	30	
Chloroform	59		"	50.0		118	84-120		5.33	30	
Chloromethane	44		"	50.0		87.9	35-153		6.61	30	
Cyclohexane	52		"	50.0		103	70-130		7.28	30	
1,2-Dibromo-3-chloropropane	66		"	50.0		132	48-152		2.76	30	
Dibromochloromethane	62		"	50.0		125	41-149		0.432	30	
1,2-Dibromoethane	57		"	50.0		114	81-123		1.41	30	
1,2-Dichlorobenzene	56		"	50.0		112	81-117		0.107	30	
1,3-Dichlorobenzene	57		"	50.0		114	84-117		0.917	30	
1,4-Dichlorobenzene	57		"	50.0		113	85-118		1.87	30	
Dichlorodifluoromethane	48		"	50.0		96.9	52-143		3.93	30	
1,1-Dichloroethane	54		"	50.0		108	80-125		6.05	30	
1,2-Dichloroethane	62		"	50.0		125	67-129		3.31	30	
1,1-Dichloroethylene	60		"	50.0		119	62-136		3.17	30	
trans-1,2-Dichloroethylene	54		"	50.0		109	66-136		4.07	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40920 - EPA 5035A

LCS Dup (BI40920-BSD1) Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
cis-1,2-Dichloroethylene	54		ug/L	50.0		108	86-121		2.95	30	
1,2-Dichloropropane	51		"	50.0		101	74-127		1.25	30	
trans-1,3-Dichloropropylene	59		"	50.0		118	71-128		0.939	30	
cis-1,3-Dichloropropylene	56		"	50.0		112	78-122		3.43	30	
1,4-Dioxane	1200		"	1000		118	31-190		13.0	30	
Ethyl Benzene	55		"	50.0		110	81-118		1.11	30	
2-Hexanone	54		"	50.0		109	50-154		3.52	30	
Isopropylbenzene	55		"	50.0		111	78-122		1.75	30	
Methyl acetate	50		"	50.0		99.8	41-143		9.67	30	
Methyl tert-butyl ether (MTBE)	57		"	50.0		114	62-140		1.64	30	
Methylcyclohexane	52		"	50.0		104	70-130		1.72	30	
Methylene chloride	46		"	50.0		92.6	48-143		1.52	30	
4-Methyl-2-pentanone	53		"	50.0		106	53-149		0.433	30	
Styrene	56		"	50.0		112	85-115		0.914	30	
1,1,2,2-Tetrachloroethane	55		"	50.0		110	72-133		3.19	30	
Tetrachloroethylene	57		"	50.0		113	76-129		4.25	30	
Toluene	54		"	50.0		108	85-116		1.83	30	
1,2,4-Trichlorobenzene	58		"	50.0		116	61-158		1.81	30	
1,2,3-Trichlorobenzene	60		"	50.0		120	63-154		1.20	30	
1,1,1-Trichloroethane	62		"	50.0		125	74-126		4.93	30	
1,1,2-Trichloroethane	54		"	50.0		108	81-124		0.241	30	
Trichloroethylene	56		"	50.0		112	83-118		0.862	30	
Trichlorofluoromethane	62		"	50.0		124	54-141		4.51	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	61		"	50.0		122	47-160		4.43	30	
Vinyl Chloride	51		"	50.0		103	38-147		3.97	30	
o-Xylene	57		"	50.0		115	81-118		2.36	30	
p- & m- Xylenes	110		"	100		114	80-120		0.741	30	
Surrogate: p-Bromofluorobenzene	*50.6*		*"*	*50.0*		*101*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*56.5*		*"*	*50.0*		*113*	*67-130*				
Surrogate: Toluene-d8	*50.1*		*"*	*50.0*		*100*	*90-112*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40923 - EPA 5035A											
Blank (BI40923-BLK1)								Prepared & Analyzed: 09/18/2014			
Acetone	11	10	ug/kg wet								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
2-Butanone	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
Cyclohexane	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
Ethyl Benzene	ND	5.0	"								
2-Hexanone	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	ND	10	"								
4-Methyl-2-pentanone	ND	5.0	"								
Styrene	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
o-Xylene	ND	5.0	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40923 - EPA 5035A											
Blank (BI40923-BLK1)								Prepared & Analyzed: 09/18/2014			
p- & m- Xylenes	ND	10	ug/kg wet								
Xylenes, Total	ND	15	"								
Surrogate: p-Bromofluorobenzene	*48.5*		*ug/L*	*50.0*		*96.9*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*48.2*		*"*	*50.0*		*96.3*	*67-130*				
Surrogate: Toluene-d8	*50.9*		*"*	*50.0*		*102*	*90-112*				
LCS (BI40923-BS1)								Prepared & Analyzed: 09/18/2014			
Acetone	66		ug/L	50.0		132	32-173				
Benzene	50		"	50.0		99.5	83-126				
Bromochloromethane	50		"	50.0		101	73-128				
Bromodichloromethane	49		"	50.0		97.2	74-126				
Bromoform	54		"	50.0		107	63-137				
Bromomethane	51		"	50.0		101	24-144				
2-Butanone	53		"	50.0		106	58-159				
Carbon disulfide	47		"	50.0		93.7	29-64	High Bias			
Carbon tetrachloride	47		"	50.0		93.9	68-132				
Chlorobenzene	51		"	50.0		102	87-115				
Chloroethane	55		"	50.0		109	39-146				
Chloroform	50		"	50.0		100	84-120				
Chloromethane	50		"	50.0		99.4	35-153				
Cyclohexane	47		"	50.0		93.9	70-130				
1,2-Dibromo-3-chloropropane	53		"	50.0		106	48-152				
Dibromochloromethane	51		"	50.0		101	41-149				
1,2-Dibromoethane	52		"	50.0		104	81-123				
1,2-Dichlorobenzene	53		"	50.0		106	81-117				
1,3-Dichlorobenzene	51		"	50.0		102	84-117				
1,4-Dichlorobenzene	51		"	50.0		101	85-118				
Dichlorodifluoromethane	46		"	50.0		91.1	52-143				
1,1-Dichloroethane	49		"	50.0		97.7	80-125				
1,2-Dichloroethane	51		"	50.0		101	67-129				
1,1-Dichloroethylene	46		"	50.0		92.2	62-136				
trans-1,2-Dichloroethylene	48		"	50.0		95.0	66-136				
cis-1,2-Dichloroethylene	51		"	50.0		103	86-121				
1,2-Dichloropropane	48		"	50.0		96.6	74-127				
trans-1,3-Dichloropropylene	49		"	50.0		98.8	71-128				
cis-1,3-Dichloropropylene	50		"	50.0		99.1	78-122				
1,4-Dioxane	1500		"	1000		146	31-190				
Ethyl Benzene	49		"	50.0		98.1	81-118				
2-Hexanone	56		"	50.0		112	50-154				
Isopropylbenzene	48		"	50.0		95.8	78-122				
Methyl acetate	51		"	50.0		103	41-143				
Methyl tert-butyl ether (MTBE)	51		"	50.0		103	62-140				
Methylcyclohexane	46		"	50.0		91.6	70-130				
Methylene chloride	48		"	50.0		96.3	48-143				
4-Methyl-2-pentanone	51		"	50.0		101	53-149				
Styrene	50		"	50.0		101	85-115				
1,1,2,2-Tetrachloroethane	51		"	50.0		103	72-133				
Tetrachloroethylene	51		"	50.0		102	76-129				
Toluene	47		"	50.0		95.0	85-116				
1,2,4-Trichlorobenzene	51		"	50.0		103	61-158				
1,2,3-Trichlorobenzene	54		"	50.0		108	63-154				
1,1,1-Trichloroethane	47		"	50.0		93.9	74-126				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40923 - EPA 5035A

LCS (BI40923-BS1) — Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,2-Trichloroethane	51		ug/L	50.0		102	81-124				
Trichloroethylene	47		"	50.0		93.3	83-118				
Trichlorofluoromethane	46		"	50.0		92.4	54-141				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46		"	50.0		91.6	47-160				
Vinyl Chloride	47		"	50.0		94.8	38-147				
o-Xylene	49		"	50.0		97.4	81-118				
p- & m- Xylenes	98		"	100		98.3	80-120				
Surrogate: p-Bromofluorobenzene	*49.7*		*"*	*50.0*		*99.3*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*47.5*		*"*	*50.0*		*95.0*	*67-130*				
Surrogate: Toluene-d8	*47.8*		*"*	*50.0*		*95.7*	*90-112*				

LCS Dup (BI40923-BSD1) — Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acetone	67		ug/L	50.0		133	32-173		1.10	30	
Benzene	49		"	50.0		97.5	83-126		2.09	30	
Bromochloromethane	49		"	50.0		97.4	73-128		3.53	30	
Bromodichloromethane	50		"	50.0		100	74-126		3.00	30	
Bromoform	54		"	50.0		107	63-137		0.0747	30	
Bromomethane	48		"	50.0		95.5	24-144		6.05	30	
2-Butanone	51		"	50.0		103	58-159		2.67	30	
Carbon disulfide	47		"	50.0		93.3	29-64	High Bias	0.513	30	
Carbon tetrachloride	47		"	50.0		93.9	68-132		0.0426	30	
Chlorobenzene	52		"	50.0		104	87-115		2.70	30	
Chloroethane	52		"	50.0		104	39-146		4.38	30	
Chloroform	50		"	50.0		99.1	84-120		1.26	30	
Chloromethane	49		"	50.0		97.2	35-153		2.24	30	
Cyclohexane	48		"	50.0		95.2	70-130		1.38	30	
1,2-Dibromo-3-chloropropane	54		"	50.0		108	48-152		1.08	30	
Dibromochloromethane	52		"	50.0		103	41-149		1.96	30	
1,2-Dibromoethane	53		"	50.0		106	81-123		1.89	30	
1,2-Dichlorobenzene	54		"	50.0		107	81-117		1.22	30	
1,3-Dichlorobenzene	52		"	50.0		104	84-117		1.99	30	
1,4-Dichlorobenzene	52		"	50.0		103	85-118		1.66	30	
Dichlorodifluoromethane	44		"	50.0		88.6	52-143		2.76	30	
1,1-Dichloroethane	50		"	50.0		99.9	80-125		2.23	30	
1,2-Dichloroethane	51		"	50.0		103	67-129		1.14	30	
1,1-Dichloroethylene	46		"	50.0		91.6	62-136		0.588	30	
trans-1,2-Dichloroethylene	48		"	50.0		95.3	66-136		0.315	30	
cis-1,2-Dichloroethylene	50		"	50.0		99.9	86-121		3.00	30	
1,2-Dichloropropane	50		"	50.0		100	74-127		3.98	30	
trans-1,3-Dichloropropylene	50		"	50.0		101	71-128		2.16	30	
cis-1,3-Dichloropropylene	50		"	50.0		99.8	78-122		0.664	30	
1,4-Dioxane	1500		"	1000		150	31-190		2.93	30	
Ethyl Benzene	50		"	50.0		100	81-118		2.18	30	
2-Hexanone	58		"	50.0		116	50-154		3.57	30	
Isopropylbenzene	49		"	50.0		98.6	78-122		2.88	30	
Methyl acetate	51		"	50.0		102	41-143		0.684	30	
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	62-140		1.16	30	
Methylcyclohexane	48		"	50.0		96.7	70-130		5.40	30	
Methylene chloride	46		"	50.0		92.9	48-143		3.59	30	
4-Methyl-2-pentanone	53		"	50.0		105	53-149		4.07	30	
Styrene	51		"	50.0		102	85-115		1.07	30	
1,1,2,2-Tetrachloroethane	55		"	50.0		111	72-133		7.21	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40923 - EPA 5035A

LCS Dup (BI40923-BSD1) Prepared & Analyzed: 09/18/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Tetrachloroethylene	52		ug/L	50.0		104	76-129		1.65	30	
Toluene	49		"	50.0		98.1	85-116		3.19	30	
1,2,4-Trichlorobenzene	52		"	50.0		104	61-158		1.07	30	
1,2,3-Trichlorobenzene	56		"	50.0		111	63-154		3.05	30	
1,1,1-Trichloroethane	48		"	50.0		95.6	74-126		1.75	30	
1,1,2-Trichloroethane	52		"	50.0		104	81-124		1.54	30	
Trichloroethylene	49		"	50.0		98.2	83-118		5.14	30	
Trichlorofluoromethane	46		"	50.0		91.7	54-141		0.782	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46		"	50.0		91.2	47-160		0.437	30	
Vinyl Chloride	46		"	50.0		92.3	38-147		2.67	30	
o-Xylene	49		"	50.0		98.4	81-118		1.00	30	
p- & m- Xylenes	100		"	100		102	80-120		3.84	30	
Surrogate: p-Bromofluorobenzene	*50.2*		*"*	*50.0*		*100*	*75-127*				
Surrogate: 1,2-Dichloroethane-d4	*46.4*		*"*	*50.0*		*92.9*	*67-130*				
Surrogate: Toluene-d8	*48.3*		*"*	*50.0*		*96.6*	*90-112*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40724 - EPA 3550C

Blank (BI40724-BLK1) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	ND	167	ug/kg wet								
Acenaphthylene	ND	167	"								
Acetophenone	ND	167	"								
Anthracene	ND	167	"								
Atrazine	ND	167	"								
Benzaldehyde	ND	167	"								
Benzo(a)anthracene	ND	167	"								
Benzo(a)pyrene	ND	167	"								
Benzo(b)fluoranthene	ND	167	"								
Benzo(g,h,i)perylene	ND	167	"								
Benzo(k)fluoranthene	ND	167	"								
Benzyl butyl phthalate	ND	167	"								
1,1'-Biphenyl	ND	167	"								
4-Bromophenyl phenyl ether	ND	167	"								
Caprolactam	ND	167	"								
Carbazole	ND	167	"								
4-Chloro-3-methylphenol	ND	167	"								
4-Chloroaniline	ND	167	"								
Bis(2-chloroethoxy)methane	ND	167	"								
Bis(2-chloroethyl)ether	ND	167	"								
Bis(2-chloroisopropyl)ether	ND	167	"								
2-Chloronaphthalene	ND	167	"								
2-Chlorophenol	ND	167	"								
4-Chlorophenyl phenyl ether	ND	167	"								
Chrysene	ND	167	"								
Dibenzo(a,h)anthracene	ND	167	"								
Dibenzofuran	ND	167	"								
Di-n-butyl phthalate	ND	167	"								
3,3'-Dichlorobenzidine	ND	333	"								
2,4-Dichlorophenol	ND	167	"								
Diethyl phthalate	ND	167	"								
2,4-Dimethylphenol	ND	167	"								
Dimethyl phthalate	ND	167	"								
4,6-Dinitro-2-methylphenol	ND	167	"								
2,4-Dinitrophenol	ND	333	"								
2,4-Dinitrotoluene	ND	167	"								
2,6-Dinitrotoluene	ND	167	"								
Di-n-octyl phthalate	ND	167	"								
Bis(2-ethylhexyl)phthalate	ND	167	"								
Fluoranthene	ND	167	"								
Fluorene	ND	167	"								
Hexachlorobenzene	ND	167	"								
Hexachlorobutadiene	ND	167	"								
Hexachlorocyclopentadiene	ND	167	"								
Hexachloroethane	ND	167	"								
Indeno(1,2,3-cd)pyrene	ND	167	"								
Isophorone	ND	167	"								
2-Methylnaphthalene	ND	167	"								
2-Methylphenol	ND	167	"								
3- & 4-Methylphenols	ND	167	"								
Naphthalene	ND	167	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40724 - EPA 3550C											
Blank (BI40724-BLK1)							Prepared & Analyzed: 09/16/2014				
4-Nitroaniline	ND	167	ug/kg wet								
2-Nitroaniline	ND	167	"								
3-Nitroaniline	ND	167	"								
Nitrobenzene	ND	167	"								
2-Nitrophenol	ND	167	"								
4-Nitrophenol	ND	167	"								
N-nitroso-di-n-propylamine	ND	167	"								
N-Nitrosodiphenylamine	ND	167	"								
Pentachlorophenol	ND	167	"								
Phenanthrene	ND	167	"								
Phenol	ND	167	"								
Pyrene	ND	167	"								
1,2,4,5-Tetrachlorobenzene	ND	167	"								
2,4,6-Trichlorophenol	ND	167	"								
2,4,5-Trichlorophenol	ND	167	"								
Surrogate: 2-Fluorophenol	*2480*		*"*	*2510*		*98.9*	*10-105*				
Surrogate: Phenol-d5	*2480*		*"*	*2510*		*98.7*	*10-118*				
Surrogate: Nitrobenzene-d5	*1520*		*"*	*1670*		*90.6*	*10-140*				
Surrogate: 2-Fluorobiphenyl	*1600*		*"*	*1670*		*96.0*	*10-126*				
Surrogate: 2,4,6-Tribromophenol	*2360*		*"*	*2500*		*94.2*	*10-150*				
Surrogate: Terphenyl-d14	*1760*		*"*	*1670*		*105*	*10-137*				
LCS (BI40724-BS1)							Prepared & Analyzed: 09/16/2014				
Acenaphthene	1550	167	ug/kg wet	1670		92.7	17-124				
Acenaphthylene	1500	167	"	1670		90.2	16-124				
Acetophenone	1120	167	"	1670		67.0	28-105				
Anthracene	1570	167	"	1670		94.4	24-124				
Atrazine	1220	167	"	1670		73.2	22-120				
Benzaldehyde	1380	167	"	1670		82.6	21-100				
Benzo(a)anthracene	1490	167	"	1670		89.7	25-134				
Benzo(a)pyrene	1620	167	"	1670		97.4	29-144				
Benzo(b)fluoranthene	1570	167	"	1670		94.5	20-151				
Benzo(g,h,i)perylene	1830	167	"	1670		110	10-153				
Benzo(k)fluoranthene	1530	167	"	1670		92.1	10-148				
Benzyl butyl phthalate	1510	167	"	1670		90.7	10-132				
1,1'-Biphenyl	1220	167	"	1670		73.2	22-103				
4-Bromophenyl phenyl ether	1490	167	"	1670		89.3	30-138				
Caprolactam	1090	167	"	1670		65.4	10-123				
Carbazole	1510	167	"	1670		90.6	31-120				
4-Chloro-3-methylphenol	1450	167	"	1670		86.7	16-138				
4-Chloroaniline	1380	167	"	1670		82.6	10-117				
Bis(2-chloroethoxy)methane	1530	167	"	1670		91.5	10-129				
Bis(2-chloroethyl)ether	1350	167	"	1670		80.8	14-125				
Bis(2-chloroisopropyl)ether	1580	167	"	1670		94.8	14-122				
2-Chloronaphthalene	1560	167	"	1670		93.8	22-115				
2-Chlorophenol	1330	167	"	1670		79.8	25-121				
4-Chlorophenyl phenyl ether	1530	167	"	1670		91.8	18-132				
Chrysene	1550	167	"	1670		93.1	24-116				
Dibenzo(a,h)anthracene	1680	167	"	1670		101	17-147				
Dibenzofuran	1510	167	"	1670		90.7	23-123				
Di-n-butyl phthalate	1530	167	"	1670		91.9	19-123				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40724 - EPA 3550C

LCS (BI40724-BS1) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
3,3'-Dichlorobenzidine	1730	333	ug/kg wet	1670		104	10-147				
2,4-Dichlorophenol	1410	167	"	1670		84.8	23-133				
Diethyl phthalate	1540	167	"	1670		92.4	23-122				
2,4-Dimethylphenol	1350	167	"	1670		80.9	15-131				
Dimethyl phthalate	1640	167	"	1670		98.5	28-127				
4,6-Dinitro-2-methylphenol	1550	167	"	1670		92.7	10-149				
2,4-Dinitrophenol	1570	333	"	1670		94.4	10-149				
2,4-Dinitrotoluene	1710	167	"	1670		102	30-123				
2,6-Dinitrotoluene	1560	167	"	1670		93.7	30-125				
Di-n-octyl phthalate	1520	167	"	1670		91.5	10-132				
Bis(2-ethylhexyl)phthalate	1750	167	"	1670		105	10-141				
Fluoranthene	1550	167	"	1670		93.2	36-125				
Fluorene	1570	167	"	1670		94.0	16-130				
Hexachlorobenzene	1460	167	"	1670		87.7	10-129				
Hexachlorobutadiene	1410	167	"	1670		84.5	22-153				
Hexachlorocyclopentadiene	1440	167	"	1670		86.5	10-134				
Hexachloroethane	1400	167	"	1670		84.1	20-112				
Indeno(1,2,3-cd)pyrene	1680	167	"	1670		101	10-155				
Isophorone	1410	167	"	1670		84.7	14-131				
2-Methylnaphthalene	1480	167	"	1670		88.7	16-127				
2-Methylphenol	1280	167	"	1670		76.6	10-146				
3- & 4-Methylphenols	1230	167	"	1670		74.1	20-109				
Naphthalene	1560	167	"	1670		93.4	20-121				
4-Nitroaniline	1560	167	"	1670		93.4	14-125				
2-Nitroaniline	1580	167	"	1670		95.0	24-126				
3-Nitroaniline	1510	167	"	1670		90.9	23-123				
Nitrobenzene	1360	167	"	1670		81.4	20-121				
2-Nitrophenol	1370	167	"	1670		82.0	17-129				
4-Nitrophenol	1300	167	"	1670		77.9	10-136				
N-nitroso-di-n-propylamine	1400	167	"	1670		83.8	21-119				
N-Nitrosodiphenylamine	1680	167	"	1670		101	10-163				
Pentachlorophenol	1320	167	"	1670		79.0	10-143				
Phenanthrene	1630	167	"	1670		98.0	24-123				
Phenol	1250	167	"	1670		74.8	15-123				
Pyrene	1540	167	"	1670		92.4	24-132				
1,2,4,5-Tetrachlorobenzene	1320	167	"	1670		79.0	10-144				
2,4,6-Trichlorophenol	1380	167	"	1670		83.0	27-122				
2,4,5-Trichlorophenol	1380	167	"	1670		83.0	14-138				
Surrogate: 2-Fluorophenol	*2170*		"	*2510*		*86.4*	*10-105*				
Surrogate: Phenol-d5	*2160*		"	*2510*		*86.3*	*10-118*				
Surrogate: Nitrobenzene-d5	*1340*		"	*1670*		*79.8*	*10-140*				
Surrogate: 2-Fluorobiphenyl	*1440*		"	*1670*		*86.3*	*10-126*				
Surrogate: 2,4,6-Tribromophenol	*2090*		"	*2500*		*83.4*	*30-130*				
Surrogate: Terphenyl-d14	*1380*		"	*1670*		*82.3*	*10-137*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BI40724 - EPA 3550C

Matrix Spike (BI40724-MS1) *Source sample: 14I0505-03 (RSB/MW-15/14-15) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	1900	197	ug/kg dry	1970	ND	96.6	13-133				
Acenaphthylene	1810	197	"	1970	ND	92.1	25-125				
Acetophenone	1150	197	"	1970	ND	58.4	25-105				
Anthracene	1920	197	"	1970	ND	97.5	27-128				
Atrazine	1330	197	"	1970	ND	67.6	10-139				
Benzaldehyde	1460	197	"	1970	ND	74.2	24-96				
Benzo(a)anthracene	1820	197	"	1970	ND	92.6	20-147				
Benzo(a)pyrene	1990	197	"	1970	ND	101	18-153				
Benzo(b)fluoranthene	1490	197	"	1970	ND	75.5	10-163				
Benzo(g,h,i)perylene	2090	197	"	1970	ND	106	10-157				
Benzo(k)fluoranthene	1860	197	"	1970	ND	94.8	10-157				
Benzyl butyl phthalate	1830	197	"	1970	ND	93.2	10-129				
1,1'-Biphenyl	1350	197	"	1970	ND	68.4	24-112				
4-Bromophenyl phenyl ether	1830	197	"	1970	ND	92.9	32-148				
Caprolactam	1280	197	"	1970	ND	65.1	10-100				
Carbazole	1860	197	"	1970	ND	94.4	24-139				
4-Chloro-3-methylphenol	1800	197	"	1970	ND	91.5	14-138				
4-Chloroaniline	1740	197	"	1970	ND	88.3	10-124				
Bis(2-chloroethoxy)methane	1840	197	"	1970	ND	93.3	12-128				
Bis(2-chloroethyl)ether	1650	197	"	1970	ND	83.7	18-113				
Bis(2-chloroisopropyl)ether	1730	197	"	1970	ND	87.7	10-130				
2-Chloronaphthalene	1890	197	"	1970	ND	95.9	31-116				
2-Chlorophenol	1600	197	"	1970	ND	81.1	28-114				
4-Chlorophenyl phenyl ether	1900	197	"	1970	ND	96.7	10-153				
Chrysene	1910	197	"	1970	ND	96.9	18-133				
Dibenzo(a,h)anthracene	2040	197	"	1970	ND	104	10-146				
Dibenzofuran	1830	197	"	1970	ND	93.1	26-134				
Di-n-butyl phthalate	1860	197	"	1970	ND	94.5	20-128				
3,3'-Dichlorobenzidine	2080	393	"	1970	ND	106	10-134				
2,4-Dichlorophenol	1730	197	"	1970	ND	88.1	16-144				
Diethyl phthalate	1870	197	"	1970	ND	95.0	30-119				
2,4-Dimethylphenol	1660	197	"	1970	ND	84.5	11-133				
Dimethyl phthalate	2010	197	"	1970	ND	102	34-120				
4,6-Dinitro-2-methylphenol	2000	197	"	1970	ND	102	10-149				
2,4-Dinitrophenol	2150	394	"	1970	ND	109	10-132				
2,4-Dinitrotoluene	2110	197	"	1970	440	84.8	42-113				
2,6-Dinitrotoluene	1950	197	"	1970	ND	99.3	36-124				
Di-n-octyl phthalate	1860	197	"	1970	ND	94.6	10-133				
Bis(2-ethylhexyl)phthalate	2130	197	"	1970	ND	108	10-138				
Fluoranthene	1900	197	"	1970	ND	96.5	10-155				
Fluorene	1910	197	"	1970	ND	97.3	12-150				
Hexachlorobenzene	1860	197	"	1970	ND	94.4	16-142				
Hexachlorobutadiene	1630	197	"	1970	ND	82.7	11-150				
Hexachlorocyclopentadiene	1710	197	"	1970	ND	86.8	10-115				
Hexachloroethane	1470	197	"	1970	ND	74.7	14-106				
Indeno(1,2,3-cd)pyrene	2000	197	"	1970	ND	101	10-155				
Isophorone	1730	197	"	1970	ND	88.1	14-127				
2-Methylnaphthalene	1780	197	"	1970	ND	90.2	10-143				
2-Methylphenol	1510	197	"	1970	ND	76.5	10-160				
3- & 4-Methylphenols	1440	197	"	1970	ND	73.2	16-115				
Naphthalene	1840	197	"	1970	ND	93.3	15-132				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40724 - EPA 3550C											
Matrix Spike (BI40724-MS1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)						Prepared & Analyzed: 09/16/2014				
4-Nitroaniline	1990	197	ug/kg dry	1970	ND	101	10-151				
2-Nitroaniline	2000	197	"	1970	ND	102	33-122				
3-Nitroaniline	1890	197	"	1970	ND	96.1	24-128				
Nitrobenzene	1560	197	"	1970	ND	79.3	18-125				
2-Nitrophenol	1670	197	"	1970	ND	84.6	12-127				
4-Nitrophenol	1760	197	"	1970	ND	89.6	10-141				
N-nitroso-di-n-propylamine	1580	197	"	1970	ND	80.2	23-115				
N-Nitrosodiphenylamine	2030	197	"	1970	ND	103	16-166				
Pentachlorophenol	1710	197	"	1970	ND	86.7	10-160				
Phenanthrene	2000	197	"	1970	ND	101	10-151				
Phenol	1520	197	"	1970	ND	77.0	11-124				
Pyrene	1890	197	"	1970	ND	96.3	13-148				
1,2,4,5-Tetrachlorobenzene	1610	197	"	1970	ND	81.6	18-152				
2,4,6-Trichlorophenol	1730	197	"	1970	ND	88.1	12-138				
2,4,5-Trichlorophenol	1720	197	"	1970	ND	87.5	10-148				
Surrogate: 2-Fluorophenol	*2710*		*"*	*2960*		*91.7*	*10-105*				
Surrogate: Phenol-d5	*2700*		*"*	*2960*		*91.3*	*10-118*				
Surrogate: Nitrobenzene-d5	*1560*		*"*	*1980*		*79.2*	*10-140*				
Surrogate: 2-Fluorobiphenyl	*1770*		*"*	*1970*		*89.9*	*10-126*				
Surrogate: 2,4,6-Tribromophenol	*2730*		*"*	*2960*		*92.5*	*30-130*				
Surrogate: Terphenyl-d14	*1750*		*"*	*1980*		*88.8*	*10-137*				
Matrix Spike Dup (BI40724-MSD1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)						Prepared & Analyzed: 09/16/2014				
Acenaphthene	1820	197	ug/kg dry	1970	ND	92.3	13-133		4.55	30	
Acenaphthylene	1740	197	"	1970	ND	88.3	25-125		4.28	30	
Acetophenone	1040	197	"	1970	ND	53.1	25-105		9.58	30	
Anthracene	1860	197	"	1970	ND	94.3	27-128		3.38	30	
Atrazine	1160	197	"	1970	ND	59.1	10-139		13.4	30	
Benzaldehyde	1300	197	"	1970	ND	66.0	24-96		11.8	30	
Benzo(a)anthracene	1760	197	"	1970	ND	89.4	20-147		3.50	30	
Benzo(a)pyrene	1890	197	"	1970	ND	96.3	18-153		5.06	30	
Benzo(b)fluoranthene	1660	197	"	1970	ND	84.3	10-163		11.1	30	
Benzo(g,h,i)perylene	1910	197	"	1970	ND	96.9	10-157		9.25	30	
Benzo(k)fluoranthene	2040	197	"	1970	ND	104	10-157		8.97	30	
Benzyl butyl phthalate	1770	197	"	1970	ND	89.9	10-129		3.56	30	
1,1'-Biphenyl	1180	197	"	1970	ND	60.1	24-112		12.9	30	
4-Bromophenyl phenyl ether	1760	197	"	1970	ND	89.4	32-148		3.77	30	
Caprolactam	1080	197	"	1970	ND	54.8	10-100		17.2	30	
Carbazole	1790	197	"	1970	ND	90.7	24-139		3.98	30	
4-Chloro-3-methylphenol	1720	197	"	1970	ND	87.3	14-138		4.76	30	
4-Chloroaniline	1710	197	"	1970	ND	86.9	10-124		1.64	30	
Bis(2-chloroethoxy)methane	1820	197	"	1970	ND	92.7	12-128		0.581	30	
Bis(2-chloroethyl)ether	1560	197	"	1970	ND	79.5	18-113		5.20	30	
Bis(2-chloroisopropyl)ether	1750	197	"	1970	ND	88.8	10-130		1.25	30	
2-Chloronaphthalene	1810	197	"	1970	ND	92.1	31-116		4.09	30	
2-Chlorophenol	1500	197	"	1970	ND	76.1	28-114		6.29	30	
4-Chlorophenyl phenyl ether	1810	197	"	1970	ND	91.7	10-153		5.24	30	
Chrysene	1810	197	"	1970	ND	92.2	18-133		4.99	30	
Dibenzo(a,h)anthracene	1890	197	"	1970	ND	96.1	10-146		7.76	30	
Dibenzofuran	1760	197	"	1970	ND	89.4	26-134		4.01	30	
Di-n-butyl phthalate	1790	197	"	1970	ND	91.1	20-128		3.64	30	

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40724 - EPA 3550C

Matrix Spike Dup (BI40724-MSD1) *Source sample: 14I0505-03 (RSB/MW-15/14-15) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
3,3'-Dichlorobenzidine	2030	393	ug/kg dry	1970	ND	103	10-134		2.37	30	
2,4-Dichlorophenol	1730	197	"	1970	ND	87.9	16-144		0.159	30	
Diethyl phthalate	1790	197	"	1970	ND	90.9	30-119		4.35	30	
2,4-Dimethylphenol	1690	197	"	1970	ND	86.0	11-133		1.74	30	
Dimethyl phthalate	1900	197	"	1970	ND	96.8	34-120		5.33	30	
4,6-Dinitro-2-methylphenol	1940	197	"	1970	ND	98.7	10-149		2.97	30	
2,4-Dinitrophenol	2100	394	"	1970	ND	107	10-132		2.32	30	
2,4-Dinitrotoluene	2020	197	"	1970	440	80.1	42-113		4.45	30	
2,6-Dinitrotoluene	1860	197	"	1970	ND	94.6	36-124		4.89	30	
Di-n-octyl phthalate	1770	197	"	1970	ND	89.8	10-133		5.18	30	
Bis(2-ethylhexyl)phthalate	2040	197	"	1970	ND	104	10-138		4.33	30	
Fluoranthene	1820	197	"	1970	ND	92.4	10-155		4.40	30	
Fluorene	1830	197	"	1970	ND	93.2	12-150		4.26	30	
Hexachlorobenzene	1780	197	"	1970	ND	90.7	16-142		4.02	30	
Hexachlorobutadiene	1570	197	"	1970	ND	79.7	11-150		3.64	30	
Hexachlorocyclopentadiene	1570	197	"	1970	ND	79.9	10-115		8.23	30	
Hexachloroethane	1480	197	"	1970	ND	75.2	14-106		0.668	30	
Indeno(1,2,3-cd)pyrene	1840	197	"	1970	ND	93.5	10-155		8.12	30	
Isophorone	1740	197	"	1970	ND	88.3	14-127		0.181	30	
2-Methylnaphthalene	1700	197	"	1970	ND	86.4	10-143		4.32	30	
2-Methylphenol	1450	197	"	1970	ND	73.7	10-160		3.73	30	
3- & 4-Methylphenols	1440	197	"	1970	ND	73.0	16-115		0.356	30	
Naphthalene	1760	197	"	1970	ND	89.5	15-132		4.14	30	
4-Nitroaniline	1920	197	"	1970	ND	97.6	10-151		3.34	30	
2-Nitroaniline	1900	197	"	1970	ND	96.5	33-122		5.25	30	
3-Nitroaniline	1810	197	"	1970	ND	92.1	24-128		4.29	30	
Nitrobenzene	1560	197	"	1970	ND	79.2	18-125		0.151	30	
2-Nitrophenol	1660	197	"	1970	ND	84.6	12-127		0.0709	30	
4-Nitrophenol	1650	197	"	1970	ND	83.9	10-141		6.50	30	
N-nitroso-di-n-propylamine	1590	197	"	1970	ND	80.7	23-115		0.596	30	
N-Nitrosodiphenylamine	1960	197	"	1970	ND	99.7	16-166		3.56	30	
Pentachlorophenol	1640	197	"	1970	ND	83.3	10-160		3.95	30	
Phenanthrene	1910	197	"	1970	ND	97.0	10-151		4.48	30	
Phenol	1420	197	"	1970	ND	72.0	11-124		6.68	30	
Pyrene	1830	197	"	1970	ND	92.8	13-148		3.62	30	
1,2,4,5-Tetrachlorobenzene	1510	197	"	1970	ND	76.8	18-152		6.01	30	
2,4,6-Trichlorophenol	1660	197	"	1970	ND	84.1	12-138		4.64	30	
2,4,5-Trichlorophenol	1660	197	"	1970	ND	84.2	10-148		3.77	30	
Surrogate: 2-Fluorophenol	*2630*		*"*	*2960*		*88.8*	*10-105*				
Surrogate: Phenol-d5	*2640*		*"*	*2960*		*89.1*	*10-118*				
Surrogate: Nitrobenzene-d5	*1610*		*"*	*1980*		*81.6*	*10-140*				
Surrogate: 2-Fluorobiphenyl	*1740*		*"*	*1970*		*88.5*	*10-126*				
Surrogate: 2,4,6-Tribromophenol	*2730*		*"*	*2960*		*92.2*	*30-130*				
Surrogate: Terphenyl-d14	*1750*		*"*	*1980*		*88.4*	*10-137*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40731 - EPA 3510C

Blank (BI40731-BLK1) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units
Acenaphthene	ND	0.0500	ug/L
Acenaphthylene	ND	0.0500	"
Acetophenone	ND	5.00	"
Anthracene	ND	0.0500	"
Atrazine	ND	0.500	"
Benzaldehyde	ND	5.00	"
Benzo(a)anthracene	ND	0.0500	"
Benzo(a)pyrene	ND	0.0500	"
Benzo(b)fluoranthene	ND	0.0500	"
Benzo(g,h,i)perylene	ND	0.0500	"
Benzo(k)fluoranthene	ND	0.0500	"
Benzyl butyl phthalate	ND	5.00	"
1,1'-Biphenyl	ND	5.00	"
4-Bromophenyl phenyl ether	ND	5.00	"
Caprolactam	ND	5.00	"
Carbazole	ND	5.00	"
4-Chloro-3-methylphenol	ND	5.00	"
4-Chloroaniline	ND	5.00	"
Bis(2-chloroethoxy)methane	ND	5.00	"
Bis(2-chloroethyl)ether	ND	5.00	"
Bis(2-chloroisopropyl)ether	ND	5.00	"
2-Chloronaphthalene	ND	5.00	"
2-Chlorophenol	ND	5.00	"
4-Chlorophenyl phenyl ether	ND	5.00	"
Chrysene	ND	0.0500	"
Dibenzo(a,h)anthracene	ND	0.0500	"
Dibenzofuran	ND	5.00	"
Di-n-butyl phthalate	ND	5.00	"
3,3'-Dichlorobenzidine	ND	5.00	"
2,4-Dichlorophenol	ND	5.00	"
Diethyl phthalate	ND	5.00	"
2,4-Dimethylphenol	ND	5.00	"
Dimethyl phthalate	ND	5.00	"
4,6-Dinitro-2-methylphenol	ND	5.00	"
2,4-Dinitrophenol	ND	5.00	"
2,4-Dinitrotoluene	ND	5.00	"
2,6-Dinitrotoluene	ND	5.00	"
Di-n-octyl phthalate	ND	5.00	"
Bis(2-ethylhexyl)phthalate	ND	0.500	"
Fluoranthene	ND	0.0500	"
Fluorene	ND	0.0500	"
Hexachlorobenzene	ND	0.0200	"
Hexachlorobutadiene	ND	0.500	"
Hexachlorocyclopentadiene	ND	5.00	"
Hexachloroethane	ND	0.500	"
Indeno(1,2,3-cd)pyrene	ND	0.0500	"
Isophorone	ND	5.00	"
2-Methylnaphthalene	ND	5.00	"
2-Methylphenol	ND	5.00	"
3- & 4-Methylphenols	ND	5.00	"
Naphthalene	ND	0.0500	"

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40731 - EPA 3510C											
Blank (BI40731-BLK1)								Prepared & Analyzed: 09/16/2014			
3-Nitroaniline	ND	5.00	ug/L								
4-Nitroaniline	ND	5.00	"								
2-Nitroaniline	ND	5.00	"								
Nitrobenzene	ND	0.250	"								
4-Nitrophenol	ND	5.00	"								
2-Nitrophenol	ND	5.00	"								
N-nitroso-di-n-propylamine	ND	5.00	"								
N-Nitrosodiphenylamine	ND	5.00	"								
Pentachlorophenol	ND	0.250	"								
Phenanthrene	ND	0.0500	"								
Phenol	ND	5.00	"								
Pyrene	ND	0.0500	"								
1,2,4,5-Tetrachlorobenzene	ND	5.00	"								
2,4,6-Trichlorophenol	ND	5.00	"								
2,4,5-Trichlorophenol	ND	5.00	"								
Surrogate: 2-Fluorophenol	*67.7*		*"*	*75.2*		*90.0*	*10-53*				
Surrogate: Phenol-d5	*66.5*		*"*	*75.2*		*88.5*	*10-39*				
Surrogate: Nitrobenzene-d5	*47.5*		*"*	*50.2*		*94.6*	*10-120*				
Surrogate: 2-Fluorobiphenyl	*40.7*		*"*	*50.0*		*81.4*	*10-108*				
Surrogate: 2,4,6-Tribromophenol	*54.6*		*"*	*75.1*		*72.7*	*10-150*				
Surrogate: Terphenyl-d14	*42.2*		*"*	*50.2*		*84.0*	*10-143*				
LCS (BI40731-BS1)								Prepared & Analyzed: 09/16/2014			
Acenaphthene	53.8	0.0500	ug/L	50.0		108	24-114				
Acenaphthylene	51.3	0.0500	"	50.0		103	26-112				
Acetophenone	35.1	5.00	"	50.0		70.1	47-92				
Anthracene	53.0	0.0500	"	50.0		106	35-114				
Atrazine	41.0	0.500	"	50.0		82.1	43-101				
Benzaldehyde	33.5	5.00	"	50.0		66.9	17-117				
Benzo(a)anthracene	47.7	0.0500	"	50.0		95.4	38-127				
Benzo(a)pyrene	47.8	0.0500	"	50.0		95.5	30-146				
Benzo(b)fluoranthene	52.2	0.0500	"	50.0		104	36-145				
Benzo(g,h,i)perylene	45.5	0.0500	"	50.0		90.9	10-163				
Benzo(k)fluoranthene	50.2	0.0500	"	50.0		100	16-149				
Benzyl butyl phthalate	48.6	5.00	"	50.0		97.2	28-129				
1,1'-Biphenyl	38.4	5.00	"	50.0		76.7	21-102				
4-Bromophenyl phenyl ether	49.0	5.00	"	50.0		98.0	38-116				
Caprolactam	40.8	5.00	"	50.0		81.7	10-29	High Bias			
Carbazole	49.5	5.00	"	50.0		98.9	49-116				
4-Chloro-3-methylphenol	52.2	5.00	"	50.0		104	28-101	High Bias			
4-Chloroaniline	38.9	5.00	"	50.0		77.9	10-154				
Bis(2-chloroethoxy)methane	55.8	5.00	"	50.0		112	27-112				
Bis(2-chloroethyl)ether	47.8	5.00	"	50.0		95.5	24-114				
Bis(2-chloroisopropyl)ether	65.2	5.00	"	50.0		130	21-124	High Bias			
2-Chloronaphthalene	50.1	5.00	"	50.0		100	40-96	High Bias			
2-Chlorophenol	41.6	5.00	"	50.0		83.1	35-84				
4-Chlorophenyl phenyl ether	53.2	5.00	"	50.0		106	34-112				
Chrysene	51.3	0.0500	"	50.0		103	33-120				
Dibenzo(a,h)anthracene	46.6	0.0500	"	50.0		93.1	10-149				
Dibenzofuran	49.8	5.00	"	50.0		99.7	42-105				
Di-n-butyl phthalate	48.9	5.00	"	50.0		97.8	36-110				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40731 - EPA 3510C											
LCS (BI40731-BS1)							Prepared & Analyzed: 09/16/2014				
3,3'-Dichlorobenzidine	53.8	5.00	ug/L	50.0		108	25-155				
2,4-Dichlorophenol	50.2	5.00	"	50.0		100	43-92	High Bias			
Diethyl phthalate	51.6	5.00	"	50.0		103	38-112				
2,4-Dimethylphenol	49.8	5.00	"	50.0		99.6	25-92	High Bias			
Dimethyl phthalate	49.2	5.00	"	50.0		98.3	49-106				
4,6-Dinitro-2-methylphenol	53.7	5.00	"	50.0		107	10-135				
2,4-Dinitrophenol	57.5	5.00	"	50.0		115	10-149				
2,4-Dinitrotoluene	53.0	5.00	"	50.0		106	41-114				
2,6-Dinitrotoluene	52.5	5.00	"	50.0		105	49-106				
Di-n-octyl phthalate	50.4	5.00	"	50.0		101	12-149				
Bis(2-ethylhexyl)phthalate	52.2	0.500	"	50.0		104	10-171				
Fluoranthene	50.5	0.0500	"	50.0		101	33-126				
Fluorene	56.8	0.0500	"	50.0		114	28-117				
Hexachlorobenzene	49.1	0.0200	"	50.0		98.2	27-120				
Hexachlorobutadiene	52.5	0.500	"	50.0		105	25-106				
Hexachlorocyclopentadiene	46.6	5.00	"	50.0		93.2	10-99				
Hexachloroethane	46.2	0.500	"	50.0		92.5	33-84	High Bias			
Indeno(1,2,3-cd)pyrene	45.0	0.0500	"	50.0		90.0	10-150				
Isophorone	51.9	5.00	"	50.0		104	29-115				
2-Methylnaphthalene	57.4	5.00	"	50.0		115	33-101	High Bias			
2-Methylphenol	45.4	5.00	"	50.0		90.8	10-90	High Bias			
3- & 4-Methylphenols	41.0	5.00	"	50.0		82.0	10-101				
Naphthalene	55.5	0.0500	"	50.0		111	30-99	High Bias			
3-Nitroaniline	45.2	5.00	"	50.0		90.5	29-128				
4-Nitroaniline	45.7	5.00	"	50.0		91.3	15-143				
2-Nitroaniline	45.9	5.00	"	50.0		91.8	31-122				
Nitrobenzene	54.9	0.250	"	50.0		110	32-113				
4-Nitrophenol	49.2	5.00	"	50.0		98.5	10-112				
2-Nitrophenol	47.4	5.00	"	50.0		94.7	37-97				
N-nitroso-di-n-propylamine	48.5	5.00	"	50.0		97.0	36-118				
N-Nitrosodiphenylamine	61.2	5.00	"	50.0		122	27-145				
Pentachlorophenol	56.2	0.250	"	50.0		112	19-127				
Phenanthrene	55.3	0.0500	"	50.0		111	31-112				
Phenol	50.5	5.00	"	50.0		101	10-37	High Bias			
Pyrene	51.0	0.0500	"	50.0		102	42-125				
1,2,4,5-Tetrachlorobenzene	38.6	5.00	"	50.0		77.1	28-105				
2,4,6-Trichlorophenol	44.0	5.00	"	50.0		88.0	41-107				
2,4,5-Trichlorophenol	43.7	5.00	"	50.0		87.4	36-112				
Surrogate: 2-Fluorophenol	*73.9*		"	*75.2*		*98.3*	*10-53*				
Surrogate: Phenol-d5	*81.6*		"	*75.2*		*109*	*10-39*				
Surrogate: Nitrobenzene-d5	*51.9*		"	*50.2*		*103*	*10-120*				
Surrogate: 2-Fluorobiphenyl	*48.5*		"	*50.0*		*97.0*	*10-108*				
Surrogate: 2,4,6-Tribromophenol	*71.2*		"	*75.1*		*94.9*	*10-150*				
Surrogate: Terphenyl-d14	*45.6*		"	*50.2*		*90.7*	*10-143*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40731 - EPA 3510C

LCS (BI40731-BS2) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	0.800	0.0500	ug/L	1.00		80.0	24-114				
Acenaphthylene	0.880	0.0500	"	1.00		88.0	26-112				
Acetophenone	ND	5.00	"				47-92				
Anthracene	0.660	0.0500	"	1.00		66.0	35-114				
Atrazine	ND	0.500	"				43-101				
Benzaldehyde	ND	5.00	"				17-117				
Benzo(a)anthracene	0.870	0.0500	"	1.00		87.0	38-127				
Benzo(a)pyrene	0.870	0.0500	"	1.00		87.0	30-146				
Benzo(b)fluoranthene	1.16	0.0500	"	1.00		116	36-145				
Benzo(g,h,i)perylene	1.03	0.0500	"	1.00		103	10-163				
Benzo(k)fluoranthene	0.720	0.0500	"	1.00		72.0	16-149				
Benzyl butyl phthalate	ND	5.00	"				28-129				
1,1'-Biphenyl	ND	5.00	"				21-102				
4-Bromophenyl phenyl ether	ND	5.00	"				38-116				
Caprolactam	ND	5.00	"				10-29				
Carbazole	ND	5.00	"				49-116				
4-Chloro-3-methylphenol	ND	5.00	"				28-101				
4-Chloroaniline	ND	5.00	"				10-154				
Bis(2-chloroethoxy)methane	ND	5.00	"				27-112				
Bis(2-chloroethyl)ether	ND	5.00	"				24-114				
Bis(2-chloroisopropyl)ether	ND	5.00	"				21-124				
2-Chloronaphthalene	ND	5.00	"				40-96				
2-Chlorophenol	ND	5.00	"				35-84				
4-Chlorophenyl phenyl ether	ND	5.00	"				34-112				
Chrysene	0.780	0.0500	"	1.00		78.0	33-120				
Dibenzo(a,h)anthracene	1.07	0.0500	"	1.00		107	10-149				
Dibenzofuran	ND	5.00	"				42-105				
Di-n-butyl phthalate	ND	5.00	"				36-110				
3,3'-Dichlorobenzidine	ND	5.00	"				25-155				
2,4-Dichlorophenol	ND	5.00	"				43-92				
Diethyl phthalate	ND	5.00	"				38-112				
2,4-Dimethylphenol	ND	5.00	"				25-92				
Dimethyl phthalate	ND	5.00	"				49-106				
4,6-Dinitro-2-methylphenol	ND	5.00	"				10-135				
2,4-Dinitrophenol	ND	5.00	"				10-149				
2,4-Dinitrotoluene	ND	5.00	"				41-114				
2,6-Dinitrotoluene	ND	5.00	"				49-106				
Di-n-octyl phthalate	ND	5.00	"				12-149				
Bis(2-ethylhexyl)phthalate	ND	0.500	"				10-171				
Fluoranthene	1.01	0.0500	"	1.00		101	33-126				
Fluorene	0.920	0.0500	"	1.00		92.0	28-117				
Hexachlorobenzene	ND	0.0200	"				27-120				
Hexachlorobutadiene	ND	0.500	"				25-106				
Hexachlorocyclopentadiene	ND	5.00	"				10-99				
Hexachloroethane	ND	0.500	"				33-84				
Indeno(1,2,3-cd)pyrene	1.07	0.0500	"	1.00		107	10-150				
Isophorone	ND	5.00	"				29-115				
2-Methylnaphthalene	ND	5.00	"				33-101				
2-Methylphenol	ND	5.00	"				10-90				
3- & 4-Methylphenols	ND	5.00	"				10-101				
Naphthalene	1.01	0.0500	"	1.00		101	30-99	High Bias			

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BI40731 - EPA 3510C

LCS (BI40731-BS2) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
3-Nitroaniline	ND	5.00	ug/L				29-128				
4-Nitroaniline	ND	5.00	"				15-143				
2-Nitroaniline	ND	5.00	"				31-122				
Nitrobenzene	ND	0.250	"				32-113				
4-Nitrophenol	ND	5.00	"				10-112				
2-Nitrophenol	ND	5.00	"				37-97				
N-nitroso-di-n-propylamine	ND	5.00	"				36-118				
N-Nitrosodiphenylamine	ND	5.00	"				27-145				
Pentachlorophenol	ND	0.250	"				19-127				
Phenanthrene	0.800	0.0500	"	1.00		80.0	31-112				
Phenol	ND	5.00	"				10-37				
Pyrene	0.760	0.0500	"	1.00		76.0	42-125				
1,2,4,5-Tetrachlorobenzene	ND	5.00	"				28-105				
2,4,6-Trichlorophenol	ND	5.00	"				41-107				
2,4,5-Trichlorophenol	ND	5.00	"				36-112				

LCS Dup (BI40731-BSD1) Prepared & Analyzed: 09/16/2014

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	48.2	0.0500	ug/L	50.0		96.4	24-114		11.1	20	
Acenaphthylene	46.0	0.0500	"	50.0		92.1	26-112		10.8	20	
Acetophenone	32.8	5.00	"	50.0		65.6	47-92		6.72	20	
Anthracene	48.7	0.0500	"	50.0		97.5	35-114		8.43	20	
Atrazine	38.3	0.500	"	50.0		76.7	43-101		6.83	20	
Benzaldehyde	32.0	5.00	"	50.0		63.9	17-117		4.55	20	
Benzo(a)anthracene	44.3	0.0500	"	50.0		88.5	38-127		7.50	20	
Benzo(a)pyrene	44.0	0.0500	"	50.0		88.0	30-146		8.20	20	
Benzo(b)fluoranthene	48.0	0.0500	"	50.0		96.1	36-145		8.24	20	
Benzo(g,h,i)perylene	42.4	0.0500	"	50.0		84.9	10-163		6.85	20	
Benzo(k)fluoranthene	49.4	0.0500	"	50.0		98.9	16-149		1.51	20	
Benzyl butyl phthalate	44.8	5.00	"	50.0		89.7	28-129		8.01	20	
1,1'-Biphenyl	35.8	5.00	"	50.0		71.6	21-102		6.99	20	
4-Bromophenyl phenyl ether	45.8	5.00	"	50.0		91.5	38-116		6.88	20	
Caprolactam	37.3	5.00	"	50.0		74.6	10-29	High Bias	9.06	20	
Carbazole	45.8	5.00	"	50.0		91.6	49-116		7.75	20	
4-Chloro-3-methylphenol	45.6	5.00	"	50.0		91.2	28-101		13.6	20	
4-Chloroaniline	35.5	5.00	"	50.0		71.0	10-154		9.24	20	
Bis(2-chloroethoxy)methane	48.6	5.00	"	50.0		97.3	27-112		13.7	20	
Bis(2-chloroethyl)ether	46.7	5.00	"	50.0		93.4	24-114		2.29	20	
Bis(2-chloroisopropyl)ether	57.8	5.00	"	50.0		116	21-124		12.0	20	
2-Chloronaphthalene	45.1	5.00	"	50.0		90.2	40-96		10.5	20	
2-Chlorophenol	37.2	5.00	"	50.0		74.5	35-84		10.9	20	
4-Chlorophenyl phenyl ether	47.5	5.00	"	50.0		95.0	34-112		11.3	20	
Chrysene	46.5	0.0500	"	50.0		93.0	33-120		9.79	20	
Dibenzo(a,h)anthracene	43.4	0.0500	"	50.0		86.7	10-149		7.12	20	
Dibenzofuran	45.0	5.00	"	50.0		89.9	42-105		10.3	20	
Di-n-butyl phthalate	44.9	5.00	"	50.0		89.7	36-110		8.58	20	
3,3'-Dichlorobenzidine	50.0	5.00	"	50.0		100	25-155		7.15	20	
2,4-Dichlorophenol	45.5	5.00	"	50.0		91.0	43-92		9.85	20	
Diethyl phthalate	46.4	5.00	"	50.0		92.7	38-112		10.6	20	
2,4-Dimethylphenol	44.0	5.00	"	50.0		88.1	25-92		12.3	20	
Dimethyl phthalate	44.1	5.00	"	50.0		88.2	49-106		10.8	20	
4,6-Dinitro-2-methylphenol	50.3	5.00	"	50.0		101	10-135		6.52	20	
2,4-Dinitrophenol	53.4	5.00	"	50.0		107	10-149		7.40	20	

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40731 - EPA 3510C											
LCS Dup (BI40731-BSD1)							Prepared & Analyzed: 09/16/2014				
2,4-Dinitrotoluene	48.5	5.00	ug/L	50.0		97.1	41-114		8.75	20	
2,6-Dinitrotoluene	47.4	5.00	"	50.0		94.9	49-106		10.2	20	
Di-n-octyl phthalate	46.4	5.00	"	50.0		92.7	12-149		8.35	20	
Bis(2-ethylhexyl)phthalate	47.5	0.500	"	50.0		94.9	10-171		9.51	20	
Fluoranthene	46.2	0.0500	"	50.0		92.4	33-126		8.88	20	
Fluorene	50.9	0.0500	"	50.0		102	28-117		11.1	20	
Hexachlorobenzene	43.8	0.0200	"	50.0		87.6	27-120		11.5	20	
Hexachlorobutadiene	47.2	0.500	"	50.0		94.4	25-106		10.7	20	
Hexachlorocyclopentadiene	41.8	5.00	"	50.0		83.5	10-99		10.9	20	
Hexachloroethane	42.0	0.500	"	50.0		84.1	33-84	High Bias	9.54	20	
Indeno(1,2,3-cd)pyrene	42.2	0.0500	"	50.0		84.4	10-150		6.47	20	
Isophorone	46.4	5.00	"	50.0		92.8	29-115		11.2	20	
2-Methylnaphthalene	50.5	5.00	"	50.0		101	33-101		12.9	20	
2-Methylphenol	40.7	5.00	"	50.0		81.4	10-90		10.9	20	
3- & 4-Methylphenols	37.2	5.00	"	50.0		74.3	10-101		9.88	20	
Naphthalene	49.9	0.0500	"	50.0		99.8	30-99	High Bias	10.6	20	
3-Nitroaniline	40.5	5.00	"	50.0		80.9	29-128		11.2	20	
4-Nitroaniline	39.6	5.00	"	50.0		79.2	15-143		14.2	20	
2-Nitroaniline	42.4	5.00	"	50.0		84.7	31-122		8.00	20	
Nitrobenzene	48.6	0.250	"	50.0		97.2	32-113		12.3	20	
4-Nitrophenol	43.2	5.00	"	50.0		86.5	10-112		13.0	20	
2-Nitrophenol	42.5	5.00	"	50.0		85.0	37-97		10.7	20	
N-nitroso-di-n-propylamine	43.5	5.00	"	50.0		86.9	36-118		11.0	20	
N-Nitrosodiphenylamine	56.2	5.00	"	50.0		112	27-145		8.50	20	
Pentachlorophenol	51.7	0.250	"	50.0		103	19-127		8.31	20	
Phenanthrene	50.8	0.0500	"	50.0		102	31-112		8.41	20	
Phenol	44.8	5.00	"	50.0		89.7	10-37	High Bias	11.8	20	
Pyrene	46.9	0.0500	"	50.0		93.9	42-125		8.23	20	
1,2,4,5-Tetrachlorobenzene	34.2	5.00	"	50.0		68.5	28-105		11.9	20	
2,4,6-Trichlorophenol	40.6	5.00	"	50.0		81.1	41-107		8.18	20	
2,4,5-Trichlorophenol	40.4	5.00	"	50.0		80.7	36-112		7.99	20	
Surrogate: 2-Fluorophenol	*68.2*		"	*75.2*		*90.8*	*10-53*				
Surrogate: Phenol-d5	*75.6*		"	*75.2*		*101*	*10-39*				
Surrogate: Nitrobenzene-d5	*46.5*		"	*50.2*		*92.6*	*10-120*				
Surrogate: 2-Fluorobiphenyl	*43.6*		"	*50.0*		*87.2*	*10-108*				
Surrogate: 2,4,6-Tribromophenol	*66.1*		"	*75.1*		*88.1*	*10-150*				
Surrogate: Terphenyl-d14	*42.9*		"	*50.2*		*85.4*	*10-143*				

Miscellaneous Physical Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BI40903 - % Solids Prep											
Duplicate (BI40903-DUP1)	*Source sample: 14I0505-03 (RSB/MW-15/14-15)						Prepared & Analyzed: 09/18/2014				
% Solids	84.8	0.100	%		84.7				0.149	20	

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
14I0505-01	RSB/MW-15/4-5	40mL Vial with Stir Bar-Cool 4° C
14I0505-02	RSB/MW-15/10-11	40mL Vial with Stir Bar-Cool 4° C
14I0505-03	RSB/MW-15/14-15	40mL Vial with Stir Bar-Cool 4° C
14I0505-04	RSB/MW-14/12-14	40mL Vial with Stir Bar-Cool 4° C
14I0505-05	RSB/MW-14/17-18	40mL Vial with Stir Bar-Cool 4° C
14I0505-06	FB091014	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
14I0505-07	TB091014	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
14I0505-08	DUP091014	40mL Vial with Stir Bar-Cool 4° C
14I0505-09	RSB/MW-17/1-3	40mL Vial with Stir Bar-Cool 4° C
14I0505-10	RSB/MW-17/13-15	40mL Vial with Stir Bar-Cool 4° C
14I0505-11	RSB/MW-17/17-18	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

S-08 The recovery of this surrogate was outside of QC limits.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

QL-02 This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.

JN The Tentatively Identified Compound reported indicates the presence of an possible analyte or class of analyte that has been 'tentatively identified' and the associated numerical value represents its estimated concentration.

J Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.

ISTD-LO The internal std associated with this target compound did not meet acceptance criteria (area <50% CCV) at the stated dilution due to matrix effects. Sample was rerun to confirm matrix effects.

GC-20 Pattern is similar to Motor Oil

CCV-E The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).

Cal-E The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20% AND correlation coefficient <0.990 for quadratic fit).

B Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

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* Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.

ND NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)

RL REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.

LOQ LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.

LOD LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.

MDL METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.

Reported to This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.

NR Not reported

RPD Relative Percent Difference

Wet The data has been reported on an as-received (wet weight) basis

Low Bias Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.

High Bias High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.

Non-Dir. Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

YORK ANALYTICAL LABORATORIES INC
YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14I0505

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux	Company: Same	Company: Same	15750002y	RUSH - Same Day ☐	Summary Report
Address: 209 Shafter Islandia	Address:	Address:	Purchase Order No.	RUSH - Next Day ☐	Summary w/ QA Summary
Phone No. 631-232-2600	Phone No.	Phone No.		RUSH - Two Day ☐	CT RCP Package
Contact Person: Wendy m	Attention:	Attention:		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT__ [✓ NY] NJ__	RUSH - Four Day ☐	NY ASP A Package
				[✓ Standard(5-7 Days)]	NY ASP B Package ✓
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

[illegible]
Samples Collected/Authorized By (Signature)
Joe Gavin
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
- Simple Excel
- NYSDEC EQuIS ✓
- EQuIS (std)
- EZ-EDD (EQuIS)
- NJDEP SRP HazSite EDD
- GIS/KEY (std)
- Other
- York Regulatory Comparison Excel Spreadsheet
- Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
RSB/mw-15/4-5	9/10/14 - 820	S	8260C ; 8270D	
RSB/MW-15/10-11	9/10/14 - 832	S	8260C ; 8270D	
RSB/MW-15/14-15	9/10/14 - 835	S	8260C ; 8270D	
RSB/mw-15/14-15ms	9/10/14 - 840	S	8260C ; 8270D	MS @ RSB/mw-15 14-15
RSB/mw-15/14-15 msD	9/10/14 - 845	S	8260C ; 8270D	MSD @ RSB/mw-15 14-15
RSB/mw-14/12-14	9/10/14 - 925	S	8260C ; 8270D	
RSB/mw-14/17-18	9/10/14 - 935	S	8260C ; 8270D	
FB091014	9/10/14 - 1200	water	8260C ; 8270D	
TRIP BLANK	Lab	water	8260C	
DUP091014	9/10/14 - 1200	S	8260C ; 8270D	

Comments

Preservation
Check those Applicable
4°C____ Frozen____ HCl____ MeOH____ HNO_3____ H_2SO_4____ NaOH____
ZnAc____ Ascorbic Acid____ Other____

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[illegible]		Joseph [illegible]	9/11/14 11:40

Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		[illegible]	9-11-14 1735

Temperature on Receipt
3.4 °C

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14I0505

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux	Company: Same	Company: Same	1575.0007y	RUSH - Same Day ☐	Summary Report
Address: 209 Shafter Islandia NY	Address:	Address:	**Purchase Order No.**	RUSH - Next Day ☐	Summary w/ QA Summary
Phone No. 631-232-2600	Phone No.	Phone No.		RUSH - Two Day ☐	CT RCP Package
Contact Person: Wendy M	Attention:	Attention:		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT __ NY X NJ	RUSH - Four Day ☐	NY ASP A Package
				Standard(5-7 Days) ☒	NY ASP B Package X
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Joe Gravin
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)

- Simple Excel
- NYSDEC EQuIS X
- EQuIS (std)
- EZ-EDD (EQuIS)
- NJDEP SRP HazSite EDD
- GIS/KEY (std)
- Other
- **York Regulatory Comparison**
- **Excel Spreadsheet**
- Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
RSB/MW-17/1-3	9/10/14 -1215	S	8260C ; 8270D	
RSB/MW-17/13-15	9/10/14 -1240	S	8260C , 8270D	
RSB/MW-17/17-18	9/10/14 -1300	S	8260C ; 8270D	
MW-5	9/10/14-1140	Other - oil	Petro Hydr. (Petroleum ID)	4oz

Comments

Preservation Check those Applicable	4°C __ Frozen __ HCl __ MeOH __ HNO3 __ H2SO4 __ NaOH __ ZnAc __ Ascorbic Acid __ Other __				Temperature on Receipt
Special Instructions	Samples Relinquished By	Date/Time	Samples Received By	Date/Time 9/11/14 11:40	3.4 °C
Field Filtered ☐ Lab to Filter ☐	Samples Relinquished By	Date/Time	Samples Received in LAB by Grace	Date/Time 9-11-14 1735	

Technical Report

prepared for:

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Report Date: 09/23/2014
Client Project ID: 1575.00024
York Project (SDG) No.: 14I0669

CT Cert. No. PH-0723 | New Jersey Cert. No. CT-005 | New York Cert. No. 10854 | PA Cert. No. 68-04440

120 RESEARCH DRIVE | STRATFORD, CT 06615 | (203) 325-1371 | FAX (203) 357-0166

Report Date: 09/23/2014
Client Project ID: 1575.00024
York Project (SDG) No.: 14I0669

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on September 16, 2014 and listed below. The project was identified as your project: **1575.00024**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
14I0669-01	MW-15	Oil	09/15/2014	09/16/2014
14I0669-02	MW-17	Oil	09/15/2014	09/16/2014

General Notes for York Project (SDG) No.: 14I0669

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 09/23/2014

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **MW-15** **York Sample ID:** **14I0669-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0669	1575.00024	Oil	September 15, 2014 11:45 am	09/16/2014

Petroleum Hydrocarbon Identification **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/22/2014 16:37	09/23/2014 12:08	JW

Sample Information

Client Sample ID: **MW-17** **York Sample ID:** **14I0669-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0669	1575.00024	Oil	September 15, 2014 12:00 pm	09/16/2014

Petroleum Hydrocarbon Identification **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/22/2014 16:37	09/23/2014 12:08	JW

Analytical Batch Summary

Batch ID: BI41113 **Preparation Method:** Oil Preparation for GC **Prepared By:** JW

YORK Sample ID	Client Sample ID	Preparation Date
14I0669-01	MW-15	09/22/14
14I0669-02	MW-17	09/22/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Notes and Definitions

GC-20	Pattern is similar to Motor Oil

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14I0669

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux Assoc.	Company: Same	Company: Same	1575-0002y	RUSH - Same Day ☐	Summary Report
Address: 209 Shafter St	Address:	Address:	Purchase Order No.	RUSH - Next Day ☐	Summary w/ QA Summary
Islandia NY				RUSH - Two Day ☐	CT RCP Package
Phone No. 631-232-2600	Phone No.	Phone No.		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
Contact Person: Wendy M.	Attention:	Attention:		RUSH - Four Day ☐	NY ASP A Package
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT___ NY___ NJ___	Standard(5-7 Days) ☒	NY ASP B Package
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature): [signature]

Name (printed): Joe Gavin

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel
NYSDEC EQuIS
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison
Excel Spreadsheet
Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
mw-15	9/15/14 -1145	Oil	Petro. Hydr. (Petroleum ID)	(4oz
mw-17	9/15/14 -1200	Oil	Petro Hydr. (Petroleum ID)	(↓

Comments

Preservation
Check those Applicable: 4°C___ Frozen___ HCl___ MeOH___ HNO$_3$___ H$_2$SO$_4$___ NaOH___ ZnAc Ascorbic Acid Other

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[signature]	9/16/14 1255 pm	K Bark	9-16-14 1255 pm
Samples Relinquished By	Date/Time	Samples Received in LAB by: Grace	Date/Time: 9-16-14 1815 pm

Temperature on Receipt: 3.9 °C

Technical Report

prepared for:

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Report Date: 09/29/2014
Client Project ID: 1575.0002Y
York Project (SDG) No.: 14I0899

CT Cert. No. PH-0723 | New Jersey Cert. No. CT-005 | New York Cert. No. 10854 | PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 (203) 325-1371 FAX (203) 357-0166

Report Date: 09/29/2014
Client Project ID: 1575.0002Y
York Project (SDG) No.: 14I0899

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on September 22, 2014 and listed below. The project was identified as your project: **1575.0002Y**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
14I0899-01	MW-13	Oil	09/19/2014	09/22/2014
14I0899-02	MW-8	Oil	09/19/2014	09/22/2014
14I0899-03	MW-10	Oil	09/19/2014	09/22/2014
14I0899-04	MW-14	Oil	09/19/2014	09/22/2014
14I0899-05	MW-16	Oil	09/19/2014	09/22/2014

General Notes for York Project (SDG) No.: 14I0899

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 09/29/2014

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **MW-13** | **York Sample ID:** **14I0899-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0899	1575.0002Y	Oil	September 19, 2014 8:40 am	09/22/2014

Petroleum Hydrocarbon Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/26/2014 09:58	09/29/2014 09:39	JW

Sample Information

Client Sample ID: **MW-8** | **York Sample ID:** **14I0899-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0899	1575.0002Y	Oil	September 19, 2014 9:10 am	09/22/2014

Petroleum Hydrocarbon Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/26/2014 09:58	09/29/2014 09:39	JW

Sample Information

Client Sample ID: **MW-10** | **York Sample ID:** **14I0899-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0899	1575.0002Y	Oil	September 19, 2014 10:20 am	09/22/2014

Petroleum Hydrocarbon Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/26/2014 09:58	09/29/2014 09:39	JW

Sample Information

Client Sample ID: **MW-14** | **York Sample ID:** **14I0899-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0899	1575.0002Y	Oil	September 19, 2014 12:40 pm	09/22/2014

Petroleum Hydrocarbon Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/26/2014 09:58	09/29/2014 09:39	JW

Sample Information

Client Sample ID: **MW-16** | **York Sample ID:** **14I0899-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14I0899	1575.0002Y	Oil	September 19, 2014 12:50 pm	09/22/2014

Petroleum Hydrocarbon Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	NYSDOH 310-14	09/26/2014 09:58	09/29/2014 09:39	JW

Analytical Batch Summary

Batch ID: BI41356 **Preparation Method:** Oil Preparation for GC **Prepared By:** JW

YORK Sample ID	Client Sample ID	Preparation Date
14I0899-01	MW-13	09/26/14
14I0899-02	MW-8	09/26/14
14I0899-03	MW-10	09/26/14
14I0899-04	MW-14	09/26/14
14I0899-05	MW-16	09/26/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Notes and Definitions

GC-20	Pattern is similar to Motor Oil

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 14I0899

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux Assoc	Company: Same	Company: Same	15750007y	RUSH - Same Day ☐	Summary Report X
Address: 209 Shelter St Islandia NY	Address:	Address:		RUSH - Next Day ☐	Summary w/ QA Summary
Phone No. 631-232-2600	Phone No.	Phone No.	Purchase Order No.	RUSH - Two Day ☐	CT RCP Package
Contact Person: wendy m.	Attention:	Attention:		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT__ NY X NJ	RUSH - Four Day ☐	NY ASP A Package
				Standard(5-7 Days) X	NY ASP B Package
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature): [signature]

Joe Gavin
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel
NYSDEC EQuIS
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison Excel Spreadsheet
Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
mw-13	9/19/14 -840	oil	Petro. Hyd (Product ID)	1 4oz
mw-8	9/19/14 -910	oil	Petro Hyd (Product ID)	↓
mw-10	9/19/14 -1020	oil	Petro Hydr. (Product ID)	↓
mw-14	9/19/14 -1240	oil	Petro Hyd. (Product ID)	↓
mw-16	9/19/14 -1250	oil	Petro Hyd. (Product ID)	↓

Comments

Preservation Check those Applicable: 4°C___ Frozen___ HCl___ MeOH___ HNO₃___ H₂SO₄___ NaOH___ ZnAc Ascorbic Acid Other

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[signature]	9-22-14 1245 AM	KBarber	9-22-14 1245 AM
Samples Relinquished By	Date/Time	Samples Received in LAB by: TC Kalil	9/22/14 1740

Temperature on Receipt 5.9 °C

Technical Report

prepared for:

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Report Date: 05/19/2015
Client Project ID: 1575.0024000
York Project (SDG) No.: 15E0415

CT Cert. No. PH-0723 New Jersey Cert. No. CT-005 New York Cert. No. 10854 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 (203) 325-1371 FAX (203) 357-0166

Report Date: 05/19/2015
Client Project ID: 1575.0024000
York Project (SDG) No.: 15E0415

Roux Associates
209 Shafter St
Islandia NY, 11749
Attention: Wendy Monterosso

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on May 12, 2015 and listed below. The project was identified as your project: **1575.0024000**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
15E0415-01	MW-12	Oil	05/11/2015	05/12/2015
15E0415-02	MW-21	Oil	05/11/2015	05/12/2015
15E0415-03	MW-18	Oil	05/11/2015	05/12/2015

General Notes for York Project (SDG) No.: 15E0415

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 05/19/2015

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **MW-12** | **York Sample ID:** **15E0415-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15E0415	1575.0024000	Oil	May 11, 2015 8:35 am	05/12/2015

Petroleum Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	EPA 8015D Certifications:	05/18/2015 08:41	05/19/2015 14:01	JW

Sample Information

Client Sample ID: **MW-21** | **York Sample ID:** **15E0415-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15E0415	1575.0024000	Oil	May 11, 2015 8:45 am	05/12/2015

Petroleum Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Pattern is similar to Motor Oil		ID only			1	EPA 8015D Certifications:	05/18/2015 08:41	05/19/2015 14:01	JW

Sample Information

Client Sample ID: **MW-18** | **York Sample ID:** **15E0415-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15E0415	1575.0024000	Oil	May 11, 2015 10:10 am	05/12/2015

Petroleum Identification | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: Oil Preparation for GC

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	* Petroleum Identification	Not Detected or, conc. too low for ID		ID only			1	EPA 8015D Certifications:	05/18/2015 08:41	05/19/2015 14:01	JW

Analytical Batch Summary

Batch ID: BE50880 **Preparation Method:** Oil Preparation for GC **Prepared By:** JW

YORK Sample ID	Client Sample ID	Preparation Date
15E0415-01	MW-12	05/18/15
15E0415-02	MW-21	05/18/15
15E0415-03	MW-18	05/18/15

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Notes and Definitions

GC-26	Not Detected or, conc. too low for ID
GC-20	Pattern is similar to Motor Oil

---

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK ANALYTICAL LABORATORIES INC
York Analytical Laboratories
120 Research Dr.
Stratford, CT 06615
(203) 325-1371
Fax (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 15E0415

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Roux Associates	Company: Same	Company: Same	1575.0024000	RUSH - Same Day ☐	Summary Report X
Address: 209 Shafter St	Address:	Address:		RUSH - Next Day ☐	Summary w/ QA Summary
Islandia NY 11749			Purchase Order No.	RUSH - Two Day ☐	CT RCP Package
Phone No. 631-232-2600	Phone No.	Phone No.		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
Contact Person: Wendy Monterosso	Attention:	Attention:		RUSH - Four Day ☐	NY ASP A Package
E-Mail Address: wmonterosso@rouxinc.com	E-Mail Address:	E-Mail Address:	Samples from: CT__ NY X NJ__	Standard(5-7 Days) X	NY ASP B Package
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel
NYSDEC EQuIS
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison Excel Spreadsheet
Compare to the following Regs. (please fill in):

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Samples Collected/Authorized By (Signature)
Joe Gavin
Name (printed)

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
MW-12	5/11/15 - 835	other-oil	Product ID - Petro Hydr.	1 L Amber
MW-21	5/11/15 - 845	other-oil	Product ID - Petro. Hydr.	1 L Amber
MW-18	5/11/15 - 1010	other-oil	Product ID - Petro. Hydr.	1 L Amber

Comments

Preservation Check those Applicable: 4°C___ Frozen___ HCl___ MeOH___ HNO$_3$___ H_2SO_4___ NaOH___ ZnAc Ascorbic Acid Other

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[signature]	5/12/15 12pm	KBaila	5/12/15 12pm
KBaila	5-12-15	TC [signature] (Samples Received in LAB by)	5/12/15 1854

Temperature on Receipt: 4.3 °C

APPENDIX E

Soil Vapor Sampling Forms

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0938
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-1
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0940
Ending Time: 1345
Ending Pressure: -8 in. of Hg

Summa Canister Identification #: 27
Flow Regulator ID # FC444
Sample ID # SV-1
Time 1345
Analysis TO-15
Laboratory Alpha

Comments:
Located in the office located on the east side of Site Building
starting pressure beyond -30" Hg

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0940
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-2
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -29.0 in. of Hg
Starting Time: 0947
Ending Time: 1045
Ending Pressure: 0 in. of Hg

Summa Canister Identification #: 502
Flow Regulator ID # FC48
Sample ID # SV-2
Time 1045
Analysis TO-15
Laboratory Alpha

Comments:
Located along southern property boundary line, near Outdoor Ambient sample
Sample will be collected at a later date; the gauge read '0' after one hour.

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/28/2014 **Time:** 0940
Weather : 20s F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-2
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: ______
Helium Rate from sample tubing: ______ Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -26.0 in. of Hg
Starting Time: 0820
Ending Time: 1520
Ending Pressure: -9.5 in. of Hg

Summa Canister Identification #: ______
Flow Regulator ID # ______
Sample ID # SV-2
Time 1520
Analysis TO-15
Laboratory Alpha

Comments:
Located along southern property boundary line, near Outdoor Ambient sample

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0920
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-3
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0922
Ending Time: 1325
Ending Pressure: -12.8 in. of Hg

Summa Canister Identification #: 505
Flow Regulator ID # FC448
Sample ID # SV-3
Time 1325
Analysis TO-15
Laboratory Alpha

Comments:
Located on west side of Site Building, near Utica Avenue
starting pressure beyond -30" Hg

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0930
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-4
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0933
Ending Time: 1345
Ending Pressure: -10 in. of Hg

Summa Canister Identification #: 0005
Flow Regulator ID # FC414
Sample ID # SV-4
Time 1345
Analysis TO-15
Laboratory Alpha

Comments:
Located on the north side of the Site Building
starting pressure beyond -30" Hg

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0925
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-5
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -29.0 in. of Hg
Starting Time: 0927
Ending Time: 1340
Ending Pressure: -5 in. of Hg

Summa Canister Identification #: 467
Flow Regulator ID # FC417
Sample ID # SV-5
Time 1340
Analysis TO-15
Laboratory Alpha

Comments:
Located in the center of the Auto Repair Shop

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0938
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: IA-1
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: N/A

Sampling Depth: 4 ft als feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: NA
Apparent Moisture Content: N/A
Purge Rate: NA Must be less than 0.2 L/min
Purge Time: NA
Helium Rate at enclosure: NA
Helium Rate from sample tubing: NA Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0938
Ending Time: 1630
Ending Pressure: -8 in. of Hg

Summa Canister Identification #: 473
Flow Regulator ID # FC7362
Sample ID # IA-1
Time 1630
Analysis TO-15
Laboratory Alpha

Comments:
Located in office with SV-1
starting pressure beyond -30" Hg

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 2/24/2014 **Time:** 0945
Weather : 20-30's F, Partly cloudy
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin / Brian Klaus
Sampling Location: Outdoor Ambient
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage
Site is located on Kings Highway, a heavily trafficked 4-6 lane thoroughfare, sample collected toward the center of the Site, approximately 130 feet from the curb line of Kings Highway

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

Sampling Depth: 4 ft als feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with bentonite: NA
Apparent Moisture Content: N/A
Purge Rate: NA Must be less than 0.2 L/min
Purge Time: NA
Helium Rate at enclosure: NA
Helium Rate from sample tubing: NA Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0945
Ending Time: 1630
Ending Pressure: -6 in. of Hg

Summa Canister Identification #: 41127
Flow Regulator ID # FC425
Sample ID # Outdoor Ambient
Time 1630
Analysis TO-15
Laboratory Alpha

Comments:
Located along southern property boundary line, near SV-2

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 9/25/2014 **Time:** 0743
Weather : 70's and raining
Temperature: Humidity:
Wind Magnitude: Wind Direction:
Barometric Pressure: Precipitation:

Sampling Team: Joe Gavin
Sampling Location: SV-4
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb
Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -29.0 in. of Hg
Starting Time: 0743
Ending Time: 1507
Ending Pressure: -6.0 in. of Hg

Summa Canister Identification #: 15608
Flow Regulator ID # 7361
Sample ID # SV-4
Time 1507
Analysis TO-15
Laboratory Alpha

Comments:
Located on the north side of the Site Building

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 9/25/2014 **Time:** 0741
Weather : 70's and raining
Temperature: Humidity:
Wind Magnitude: Wind Direction:
Barometric Pressure: Precipitation:

Sampling Team: Joe Gavin
Sampling Location: SV-5
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0741
Ending Time: 1502
Ending Pressure: -7.0 in. of Hg

Summa Canister Identification #: 16956
Flow Regulator ID # 7673
Sample ID # SV-5
Time 1502
Analysis TO-15
Laboratory Alpha

Comments:
Located in the center of the Auto Repair Shop

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 9/25/2014 **Time:** 0739
Weather : 70's and raining
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-6
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb
Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0739
Ending Time: 1509
Ending Pressure: -25.0 in. of Hg

Summa Canister Identification #: 41
Flow Regulator ID # 7422
Sample ID # SV-6
Time 1509
Analysis TO-15
Laboratory Alpha

Comments:
Located in entrance of auto body repair shop
Stopped at -25 in. Hg - sample collected for 7.5 hours

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 9/25/2014 **Time:** 0744
Weather : 70's and raining
Temperature: ____ Humidity: ____
Wind Magnitude: ____ Wind Direction: ____
Barometric Pressure: ____ Precipitation: ____

Sampling Team: Joe Gavin
Sampling Location: IA092514
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: N/A
Sampling Depth: 4 ft als feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: NA
Apparent Moisture Content: N/A
Purge Rate: NA Must be less than 0.2 L/min
Purge Time: NA
Helium Rate at enclosure: NA
Helium Rate from sample tubing: NA Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -12.0 in. of Hg
Starting Time: 0744
Ending Time: 1230
Ending Pressure: -3.0 in. of Hg

Summa Canister Identification #: 16975
Flow Regulator ID # 7423
Sample ID # IA-1
Time 1230
Analysis TO-15
Laboratory Alpha

Comments:
Located near SV-5 in Auto Repair Shop
Started at -12 in. Hg, sample was collected for 7.5 hours

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 3/18/2015 **Time:** 0800
Weather : 30-40's F, overcast
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-4
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: No
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 seconds
Helium Rate at enclosure: 20,000 PPM
Helium Rate from sample tubing: 0.0 PPM Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -27.0 in. of Hg
Starting Time: 0800
Ending Time: 1445
Ending Pressure: -5.0 in. of Hg

Summa Canister Identification #: 471
Flow Regulator ID # 7361
Sample ID # SV-4
Time 1445
Analysis TO-15
Laboratory Alpha

Comments:
Located on the north side of the Site Building

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 3/18/2015 **Time:** 0802
Weather : 30-40's F, overcast
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-5
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb
Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: n
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 sec
Helium Rate at enclosure: 20,000 ppm
Helium Rate from sample tubing: 0.0 ppm Is this rate <10% of the rate at the enclosure **Yes** / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -27.0 in. of Hg
Starting Time: 0802
Ending Time: 1535
Ending Pressure: -12 in. of Hg

Summa Canister Identification #: 21
Flow Regulator ID # 441
Sample ID # SV-5
Time 1535
Analysis TO-15
Laboratory Alpha

Comments:
Located in the center of the Auto Repair Shop

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 3/18/2015 **Time:** 0756
Weather : 30-40's F, overcast
Temperature: ____ Humidity: ____
Wind Magnitude: ____ Wind Direction: ____
Barometric Pressure: ____ Precipitation: ____

Sampling Team: Joe Gavin
Sampling Location: IA-1
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: N/A
Sampling Depth: 4 ft als feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: NA
Apparent Moisture Content: N/A
Purge Rate: NA Must be less than 0.2 L/min
Purge Time: NA
Helium Rate at enclosure: NA
Helium Rate from sample tubing: NA Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0756
Ending Time: 1540
Ending Pressure: -10 in. of Hg

Summa Canister Identification #: 463
Flow Regulator ID # 7673
Sample ID # IA-1
Time 1540
Analysis TO-15
Laboratory Alpha

Comments:

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 3/18/2015 **Time:** 0805
Weather : 30-40's F, overcast
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin / Brian Klaus
Sampling Location: Outdoor Ambient
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage
Site is located on Kings Highway, a heavily trafficked 4-6 lane thoroughfare, sample collected toward the center of the Site,
approximately 130 feet from the curb line of Kings Highway

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: Yes
Sampling Depth: 4 ft als feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: NA
Apparent Moisture Content: N/A
Purge Rate: NA Must be less than 0.2 L/min
Purge Time: NA
Helium Rate at enclosure: NA
Helium Rate from sample tubing: NA Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -23.0 in. of Hg
Starting Time: 0805
Ending Time: 1330
Ending Pressure: -3.5 in. of Hg

Summa Canister Identification #: 27
Flow Regulator ID # 7416
Sample ID # Outdoor Ambient
Time 1330
Analysis TO-15
Laboratory Alpha

Comments:

Soil Vapor Sampling Form
Irma C. Pollack
Kristal Auto Mall - 5200 Kings Highway, Brooklyn

Date: 3/18/2015 **Time:** 0755
Weather : 30-40's F, overcast
Temperature: ______ Humidity: ______
Wind Magnitude: ______ Wind Direction: ______
Barometric Pressure: ______ Precipitation: ______

Sampling Team: Joe Gavin
Sampling Location: SV-6
Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Active car dealership, auto repair, auto wash, auto storage

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb

Utility Clearance Completed: Yes
Sampling Depth: sub-slab - 8" feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above
Sealed with bentonite: Yes
Apparent Moisture Content: No
Purge Rate: 200 mL/min Must be less than 0.2 L/min
Purge Time: 60 seconds
Helium Rate at enclosure: 20,000 PPM
Helium Rate from sample tubing: 0.0 PPM Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the

Is the Summa Canister Certified Clean and within the proper holding time ? Yes

Starting Pressure: -30.0 in. of Hg
Starting Time: 0755
Ending Time: 1530
Ending Pressure: -10.0 in. of Hg

Summa Canister Identification #: 476
Flow Regulator ID # 7426
Sample ID # SV-6
Time 1530
Analysis TO-15
Laboratory Alpha

Comments:
Located in entrance of auto body repair shop

APPENDIX F

Data Usability Summary Reports

Data Validation Services

120 Cobble Creek Road   P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

May 28, 2015

Wendy Monterosso
Roux Associates
209 Shafter St.
Islandia, NY   11747

RE: **Data Usability Summary Report** (DUSR) for the Kristal Auto Mall Project
York Analytical SDGs 14B0262, 14B0311, 14B0376, 14B0508, 14B0515, 14B0560, 14B0571, 14B0649, 14B0660, 14C0014, 14I0443, 14I0505, 14I1112, 14J0015, and 15C0645

Dear Ms. Monterosso:

Review has been completed for the analytical data package noted above, generated by York Analytical, that pertains to samples collected between 02/10/14 and 03/18/15 for the Kristal Auto Mall project. Forty six soil samples, three soil field duplicates, and an aqueous field duplicate were processed for TCL volatile and TCL semivolatile analytes. Tentatively Identified Compounds (TICs) were requested and reported for most of the samples. The support documentation for TICs was not included in the data package and not validated. Sixteen 6L canister samples were analyzed for volatile analytes by USEPA method TO-15. Sample matrix spikes, field blanks, and trip blanks were also processed. The analytical methods utilized for the soil and aqueous samples are those of the USEPA SW846 6010C/7470A/8260B.

The data packages submitted contain full deliverables for validation, but this DUSR is generated from review of the summary form information, with full validation review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Data Review, the specific laboratory methodologies, and professional judgment. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration/Trip/Field Blanks
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Calibration/Low Level Standards

* ICP Serial Dilution
* Instrument IDLs
* Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c). The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data packages.

In summary, with the following exceptions, target analyte results are usable either as reported or with qualification/edit:

- the results for IA092514 and SV-6 are rejected and not usable.
- results for one volatile analyte in each of six samples are rejected due to processing
- results for one volatile analyte in all samples due to inherent poor performance of the compound
- between one and three semivolatile compounds in varying numbers of samples are rejected due to processing
- phenolic semivolatile compounds in one aqueous sample are rejected
- thirteen semivolatile analytes in one soil sample are reported with elevated reporting limits due to matrix effect
- one semivolatile analyte result in one sample is rejected due to matrix

Although there are rejected data, as noted above, the overall data completeness is acceptable. The laboratory reported data with outlying associated QC values, which affects accuracy. Additionally, they utilize very broad acceptance ranges, such as a low limit of 10% for all six of the semivolatile surrogate recovery ranges. This is not allowed by the analytical protocol and does not provide a proper evaluation of matrix effect. However, in reviewing the recoveries and correlations for the project samples, the matrices of the samples do not seem to have a significant effect on analyte accuracy and precision.

Copies of the sample identification summaries are attached to this text. Also included with the report are validation qualifier definitions and client results tables that are manually annotated to reflect the qualifications recommended within this report.

The following text discusses quality issues of concern.

Chains-of-Custody

The custody forms are not complete with final relinquish entries. Final laboratory receipt entries are present.

The time was not present on the initial relinquish entry.

The custody forms do not include a field to indicate preservation. The volatile samples were processed within the holding time for unpreserved samples. There is no laboratory documentation to show pH of the metals fraction of the samples. The laboratory indicated that they would maintain records in the future.

The custody forms for the air canister samples do not include fields for the times of collection.

Blind Duplicate Evaluations

The blind field duplicate was collected at locations RSB-13/9-11, RSB-11/7.5-9.5, RSB/MW-15/4-5, MW-3, and MW-7. Correlations are within validation guidelines, with the exceptions of those for fluoranthene (±2XCRDL) in RSB-13/9-11 and bis(2-ethylhexyl)phthalate (140%RPD) in MW-7. Results for those analytes are qualified as estimated in the indicated parent samples and their duplicates.

TCL Volatile Analyses by EPA 8260B

Surrogate and internal standard responses were suppressed by matrix interferences in the initial analyses of RSB-9/8.5-10.5 and RSB-8/5-7. All results for RSB-9/8.5-10.5, and detected results and results for the specific target analytes associated with the affected internal standard in RSB-8/5-7, have been qualified as estimated in value. Medium level reanalyses of these samples were acceptable, and values derived from them are not qualified.

Results for dibromochloromethane in the following samples are rejected due to lack of recovery in one of the associated LCSs: RSB-8/1.5-3.5, RSB-8/18.5-20.5, RSB-9/8.5-10.5, RSB-8/8.5-20.5, RSB-7/8.5-10.5, and RSB-7/18.5-20.5. The results for that compound in the other samples and trip blank reported in SDGs 14B0508, in the soils reported in 14B0560, and in RSB-2/18-20 are qualified as estimated due to low recoveries in associated LCSs.

The following analyte results are qualified as estimated due to low recoveries in the associated LCS:

- 4-methyl-2-pentanone (40% and 41%) in MW-3 and MW-9
- cyclohexane (33% and 34%) in FB091014 and TB091014

Results for analytes reported with the laboratory "E" flag have been derived from the dilution analyses of the samples. The exception is that for tetrachloroethene in RSB-9/8.5-10.5, which was not detected in the dilution. The original result is used, but qualified as estimated.

The detection of 2-butanone in RSB-2/11-13 has been edited to non-detection due to very poor mass spectral quality.

Due to pervasive presence in the associated field, trip, and method blanks, the detections of acetone and methylene chloride in the project samples are considered external contamination are edited to reflect non-detection. The following detections are also edited to non-detection due to presence in associated blanks:

- 1,2,4-trichlorobenzene in RSB-2/18-20
- toluene in RSB/MW-17/1-3 and RSB/MW-17/17-18
- 2-hexanone in RSB/MW-15/14-15

The exceptions are the results for acetone in RSB-8/8.5-10.5 and RSB/MW-14/12-14, which are above the levels for consideration as contamination.

Sample matrix spikes were performed on RSB-12/18-20, TB-2/021214, RSB-11/17.5-19.5, RSB/MW-14/14-15, RSB/MW-15/14-15, MW-7, TB-021814, and Trip Blank. Recoveries and correlations are acceptable, with the exception of that for carbon disulfide (39% and 40%) in MW-7. The result for that compound in the parent sample has been qualified as estimated in value.

Dibromochloromethane is qualified as estimated in FB021014 due to low recovery (37%) in the matrix spike of that blank.

The results for 1,4-dioxane in the project samples are rejected and not usable due to very low instrument responses (RRFs), inherent with the methodology. Other calibration standards showed acceptable responses, with the following exceptions, results for which are to be qualified as estimated in the indicated samples:

- acetone (21%D) in samples FB021014 and TB021014
- bromomethane (26%D)in samples RSB-13/9-11, RSB-13/19-21, and DUP021214
- acetone (24%D) in sample FB021214
- dichlorodifluoromethane and bromomethane (22%D to 23%D) in sample TB-2/021214
- dichlorodifluoromethane and chloromethane 32%D to 50%D) in samples RSB/MW-16 11-13, RSB/MW-16 1-3, RSB/MW-16 17-18, RSB/MW-14 1-3,FB021914, FB021814, TB021814, and TB021914
- dibromochloromethane (33%D to 49%) in samples RSB-8/1.5-3.5, RSB-8/18.5-20.5, RSB-9/8.5-10.5, RSB-9/18.5-20.5, RSB-7/8.5-10.5, RSB-7/18.5-20.5, RSB-8/5-7, RSB-8/8.5-10.5, RSB-1/20-22, DUP022014, RSB-3/8-10, RSB-3/18-20, RSB-2/1-3, RSB-2/5-7, RSB-2/11-13, RSB-4/8/10, RSB-4/18/20, and RSB-2/18-20
- bromomethane and acetone (22%D to 33%D) in samples reported in SDG 14B0649
- methylene chloride, and 2-butanone (23%D to 65%D) in samples TB090914, and FB091014

The raw data mass spectra for the dilution analysis of RSB-MW-17/13-15 show very poor graphics. The spectra from the undiluted analysis were used for identification confirmation.

TCL Semivolatiles by EPA 8270C

Several samples exhibited very large matrix interferences, some resulting in strong suppression of internal standard (IS) responses in the affected samples. For each case, the specific analytes associated with outlying ISs have been qualified as estimated, replaced by results of the more acceptable dilution analyses, when available, or rejected (when IS recoveries are below 25%) and no dilution analyses were performed. When dilution analysis results are used, the reporting limits for the associated analytes are elevated proportionally to the dilution factor. The following samples are affected:

- RSB-9/8.5-10.5—initial internal standard recoveries were below 10%, and results for thirteen analytes are derived from twentyfold dilution without additional qualification, but with elevated reporting limits, for those compounds.
- RSB/MW-14/12-14, RSB/MW-17/13-15, and RSAB/MW-15/10-11---results for thirteen compounds are qualified as estimated
- RSB/MW-16 11-13, RSB/MW-15/4-5, RSB/MW-17/1-3, and DUP091014—results for six compounds are qualified as estimated

The results for the phenolic compounds are rejected in MW-3 due to recovery below 10% of surrogate standard d5-phenol in that sample. Even though the chromatogram did not show a matrix effect, the sample was not re-extracted.

The detection of 2,4-dinitrotoluene in RSB-15/14-15 has been edited to non-detection due to incorrect identification. The response is actually that of an internal standard.

The detection of 4,6-dinitro-2-methylphenol in MW-1 has been edited to non-detection as that reported detection is a transcription error, and was not determined by the instrument software or analyst.

Many of the extraction batches produced LCSs with one or more analyte failing to recover. The laboratory should have reextracted the batches to produce compliant recoveries. In these cases, the results for those analytes are rejected in the associated samples. They are the following:

- 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, and hexachlorocyclopentadiene in the soils reported in SDG 14B0262
- caprolactum in the aqueous samples reported in 14B0649, FB021014, FB021214, FB021914, FB021814, and FB022414
- 4-nitrophenol in the soils reported in 14B0508 and 14B0515, and in FB091014 (SDG 14I0443)
- caprolactum and hexachlorocyclopentadiene in FB022014 and FB022414

Due to low recoveries in the associated LCSs, the following results are qualified as estimated in the indicated samples:

- 2,4-dinitrophenol and bis(2-ethylhexyl)phthalate (39% and 32%) in soils reported in 14B0311
- 4-nitrophenol (64%) in FB22014 and FB022414
- caprolactum and phenol (44% to 62%) in FB091014 (SDG 14I0443)
- caprolactum (82% and 75%) in FB091014 (SDG 14I0505)

The laboratory did not evaluate all target analytes in the LCSs or matrix spikes associated with samples reported in SDG 14B0311. No qualification is made for this non-compliance.

It is noted that the laboratory utilizes laboratory generated acceptance ranges for the surrogate recoveries that are not in compliance with the protocol. The lower limit of 10% is utilized for all six surrogates. This generous range is prohibited by the protocol; a higher low limit should have been assigned if the laboratory variance was that extreme.

The matrix spikes of RSB-12/18-20, RSB-5/18.5-20.5, RSB-11/17.5-19.5, and MW-7 show acceptable recoveries and correlations, with the exception of those for benzaldehyde (35% and 38%), caprolactum (<10%), and hexachlorocyclopentadiene (0%) in MW-78. Results for the former compound are qualified as estimated in the parent sample, and results for the latter two are rejected in that sample. The matrix spikes of RSB-14/4D(5-7) and RSB-2/11-13 were processed at twentyfold and one hundred fold dilutions, respectively, due to sample constituency, and therefore cannot be properly evaluated.

Calibration standards showed acceptable responses, with the following exceptions, results for which are to be qualified as estimated in the indicated samples:

- 2,4-dinitrophenol (42%RSD in samples reported in 14B0376
- 4-chloroaniline, hexachlorocyclopentadiene, benzyl butyl phthalate, bis (2-
- ethylhexyl)phthalate, and 3,3'-dichlorobenzidine (24%D to 60%D) in samples RSB-14/4D(2.5-3), RSB-14/4D(5-7), RSB-14/4D(38-40), and FB021014
- hexachlorocyclopentadiene and bis (2-ethylhexyl)phthalate (24%D to 46%D) in sample RSB-14/4D(10-11)
- 2-methylphenol, hexachlorocyclopentadiene, and bis (2-ethylhexyl)phthalate (24%D-46%D) in samples reported in SDG 14B0311
- benzaldehyde, bis(2-chloroisopropyl)ether, hexachlorocyclopentadiene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perlylene, and bis(2-ethylhexyl)phthalate (22%D to 63%D) in in samples reported in SDG 14B0376
- 4-chloroaniline, hexachlorocyclopentadiene, and benzaldehyde (21%D to 60%D) in samples RSB-8/1.5-3.5, RSB-8/5-7, RSB-8/8.5-10.5, RSB-8/18.5-20.5, RSB-9/8.5-10.5, RSB-9/18.5-20.5, RSB-7/8.5-10.5, and RSB-7/18.5-20.5
- benzaldehyde, bis (2-chloroisopropyl)ether, acetophenone,and hexachlorocyclopentadiene (22%D to 36%D) in sample FB021914
- benzaldehyde, 4-chloroaniline, and hexachlorocyclopentadiene (21%D to 60%D) in samples RSB-6/9-11, RSB-6/19-21, RSB-5/8.5-10.5, and RSB-5/18.5-20.5
- benzaldehyde, bis(2-chloroisopropyl)ether, acetophenone, and hexachlorocyclopentadiene (22%D to 36%D) in sample FB021814
- 3,3'-dichlorobenzidine, bis(2-ethylhexyl)phthalate, benzaldehyde, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, 4-chloroaniline, acetophenone, and hexachlorocyclopentadiene (21%D to 59%D)in samples RSB-10/7.5-9.5, RSB-10/17.5-19.5, RSB-11/7.5-9.5, RSB-11/17.5-19.5, RSB-1/10-12, RSB-1/20-22, DUP022014, RSB-3/8-10, and RSB-3/18-20
- benzaldehyde, bis(2-chloroisopropyl)ether, bis (2-chloroethoxy)methane, acetophenone,3-nitroaniline, and 4-chloroaniline (21%D to 56%D) in sample FB022014
- benzaldehyde, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, 4-chloroaniline, acetophenone, hexachlorocyclopentadiene, bis(2-ethylhexyl)phthalate, and 3,3'-dichlorobenzidine (21%D to 59%D)in samples RSB-2/18-20, RSB-4/8/10,and RSB-4/18/20
- benzaldehyde, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, 4-chloroaniline, acetophenone, and 3-nitroaniline (21%D to 56%D) in samples RSB-2/1-3, RSB-2/5-7, RSB-2/11-13, and FB022114
- benzaldehyde, bis(2-chloroisopropyl)ether, bis(2-chloroethpxy)methane, 4-chloroaniline, acetophenone, caprolactam, hexachlorocyclopentadiene, 3-nitroaniline, 4,6-dinitro-2-methylphenol,and bis(2-ethylhexyl)phthalate (21%D to 68%D) in in samples reported in SDG 14B0649
- 2-nitrophenol, 2,4-dimethylphenol, bis(2-chlorethoxy)methane, 2,4-dichlorophenol, 4-chloroaniline, caprolactam, 2-nitroaniline, and 4-nitroaniline (27%D to 55%D) in FB091014
- 4-nitrophenol, and benzo(b)fluoranthene (22%D to 95%D) in samples RSB/MW-16 1-3, RSB/MW-16 17-18, and RSB/MW-14 1-3
- naphthalene (41%D) in sample FB091014
- benzaldehyde, bis(2-chloroisopropyl)ether, and bis(2-ethylhexyl)phthalate (22%D to 23%D) in sample RSB/MW-16 11-13

Selected Ion Monitoring (SIM) was used to provide greater sensitivity for selected analytes in the aqueous samples. The raw data mass spectra and ion plots for detections determined by this method were not provided in the data package and therefore were not validated. Retention times and fit values are used to support identifications; the spectra can be provided by the laboratory if full validation of those items is required.

It is noted that the area integration responses for the many of the compounds processed in the lowest SIM initial calibration standard are manually integrated. This is only appropriate if the laboratory manually reviews each sample for those responses. The laboratory should have included ion plots illustrating their manual determination in those standards.

The raw data for the aqueous blank processed by SIM was provided on request.

The date of 04/28/14 was entered on the Form 5as the DFTPP tune file acquisition for the SIM analysis, instead of 02/28/14.

TAL Metals Analyses by EPA 6010B and 7470/7471

Matrix spikes were performed on MW-7, with acceptable accuracy and precision. However, although all analytes should have been spiked, that accuracy evaluation was not performed on aluminum, calcium, magnesium, potassium, and sodium.

The ICP serial dilution evaluation for MW-7 shows acceptable correlations, with the exception of that for copper (21%D). The result for that element in the parent sample has been qualified as estimated, with a possible high bias.

The results for lead in MW-2, MW-3, MWS-D, MW-7, and DUP022414 are qualified as estimated, with a possible low bias, due to low recovery (50%) in the associated low level concentration calibration standard.

The results for aluminum in MW-7 and DUP022414 are qualified as estimated, with a possible high bias, due to elevated recovery (147%) in the associated low level concentration calibration standard.

The QC form that summarizes blank results does not include the "U" flag to represent the reporting limit concentration, and neither MDL nor RL values are provided. It is therefore not readily apparent whether the blanks contain valid concentrations of the target elements.

Volatile Analyses by EPA TO-15

The results for IA092514 and SV-6 (from 09/25/14) are rejected and not usable, due to improper vacuum issues. The pressure of the canister for IA092514 had already lost significant vacuum (up to -12"Hg) prior to sample collection, and therefore external contamination cannot be ruled out. SV-6 (from 09/25/14) (retained a vacuum (-25"Hg) at 7.5 hours after sample collection, indicating a failed system. The SV-6 location was successfully evaluated with March 2015 data

Due to poor mass spectral quality, the detections of methylene chloride and 1,3-butadiene in SV-5 (03/18/15) and methylene chloride in IA031815 have been edited to reflect non-detection.

The detection of methylene chloride in the samples reported in SDGs 14B0660 and 14C0014 are considered external contamination due to presence in the associated method blanks, and have been edited to non-detection.

Vinyl acetate results in SV-4 (09/25/14) and SV-5 (09/25/14) are qualified as estimated due to low recovery (60%) of that compound in the associated LCS.

The duplicate analysis of SV-5 shows good correlations.

Calibration standard linearity and percent difference values fall within validation guidelines, with the following exceptions, results for which are qualified as estimated in the indicated samples:

- benzyl chloride, 2-hexanone, and 1,2,4-trichlorobenzene (39%D to 68%D) in samples reported in SDG 14B0660
- benzyl chloride and 2-hexanone (36%RSD and 31%RSD) in SV-4 (09/25/14) and SV-5 (09/25/14)
- benzyl chloride, acrylonitrile, and 1,2,4-trichlorobenzene (35%RSD to 40%RSD) in samples reported in SDG 15C0645

It is noted that the area integration responses for the four compounds processed in the lowest initial calibration standard are manually integrated. This is only appropriate if the laboratory manually reviews each sample for those responses. The laboratory should have included ion plots illustrating their manual determination in those standards.

Holding times and instrument tunes meet requirements. The clean canister certifications were requested and reviewed during validation.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

Judy Harry

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0262
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-14/4D(2.5-3)	14B0262-01
RSB-14/4D(5-7)	14B0262-02
RSB-14/4D(10-11)	14B0262-03
RSB-14/4D(10-11)	14B0262-03RE1
RSB-14/4D(38-40)	14B0262-04
FB021014	14B0262-05
TB021014	14B0262-06

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Name: Benjamin Gulizia

Date: 4/2/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0311
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-13/9-11	14B0311-01
RSB-13/19-21	14B0311-02
DUP021214	14B0311-03
TB021214	14B0311-04
FB021214	14B0311-05

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Name: Benjamin Gulizia

Date: 4/3/2014 Title: Laboratory Director

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EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0376
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-12/9-11	14B0376-01
RSB-12/18-20	14B0376-02
TB-2/021214	14B0376-03

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Signature: Name: Benjamin Gulizia

Date: 4/8/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0508
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-8/1.5-3.5	14B0508-01
RSB-8/5-7	14B0508-02
RSB-8/5-7	14B0508-02RE1
RSB-8/8.5-10.5	14B0508-03
RSB-8/18.5-20.5	14B0508-04
RSB-9/8.5-10.5	14B0508-05
RSB-9/8.5-10.5	14B0508-05RE1
RSB-9/18.5-20.5	14B0508-06
RSB-7/8.5-10.5	14B0508-07
RSB-7/18.5-20.5	14B0508-08
FB021914	14B0508-09
TB021914(trip blank)	14B0508-10

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Signature: [signature] Name: Benjamin Gulizia

Date: 4/8/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0515
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-6/9-11	14B0515-01
RSB-6/19-21	14B0515-02
RSB-5/8.5-10.5	14B0515-03
RSB-5/18.5-20.5	14B0515-04
FB021814	14B0515-05
TB021814(Trip Blank)	14B0515-06

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Signature: Name: Benjamin Gulizia

Date: 4/10/2014 Title: Laboratory Director

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EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0560
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-10/7.5-9.5	14B0560-01
RSB-10/17.5-19.5	14B0560-02
RSB-11/7.5-9.5	14B0560-03
RSB-11/17.5-19.5	14B0560-04
RSB-1/10-12	14B0560-05
RSB-1/20-22	14B0560-06
DUP022014	14B0560-07
FB022014	14B0560-08
RSB-3/8-10	14B0560-09
RSB-3/18-20	14B0560-10
TripBlank	14B0560-11

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Signature: Name: Benjamin Gulizia

Date: 4/11/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0571
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB-2/1-3	14B0571-01
RSB-2/5-7	14B0571-02
RSB-2/11-13	14B0571-03
RSB-2/11-13	14B0571-03RE1
RSB-2/18-20	14B0571-04
RSB-4/8/10	14B0571-05
RSB-4/18/20	14B0571-06
FB022114	14B0571-07
Trip Blank	14B0571-08

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Signature: Name: Benjamin Gulizia

Date: 4/14/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0649
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
MW-1	14B0649-01
MW-2	14B0649-02
MW-3	14B0649-03
MW-4D	14B0649-04
MW-6	14B0649-05
MW-7	14B0649-06
DUP022414	14B0649-07
TripBlank	14B0649-08
FB022414	14B0649-09

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Signature:

Name: Benjamin Gulizia

Date: 4/14/2014

Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA TO-15

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14B0660
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
SV-1	14B0660-01
SV-3	14B0660-02
SV-4	14B0660-03
SV-5	14B0660-04
Outdoor Ambient	14B0660-05
IA-1	14B0660-06

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Signature: Name: Benjamin Gulizia

Date: 3/3/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA TO-15

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14C0014
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
SV-2	14C0014-01

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Signature:

Name: Benjamin Gulizia

Date: 3/5/2014

Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14I0443
Client:	Roux Associates	Project:	Kristal (Brooklyn) - 1575.00024

Client Sample Id:	Lab Sample Id:
RSB/MW-16 11-13	14I0443-01
RSB/MW-16 11-13	14I0443-01RE1
RSB/MW-16 1-3	14I0443-02
RSB/MW-16 17-18	14I0443-03
RSB/MW-14 1-3	14I0443-04
TB090914	14I0443-05
FB091014	14I0443-06

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Signature: Name: Benjamin Gulizia

Date: 10/27/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14I0505
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
RSB/MW-15/4-5	14I0505-01
RSB/MW-15/10-11	14I0505-02
RSB/MW-15/10-11	14I0505-02RE1
RSB/MW-15/14-15	14I0505-03
RSB/MW-14/12-14	14I0505-04
RSB/MW-14/17-18	14I0505-05
FB091014	14I0505-06
TB091014	14I0505-07
DUP091014	14I0505-08
RSB/MW-17/1-3	14I0505-09
RSB/MW-17/13-15	14I0505-10
RSB/MW-17/13-15	14I0505-10RE1
RSB/MW-17/17-18	14I0505-11

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature:

Name: Benjamin Gulizia

Date: 10/26/2014

Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA TO-15

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14I1112
Client:	Roux Associates	Project:	1575.00034

Client Sample Id:	**Lab Sample Id:**
SV-4	14I1112-01
SV-5	14I1112-02
SV-6	14I1112-03
IA092514	14I1112-04
IA092514	14I1112-04RE1

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Signature: Name: Benjamin Gulizia

Date: 11/6/2014 Title: Laboratory Director

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EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	14J0015
Client:	Roux Associates	Project:	1575.00034

Client Sample Id:	Lab Sample Id:
MW-9	14J0015-01
MW-3	14J0015-02
FB092614	14J0015-03
DUP092614	14J0015-04
TRIP BLANK	14J0015-05

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Signature: Name: Benjamin Gulizia

Date: 10/16/2014 Title: Laboratory Director

DATA PACKAGE COVER PAGE

EPA TO-15

Laboratory:	York Analytical Laboratories, Inc.	SDG:	15C0645
Client:	Roux Associates	Project:	1575.00024

Client Sample Id:	Lab Sample Id:
SV-4	15C0645-01
SV-5	15C0645-02
SV-6	15C0645-03
AMB031815	15C0645-04
IA031815	15C0645-05
IA031815	15C0645-05RE1

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Signature: Name: Benjamin Gulizia

Date: 4/13/2015 Title: Laboratory Director

APPENDIX G

Sanborn Maps

Kristal Auto Mall
5200 Kings Highway
Brooklyn, NY 11234

Inquiry Number: 3187295.3
October 14, 2011

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/14/11

Site Name:
Kristal Auto Mall
5200 Kings Highway
Brooklyn, NY 11234

EDR Inquiry # 3187295.3

Client Name:
Roux Associates
209 Shafter Street
Islandia, NY 11749

Contact: Wendy Monterosso

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Roux Associates were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Kristal Auto Mall
Address: 5200 Kings Highway
City, State, Zip: Brooklyn, NY 11234
Cross Street:
P.O. # CWerle - 1575.0002Y
Project: Kristal Auto Mall
Certification # 634C-437B-870F

Maps Provided:

2007	2001	1989	1979	1907
2006	1996	1988	1977	
2005	1995	1987	1969	
2004	1993	1983	1968	
2003	1992	1981	1950	
2002	1990	1980	1930	

Sanborn® Library search results
Certification # 634C-437B-870F

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

2007 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

2006 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

2005 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

2004 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

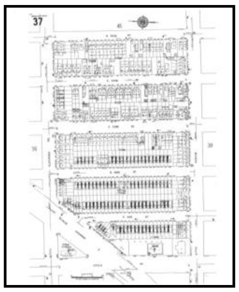
2003 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

2002 Source Sheets

Volume 15, Sheet 36

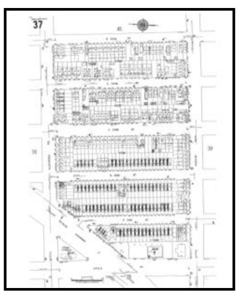


Volume 15, Sheet 37

Volume 15, Sheet 43

2001 Source Sheets

Volume 15, Sheet 36



Volume 15, Sheet 37

Volume 15, Sheet 43

1996 Source Sheets

Volume 15, Sheet 37

Volume 15, Sheet 36

1995 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

1993 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

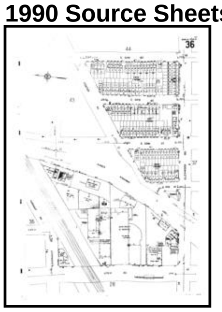
1992 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

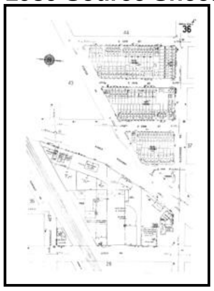
1990 Source Sheets



Volume 15, Sheet 36

Volume 15, Sheet 37

1989 Source Sheets

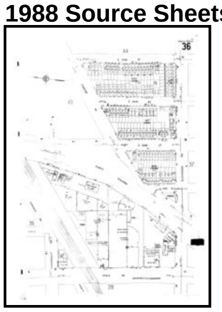


Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

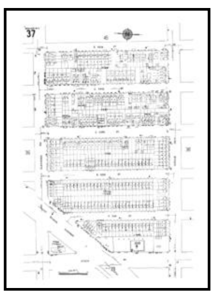
1988 Source Sheets



Volume 15, Sheet 36

Volume 15, Sheet 37

1987 Source Sheets

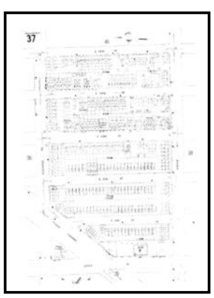


Volume 15, Sheet 36

Volume 15, Sheet 37

Volume 15, Sheet 43

1983 Source Sheets



Volume 15, Sheet 36

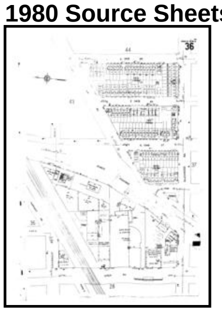
Volume 15, Sheet 37

1981 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

1980 Source Sheets



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Volume 15, Sheet 37

Volume 15, Sheet 43

1979 Source Sheets

Volume 15, Sheet 36

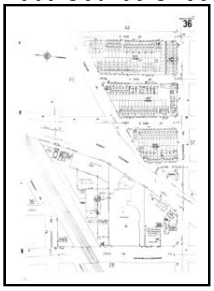
Volume 15, Sheet 37

1977 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

1969 Source Sheets



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Volume 15, Sheet 37

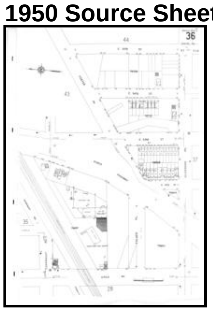
Volume 15, Sheet 43

1968 Source Sheets

Volume 15, Sheet 36

Volume 15, Sheet 37

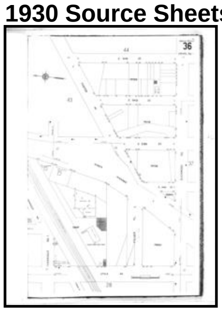
1950 Source Sheets



Volume 15, Sheet 36

Volume 15, Sheet 37

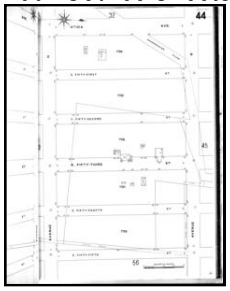
1930 Source Sheets



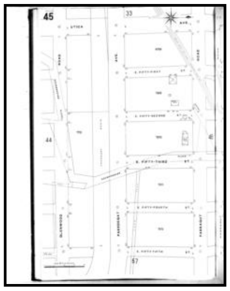
Volume 15, Sheet 36

Volume 15, Sheet 37

1907 Source Sheets



Volume 15, Sheet 44



Volume 15, Sheet 45

2007 Certified Sanborn Map

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Certification # 634C-437B-870F

Site Name:	Kristal Auto Mall
Address:	5200 Kings Highway
City, ST, ZIP:	Brooklyn NY 11234
Client:	Roux Associates
EDR Inquiry:	3187295.3
Order Date:	10/14/2011 4:24:03 PM
Certification #	634C-437B-870F
Copyright:	2007

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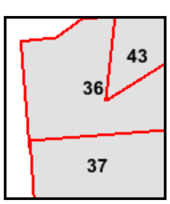

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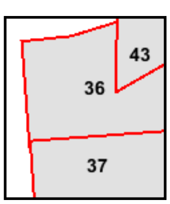

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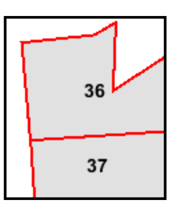

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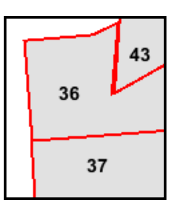

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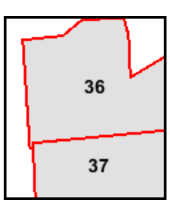

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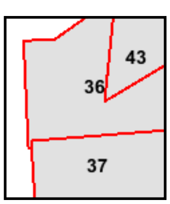

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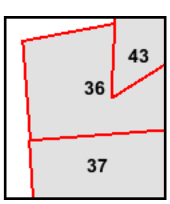

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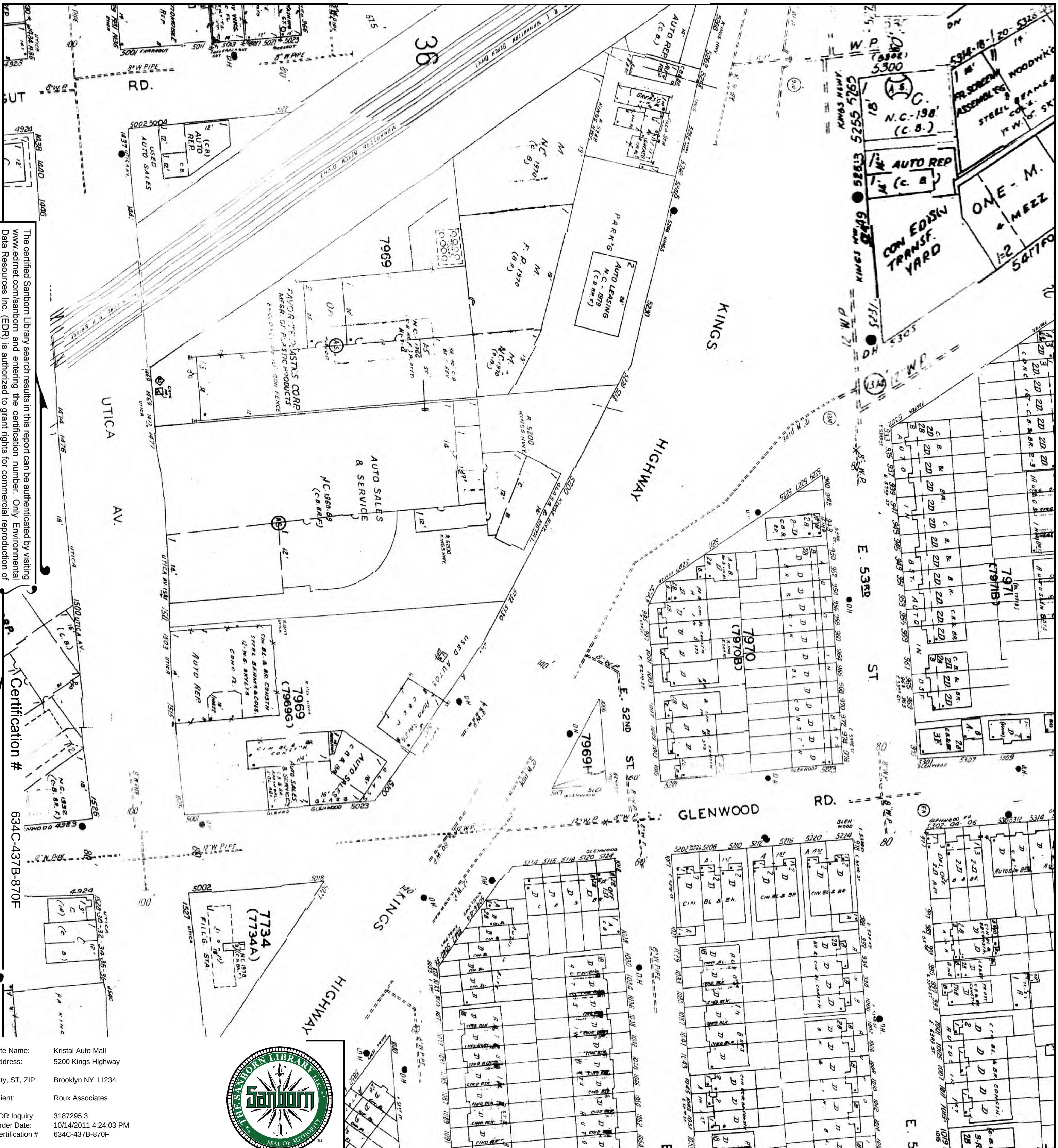

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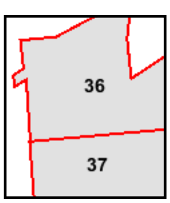

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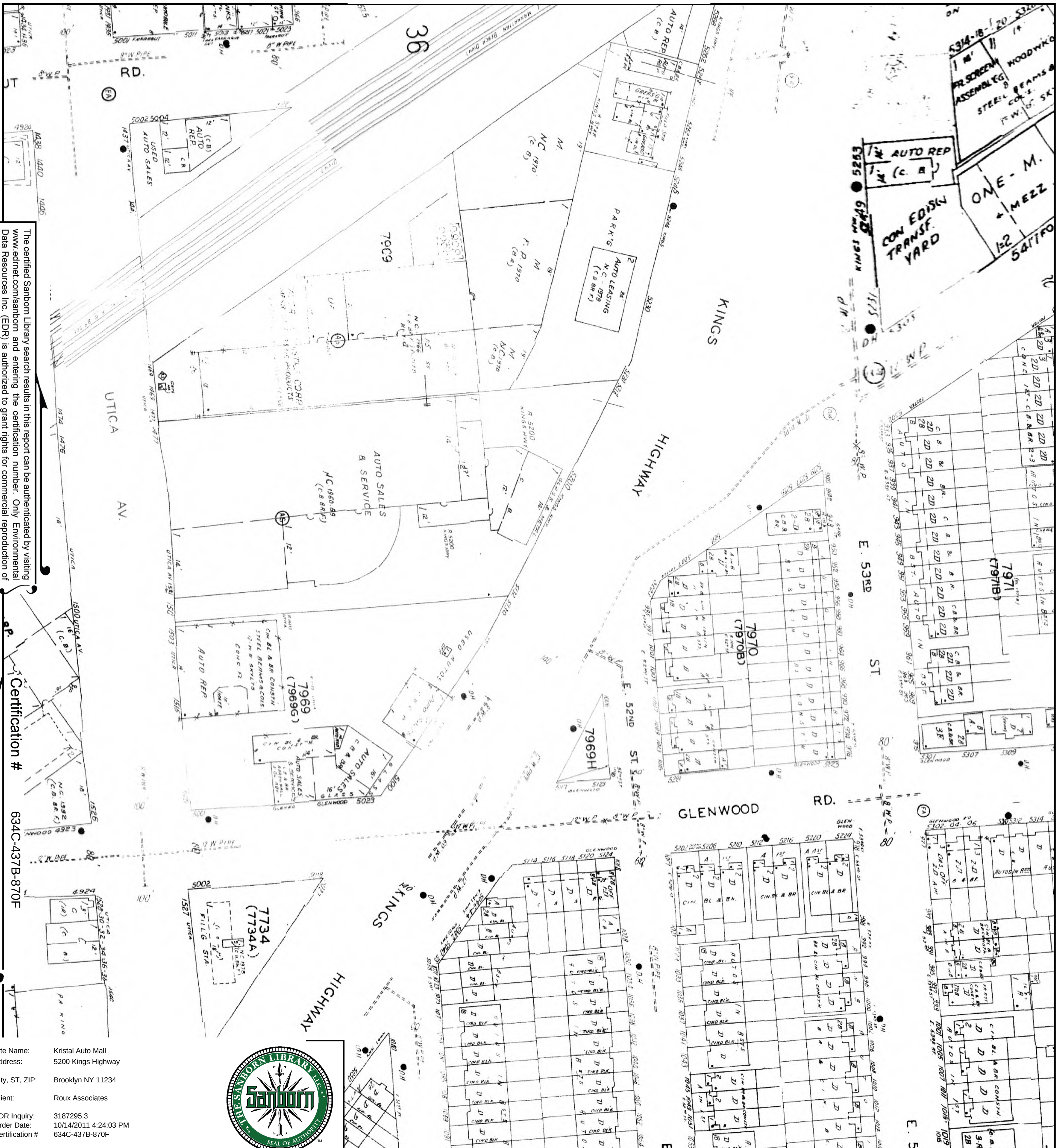

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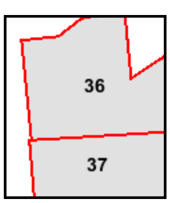

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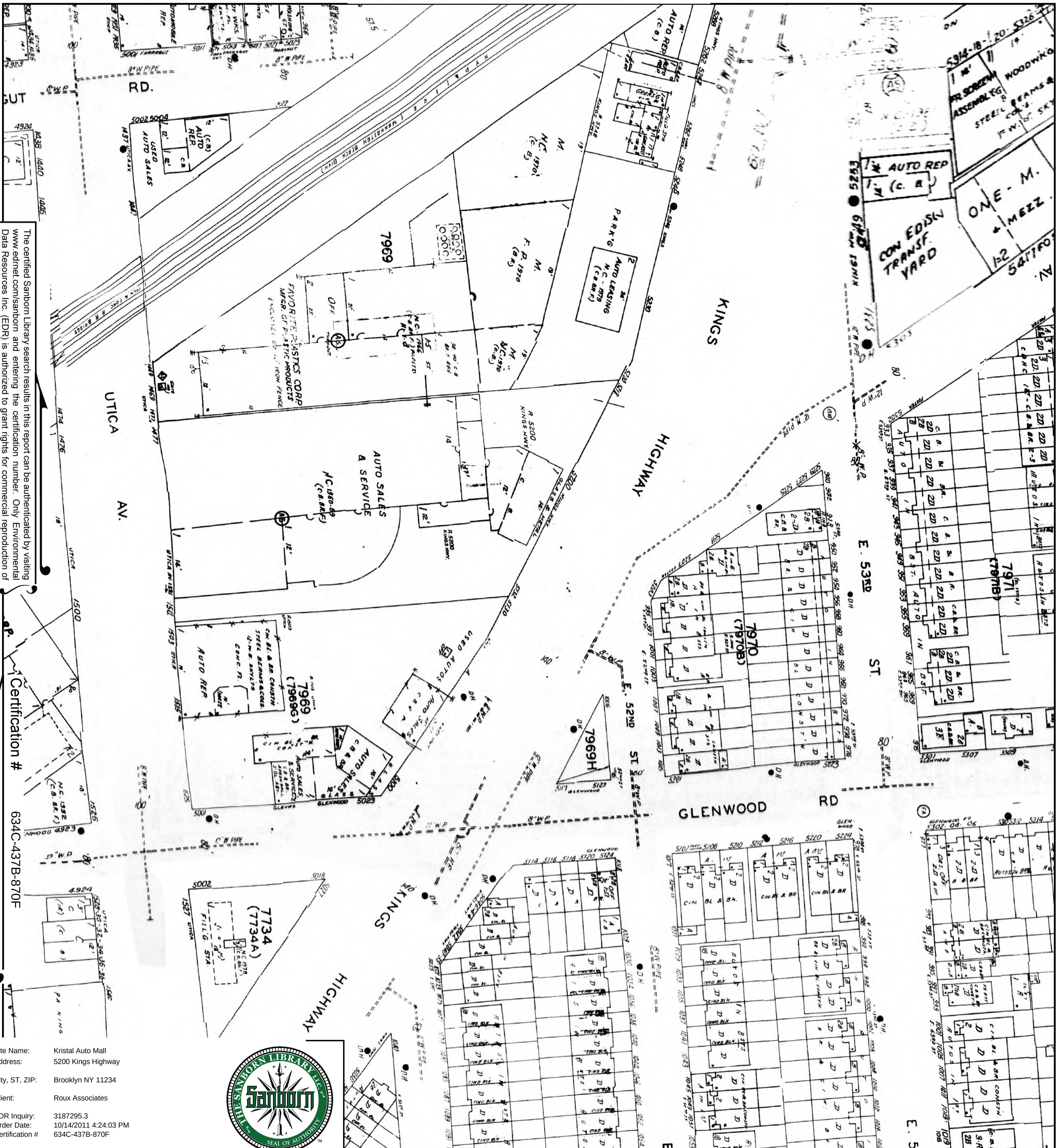

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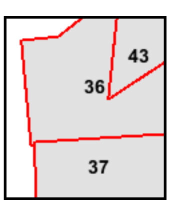

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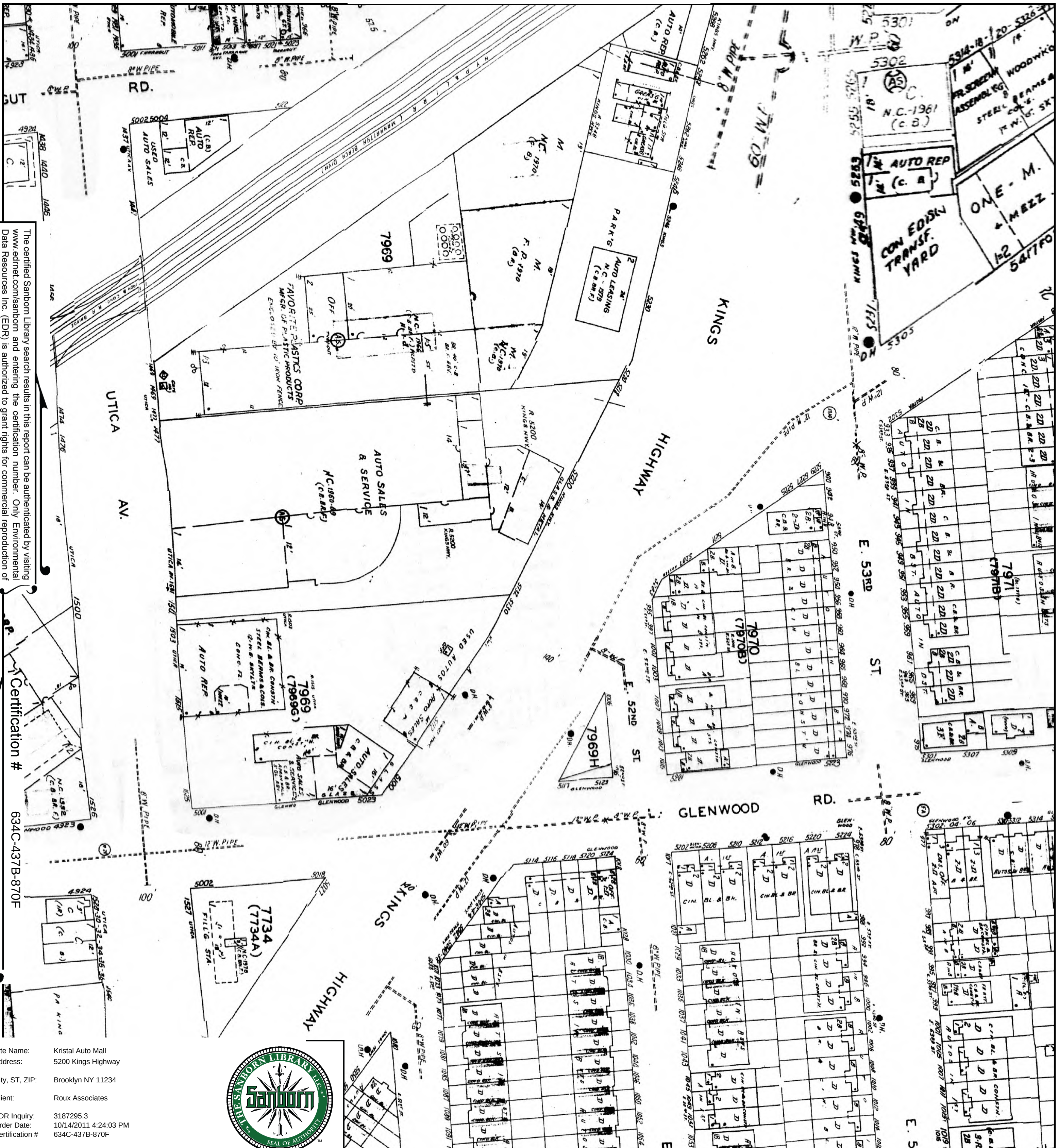

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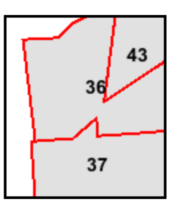

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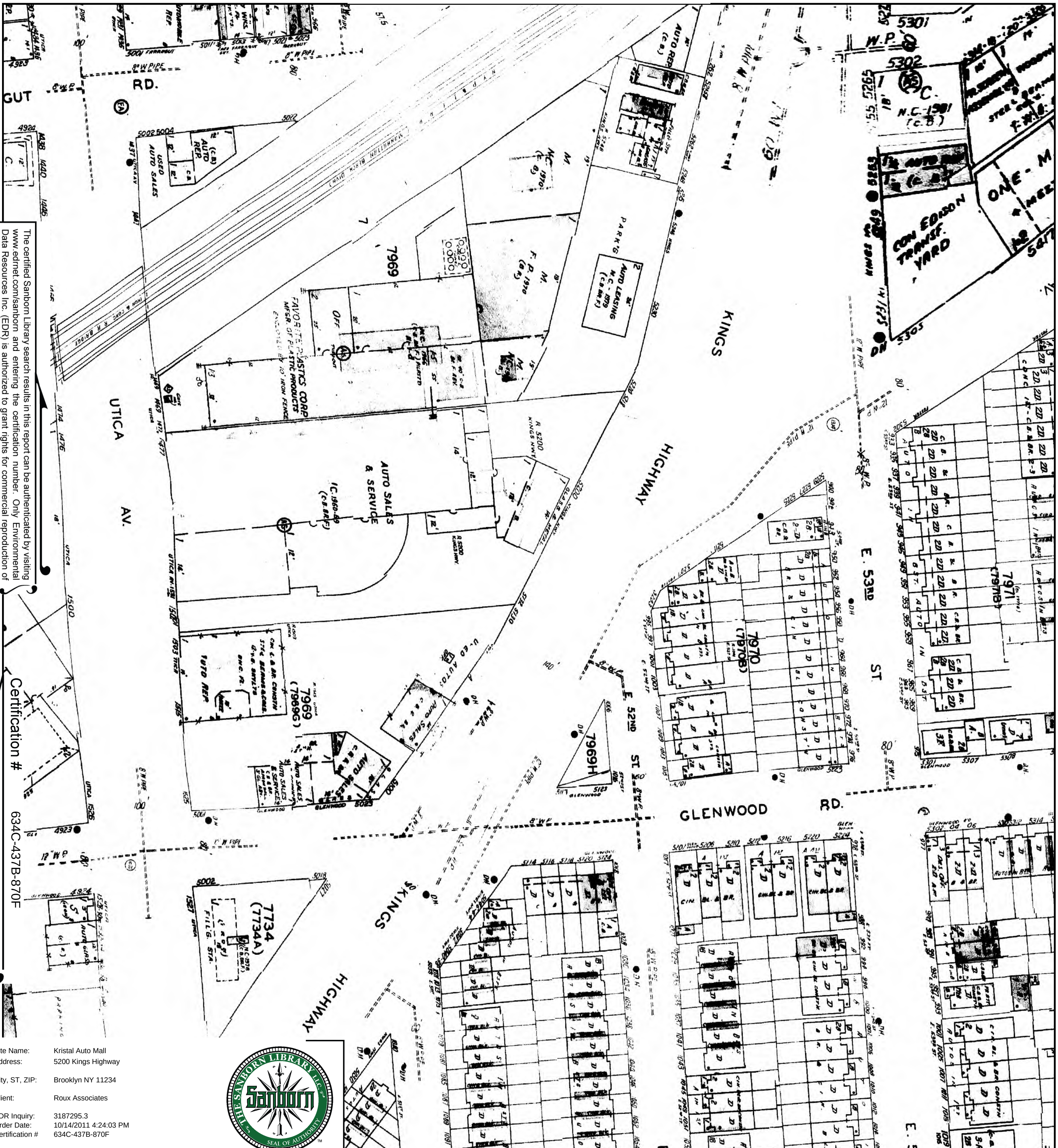

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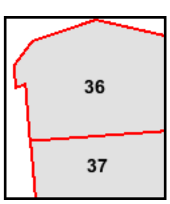

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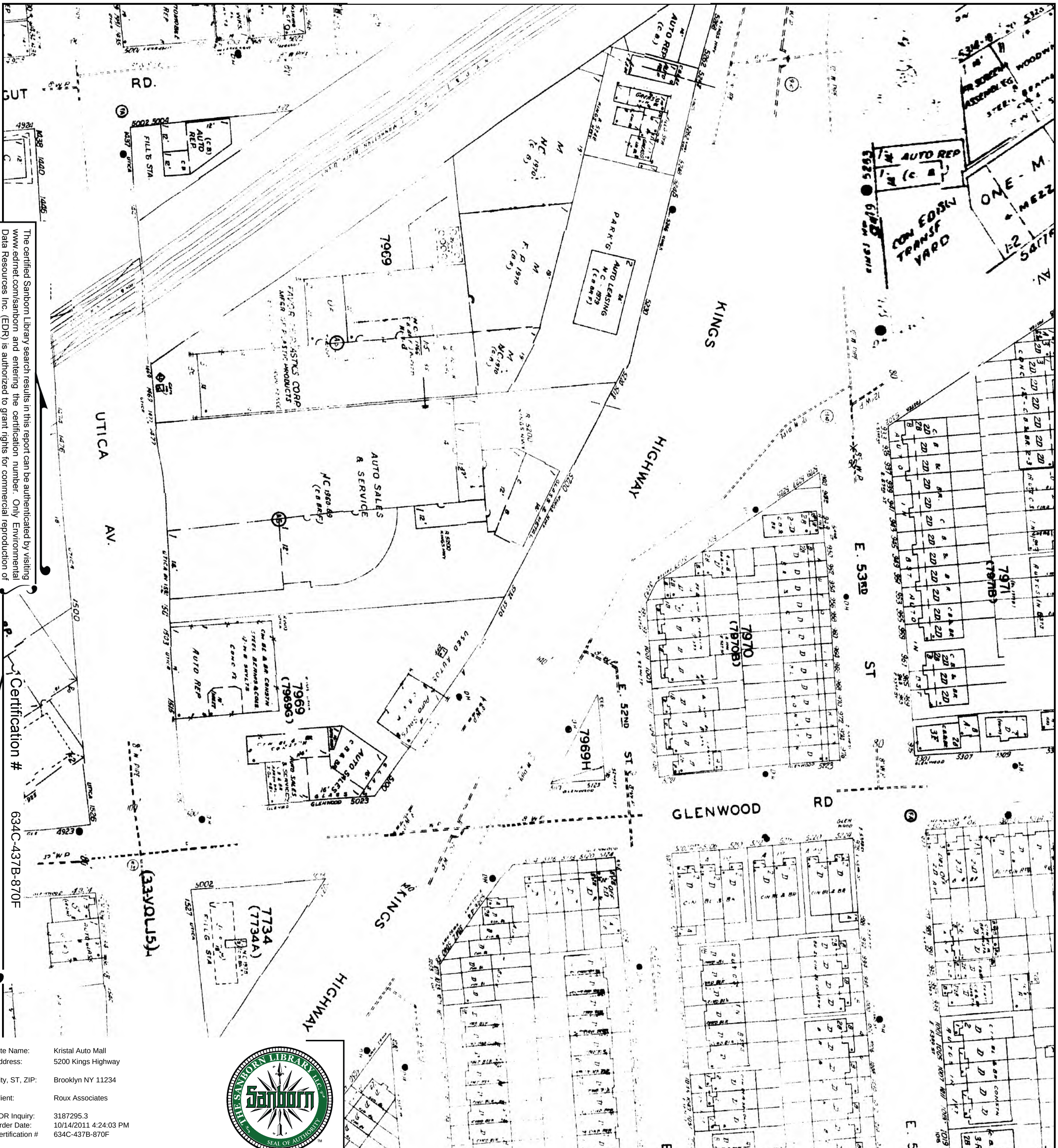

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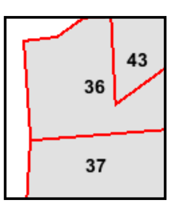

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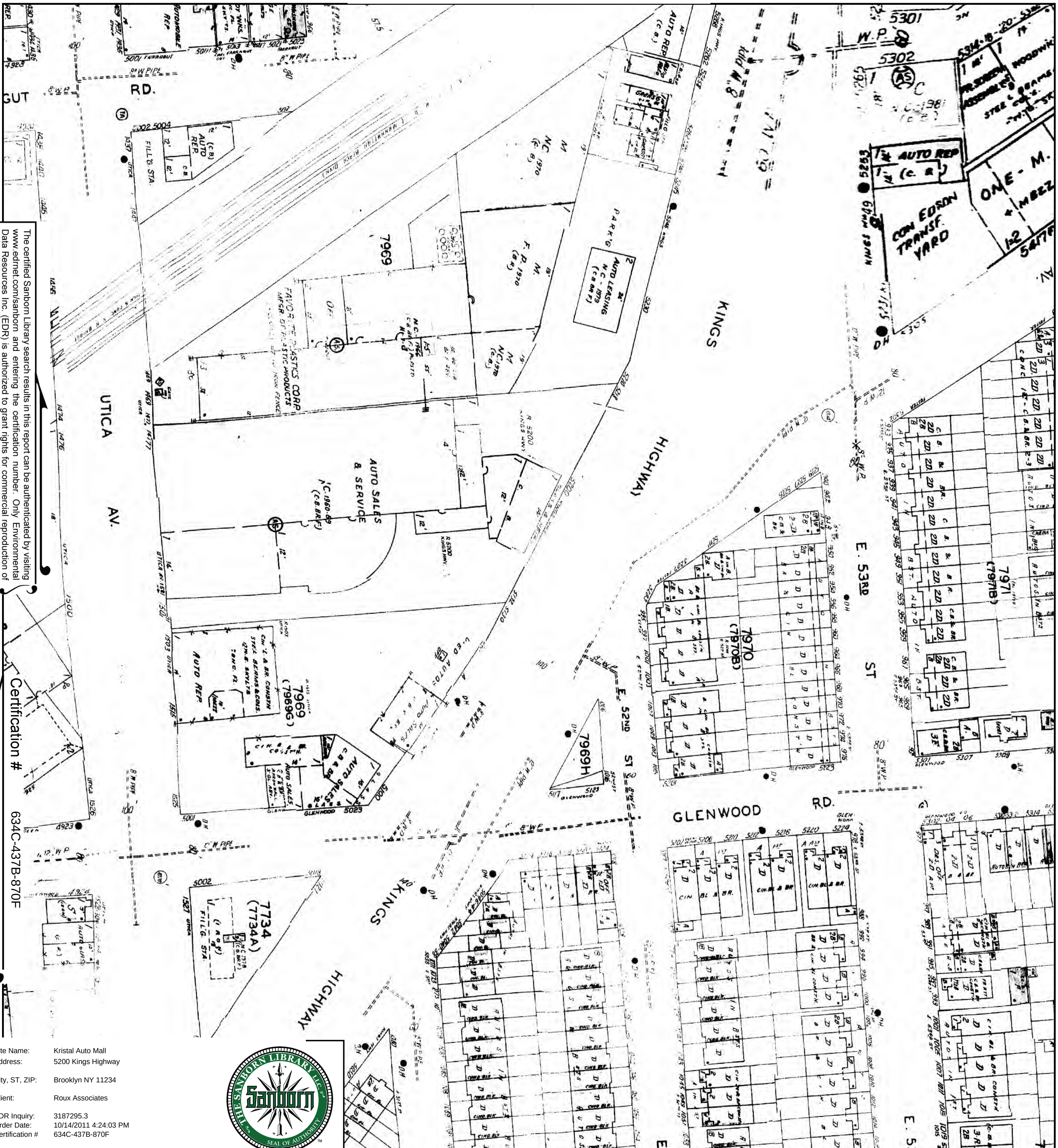

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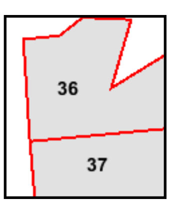

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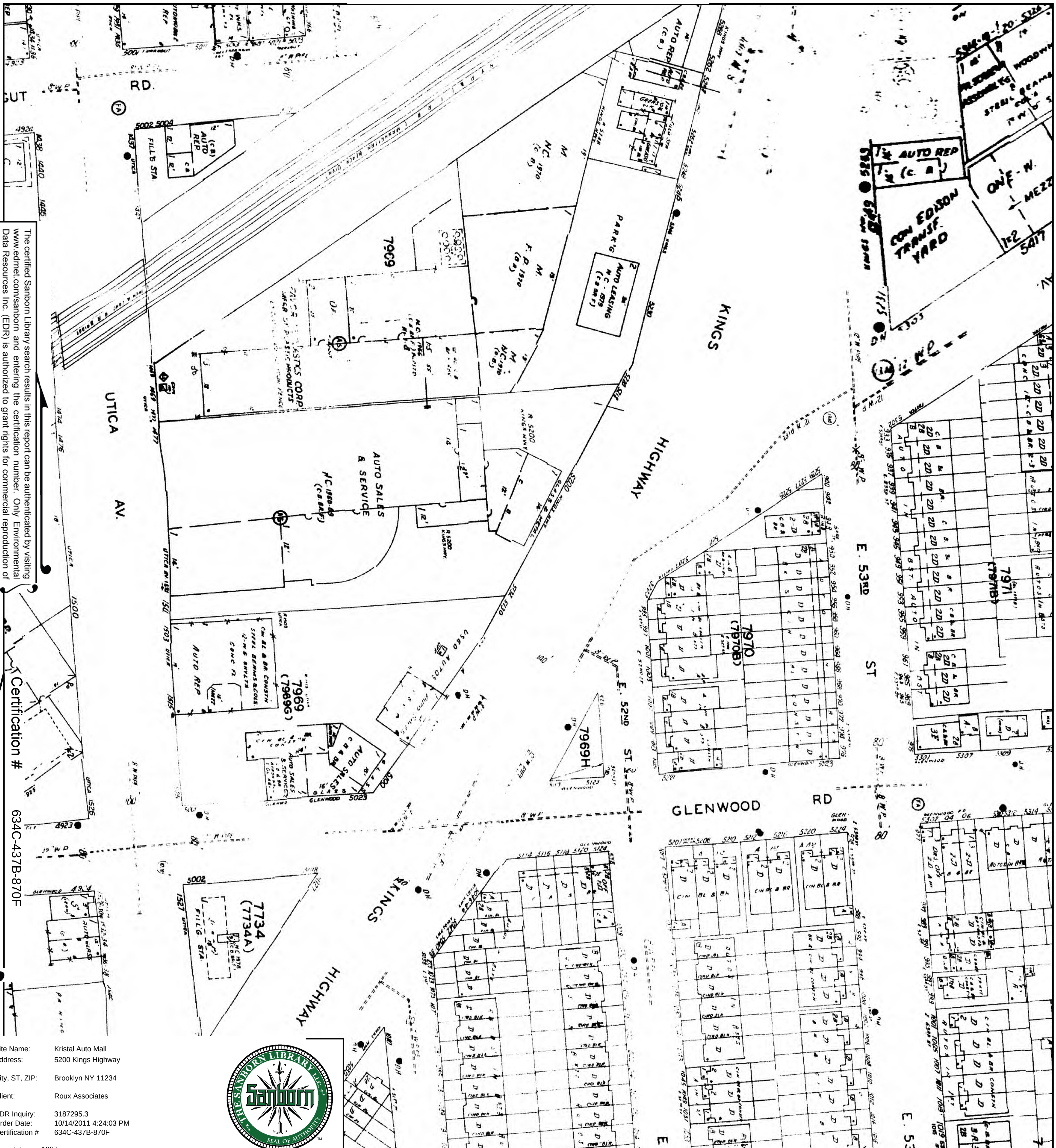

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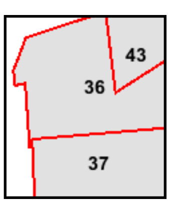

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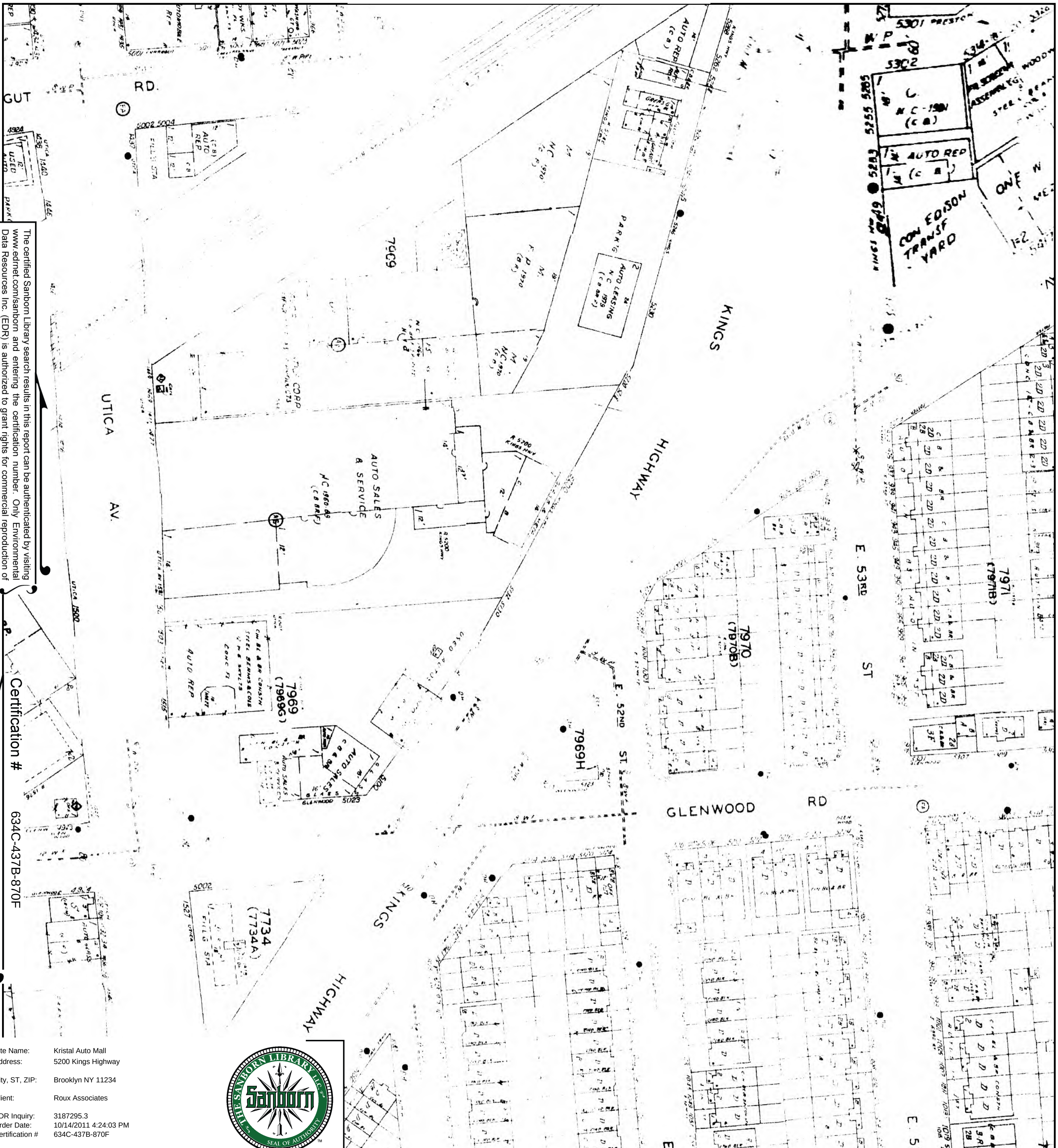

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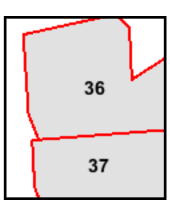

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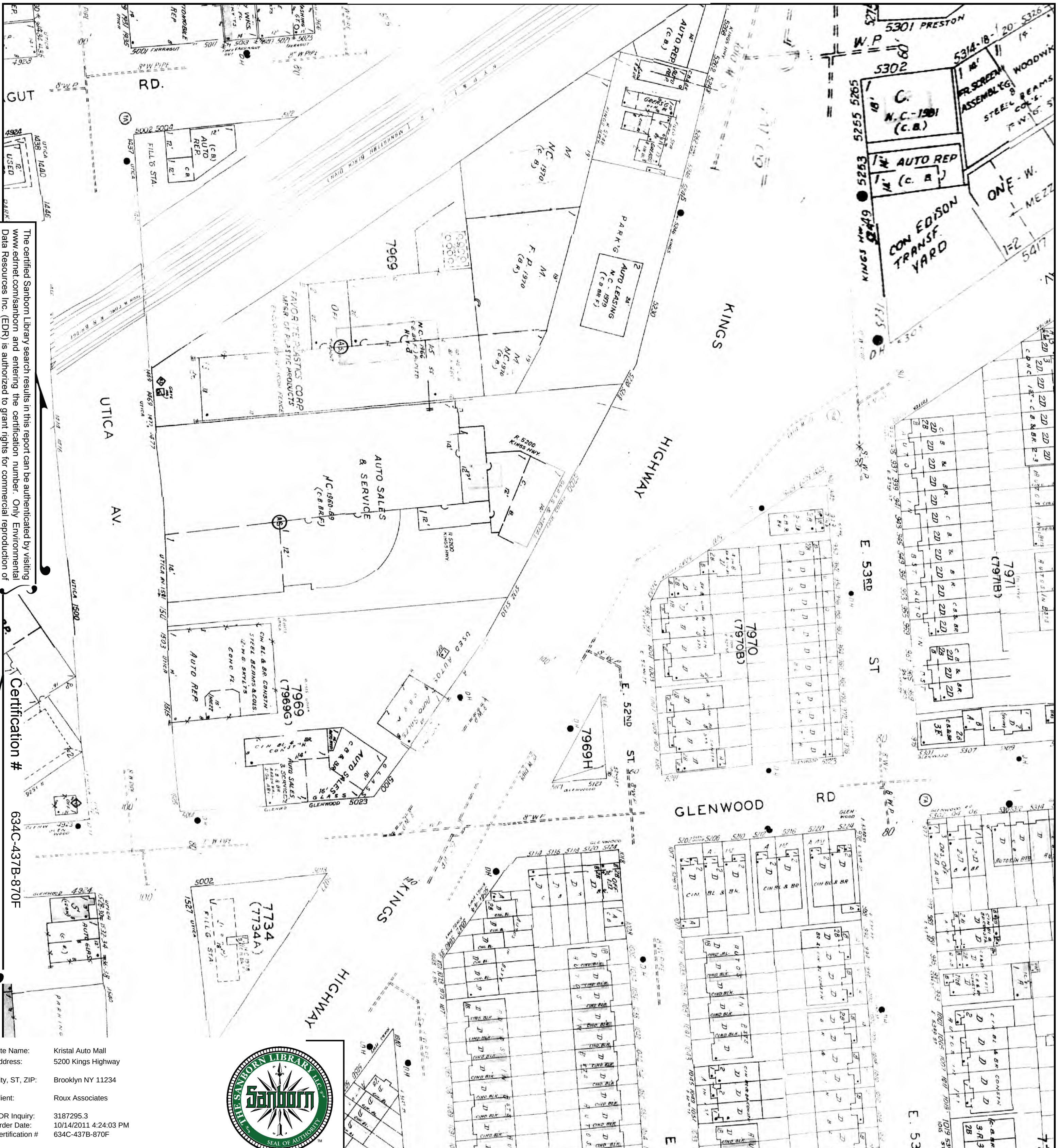

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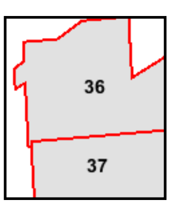

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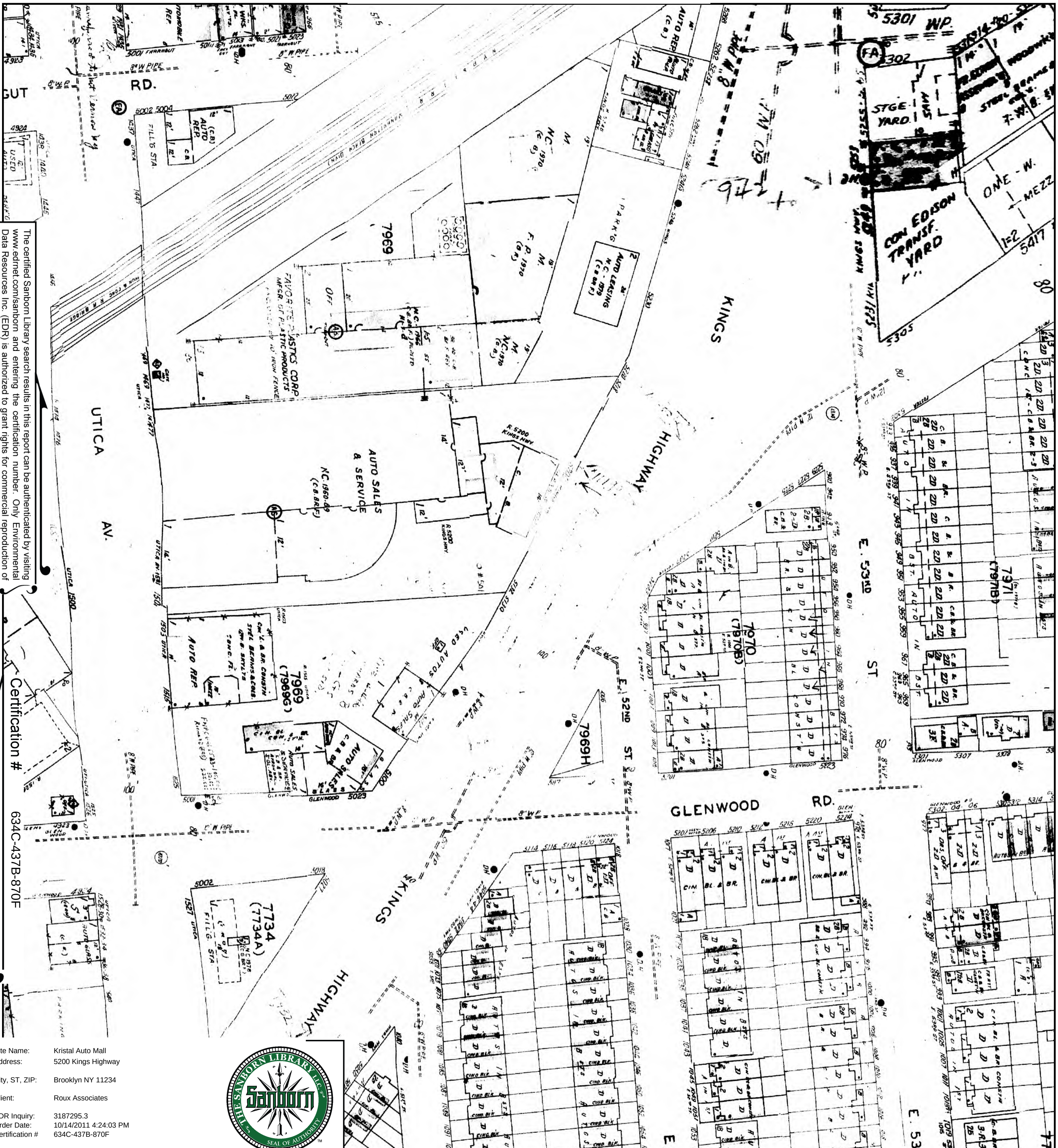

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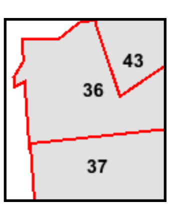

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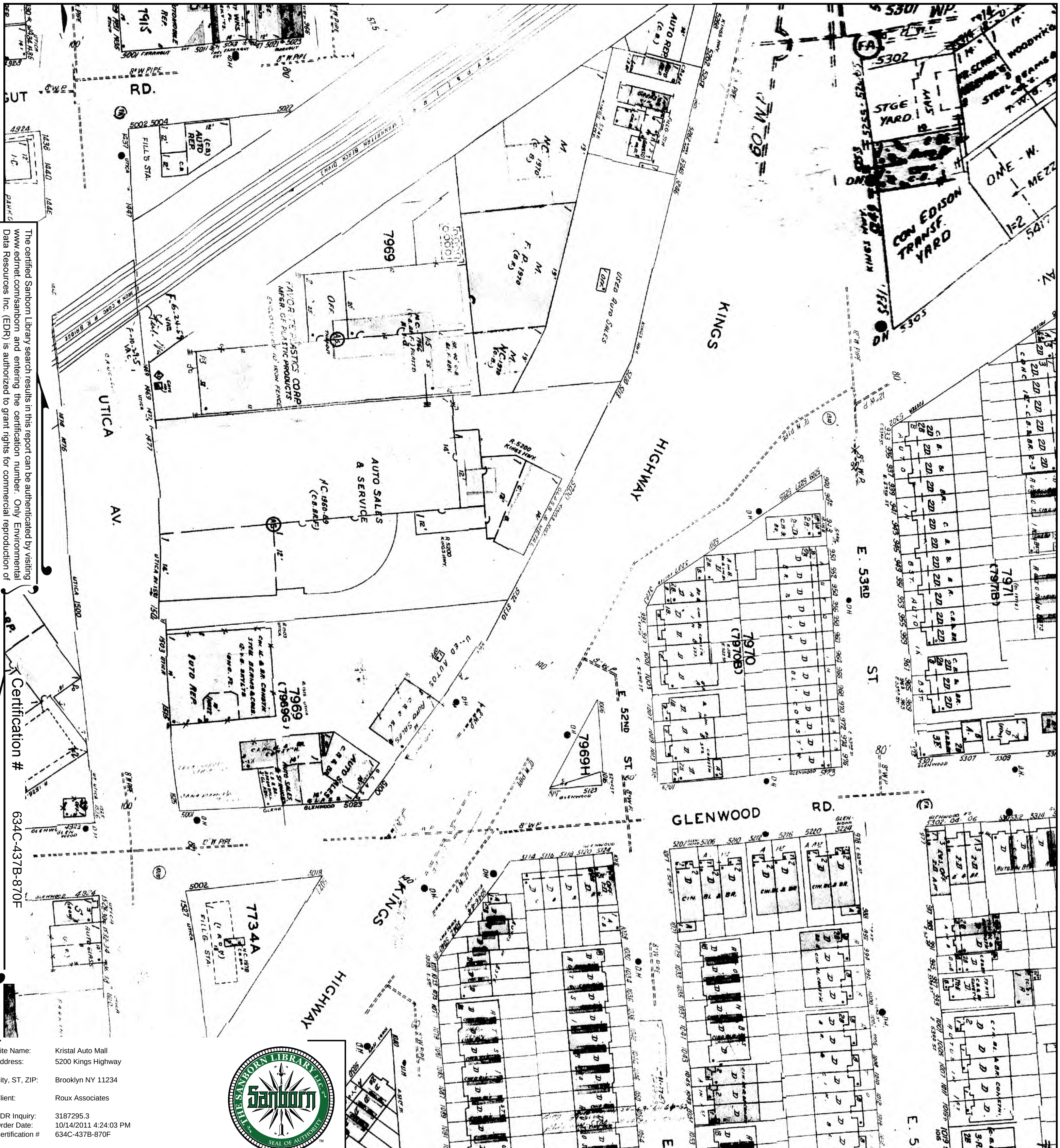

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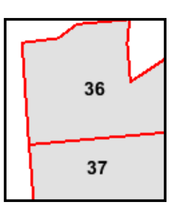

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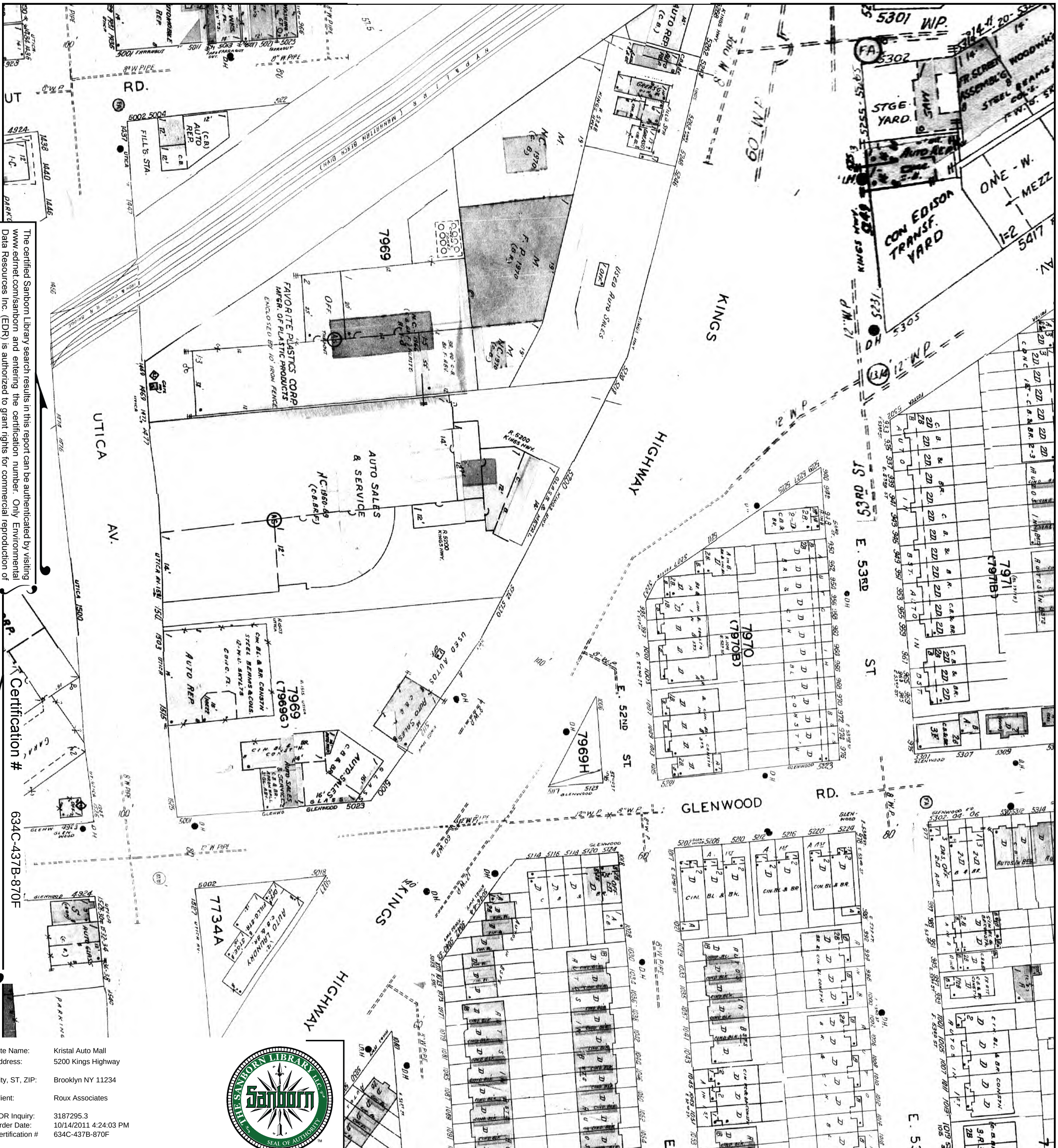

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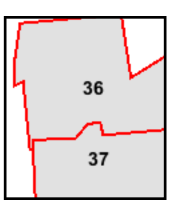

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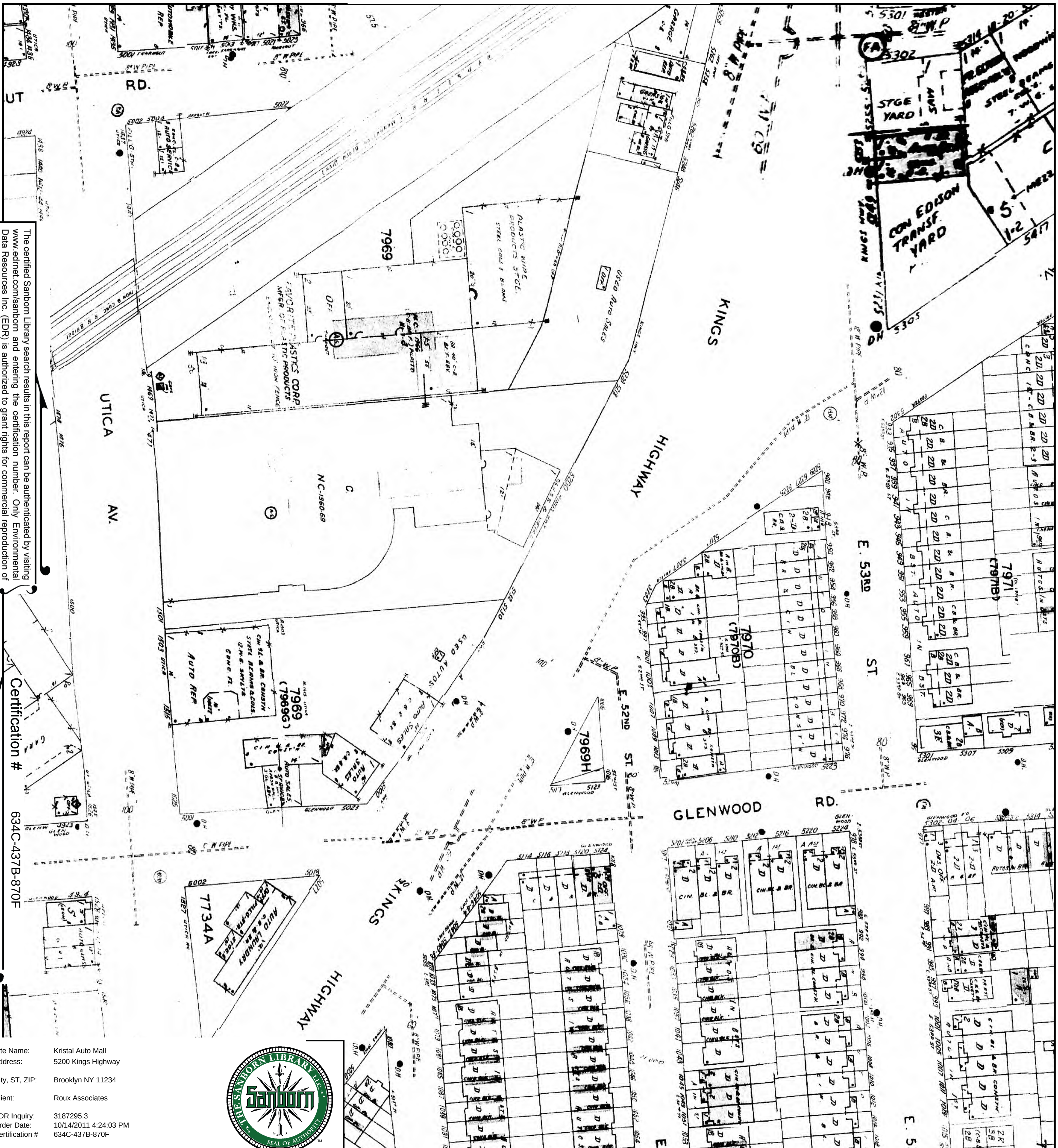

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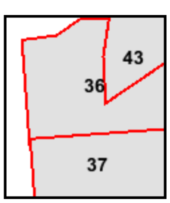

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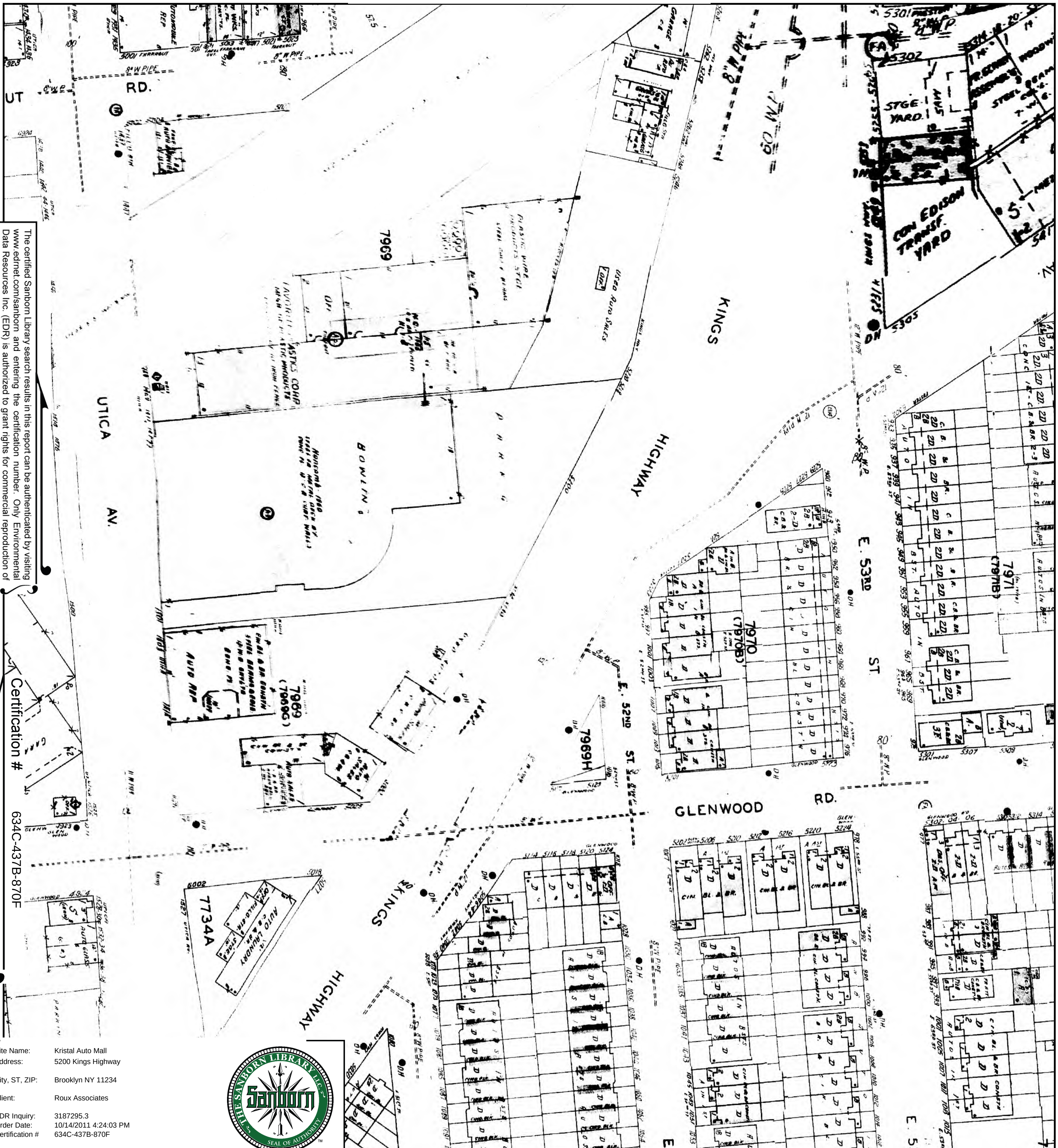

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Client:	Roux Associates
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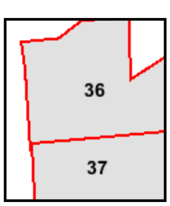

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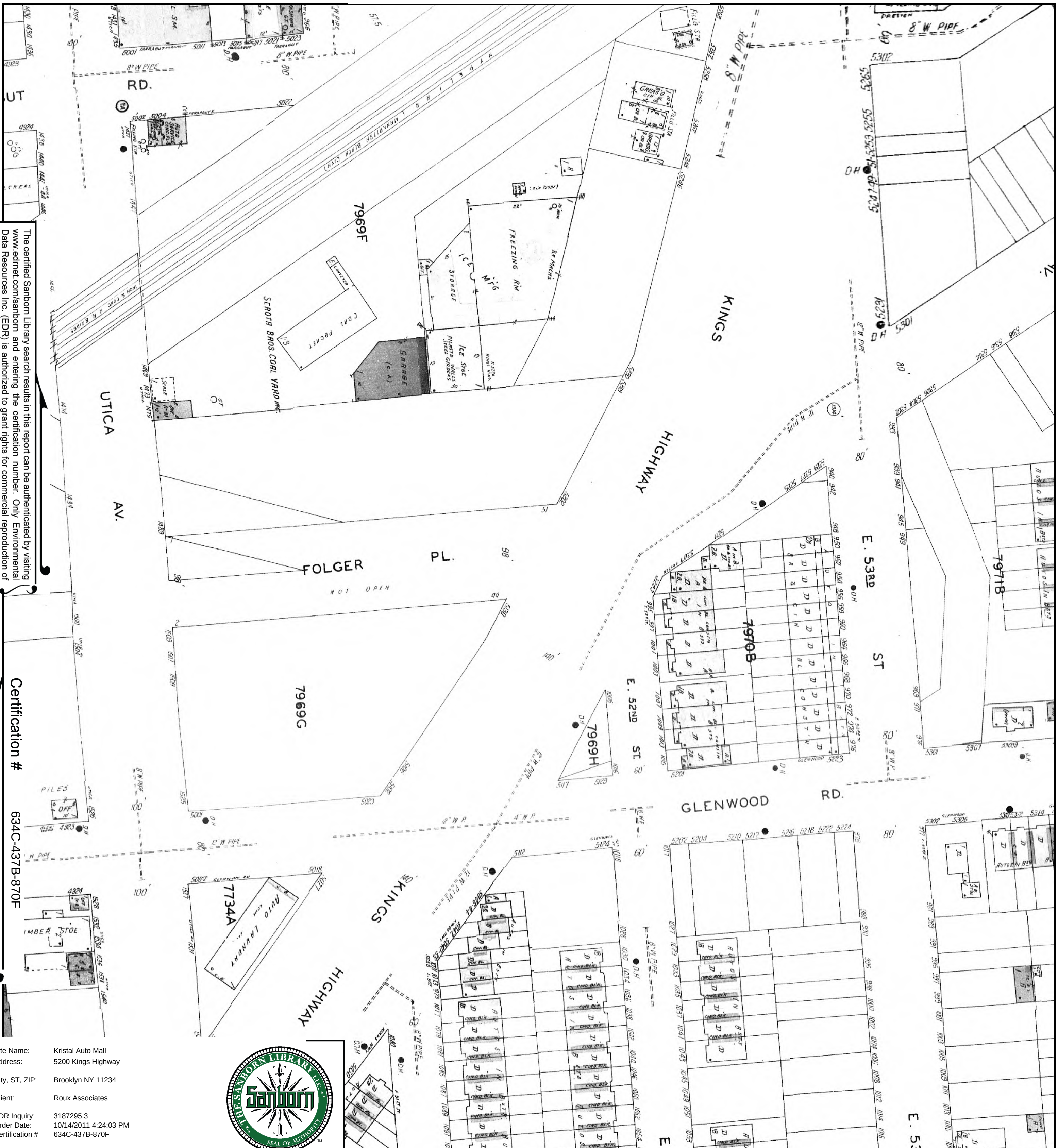

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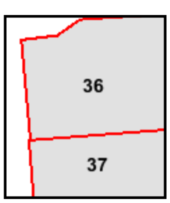

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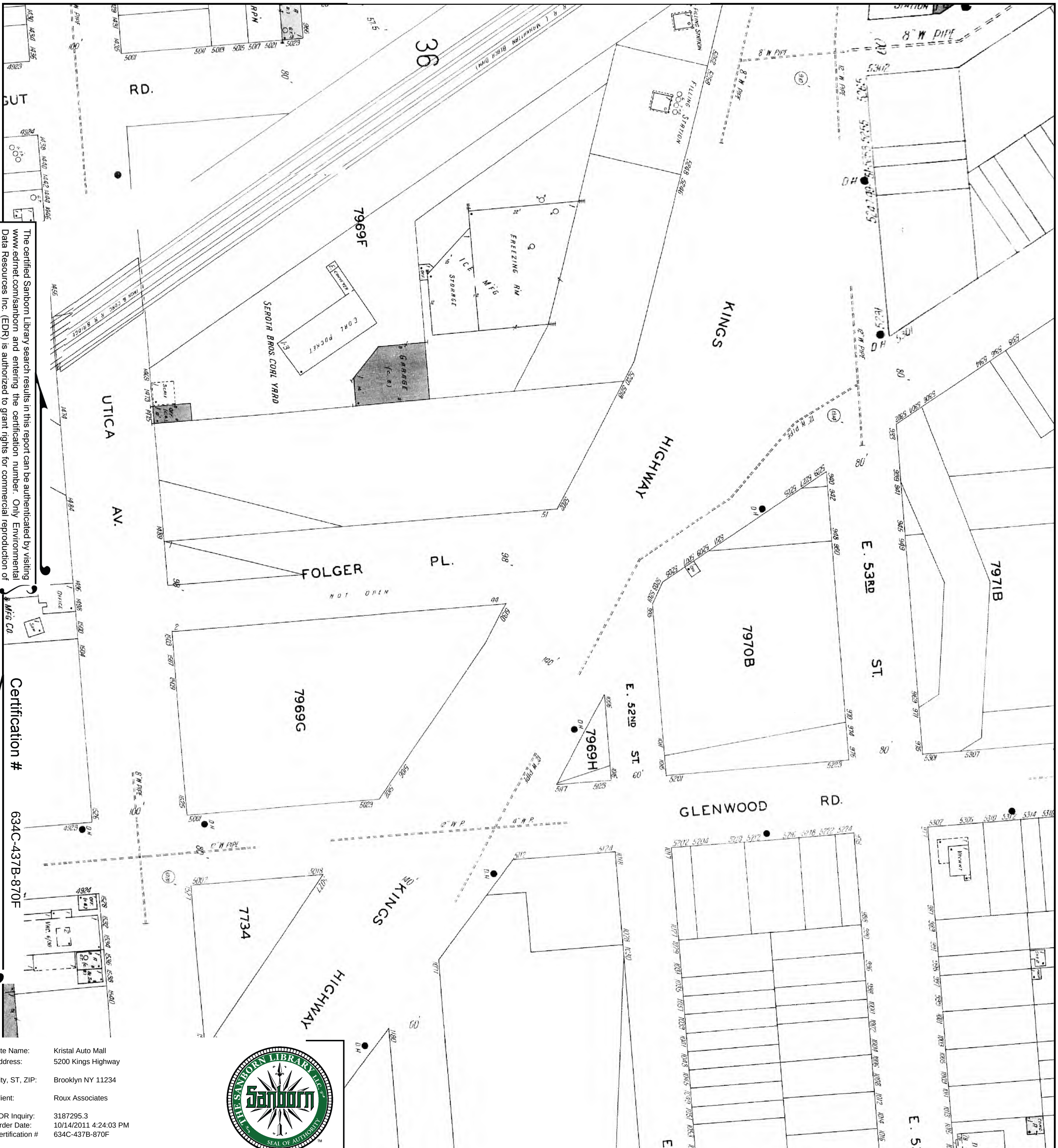

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Address:	5200 Kings Highway
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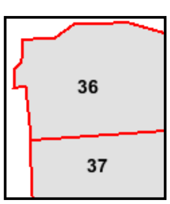

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1907 Certified Sanborn Map

Certification # 634C-437B-870F

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Address: 5200 Kings Highway
City, ST, ZIP: Brooklyn NY 11234
Client: Roux Associates
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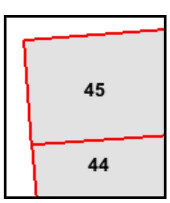

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APPENDIX H

Health and Safety Plan and Community Air Monitoring Plan

Site-Specific
Health and Safety Plan

Former Kristal Auto Mall
5200 Kings Highway
Brooklyn, New York 10021

May 8, 2018

Prepared for:

PTMA 5200 Kings Highway LLC
(c/o Bridges Development Group)
150 East 58th Street, 15th Floor
New York, New York 10155

Prepared by:

Roux Environmental Engineering
and Geology, D.P.C.
209 Shafter Street
Islandia, New York 11749

2861.0001Y.103/CV

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& Management
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rouxinc.com

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Approvals

By their signature, the undersigned certify that this Health and Safety Plan (HASP) is approved and will be utilized at the project site located at 5200 Kings Highway, Brooklyn, New York.

Joseph W. Gentile

Joseph Gentile Corporate Health and Safety Manager Roux	May 8, 2018 Date
Tally Sodre Office Health and Safety Manager Roux	May 8, 2018 Date
Rachel Henke Site Health and Safety Officer Roux	May 8, 2018 Date

Craig A. Werle

Craig Werle Project Principal Roux	May 8, 2018 Date

1. Introduction

This Site specific and Safety Plan (HASP) has been prepared in accordance with 29 CFR 1910.120 Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) and Roux Environmental Engineering and Geology, D.P.C (Roux) Standard Operating Procedures (SOPs). It addresses all activities to be performed during the implementation of Remedial Investigation (RI) activities, Interim Remedial Measures (IRM), and Remedial Actions (RA) at 5200 Kings Highway, Brooklyn, New York (Site) (Figure 1). The HASP will be implemented by the designated Site Health and Safety Officer (SSO) during work at the Site. The HASP attempts to identify all potential hazards at the Site; however, Site conditions are dynamic and new hazards may appear constantly. Personnel must remain alert to existing and potential hazards as Site conditions change and protect themselves accordingly.

Compliance with this HASP is required of all persons and subcontractors who perform fieldwork or enter the Site. The contents of this HASP may change or undergo revision based upon additional information made available to health and safety personnel, monitoring results, or changes in the technical scope of work. Any changes proposed must be reviewed and approved by HASP.

Upon entering the Site, all visitors are required to sign in. All visitors entering the Contamination Reduction Zone (CRZ) (defined in Section 8.1.2), the Contamination Reduction Corridor (CRC) (defined in Section 8.1.2), or the Exclusion Zone (EZ) (defined in Section 8.1.3) will be required to read and comply with the provisions of this HASP. Visitors will be required to comply with applicable OSHA requirements such as training, medical monitoring, and respiratory protection.

In the event that a visitor does not adhere to the provisions of this HASP, he or she will be required to leave the Site. Mobilization activities not requiring intrusive activities (e.g., survey, equipment staging, etc.) or exposure to potentially impacted areas may only be performed if supervised by a competent Roux employee.

1.1 Scope of Work

The Scope of Work activities will include the implementation of RI activities.

The Scope of Work activities are as follows:

1. Obtain necessary permits and approvals.
2. Preparation and implementation of an approved Health and Safety Plan (HASP).
3. Implementation of RI, IRM and RA activities, consisting of site inspection/reconnaissance, geophysical survey, drilling, soil boring and sampling, groundwater sampling, soil vapor sampling, oversight and CAMP monitoring.
4. Implementation of the approved Field Sampling Plan (FSP).
5. Mobilization and demobilization.
6. Maintain good site housekeeping procedures at all times.
7. Identification, protection, and/or relocation of any utilities within the work area.
8. Construct a decontamination pad with proper containment and collection system, if necessary.

1.2 Emergency Numbers

1.2.1 Emergency Phone Numbers

Emergency Medical Service 911

Police: New York City Police Department (NYPD) 911

Fire: 911

Hospital: University Hospital of Brooklyn.. 718-270-1000

National Response Center 800-424-8802

Poison Control Center 800-222-1222

Chemtrec 800-262-8200

Center for Disease Control 800-311-3435

USEPA (Region II) 212-637-5000

NYSDEC Emergency Spill Response 800-457-7362

1.2.2 Project Management/Health and Safety Personnel

Title	Contact	Telephone/Cell
Roux		
Project Director	Craig Werle	631-232-2600 Cell – 631-793-1535
Site Health and Safety Officer	Rachel Henke	631-232-2600
Corporate Health and Safety Manager	Joseph Gentile	856-423-8800 Cell – 610-844-6911

1.2.3 Other Important Phone Numbers

New York City Emergency Response Team 911

1.2.4 Directions to University Hospital of Brooklyn

470 Clarkson Avenue
Brooklyn, New York 11203

See Figure 3 for street map.

- Start at 5200 Kings Highway, Brooklyn, New York, take a right onto Kings Highway
- Turn Right onto Glenwood Road
- Turn Right onto Utica Avenue
- Turn Left onto Clarkson Avenue
- Arrive at University Hospital of Brooklyn on your left

1.2.5 Directions to Urgent Care Center (CityMD)

2175 Ralph Avenue
Brooklyn, New York 11234

- Head Southwest on Kings Highway and keep left to stay on Kings Highway
- Turn Left at the 1st cross street onto Glendwood Road
- At in Memory of Police Officer James Carragher, continue onto Farragut Road
- Turn right on Ralph Avenue

2. Health and Safety Staff

This section briefly describes all site personnel and their health and safety responsibilities for the RI work to be implemented at the Site. All personnel are responsible for ensuring compliance with the HASP.

2.1 Project Principal (PP) – Craig Werle – Roux

- Has the overall responsibility for the health and safety of Site personnel.
- Ensures that adequate resources are provided to the field health and safety staff to carry out their responsibilities as outlined below.

2.2 Corporate Health and Safety Manager (CHSM) – Joe Gentile – Roux

- Implements the HASP.
- Performs or oversees site specific training and approves revised or new safety protocols or field operations.
- Coordinates revisions of this HASP with Project Principal.
- Responsible for the development of new task safety protocols and procedures and resolution of any outstanding safety issues which may arise during the conduction of site work.
- Review and approve all health and safety training and medical surveillance records for personnel and subcontractors.

2.3 Site Safety and Health Officer (SSO) – Rachel Henke – Roux

- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment.
- Conducts initial onsite specific training prior to personnel and/or subcontractors commencing work.
- Conducts and documents periodic safety briefings.
- Ensures that field team members comply with this HASP.
- Completes and maintains Accident Report and Investigation Forms.
- Notifies PP and CHSM of all accident/incidents.
- Notifies PP of daily field operations and work progress, who will then communicate at the end of the day to the designated representative the following:
    1. End of day tasks completed
    2. Next day's planned activities
    3. Third party issues
    4. Change of Plans – approvals
- Change in level of personal protective equipment (PPE).
- Maintains contact with Contractors.
- Determines upgrade or downgrade of personal protective equipment (PPE) based on Site conditions and/or real-time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as manufacturers suggested instructions determine.

- Submits and maintains health and safety field log books, daily safety logs, training logs, air monitoring result reports, weekly safety report.

2.4 Field Personnel and Subcontractors

- Report any unsafe or potentially hazardous conditions to the SSO.
- Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.
- Comply with rules, regulations, and procedures as set forth in this HASP and any revisions, which are instituted.
- Prevent admittance to work Site by unauthorized personnel.

3. Site Location, Description, and History

Descriptions of the Site and surrounding property usage are included in the following sections. The location of the Site is presented in Figure 1.

3.1 Property Location and Description

The property is located at 5200 Kings Highway (site) in the East Flatbush section of Brooklyn, Kings County, New York, zip code 11234 (see Figure 1). The site is trapezoidal in shape and consists of a single tax lot: Block 7969, Lot 9. The site is approximately 2.28 acres in size. The site is bordered to the east and southeast by Kings Highway and to the west by Utica Avenue. The site is bordered to the south by the Premier Ford auto dealership. To the north the site is bordered by the Favorite Plastics Corporation. The site is bordered to the northeast at 5226 Kings Highway by the Kristal Auto Mall Used Cars. This site occupies a different tax lot, has a different owner from 5200 Kings Highway and is not part of the BCP application.

The site consists of a former retail auto dealership known as the Kristal Auto Mall. Approximately 75% of the site is occupied by the dealership building that includes an auto showroom, administrative offices, service area, parts storeroom, auto body shop, auto storage, auto washing, and a staff locker room. Interior finishes in the showroom and office spaces consist primarily of carpeted and vinyl tiled floors, and gypsum wallboard interior partitions. Interior finishes in the auto repair/vehicle storage space include concrete floors and painted walls. The remaining 25% of the site consists of paved parking lots on the northeast and south sides of the site. The outdoor space is used for vehicle storage.

The Site is currently owned by Bridges Development Group. The building has been vacated.

4. Waste Description/Characterization

4.1 General

The following information is presented in order to identify the types of materials that may be encountered at the Site. The detailed information on these materials was obtained from:

- SAX's Dangerous Properties of Industrial Materials – Lewis Eight Edition
- Chemical Hazards of the Workplace – Proctor/Hughes
- Condensed Chemical Dictionary – Hawley
- Rapid Guide to Hazardous Chemical in the Workplace – Lewis 1990
- NIOSH Pocket Guide to Chemical Hazards – 2005
- ACGIH TLV Values and Biological Exposure Indices
- OSHA 29 CFR 1910.1000

4.2 Chemical Data Sheets

Several chemicals that may potentially be present in soils and groundwater at the Site, based on previous soil, soil vapor and groundwater sampling results and historic operations conducted at the Site that have been identified. The Summary of Toxicological Data is found in Table 1 and is provided for review of chemicals that may be encountered. The Summary of Toxicological Data Sheets provides information such as the chemicals characteristics, health hazards, protection, and exposure limits.

4.2.1 Contaminants of Concern

Soil and groundwater contaminants that may be encountered during drilling and sampling activities include both organic and inorganic compounds. Prior investigations at the site have indicated detection of Volatile Organic Compounds (VOCs), and Semi-volatile Organic Compounds (SVOCs).

The toxicological, physical, and chemical properties of potential contaminants are presented in Table 1.

5. Hazard Assessment

The potential to encounter chemical hazards is dependent upon the work activity performed (intrusive versus non-intrusive), and the duration and location of the work activity. Such hazards could include inhalation and/or skin contact with chemicals/gases that could cause: dermatitis, skin burns, being overcome by vapors or asphyxiation.

Physical hazards that may be encountered during Site work include; heat and cold stress, exposure to excessive noise, loss of limbs, being crushed, head injuries, punctures, cuts, falls, electrocution, and bruises, asbestos and lead paint exposure, and other physical hazards due to motor vehicle operation, heavy equipment and power tools.

Biological hazards may exist during Site activities. These hazards include exposure to insect bites/stings, animals and animal wastes, mold and bloodborne pathogens.

Prior to the beginning of each new phase of work, an activity hazard analysis will be prepared by the SSO with assistance from the CHSM. The analysis will address the hazards for each activity performed in the phase and will present the procedures and safeguards necessary to eliminate the hazards or reduce the risk. The Job Safety Analysis Sheets are located in Appendix A.

5.1 Chemical Hazards

The potential for personnel and subcontractors to come in contact with chemical hazards may occur during the following tasks:

- Drilling Activities
- *In situ* Chemical Application Activities
- Decontamination Activities

For chronic and acute toxicity data, refer to Summary of Toxicological Data Sheets in Table 1 for further details on compound characteristics.

5.1.1 Exposure Pathways

Exposure to these compounds during ongoing activities may occur through inhalation of contaminated dust particles, inhalation of VOCs and SVOCs, dermal absorption, and accidental ingestion of the contaminant by either direct or indirect cross-contamination activities.

Inhalation of contaminated dust particles (VOCs, SVOCs, and inorganics) can occur during adverse weather conditions (high or changing wind directions) or during operations that may generate airborne dust such as excavation and loading of contaminated soils. Dust control measures such as applying water to roadways and excavations will be implemented where visible dust is generated. Where dust control measures are not feasible or effective, respiratory protection will be used when necessary (see Section 9.2.2 for monitoring procedures and action levels).

5.1.2 Operational Action Levels

A decision-making protocol for an upgrade in levels of protection and/or withdrawal of personnel from an area based on atmospheric hazards is outlined in Table 2.

5.1.3 Additional Precautions

Dermal absorption or skin contact with chemical compounds is possible during intrusive activities or *in situ* chemical injections at the Site. The use of PPE in accordance with Section 8.2 and strict adherence to proper decontamination procedures should significantly reduce the risk of skin contact.

The potential for accidental ingestion of potentially hazardous chemicals is expected to be remote, when good hygiene practices are used.

5.2 Physical Hazards

A variety of physical hazards may be present during Site activities. These hazards include typical construction activities: operation of motor vehicles and heavy equipment operation, the use of power and hand tools, roping and rigging of steel sheeting, walking on objects, tripping over objects, working on surfaces which have the potential to promote falling, skin burns, crushing of fingers, toes, limbs, head injuries caused by falling objects, temporary loss of one's hearing and/or eyesight. The referenced hazards are not unique and are generally familiar to most hazardous waste site workers at construction sites. Task specific safety requirements for each phase will be covered during safety briefings. Job Safety Analysis anticipated to be used on this project is contained in Appendix A.

5.2.1 Noise

Noise is a potential hazard associated with operation of heavy equipment, power tools, pumps, and generators. High noise equipment operators will be evaluated at the discretion of the SSO. Employees with an 8-hour time weighted average exposure exceeding 85 dBA will be included in the hearing conservation program in accordance with 29 CFR 1910.95 and 1926.52.

It is mandated that employees working around heavy equipment or using power tools that produce noise levels exceeding 90 dBA are to wear hearing protection that shall consist of earplugs or protective earmuffs.

5.2.2 Heavy Equipment Exclusion Zone Policy

Operation of heavy equipment poses several potential risks including, but not limited to, serious injury or death due to contact hazards to workers in the area and/or bystanders, and/or property damage. To alleviate these hazards Roux developed a heavy equipment exclusion zone policy for delineating work areas (Appendix B).

The purpose of the Exclusion Zone Policy is to establish the minimum clearance distance that must be maintained between workers and heavy equipment while equipment is in operation (i.e., engaged or moving). The intent is to have no personnel or other equipment entering the Exclusion Zone while the equipment is in operation/moving to ensure that Roux and Subcontractor employees are not unnecessarily exposed to the hazards of the equipment.

The Exclusion Zone must meet the following minimum requirements:

- A minimum distance of 10 feet from all heavy equipment and loads being moved by the equipment;
- Greater than the swing/reach radius of any moving part on the heavy equipment (i.e., for large equipment this may mean an exclusion zone distance larger than 20 feet); and
- Greater than the tip-over distance of the heavy equipment.

In addition to the above distances, there are requirements for spotters, the use of hand signals, exclusion zone delineation and posting of signs on the heavy equipment to alert workers of the distance.

It is recognized that certain heavy equipment activities may require personnel to work within the limits of the Exclusion Zone as specified in this policy. Any such activity must be pre-planned with emphasis on limiting the amount and potential exposure of any activity required within the zone. The critical safety steps to mitigate the hazards associated with working within the Exclusion Zone must be defined in the JSA and potentially other project specific plans (i.e., critical lift plans, etc.), and approved by the Roux Project Principal and client representative, if required, prior to implementation.

5.2.3 Heat Stress

Heat stress is a significant potential hazard, associated with the use of protective equipment in a hot weather environment. The human body is designed to function at a certain internal temperature. When metabolism or external sources (fire or hot summer day) cause the body temperature to rise, the body seeks to protect itself by triggering cooling mechanisms. The SSO will monitor the air temperature (as described later in this section) to determine potential adverse effects the weather can cause onsite personnel. Excess heat is dissipated by two means:

- Changes in blood flow to dissipate heat by convection, which can be seen as "flushing" or reddening of the skin in extreme cases.
- Perspiration is the release of water through skin and sweat glands. While working in hot environments, evaporation of perspiration is the primary cooling mechanism.

Protective clothing worn to guard against chemical contact effectively stops the evaporation of perspiration. Thus, the use of protective clothing increases heat stress problems.

The major disorders due to heat stress are heat cramps, heat exhaustion, and heat stroke. Heat cramps are painful spasms, which occur in the skeletal muscles of workers who sweat profusely in the heat and drink large quantities of water, but fail to replace the bodies lost salts or electrolytes. Drinking water while continuing to lose salt tends to dilute the body's extracellular fluids. Soon water seeps by osmosis into active muscles and causes pain. Muscles fatigued from work are usually most susceptible to cramps.

Extreme weakness or fatigue, dizziness, nausea, and headache characterize heat exhaustion. In serious cases, a person may vomit or lose consciousness. The skin is clammy and moist, complexion pale or flushed, and body temperature normal or slightly higher than normal. Treatment is rest in a cool place and replacement of body water lost by perspiration. Mild cases may recover spontaneously with this treatment; severe cases may require care for several days. There are no permanent effects.

Heat stroke is a very serious condition caused by the breakdown of the body's regulating mechanisms. The skin is very dry and hot with red mottled or bluish appearance. Unconsciousness, mental confusion, or convulsions may occur. Without quick and adequate treatment, the result can be death or permanent brain damage. As first aid treatment, the person should be moved to a cool place. Body heat should be reduced artificially, but not too rapidly, by soaking the person's clothes in water and fanning them.

Steps that can be taken to reduce heat stress are:

- Acclimate the body. Allow a period of adjustment to make further heat exposure endurable.
- Drink more liquids to replace the body water lost during sweating.

- Rest is necessary and should be conducted under the direction of the SSO.
- Wear personal cooling devices. These are two basic designs; units with pockets for holding frozen packets and units that circulate fluid from a reservoir through tubes to different parts of the body. Both designs can be in the form of a vest, jacket, or coverall. Some circulating units also have a cap for cooling the head.
- Wear long cotton underwear under chemical protective clothing. The cotton will absorb perspiration and will hold it close to the skin. This will provide the body with the maximum cooling available from the limited evaporation that takes place beneath chemical resistant clothing. It also allows for rapid cooling of the body when the protective clothing is removed.

Heat stress is a significant hazard associated with using protective equipment in hot weather environments. Local weather conditions may produce conditions, which will require restricted work schedules in order to protect employees.

Appendix C contains procedures for heat stress; these will be used as a guideline and to provide additional information.

5.2.4 Cold Stress

Cold temperatures are a significant potential hazard. Examples of cold temperature hazards are frostbite and hypothermia.

Frostbite is the most common injury resulting from exposure to cold. The extremities of the body are most often affected. The signs of frostbite are:

- The skin turns white or grayish-yellow.
- Pain is sometimes felt early but subsides later. Often there is no pain.
- The affected parts feel intensely cold and numb.

Hypothermia is characterized by shivering, numbness, drowsiness, muscular weakness, and a low internal body temperature when the body feels extremely warm. This can lead to unconsciousness and death. With both frostbite and hypothermia, the affected areas need to be warmed quickly. Immersion in warm water is an effective means of warming the affected areas quickly. In such cases, medical assistance will be sought.

To prevent these effects from occurring, persons working in the cold should wear adequate clothing and reduce the time spent in the cold area. The field SSO is responsible for determining appropriate time personnel should spend in adverse weather conditions and will monitor this.

Appendix C, which contains the Heat and Cold Stress Guidelines, provides additional information.

5.2.5 Asbestos

Asbestos is a widely used, mineral-based material that is resistant to heat and corrosive chemicals. Depending on the chemical composition, fibers may range from course to silky. The properties that make asbestos fibers valuable to industry are its high-tensile strength, flexibility, heat and chemical resistance, and good frictional properties. Asbestos is a common naturally occurring group of fibrous minerals. Asbestos fibers have been used in a variety of building materials; generally, most asbestos is found in pipe insulation, doors, textures paints and plasters, structural fireproofing, and floor tiles. Friable asbestos (that is, material that contains more than 0.1% asbestos by weight and can be crumbled by hand) is a potential hazard because it can release fibers into the air if damaged. Roux's personnel will not disturb any suspected asbestos material.

5.2.6 Structural Integrity

The structural integrity of a building and the safety of the individuals inside depend on meeting and maintaining national and local building codes. Structural integrity can range from minor defects such as loose floorboards and roof leaks to major defects such as floors and walls sagging and collapsed roofs. Numerous other structural defects can exist with or without consequence to the occupants. If Roux's personnel detect a problem, they should notify their supervisor, who in turn, should seek the opinion of a qualified structural engineer to offer and opinion regarding the integrity of the building. If in the opinion of the qualified engineer it is unsafe, no work can proceed until a solution to rectify the situation has been performed.

The building is currently vacant but some trash and damaged wall and ceilings exist. As such, personnel will take this into consideration during the initial site visits and communicate this potential hazard during the safety tailgate meetings to all workers entering the site.

5.2.7 Lockout/Tagout

Roux's and all Site contractors will develop a lockout/tagout plan in the event of the repair of electrical, pneumatic, hydraulic, mechanical systems, per OSHA requirements under 29 CFR 1910.147.

5.3 Biological Hazards

The biological hazards, which have the potential to cause adverse health effects, are from exposure to domestic flies, mosquitoes, insects, animals and animal wastes, mold and bloodborne pathogens. The Job Safety Analysis (Appendix A) suggests controls for various hazards to be potentially encountered onsite.

5.3.1 Insect Stings

Stings from insects are often painful, cause swelling and can be fatal if a severe allergic reaction such as anaphylactic shock occurs. If a sting occurs, the stinger should be scraped out of the skin, opposite of the sting direction. The area should be washed with soap and water followed by application of an ice pack.

If the victim has a history of allergic reaction, he/she should be taken to the nearest medical facility. If the victim has medication to reverse the effects of the sting, it should be taken immediately.

If the victim experiences a severe reaction, a constricting band should be placed between the sting and the heart. The bitten area should be kept below the heart if possible. A physician should be contacted immediately for further instructions.

5.3.2 Animals and Animal Wastes

Due to the urban location of the Site, there lies the potential for various wildlife to reside within or around the structures, including, but not limited to, pigeons, bats, mice, rats, squirrels, raccoons, and feral cats. Additionally, residences nearby may have dogs or dogs may be walked on the sidewalks surrounding the Site. Certain animals can represent significant sources (vectors) of disease transmission. Precautions to avoid or minimize potential contact with (biting) animals (such as some of the above listed) or animal waste and/or deceased animals should be considered prior to all field activities. Dogs, Rats, squirrels, raccoons, feral cats, and other wild animals can inflict painful bites which can also cause disease (as in the case of rabid animals). Site personnel should avoid contact with any of the above.

If contact occurs, be sure to clean the area thoroughly with soap and water as soon as possible. If a bite occurs, the area should be cleaned thoroughly immediately with soap and water and medical attention should be sought.

5.3.3 Mold

The disrepair in selected areas of the onsite structures may have led to leaking roofs and the collection of water which may have led to the growth of mold within sections of the building.

Although mold affects individuals differently and to different degrees, the following are some of the most common adverse health effects:

- Respiratory problems – wheezing, difficulty breathing;
- Nasal and sinus congestion;
- Eyes – burning, watery, reddened, blurry vision, light sensitivity;
- Dry, hacking cough;
- Sore throat;
- Nose and throat irritation;
- Shortness of breath and lung disease;
- Chronic fatigue;
- Skin irritation;
- Central nervous system (headaches, loss of memory, and mood changes);
- Aches and pains;
- Fever;
- Headaches;
- Diarrhea; and
- Immune suppression.

Decisions about removing individuals from an affected area must be based on the results of a medical evaluation, and be made on a case-by-case basis.

Workers that discover the visible presence of mold in excess of 10 sq. feet need to notify the SSO for consultation. If a worker smells mold and feels that he/she is experiencing symptoms of exposure, he/she should retreat and report the symptoms to the SSO.

5.3.4 Bloodborne Pathogens

The majority of the occupational tasks onsite will not involve a significant risk of exposure to blood, blood components, or body fluids. The highest risk of acquiring any bloodborne pathogen for employees onsite will be following an injury. When administering first aid care, there are potential hazards associated with bloodborne pathogens that cause diseases such as Human Immunodeficiency Virus (HIV), Hepatitis B

(HBV), Hepatitis A (HAV), Hepatitis C (HCV), or the Herpes Simplex Virus (HSV). An employee who has not received the appropriate certification should never execute first aid and/or CPR.

In order to minimize any potential pathogen exposure, all employees should use the hand washing facilities on a regular basis. Additionally, the following universal precautions should be followed to prevent further potential risk:

- Direct skin or mucous membrane contact with blood should be avoided.
- Open skin cuts or sores should be covered to prevent contamination from infectious agents.
- Body parts should be washed immediately after contact with blood or body fluids that might contain blood, even when gloves or other barriers have been used.
- Gloves and disposable materials used to clean spilled blood shall be properly disposed of in an approved hazardous waste container.
- First aid responders shall wear latex or thin mil nitrile gloves when performing any procedure risking contact with blood or body substances.
- Safety glasses will be worn to protect the eyes from splashing or aerosolization of body fluids.
- A CPR mask will be worn when performing CPR to avoid mouth-to-mouth contact.
- Work gloves will be worn to minimize the risk of injury to the hands and fingers when working on all equipment with sharp or rough edges.
- Never pick up broken glass or possible contaminated material with your unprotected hands.
- Never handle wildlife (living or deceased) encountered onsite.

5.4 Hazard Assessment

Task	**Hazards**	**Risk of Exposure**
Decontamination	Inhalation/Skin Contact	Moderate
	Heat Stress/Cold Stress	Moderate
	Physical Injury	Moderate
	Noise	Low
In situ Application	Inhalation/ Skin Contact	Moderate
	Heat Stress/Cold Stress	Moderate
	Physical Injury	Moderate
	Noise	Low
Drilling/Sampling	Inhalation/ Skin Contact	Moderate
	Heat Stress/Cold Stress	Moderate
	Noise	Moderate/High
	Physical Injury	Moderate

6. Training

6.1 General Health and Safety Training

In accordance with Roux's corporate policies, and pursuant to 29 CFR 1910.120, hazardous waste site workers shall, at the time of the job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations. As a minimum, the training shall have consisted of instruction in the topics outlined in the above reference. Personnel who have not met the requirements for initial training will not be allowed to work in any Site activities in which they may be exposed to hazards (chemical or physical).

Completion of a 40-hour Health and Safety Training Course for Hazardous Waste Operations or an approved equivalent will fulfill the requirements of this section.

In addition to the required initial training, each employee shall have received 3 days of directly supervised on-the-job training. This training will address the duties the employees are expected to perform.

Roux's SSO has the responsibility of ensuring that personnel assigned to this project comply with these requirements.

6.2 Annual Eight-Hour Refresher Training

Annual 8-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualifications for fieldwork. The following topics will be reviewed; toxicology, respiratory protection, including air purifying devices and self-contained breathing apparatus (SCBA), medical surveillance, decontamination procedures, and personal protective clothing. In addition, topics deemed necessary by Roux's Health and Safety Director may be added to the above list.

6.3 Site-Specific Training

Site personnel will receive training that will specifically address the activities, procedures, monitoring, and equipment for Site operations. It will include Site and facility layout, hazards, first aid equipment locations and emergency services at the Site, and will highlight all provisions contained within this HASP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

6.4 Onsite Safety Meetings

Daily safety meetings will be presented each morning to discuss potential safety concerns for the upcoming activities.

The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety audits by Roux or other involved parties.

6.5 Additional Training

The CHSM may require additional or specialized training throughout the project. Such training shall be in the safe operation of heavy or power tool equipment or hazard communication training or other topic deemed Site appropriate.

6.6 Subcontractor Training

All subcontractor personnel working on the Site shall have completed the 40-hour training requirement and meet the medical surveillance requirements found in Section 7.1. Subcontractor training shall be performed in accordance with 29 CFR 1910.120 and HASP specifications. In certain unique situations (e.g., mechanical failure of equipment), the non-trained individual performing emergency repairs may be allowed, at the discretion of the SSO, to perform repairs when no intrusive activities are being performed, and provisions have been made to mitigate potential exposure.

7. Medical Surveillance Procedures

7.1 General

Roux and subcontractor personnel performing field work at the Site are required to have passed a complete medical surveillance examination in accordance with 29 CFR 1910.120(f). A physician's medical release for work will be confirmed by the SSO before an employee can begin Site activities. Such examinations shall include a statement as to the worker's present health status, the ability to work in a hazardous environment (including any required PPE, which may be used during temperature extremes), and the worker's ability to wear respiratory protection.

8. Site Control, Personal Protective Equipment, and Communications

A modified Site control approach may be utilized since activities will be limited to site inspection/geophysical survey, drilling and sampling only during this phase of work. If remedial work is necessary, the following four-zone approach will be used.

8.1 Site Control

Based on the Site history and operations, a potential for the presence of hazardous material does exist. During drilling and sampling, work areas will be delineated with high visibility cones and/or caution tape. A dedicated decontamination area will be established to decontaminate all equipment used for sampling.

If remedial activities are necessary, a four-zone approach will be employed in order to prevent the spread of contamination from the disturbed areas onsite. The four zones include: the Exclusion Zone (EZ), the Contamination Reduction Zone (CRZ), Contamination Reduction Corridor (CRC) and the Support Zone (SZ). A stepped remedial approach will be managed, and the zones modified as the work progresses. Each of the areas will be defined through the use of control barricades and/or construction/hazard fencing. A clearly marked delineation between the SZ and the remaining three zones, the CRZ and CRC and the EZ will be maintained. The preferred method will utilize high visibility orange fencing and hand driven metal posts, or orange cones. Signage will be posted to further identify and delineate these areas.

8.1.1 Support Zone

The Support Zone (SZ) is an uncontaminated area that will be the field support area for the Site operations. The SZ will contain the temporary project trailers and provides for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples. Meteorological conditions will be observed and noted from this zone, as well as those factors pertinent to heat and cold stress.

8.1.2 Contamination Reduction Zone

A Contamination Reduction Zone (CRZ) is established between the exclusion zone and the support zone. The CRZ contains the Contamination Reduction Corridor (CRC) and provides an area for decontamination of personnel and equipment. The CRZ will be used for general Site entry and egress in addition to access for heavy equipment and emergency support services. Personnel are not allowed in the CRZ without:

- A buddy (co-worker);
- Appropriate PPE;
- Medical authorization;
- Training certification; and
- A need to be in the zone.

8.1.3 Exclusion Zone

The area where contamination exists is considered to be the Exclusion Zone (EZ). All areas where excavation and handling of contaminated materials take place are considered the EZ. This zone will be clearly delineated by orange high visibility fencing. Safety tape may be used as a secondary delineation within the EZ. The zone delineation markings may be opened in areas for varying lengths of time to accommodate equipment operation or specific construction activities. The SSO may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Personnel are not allowed in the EZ without:

- A buddy (co-worker);
- Appropriate PPE;
- Medical authorization;
- Training certification; and
- A need to be in the zone.

8.2 Personal Protective Equipment

8.2.1 General

The level of protection worn by field personnel will be enforced by the SSO. Levels of protection for general operations are provided below and are defined in this section. Levels of protection may be upgraded at the discretion of the SSO. All decisions on the level of protection will be based upon a conservative interpretation by the SSO of the information provided by air monitoring results, environmental results and other appropriate information. Any changes in the level of protection shall be recorded in the health and safety field logbook.

8.2.2 Personal Protective Equipment Specifications

The initial level of personal protective equipment is Level D. It is not anticipated that either Level B or Level C protection will be necessary.

Although not anticipated, any tasks requiring Level B personal protective equipment (PPE) will utilize the following equipment:

- Positive pressure, full face piece, self-contained breathing apparatus (SCBA) or positive pressure, supplied air respirator with escape SCBA (NIOSH approved)
- Disposable coveralls (Tyvek, Poly-coated Tyvek, or Saranex)
- Gloves, inner: latex or nitrile
- Gloves, outer: nitrile or neoprene
- Chemical resistant boots over the work boots
- Steel toe work boots
- Hard hat
- Hearing protection (as needed)
- Boot cover (as needed)

For tasks requiring Level C PPE, the following equipment may be used in any combination:

- Full-face, air purifying, canister-equipped respirators (NIOSH approved) utilizing Organic Vapor/Acid Gas and P-100 filters (half-face if approved by SSO)
- Disposable coveralls (Tyvek, Poly-coated Tyvek, or Saranex) as required
- Gloves, inner: latex or nitrile as required

- Gloves, outer: nitrile or neoprene as required
- Chemical resistant boots over the work boots as required
- Steel toe work boots
- Hard hat
- Hearing protection (as needed)
- Safety glasses (if half-mask is utilized)
- Boot covers (as needed)

The Minimum level of PPE for entry onto the Site is Level D PPE. The following equipment shall be used:

- Work uniform (long pants, sleeved shirt)
- Hard hat
- Steel toe work boots
- Safety glasses
- Boot covers (as needed)
- Hearing protection (as needed)
- Reflective safety vest

Modified Level D PPE consists of the following:

- Regular Tyvek coveralls (Poly-coated Tyvek as required)
- Outer gloves: leather, cotton, neoprene or nitrile (as required)
- Inner gloves: latex or nitrile (doubled) as required
- Chemical resistant boots over work boots (as required)
- Steel toe work boots
- Hard hat
- Safety glasses
- Hearing protection as needed
- Reflective safety vest

8.2.3 Initial Levels of Protection

Levels of protection for the proposed scope of work may be upgraded or downgraded depending on direct-reading instruments or personnel monitoring. The following are the initial levels of protection that shall be used for each planned field activity:

Activity	Initial level of PPE
Mobilization/Demobilization	D
Site Inspection/Geophysical Survey	D
Decontamination	D
Drilling	D
In situ Chemical Application	D
Soil/Groundwater Sampling	D

8.3 Communications

If working in level C/B respiratory protection is required, personnel may find that communication becomes a more difficult task and process to accomplish. Distance and space further complicate this. In order to address this problem, electronic instruments, mechanical devices, or hand signals will be used as follows:

Telephones – Mobile telephones will be carried by designated personnel for communication with emergency support services/facilities.

Radios – Two-way radios will be utilized onsite for communications between field personnel in areas where visual contact cannot be maintained and where hand signals cannot be employed.

Air Horn – Available as posted in the Site trailer or support zone to alert field personnel to an emergency situation. The emergency signal will be the sharp blasts of the air horn.

Hand Signals – This communication method will be employed by members of the field team along with use of the buddy system. Signals become especially important when in the vicinity of heavy moving equipment and when using Level B respiratory equipment. The signals shall become familiar to the entire field team before Site operations commence, and will be reinforced and reviewed during site specific training.

Signal	**Meaning**
Hand gripping throat	Out of air; can't breathe
Grip partner's wrist	Leave area immediately; no debate
Hands on top of head	Need assistance
Thumbs up	OK; I'm all right; I understand
Thumbs down	No; Unable to understand you, I'm not all right

9. Monitoring Procedures

9.1 General

A Community Air Monitoring Plan ("CAMP") will be implemented onsite, in which VOCs will be monitored in the work area during ground intrusive activities. The New York State Department of Health (NYSDOH) Generic CAMP as provided in DER-10, Appendix 1A, is included in Appendix E of this HASP. VOCs will be monitored as a precautionary measure. The design of the CAMP is intended to provide a measure of protection for the onsite workers not directly involved with the subject work activities from potential airborne contaminant releases as a direct result of remedial work activities. Monitoring will be performed to verify the adequacy of the Level D respiratory protection, to aid in Site layout, and to document monitoring results. If air monitoring in the work areas indicates the presence of potentially hazardous materials, control measures will be implemented. All monitoring instruments shall be operated by qualified personnel only and will be calibrated prior to use daily or more often, as necessary. The SSO is responsible for ensuring that appropriate monitoring, levels of protection, and safety procedures are followed.

9.2 Exclusion Zone Monitoring

9.2.1 Instrumentation

The following monitoring instruments will be available for use during field operations as necessary:

- Photoionization Detector (PID) with 10.6 EV probe or Flame Ionization Detector (FID) or equivalent.

A PID organic vapor meter shall be used to monitor VOCs in active work areas during the soil intrusive activities.

Calibration records shall be documented and recorded daily and included in the daily Health and Safety Briefing Form (Appendix F) or Site designated field notebook.

9.2.2 Action Levels

Action levels for the upgrading of PPE requirements in the HASP will apply to all Site work during investigation and remediation activities at the Site. Action levels are for known contaminants using direct reading instruments in the Breathing Zone (BZ) for VOCs and particulates, and at the source for combustible gases. The BZ will be determined by the SSO, but is typically 4 to 5 feet above the work area surface or elevation. The action levels to be utilized for the Site are found in Table 2.

9.2.3 Monitoring During Field Activities

Intrusive Operations – Continuous Personnel Breathing Zone Air Monitoring will be performed by the SSO during drilling activities. Real-time monitoring for all onsite activities will be accomplished as follows:

- Monitoring of VOCs in the work zones.

The frequency of monitoring may be modified by the SSO, after consultation with the Project Manager. The rationale for any modification must be documented in the HASP.

10. Safety Considerations

10.1 General

In addition to the specific requirements of this HASP, common sense should be used at all times. The following general safety rules and practices will be in effect at the site.

- All open holes, trenches, and obstacles will be properly barricaded in accordance with local Site needs and requirements. Proximity to traffic ways, both pedestrian and vehicular, and location of the open hole, trench, or obstacle will determine these needs.
- All excavation and other Site work will be planned and performed with consideration for underground lines.
- Smoking and ignition sources in the vicinity of potentially flammable or contaminated material are strictly prohibited.
- Drilling, boring, and use of cranes and drilling rigs, erection of towers, movement of vehicles and equipment, and other activities will be planned and performed with consideration for the location, height, and relative position of aboveground utilities and fixtures, including signs; lights; canopies; buildings and other structures and construction; and natural features such as trees, boulders, bodies of water, and terrain.
- When working in areas where flammable vapors may be present, particular care shall be exercised with tools and equipment that may be sources of ignition. All tools and equipment provided must be properly bonded and/or grounded.
- Approved and appropriate safety equipment (as specified in this HASP), such as eye protection, hard hats, hand protection (nitrile, leather and/or cut resistant gloves as necessary), foot protection, and respirators, must be worn in areas where required. In addition, eye protection must be worn when sampling soil or water that may be contaminated.
- All site personnel may be called upon to use respirator protection in some situations. Fit testing will be necessary for all persons using respirators. The criteria for facial hair will be determined by the SSO. In general, the guideline is that facial hair cannot impede the fit of the respirator.
- No smoking, eating, chewing tobacco, gum chewing or drinking will be allowed outside the SZ.
- Contaminated tools and hands must be kept away from the face.
- Personnel must use personal hygiene safe guards (washing up) at the end of the shift.
- Each sample must be treated and handled as though it were contaminated.
- Persons with long hair and/or loose-fitting clothing that could become entangled in power equipment must take adequate precautions.
- Horseplay is prohibited in the work area.
- Work while under the influence of intoxicants, narcotics, or controlled substances is strictly prohibited.

10.2 Traffic Control

Traffic control methods and barricades will be used as needed when working in areas of vehicular traffic. Since the site is fenced off, outside vehicular and pedestrian traffic is not considered to be an issue. Any work that may take place outside the fenced area of the property (i.e., public sidewalk areas) will utilize cones and caution tape to delineate the work area and restrict the public from entering the work zone.

10.3 Sample Handling

Personnel responsible for handling of samples will wear the prescribed level of protection. Samples are to be identified as to their hazard and packaged as to prevent spillage or breakage. Any unusual sample conditions shall be noted. Laboratory personnel and all field personnel shall be advised of sample hazard levels and the potential contaminants present. This can be accomplished by a phone call to the lab coordinator and/or including a written statement with the samples reviewing lab safety procedures in handling in order to assure that the practices are appropriate for the suspected contaminants in the sample.

11. Decontamination and Disposal Procedures

11.1 Contamination Prevention

Contamination prevention should minimize worker exposure and help ensure valid sample results by precluding cross-contamination. Procedures for contamination avoidance include:

Personnel

- Do not walk through areas of obvious or known contamination.
- Do not directly handle or touch contaminated materials.
- Make sure that there are no cuts or tears on PPE.
- Do not eat or drink in contaminated areas.
- Fasten all closures in suits; cover with tape, if necessary.
- Particular care should be taken to protect any skin injuries.
- Stay upwind of airborne contaminants.
- Do not carry cigarettes, cosmetics, gum, etc., into contaminated areas.

Sampling/Monitoring

- When required by the SSO, cover instruments with clear plastic, leaving openings for sampling ports.
- Bag sample containers prior to emplacement of sample material.

Heavy Equipment

- Care should be taken to limit the amount of contamination that comes in contact with heavy equipment (tires, contaminated augers).
- If contaminated tools are to be placed on non-contaminated equipment for transport to a decontamination area, plastic should be used to keep the equipment clean.
- Dust control measures including water misting will be used on roads inside the Site boundaries.

11.2 Personnel Decontamination

A field wash for equipment and PPE shall be set up and maintained for all persons exiting the EZ. The system will include a gross wash and rinse for all disposable clothing and boots worn in the EZ. As necessary, equipment and facilities will be available for personnel to wash their hands, arms, neck, and face.

11.3 Equipment Decontamination

All potentially contaminated equipment used at the Site will be decontaminated to prevent contaminants from leaving the Site. The decontamination area will provide for the containment of all wastewater from the decontamination process. Respirators and any other PPE that comes in contact with contaminated materials shall pass through a field wash in the decontamination area, and a thorough decontamination at the end of the day. All decontamination rinse water will be collected and managed in accordance with all applicable regulations.

11.4 Decontamination during Medical Emergencies

If emergency life-saving first aid and/or medical treatment are required, normal decontamination procedures may need to be abbreviated or omitted. The Site SSO or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination, when necessary. The outer garments can be removed if they do not cause delays, interfere with treatment, or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed, a plastic barrier between the individual and clean surfaces should be used to help prevent contaminating the inside of ambulances and/or medical personnel. Outer garments are then removed at the medical facility. No attempt will be made to wash or rinse the victim, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material, which could also cause severe injury or loss of life to emergency response personnel. For minor medical problems (ambulatory) or injuries, the normal decontamination procedures will be followed. Note that heat stroke requires prompt treatment to prevent irreversible damage or death. Protective clothing must be promptly removed. Less serious forms of heat stress also require prompt attention and removal of protective clothing immediately. Unless the victim is obviously contaminated, decontamination should be omitted or minimized, and treatment begun immediately.

11.5 Disposal Procedures

A system of segregating all waste will be developed by the SSO.

All discarded materials, waste materials, or other objects shall be handled in such a way as to preclude the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left onsite. All potentially contaminated materials (e.g., clothing, gloves, etc.,) will be bagged or drummed as necessary, labeled and segregated for disposal. All non-contaminated materials shall be collected and bagged for appropriate disposal as domestic waste.

12. Emergency Plan

Should an emergency situation occur, the emergency plan, outlined in this section, shall be known by Roux and all Subcontractors prior to the start of work. The emergency plan will be available for use at all times during Site work. The plan provides the phone numbers for the fire, police, ambulance, hospital, urgent care, poison control centers, and directions to the hospital from the Site. This information is to be found in Section 1.2 of the HASP.

Various individual Site characteristics will determine preliminary actions taken to assure that this emergency plan is successfully implemented in the event of a Site emergency. Careful consideration must be given to the proximity of neighborhood housing or places of employment, and to the relative possibility of Site release of vapors, which could affect the surrounding community.

The emergency coordinator shall implement the contingency plan whenever conditions at the Site warrant such action. The coordinator will be responsible for coordination of the evacuation, emergency treatment, and transport of Site personnel as necessary, and notification of emergency response units and the appropriate management staff.

In cases where the project manager is not available, the SSO shall serve as the alternate emergency coordinator.

The SSO during an emergency will perform air monitoring as needed, as well as lend assistance and provide health and safety information to responding emergency personnel.

Site Personnel will endeavor to keep non-essential personnel away from the incident until the appropriate emergency resources arrive. At that time, the responders will take control of the Site. Site personnel may be asked to lend assistance to emergency personnel such as during evacuations, help with the injured, etc.

12.1 Evacuation

Evacuation procedures will be discussed prior to the start of work and periodically during safety meetings. In the event of an emergency situation, such as fire, or explosion, an air horn, automobile horn, or other appropriate device will be sounded for three (3) sharp blasts indicating the initiation of evacuation procedures. The emergency evacuation route shall be known by all site workers. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The SSO or project manager must ensure that access for emergency equipment is provided and that all combustion apparatuses have been shut down once the alarm has been sounded. All Site personnel will assemble in the designated nearest safe location. Once the safety of all personnel is established, the fire department and other emergency response groups will be notified by telephone of the emergency.

12.2 Personnel Injury

Emergency first aid shall be applied onsite as appropriate. If necessary, the individual shall be decontaminated and transported to the nearest hospital. The SSO will supply medical data sheets to medical personnel and complete the accident/incident reports in accordance with Section 13.4 of the HASP.

The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. However, since some situations may require transport of an injured party by other means, the injured person shall be escorted to the hospital. A map to this facility is shown in Figure 2.

12.3 Accident/Incident Reporting

As soon as first aid and/or emergency response needs have been met, the following parties are to be contacted by telephone: (Direct contact, no phone messages).

			Office:	**Cell:**
1.	Project Director:	Craig Werle	631-232-2600	631-793-1535
2.	Site Health and Safety Officer:	Rachel Henke	631-232-2600	919-619-1503
3.	Office Health and Safety Manager:	Tally Sodre	631-232-2600	631-620-2409
3.	Corporate Health and Safety Mgr:	Joseph Gentile	856-423-8800	610-844-6911

5. The employer of any injured worker, if not a Roux employee.

The Health & Safety Near/Loss – Loss (Incident) Notification Flow Chart (SOP 1.8) is included in Appendix G. Written confirmation of verbal reports is to be submitted within 24 hours. The report form entitled "Accident Report and Investigation Form" (Appendix G) is to be used for this purpose. All representatives contacted by telephone are to receive a copy of this report. If the employee involved is not a Roux employee, his employer shall receive a copy of the report. In addition to filling out the Accident Report and Investigation Form, if a Roux employee is involved in a vehicle accident, the employee must also complete the Acord form (Appendix H).

For reporting purposes, the term accident refers to fatalities, lost time injuries, spill or exposure to hazardous materials (radioactive materials, toxic materials, explosive or flammable materials), fire, explosion, property damage, or potential occurrence (i.e., near miss) of the above.

Any information released from the health care provider, which is not deemed confidential patient information, is to be attached to the appropriate form. Any medical information, which is released by patient consent, is to be filed in the individual's medical record and treated as confidential.

12.4 Personnel Exposure

Skin Contact:	Use copious amounts of soap and water. Wash/rinse affected area thoroughly, then provide appropriate medical attention. Eyes should be rinsed for 15 minutes upon chemical contamination.
Inhalation:	Move to fresh air and/or, if necessary, decontaminate/transport to hospital.
Ingestion:	Decontamination and transport to emergency medical facility.
Puncture Wound or Laceration:	Decontamination and transport to emergency medical facility.

12.5 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO or project manager will determine if work can continue without sacrificing the health and safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries;
- Potential for cold stress and cold-related injuries;
- Treacherous weather-related conditions;
- Limited visibility; and
- Electrical storm potential.

Site activities will be limited to daylight hours and acceptable weather conditions. Inclement working conditions include heavy rain, fog, high winds, and lightning. Observe daily weather reports and evacuate if necessary in case of inclement weather conditions.

13. Logs, Reports and Record Keeping

The following is a summary of required health and safety logs, reports, and record keeping for this project.

13.1 Medical and Training Records

The employer keeps medical and training records. The subcontractor employer must provide verification of training and medical qualifications to the SSO. The SSO will keep a log of personnel meeting appropriate training and medical qualifications for Site work. The log will be kept in the project file. Roux will maintain medical records in accordance with 29 CFR 1910.20.

13.2 Onsite Log

The SSO or project manager will keep a log of onsite personnel daily in the designated field book.

13.3 Exposure Records

Any personal monitoring results, laboratory reports, calculations, and air sampling data sheets are part of an employee exposure record. These records will be kept by Roux in accordance with 29 CFR 1910.20.

13.4 Accident/Incident Reports

An accident/incident report must be completed following procedures given in Appendix G. The originals will be sent to Roux for maintenance. Copies will be distributed as stated. A copy of the forms will be kept in the project file.

13.5 OSHA Form 300

An OSHA Form 300 (Log of Occupational Injuries and Illnesses) (Appendix I) will be kept at the Site. All reportable injuries or illnesses will be recorded on this form. At the end of the project, the original will be sent to Roux for maintenance. Subcontractor employers must also meet the requirements of maintaining an OSHA 300 form. The US Department of Labor OSHA Job Safety and Health Protection notice is included in Appendix J.

13.6 Daily Safety Logs

The Health and Safety Briefing/Tailgate Meeting form in Appendix F will be completed daily by the SSO and submitted to the project manager.

13.7 Close-Out Safety Report

At the completion of the work, if requested, Roux will submit a closeout Safety Report that will include all logs and reports generated during the project. The report will be signed and dated by the SSO and submitted to the Safety Manager and/or Owner's representative.

14. Field Team Review

Each Roux employee or subcontractor shall sign this section after site specific training is completed and before being permitted to work at the Site.

I have read and reviewed the Site Health and Safety Plan prepared for this Site. I understand and will comply with the provisions contained therein.

Site/Project: Former Kristal Auto Mall
5200 Kings Highway
Brooklyn, New York 11234

Date	Name	Signature	Company

SSO CERTIFICATION OF HOSPITAL DIRECTIONS

Name of Roux SSO: Rachel Henke

Date:___________________________________

This is to certify that on ___________________________, I personally drove the route to University Hospital of Brooklyn as listed in the HASP. The Map Routing and Directions were/were not as listed in the plan. Listed below were conditions that resulted in different directions.

____
Roux Site Health and Safety Officer

TABLES

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
1,1,1-Trichloroethane	71-55-6	TWA 350 ppm STEL 440 ppm C 440 ppm	C 350 ppm (1900 mg/m^3) [15-minute]	TWA 350 ppm (1900 mg/m^3)	700 ppm	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac	Eyes, skin, central nervous system, cardiovascular system, liver	Colorless liquid with a mild, chloroform-like odor. BP: 165°F UEL: 12.5% LEL: 7.5%
1,1,2-Trichloroethane	79-00-5	TWA 10 ppm	Ca TWA 10 ppm (45 mg/m^3) [skin]	TWA 10 ppm (45 mg/m^3) [skin]	Ca [100 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; central nervous system depression; liver, kidney damage; dermatitis; [potential occupational carcinogen]	Eyes, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a sweet, chloroform-like odor. BP: 237°F UEL: 15.5% LEL: 6%
1,1-Dichloroethane	75-34-3	TWA 100 ppm	TWA 100 ppm (400 mg/m^3)	TWA 100 ppm (400 mg/m^3)	3000 ppm	inhalation, ingestion, skin and/or eye contact	Irritation skin; central nervous system depression; liver, kidney, lung damage	Skin, liver, kidneys, lungs, central nervous system	Colorless, oily liquid with a chloroform-like odor. BP: 135°F Fl.P: 2°F UEL: 11.4% LEL: 5.4%
1,1-Dichloroethene	75-35-4	TWA 5 ppm	Ca (lowest feasible concentrati	TWA 1ppm	Ca [N.D.]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor. BP: 89°F Fl.P: -2°F UEL: 15.5% LEL: 6.5% Class IA Flammable Liquid
1,2,4-Trimethylbenzene	95-63-6	None established	TWA 25 ppm (125mg/m^3)	None established	N.D.	Inhalation; ingestion; skin and/or eye contact	Eye, skin, nose, and throat, resp syst irritation; bronchitis; hypochromic anemia; headache, drowsiness, weakness, dizziness, nausea, incoordination, vomit,	Eyes, skin, resp sys, CNS, blood	Clear, colorless liquid with a distinctive, aromatic odor BP: 337°F FL.P: 112°F UEL: 6.4% LEL: 0.9% Class II Flammable liquid
1,2,4-Trimethylbenzene	95-63-6	TWA 25 ppm (125 n	TWA 25 ppm (125 mg/m^3)	None established	N.D.	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, fatigue, dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood	Clear, colorless liquid with a distinctive, aromatic odor. BP: 337°F Fl.P: 112°F UEL: 6.4% LEL: 0.9% Class II Flammable Liquid
1,2-Dichlorobenzene	95-50-1	TWA 25 ppm STEL 50 ppm	C 50 ppm (300 mg/m^3)	C 50 ppm (300 mg/m^3)	200 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; liver, kidney damage; skin blisters	Eyes, skin, respiratory system, liver, kidneys	Colorless to pale-yellow liquid with a pleasant, aromatic odor. [herbicide] BP: 357°F Fl.P: 151°F UEL: 9.2% LEL: 2.2% Class IIIA Combustible Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
1,2-Dichloroethane	107-06-2	TWA 10 ppm	Ca TWA 1 ppm (4 mg/m^3) STEL 2 ppm (8 mg/m^3)	TWA 50 ppm C 100 ppm 200 ppm [5-minute maximum peak in any 3 hours]	Ca [50 ppm]	inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation eyes, corneal opacity; central nervous system depression; nausea, vomiting; dermatitis; liver, kidney, cardiovascular system damage; [potential occupational carcinogen]	Eyes, skin, kidneys, liver, central nervous system, cardiovascular system	Colorless liquid with a pleasant, chloroform-like odor. [Note: Decomposes slowly, becomes acidic & darkens in color.] BP: 182°F Fl.P: 56°F UEL: 16% LEL: 6.2% Class IB Flammable Liquid
1,2-Dichloroethene (total)	540-59-0	TWA 200 ppm (790	TWA 200 ppm (790 mg/m^3)	TWA 200 ppm (790 mg/m^3)	1000 ppm	inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system	Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor BP: 118-140°F Fl.P: 36-39°F UEL: 12.8% LEL: 5.6% Class IB Flammable Liquid
1,3,5-Trimethylbenzene	108-67-8	None established	TWA 25 ppm (125mg/m^3)	None established	N.D.	Inhalation; ingestion; skin and/or eye contact	Eye, skin, nose, and throat, resp syst irritation; bronchitis; hypochromic anemia; headache, drowsiness, weakness, dizziness, nausea, incoordination, vomit, confusion; chemical pneumonitis	Eyes, skin, resp sys, CNS, blood	Clear, colorless liquid with a distinctive, aromatic odor BP: 329°F FL.P: 122°F Class II Flammable liquid
1,3,5-Trimethylbenzene	108-67-8	TWA 25 ppm (125 m	TWA 25 ppm (125 mg/m^3)	None established	N.D	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting; confusion; chemical pneumonitis (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood	Clear, colorless liquid with a distinctive, aromatic odor. BP: 329°F Fl.P: 122°F Class II Flammable Liquid
1,4-Dichlorobenzene	106-46-7	TWA 10 ppm	Ca	TWA 75 ppm (450 mg/m^3)	Ca [150 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Eye irritation, swelling periorbital (situated around the eye); profuse rhinitis; headache, anorexia, nausea, vomiting; weight loss, jaundice, cirrhosis; in animals: liver, kidney injury; [potential occupational carcinogen]	Liver, respiratory system, eyes, kidneys, skin	Colorless or white crystalline solid with a mothball-like odor. [insecticide] BP: 345°F Fl.P: 150°F LEL: 2.5% Combustible Solid
2,4-Dimethylphenol	105-67-9	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system, mouth, throat, stomach; dizziness, weakness, fatigue, nausea, headache; systemic damage; moderate to severe eye injury.	Skin, CVS, eyes, CNS	Clear, colorless liquid with a faint ether or chloroform-like odor BP: 178°F

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
2-Butanone (MEK)	78-93-3	TWA 200 ppm (590 mg/m^3) STEL 300 ppm (885 mg/m^3)	TWA 200 ppm (590 mg/m^3) STEL 300 ppm (885 mg/m^3)	TWA 200 ppm (590 mg/m^3)	3000 ppm	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose; headache; dizziness; vomiting; dermatitis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a moderately sharp, fragrant, mint- or acetone-like odor. BP: 175°F Fl.P: 16°F UEL(200°F): 11.4% LEL(200°F): 1.4% Class IB Flammable Liquid
Acenaphthene	83-32-9	None established	None established	None established	None established	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system	Eyes, skin, respiratory system	Brown solid
Acetone	67-64-1	TWA 200 ppm STEL 500 ppm	TWA 250 ppm (590 mg/m^3)	TWA 1000 ppm (2400 mg/m^3)	2500 ppm [10%LEL]	inhalation, ingestion, skin and/or eye contact	Irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a fragrant, mint-like odor BP: 133°F Fl.P: 0°F UEL: 12.8% LEL: 2.5% Class IB Flammable Liquid
Anthracene	65996-93-2	TWA 0.2 mg/m^3	Ca TWA 0.1 mg/m^3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m^3 (benzene-soluble fraction)	Ca [80 mg/m^3]	inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue. Combustible Solids
Antimony	7440-36-0	TWA 0.5 mg/m^3	TWA 0.5 mg/m^3	TWA 0.5 mg/m^3	50 mg/m^3 (as S	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, mouth; cough; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly	Eyes, skin, respiratory system, cardiovascular system	Silver-white, lustrous, hard, brittle solid; scale-like crystals; or a dark-gray, lustrous powder. BP: 2975°F
Arsenic (inorganic)	7440-38-2 (metal)	TWA 0.01 mg/m3	Ca C 0.002 mg/m3 [15-min]	TWA 0.010 mg/m3	Ca [5 mg/m3 (as As)]	Inhalation; ingestion; skin absorption; skin and/or eye contact	Ulceration of nasal septum, dermatitis, GI disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]	Liver, kidneys, skin, lungs, lymphatic sys	Metal: sliver-gray or tin-white, brittle, odorless solid BP: sublimes
Asbestos	1332-21-4	TWA 0.1 f/cc	Ca 100,000 fibers/m3	TWA 0.1 fiber/cm3	Ca [IDLH value has not been determined]	Inhalation; ingestion; skin and/or eye contact	Asbestosis (chronic exposure), dyspnea, interstitial fibrosis, restricted pulmonary function, finger clubbing, irritation eyes, [potential occupational carcinogen]	Respiratory system, eyes,	White or greenish (chrysotile), blue (crocidolite), or gray-green (amosite), fibrous, odorless solids. BP: decomposes
Asphalt fumes	8052-42-4	TWA 0.5 mg/m^3(fumes)	Ca C 5 mg/m3 [15 min]	None established	Ca [IDLH value has not been determined]	Skin absorption; inhalation; skin and/or eye contact	Irritation eyes, resp sys	Eyes, respiratory system	Black or dark brown cement-like substance Combustible solid
Barium	7440-39-3	TWA 0.5 mg/m3	None established	TWA 0.5 mg/m3	None established	Inhalation, ingestion, skin contact	Irritation skin, respiratory systen	Skin, eyes, respiratory system	Yellow white powder BP: 1640 C
Benzene	71-43-2	TWA 0.5 ppm STEL 2.5 ppm	Ca TWA 0.1 ppm STEL 1 ppm	TWA 1 ppm STEL 5 ppm	Ca [500 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, blood, central nervous system, bone marrow	Colorless to light yellow liquid with an aromatic odor [Note: Solid below 42 °F] BP: 176°F Fl.Pt = 12°F LEL: 1.2% UEL: 7.8% Class B Flammable liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Benzo[a]anthracene	56-55-3	None established	None established	None established	None established	Inhalation; ingestion; skin absorption; skin and/or eye contact	Irritation eyes, skin, respiratory system, CNS	Skin	Pale Yellow crystal, solid BP: 438 C
Benzo[a]pyrene	50-32-8	None established	TWA 0.1 mg/m3	TWA 0.2 mg/m3	None established	Inhalation; ingestion; skin absorption; skin and/or eye contact	POISON. This material is an experimental carcinogen, mutagen, tumorigen, neoplastigen and teratogen. It is a probable carcinogen in humans and a known human mutagen. IARC Group 2A carcinogen. It is believed to cause bladder, skin and lung cancer. Exposure to it may damage the developing foetus. May cause reproductive damage. Skin, respiratory and eye irritant or burns.	Skin, eye, bladder, lung, reproductive	Yellow crystals or powder [found in cigarette smoke, coal tar, fuel exhaust gas and in many other sources] BP: 495 C
Benzo[b]fluoranthene	205-99-2	None established	TWA 0.1 mg/m3	TWA 0.2 mg/m3	None established	Inhalation; ingestion; skin and/or eye contact	No data were identified on the toxicity of benzo[b]fluoranthene to humans. Based on results of studies in animals, IARC concluded that benzo[b]fluoranthene is possibly carcinogenic to humans	Respiratory system, skin, bladder, kidneys	Off-white to tan powder
Benzo[k]fluoranthene	207-08-9	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory tract, gastrointestinal; fatal if swallowed, inhaled, absorbed through the skin; vomiting, nausea, diarrhea	Lungs, respiratory system	Yellow crystals BP: 480 C
Beryllium	7440-41-7 (metal)	TWA 0.002 mg/m^3	Ca C 0.0005 mg/m^3	TWA 0.002 mg/m^3 C 0.005 mg/m^3 (30 minutes) with a maximum peak of 0.025 mg/m^3	Ca [4 mg/m^3 (as Be)]	inhalation, skin and/or eye contact	Berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation eyes; dermatitis; [potential occupational carcinogen]	Eyes, skin, respiratory system	Metal: A hard, brittle, gray-white solid. BP: 4532°F
Bis(2-ethylhexyl) phthalate	117-81-7	TWA 5 mg/m^3	TWA 5 mg/m^3 STEL 10 mg/m^3 (do not exceed during andy 15-minute work period)	TWA 5 mg/m^3	None established	inhalation, skin and/or eye contact	Irritation eyes, skin, nose, throat; affect the nervous system and liver; damage to male reproductive glands	Eyes, skin, nose, respiratory system, nervous system, reproductive system, liver	Colorless to light colored, thick liquid with slight odor
Butane	106-97-8	TWA 1000 ppm	TWA 800 ppm (1900 mg/m^3)	None established	None established	inhalation, skin and/or eye contact (liquid)	Drowsiness, narcosis, asphyxia; liquid: frostbite	central nervous system	Colorless gas with a gasoline-like or natural gas odor. BP: 31°F UEL: 8.4% LEL: 1.6% Flammable Gas

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Cadmium	7440-43-9 (metal)	TWA 0.01 mg/m^3	Ca	TWA 0.005 mg/m^3	Ca [9 mg/m^3 (as Cd)]	inhalation, ingestion	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen]	respiratory system, kidneys, prostate, blood	Metal: Silver-white, blue-tinged lustrous, odorless solid. BP: 1409°F
Carbon Disulfide	75-15-0	TWA 1 ppm	TWA 1 ppm (3 mg/m^3) STEL 10 ppm (30 mg/m^3) [skin]	TWA 20 ppm C 30 ppm 100 ppm (30-minute maximum peak)	500 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Dizziness, headache, poor sleep, lassitude (weakness, exhaustion), anxiety, anorexia, weight loss; psychosis; polyneuropathy; Parkinson-like syndrome; ocular changes; coronary heart disease; gastritis; kidney, liver injury; eye, skin burns; dermatitis; reproductive effects	central nervous system, peripheral nervous system, cardiovascular system, eyes, kidneys, liver, skin, reproductive system	Colorless to faint-yellow liquid with a sweet ether-like odor. BP: 116°F Fl.P: -22°F UEL: 50.0% LEL: 1.3% Class IB Flammable Liquid
Chlorobenzene	108-90-7	TWA 10 ppm	None established	TWA 75 ppm (350 mg/m^3)	1000 ppm	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose; drowsiness, incoordination; central nervous system depression; in animals: liver, lung, kidney injury	Eyes, skin, respiratory system, central nervous system, liver	Colorless liquid with an almond-like odor BP: 270°F Fl.P: 82°F UEL: 9.6% LEL: 1.3%
Chloroethane	75-00-3	TWA 100ppm	Handle with caution in the workplace	TWA 1000 ppm (2600 mg/m^3)	3800 ppm [10%LEL]	inhalation, skin absorption (liquid), ingestion (liquid), skin and/or eye contact	Incoordination, inebriation; abdominal cramps; cardiac arrhythmias, cardiac arrest; liver, kidney damage	Liver, kidneys, respiratory system, cardiovascular system, central nervous system	Colorless gas or liquid (below 54°F) with a pungent, ether-like odor. BP: 54°F Fl.P: NA (Gas) -58°F (Liquid) UEL: 15.4% LEL: 3.8%
Chloroform	67-66-3	TWA 10 ppm	Ca STEL 2 ppm (9.78 mg/m^3) [60-minute]	C 50 ppm (240 mg/m^3)	Ca [500 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potential occupational carcinogen]	Liver, kidneys, heart, eyes, skin, central nervous system	Colorless liquid with a pleasant odor BP: 143°F
Chromium	7440-47-3	TWA 0.5 mg/m^3 (metal and Cr III compounds) TWA 0.05 mg/m^3 (water-soluble Cr IV compounds) TWA 0.01 mg/m^3 (insoluble Cr IV compounds)	TWA 0.5 mg/m^3	TWA 1 mg/m^3	250 mg/m^3 (as Cr)	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; lung fibrosis (histologic)	Eyes, skin, respiratory system	Blue-white to steel-gray, lustrous, brittle, hard, odorless solid. BP: 4788°F
Chrysene; Phenanthrene; Pyrene; Coal tar pitch volatiles	65996-93-2	TWA 0.2 mg/m3	Ca TWA 0.1 mg/m^3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m^3 (benzene-soluble fraction)	Ca [80 mg/m^3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue. Combustible Solids

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
cis-1,2-Dichloroethene	158-59-2	TWA 200 ppm	TWA 200 ppm	TWA 200 ppm	None established	inhalation, skin absorption, ingestion	Harmful if swallowed, inhaled, or absorbed through skin. Irritant. Narcotic. Suspected carcinogen	Skin	Colorless liquid BP: 60 C Fl.P: 4 C UEL: 12.8% LEL: 9.7 %
Copper	7440-50-8	TWA 0.2mg/m^3 (fume) 1 mg/m^3 (dusts and mists)	TWA 1 mg/m^3	TWA 1 mg/m^3	100 mg/m^3 (as Cu)	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; cough, dyspnea (breathing difficulty), wheezing	Eyes, skin, respiratory system, liver, kidneys (increase(d) risk with Wilson's disease)	Noncombustible Solid in bulk form, but powdered form may ignite. BP: 4703°F
Dibenzo[a,h]anthracene	53-70-3	None established	None established	None established	None established	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin	Eyes, skin; skin photosensitization.	Colorless crystalline powder BP: 524°C
Diesel Fuel #2	68476-34-6	None established	None established	Designated as an OSHA Select Carcinogen	None established	ingestion, skin and/or eye contact	Kidney damage; potential lung damage; suspected carcinogen; irritation of eyes, skin, respiratory tract; dizziness, headache, nausea; chemical pneumonitis (from aspiration of liquid); dry, red skin; irritant contact dermatitis; eye redness, pain.	Eyes, skin, kidneys	Clear yellow brown combustible liquid; floats on water; distinct diesel petroleum hydrocarbon odor. BP: 356-716°F Fl.P: 154.4-165.2°F LEL: 0.6% UEL: 7.0%
Ethylbenzene	100-41-4	TWA 100 ppm STEL 125 ppm	TWA 100 ppm (435 mg/m^3) STEL 125 ppm (545 mg/m^3)	TWA 100 ppm (435 mg/m^3)	800 ppm [10%LEL]	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with an aromatic odor. BP: 277°F Fl.P: 55°F UEL: 6.7% LEL: 0.8% Class IB Flammable Liquid
Fluoranthene	206-44-0	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; possible burns; heart and liver injury, pulmonary edema, respiratory arrest, gastrointestinal disturbances.	Heart, liver, lungs.	Yellow needles.
Fluorene	86-73-7	None established	None established	None established	None established	inhalation, ingestion, skin and/or eye contact	Irritation skin, digestive tract	Skin	White crystals BP: 563°F
Fuel Oil #2	68476-30-2	TWA 100mg/m^3 (aerosol and vapor, as total hydrocarbons)	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; CNS effects; nausea, vomiting, headache, cramping, dizziness, weakness, loss of coordination,, drowsiness; kidney, liver damage	Eyes, skin, CNS	Clear or yellow to red oily liquid, kerosene-like odor BP: 347 - 689 °F UEL:5-6% LEL: 0.7-1.0%
Gasoline	8006-61-9	TWA 300 ppm STEL 500 ppm	Carcinogen	None established	Ca [IDLH value has not been determined]	Skin absorption; inhalation; ingestion; skin and/or eye contact	Eyes and skin irritation, mucous membrane; dermatitis; headache; listlessness, blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis; possible liver, kidney damage [Potential occupational carcinogen]	Eyes, skin, respiratory system, CNS, Liver, Kidneys	Clear liquid with a characteristic odor, aromatic Fl.Pt = -45°F LEL = 1.4% UEL = 7.6% Classs 1B Flammable Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Hexachlorobutadiene	87-68-3	TWA 0.02 ppm	Ca TWA 0.02 ppm (0.24 mg/m^3) [skin]	None established	Ca [N.D.]	inhalation, skin absorption, ingestion, skin and/or eye contact	In animals: irritation eyes, skin, respiratory system; kidney damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, kidneys	Clear, colorless liquid with a mild, turpentine-like odor. BP: 419°F
Hydrogen Sulfide	7783-06-4	TWA (10 ppm) STEL (15 ppm) (adopted values for which changes are proposed in the NIC)	C 10 ppm (15 mg/m^3) [10-minute]	C 20 ppm 50 ppm [10-minute maximum peak]	100 ppm	inhalation, skin and/or eye contact	Irritation eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; dizziness, headache, lassitude (weakness, exhaustion), irritability, insomnia; gastrointestinal disturbance; liquid: frostbite	Eyes, respiratory system, central nervous system	Colorless gas with a strong odor of rotten eggs. BP: -77°F UEL: 44.0% LEL: 4.0% Flammable Gas
Indeno[1,2,3-cd]pyrene	193-39-5	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; possible human carcinogen (skin); weakness; affect liver, lung tissue, renal tissue; impariment of blood forming tissue	Skin	Fluorescent green-yellow crystalline solid BP: 536 C
Indeno[1,2,3-cd]pyrene	193-39-5	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; possible human carcinogen (skin); weakness; affect liver, lung tissue, renal tissue; impariment of blood forming tissue	Skin	Yellowish crystal solid BP: 536 C
Isopropylbenzene	98-82-8	TWA 50 ppm	TWA 50 ppm (245 mg/m^3) [skin]	TWA 50 ppm (245 mg/m^3) [skin]	900 ppm [10%LEL]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a sharp, penetrating, aromatic odor. BP: 306°F Fl.P: 96°F UEL: 6.5% LEL: 0.9%
Kerosene	8008-20-6	TWA 200 mg/m^3	TWA 100 mg/m^3	None established	IDLH value has not been determined	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; burning sensation in chest; headache, nausea, lassitude (weakness, exhaustion), restlessness, incoordination, confusion, drowsiness; vomiting, diarrhea; dermatitis; chemical pneumonitis (aspiration liquid)	Eyes, skin, respiratory system, central nervous system	Colorless to yellowish, oily liquid with a strong, characteristic odor. BP: 347-617°F Fl.P: 100-162°F UEL: 5% LEL: 0.7% Class II Combustible Liquid
Lead	7439-92-1	TWA 0.05 mg/m^3	TWA (8-hour) 0.050 mg/m^3	TWA 0.050 mg/m^3	100 mg/m^3 (as Pb)	inhalation, ingestion, skin and/or eye contact	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension	Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue	A heavy, ductile, soft, gray solid. BP: 3164°F Noncombustible Solid in bulk form

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Manganese	7439-96-5 (metal)	TWA 0.2 mg/m^3	TWA 1 mg/m^3 STEL 3 mg/m^3	C 5 mg/m^3	500 mg/m^3 (as Mn)	inhalation, ingestion	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; low-back pain; vomiting; malaise (vague feeling of discomfort); lassitude (weakness, exhaustion); kidney damage	respiratory system, central nervous system, blood, kidneys	A lustrous, brittle, silvery solid. BP: 3564°F
Mercury (organo) alkyl compounds (as Hg)	7439-97-6	TWA 0.01 mg/m^3 STEL 0.03 mg/m^3 [skin]	TWA 0.01 mg/m^3 STEL 0.03 mg/m^3 [skin]	TWA 0.01 mg/m^3 C 0.04 mg/m^3	2 mg/m^3 (as Hg)	inhalation, skin absorption, ingestion, skin and/or eye contact	Paresthesia; ataxia, dysarthria; vision, hearing disturbance; spasticity, jerking limbs; dizziness; salivation; lacrimation (discharge of tears); nausea, vomiting, diarrhea, constipation; skin burns; emotional disturbance; kidney injury; possible teratogenic effects	Eyes, skin, central nervous system, peripheral nervous system, kidneys	Appearance and odor vary depending upon the specific (organo) alkyl mercury compound
Mercury compounds [except (organo) alkyls] (as Hg) Mercury	7439-97-6	TWA 0.025 mg/m^3 (elemental and inorganic forms)	Hg Vapor: TWA 0.05 mg/m^3 [skin] Other: C 0.1 mg/m3 [skin]	TWA 0.1 mg/m^3	10 mg/m^3 (as Hg)	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria	Eyes, skin, respiratory system, central nervous system, kidneys	Metal: Silver-white, heavy, odorless liquid. [Note: "Other" Hg compounds include all inorganic & aryl Hg compounds except (organo) alkyls.] BP: 674°F
Methyl tert-butyl ether (MTBE)	1634-04-4	TWA 50 ppm	No established REL	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, mucous membrane, respiratory; dizziness, nausea, headache, intoxication	Eyes, skin, mucous membrane, respiratory system, central nervous system	Colorless liquid BP: 55.2 C
Methylene Chloride	75-09-2	TWA 50 ppm, A3 - suspected human carcinogen	Ca	TWA 25 ppm STEL 125 ppm	Ca [2300 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; lassitude (weakness, exhaustion), drowsiness, dizziness; numbness, tingle limbs; nausea; [potential occupational carcinogen]	Eyes, skin, cardiovascular system, central nervous system	Colorless liquid with a chloroform-like odor BP: 104°F UEL: 23% LEL: 13%
Metals Remediation Compound (MRC): Glycerol Tripolylactate Sorbitol Cysteinate Lactic Acid Glycerol	201167-72-8 444618-64-8 50-21-5 56-81-5	None established	None established	None established	None established	inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation eyes, skin, respiratory tract	Behavioral (headache), gastrointestinal tract, reproductive system	Viscous amber gel/liquid; strong amine/sulfur odor
Naphtha (coal tar)	8030-30-6	None established	TWA 100 ppm (400 mg/m^3)	TWA 100 ppm (400 mg/m^3)	1000 ppm [10%LEL]	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose; dizziness, drowsiness; dermatitis; in animals: liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Reddish-brown, mobile liquid with an aromatic odor BP: 320-428°F Fl.P: 100-109°F Class II Combustible Liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Naphthalene	91-20-3	TWA 2 ppm STEL 15 ppm	TWA 10 ppm (50 mg/m^3) STEL 15 ppm (75 mg/m^3)	TWA 10 ppm (50 mg/m^3)	250 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system	Colorless to brown solid with an odor of mothballs. BP: 424°F Fl.P: 174°F UEL: 5.9% LEL: 0.9%
n-Butylbenzene	104-51-8	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; CNS depression, lung damage; nausea, vomiting, headache, dizziness, weakness, loss of coordination, blured vision, drowsiness, confusion, disorientation	Eyes, skin,repiratory system, central nervous system	Colorless liquid with a sweet odor BP: 183 C Fl.P: 59 C UEL: 5.8% LEL: 0.8%
Nickel	7440-02-0 (Metal)	TWA 1.5 mg/m^3 (elemental) TWA 0.1 mg/m^3 (soluble inorganic compounds) TWA 0.2 mg/m^3 (insoluble inorganic compounds) TWA 0.1 mg/m^3 (Nickle subsulfide)	Ca TWA 0.015 mg/m^3	TWA 1 mg/m^3	Ca [10 mg/m^3 (as Ni)]	inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]	Nasal cavities, lungs, skin	Metal: Lustrous, silvery, odorless solid. BP: 5139°F
Nitrobenzene	98-95-3	TWA 1 ppm	TWA 1 ppm (5 mg/m^3) [skin]	TWA 1 ppm (5 mg/m^3) [skin]	200 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; anoxia; dermatitis; anemia; methemoglobinemia; in animals: liver, kidney damage; testicular effects	Eyes, skin, blood, liver, kidneys, cardiovascular system, reproductive system	Yellow, oily liquid with a pungent odor like paste shoe polish. BP: 411°F Fl.P: 190°F LEL(200°F): 1.8%
n-Propylbenzene	103-65-1	None established	None established	None established	None established	inhalation, ingestion, skin and/or eye contact	Harmful if swallowed, Irritation eyes, skin, digestive tract, respiratory tract, central nervous system	Eyes, skin, central nervous system, respiratory system	colorless or light yellow liquid BP: 159 C Fl.P: 47 C UEL: 6% LEL: 0.8%
Petroleum hydrocarbons(Petroleum distillates)	8002-05-9	None established	TWA 350 mg/m^3 C 1800 mg/m^3 [15 min]	TWA 500 ppm (2000 mg/m^3)	1,100 [10% LEL]	Inhalation; ingestion; skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, drowsiness, headache, nausea; dried/cracked skin; chemical pneumonitis	CNS, eyes, respiratory system, skin	Colorless liquid with a gasoline or kerosene-like odor BP: 86-460°F Fl. Pt = -40 to -86°F UEL: 5.9% LEL: 1.1% Flammable liquid

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Phenol	108-95-2	TWA 5 ppm	TWA 5 ppm (19 mg/m^3) C 15.6 ppm (60 mg/m^3) [15-minute] [skin]	TWA 5 ppm (19 mg/m^3) [skin]	250 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose, throat; anorexia, weight loss; lassitude (weakness, exhaustion), muscle ache, pain; dark urine; cyanosis; liver, kidney damage; skin burns; dermatitis; ochronosis; tremor, convulsions, twitching	Eyes, skin, respiratory system, liver, kidneys	Colorless to light-pink, crystalline solid with a sweet, acrid odor. BP: 359°F UEL: 8.6% LEL: 1.8%
p-Isopropyltoluene	99-87-6	None established	None established	None established	None established	inhalation, skin absorption, eye contact	Irritation skin	CNS, skin	Colorless, clear liquid, sweetish aromatic odor BP: 350.8°F Class III Flammable liquid
Regenox Part A: Sodium Percarbonate Sodium Carbonate Monohydrate Silicic Acid Silica Gel	 15630-89-4 5968-11-6 7699-11-6 63231-67-4	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation respiratory tract, mucous membranes, nose, throat, eyes, skin; gastrointestinal disturbance	Respiratory system, eyes, skin	Odorless, white, powder [Note: Self-accelerating decomposition with oxygen release starts at 50° C]
Regenox Part B: Silicic Acid, Sodium Salt, Sodium Silicate; Silica Gel; Ferrous Sulfate; Water	 1344-09-8 63231-67-4 7720-78-7 7732-18-5	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation respiratory tract, mucous membranes, nose, throat, eyes, skin, mouth, esophagus and stomach	Respiratory system, eyes, skin, gastrointestinal tract	Odorless, Blue/Green, liquid [Note: Oxides of carbon and silicon may be formed when heated to decomposition]
sec-Butylbenzene	135-98-8	None established	None established	None established	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, upper airway; central nervous system, headache, dizziness; gastrointestinal disturbance	Respiratory system, central nervous system, eyes, skin;	Colorless liquid BP: 344°F Fl.P: 126 °F UEL: 6.9% LEL: 0.8% Combustible liquid
Selenium	7782-49-2	TWA 0.2 mg/m^3	TWA 0.2 mg/m^3	TWA 0.2 mg/m^3	1 mg/m^3 (as Se)	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; visual disturbance; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns; in animals: anemia; liver necrosis, cirrhosis; kidney, spleen damage	Eyes, skin, respiratory system, liver, kidneys, blood, spleen	Amorphous or crystalline, red to gray solid. [Note: Occurs as an impurity in most sulfide ores.] BP: 1265°F
Silver	7440-22-4 (metal)	TWA 0.1 mg/m^3 (metal, dust, fumes) TWA 0.01 mg/m^3 (Soluble compounds, as Ag)	TWA 0.01 mg/m^3	TWA 0.01 mg/m^3	10 mg/m^3 (as Ag)	inhalation, ingestion, skin and/or eye contact	Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Nasal septum, skin, eyes	Metal: White, lustrous solid BP: 3632°F
Slop Oil	69029-75-0	None established	None established	None established	None established	Inhalation; ingestion	Irritation eyes, skin, gastrointestinal tract	Eyes, skin, gastrointestinal tract	Clear light to dark amber liquid, with mild hydrocarbon odor. BP: >500°F Fl.P : 250°F

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Sulfuric Acid	7664-93-9	TWA 0.2 mg/m^3	TWA 1 mg/m^3	TWA 1 mg/m^3	15 mg/m^3	inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis; dental erosion; eye, skin burns; dermatitis	Eyes, skin, respiratory system, teeth	Colorless to dark-brown, oily, odorless liquid. BP: 554°F Noncombustible Liquid
tert-Butylbenzene	98-06-6	None established	None established	None established	None established	inhalation, skin absorption, ingestion,	Eye and respiratory irritant; CNS depression; liver or kidney damage	Respiratory system, central nervous system, eyes, liver, kidney	Colorless liquid with an aromatic odor BP: 168 - 169 C Fl.P: 34 C UEL:5.6 % LEL: 0.8 %
Tetrachloroethene	127-18-4	TWA 25 ppm STEL 100 ppm (STEL) listed as A3, animal carcinogen	Ca Minimize workplace exposure concentrations	TWA 100 ppm C 200 ppm (for 5 minutes in any 3-hour period), with a maximum peak of 300 ppm	Ca [150 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Colorless liquid with a mild, chloroform-like odor. BP: 250°F Noncombustible Liquid
Toluene	108-88-3	TWA 20 ppm	TWA 100 ppm (375 mg/m^3) STEL 150 ppm (560 mg/m^3)	TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)	500 ppm	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a sweet, pungent, benzene-like odor. BP: 232°F Fl.P: 40°F UEL: 7.1% LEL: 1.1% Class IB Flammable Liquid
trans-1,2-Dichloroethene	156-60-5	TWA 200 ppm	None established	TWA 200 ppm STEL 250 ppm (skin)	None established	inhalation, skin absorption, ingestion, skin and/or eye contact	Narcotic. Irritation eyes, skin, respiratory tract, mucous membrane; CNS depression.	Respiratory tract, mucous membrane, eyes, skin, CNS	Colorless liquid with a fruity pleasant odor BP: 48°C Fl.P 6C UEL: 12.8% LEL: 9.7%
Trichloroethene	79-01-6	TWA 10 ppm STEL 25 ppm	Ca	TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)	Ca [1000 ppm]	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	Colorless liquid (unless dyed blue) with a chloroform-like odor. BP: 189°F UEL(77°F): 10.5% LEL(77°F): 8%
Vinyl Chloride	75-01-4	TWA 1 ppm	Carcinogen	TWA 1 ppm C 5 ppm [15-minute]	Ca [IDLH value has not been determined]	inhalation, skin, and/or eye contact (liquid)	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Liver, central nervous system, blood, respiratory system, lymphatic system	Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations. BP: 7°F UEL: 33.0% LEL: 3.6% Flammable Gas

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at 5200 Kings Highway, Brooklyn, New York

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Xylene (m, o & p isomers)	108-38-3, 95-47-6, 106-42-3	TWA 100 ppm (435 mg/m^3) STEL 150 ppm	TWA 100 ppm (435 mg/m^3)	TWA 100 ppm (435 mg/m^3)	900 ppm	Skin absorption, inhalation, ingestion, skin, and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys	Colorless liquid with an aromatic odor BP: 282°F, 292°F, 281°F Fl. Pt. 82°F, 90°F, 81°F LEL: 1.1%, 0.9%, 1.1% UEL: 7.0%, 6.7%, 7.0% Classs C Flammable Liquid
Zinc	7440-66-6	TWA 10 mg/m3 (Inhalable fraction)	None established	TWA 10 mg/m3 (for zinc oxide fume)	None established	skin and/or eye contact, inhalation, ingestion	Irritation eyes, skin, respiratory tract; gastrointestinal disturbances	Eyes, skin, respiratory system	Bluish gray solid BP: 1664.6°F Flammable

TABLE 2

ACTION LEVELS FOR WORKER BREATHING ZONE

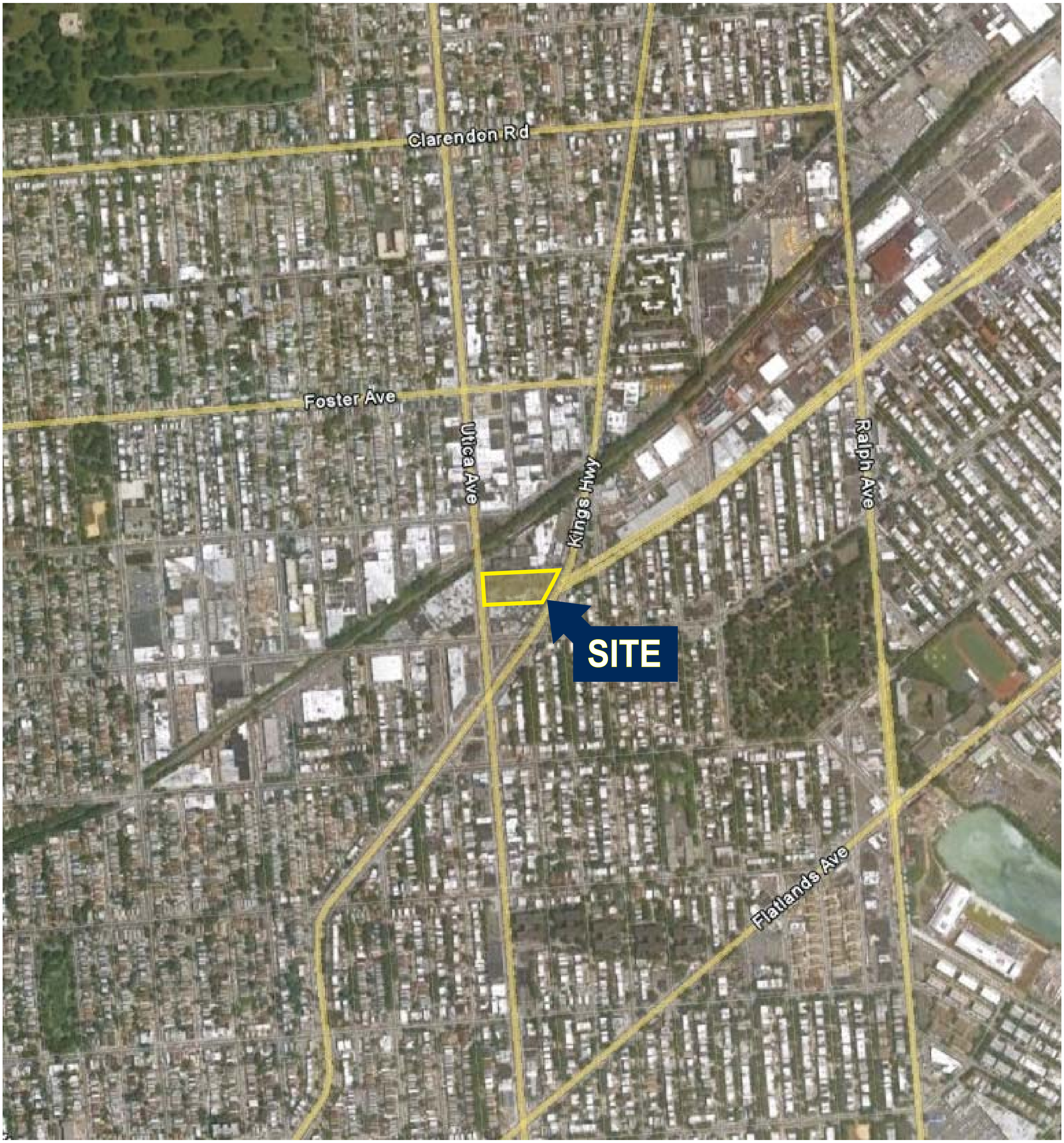
Instrument	Action Level *	Level of Respiratory Protection/Action
PID	0 to <5 ppm (one minute sustained)	Level D *
PID	>5 to <50 ppm (one minute sustained)	Utilize APR (Level C)
PID	>50 to <100 ppm (one minute sustained)	Level B
PID	>100ppm	Stop work** (ventilate, apply foam)
CGI/H_2S Meter	<5%	Level D
CGI/H_2S Meter	>5% to <25%	Level B
CGI/H_2S Meter	>25%	Stop work**
CGI/CO Meter	>25%	Level B
CGI/CO Meter	>50%	Stop work** (ventilate area)
CGI/O_2 Meter	<10% LEL, in excavation	Level D
	19.5% oxygen – 23.5%	Level D
CGI/O_2 Meter	>10% LEL, in excavation	Allow to vent, apply foam**
	>23.5% oxygen	Stop work, Oxygen Enriched ATM**
Dust Monitor	0 – 1.0 mg/m^3, 5-minutes average	Level D
Dust Monitor	>1.0 to 5.0 mg/m^3, 5-minutes average	Level D – Institute dust suppression measures
Dust Monitor	5.0 to >50 mg/m^3, 5-minute average	Level C – Institute dust suppression measures

Note: Action levels are based on above background levels.

* Instrument readings will be taken in the breathing zone (BZ) of the workers, unless otherwise indicated.

** Suspend work in immediate area. Conduct air monitoring periodically to determine when work can continue. Implement mitigative measures.

FIGURES



Title:

SITE LOCATION MAP

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN , NEW YORK 11234

Prepared for:

IRMA C. POLLACK, LLC

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0 1000'

SOURCE:
GOOGLE EARTH
IMAGERY DATE: 6/17/2010

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: W.M.	Date: 25MAY12	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	1
Project Mgr.: W.M.	Project No.: 1575.0002Y000	
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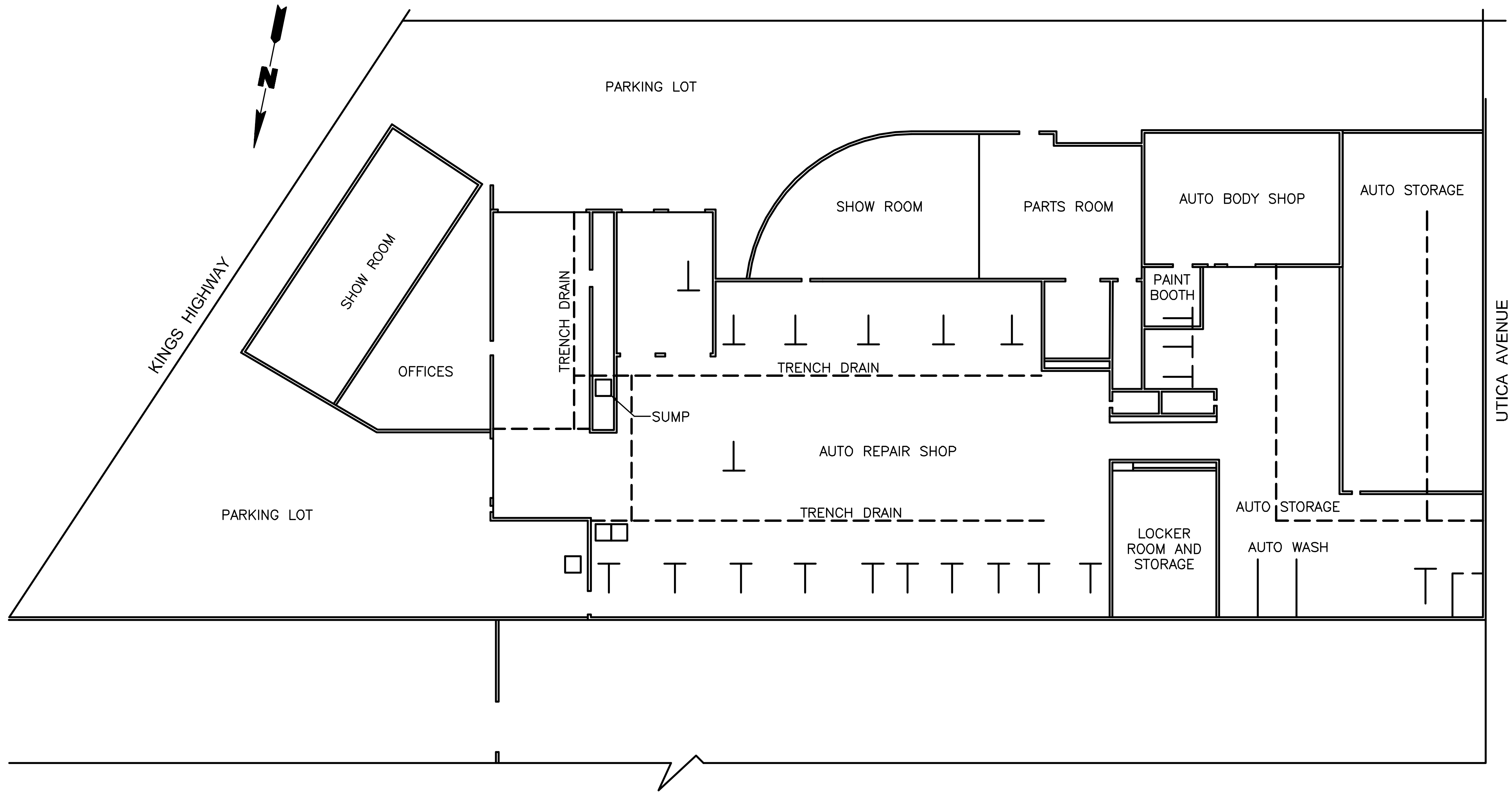

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

Title:

SITE PLAN

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

IRMA C. POLLACK, LLC

ROUX ASSOCIATES, INC. Environmental Consulting and Management	Compiled by: W.M.	Date: 25MAY12	FIGURE
	Prepared by: G.M.	Scale: AS SHOWN	2
	Project Mgr: W.M.	Project: 1575.0002Y000	
	File: 1575.0002Y102.02 SCALED.DWG		

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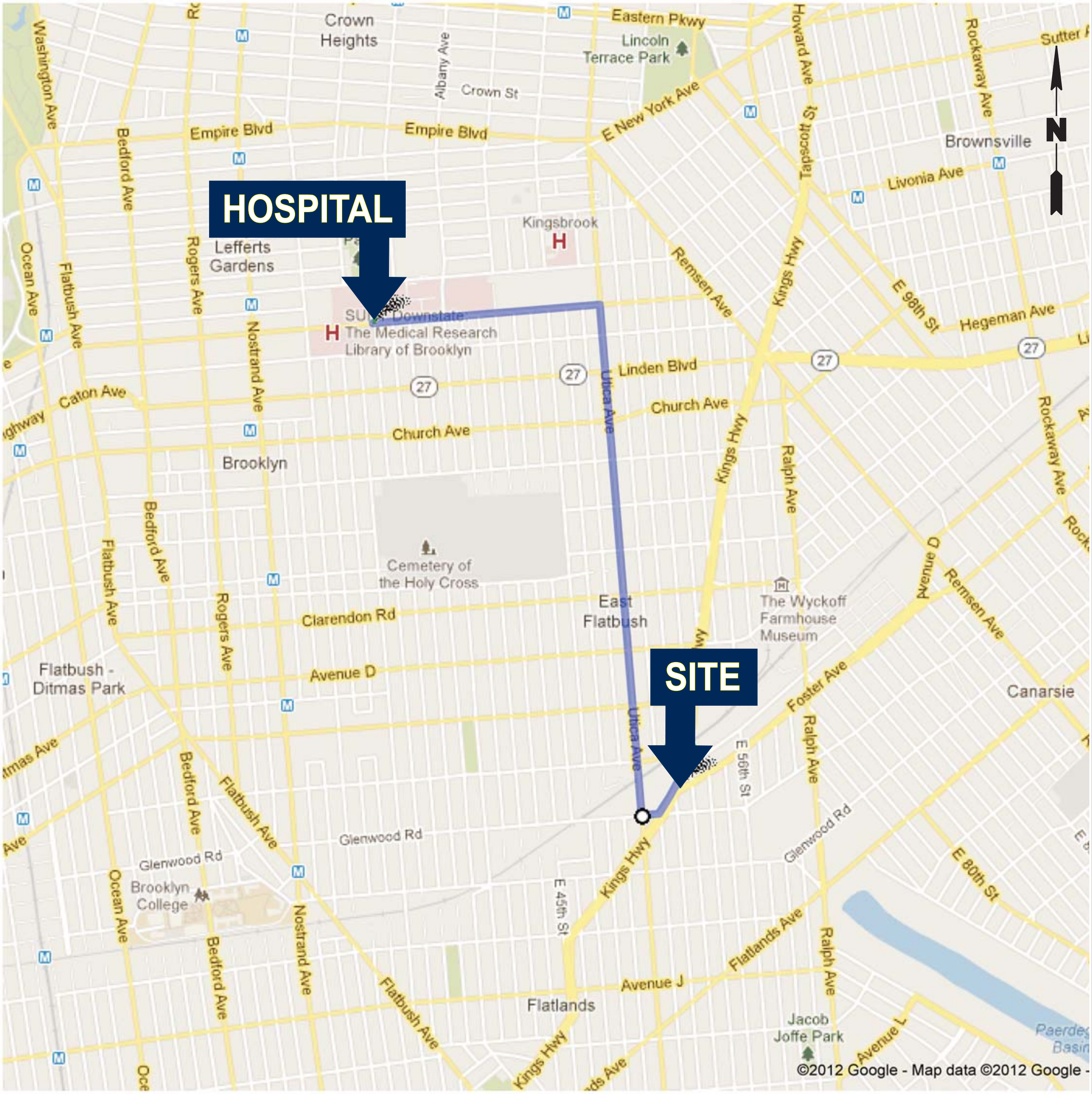

DIRECTIONS TO HOSPITAL

1. Kings Highway south to Glenwood Avenue, turn right.
2. From Glenwood, turn right onto Utica Avenue.
3. Utica Avenue north to Clarkson Avenue, turn left.
4. SUNY Downstate Medical Research Center is on right.

Title:

HOSPITAL ROUTE MAP

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN , NEW YORK 11234

Prepared for:

IRMA C. POLLACK, LLC

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: W.M.	Date: 25MAY12	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	3
Project Mgr.: W.M.	Project No.: 1575.0002Y000	
File: 1575.0002Y102.01.CDR		

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APPENDICES

A. Job Safety Analysis
B. Heavy Equipment Exclusion Zone Policy
C. Heat and Cold Stress Guidelines
D. Generic Community Air Monitoring Plan
E. Health and Safety Briefing/Tailgate Meeting Form
F. Accident Report and Investigation Form and Incident Response Flow Chart
G. Acord Form
H. OSHA 300
I. Job Safety and Health Protection Poster (2015)

APPENDIX A

Job Safety Analysis

JOB SAFETY ANALYSIS	Cntrl. No. GEN-011	DATE: 1/18/2015	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)	
GENERIC	**Site Recon**	**Site Walk and Inspection**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Anthony Giannetti	Staff Geologist	Daniel Abberton	SHSM
		Mike Ritorto	Project Hydrogeologist
		Joe Gentile	CHSM

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: ear plugs as necessary ☒ SAFETY SHOES: <u>Steel or composite toed</u>	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: <u>High-visibility vest or high-vis outerwear, sleeved shirt</u>	☒ GLOVES: <u>Leather/cut-resistant/chemical resistant</u> ☒ OTHER: tyvek and rubber boots as necessary, dust mask as necessary

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: Site map and/or guide familiar with Site, operating cell phone or walkie-talkie if Site allows.

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE (EZ): A minimum 10' exclusion zone will be maintained around equipment.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Check in with Site manager.	**1a. CONTACT/EXPOSURE/FALL:** Lack of communication could result in H&S incident.	1a. Inform Site personnel of work scope, timeline and location(s). 1a. Inquire about hazards and other activities taking place at the Site. 1a. Discuss emergency evacuation procedures and muster points with Site manager..
2. Traversing the Site and setting up at work locations.	**2a. CONTACT:** Property damage and personal injury caused by obstructions/vehicles or unauthorized personnel at remote Sites.	2a. Maintain speed limit of 5 mph on-site. 2a. All equipment must be stowed and secured prior to moving. Use wheel chocks on all construction vehicles when not in motion. 2a. Drive on established roadways. 2a. Yield to all pedestrians. 2a. Do not back up vehicle without spotter where visibility is limited; use pull-through spots or back into parking spots; use an audible signal (horn/back-up alarm) when backing up vehicles. 2a. Wear high visibility clothing/safety vest. If working at remote Site, add orange accessories during hunting season.
	2b. FALL: Uneven terrain and weather conditions. Overgrown shrubs and vines. Equipment in the work zone.	2b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 2b. Use established pathways and walk on stable, secure ground. 2b. Communicate traversing hazards with others
	2c. OVEREXERTION: Muscle strain while carrying equipment.	2c. When carrying equipment to/from work area, use proper lifting techniques; keep back straight, lift with legs, keep load close to body, never reach with a load. Ensure that loads are balanced to reduce the potential for muscle strain. Use mechanical assistance or make multiple trips to carry equipment. 2c. Two people or a mechanical lifting device are required when lifting objects over 50 lbs or when the shape makes the object difficult to lift.
	2d. EXPOSURE: Biological hazards - ticks, bees/wasps, poison ivy, insects, etc. (Ticks are most active any time the temperature is above freezing, typically from March to November.)	2d. Inspect area to avoid contact with biological hazards. 2d. Ticks: • Treat outer clothing including pants, shirts, socks, boots and hats the evening before use with Permethrin (allowing at least two hours before use). • Apply DEET to exposed skin before travelling to the Site and reapply after two hours. • Check for ticks during and after work. 2d. Bees: Use bee spray to remove nests. Protect exposed skin with insect repellent. 2d. Poison Ivy: • Identify areas of poison ivy and spray with weed killer. Don Tyvek and rubber boots while traversing poison ivy areas. • If skin comes in contact with poison ivy, wash skin thoroughly with soap and water.
	2e. EXPOSURE:	2e. Wear sunscreen with SPF 15 or greater on exposed skin

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into five types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift." Avoid general statements such as, "be careful."

	Heat Stress & Cold Stress. Personal injury from working in inclement weather conditions.	whenever 30 minutes or more of sun exposure is expected. 2e. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). Take breaks as needed. 2e. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks as needed. 2e. Wear appropriate rain gear as needed. 2e. Take frequent breaks if tired, wet, or cold/hot. Drink water. 2e. If lightning is observed, wait 30 minutes after last thunder boom/lightning bolt in a sheltered location (car acceptable) before starting work again.
3. Define and secure the work area.	**3a. CONTACT:** Personal injury or property damage from other vehicles on-site.	3a. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route. 3a. Look both ways in high traffic areas. 3a. Position vehicle to protect against oncoming traffic. 3a. Use 42" traffic cone and caution tape to delineate work area. Use a spotter in high traffic areas. 3a. Wear high visibility clothing/safety vest.
4. Walking near heavy equipment and machinery.	**4a. CONTACT:** Personal injury from Site and roadway traffic. Personal injury from flying debris. **4b. OVEREXERTION:** Personal injury from lifting/moving/rotating equipment. **4c. EXPOSURE:** Hearing damage from excavation activities. Inhalation/exposure to hazardous vapors and or dust. **4d. EXPOSURE:** Working in a remote area.	4a. See 3a. 4a. Place traffic cones to re-direct traffic flow around work area and to alert others as to activity taking place. Evaluate possible need for police detail and request as needed. 4a. Maintain a minimum exclusion zone of 10 feet from all equipment. Task specific JSAs should be referenced to determine the actual exclusion zone for the piece of equipment being used. 4a. Keep body parts out of the line of fire of pinch points. 4a. Routinely inspect work area and be aware of location of all Site personnel. Make eye contact with spotter, if provided, or operator prior to entering the work area. 4a. Wear safety glasses at all times. 4b. See 2c. 4c. Monitor air quality with multi-gas meter and dust meter, if necessary. Use water to suppress dust, if necessary. Wear dust mask, if necessary. 4c. Wear hearing protection if >85 dBA. 4c. Always wear leather gloves when handling any tools or equipment. Wear cut-resistant gloves (Kevlar or similar) when handling sharp objects, glassware or cutting tools. 4d. Use the "buddy system" whenever possible. If working alone, contact PM upon arrival/departure, as well as during work activities prior to commencing work. 4d. Always carry a communication (i.e., cell phone, walkie-talkie) or directional (i.e., map, compass, etc.) device when traversing remote areas.
5. Working in adverse weather conditions.	**5a. EXPOSURE:** Heat Stress & Cold Stress. Personal injury from working in inclement weather conditions.	5a. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). Take breaks as needed. 5a. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks as needed. 5a. Wear appropriate rain gear as needed. 5a. Take frequent breaks if tired, wet, or cold/hot. Drink water. 5a. If lightning is observed, wait 30 minutes after last thunder boom/lightning bolt in a sheltered location (car acceptable) before starting work again.
6. Departing Site.	**6a. EXPOSURE:** Exposure to unnecessary hazards should personnel believe Roux is on-Site during an emergency and conduct a search.	6a. Sign out or notify Site personnel of your departure.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

JOB SAFETY ANALYSIS	Cntrl. No. GEN-010	DATE: 1/15/2014	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)	
GENERIC	**Site Recon**	**Mobilization/Demobilization**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Jared Lefkowitz	Staff Assistant Scientist	Daniel Abberton	SHSM
John Williams	OHSM	Mike Ritorto	Project Hydrogeologist
		Joe Gentile	CHSM

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION (as needed) ☒ SAFETY SHOES: Steel Toe or composite toe	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest of high-visibility clothing; sleeved shirt; long pants	☒ GLOVES: Leather, nitrile, and cut resistant (as needed) ☐ OTHER

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: None

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE: A minimum exclusion zone of 10' will be maintained around moving equipment (if heavy equipment is utilized)

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilize/demobilize and establish work area	**1a. FALL:** Slip/trips/falls from obstructions, uneven terrain, weather conditions, heavy loads, and/or poor housekeeping.	1a. Use 3 points-of-contact/ensure secure footing when entering and exiting vehicle. 1a. Inspect walking path for uneven terrain, steep hills, obstructions, and/or weather-related hazards (i.e., ice, snow, and puddles) prior to mobilizing equipment. Use established pathways. Walk on stable/secure ground. 1a. Do not climb over stored materials/equipment; walk around. Practice good housekeeping; organize and store equipment neatly in one area. 1a. Wear boots with adequate treads. 1a. Delineate unsafe areas with 42" cones, caution tape and/or flagging.
	1b. CONTACT: Personal injury and/or property damage caused by being struck by Site traffic or equipment used in Site activities.	1b. Observe and maintain the posted speed limits. 1b. When first arriving onsite, park vehicles in designated parking space and/or out of the way locations. Use parking brake on all vehicles and tire chocks on work trucks and trailers. 1b. Check in with Site Manager/Supervisor to ensure coordination with other Site activities and to discuss any special hazards. Ensure that short-service employees (SSE) are identified. 1b. Identify potential traffic sources. 1b. Wear PPE including high visibility clothing or reflective vest. 1b. Use a spotter while moving work vehicles; plan ahead to avoid backing whenever possible. 1b. Maintain a minimum 10' exclusion zone when vehicles are in motion. When backing up truck rig with an attached trailer use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility. 1b. Delineate work area with 42" cones, flags, caution tape, and/or other barriers. 1b. Position "Work Area" signs at Site entrances, if possible, or at either side of work area. 1b. Position largest vehicle to protect against oncoming traffic. 1b. Face traffic, maintain eye contact with oncoming vehicles, use a spotter, and establish a safe exit route. 1b. Observe potential overhead and ground surface features that may interfere with moving equipment. Clear the path of physical hazards prior initiating mobilization.
	1c. CAUGHT: Personal injury from pinch points and being in line-of-fire of vehicle and/or equipment.	1c. Make sure driver has engaged parking brake and placed wheel chocks in a position to prevent movement. Be sure that vehicle is parked in front/down gradient of work area. 1c. Wear leather gloves when handling any tools or equipment. Wear cut-resistant gloves (Kevlar or similar) when handling sharp objects/cutting tools/glass. 1c. Keep body parts away from line-of-fire of equipment. 1c. Always carry tools by the handles and/or designated carrier. Ensure sharp-edged tools are sheathed/secure. 1c. Remove any loose jewelry. Avoid wearing loose clothing and/or

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		ensure loose clothing is secure. 1c. Secure all items on the equipment, tighten up any items or features that have potential to shift or break during mobilization.
	1d. OVEREXERTION: Muscle strains while lifting/carrying equipment. **1e. EXPOSURE:** Personal injury from exposure to biological and environmental hazards. **1f. EXPOSURE:** Heat and cold related injuries. **1g. EXPOSURE:** Personal injury from noise hazards.	1d. Use body positioning and lifting techniques that avoid muscle strain; keep back straight, lift with legs, keep load close to body, and never reach with a load. 1d. Ensure that loads are balanced. Use assistance (mechanical or additional person) to carry equipment that is either unwieldy or over 50 lbs. 1e. Inspect area to avoid contact with biological hazards (i.e. poisonous plants, stinging insects, ticks, etc.). 1e. Wear long sleeved clothes treated with Permethrin, apply insect repellant containing DEET to exposed skin, and inspect clothes and skin for ticks during and after work. 1e. Apply sunscreen (SPF 15+) if exposure to sun for 30 minutes or more is expected. 1f. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). Take breaks as needed. 1f. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). Take breaks as needed. 1f. Wear clothing appropriate for weather and temperature conditions (e.g., rain jackets, snow pants, multiple layers). 1f. If lightning is observed, wait 30 minutes in a sheltered location (car is acceptable) before resuming work. 1g. Wear hearing protection if sound levels exceed 85 dBA (if you must raise your voice for normal conversation).

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JOB SAFETY ANALYSIS	Cntrl. No. GEN-009	DATE: 2/11/2015	☐ NEW ☒ REVISED	

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**Hand Tools**	**Pre-Clearing activities, including Air Knifing and Soil Vacuuming**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Alyssa Lau	Staff Engineer	Daniel Abberton	SHSM
		Mike Ritorto	Senior Hydrogeologist
		Laura Jensen	Staff Hydrogeologist

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☒ FACE SHIELD (while air knifing) ☒ HEARING PROTECTION (as needed) ☒ SAFETY SHOES: Steel or composite toed	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Nitrile and cut resistant ☒ OTHER: Dust mask (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: Air Knife, Vactor Truck (Vac Truck), Compressor, Hand Tools, Circular Saw, Dust Mask, Photoionization Detector, Multi-Gas Meter, Traffic Cones, Rigid Barrier, Caution Tape, 20 lb. Fire Extinguisher, “Work Area” and/or “Exclusion Zone” Signs

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE: A 10 foot exclusion zone will be maintained around air knife and/or soil vacuum operations.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Verify pre-clearance protocol.	1a. **CONTACT**: Underground utility damage; property damage; personal injury. See Site Walk Inspection JSA for potential hazards.	1a. Confirm that local utility companies were contacted prior to drilling. 1a. Walk the Site to evaluate utility markings and review maps (**See Site Walk Inspection JSA for critical actions**). 1a. Review pre-clearing checklist form and sub-surface clearance form. Pre-clearing protocol indicates that clearance must be conducted to a minimum of 5 vertical feet below ground surface or 8 vertical feet below ground surface in the critical zone using hand tools.
2. Mobilize/demobilize and establish work area.	2a. **See Mobilization / Demobilization JSA for potential hazards.**	2a. **See Mobilization / Demobilization JSA for critical actions.**
3. Pre-clear with air knife, water lance, and soil vacuum, and/or clearance with hand tools	3a. **CONTACT**: Flying debris striking face or body	3a. **Maintain 10 foot exclusion zone.** Only (air knife/vac truck) operator and designated helper shall remain within exclusion zone while air knife/vac truck is active. Use the required PPE, including (at a minimum), cut resistant gloves, safety glasses with side shields, and long sleeved shirt. 3a. Wear a face shield to protect face from flying debris when using air knife. 3a. Aim air knife tip away from self and others, so to avoid line-of-fire hazards. 3a. Use anti-whip devices on compressor hoses.
	3b. **EXPOSURE/ENERGY SOURCE**: Inhalation/exposure to hazardous vapors; inhalation/exposure to dust; electrocution.	3b. Monitor breathing zone with a calibrated PID and multi-gas meter. If vapors sustain levels > 5 ppm, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings and inform the Roux Project Manager of the condition. The Roux Project Manager will then recommend additional precautions. 3b. Wear dust masks as needed 3b. Ensure no open flames/heat sources are present within the work area. 3b. No open flames/heat sources. 3b. Ensure vac truck is properly grounded prior to use. 3b. Do not use metal dig bar; use fiberglass or equivalent.
	3c. **CONTACT:** Damage to unknown/known utility with air knife.	3c. Avoid contacting utilities directly with the high pressure air stream and using the air knife tip as a physical digging tool. 3c. Keep the air knife tip constantly moving to reduce direct pressure on a potential utility. 3c. increase the distance between air knife tip and soil/utility. 3c. Continually remove soil slurry from hole with vacuum, which may have an abrasive effect on utility casings.
	3d. **ERGONOMICS** Poor body positioning when handling equipment and materials.	3d. Use proper body positioning and lifting techniques that minimizes muscle strain; keep back straight, lift with legs, keep load close to body, and never reach with a load.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Pre-clearing with air knife and soil vacuum, and/or clearance with hand tools (continued)	3d. **ERGONOMICS**: (continued) Poor body positioning when handling equipment and materials.	3d. Ensure that loads are balanced to reduce the potential for muscle strain. 3d. Two people or a mechanical lifting aid are required when lifting objects over 50 lb. or when the shape makes the object difficult to lift.
	3e. **FALL**: Tripping/falling due to uneven terrain, weather conditions, and materials/equipment stored at the Site.	3e. Inspect walking path for uneven terrain, weather-related hazards (e.g., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 3e. Walk around any stored materials/equipment; do not climb over. Practice good housekeeping. 3e. Use established pathways and walk on stable, secure ground. 3e. Equipment and tools will be stored at the lowest point of potential energy and out of the walkway and immediate work area (i.e., tools should not be propped against walls or nearby equipment or vehicles). 3e. Equipment and tools that are not anticipated to be used will be returned to a storage area that is out of the immediate work area. 3e. Ensure power cords/hoses are grouped when used within the work area. Mark out cords/hoses that cross pathways with traffic cones. 3e. Ensure all Site personnel and equipment stay a minimum of 2 feet from an open hole. Mark out open holes with traffic cones/caution tape, etc. 3e. Pre-cleared location will be finished flush to grade as to prevent a slip/trip hazard.
	3f. **CAUGHT**: Pinch points or amputation points associated with the equipment and vacuum hose.	3f. Always wear cut-resistant gloves when making connections and using hand tools. 3f. Inspect the equipment prior to use for potential pinch points. 3f. Test all emergency shutdown devices prior to using equipment. 3f. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 3f. **All non-essential personnel shall maintain a 10 foot exclusion zone**; position body out of the line-of-fire. 3f. **Drillers and helpers will understand and use the "Show Me Your Hands Policy".**
	3g. **EXPOSURE**: Noise from vac truck and/or air compressor.	3g. Wear hearing protection when vac truck and air compressor are in operation. Otherwise, if sound levels exceed 85 dB, don hearing protection.
4. Move drum to staging area using drum cart.	4a. **EXPOSURE/CONTACT**: Contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, soil).	4a. Wear chemically resistant gloves (i.e., Nitrile; worn in addition to cut resistant gloves). 4a. Do not overfill drums. Ensure that the drum lids are attached securely. 4a. Stage all drums in the designated storage area (per Roux Project Manager) and ensure they are labeled.
	4b. **ERGONOMICS**: Muscle strain while maneuvering drums with drum cart/lift gate.	4b. See 3d. Do not overfill drums. Use lift gate on back of truck to load and unload drums or drum cart to transport drums.
	4c. **CAUGHT**: Pinch points or amputation points associated with handling drum lid.	4c. Ensure that fingers are not placed under the lid of the drum. Wear cut-resistant gloves. Use 15/16" ratchet while sealing drum lid.
5. Decontaminate equipment and tools.	5a. **EXPOSURE/CONTACT**: To contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, vapors).	5a. See 4a. 5a. Contain decontamination water (closed lid) so that it does not spill. 5a. Use an absorbent pad to clean spills, if necessary. 5a. Store all impacted materials/PPE in a designated storage container (per Roux Project Manager) and ensure the container is labeled.
	5b. **EXPOSURE**: To chemicals in cleaning solution.	5b. See 4a.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-004	DATE 1/8/2015	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY: **Generic**	WORK TYPE: **Drilling**	WORK ACTIVITY (Description): **Direct Push Soil Borings / Well Installation**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Jeffrey Wills	Project Hydrogeologist	Laura Jensen	Staff Hydrogeologist
		Dan Abberton	Health and Safety Officer
		Michael Ritorto	Senior Hydrogeologist

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: (as needed) ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing, Sleeved Shirt	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Geoprobe or Truck-Mounted Direct Push Drill Rig, Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Macrocore liners, Liner Opening Tool, 20 lb. Fire Extinguisher, 42" Cones & Flags, "Work Area" Signs, Water

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Exclusion Zone Policy – All non-essential personnel will maintain a distance of 10 feet from drilling equipment while moving/engaged.

"SHOW ME YOUR HANDS"
Driller and helper should show that hands are clear from controls and moving parts

Assess [1]**JOB STEPS**	**Analyze** [2]**POTENTIAL HAZARDS**	**Act** [3]**CRITICAL ACTIONS**
1. Mobilization of drilling rig (ensure the Subsurface Clearance Protocol and Drill Rig Checklist are completed)	1a. **CONTACT**: Equipment/property damage. 1b. **FALL**: Slip/trip/fall hazards.	1a. The drill rig's tower/derrick will be lowered and secured prior to mobilization. 1a. A spotter should be utilized while moving the drill rig. If personnel move into the path of the drill rig, the drill rig will be stopped until the path is again clear. Use a spotter for all required backing operations. 1a. Set-up the work area and position equipment in a manner that eliminates or reduces the need for backing of support trucks and trailers. 1a. When backing up truck rig with an attached trailer use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility. 1a. Inspect the driving path for uneven terrain. Level or avoid if needed. 1a. Drill rig should have a minimum **exclusion zone of 10 feet** for non-essential personnel (i.e., driller helper, geologist) when the rig is moving/ in operation. 1b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 1b. Use established pathways and walk on stable, secure ground.
2. Raising tower/derrick of drill rig	2a. **CONTACT**: Overhead hazards. 2b. **CONTACT**: Pinch Points/Amputation Points when raising the rig and instability of rig	2a. Prior to raising the tower/derrick, the area above the drilling rig will be inspected for wires, tree limbs, piping, or other structures, that could come in contact with the rig's tower and/or drilling rods or tools. 2a. Maintain a safe distance of 10' from overhead structures. 2b. Inspect the equipment prior to use and avoid pinch/amputation points. 2b. Lower out riggers on rig to ensure stability prior to raising rig tower/derrick. 2b. If the rig needs to be mounted, be sure to use three points of contact.
3. Advancement of drilling equipment and well installation	3a. **CONTACT**: Flying debris	3a. Be aware of and avoid potential lines of fire and wear required PPE such as eye, ear, and hand protection.

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Assess ¹JOB STEPS	Analyze ²POTENTIAL HAZARDS	Act ³CRITICAL ACTIONS
3. Advancement of drilling equipment and well installation (Continued)	3b. **EXPOSURE**: Noise and dust.	3b. Wet borehole area with sprayer to minimize dust. 3b. Stand upwind and keep body away from rig. 3b. Dust mask should be worn if conditions warrant. 3b. Wear hearing protection when the drill rig is in operation.
	3c. **CAUGHT**: Limb/extremity pinching; abrasion/crushing.	3c. Always wear leather gloves when making connections and using hand tools; wear cut-resistant (i.e., Kevlar) gloves when handling cutting tools. 3c. Inspect the equipment prior to use for potential pinch/amputation points. Keep hands away from being between pinch/amputation points and use of tools is preferable compared to fingers and hands. 3c. Inspect drill head for worn surface or missing teeth; replace if damaged or blunt. 3c. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 3c. All non-essential personnel should stay away from the immediate work area; position body out of the line-of-fire of equipment. 3c. Drillers and helpers will understand and use the "Show Me Your Hands" Policy. 3c. Spinning rods/casing have an **exclusion zone of 10 feet** while in operation.
	3d. **CONTACT**: Equipment imbalance during advancement of drill equipment.	3d. Drillers will advance the borehole with caution to avoid causing the rig to become imbalanced and/or tip. 3d. The blocking and leveling devices used to secure the rig will be inspected by drillers and Roux personnel regularly to see if shifting has occurred. 3d. In addition, personnel and equipment that are non-essential to the advancement of the borehole will be positioned away from the rig at a distance that is at least as far as the boom is high (**minimum exclusion zone of 10 feet**).
	3e. **EXPOSURE**: Inhalation of contamination/vapors.	3e. Air monitoring using a calibrated photoionization detector (PID) will be used to periodically to monitor the breathing zone of the work area. 3e. If a reading of >5ppm is recorded, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings and inform the Roux PM of the condition. The Roux PM will then recommend additional precautions in accordance with the site specific health and safety plan.
	3f. **FALL**: Slip/trip/fall hazards.	3f. Contain drill cuttings and drilling water to prevent fall hazards from developing in work area. 3f. See 1b.
	3g. **EXERTION**: Potential for muscle strain/injury while lifting and installing well casings, lifting sand bags, and/or lifting rods.	3g. Keep back straight and bend at the knees. 3g. Utilize team lifting for objects over 50lbs. 3g. Use mechanical lifting device for odd shaped objects.
4. Decontaminate equipment.	4a. **EXPOSURE/CONTACT**: To contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, vapors).	4a. Wear chemical-resistant disposable gloves and safety glasses. 4a. Contain decontamination water so that it does not spill. 4a. Use an absorbent pad to clean spills, if necessary. 4a. See 3b.
	4b. **EXPOSURE:** To chemicals in cleaning solution including ammonia.	4b. See 4a. Review SDS to ensure appropriate precautions are taken and understood.

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JOB SAFETY ANALYSIS Ctrl. No.	DATE 1/23/2015	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY: **Generic**	WORK TYPE: **Drilling**	WORK ACTIVITY (Description): **Hollow Stem Auger Soil Borings /Well Installation**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Gina Vanderlin	Project Scientist	Joseph Gentile	CSHM

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: (as needed) ☒ SAFETY SHOES steel or composite toe	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: fluorescent sleeved shirt or sleeved shirt and reflective safety vest.	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Truck-Mounted Drilling Rig or Track Rig, Saw, Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Interface Probe, 20 lb. Fire Extinguisher, 42" Cones & Flags, "Work Area" Signs

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE POLICY – All non-essential personnel shall maintain a **10 foot** exclusion zone while drill rig is engaged

"SHOW ME YOUR HANDS"
Driller and helper should show that hands are clear from controls and moving parts

Assess [1]**JOB STEPS**	**Analyze** [2]**POTENTIAL HAZARDS**	**Act** [3]**CRITICAL ACTIONS**
1. Mobilization of drilling rig	1a. **CONTACT**: Equipment or property damage. 1b. **FALL**: Slip/trip/fall hazards.	1a. The drill rig's tower/derrick will be lowered and secured prior to mobilization. 1a. A spotter should be utilized while moving or backing the drill rig. If personnel move into the path of the drilling rig, the drilling rig will be stopped until the path is again clear. 1a. Set-up the work area / position equipment in a manner that eliminates or reduces the need for backing of trucks and trailers. 1a. When backing up truck rig with an attached trailer use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility. 1a. Inspect the driving path for uneven terrain. Level or avoid if needed. 1b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 1b. Use established pathways and walk on stable, secure ground. 1b. Use three points of contact when mounting or dismounting the rig.
2. Raising tower/derrick of drilling rig	2a. **CONTACT**: Overhead hazards. 2b**. CONTACT**: Pinch points when raising the rig; crushing hazard with stability of rig during set-up	2a. Prior to raising the tower/derrick, area above the drilling rig will be inspected for overhead hazards (wires, tree limbs, piping, or other structures) that may be contacted by the rig's tower or drilling rods. 2a. The tower/derrick must not be raised beneath overhead power lines unless approved by both the ExxonMobil and Roux PMs. 2a. Maintain at a minimum 10' from overhead structures. 2a. Do not move the rig while the tower/derrick is raised. 2b. Inspect the equipment prior to use and avoid placing hands near pinch points. 2b. Lower out riggers on rig to ensure stability prior to raising rig tower derrick. 2b. Inspect the set-up location for uneven terrain. Level or avoid area if needed.
3. Advancement of augers for soil borings and well material installation.	3a. **CONTACT:** Flying / spraying debris. 3b. **EXPOSURE:** Noise and dust.	3a. Wear minimum level D PPE 3a. Be aware of and avoid potential lines of fire. 3b. Wet borehole area with sprayer to minimize dust. Stand upwind and keep body positioned away from rig. 3b. Wear hearing protection while drill rig is operating/or the noise levels exceed 85dBA.

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[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.

[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
4. Advancement of augers for soil borings, and well material installation (Continued).	4c. **CAUGHT**: Limb/extremity pinching, abrasion, and crushing.	4c. Always wear leather gloves when making connections and using hand tools; wear cut-resistant (i.e., Kevlar) gloves when handling cutting tools. 4c. Test all emergency shutdown devices prior to drilling. 4c. Inspect drill head for worn surface or missing teeth; replace if damaged or blunt. 4c. Inspect augers; do not use if auger flight if damaged or bent. 4c. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body. 4c. All non-essential personnel should stay away from the immediate work area; position body out of the line-of-fire of equipment particularly when installing auger flights. 4c. Drillers and helpers will understand and use the “Show Me Your Hands” Policy. 4c. Spinning augers should have an **exclusion zone of 20 feet** when in operation.
	4d. **CONTACT**: Equipment imbalance during advancement of drill equipment.	4d. Drillers will advance the borehole with caution to avoid causing the rig to become imbalanced and/or tip. 4d. The blocking and leveling devices used to secure the rig will be inspected by drillers and Roux personnel regularly to see if shifting has occurred.
	4e. **EXPOSURE**: Inhalation of contamination/vapors.	4e. Air monitoring using a calibrated photoionization detector (PID) will be used to periodically monitor the breathing zone of the work area. 4e. The Action Level for breathing zone air is five parts per million (sustained) as detected by the PID. 4e. If a reading of >5ppm is recorded, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings and inform the Roux PM of the condition. The Roux PM will then recommend additional appropriate precautions in accordance with the site specific health and safety plan.
	4f. **FALL**: Slip/trip/fall hazards.	4f. See 1b. 4f. Remove soil cuttings to avoid a tripping hazard from developing near augers.
	4g. **EXERTION**: Installing well casings and lifting augers.	4g. Keep back straight and bend at the knees. 4g. Utilize team lifting for objects over 50lbs. 4g. Use mechanical lifting device for odd shaped objects.
	4h. **CONTACT**: Using hand tools to install well casings and materials	4h. Wear cut resistant and leather gloves. 4h, Secure materials on a level surface before cutting 4h. Place hands out of the line of fire 4h. Inspect all tools prior to use and remove damaged tools from service
5. Cleaning the auger flights	5a. **CONTACT:** Cuts/scrapes or puncture wound from contacting rotating auger.	5a. Follow “No Hands” Procedure and make sure auger is out of gear before contacting auger with hands or tool. 5b. When using a cleaning tool, pull across your body with handle away from body; do not push toward the auger. 5b. Do not clean more than ¾ turn around the auger at a time. 5b. Wear cut resistant and leather gloves. 5b. Always use two hands when operating cleaning tool. 5b. Inspect any tool before use and remove from service if handle or metal are cracked/fatigued. 5b. Stand out of the line of fire.
6. Decontaminate equipment.	6a. **EXPOSURE/CONTACT:** To contamination (e.g., contaminated groundwater, vapors). 6b. **EXPOSURE**: To chemicals in cleaning solution (including ammonia)	6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Contain decontamination water so that it does not spill. 6a. Use an absorbent pad to clean spills, if necessary. 6b. See 5a.

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JOB SAFETY ANALYSIS

JOB SAFETY ANALYSIS Cntrl. No. GEN-012	DATE: 2/3/2015	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY: **GENERIC**	WORK TYPE: **Gauging & Sampling**	WORK ACTIVITY (Description): **Soil Sampling**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Michael Hodess	Staff Environmental Scientist	Mike Ritorto	Senior Hydrogeologist
		Leo Kurylo	IL-OHSM

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES ☒ FLAME RESISTANT CLOTHING (as needed)	☐ GOGGLES ☐ FACE SHIELD: ☒ HEARING PROTECTION: (as needed) ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Insect repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Recommended Equipment: 42" traffic cones, caution tape, trowel

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE: A minimum 10' exclusion zone will be maintained around moving equipment, if present.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Secure location	1a. **CONTACT:** Personnel and vehicular traffic may enter the work area.	1a. If in an area with foot or vehicle traffic, delineate the work area with 42" traffic cones and/or caution tape to prevent exposure to traffic and inform others of work activity. 1a. Wear reflective vest and/or high visibility clothing. 1a. Face the direction of any vehicular traffic. Position vehicle to protect worker from traffic. 1a. Communicate work activity with adjacent work areas.
	1b. **FALL:** Tripping/falling due to uneven terrain or entry/exit from excavations.	1b. Inspect pathways and work area for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions. 1b. Use established pathways and walk on stable, secure ground. 1b. Stage equipment and tools in a convenient, stable, and orderlymanner. Store equipment at lowest potential energy. 1b. Roux employees should stay 5 feet from in-progress excavations and trenches. Should entry to an excavation be appropriate (when stabilization is complete), ladders must be employed for steep embankments, excavations, pits, and trenches.
	1c. **EXPOSURE:** Exposure to sun and excessive heat, possibly causing sunburn, heat exhaustion or heat stroke. Exposure to cold temperatures possibly causing cold stress. Skin burn as a result of fire, if applicable. Exposure to explosive vapors due to tank farm operations, Biological hazards - ticks, bees/wasps, poison ivy, thorns, insects, etc.	1c. Wear sunscreen with an SPF 15 or greater whenever 30 minutes or more of exposure is expected. 1c. Use a tent to shade the work area from direct sunlight particularly when warm temperatures are expected. 1c. Be aware of the location of all Site personnel. 1c. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, rapid and shallow breathing). 1c. Watch for cold stress symptoms (severe shivering, slowing of body movement, weakness, stumbling or inability to walk, collapse). 1c. Take breaks for rest and water as necessary. Move to an area that is well shaded or a climate controlled area (i.e., car, site trailer, etc.). 1c. No open flames/heat sources. 1c. Flame resistant clothing must be worn when specified by Site policy. 1c. Cell phones should be disabled when specified by Site policy. 1c. Pre-treat field clothing with Permethrin prior to site visit to kill/repel ticks and insects. 1c. Wear long sleeved shirts and tuck in (or tape) pant legs into socks or boots to prevent ticks from reaching skin. 1c. Spray insect repellant containing DEET on exposed skin when working in overgrown areas of the Site. 1c. Inspect area to avoid contact with biological hazards. 1c. Wear cut-resistant gloves when handling branches, shrubs, etc. that may lie within the walking path. 1c. Personnel shall examine themselves and co-worker's outer clothing for ticks periodically when onsite. 1c. If skin comes in contact with poison ivy, wash skin thoroughly with soap and water. If rash persists after washing, immediately notify your supervisor and the CHSM for possible consultation with a physician at an approved Occupational Health Clinic.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
2. Collect Soil Sample	2a. **CONTACT:** Personal injury from pinch points, cuts, and abrasions from sampling equipment tools, and material within soil sample. Personal injury from contact with moving equipment while sampling.	2a. Wear cut-resistant (i.e., Kevlar) gloves under chemical-resistant disposable gloves when handling soil samples and sampling jars. 2a. Where possible, use trowel or equivalent tool to avoid contact with soil. 2a. If sampling from bucket of heavy equipment, ensure all equipment is off and operator utilizes the "show me your hands" policy. 2a. See 1a.
	2b. **EXPOSURE:** Exposure to contamination (impacted soil) and/or lab preservatives.	2b. Wear chemical-resistant disposable gloves over cut resistant gloves to protect hands when handling samples; use containment material or plastic sheeting to protect surrounding areas. 2b. When collecting soil sample from hand auger, put large zip lock bag over entire auger to prevent spillage of soil on to the ground. 2b. Open sample jars slowly and fill carefully to avoid contact with preservatives.
3. Decontaminate equipment	3a. **EXPOSURE/CONTACT:** Contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated vapors and/or soil).	3a. Wear chemical-resistant disposable gloves and safety glasses. 3a. Use an absorbent pad to clean spills. 3a. Properly dispose of used materials/PPE in provided drums in designated drum storage area. 3a. Remain upwind of sample and avoid breathing contaminant vapors, if they are present.
	3b. **EXPOSURE:** Chemicals in cleaning solution including ammonia.	3b. Wear chemical-resistant disposable gloves and safety glasses. 3b. Work on the upwind side of decon. area. 3b. Use an absorbent pad to clean spills. 3b. Properly dispose of used materials/PPE in provided drums in designated drum storage area.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN 007	DATE: 2/3/2015	☐ NEW ☒ REVISED	PAGE 1 of 1

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
Generic	**O&M**	**Movement of 55-Gallon Drums/Drum Handling with Mobile Carrier**

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Michael Smith	Senior Technician	Daniel Abberton	SHSM
		Ray Greenidge	Project Engineer

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES: Cut-resistant gloves
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	☐ OTHER:
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION	☒ PPE CLOTHING: Fluorescent sleeved shirt or sleeved shirt and reflective safety vest.	
☒ SAFETY GLASSES	☒ SAFETY SHOES: Steel or composite toe		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Mobile Drum Carrier, safety cones, and caution tape

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

EXCLUSION ZONE: A 10' exclusion zone will be maintained around forklift.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Secure Work Area, Inspect 55-gal drums for proper condition, labeling, check drum ring and bolts for tightness, inspect mobile drum carrier.	1a. **FALL:** Tripping/falling due to uneven surface terrain	1a. Inspect walking path for uneven terrain, weather-related hazards (i.e. debris, puddles, ice, etc.), and other obstructions prior to accessing work area. 1a. Use established pathways and walk on stable, secure ground. 1a. Secure work area and coordinate and communicate the planned work activities with other personnel working in the area. 1a. Delineate work area with 42" safety cones.
	1b. **CONTACT/EXPOSURE:** Drums could potentially be damaged and contain hazardous material. Mobil drum carrier could potentially not be in good working condition causing malfunctioning during operation.	1b. Prior to inspecting drums don cut-resistant gloves. If drum is not properly labeled, do not open and cease all drum transport activities. Immediately contact project manager and inform him/her of drum situation. 1b. Do not continue drum transport activities until further actions are determined by the project manager. 1b. If the drum is properly labeled, but leaking, improperly sealed or in poor condition, place drum in an over-pack drum. 1b. Inspect mobile drum carrier to ensure the overall integrity of the carrier. Look for rust marks or potential weak points where the drum carrier could malfunction. Inspect the wheels to ensure that they easily turn and nothing is impeding their movement.
	1c. **EXERTION/CAUGHT:** Potential pinching/exertion hazards while securing ring/ tightening bolts	1c. Keep back straight and knees slightly bent while securing drum ring/tightening bolt. Wear cut-resistant gloves.
2. Position drum clamp in between drum ribs, securing drum clamp to drum with chain	2. **CAUGHT:** Pinching fingers between drum clamp and handle/chain.	2. Attach drum clamp with chain and tighten until snug. Do not place hands between drum clamp and drum as the chain is tightened; wear cut resistant gloves.
3. Disengage safety latches on handle, pull handle down until drum is lifted off ground and safety latches are reengaged; slightly suspending drum off of the ground	3a. **EXERTION/ CONTACT:** Potential muscle strain associated with lifting/engaging drum/handle. Drum could shift/slip downward and crush toes.	3a. Ascertain whether the drum is overweight; if it is, then two people are needed to lower handle while drum is secured with clamp so that safety latches can be engaged. Keep body out of the line of fire of the handle (do not position head above handle) as it is being pushed down. Do not allow feet/toes to be positioned under the drum as it is being lifted; wear steel/composite toe boots.
	3b. **CAUGHT:** Fingers could be pinched while engaging/disengaging safety latches on handle	3b. Wear cut-resistant gloves while disengaging/reengaging safety latches.
4. Transport drums to designated location and disengage drum clamp (repeat Step 3 in reverse order)	4a. **FALL:** Tripping/ falling due to obstructions and uneven terrain. Potential for drum to fall during transport.	4a. Ensure transport path is free of potential obstructions that may cause the drum/carrier to become unstable. Position drum clamp between the ribs on the drum to prevent possible slipping.

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JOB SAFETY ANALYSIS	Cntrl#: GEN-015	DATE 1/27/15	☐NEW ☒REVISED	PAGE 1 of 2

JSA TYPE CATEGORY: **GENERIC**	WORK TYPE: **Drilling**	WORK ACTIVITY (Description): **Monitoring and Recovery Well Development**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Amy Hoffman	Staff Geologist	Mike Ritorto	Senior Hydrogeologist
Ron Lombino	Staff Geologist	Daniel Abberton	

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION (as needed) ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Insect repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment as needed: Truck Rig or support truck, Trailer, 42 inch Safety cones and flags, Caution Tape, Interface Probe, Power Source, Submercible Pump, Surge Block/Plunger, 20 lb. Fire Extinguisher, Holding Tanks and/or Buckets, Tools as needed: Socket and Pipe Wrench, Screw Driver, Pry Bar, Ratchet, Vault Key.

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Maintain a 20 Foot Exclusion Zone During Development Activities

"SHOW ME YOUR HANDS"
Driller and helper should show that hands are clear from controls and moving parts

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization / Demobilization (**Review Mobilization and Demobilization JSA**)	1a. **CONTACT:** Equipment/property damage. 1b. **FALL:** Slip/trip/fall hazards.	1a. The truck rig's tower/derrick will be lowered and secured prior to mobilization. 1a. Set-up the work area / position equipment in a manner that eliminates or reduces the need for backing of trucks and trailers. 1a. All non-essential personnel should **maintain an exclusion zone of 20 feet**. 1a. Beep horn twice before backing up. 1a. When backing up with an attached trailer use a spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility. Stay away from the line-of-fire. 1a. Inspect the driving path for uneven terrain. Level or avoid if needed. 1b Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Store equipment at lowest potential energy.
2. Open/close well.	2a. **OVEREXERTION:** Muscle strain (some wells have large vault covers). 2b. **CAUGHT:** Pinch points associated with removing/replacing manholes and working with hand tools. 2c. **EXPOSURE:** Potentially hazardous vapors. 2d. **CONTACT:** Traffic.	2a. Keep back straight, lift with legs, keep load close to body, and never reach with a load. Ensure that loads are balanced to reduce the potential for muscle strain. Two people are required when lifting objects over 50 lbs or when the shape makes the object difficult to lift. 2b. Wear leather gloves when working with well vault/cover and hand tools. Do not put fingers under well vault/cover. 2b. Use ratchet and pry bar for well cover and inspect before use. 2c. No open flames/heat sources. 2c. Allow well to vent after opening it and before starting development activities to minimize exposure to vapors. Air monitoring must be performed prior to set up and during the well development activities. Work on upwind side of well. 2d. Wear required PPE including high visibility clothing or reflective vest. 2d. Delineate work area with 42" safety cones and/or other barriers. Position vehicle to protect against oncoming traffic. 2d. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route.

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Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – Electricity, Pressure, compression, tension, torque.
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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Develop well (mechanical surging).	3a. **CAUGHT:** Cut hazards and finger pinch points. 3b. **CONTACT/EXPOSURE:** Contamination (e.g., SPH, contaminated groundwater, vapors). 3c. **OVEREXERTION:** Muscle strain from lifting equipment. 3d. **CONTACT:** Injury while handling wench line/cable, or with active surging equipment	3a See 2b. 3a. Use required PPE including leather/cut-resistant gloves when handling development equipment. Identify finger/hand pinch points. Keep hands away from active surge equipment. 3a. All non-essential personnel should **maintain an exclusion zone of 20 feet**. 3b. See 2c. 3b. Wear Nitrile gloves and safety glasses. Insert and remove surge block/plunger and line/cable slowly to avoid splashing at the surface. 3b. Use an absorbent pad to clean any spills. 3c. See 2a. 3c. Use mechanical device to insert and remove surge block/plunger if greater than 50lb. 3d. If using a drill rig, inspect all wench lines/cables for any kinks or if frayed prior to use. Replace any damaged lines/cables. Review **Drill Rig checklist prior to development activities**. 3d. See 3a.
4. Purging well (pumping water to holding tanks/drums/buckets).	4a. **CAUGHT:** Pinch points associated with connecting hose to tank. Pinch points associated with handling pump and hoses. 4b. **FALL:** Using side mounted ladder when attaching hose to tank. Slip, trip, fall from lines/hoses 4c. **CONTACT:** Contamination (e.g., SPH, contaminated groundwater). 4d. **EXERTION:** Muscle strain from lifting/carrying equipment. 4e.**FALL:** Spilled purge water.	4a. See 3a. 4a. Ensure that fingers are not placed near coupling when attaching and securing hose(s). Do not place fingers under pump/hoses. Wear leather or cut-resistant gloves when handling pump/hose(s). 4a. Keep hands clear from any line of fire. 4b. Inspect ladder steps to make sure steps are not bent/damaged and free of debris/fluid. 4b. Use three points of contact at all times when using ladder. 4b. Utilize anti-whip cords on all compressed hoses. Keep hoses and lines coiled and organized out of designated walking paths around the work zone. 4c. Secure water hose. 4c. Do not overfill tanks, and purge/transfer liquids in such a manner that they do not splash. (See 3b). 4c. Dispose of used materials/PPE in the designated impacted PPE container. 4d. See 2a. 4e. Clean up any spills using absorbent pads or spill kits.
5. Decontaminate equipment	5a. **CONTACT/EXPOSURE:** Contamination (e.g., SPH, contaminated groundwater, vapors). 5b. **EXPOSURE/CONTACT:** Chemicals in cleaning solution	5a. See 3b. 5b. Decontaminate equipment in well-ventilated area. Wear nitrile gloves to avoid skin contact with cleaning solutions.

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JOB SAFETY ANALYSIS Ctrl. No. GEN-005	DATE 2/4/2015	☐ NEW ☒ REVISED	

JSA TYPE CATEGORY	WORK TYPE:	WORK ACTIVITY (Description):	
Generic	**Gauging and Sampling**	**Gauging and Sampling**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Gina Masciello	Project Scientist	Joe Gentile	Corp H&S Mgr
Louis Goldstein	Staff Engineer	Michael Ritorto	Project Hydrogeologist
		Louis Goldstein *(as part of annual review)*	Staff Engineer

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☒ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Knee pads, Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

42-inch Safety Cones, Caution Tape, Interface Probe and/or Water Level Meter, 20-lb., Type ABC Fire Extinguisher, Buckets. Tools as needed: Socket Wrench, Screw Driver, Crow Bar, Mallet, and Wire Brush.

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization to monitoring well(s).	1a. **FALL:** Personal injury from slip/trip/fall due to uneven terrain and/or obstructions. 1b. **CONTACT:** With traffic/third parties. 1c. **EXPOSURE:** To biological hazards.	1a. Inspect pathway and plan for most suitable designated pathway prior to mobilization. 1a. Use established pathways, walk and/or drive on stable, secure ground and avoid steep hills or uneven terrain. 1a. If working near open water with an unguarded edge, wear life vest. 1b. Identify potential traffic sources and delineate work area with 42-inch traffic safety cones. Position vehicle to protect against oncoming traffic. Use caution tape to provide a more visible delineation of the work area if necessary. 1b. Wear appropriate PPE including high visibility clothing or reflective vest. 1b. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route. 1c. Inspect work area for bees and insects. 1c. Use insect/tick repellent as necessary.
2. Open/close well.	2a. **ERGNOMICS:** Muscle strain. 2b. **CAUGHT:** Pinch/crush points associated with removing/replacing manholes and working with hand tools. 2c. **CAUGHT:** Pinch points associated with placing J-plug back onto PVC pipe. 2d. **EXPOSURE:** To potential hazardous vapors.	2a. Use proper lifting techniques; keep back straight, lift with legs and bend knees when reaching to open/close well. 2b. Wear leather gloves or cut resistant gloves when working with well cover and hand tools. 2b. Use proper tools (ratchet and pry bar for well cover) and inspect before use. 2b. Do not put fingers under well cover. 2c. See 2b. 2c. Keep fingers out of line-of-fire when securing cap 2d. No open flames/heat sources. 2d. To minimize exposure to vapors allow well to vent after opening it and before sampling activities begin. 2d. Stand up-wind, if possible, to avoid vapors.
3. Gauge well.	3a. **CONTACT:** With contamination (e.g. contaminated groundwater). 3b. **CONTACT:** With traffic.	3a. Wear chemical-resistant disposable gloves (over cut-resistant gloves) and safety glasses when gauging well. 3a. Insert and remove probe slowly to avoid splashing. 3a. Use an absorbent pad to clean probe. 3b. See 1b.
Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
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4. Purge and sample well.	4a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors) and/or sample preservatives.	4a. Open and fill sample jars slowly to avoid splashing and contact with preservatives. 4a. Wear cut-resistant gloves and chemical-resistant disposable gloves when sampling. 4a. Fill sample containers over purge container to avoid spilling water onto the ground. 4a. Use an absorbent pad to clean spills. 4a. When using a bailer to purge a well, pull the bailer slowly from the well to avoid splash hazards. 4a. When sampling or purging the water using a bailer, pour out water slowly to reduce the potential for splash hazards with groundwater. 4a. When using a tubing valve always remove the valve slowly after sample collection to release any pressure and avoid pressurized splash hazards 4a. When collecting a groundwater sample always point sampling apparatus (tubing, bailer, etc.) away from face and body.
4. Purge and sample well (Continued).	4b. **CONTACT:** Personal injury from cuts, abrasions, or punctures by glassware or sharp objects. 4c. **ERGONOMICS:** Muscle strain while carrying equipment. 4d. **CONTACT:** With traffic. 4e. **CONTACT**: Pinch points with groundwater pump components (i.e. wheel, line, clamps) 4f. **ERGONOMICS**: Muscle strain from repetitive motion of bailing and sampling a well	4b. To avoid spills or breakage, place sample ware on even surface. 4b. Do not over tighten caps on glass sample ware. 4b. Wear chemical-resistant nitrile disposable gloves over cut-resistant (i.e. Kevlar) gloves when sampling and handling glassware (i.e., VOA vials) or when using cutting tools. 4c. Use proper lifting techniques when handling/moving equipment; bend knees and keep back straight. 4c. Use mechanical assistance or team lifting techniques when equipment is 50 lbs. or heavier. 4c. Make multiple trips to carry equipment. 4d. See 1b. 4e. Wear leather gloves when working with groundwater pumps 4e. Never place hands on or near pinch points such as the wheel, clamps or other moving parts during pump operations 4e. Use correct the correct mechanisms, such as a pump reel, to lower pump into well 4e. Never attempt to manually stop any moving part of equipment including hose reels and/or tubing. 4f. See 4c. 4f. Include a stretch break when repetitive motions are part of the task.
5. Management of purge water.	5a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors). 5b. **ERGONOMICS:** Muscle strain from lifting/carrying and moving containers.	5a. Do not overfill container and pour liquids slowly so that they do not splash. 5a. Properly dispose of used materials/PPE in appropriate container in designated storage area. 5b. Use proper lifting techniques when lifting / carrying or moving container(s) (see 4c.). 5b. Do not overfill container(s).
6. Decontaminate equipment.	6a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors). 6b. **CAUGHT:** Pinch points associated with handling hand tools	6a. Work on the upwind side, where possible, of decon area. 6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Use an absorbent pad to clean spills. 6b. See 2b. 6b. Inspect hand tools for sharp edges before decontaminating

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JOB SAFETY ANALYSIS Ctrl. No. GEN-013	DATE: 01/16/2015	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY: **GENERIC**	WORK TYPE **Gauging and Sampling**	WORK ACTIVITY (Description) **Soil Vapor Sampling (Permanent Monitoring Points)**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Jeff Wills	Project Hydrogeologist	Daniel Abberton	SHSM
		Mike Ritorto	Senior Hydrogeologist
		Julie Moriarty	Staff Scientist

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☒ SAFETY SHOES: Steel-toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Cut-resistant & Nitriles ☒ OTHER: Bug Spray, Sun Screen, Knee Pads or kneeling pad

REQUIRED AND / OR RECOMMENDED EQUIPMENT

9/16” Socket and Wrench, Non-Toxic Clay, Teflon-Lined Tubing, Masterflex Tubing, 3-Way Stopcock, Air Pump with Low Flow, Dry Cal, Enclosure (Bucket with 2 holes), Helium Gas Canister, Summa Canisters and Flow Controllers, MultiRae Gas Meters, CO2/O2 Meters, Helium Detector, Tubing Cutter, 42-inch Safety Cones, Caution Tape or Retractable Cone Bars

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Exclusion Zone: Maintain a 5-Foot Exclusion Zone for Non-Essential Personnel

ACCESS [1]**JOB STEPS**	**ANALYZE** [2]**POTENTIAL HAZARDS**	**ACT** [3]**CRITICAL ACTIONS**
1. Define and secure work area.	1a. **FALL:** Potential tripping hazards. 1b. **CONTACT:** Potential contact with moving vehicles or pedestrians. 1c. **OVEREXERTION:** Muscle strain while lifting and carrying equipment.	1a. Ensure work area is secure and inform others (third party) of work activity. 1a. Remove tripping hazards and inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. If working alongside roads, look both ways before entering roadways, face traffic, and utilize work vehicle to protect employees. 1b. Delineate work area (including vehicles) with traffic safety cones and caution tape or retractable cone bars. 1b. Maintain a 5 foot exclusion zone. 1b. Wear high visibility clothing or reflective safety vest. 1c. When carrying equipment to/from work area, keep back straight, lift with legs, keep load close to body, never reach with a load. Ensure that loads are balanced. Use mechanical assistance/make multiple trips to carry equipment.
2. Remove well cover / close well cover.	2a. **CONTACT/CAUGHT:** Pinch points and scrapes associated with hand tools and well covers. 2b. **FALL:** Potential tripping hazards associated with installing bolts. 2c. **OVEREXERTION:** Physical exertion to remove bolts that were over torque or stripped.	2a. Keep hands away from pinch points. 2a. Use hand tools with extensions to remove and replace well covers. 2a. Wear cut-resistant gloves. 2a. Use knee pads or kneeling mat when repetitive kneeling on rough ground is anticipated. 2b. Place security bolts in secure location so not to create tripping hazards. Replace security bolts so that they fit flush with monitoring well covers. 2c. Replace any security bolts that show signs of stripping. Do not over tighten. 2c. Use body positioning and bending techniques that minimize muscle strain; keep back straight, bend at the knees. 2c. See 2a.
3. Remove / replace brass caps at the end of the sample tubing.	3a. **CONTACT:** Pinch points associated with hand tools and brass caps. 3b. **EXPOSURE:** Potential pathway for vapors to migrate to land surface.	3a. Use wrench to remove and replace brass caps. 3a. Wear cut-resistant gloves to protect against pinch points and scrapes. 3b. Replace brass caps immediately upon completion to avoid soil vapors migrating to the surface through sample tubing. 3b. Stand up wind of sample point location.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

ACCESS [1]JOB STEPS	ANALYZE [2]POTENTIAL HAZARDS	ACT [3]CRITICAL ACTIONS
4. Set up soil vapor sampling equipment and calibration of meters.	4a. **FALL:** Potential tripping hazards associated with equipment and tubing. 4b. **CONTACT:** Pinch points associated with handling equipment. 4c. **EXPOSURE:** Inhalation of calibration gas and helium.	4a. Place equipment in one area close to the sampling location. 4a. Keep tubing slack to a minimum and locate the summa canister as close to the sampling location as possible. 4a. Avoid stepping over equipment and tubing. 4b. Do not place fingers/hands under sampling equipment. 4b. Make multiple trips when unloading equipment in work area. 4b. Wear cut-resistant gloves to protect against pinch points while handling sampling equipment. 4c. Review SDS for each type of calibration gas used before calibrating. 4c. Calibrate meters in a well vented area and keep air flow regulator away from face. 4c. Close valve on canisters after use to avoid inhalation of excess helium or calibration gas. 4c. Stand up wind of bucket during helium tracer gas test.
5. Screen sample tubing with multiple gas and CO_2/O_2 meters.	5a. **FALL:** Potential tripping hazards associated with equipment. 5b. **EXPOSURE:** Inhalation of soil vapor	5a. See 4a 5a. Identify area where equipment is to be stored within the work area (away from main walking path). 5a. Don't leave equipment on the ground. Return equipment to storage area between uses. 5b. See 3b. 5b. Use master flex to connect tubing to meter. 5b. Stand on opposite side of meter vent and upwind of soil vapor point during screening activities.
6. Cleaning Work Area.	6a. **FALL:** Potential tripping hazards associated with equipment and tubing. 6b. **CONTACT:** Storing and transport of equipment in car.	6a. See 4a. 6a. See 5a. 6b. Ensure that equipment is placed securely in the vehicle. Do not stack equipment on top of each other. Secure equipment so that it will not slide while being transported. 6b. Wear cut-resistant gloves while handling/loading equipment.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-006	DATE 2/24/2017	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)	
Generic	**Surveying**	**Elevation Surveying**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Mark M Emmons	Project Engineer	Daniel Abberton	Health and Safety Officer
Bjorn Wespestad	Senior Engineer	Michael Ritorto	Project Hydrogeologist

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☒ SAFETY SHOES: Steel-toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Cut-resistant or leather ☒ OTHER: Long sleeve Shirt

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Surveying equipment (i.e., leveling rod/measuring ruler, tripod and scope).

COMMITMENT TO LPS - All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Assess **[1]JOB STEPS**	**Analyze** **[2]POTENTIAL HAZARDS**	**Act** **[3]CRITICAL ACTIONS**
1. Check in with Site manager/ property owner.	**1a. CONTACT/EXPOSURE/FALL:** Lack of communication could result in H&S incident.	1a. Inform Site personnel of work scope, timeline and location(s). 1a. Inquire about other activities taking place at the Site. 1a. If applicable, obtain General Work permit for the day.
2. Locate surveying position for instrument and rod and set-up work area	2a. **FALL:** Slip/trip hazards. 2b. **CONTACT:** Traffic (surveying locations could potentially be located in parking areas and sidewalks). 2c. **OVEREXERTION:** Hazard due to carrying, lifting, and bending while transporting equipment. 2d. **CAUGHT/CONTACT:** Pinch Points / sharp edges associated with setting up the tripod.	2a. Inspect area for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to setting up at the survey location. Keep eyes engaged with walking surface while in movement. Remember " Walking is Working" 2a. Conduct housekeeping and maintain clear paths to walk in and remove debris as required. 2b. Be aware of oncoming traffic. Utilize a flagman / spotter for locations in streets or high-traffic areas. 2b. Place 42 inch cones around the work area, and delineate work zone with caution tape ,snow fencing or safety bars, if necessary. 2b. Wear appropriate PPE including long sleeve high visibility clothing and or reflective safety vest. 2b. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route. 2c. Use proper body positioning and lifting techniques; keep back straight, lift with legs, keep load close to body, and never reach with a load. 2c. Avoid carrying too much equipment at one time and team-lift equipment that is more than 50 lb. 2d. Wear cut resistant gloves when handling the tripod and keep fingers away from pinch points located near moving parts of the tripod. Don't carry tripod by the pointed ends.
3. Open / close manhole cover to well that is being surveyed (if necessary).	3a. **OVEREXERTION:** Muscle strain 3b. **CAUGHT:** Pinch points associated with removing / replacing manholes and working with hand tools. 3c. **EXPOSURE:** To potentially hazardous vapors. To biological hazards. 3d. **CONTACT:** With traffic.	3a. See 1c. Bend knees when reaching to open well. Use manhole lifting hook or pry bar to avoid bending. 3b. Wear leather gloves or cut resistant gloves when working with well cover and hand tools. 3b. Use proper tools (ratchet and crowbar or pry bar for well cover) and inspect before use. 3b. Do not put fingers under well cover. 3c. No open flames/heat sources. 3c. To minimize exposure to vapors allow well to vent after opening it and before survey activities begin. 3c. Work on the upwind side of manhole/well. 3.c Use caution while opening up lids to inspect work area for bees and insects inside of covers. 3c. Use insect/tick repellent as necessary. 3d. See 2b.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
4. Perform survey.	4a. **FALL:** Slip/trip hazards 4b. **CONTACT:** Traffic (surveying locations could be potentially located in parking areas and sidewalks)	4a. See 2a. 4b. See 2b. 4b. Personnel using the scope will be devoting most of their attention to the surveying activity and shall be aware of vehicular and pedestrian traffic. Personnel holding the measuring stick should be extra vigilant of survey personnel and communicate any potential hazards to the instrument person via handheld radio or similar means. Ensure reflective safety vest is worn.
5. Break down work area.	5a. **CONTACT:** Traffic (surveying locations can potentially be located in parking areas and sidewalks). 5b. **EXERTION:** Hazard due to carrying, lifting, and bending while transporting equipment	5a. See 2b. 5b. See 2c.

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JOB SAFETY ANALYSIS Ctrl. No. 390	DATE 2/9/2017	☒ NEW ☐ REVISED	
JSA TYPE CATEGORY **Generic**	WORK TYPE: **Sampling**	WORK ACTIVITY (Description): **Product Sampling**	
DEVELOPMENT TEAM	**POSITION / TITLE**	**REVIEWED BY:**	**POSITION / TITLE**
Ashley Persaud	Staff Assistant Geologist	Kailani Acosta	Staff Assistant Scientist

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☒ SAFETY SHOES: Composite-toe or steel toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Leather, Nitrile and cut resistant ☒ OTHER: Knee pads, Insect Repellent, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

42 inch Safety Cones, Caution Tape, Interface Probe and/or Water Level Meter, 20 lb. Fire Extinguisher, Buckets, Pump or Bailer. Tools as needed: Socket Wrench or Impact Gun, Screw Driver, Crow Bar, Mallet, Funnel, Tube Cutter, and Wire Brush, absorbent pads.

Commitment to LPS – All personnel onsite will actively participate in SPSA performance by verbalizing SPSAs throughout the day.

Assess **¹JOB STEPS**	**Analyze** **²POTENTIAL HAZARDS**	**Act** **³CRITICAL ACTIONS**
1. Mobilization to monitoring well(s).	1a. **FALL:** Personal injury from slip/trip/fall due to uneven terrain and/or obstructions. 1b. **CONTACT:** With traffic/third parties. 1c. **EXPOSURE:** To biological hazards.	1a. Inspect pathway and plan for most suitable designated pathway prior to mobilization. 1a. Use established pathways, walk and/or drive on stable, secure, ground and avoid steep hills or uneven terrain. 1b. Identify potential traffic sources and delineate work area with 42 inch traffic safety cones. Position vehicle to protect against oncoming traffic. Use caution tape to provide a more visible delineation of the work area if necessary. 1b. Wear appropriate PPE including high visibility clothing or reflective vest. If working on public streets, wear level II high visibility shirt/vest as required by the DOT. 1b. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route. Use spotter if possible. 1c. Inspect work area for bees and insects. 1c. Use insect/tick repellent as necessary.
2. Open/close well.	2a. **OVEREXERTION:** Muscle strain. 2b. **CAUGHT:** Crush points associated with removing/replacing manholes and working with hand tools. **2c.** **CAUGHT:** Pinch points associated with placing J-plug back onto PVC pipe. 2d. **EXPOSURE:** To potential hazardous vapors.	2a. Use proper lifting techniques; keep back straight, lift with legs and bend knees when reaching to open/close well. Use knee pad as needed. 2b. Wear leather gloves or cut resistant gloves when working with well cover and hand tools. 2b. Use proper tools (ratchet and pry bar for well cover) and inspect before use. 2b. Do not put fingers under well cover. 2c. See 2b. 2c. Keep fingers out of line-of-fire when securing cap. 2d. No open flames/heat sources. 2d. To minimize exposure to vapors, allow well to vent after opening it and before sampling activities begin. 2d. Stand upwind, if possible, to avoid vapors.
3. Gauge well.	3a. **CONTACT:** With contamination (e.g. contaminated groundwater). 3b. **CONTACT:** With traffic. 3c. **CONTACT:** Knees with ground surface	3a. Wear chemical-resistant disposable gloves and safety glasses when gauging well. 3a. Insert and remove probe slowly to avoid splashing. 3a. Use an absorbent pad to clean probe. 3b. See 1b. 3c. Use knee pad to alleviate pressure to knees.
4. Sample well.	4a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors) and/or sample preservatives.	4a. Open and fill sample jars slowly to avoid splashing and contact with preservatives, if present. 4a. Wear cut-resistant gloves and chemical-resistant disposable gloves when sampling. 4a. Fill sample containers over purge container to avoid spilling product onto the ground. Use a funnel if sample jar opening is small. 4a. Use an absorbent pad to clean spills. 4a. Pull the bailer slowly from the well to avoid splash hazards. 4a. Pour out product slowly to reduce the potential for splash hazards with groundwater.

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		4a. When collecting a product sample, always point sampling apparatus (tubing, bailer, etc.) away from face and body.
Assess [1]**JOB STEPS**	**Analyze** [2]**POTENTIAL HAZARDS**	**Act** [3]**CRITICAL ACTIONS**
4. Purge and sample well (Continued).	4b. **CONTACT:** Personal injury from cuts, abrasions, or punctures by glassware or sharp objects. 4c. **EXERTION:** Muscle strain while carrying equipment. 4d. **CONTACT:** With traffic. 4e. **EXERTION**: Muscle strain from repetitive motion of bailing and sampling a well	4b. To avoid spills or breakage, place sampleware on even surface. 4b. Do not over tighten caps on glass sampleware. 4b. Wear chemical-resistant nitrile disposable gloves over cut-resistant (i.e. Kevlar) gloves when sampling and handling glassware or when using cutting tools. 4c. Use proper lifting techniques when handling/moving equipment; bend knees and keep back straight. 4c. Use mechanical assistance or team lifting techniques when equipment is 50lbs or heavier. 4c. Make multiple trips to carry equipment. 4d. See 1b. 4e. See 4c. 4e. Include a stretch break when repetitive motions are part of the task.
5. Management of purge water.	5a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors). 5b. **EXERTION:** Muscle strain from lifting/carrying and moving containers.	5a. Do not overfill container and pour liquids in such a manner that they do not splash. 5a. Properly dispose of used materials/PPE in appropriate container in designated storage area. 5b. Use proper lifting techniques when lifting / carrying or moving container(s) (see 4c.). 5b. Do not overfill container(s). Split loads between containers to prevent overburdening.
6. Decontaminate equipment.	6a. **EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors). 6b. **CAUGHT/CONTACT:** Pinch points and cut hazards associated with handling tools	6a. Work on the upwind side, where possible, of decon area. 6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Use an absorbent pad to clean spills. 6b. See 2b. 6b. Inspect hand tools for sharp edges before decontaminating.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

APPENDIX B

Heavy Equipment Exclusion Zone Policy

FINAL

STANDARD OPERATING PROCEDURE 1.13

HEAVY EQUIPMENT EXCLUSION ZONE POLICY

CORPORATE HEALTH AND SAFETY MANAGER	:	Joseph W. Gentile
EFFECTIVE DATE	:	February 2014
REVISION NUMBER	:	1

Objective

The purpose of the Exclusion Zone Policy is to establish the minimum clearance distance that must be maintained between workers and heavy equipment while equipment is in operation (i.e., engaged or moving). The intent is to have no personnel or other equipment entering the Exclusion Zone while the equipment is in operation/moving to ensure that Roux and Subcontractor employees are not unnecessarily exposed to the hazards of the equipment.

A. Definition

For the purpose of this policy, heavy equipment includes, but is not necessarily limited to: excavation equipment, drill rigs, vacuum trucks, forklifts, lull telehandlers, man lifts, bobcats, delivery trucks, etc.

B. Requirements

1. Exclusion Zones must be established and maintained during activities involving the movement/operation of heavy equipment. The Exclusion Zone requirements apply to all personnel on the site but are primarily focused on those personnel who are required to be working in the vicinity of the equipment. The exclusion zone is in effect when heavy equipment is moving or engaged (ex. movement of an arm or bucket of an excavator, rotation of an auger, lifting of a load with a forklift, raising/lowering of a man lift, etc.).

2. The Exclusion Zone must meet the following minimum requirements:

- A minimum distance of 10 feet from all heavy equipment and loads being moved by the equipment; and
- Greater than the swing/reach radius of any moving part on the heavy equipment (i.e., for large equipment this may mean an exclusion zone distance larger than 20 feet);
- Greater than the tip-over distance of the heavy equipment; and
- Greater than the radius of blind spots.

3. The size of the Exclusion Zone will need to be determined on a task-specific basis considering the size of the heavy equipment in use and the task being performed. Prior to all heavy equipment operations, the Exclusion Zone(s) distance must be specifically identified in the Job Safety Analysis (JSA).

4. The spotter (or another individual) should be assigned responsibility for enforcing the Exclusion Zone. This spotter should be positioned immediately outside of the Exclusion Zone within a clear line of sight of the equipment operator. The spotter must signal the operator to stop work if anyone or anything has the potential to enter or compromise the Exclusion Zone. The operator should stop work if the spotter is not within his/her line of sight. If multiple pieces of equipment are being used, each piece of equipment must have its own Exclusion Zone and spotter. For large excavation and demolition projects the spotter should be in constant radio contact (not cell phone) with the machine driver.

5. If an individual must enter the Exclusion Zone, the designated Spotter must signal the Equipment Operator to stop the equipment. Once the equipment is no longer moving (ex. movement of an arm of an excavator is STOPPED, lifting of a load with a forklift STOPPED, raising/lowering of a man lift is STOPPED, etc.), the operator must **DISENGAGE THE CONTROLS and STOP and SIGNAL BY "SHOWING HIS HANDS"**. This signal will indicate that it is safe for the personnel to enter the limits of the Exclusion Zone to perform the required activity. The

equipment must remain completely stopped/disengaged until all personnel have exited the limits of the Exclusion Zone and the designated Spotter has signaled by "SHOWING HIS HANDS" to the Equipment Operator that it is safe to resume.

6. When entering the limits of the Exclusion Zone, personnel must at a minimum:
   - Establish eye contact with the operator and approach the heavy equipment in a manner that is in direct line of sight to the Equipment Operator;
   - Never walk under any suspended loads or raised booms/arms of the heavy equipment; and
   - Identify a travel path that is free of Slip/Trip/Fall hazards.

7. The Exclusion Zone should be delineated using cones with orange snow fence or solid poles between the cones, barrels, tape or other measures. For work in rights-of-way rigid barriers, such as Jersey barriers or temporary chain link fence should be used. For certain types of wide-spread or moving/mobile equipment operations, such delineation may not be practicable around pieces of equipment or individual work areas. In such instances it is expected that the entire operation will be within a larger secure work area or that additional means will be utilized to ensure security of the work zone.

C. Exceptions

It is recognized that certain heavy equipment activities may require personnel to work within the limits of the Exclusion Zone as specified in this policy. Such activities may include certain excavation clearance tasks, drill crew activities or construction tasks. However, any such activity must be pre-planned with emphasis on limiting the amount and potential exposure of any activity required within the zone. The critical safety steps to mitigate the hazards associated with working within the Exclusion Zone must be defined in the JSA and potentially other project-specific plans (i.e., critical lift plans, etc.), and approved by the Roux Project Principal and client representative, if required, prior to implementation.

D. Responsibilities

1. Corporate Health and Safety Manager

   Overall responsibility for administration, implementation and auditing of this policy.

2. Office Managers

   Responsible for communicating this policy to all of their employees who perform or may perform field work involving heavy equipment.

3. Office Health and Safety Managers

   Providing training to office field staff in this policy.

4. Project Principals

   a. Responsible for ensuring their projects address heavy equipment exclusion zones.

   b. Approving exceptions to this policy.

5. Project Managers

   a. Responsible for incorporating this policy into their project HASPs and applicable procedures to include JSAs.

   b. Communicating to and enforcing the policy requirements for subcontractors who work on their projects.

6. Field Workers

   a. Attending training in the policy.

   b. Following the requirements of the policy.

E. Project and Site-Specific Orientation and Training
Many Roux projects have different requirements that are client-specific or site-specific in nature. It is the responsibility of the Project Principal (or Project Manager if delegated this responsibility by the Project Principal) to ensure that the workers assigned to his/her projects are provided orientation and training with respect to these client and/or site-specific requirements.

F. Subcontractors
All subcontractors who provide heavy equipment operations to field projects must implement a policy that meets or exceeds the expectations described above as well as any additional requirements that may be required on a client or site-specific basis.

APPENDIX C

Heat and Cold Stress Guidelines

Heat Stress

Heat stress is a significant potential hazard and can be associated with heavy physical activity and/or the use of personal protective equipment (PPE) in hot weather environments.

Heat cramps are brought on by prolonged exposure to heat. As an individual sweats, water and salts are lost by the body resulting in painful muscle cramps. The signs and symptoms of heat cramps are as follows:

- severe muscle cramps, usually in the legs and abdomen;
- exhaustion, often to the point of collapse; and
- dizziness or periods of faintness.

First aid treatment includes moving to a shaded area, rest, and fluid intake. Normally, the individual should recover within one-half hour. If the individual has not recovered within 30 minutes and the temperature has not decreased, the individual should be transported to a hospital for medical attention.

Heat exhaustion may occur in a healthy individual who has been exposed to excessive heat. The circulatory system of the individual fails as blood collects near the skin in an effort to rid the body of excess heat. The signs and symptoms of heat exhaustion are as follows:

- rapid and shallow breathing;
- weak pulse;
- cold and clammy skin with heavy perspiration;
- skin appears pale;
- fatigue and weakness;
- dizziness; and
- elevated body temperature.

First aid treatment includes cooling the victim, elevating the feet, and replacing fluids and electrolytes. If the individual has not recovered within 30 minutes and the temperature has not decreased, the individual should be transported to the hospital for medical attention.

Heat stroke occurs when an individual is exposed to excessive heat and stops sweating. This condition is classified as a **MEDICAL EMERGENCY**, requiring immediate cooling of the victim and transport to a medical facility. The signs and symptoms of heat stroke are as follows:

- dry, hot, red skin;
- body temperature approaching or above 105°F;
- large (dilated) pupils; and
- loss of consciousness – the individual may go into a coma.

First aid treatment requires immediate cooling and transportation to a medical facility.

Heat stress (heat cramps, heat exhaustion, and heat stroke) is a significant hazard if any type of protective equipment (semi-permeable or impermeable) which prevents evaporative cooling is worn in hot weather environments. Local weather conditions may require restricted work schedules in order to adequately protect personnel. The use of work/rest cycles (including working in the cooler periods of the day or evening) and training on the signs and symptoms of heat stress should help prevent heat-related illnesses from occurring. Work/rest cycles will depend on the work load required to perform each task, type of protective equipment, temperature, and humidity. In general, when the temperature exceeds 88°F, a 15 minute rest cycle will be initiated once every two hours. In addition, potable water and fluids containing electrolytes (e.g., Gatorade) will be available to replace lost body fluids.

Cold Stress

Cold stress is a danger at low temperatures and when the wind-chill factor is low. Prevention of cold-related illnesses is a function of whole-body protection. Adequate insulating clothing must be used when the air temperature is below 40°F. In addition, reduced work periods followed by rest in a warm area may be necessary in extreme conditions. Training on the signs and symptoms of cold stress should prevent cold-related illnesses from occurring. The signs and symptoms of cold stress include the following:

- severe shivering;
- abnormal behavior;
- slowing of body movement;
- confusion;
- weakness;
- stumbling or repeated falling;
- inability to walk;
- collapse; and/or
- unconsciousness.

First aid requires removing the victim from the cold environment and seeking medical attention immediately. Also, prevent further body heat loss by covering the victim lightly with blankets. <u>Do not cover the victim's face</u>. If the victim is still conscious, administer hot drinks, and encourage activity, such as walking wrapped in a blanket.

APPENDIX D

Generic Community Air Monitoring Plan

APPENDIX D

New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

> **Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.
>
> **Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

APPENDIX E

Health and Safety Briefing/Tailgate Meeting Form

HEALTH & SAFETY BRIEFING / TAILGATE MEETING FORM

Site Name / Location: ______________________________

Date: ______________________ Weather Forecast: ______________________

Names of Personnel Attending Briefing:

Planned Work:

Instrument Calibration: Instrument/Time/Cal. Gas/Cal. Concentration/Actual Concentration

Items Discussed / JSAs Discussed:

Work Permit Type and Applicable Restrictions:

Signatures of Attending Personnel:

APPENDIX F

Accident Report and Investigation Form and
Incident Response Flow Chart

Roux Environmental Engineering and Geology, D.P.C.

ACCIDENT REPORT

Joe Gentile, Corporate Health and Safety Manager
Cell: (610) 844-6911; Office: (856) 423-8800; Office FAX: (856) 423-3220; Home: (484) 373-0953

PART 1: ADMINISTRATIVE INFORMATION

Project #: 1575.0002y
Project Name: Kristal Auto Mall
Project Location (street address/city/state)**:** 5200 Kings Highway, Brooklyn, New York

Client Corporate Name / Contact / Address / Phone #: ____________

Immediate Verbal Notifications Given To:

Corporate Health & Safety	☐Yes	☐No
Office Health & Safety	☐Yes	☐No
Office Manager	☐Yes	☐No
Project Principal	☐Yes	☐No
Project Manager	☐Yes	☐No
Client Contact	☐Yes	☐No

REPORT STATUS (time due):
☐ Initial (24 hr) Date: ________ ☐ Final (5-10 days) Date: ________

Accident Report Delivered To:

Corporate Health & Safety	☐Yes	☐No
Office Health & Safety	☐Yes	☐No
Office Manager	☐Yes	☐No
Project Principal	☐Yes	☐No
Project Manager	☐Yes	☐No

REPORT TYPE: ☐ Loss ☐ Near Loss Estimated Costs: $ ______

OSHA CASE # Assigned by Corporate Health & Safety if Applicable: ________

Corporate Health & Safety Confirmed Final Accident Report
☐Yes ☐No

DATE OF INCIDENT: ________

TIME INCIDENT OCCURRED: ________ ☐AM ☐PM

INCIDENT LOCATION – City, State, and Country (If outside U.S.A.) ________

INCIDENT TYPES: (Select most appropriate if Loss occurred.)
From lists below, please select the option that best categories the incident. When selecting an injury or illness, also indicate the severity level.

☐**INJURY** ☐**ILLNESS**

------------------------**Severity Level**---------------------------
☐Fatality ☐First Aid ☐Medical Treatment
☐Restricted Work ☐Lost Time

OTHER INCIDENT TYPES
☐Spill / Release
Material involved: ________
Quantity (U.S. Gallons): ________
☐Misdirected Waste ☐Consent Order ☐NOV
☐Property Damage ☐Exceedance
☐Motor Vehicle ☐Fine / Penalty

ACTIVITY TYPE (Check most appropriate one.)
☐Decommissioning ☐Geoprobe ☐Sampling
☐Demolition ☐Motor Vehicle ☐System Start-up
☐Dewatering ☐Operations/ Maintenance ☐Trenching
☐Drilling ☐AST/UST Removal
☐Excavation ☐Pump/Pilot Test ☐Other________
☐Gauging ☐Rigging/Lifting

INJURY TYPE (Check all applicable.)
☐Abrasion ☐Occupational Illness
☐Amputation ☐Puncture
☐Burn ☐Rash
☐Cold/Heat Stress ☐Repetitive Motion
☐Inflammation ☐Sprain/Strain
☐Laceration ☐Other________

BODY PART AFFECTED (Check all applicable.)
☐Respiratory ☐Shoulder ☐Face
☐Neck ☐Arm ☐Leg
☐Chest ☐Wrist ☐Knee
☐Abdomen ☐Hand/Fingers ☐Ankle
☐Groin ☐Eye ☐Foot/Toes
☐Back ☐Head ☐Other______

I. PERSON(S) DIRECTLY / INDIRECTLY INVOLVED IN INCIDENT (Attach additional information as necessary/applicable.)

Name/Phone # of Each Person Directly/Indirectly Involved in Incident:	Designate: Roux/Remedial Employee Roux/Remedial Subcontractor Client Employee Client Contractor Third Party	As applicable, Current Occupation; Yrs in Current Occupation; Current Position; and Yrs in Current Position:	As applicable, Employer Name; Address; and Phone #:	As applicable, Supervisor Name; and Phone #:
1)				
2)				

II. PERSONS INJURED IN INCIDENT (Attach additional information as necessary/applicable.)

Name/Phone # of Each Person Injured in Incident:	Designate: Roux/Remedial Employee Roux/Remedial Subcontractor Client Employee Client Contractor Third Party	As applicable, Current Occupation; Yrs in Current Occupation; Current Position; and Yrs in Current Position:	As applicable, Employer Name; Address; and Phone #:	As applicable, Supervisor Name; and Phone #:	Description of Injury:
1)					
2)					

III. PROPERTY DAMAGED IN INCIDENT (Attach additional information as necessary/applicable.)

Property Damaged:	Property Location:	Owner Name, Address & Phone #:	Description of Damage:	Estimated Cost:
1)				$

2)				$

IV. WITNESSES TO INCIDENT (Attach additional information as necessary/applicable.)

Witness Name:	Address:	Phone #:
1)		
2)		

PART 2: WHAT HAPPENED AND INCIDENT DETAILS

PROVIDE FACTUAL DESCRIPTION OF INCIDENT (e.g., describe loss/near loss, injury, response / treatment).

I. AUTHORITIES/GOVERNMENTAL AGENCIES NOTIFIED (Attach additional information as necessary/applicable.)

Authority/Agency Notified:	Name/Phone #/Fax # of Person Notified:	Address of Person Notified:	Date & Time of Notification:	Exact Information Reported/Provided:

II. PUBLIC RESPONSES TO INCIDENT (if applicable)

Response/Inquiry By: (check one)	Entity Name:	Name/Phone # of Respondent/ Inquirer:	Address of Entity/Person:	Date & Time of Response/Inquiry:
☐Newspaper ☐Television ☐Community Group ☐Neighbors ☐Other ___________________				

Describe Response/Inquiry:

Roux/Remedial Response:

(Check all that apply.) (Attach photos, drawings, etc. to help illustrate the incident.)
ATTACHED INFORMATION: ☐Photo ☐Sketches ☐Vehicle Acord Form ☐Police Report ☐Other

Name(s) of person(s) who prepared Initial and Final Report:	**Title(s):**	**Phone number(s):**

PART 3: INVESTIGATION TEAM ANALYSIS

CONCLUSION: WHY IT HAPPENED (LIST CAUSAL FACTORS AND CORRESPONDING ROOT CAUSES)

(Root Causes: Lack of knowledge or skill, Doing the task according to procedures or acceptable practices takes more time or effort, Short-cuts or not following acceptable practices is reinforced or tolerated, Not following procedures or acceptable practices did not result in an accident, Lack of or inadequate procedures, Inadequate communications of expectations regarding procedures or acceptable practices, Inadequate tools or equipment, External Factors)

ROOT CAUSE(S) AND SOLUTION(S): HOW TO PREVENT INCIDENT FROM RECURRING

CAUSAL FACTOR	ROOT CAUSE		SOLUTION(S) [Must Match Root Cause(s)]		PERSON RESPONSIBLE	AGREED DUE DATE	ACTUAL COMPLETION DATE
			#	Solution(s)			
			1				
			2				
			3				

INVESTIGATION TEAM:

PRINT NAME	JOB POSITION	DATE	SIGNATURE

No One Gets Hurt!

Health & Safety Near/Loss – Loss (Incident)*
Notification Flow Chart

Incident*
Occurs

↓

Involved Employees
Immediately Notify**
SHSO

↓

SHSO Immediately Notifies**
OHSM and/PM

↓

OHSM and PM (Conduct
Invest.)
Immediately Notify** PP and OM

↓

OM Notifies**
CHSM

↓

CHSM and/or OM Notify**
COO & CEO

* Incident – any work or site-related occurrence that resulted in, or could potentially have resulted in, the need for medical care or in property damage (i.e., all injuries or illnesses, exposure to toxic materials or any other significant occurrence resulting in property damage or in a "near loss")

** Verbal Notification

Initial Incident Report (written) to SHSO, OHSM, OM and CHSM within 24 hours
Follow-up Report within one week.

(Reference: Corporate H&S Standard Operating Procedure, Incident Investigation and Reporting, SOP #1.8, dated March 2000)

APPENDIX G

Acord Form

ACORD®

AUTOMOBILE LOSS NOTICE

DATE (MM/DD/YYYY):

AGENCY	PHONE (A/C, No, Ext): 215-567-6300
The Graham Company The Graham Building One Penn Square West Philadelphia, PA 19102	
FAX (A/C, No): 215-599-9175	
E-MAIL ADDRESS: CLICK HERE TO SUBMIT TO THE GRAHAM COMPANY	
CODE:	SUB CODE:
AGENCY CUSTOMER ID: Mallory M. Stanko, Esquire, Claims Consultant	

COMPANY: Starr Indemnity & Liability	NAIC CODE:	MISCELLANEOUS INFO (Site & location code):	
POLICY NUMBER: 1000198966161 (AOS)	POLICY TYPE:	REFERENCE NUMBER:	CAT #:
EFFECTIVE DATE: 9/21/16	EXPIRATION DATE: 9/21/17	DATE OF ACCIDENT AND TIME: AM PM	PREVIOUSLY REPORTED: YES X NO

INSURED

NAME AND ADDRESS	SOC SEC # OR FEIN:
Roux Associates, Inc. 209 Shafter Street Islandia, NY 11749	
RESIDENCE PHONE (A/C, No):	
BUSINESS PHONE (A/C, No, Ext):	
CELL PHONE (A/C, No):	
E-MAIL ADDRESS:	

CONTACT

CONTACT INSURED

NAME AND ADDRESS	WHEN TO CONTACT: 9:00 a.m. to 5:00 p.m.
Cindy Albanese, Paralegal	WHERE TO CONTACT: Business
RESIDENCE PHONE (A/C, No):	
BUSINESS PHONE (A/C, No, Ext): 631-232-2376	
CELL PHONE (A/C, No): Insured's Cell Phone Number	
E-MAIL ADDRESS: calbanese@rouxinc.com	

LOSS

LOCATION OF ACCIDENT (Include city & state):	AUTHORITY CONTACTED:	VIOLATIONS/CITATIONS:
	REPORT #:	

DESCRIPTION OF ACCIDENT (Use separate sheet, if necessary):

POLICY INFORMATION

BODILY INJURY (Per Person)	BODILY INJURY (Per Accident)	PROPERTY DAMAGE	SINGLE LIMIT	MEDICAL PAYMENT	OTC DEDUCTIBLE	OTHER COVERAGE & DEDUCTIBLES (UM, no-fault, towing, etc.)
			$1,000,000		$1,000	Rental Reimbursement $60 for 60 Days Towing $50 PPV
LOSS PAYEE					COLLISION DED: $1,000	

UMBRELLA/EXCESS: UMBRELLA | EXCESS | CARRIER: | LIMITS: AGGR | PER CLAIM/OCC | SIR/DED

INSURED VEHICLE

VEH #	YEAR	MAKE:	BODY TYPE:	PLATE NUMBER	STATE
		MODEL:	V.I.N.:		

OWNER'S NAME & ADDRESS	RESIDENCE PHONE (A/C, No): BUSINESS PHONE (A/C, No, Ext):
DRIVER'S NAME & ADDRESS (Check if same as owner)	RESIDENCE PHONE (A/C, No): BUSINESS PHONE (A/C, No, Ext):

RELATION TO INSURED (Employee, family, etc.)	DATE OF BIRTH	DRIVER'S LICENSE NUMBER	STATE	PURPOSE OF USE	USED WITH PERMISSION? YES NO

DESCRIBE DAMAGE:

ESTIMATE AMOUNT	WHERE CAN VEHICLE BE SEEN?	WHEN CAN VEH BE SEEN?	OTHER INSURANCE ON VEHICLE

PROPERTY DAMAGED **VEHICLE?** ☐ YES ☐ NO **YR:** **MAKE:** **MODEL:** **PLATE #:**

DESCRIBE PROPERTY (Other Than Vehicle)		OTHER VEH/PROP INS? ☐ YES ☐ NO	COMPANY OR AGENCY NAME: POLICY #:
OWNER'S NAME & ADDRESS			RESIDENCE PHONE (A/C, No): BUSINESS PHONE (A/C, No, Ext):
OTHER DRIVER'S NAME & ADDRESS ☐ (Check if same as owner)			RESIDENCE PHONE (A/C, No): BUSINESS PHONE (A/C, No, Ext):
DESCRIBE DAMAGE			
ESTIMATE AMOUNT	WHERE CAN DAMAGE BE SEEN?		

INJURED

NAME & ADDRESS	PHONE (A/C, No)	PED	INS VEH	OTH VEH	AGE	EXTENT OF INJURY
		☐	☐	☐		
		☐	☐	☐		
		☐	☐	☐		
		☐	☐	☐		

WITNESSES OR PASSENGERS

NAME & ADDRESS	PHONE (A/C, No)	INS VEH	OTH VEH	OTHER (Specify)
		☐	☐	
		☐	☐	
		☐	☐	

REPORTED BY		REPORTED TO	
SIGNATURE OF INSURED	DATE (MM/DD/YYYY)	SIGNATURE OF PRODUCER	DATE (MM/DD/YYYY)

REMARKS (Include Adjuster Assigned)

ALL RESERVATIONS OF RIGHTS/DENIAL LETTERS MUST BE SENT TO THE GRAHAM COMPANY FIRST.

ALL FIRST PARTY DRAFTS MUST BE SENT DIRECTLY TO THE GRAHAM COMPANY.

Applicable in Arizona

For your protection, Arizona law requires the following statement to appear on this form. Any person who knowingly presents a false or fraudulent claim for payment of a loss is subject to criminal and civil penalties.

Applicable in Arkansas, Delaware, District of Columbia, Kentucky, Louisiana, Maine, Michigan, New Jersey, New Mexico, North Dakota, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, Washington and West Virginia

Any person who knowingly and with intent to defraud any insurance company or another person, files a statement of claim containing any materially false information, or conceals for the purpose of misleading, information concerning any fact, material thereto, commits a fraudulent insurance act, which is a crime, subject to criminal prosecution and civil penalties. In DC, LA, ME, TN, VA and WA, insurance benefits may also be denied.

Applicable in California

For your protection, California law requires the following to appear on this form: Any person who knowingly presents a false or fraudulent claim for payment of a loss is guilty of a crime and may be subject to fines and confinement in state prison.

Applicable in Colorado

It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance, and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policy holder or claimant for the purpose of defrauding or attempting to defraud the policy holder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado Division of Insurance within the Department of Regulatory Agencies.

Applicable in Florida and Idaho

Any person who knowingly and with the intent to injure, defraud, or deceive any insurance company files a statement of claim containing any false, incomplete or misleading information is guilty of a felony.*

* In Florida - Third Degree Felony

Applicable in Hawaii

For your protection, Hawaii law requires you to be informed that presenting a fraudulent claim for payment of a loss or benefit is a crime punishable by fines or imprisonment, or both.

Applicable in Indiana

A person who knowingly and with intent to defraud an insurer files a statement of claim containing any false, incomplete, or misleading information commits a felony.

Applicable in Minnesota

A person who files a claim with intent to defraud or helps commit a fraud against an insurer is guilty of a crime.

Applicable in Nevada

Pursuant to NRS 686A.291, any person who knowingly and willfully files a statement of claim that contains any false, incomplete or misleading information concerning a material fact is guilty of a felony.

Applicable in New Hampshire

Any person who, with purpose to injure, defraud or deceive any insurance company, files a statement of claim containing any false, incomplete or misleading information is subject to prosecution and punishment for insurance fraud, as provided in RSA 638:20.

Applicable in New York

Any person who knowingly and with intent to defraud any insurance company or other person files an application for commercial insurance or a statement of claim for any commercial or personal insurance benefits containing any materially false information, or conceals for the purpose of misleading, information concerning any fact material thereto, and any person who in connection with such application or claim knowingly makes or knowingly assists, abets, solicits or conspires with another to make a false report of the theft, destruction, damage or conversion of any motor vehicle to a law enforcement agency, the Department of Motor Vehicles or an insurance company, commits a fraudulent insurance act, which is a crime, and shall also be subject to a civil penalty not to exceed five thousand dollars and the value of the subject motor vehicle or stated claim for each violation.

Applicable in Ohio

Any person who, with intent to defraud or knowing that he/she is facilitating a fraud against an insurer, submits an application or files a claim containing a false or deceptive statement is guilty of insurance fraud.

Applicable in Oklahoma

WARNING: Any person who knowingly and with intent to injure, defraud or deceive any insurer, makes any claim for the proceeds of an insurance policy containing any false, incomplete or misleading information is guilty of a felony.

APPENDIX H

OSHA 300

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

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

Year _______

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name ______________________

City ______________ State ______________

Identify the person | Describe the case | Classify the case

CHECK ONLY ONE box for each case based on the most serious outcome for that case: (G)–(J)

Enter the number of days the injured or ill worker was: (K)–(L)

Check the "injury" column or choose one type of illness: (M)

(A) Case No.	(B) Employee's Name	(C) Job Title (e.g., Welder)	(D) Date of injury or onset of illness (mo./day)	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	Death (G)	Days away from work (H)	Remained at work: Job transfer or restriction (I)	Remained at work: Other record-able cases (J)	Away From Work (days) (K)	On job transfer or restriction (days) (L)	Injury (1)	Skin Disorder (2)	Respiratory Condition (3)	Poisoning (4)	Hearing Loss (5)	All other illnesses (6)
					Page totals	0	0	0	0	0	0	0	0	0	0	0	0

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses
(1)	(2)	(3)	(4)	(5)	(6)

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

2861.0001Y.103/APHI

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year ______

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	0
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0	0
(K)	(L)

Injury and Illness Types

Total number of…
(M)

(1) Injury	0	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name ______________________

Street ______________________

City ____________ State ____________ Zip ______

Industry description (e.g., Manufacture of motor truck trailers)

____

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

___ ___ ___ ___

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

___ ___ ___ ___ ___ ___

Employment information

Annual average number of employees ______

Total hours worked by all employees last year ______

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

______________________ Company executive ______ Title

______________________ Phone ______ Date

OSHA's Form 301
Injuries and Illnesses Incident Report

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

U.S. Department of Labor

Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by ______________________

Title ______________________

Phone ____________ Date ____________

Information about the employee

1) Full Name ______________________

2) Street ______________________

City ____________ State ______ Zip ______

3) Date of birth ______________________

4) Date hired ______________________

5) ☐ Male

☐ Female

Information about the physician or other health care professional

6) Name of physician or other health care professional

____

____

7) If treatment was given away from the worksite, where was it given?

Facility ______________________

Street ______________________

City ____________ State ______ Zip ______

8) Was employee treated in an emergency room?

☐ Yes

☐ No

9) Was employee hospitalized overnight as an in-patient?

☐ Yes

☐ No

Information about the case

10) Case number from the Log ________ *(Transfer the case number from the Log after you record the case.)*

11) Date of injury or illness ________

12) Time employee began work ________ AM/PM

13) Time of event ________ AM/PM ☐ Check if time cannot be determined

14) **What was the employee 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 materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

15) **What happened?** Tell us how the injury occurred. Examples: "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

16) **What was the injury or illness?** Tell us the part of the body that was affected and how it was affected; be more specific than "hurt", "pain", or "sore." Examples: "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

17) **What object or substance directly harmed the employee?** Examples: "concrete floor"; "chlorine"; "radial arm saw." If this question does not apply to the incident, leave it blank.

18) **If the employee died, when did death occur?** Date of death

APPENDIX I

Job Safety and Health Protection Poster (2015)

U.S. Department of Labor

OSHA®
Occupational Safety
and Health Administration

Job Safety and Health
IT'S THE LAW!

All workers have the right to:

- A safe workplace.
- Raise a safety or health concern with your employer or OSHA, or report a work-related injury or illness, without being retaliated against.
- Receive information and training on job hazards, including all hazardous substances in your workplace.
- Request an OSHA inspection of your workplace if you believe there are unsafe or unhealthy conditions. OSHA will keep your name confidential. You have the right to have a representative contact OSHA on your behalf.
- Participate (or have your representative participate) in an OSHA inspection and speak in private to the inspector.
- File a complaint with OSHA within 30 days (by phone, online or by mail) if you have been retaliated against for using your rights.
- See any OSHA citations issued to your employer.
- Request copies of your medical records, tests that measure hazards in the workplace, and the workplace injury and illness log.

This poster is available free from OSHA.

Contact OSHA. We can help.

Employers must:

- Provide employees a workplace free from recognized hazards. It is illegal to retaliate against an employee for using any of their rights under the law, including raising a health and safety concern with you or with OSHA, or reporting a work-related injury or illness.
- Comply with all applicable OSHA standards.
- Report to OSHA all work-related fatalities within 8 hours, and all inpatient hospitalizations, amputations and losses of an eye within 24 hours.
- Provide required training to all workers in a language and vocabulary they can understand.
- Prominently display this poster in the workplace.
- Post OSHA citations at or near the place of the alleged violations.

FREE ASSISTANCE to identify and correct hazards is available to small and medium-sized employers, without citation or penalty, through OSHA-supported consultation programs in every state.

1-800-321-OSHA (6742) • TTY 1-877-889-5627 • www.osha.gov

OSHA 3165-04R 2015

APPENDIX I

Quality Assurance Project Plan

Quality Assurance Project Plan

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
Brooklyn, New York

May 11, 2018

Prepared for:

PTMA 5200 Kings Highway LLC
(c/o Bridges Development Group)
150 East 58th Street, 15th Floor
New York, NY 10155

Prepared by:

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1. Introduction

This Quality Assurance Project Plan (QAPP) has been prepared to describe the measures that will be taken to ensure that the data generated during performance of the Remedial Investigation (RI) at 5200 Kings Highway, Brooklyn, New York (Site) are of quality sufficient to meet project-specific data quality objectives (DQOs). The QAPP was prepared in accordance with the guidance provided in New York State Department of Environmental Conservation (NYSDEC) Technical Guidance DER-10 (Technical Guidance for Site Investigation and Remediation), the Brownfield Cleanup Program Guide and the United States Environmental Protection Agency's (USEPA's) Guidance for the Data Quality Objectives Process (EPA QA/G-4).

2. Background, Objectives, and Scope

In order to achieve project objectives, Roux Environmental Engineering & Geology, D.P.C. (Roux) has developed a scope of work that includes sampling of soil, groundwater, and soil vapor. A brief overview of each element of the RI scope of work is provided below. RI sampling locations are shown in Figure 3 of the RI Work Plan.

2.1 Soil

Samples of soil will be collected and analyzed at a minimum of 15 locations for the following analytes, TCL +30 which includes:

- TCL volatile organic compounds (VOCs) via SW846 8260B/5035A; and
- TCL semivolatile organic compounds (SVOCs) via SW846 8270C; and,
- Up to 30 non-targeted organic compounds as described in DER-10.

2.2 Groundwater

Groundwater samples will be collected from three (3) existing monitoring wells installed around the perimeter of the Site and four (4) new monitoring wells installed by Roux during the investigation. After gauging for potential separate-phase petroleum product, each well will be sampled for TCL +30, and TAL Metals. Field parameters, including temperature, pH, conductivity, redox potential, dissolved oxygen, and turbidity will also be measured. In addition, groundwater samples will be collected from groundwater profile borings (grab samples) as needed based on field observations during soil sampling.

2.3 Soil Vapor and Sub Slab Samples

Soil vapor samples will be collected from locations around the subject buildings and locations in the interior of the subject buildings to evaluate the potential for soil vapor intrusion. Sampling depths and analytical methods will be selected in consultation with the NYSDEC and NYSDOH protocols. In addition, one indoor air sample and one outdoor ambient air sample will be collected.

3. Project Organization

The overall management structure and a general summary of the responsibilities of project team members are presented below and Roux project team members' qualifications are provided in Appendix A.

Project Manager

Craig Werle of Roux will serve as Project Manager. The Project Manager is responsible for defining project objectives and bears ultimate responsibility for the successful completion of the investigation. This individual will provide overall management for the implementation of the scope of work and will coordinate all field activities. The Project Manager is also responsible for data review/interpretation and report preparation. Activities of the Project Manager are supported by the Project Quality Assurance Coordinator.

Field Team Leader

Wendy Monterosso of Roux will serve as the Field Team Leader. The Field Team Leader bears the responsibility for the successful execution of the field program, as scoped in the RI Work Plan and the Field Sampling Plan (FSP). The Field Team Leader will direct the activities of all technical staff in the field as well all subcontractors. The Field Team Leader will also assist in the interpretation of data and in report preparation. The Field Team Leader reports to the Project Manager.

Laboratory Project Manager

TestAmerica Laboratories, Inc. (TestAmerica) of Shelton, Connecticut, has been selected to analyze the field samples for this project and will be responsible for sample container preparation, sample custody in the laboratory, and completion of the required analysis through oversight of the laboratory staff. The Laboratory Project Manager will ensure that quality assurance procedures are followed and that an acceptable laboratory report is prepared and submitted. The Laboratory Project Manager reports to the Field Team Leader.

Quality Assurance Officer

Wai Kwan, PhD., of Roux will serve as the Quality Assurance Officer (QAO) for this project. The QAO is responsible for conducting reviews, inspections, and audits to ensure that the data collection is conducted in accordance with the FSP and QAPP. The QAO's responsibilities range from ensuring effective field equipment decontamination procedures and proper sample collection to the review of all laboratory analytical data for completeness and usefulness. The QAO reports to the Project Manager and makes independent recommendations to the Field Team Leader.

4. Sampling Procedures

Detailed discussions of sampling, decontamination, and sample handling procedures are provided in the FSP (Appendix F of the RI Work Plan).

5. Quality Assurance/Quality Control

The primary intended use for the RI data is to characterize Site conditions and determine the nature and extent of remediation that needs to be undertaken at the Site. The primary DQO of the soil, groundwater, and soil vapor sampling programs, therefore, is that data be accurate and precise, and hence representative of the actual Site conditions. Accuracy refers to the ability of the laboratory to obtain a true value (i.e., compared to a standard) and is assessed through the use of laboratory quality control (QC) samples, including laboratory control samples and matrix spike samples, as well as through the use of surrogates, which are compounds not typically found in the environment that are injected into the samples prior to analysis. Precision refers to the ability to replicate a value, and is assessed through both field and laboratory duplicate samples.

Sensitivity is also a critical issue in generating representative data. Laboratory equipment must be of sufficient sensitivity to detect target compounds and analytes at levels below NYSDEC standards and guidelines whenever possible. Equipment sensitivity can be decreased by field or laboratory contamination of samples, and by sample matrix effects. Assessment of instrument sensitivity is performed through the analysis of reagent blanks, near-detection-limit standards, and response factors. Potential field and/or laboratory contamination is assessed through use of trip blanks, method blanks, and equipment rinse blanks (also called “field blanks”).

Table 1 lists the field and laboratory QC samples that will be analyzed to assess data accuracy and precision, as well as to determine if equipment sensitivity has been compromised. Table 2 shows the reporting limits and minimum detection limits achievable by the laboratory.

All RI “assessment” analyses (i.e., TCL VOCs, SVOCs, TAL Metals) will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP), using USEPA SW-846 methods. The laboratory selected to analyze the field samples collected during the RI shall maintain a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Contract Laboratory Protocol (CLP) certification. All laboratory data are to be reported in NYSDEC ASP Category B deliverables and will be delivered to NYSDEC in electronic data deliverable (EDD) format as described on NYSDEC’s website (http://www.dec.ny.gov/chemical/62440.html). A Data Usability Report will be prepared by an independent party meeting the requirements in Section 2.2(a)1.ii and Appendix 2B of DER-10 for all data packages generated for the RI.

TABLES

Table 1. Field and Laboratory QC Summary

QC Check Type	Minimum Frequency	Use
Field QC		
Duplicate	1 per matrix per SDG*	Precision
Trip Blank	1 per VOC cooler	Sensitivity
Equipment Rinse Blank	1 per day	Sensitivity
Laboratory QC		
Laboratory Control Sample	1 per matrix per SDG	Accuracy
Matrix Spike/Matrix Spike Duplicate/Matrix Duplicate**	1 per matrix per SDG	Accuracy/Precision
Surrogate Spike	All organics samples	Accuracy
Laboratory Duplicate	1 per matrix per SDG	Precision
Method Blank	1 per matrix per SDG	Sensitivity

Notes:
* SDG - Sample Delivery Group - Assumes a single extraction or preparation
** Provided to lab by field sampling personnel

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analysis Group Description	Method Description	Method Code
Soil Analysis	Volatile Organic Compounds (GC/MS)	8260B

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Dichlorodifluoromethane	75-71-8	5	0.35	ug/Kg
Chloromethane	74-87-3	5	0.78	ug/Kg
Vinyl chloride	75-01-4	5	0.23	ug/Kg
Bromomethane	74-83-9	5	2.08	ug/Kg
Chloroethane	75-00-3	5	0.98	ug/Kg
Trichlorofluoromethane	75-69-4	5	0.15	ug/Kg
1,1-Dichloroethene	75-35-4	5	0.58	ug/Kg
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5	0.79	ug/Kg
Acetone	67-64-1	20	2.24	ug/Kg
Carbon disulfide	75-15-0	5	0.41	ug/Kg
Methyl acetate	79-20-9	5	0.44	ug/Kg
Methylene Chloride	75-09-2	20	1.09	ug/Kg
trans-1,2-Dichloroethene	156-60-5	5	0.39	ug/Kg
Methyl tert-butyl ether	1634-04-4	5	0.21	ug/Kg
1,1-Dichloroethane	75-34-3	5	0.3	ug/Kg
cis-1,2-Dichloroethene	156-59-2	5	0.37	ug/Kg
Methyl Ethyl Ketone	78-93-3	10	1.59	ug/Kg
Chloroform	67-66-3	5	0.34	ug/Kg
1,1,1-Trichloroethane	71-55-6	5	0.53	ug/Kg
Cyclohexane	110-82-7	5	0.69	ug/Kg
Carbon tetrachloride	56-23-5	5	0.95	ug/Kg
Benzene	71-43-2	5	0.57	ug/Kg
1,2-Dichloroethane	107-06-2	5	0.58	ug/Kg
Trichloroethene	79-01-6	5	0.81	ug/Kg
Methylcyclohexane	108-87-2	5	0.33	ug/Kg
1,2-Dichloropropane	78-87-5	5	0.67	ug/Kg
Bromodichloromethane	75-27-4	5	0.3	ug/Kg
cis-1,3-Dichloropropene	10061-01-5	5	0.56	ug/Kg
methyl isobutyl ketone	108-10-1	5	0.55	ug/Kg
Toluene	108-88-3	5	0.074	ug/Kg
trans-1,3-Dichloropropene	10061-02-6	5	0.27	ug/Kg
1,1,2-Trichloroethane	79-00-5	5	0.37	ug/Kg
Tetrachloroethene	127-18-4	5	0.81	ug/Kg
2-Hexanone	591-78-6	10	1.2	ug/Kg
Dibromochloromethane	124-48-1	5	0.35	ug/Kg
1,2-Dibromoethane	106-93-4	5	0.76	ug/Kg

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Chlorobenzene	108-90-7	5	0.59	ug/Kg
Ethylbenzene	100-41-4	5	0.7	ug/Kg
m&p-Xylene	179601-23-1	5	0.35	ug/Kg
o-Xylene	95-47-6	5	0.19	ug/Kg
Xylenes, Total	1330-20-7	5	0.486	ug/Kg
Styrene	100-42-5	5	0.15	ug/Kg
Bromoform	75-25-2	5	0.61	ug/Kg
Isopropylbenzene	98-82-8	5	0.19	ug/Kg
1,1,2,2-Tetrachloroethane	79-34-5	5	0.52	ug/Kg
1,3-Dichlorobenzene	541-73-1	5	0.21	ug/Kg
1,4-Dichlorobenzene	106-46-7	5	0.67	ug/Kg
1,2-Dichlorobenzene	95-50-1	5	0.24	ug/Kg
1,2-Dibromo-3-Chloropropane	96-12-8	10	4.53	ug/Kg
1,2,4-Trichlorobenzene	120-82-1	5	0.75	ug/Kg
1,2-Dichloroethane-d4 (Surr)	17060-07-0			ug/Kg
4-Bromofluorobenzene	460-00-4			ug/Kg
Dibromofluoromethane	1868-53-7	5		ug/Kg
Toluene-d8 (Surr)	2037-26-5			ug/Kg
Tentatively Identified Compound	STL00231			ug/Kg

Soil Analysis	Purge and Trap	5035A
Soil Analysis	Semivolatile Compounds by Gas Chromatography/Mass Spectror	8270C

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
1,1'-Biphenyl	92-52-4	270	17.5	ug/Kg
2,4,5-Trichlorophenol	95-95-4	1700	13.6	ug/Kg
2,4,6-Trichlorophenol	88-06-2	270	7.4	ug/Kg
2,4-Dichlorophenol	120-83-2	270	14.4	ug/Kg
2,4-Dimethylphenol	105-67-9	270	13.1	ug/Kg
2,4-Dinitrotoluene	121-14-2	270	21.5	ug/Kg
2,4-Dinitrophenol	51-28-5	1700	81	ug/Kg
2,6-Dinitrotoluene	606-20-2	270	7.9	ug/Kg
2-Chloronaphthalene	91-58-7	270	11.5	ug/Kg
2-Chlorophenol	95-57-8	270	15.7	ug/Kg
2-Methylnaphthalene	91-57-6	270	7.7	ug/Kg
2-Methylphenol	95-48-7	270	16.2	ug/Kg
2-Nitroaniline	88-74-4	670	16.4	ug/Kg
2-Nitrophenol	88-75-5	270	17	ug/Kg
3,3'-Dichlorobenzidine	91-94-1	330	55.5	ug/Kg
3-Nitroaniline	99-09-2	670	8.6	ug/Kg

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
4,6-Dinitro-2-methylphenol	534-52-1	1700	116	ug/Kg
4-Bromophenyl phenyl ether	101-55-3	270	17.4	ug/Kg
4-Chloro-3-methylphenol	59-50-7	270	11.1	ug/Kg
4-Chloroaniline	106-47-8	270	43.9	ug/Kg
4-Chlorophenyl phenyl ether	7005-72-3	270	19.9	ug/Kg
Methylphenol, 3 & 4	106-44-5	270	17.7	ug/Kg
4-Nitroaniline	100-01-6	270	20.7	ug/Kg
4-Nitrophenol	100-02-7	1700	20.4	ug/Kg
Acenaphthene	83-32-9	270	16	ug/Kg
Acenaphthylene	208-96-8	270	13.2	ug/Kg
Acetophenone	98-86-2	270	14	ug/Kg
Anthracene	120-12-7	270	10.5	ug/Kg
Atrazine	1912-24-9	330	17.1	ug/Kg
Benzaldehyde	100-52-7	270	45	ug/Kg
Benzo[a]anthracene	56-55-3	270	9.6	ug/Kg
Benzo[a]pyrene	50-32-8	270	7.3	ug/Kg
Benzo[b]fluoranthene	205-99-2	270	7.2	ug/Kg
Benzo[g,h,i]perylene	191-24-2	270	17.6	ug/Kg
Benzo[k]fluoranthene	207-08-9	270	24.2	ug/Kg
Bis(2-chloroethoxy)methane	111-91-1	270	12.5	ug/Kg
Bis(2-chloroethyl)ether	111-44-4	270	14	ug/Kg
Bis(2-ethylhexyl) phthalate	117-81-7	270	26.1	ug/Kg
Butyl benzyl phthalate	85-68-7	270	15.1	ug/Kg
Caprolactam	105-60-2	270	21.2	ug/Kg
Carbazole	86-74-8	270	15	ug/Kg
Chrysene	218-01-9	270	19.9	ug/Kg
Di-n-butyl phthalate	84-74-2	270	39.2	ug/Kg
Di-n-octyl phthalate	117-84-0	270	15.3	ug/Kg
Dibenz(a,h)anthracene	53-70-3	270	21.2	ug/Kg
Dibenzofuran	132-64-9	270	19	ug/Kg
Diethyl phthalate	84-66-2	270	27.2	ug/Kg
Dimethyl phthalate	131-11-3	270	15.5	ug/Kg
Fluoranthene	206-44-0	270	13.4	ug/Kg
Fluorene	86-73-7	270	16.2	ug/Kg
Hexachlorobenzene	118-74-1	270	18.7	ug/Kg
Hexachlorobutadiene	87-68-3	270	20.8	ug/Kg
Hexachlorocyclopentadiene	77-47-4	670	127	ug/Kg
Hexachloroethane	67-72-1	270	15.4	ug/Kg
Indeno[1,2,3-cd]pyrene	193-39-5	270	17.5	ug/Kg

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Isophorone	78-59-1	270	14.9	ug/Kg
N-Nitrosodi-n-propylamine	621-64-7	270	18.2	ug/Kg
N-Nitrosodiphenylamine	86-30-6	270	15.2	ug/Kg
Naphthalene	91-20-3	270	14	ug/Kg
Nitrobenzene	98-95-3	270	17.2	ug/Kg
Pentachlorophenol	87-86-5	670	164	ug/Kg
Phenanthrene	85-01-8	270	13.3	ug/Kg
Phenol	108-95-2	270	17.9	ug/Kg
Pyrene	129-00-0	270	12.7	ug/Kg
2,2'-oxybis[1-chloropropane]	108-60-1	270	14	ug/Kg
1,2-Dichlorobenzene-d4	2199-69-1			ug/Kg
2,4,6-Tribromophenol	118-79-6	270		ug/Kg
2-Chlorophenol-d4	93951-73-6			ug/Kg
2-Fluorobiphenyl	321-60-8	270		ug/Kg
2-Fluorophenol	367-12-4	330		ug/Kg
Nitrobenzene-d5	4165-60-0	270		ug/Kg
Phenol-d5	4165-62-2	330		ug/Kg
Terphenyl-d14	1718-51-0	270		ug/Kg
Tentatively Identified Compound	STL00231	330		ug/Kg

Soil Analysis	Diesel Range Organics (DRO) (GC)	8015B_DRO

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Diesel Range Organics [C10-C28]	STL00143	17000		
o-Terphenyl	84-15-1			

Soil Analysis	Ultrasonic Extraction	3550B
Soil Analysis	Gasoline Range Organics - (GC)	8015B_GRO

Gasoline Range Organics (C6-C9)	STL00215	25		
a,a,a-Trifluorotoluene	98-08-8			

Soil Analysis	Closed System Purge and Trap	5035A_FP
Soil Analysis	Percent Moisture	Moisture

Percent Moisture	STL00177	0.1		
Percent Solids	STL00234	0.1		

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Gasoline Range Organics (C6-C9)	STL00215	1250		

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
a,a,a-Trifluorotoluene	98-08-8			

Soil Analysis	Closed System Purge and Trap	5035A
Water Analysis	Volatile Organic Compounds (GC/MS)	8260B

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Dichlorodifluoromethane	75-71-8	5	1.01	ug/L
Chloromethane	74-87-3	5	1.09	ug/L
Vinyl chloride	75-01-4	5	0.99	ug/L
Bromomethane	74-83-9	5	2.12	ug/L
Chloroethane	75-00-3	5	1.06	ug/L
Trichlorofluoromethane	75-69-4	5	1.11	ug/L
1,1-Dichloroethene	75-35-4	5	0.83	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5	0.97	ug/L
Acetone	67-64-1	10	1.03	ug/L
Carbon disulfide	75-15-0	5	0.9	ug/L
Methyl acetate	79-20-9	5	0.48	ug/L
Methylene Chloride	75-09-2	5	0.78	ug/L
trans-1,2-Dichloroethene	156-60-5	5	0.76	ug/L
Methyl tert-butyl ether	1634-04-4	5	0.17	ug/L
1,1-Dichloroethane	75-34-3	5	1.03	ug/L
cis-1,2-Dichloroethene	156-59-2	5	0.99	ug/L
Methyl Ethyl Ketone	78-93-3	10	1.09	ug/L
Chloroform	67-66-3	5	0.67	ug/L
1,1,1-Trichloroethane	71-55-6	5	0.69	ug/L
Cyclohexane	110-82-7	5	0.7	ug/L
Carbon tetrachloride	56-23-5	5	1.07	ug/L
Benzene	71-43-2	5	0.74	ug/L
1,2-Dichloroethane	107-06-2	5	0.72	ug/L
Trichloroethene	79-01-6	5	0.62	ug/L
Methylcyclohexane	108-87-2	5	0.98	ug/L
1,2-Dichloropropane	78-87-5	5	0.71	ug/L
Bromodichloromethane	75-27-4	5	0.48	ug/L
cis-1,3-Dichloropropene	10061-01-5	5	0.28	ug/L
methyl isobutyl ketone	108-10-1	10	0.38	ug/L
Toluene	108-88-3	5	0.72	ug/L
trans-1,3-Dichloropropene	10061-02-6	5	0.57	ug/L
1,1,2-Trichloroethane	79-00-5	5	0.65	ug/L
Tetrachloroethene	127-18-4	5	0.81	ug/L
2-Hexanone	591-78-6	10	1.09	ug/L

Table 2. Laboratory Reporting Limits for Soil, Water, and Air Samples

Analyte Description	CAS Number	RL - Limit	MDL - Limit	Units
Dibromochloromethane	124-48-1	5	0.55	ug/L
1,2-Dibromoethane	106-93-4	5	0.52	ug/L
Chlorobenzene	108-90-7	5	0.72	ug/L
Ethylbenzene	100-41-4	5	0.87	ug/L
m&p-Xylene	179601-23-1	5	1.66	ug/L
o-Xylene	95-47-6	5	0.66	ug/L
Xylenes, Total	1330-20-7	5	2.27	ug/L
Styrene	100-42-5	5	0.64	ug/L
Bromoform	75-25-2	5	0.46	ug/L
Isopropylbenzene	98-82-8	5	0.85	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	5	0.81	ug/L
1,3-Dichlorobenzene	541-73-1	5	0.14	ug/L
1,4-Dichlorobenzene	106-46-7	5	0.59	ug/L
1,2-Dichlorobenzene	95-50-1	5	0.22	ug/L
1,2-Dibromo-3-Chloropropane	96-12-8	5	1.16	ug/L
1,2,4-Trichlorobenzene	120-82-1	5	0.72	ug/L
1,2-Dichloroethane-d4 (Surr)	17060-07-0			ug/L
4-Bromofluorobenzene	460-00-4	5		ug/L
Dibromofluoromethane	1868-53-7	5		ug/L
Toluene-d8 (Surr)	2037-26-5	5		ug/L
Tentatively Identified Compound	STL00231			ug/L

APPENDIX

A. Project Personnel Qualifications

PROFESSIONAL PROFILE

Craig A. Werle, P.G.

Principal Hydrogeologist/National Client Manager

TECHNICAL SPECIALTIES

Soil and groundwater investigations, delineation of groundwater flow systems, design and implementation of remedial systems, development of regulatory strategy and regulatory negotiations, environmental due diligence, environmental compliance audits.

EXPERIENCE SUMMARY

Twenty-nine years of experience: Principal Hydrogeologist at Roux; Principal at ERM Northeast; Staff Hydrogeologist at Suffolk County, New York Department of Environmental Control.

CREDENTIALS

B.A. Geography, Clark University, 1974
MA. Geology, SUNY Binghamton, 1978

REGISTRATIONS

Licensed Professional Geologist in New York – No. 000469

KEY PROJECTS

Brownfields/Real Estate Redevelopment

- Principal-in-Charge for taking the 22-acre Former Avis Headquarters site in Westbury, New York through the NYSDEC Brownfield Cleanup Program (BCP) for Equity One Inc. The project was constructed on an expedited basis to meet the deadlines associated with opening a major new shopping center. The project required very close coordination with all members of the construction team to ensure environmental issues didn't delay the demolition of existing buildings or construction of a 312,000 sq. ft. new retail space. The project included submission of the BCP Application, RI Work Plan, implementation of the RI including soil, groundwater and soil vapor sampling. An IRM was implemented that included the excavation of 40,000 tons of soil in support of a Track 1 cleanup. The NYSDEC-approved Remedial Action Work Plan (RAWP) was implemented including an in-situ chemical oxidation (ISCO) remedy for groundwater and soil vapor monitoring. All remedial work was completed on schedule and the Final Engineering Report (FER) was submitted and a Track 1 Certificate of Completion (COC) was issued before the first tenants took possession of their space.

- Principal-in-Charge of all environmental services for Vornado Realty Trust Rego Mall Expansion. Project included Phase II investigation, preparation of Remedial Action Plan for NYCDEP approval. Preparation of three-dimensional sample grid for in-situ waste characterization, conduct 495 sample in-situ characterization plan, provide environmental support to project team evaluation of disposal strategy for 400,000 tons of soil/urban fill. Provide full time oversight of 9-month excavation/waste shipment process. Prepare Remedial Action Summary Report and Groundwater Monitoring Report.

- Principal-In-Charge of NYSDEC BCP project in Brooklyn New York. The site is auto dealership with petroleum and chlorinated solvent contamination in soil and groundwater. The site has been accepted in the NYSDEC BCP and the RIWP submitted. Implementation of the RI is expected late in 2012 followed by a track 4 RAWP in 2013.

- Principal-in-Charge for Equity One development of a site in Bronx NY into an urban mall. Project includes entry in the New York City Office of Environmental Remediation (NYCOER) Voluntary Cleanup Program (VCP), implementation of an RI, submittal of an RI Report and RAWP recommending a soil excavation remedy. Remedial activity is expected to begin in late 2012.

Industry Experience

- Principal-in-Charge/Project Manager for ECRA/ISRA project at a major aerospace facility in New Jersey for Fortune 100 client. Project included development of regulatory strategy, on-site delineation of multiple areas of soil contamination including large scale disposal pits, identification of radiological contamination, delineation of free phase oil body containing PCBs, delineation of multi-constituent contaminant plume containing TCE, UST removal, and RCRA storage pad closure. Designed and implemented comprehensive remedial pilot study to evaluate groundwater treatment technologies, feasibility and treatment of SVE/AS system, oil collection technologies. Aquifer test conducted in conjunction with pilot test. Excavation and off-site disposal of 5,000 tons of contaminated soil from waste pits. Investigation of off-site impact of TCE plume migration including health risk assessment.

- Principal/Project Manager for hydrogeologic investigation of largest private landfill in Connecticut. Including installation of multi-aquifer monitoring network, delineation of flow system and leachate plume.

- Site investigation and design of a multi-aquifer groundwater recovery system at a Connecticut NPL site. Extensive off-site contaminant plume contained TCE, PCE, methylene chloride and assorted chlorinated and aromatic hydrocarbons. Design reviewed and approved by USEPA Region 1.

- Project Manager for investigation of landfill leachate impacts in groundwater/surface water at private landfill in Colchester, Connecticut.

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Conducted soil and groundwater testing in support of landfill expansion permit.

- Investigation of organic chemical impacts to groundwater associated with industrial landfill at major chemical plant in Naugatuck, Connecticut. Included evaluation of hydraulic and geochemical relationship of aquifer system and Naugatuck River.

- Principal-in-Charge/Project Manager for a soil and groundwater investigation at a tool and die manufacturer in Greenfield, Massachusetts. Project included delineation of TCE contamination in soils surrounding a closed dry well. Soils remediation completed through excavation and off-site disposal. Mapped TCE plume on-site and 4,000 feet off-site. Development of regulatory strategy/regulatory negotiation.

- Principal-in-Charge for a soil investigation/removal action and groundwater investigation at a Hicksville, New York State-lead CERCLA site. Project included delineation of TCE/PCE plume in the Upper Glacial Aquifer. Key issues included differentiation of on-site solvent sources from upgradient and downgradient plumes of similar contaminants.

- Project Manager for a soil and groundwater investigation at a solvent recovery facility in Linden, New Jersey. Project included delineation of significant on-site soil contamination from a wide variety of chlorinated and nonchlorinated solvents.

- Project manager for installation of groundwater monitoring network at Acabonac Road Landfill, East Hampton, New York.

- Project Manager for an expedited investigation of a TCE plume migrating through fractured bedrock toward the only on-site source of potable water at a major industrial facility in western New Jersey.

- Principal-in-Charge/Project Manager for the investigation of TCE contamination in groundwater at a Farmingdale, New York manufacturing facility. Project included development and negotiation of a work plan with NYSDEC. Groundwater modeling of potential off-site plume migration was responsible for delisting of the facility.

- Principal/Project Manager for a soil and groundwater investigation at a chemical distribution facility in Norwalk, Connecticut. Project included removal of buried drums and soil containing solvents and waste oils, identification of on-site source areas, delineation of solvent plume in glacial sediments and shoreline deposits adjacent to Long Island Sound. Negotiation of project scope and approach with CTDEP.

- Principal-in-Charge for investigation of a million gallon gasoline spill in a complex glacial environment. Delineation of free phase gasoline plume and multiple dissolved phase plumes, including the installation of 250 monitoring wells. Design/installation/operation of a remedial pumping system responsible for the recovery of over 460,000 gallons of gasoline. Primary technical representative for regulatory, community and media interaction. Installation and routine sampling of vapor well monitoring network to evaluate residential vapor impacts.

- Principal-in-Charge for detailed baseline assessments of six oil terminals in the northeastern United States prior to divestiture by a major U.S. oil company. Assessments included evaluation of compliance issues and implementation of soil and groundwater sampling plans and development of quantitative remedial cost estimates.

- Principal-in-Charge of detailed pre-acquisition environmental assessments of the Come-by-Chance Refinery in Newfoundland and the BORCO Refinery in Grand Bahama Island. Projects included evaluation of compliance and remedial issues based on both local and U.S. regulations and the development of remedial cost estimates.

- Principal-in-Charge of the remediation and divestiture of 28 service stations in New York for an independent petroleum company. This multi-year project included the design/installation/operation of remedial systems including free product recovery; dissolved phase recovery/treatment; and soil vapor extraction/air sparging. Use of risk-based corrective action (RBCA) and intrinsic bioremediation strategies resulted in No Further Action closures of many stations.

- Principal for the design and construction of a 7-acre impermeable cap over an inactive pharmaceutical waste landfill. Through construction of the cap, the landfill was closed in accordance with CTDEP Solid Waste Management regulations. The cap consisted of a 6-inch gas venting/bedding layer; 40-mil HDPE impermeable layer; 18-inch sand drainage layer and 9-inch vegetative layer. Stormwater runoff was collected in a series of riprap drainage swales and a culvert, discharging to a retention basin. The cap construction was completed within the allotted timeframe and budget.

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- Principal-in-Charge for the investigation and remediation of a large gasoline leak at a terminal overlying Long Island's sole source aquifer. Project included the delineation of the 11-acre free phase product plume and the 3,000 foot long dissolved phase plume. Design/construction/operation of a 10 well, 800 gpm recovery system. Over 150,000 gallons of free phase product recovered. Remediation of the dissolved product plume was successfully completed and approved by NYSDEC and the system was dismantled. Design/implementation of a 90-day SVE/AS pilot test. Development of regulatory strategy, regulatory negotiations. Technical representation with the community, media, surrounding landowners and political officials.
- Development and implementation of an underground storage tank management plan for major chemical facilities in West Virginia and New Jersey.
- Principal-in-Charge of a site investigation and remediation project in southern New Jersey conducted under the NJDEP voluntary cleanup program.
- Principal-in-Charge for a groundwater investigation at a major petroleum transshipment terminal on Bonaire. Project included installation of 22 monitoring wells, evaluation of geologic and hydrogeologic setting, determination of groundwater quality and distribution of petroleum in the subsurface.
- Principal-in-Charge for the development of a quantitative environmental baseline assessment at a portion of the former Exxon Lago Refinery in Aruba. Project included installation of monitoring wells, collection and analysis of priority pollutant soil and groundwater samples. Evaluation of contaminant distribution within all environmental media was the basis of establishing remedial responsibility with the Aruban government for new site ownership.
- Principal in Charge of RI/IRM at former dry cleaning facility in Glen Cove, New York. Including negotiation of work plan with NYSDEC and New York State Attorney General's office, delineation of residual DNAPL, PCE plume in groundwater and PCE in soil
- Management of an ISRA project at a plastic injection molding facltiy in Randolph, New Jersey. Issues include TCE contamination in soil and groundwater and hydrocarbon contamination from an UST release.
- ISRA project at a former fabric dyeing facility in Haledon, New Jersey Including delineation of chlorinated solvents and petroleum in soils and groundwater. Remediation includes soil removal and engineering controls and deed notice.

Litigation Support/Expert Witness

- Expert witness for Wiley Rein & Fielding and Melito & Adolfsen, PC for Glidden Company v. Aetna Casualty & Surety Company, et al. Included preparation of expert report for three Glidden facilities and deposition testimony. Report and testimony related to timing and nature of contaminant releases and reasonability of past costs.
- Claim evaluation for Mendes & Mount and London Market Insurers for Harsco Corporation facility in Fayetteville, New York. Evaluation related to insured's contribution to contamination at a site with sequential ownership. Also, evaluation of timing of releases, and relative importance of various source areas.
- Expert witness for Cuyler Burk, LLP in Selective Insurance Co. v. Parsippany-Troy Hills (Sharkey Landfill site). Included preparation of expert report related to the timing of contamination and the insured's understanding of environmental conditions.
- Claim evaluation for Mendes & Mount, LLP and London Market Insurers for five sites owned by Federal Pacific Electric Corp. and Cornell Dubilier Electric Company. The report evaluated sources of contamination, reasonability of past costs and potential future costs.
- Claim evaluation for Hardin, Kundla, McKeon, Polletto & Polifroni and the Royal Insurance Company for two Mark IV Industries, Inc. (former Rexon Technology Corp.) facilities in New Jersey. The primary issues evaluated were sources of contamination relative to owned property concerns, critical review of past costs and a projection of future costs.
- Claim evaluation for Jackson& Campbell and AIG for two RSR Corporation sites including a battery recycling/secondary lead smelting facility in West Dallas, Texas and a multiparty site on Harbor Island in Seattle, Washington. Both sites are on the National Priority List. The evaluation examined contaminant sources, owned property issues and past and future costs.
- Expert witness for Hardin, Kundla, McKeon, Polletto & Polifroni and CNA on a residential petroleum spill in Saddle Brook, New Jersey. The

expert report evaluated timing of the release, remedial costs and selection of remedial technologies.

- Expert witness in a tax certiorari case at a service station site in Farmingdale, New York. Provided expert testimony related to petroleum release, groundwater impact and remediation costs.
- Fact witness and Principal-in-Charge for an oil company client being sued by a developer related to diminished property value resulting from dissolved phase migration. Provided court testimony related to the nature of the release, migration of free/dissolved phase contaminants, hydrogeologic setting and remedial strategy and efficacy of remedial system operation.
- Fact witness and Principal-in-Charge for an Insured seeking recovery of costs from insurance company at a site in Bay Shore, New York. Provided deposition testimony related to on-site and off-site hydrogeologic investigation, remedial strategy, and off-site recovery system design.
- Fact witness and Principal-in-Charge for a property owner suing a major oil company relative to unremediated environmental impacts from significant gasoline releases at a long term service station lease site.
- Expert witness for The Hartford and Melito & Adolfsen in Gould Electronics, Inc. v. Aetna. Included preparation of expert report and deposition testimony. Expert opinion offered on trichloroethylene contamination of soils and groundwater, DNAPL mechanics and volume
- Expert witness for London Market and Mendes & Mount in TRW Corp. v. London Market Insurers. Included preparation of expert report and deposition testimony. Expert opinion offered on trichloroethylene disposal procedures and state of knowledge concerning TCE toxicity
- Expert witness for Leodori and Napierkowski in Leisure Time Tours v. Continental Insurance Co., et al. Included preparation of expert report related to investigation and remediation of free phase hydrocarbons.
- Expert witness for Rogers Towers Bailey Jones & Gray in Petroleum Products Corp. v. Insurance Company of North America. Included preparation of expert report and deposition testimony related to investigation and remediation of hydrocarbon and PCB contamination
- Principal in Charge of claim evaluation services for Kodak Insurance Defense Group. Includes review and evaluation of environmental reports and invoices related to $298 million claim.
- Claim evaluation for Garrity Graham Favetta & Flinn and Utica Insurance Co. related to North Burlington Regional School District claim. Critical evaluation of documentation for the investigation and remediation of a hydrocarbon release from multiple sources.

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ROUX

PROFESSIONAL PROFILE

Wai Kwan, Ph. D., P.E.

Principal Engineer

TECHNICAL SPECIALTIES:

Environmental chemistry, engineered natural systems, PCBs, chlorinated solvents, design of remediation systems utilizing traditional and innovative techniques.

EXPERIENCE SUMMARY:

Over 14 years of experience as a Principal, Senior, and Project Engineer with Roux Associates, Inc.

CREDENTIALS:

Ph.D., Environmental Engineering, Massachusetts Institute of Technology, 2003

M.S., Environmental Engineering, Massachusetts Institute of Technology, 1999

B.S., Chemistry, California Institute of Technology, 1997

B.S., Engineering & Applied Science, California Institute of Technology, 1997

Professional Engineer – New York, California

PUBLICATIONS/PRESENTATIONS/ABSTRACTS:

Proactive Evaluation of PRP Status at Hazardous Waste Disposal Sites. Sullivan, D., Kwan, W. P., Gerbig, C. A., and Moore, C., Environmental Claims Journal, 27(2), 2015.

Extricating Membership as a PRP at Hazardous Waste Disposal Sites. Ram, N. M., Kwan, W. P., Gerbig, C. A., and Moore, C., Remediation Journal. Spring 2014.

Long-Term Performance of a Phytoremediation Cap. Kwan, W. P., USEPA Engineering Forum, August 2012.

Long-Term Performance of an Integrated CTW/Phyto Cap System. Kwan, W. P., and W. Eifert, 8th International Phytotechnology Society Conference, 2011.

Large-Scale Enhanced Reductive Dechlorination for the Remediation of Chlorinated Volatile Organic Compounds. Kwan, W. P., Senh, S., and Netuschil, G., Proceedings of The Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Paper F-036, 2010.

Predicting Oxidation Rates of Dissolved Contaminants During In Situ Remediation Using Fenton's Reaction. Kwan, W. P., and B. M. Voelker, Abstracts of Papers of the American Chemical Society, 228(352 ENVR), 2004.

Influence of Electrostatics on the Oxidation Rates of Organic Compounds in Heterogeneous Fenton Systems. Kwan, W. P. and B. M. Voelker, Environmental Science & Technology, 38(12), 2004.

Rates of Hydroxyl Radical Generation and Organic Compound Oxidation in Mineral-Catalyzed Fenton Like Systems. Kwan, W. P. and B. M. Voelker, Environmental Science & Technology, 37(6), 2003.

Decomposition of Hydrogen Peroxide and Organic Compounds in the Presence of Dissolved Iron and Ferrihydrite. Kwan, W. P. and B. M. Voelker, Environmental Science & Technology, 36(7), 2002.

Heterogeneous Fenton-Like Chain Reactions Initiated by Iron Oxides. Kwan, W. P. and B. M. Voelker, Abstracts of Papers of the American Chemical Society, 200(283 ENVR), 2000.

PROFESSIONAL AFFILIATIONS:

American Chemical Society

American Society of Civil Engineers

KEY PROJECTS:

IN SITU REMEDIATION

- Designed and oversaw construction of a full-scale in situ enhanced bioremediation treatment system for groundwater impacted with chlorinated volatile organic compounds (CVOCs) at an 18 acre former electronics manufacturing facility in Taiwan. Evaluated the effectiveness of different substrates for in situ treatment from the results of two concurrent 6 month pilot studies, resulting in selection of enhanced bioremediation. The full-scale treatment system consists of over 9,000 feet of piping and 189 molasses injection wells. The technology decreased tetrachloroethene (PCE) concentrations by 99 percent, trichloroethene (TCE) concentrations by 98 percent, and total CVOC concentrations by 96 percent.

- Project Manager for the injection of 10,280 gallons of Fenton's reagent to address groundwater contaminated with PCE and its breakdown products associated with a former PCE reclamation facility in Brooklyn, New York. The design focused on the source area and two downgradient hot spots that exhibited concentrations of dissolved CVOCs in parts per million and used a proprietary method to activate the Fenton's reagent.

- Project Manager for the remediation and closure of a former dry cleaner site in Brooklyn, New York, under the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program. Managed field staff and provided engineering support during excavation and removal of 55 cubic yards of soil and concrete impacted by PCE and its breakdown products from a basement. Provided design and management of injection of 1,700 pounds of potassium permanganate solution to treat CVOCs in groundwater. Prepared Remedial Action Work Plan, permit application, daily construction reports, Final Engineering Report (FER) and Site Management Plan (SMP). Interacted with client, contractor, and regulatory agency project manager.

- Field Engineer for the remediation of a NYSDEC Brownfield Site in Staten Island, New York. Supervised the removal of soil and groundwater

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contaminated with hazardous levels of PCE and TCE released from a defunct dry cleaner. Evaluated the performance of molasses injections to enhance in situ bioremediation of impacted groundwater. Prepared the Final Engineering Report to document the remedial action.

- Prepared reports that evaluated bench scale and field scale results of using surfactant-enhanced subsurface remediation technology to enhance free-product recovery at an active railroad yard in Sunnyside, Queens, New York. Coordinated lab and field activities with a surfactant vendor, performed literature review, designed a multi-month field scale treatability study, and evaluated the findings for potential application during full scale remediation.

- Prepared a treatability study work plan to evaluate the feasibility of using surfactant-enhanced subsurface remediation technology to enhance free-product recovery at a former petroleum refinery and distribution terminal in Greenpoint, Brooklyn, New York. Corresponded with surfactant vendors, performing literature review, designed a bench scale treatability study, and assessed the feasibility of implementing enhanced recovery of residual free-product in the regional aquifer that is exhibiting decreases in recovery rates via dual-pump liquid extraction.

LANDFILLS

- Project Manager for the remediation of a former petroleum refinery terminal in Buffalo, New York, under the NYSDEC Brownfield Cleanup Program. Prepared conceptual and final designs for stabilization of 1,400 linear feet of river embankment using tiered slopes, rip rap, and reinforced bioengineering as part of a landfill closure remedial action. The stabilized shoreline uses a variety of flora and land features to create multiple habitats for aquatic and terrestrial lifeforms, while also serving as a component of the vegetated landfill cover. Prepared Alternatives Analysis Report to document analysis of engineering options and remedy recommendation. Prepared permit application, Remedial Design and Bid Document for implementation of remedy. Reviewed contractor submittals. Provided oversight and engineering support during remedy construction. Prepared FER and SMP.

- Project Manager for the performance of a Corrective Measures Study (CMS) at a 30-acre land parcel undergoing RCRA Corrective Action in Williamsburg, Virginia. The site is a former fibers manufacturing facility, and a RCRA regulated landfill is located within the parcel. The CMS was conducted to identify, evaluate, and recommend a final remedy to address zinc-impacted groundwater discharging to a tributary. Managed multi-person field crew who installed multiple monitoring wells, gauged and sampled groundwater, and conducted slug tests. Analyzed the CMS data to show more than 96 percent of the zinc loading is attributed to groundwater discharge along approximately 20 percent of the shoreline. Proposed a final remedy consisting of a 6.5 acre phytotechnology cover and 960 linear feet of compost reactive barrier, at a significantly lower cost compared to conventional treatment approaches.

REGULATED SITES

- Engineer for the remediation of soil and soil vapor impacted by the release of approximately 1,500 gallons of fuel at an operating gas station in San Bernardino County, California. Designed and involved in the operation of a soil vapor extraction (SVE) system consisting of five extraction wells focused on addressing the source area spanning 55 vertical feet.

- Engineer for the remediation of soil and soil vapor impacted by the release of PCE from a former dry cleaner in Compton, California. Prepared a pilot study to evaluate the feasibility of expanding the current SVE system to treat impacted soil and soil vapor at shallow and deep intervals underneath an existing supermarket.

- Operations Deputy for rapid mobilization and coordination of over 75 people to screen and sample for lead and other heavy metals in soil across 500 residences within 1.7 miles of the source in 10 days in the County of Los Angeles, California. Soil screening involved use of handheld x-ray fluorescence analyzer. Provided laboratory coordination, logistics and technical support, and QA/QC check of data.

- Engineer for the conceptual design of a two-acre engineered phyto cap for a site in Los Angeles County, California. The site is approximately seven acres and contains a waste dump and two abandoned oil production wells. The engineered phyto cap is designed to mitigate the potential for exposure of future residents to trash materials and is incorporated into the private, community-use park.

- Project Manager for a SVE and air sparge (AS) system to treat groundwater contaminated with VOCs and CVOCs at a 0.8-acre NYSDEC Voluntary Cleanup Site in Brooklyn, New York. Designed and performed two SVE/AS pilot studies. Designed the full-scale SVE/AS system. Provided oversight during installation of the full-scale SVE/AS system. Prepared the FER and SMP. Managed daily operations of the SVE/AS system and groundwater gauging and sampling personnel. Responsible for communications with the NYSDEC and reviewing progress reports.

- Project Manager for the performance of multiple soil, groundwater, and soil vapor investigations at a

NYSDEC Voluntary Cleanup Site in Brooklyn, New York. Prepared reports, work plans and directed field staff in the collection of discrete soil, groundwater, and soil vapor samples to delineate the extent of CVOC contamination in groundwater, soil, and soil vapor. Used membrane interface probe (MIP) technology as a screening tool to focus subsequent sample collection efforts and to reduce overall investigation costs.

- Senior and Project Engineer for the evaluation of methods to treat petroleum impacted soils at a former petroleum refinery terminal in Buffalo, New York. Evaluated bench scale studies using organoclay, nitrate, RegenOx, cement/slag, and lime kiln dust. Designed, supervised, and evaluated the performance of favorable treatment agents based on results generated from pilot scale field tests. Also critiqued scanning electron microscopy photographs and energy dispersive x-ray spectroscopy absorption spectra that were used to identify and support the conclusion that multiple, unrelated lead species are present within one operable unit.

- Project Manager for the remedial investigation of a shopping center in Enfield, Connecticut. Designed a focused investigation using MIP technology to focus subsequent collection of groundwater and soil samples using a standard size and portable Geoprobe for interior locations, and installation of soil vapor pins for the collection of sub-slab samples. Managed field staff during the implementation of the remedial investigation, and interacted with store proprietors to coordinate the work with minimal business interruptions.

- Field Engineer for the remediation of two 6.25-million gallon process lagoons adjacent to the Hudson River at a former dye manufacturing facility in Rensselaer, New York. Supervised the excavation, staging, screening, and transport of riprap and soil contaminated with hazardous concentrations of arsenic. Interacted daily with the client and regulatory agency representatives during implementation of the remedial action.

- Project Engineer for a multi-element remedial design of a USEPA Superfund Site in Nassau, New York. Prepared response letters, technical drawings, and 95 percent and 100 percent remedial design documents in accordance with the Record of Decision and Consent Judgment.

- Evaluated laboratory data packages of post-excavation soil samples generated during the interim remediation of a former storage and loading area of a pharmaceutical company in Brooklyn, New York. Initial site investigations concluded site contamination was limited to petroleum-related compounds. Supplemental site investigations conducted a few years after the conclusion of the interim remediation showed a dissolved CVOC plume was present site-wide. Reviewed chromatograms and concluded that CVOCs were detected – but not reported since the reporting scope was limited to petroleum-related compounds – in many of the post-excavation soil samples, which would have provided earlier indications of the presence of the CVOC plume.

STORMWATER MANAGEMENT

- Project Manager and Engineer for the design of a full-scale natural media filtration (NMF) system consisting of two stormwater storage basins (0.4 MM and 1.8 MM gallons) and four NMF cells (two 114,000-gallon aboveground cells and 0.15- and 0.25-acre in-ground cells) at a 172-acre active aluminum manufacturing facility in Lafayette, Indiana. The NMF cells treat up to 1,500 GPM of stormwater runoff and process water impacted by polychlorinated biphenyls (PCBs), dissolved and particulate aluminum, and suspended solids. Researched the fate and transport of PCBs, and assessed the treatability of PCBs in wetlands. Evaluated a compost treatability bench-scale experiment. Designed and coordinated groundwater percolation tests. Used HydroCAD to model treatment capacity for multiple storm events.

- Project Engineer for the design of a passive stormwater management system for a 3,500-acre aluminum manufacturing facility in Point Comfort, Texas. The passive stormwater management system uses sedimentation trenches and swales to manage and convey bauxite-laden runoff. Stormwater runoff is managed by a constructed treatment wetland (CTW) and is consumptively used by a phytotechnology tree plot. Completed a hydrologic analysis using USACE HEC-HMS modeling software. Prepared bid specifications and provided bid support.

- Project Manager for the design of a NMF system to reduce PCBs to non-detect levels in stormwater at an aluminum extrusion facility in Cressona, Pennsylvania. The NMF system treats the first flush volume of 240,000 gallons containing residual PCBs. Conducted a detailed analysis of the site's constituents and runoff volumes during dry weather and wet weather to properly size the pump station and the NMF cell. Prepared bid document and provided bid support.

- Project Engineer for the design of a CTW to manage stormwater runoff generated from a scrap metal recycling facility in Sayreville, New Jersey. The CTW was designed to handle and treat runoff with elevated levels of suspended solids prior to discharge to adjacent coastal and freshwater jurisdictional wetlands.

- Evaluated the feasibility of using CTW to treat 110 GPM of groundwater containing elevated levels of cyanide at an aluminum manufacturing facility in Hannibal, Ohio. The CTW was designed to address the site's constituents and winter environment, and was modularized to facilitate the expansion and incorporation of the pilot-scale CTW into the full-scale CTW.

- Project Manager for a feasibility study to mitigate land subsidence at a golf course adjacent to Long Island Sound in Northport, New York. Completed a data review of existing reports from USGS and local municipality, previous soil investigation, and current stormwater drainage design. Directed a field investigation to obtain data in support of the conceptual model for land movement. Concluded that existing stormwater management measures accelerated the rate of land movement. Evaluated potential engineering remedies.

Compliance

- Project Engineer for the evaluation of air emissions data from a steel mill melt shop in Sayreville, New Jersey. Prepared annual emissions statement in accordance with permit requirements using RADIUS software and emissions factors from AP-42 and CEMS data. Evaluated and summarized trends and anomalies observed in over one year's worth of air monitoring data on particulates and metals from monitors set up in the surrounding community.
- Project Engineer for the preparation of Title V emissions statement for two major hospitals in Nassau County, New York. Responsibilities included reviewing annual fuel usage data, calculating air emissions using emissions factors from AP-42, and preparing the emissions statement.
- Project Manager for the coordination, preparation, and submission of PCB TMDL reporting requirements for multiple sites in Virginia. Responsibilities included managing subcontractors, preparing submission forms in accordance with state guidelines, and preparing the first Pollutant Minimization Plan (PMP) in the state for PCBs.

Litigation Support

- Principal Engineer for the preparation of an expert report on the operation, closure, and pollution caused by a sanitary landfill adjacent to a creek in Indiana. The effort included reviewing historical site photographs; past regulations and practices for siting, operating, and closing of a sanitary landfill; and cost estimate to properly close the landfill.
- Senior Engineer for the analysis of expert reports and preparation of rebuttal for three superfund sites in New York and Massachusetts. The case involved assigning the percentage of PCBs released over time during the operation of the facilities at the three sites for the purpose of remedial costs allocation to various insurance carriers. Reviewed information submitted by opposing experts, conducted independent research to verify methodologies, and provided technical calculations indicating flaws in positions advocated by the opposing experts.
- Senior Engineer and Project Manager for the analysis of the sources and fate and transport of dioxins and PCBs into Newark Bay in New Jersey. Reviewed sediment and water column data from existing investigations, performed independent review of third party publications, and worked with geochemical expert on principal component analysis to identify dioxin contributions from several nearby sources.
- Senior Engineer for the preparation of an expert report for a fuel oil release in Rochelle Park, New Jersey. The release was from a residential underground storage tank (UST). The expert report opined on the age of the release, the reliability of the estimation method used by the opposing expert, and the accuracy of the age dating of the perforations in the UST.
- Project Engineer for the preparation of an affidavit regarding a cesspool explosion on Long Island, New York. The affidavit was prepared for the defendant's counsel providing technical calculations and opining on the improbability that the defendant's use of a drain cleaner contributed to a flash fire that injured the plaintiff. Also prepared an expert rebuttal affidavit to demonstrate the fallacies in the plaintiff's expert's arguments. The judge dismissed the case after reviewing all admitted information.
- Senior Engineer for the evaluation of expected remedial costs for waste disposal sites as part of a large bankruptcy litigation. Reviewed over 70 site records to identify potential liabilities and appropriate statute of limitations. Developed present value of remedial investigation and action costs and apportionment ranging from $160,000 to $1,200,000.
- Senior Engineer for the evaluation of gas chromatograms from multiple retail gasoline stations in Puerto Rico as part of a class action lawsuit. Responsibilities included reviewing for indicators of methyl tert-butyl ether (MTBE) and determining MTBE concentrations from historic laboratory data packages.

PROFESSIONAL PROFILE

Wendy Shen
Senior Engineer

TECHNICAL SPECIALTIES
Management of construction and remediation projects, including Brownfield redevelopment, building construction, excavation and disposal of impacted soil, engineering services for the investigation, design, construction, and operation and maintenance of remedial systems for the treatment of contaminated soil and groundwater.

EXPERIENCE SUMMARY
Seventeen years of experience: Senior Engineer, Project Engineer, Staff Engineer, and Staff Assistant Engineer with Roux.

CREDENTIALS
M.S. in Environmental Engineering, Polytechnic University, Brooklyn, New York, 2001

B.S. in Chemical Engineering, Universidade Federal do Rio Grande do Sul, Brazil, 1997

OSHA 40 Hour Health and Safety Course, 2000

OSHA 8 Hour Refresher Courses

KEY PROJECTS
- Senior Engineer responsible for the management of investigation and remediation various Brownfields redevelopment sites containing hazardous and nonhazardous soils in New York City and surrounding. These projects included the implementation of in situ waste characterization sampling program and a Remedial Action Work Plan, which included excavation of soils below grade and management of soils including transportation and disposal and coordination with various disposal facilities. Most of these sites were accepted into the New York City Office of Environmental Remediation (NYC OER) Brownfield Cleanup Program (BCP) or the New York State BCP.
- Senior Engineer responsible for scheduling at a large petroleum remediation project in Brooklyn, New York. Responsibilities included management of all present and future tasks to be completed including operations and maintenance, remedial investigation, design and construction, facility upgrades, special operations, permitting and compliance tracking, health and safety, audits/assessments, sampling and regulatory reporting.
- Project Engineer for the remediation of soil and groundwater at 100+ facilities owned and/or operated by various city agencies in New York City. Activities included preparation of administrative/contractual requirements, work plans, and monitoring reports, cost estimates, proposals, engineering support, and construction oversight.
- Project Engineer for the design of an air sparge and soil vapor extraction system in Andover, Massachusetts.
- Project Engineer for the remediation of soil and groundwater at a former chemical manufacturing company in Rensselaer, New York. Activities included construction oversight, preparation of reports including Feasibility Study, Interim Remedial Measures, Community Air Monitoring Plans, Sampling Plans, Bid Review, Invoice Review, and various field investigations.
- Project Engineer for an investigation and remediation at a former petroleum refinery in Buffalo, New York. Responsible for assisting in the preparation of multiple work plans and reports of results for field investigations including soil borings and sampling, well installation, and groundwater sampling. Also responsible for reviewing and assisting in the preparation of activities related to the operation of the remediation systems at the Site, including maps, evaluation summaries, plans and compliance monitoring reports.
- Project Engineer for the closure of an underground storage tank (UST) at a shipping facility in Queens, New York. Activities included preparation of cost estimate, work plans, and field management.
- Project and Resident Engineer for the soil remediation of the Captain's Cove Condominiums Site, a federal NPL site, located in Glen Cove, New York. Activities include: supervision of Contractor's activities, regulatory interaction, compile daily field reports, manage laboratory database for excavated and reclaimed soil, shop drawing review, change order preparation, and Health and Safety compliance. Site remediation was completed in September 2001 to accommodate site redevelopment as a commercial waterfront and operating seaport area. Currently managing OM&M groundwater monitoring program at the Site.
- Staff Engineer for a 450-gpm, dual-phase, product recovery system in Greenpoint, Brooklyn, New York. Tasks include: operation and maintenance of groundwater recovery and treatment system and free product recovery system. Also assisted in reviewing drawings and specs related to installation of aboveground storage tanks.
- Staff Engineer for the remediation of soil and groundwater at a former chemical company facility in Brooklyn, New York using a Soil Vapor Extraction and Air Sparging System. Tasks include: review of performance data for air sparge system, operation and maintenance for the SVE/AS System, progress report preparation, and monthly groundwater sampling.
- Staff Engineer for a divestment assessment at a service station in Stratford, Connecticut. Tasks include: oversight, soil sampling, FOIA investigation, coordination with subcontractor and

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regulatory agencies, and preparation of letters and reports.

- Resident Engineer for the soil remediation at a former chemical company facility in Dayton, New Jersey. Activities include: construction oversight, Health and Safety compliance, field sampling, and completion report preparation.
- Responsible for assisting in preparing cost estimates, proposals, feasibility studies, interim remedial measures, remedial action plans, health and safety plans, and technical specifications for a variety of soil and groundwater remedial objectives.
- Student/Research Assistant at Laboratory of Polymers, Universidade Federal do Rio Grande do Sul, POA, Brazil. Performed experiments on the metalization of plastics using polyaniline.
- Intern/Researcher at Laboratory of Research and Development at a petrochemical company, Ipiranga Petroquimica, Brazil. Conducted laboratory tests involving additives used in polymers and responsible for quality control/assurance of products.

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APPENDIX J

Citizen Participation Plan

New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan

for

Kristal Auto Mall

5200 Kings Highway
East Flatbush
Brooklyn, New York 11234

July 2016

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Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the Site's investigation and cleanup process.

Applicant:	**Irma C. Pollack, LLC ("Applicant")**
Site Name:	**Kristal Auto Mall ("Site")**
Site Address:	**5200 Kings Highway**
Site County:	**Kings County**
Site Number:	**C224140**

1.0 WHAT IS NEW YORK'S BROWNFIELD CLEANUP PROGRAM?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to re-use or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants that conduct brownfield Site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: http://www.dec.ny.gov/chemical/8450.html.

2.0 CITIZEN PARTICIPATION ACTIVITIES

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated Sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social wellbeing. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interest in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation, and cleanup programs that protect public health and the environment;
- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process;
- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;
- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and
- Encouraging dialogue to promote the exchange of information among the affected/ interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the Site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the Site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the Site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.

The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the Site is located;
- Residents, owners, and occupants of the Site and properties adjacent to the Site;
- The public water supplier which services the area in which the Site is located;
- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the Site for purposes of posting and/or dissemination of information at the facility; and
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and Fact Sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods, and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

- Document repositories have been established at the following locations:

  Brooklyn Public Library
  Rugby Branch
  1000 Utica Avenue
  Brooklyn, New York 11203-4310
  Telephone: (718) 566-0054

  Brooklyn Community Board 18
  1097 Bergen Avenue
  Brooklyn, New York 11234-4841
  Telephone: (718) 241-0422
  Fax: (718) 531-3199
  Email: bkbrd18@optonline.net
  Chair: Saul Needle
  District Manager: Dorothy Turano

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the Site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the Site, as described in Section 5.

If the Site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the Site.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html.

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repositories	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement:	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about proposed RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that summarizes the Final Engineering Report • Distribute fact sheet to site contact list announcing issuance of Certificate of Completion (COC)	At the time NYSDEC approves Final Engineering Report. These two fact sheets are combined if possible if there is not a delay in issuing the COC.

3.0 MAJOR ISSUES OF PUBLIC CONCERN

This section of the CP Plan identifies major issues of public concern that relate to the Site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

No major issues of public concern have been identified yet that relate to the Site. A Scoping Sheet for Major Issues of Public Concern will be prepared. This document will help the Applicant identify any issues. Based on the demographics of the local community board, there is a large African-American population in the area. Therefore, this Site is located within an environmental justice area. In addition, truck traffic coming on and off the Site as well as noise may be a concern to the community.

Furthermore, the Site will include procedures for protection of public health and safety during investigation and remediation activities. During investigation and remediation (if necessary), worker and community health and safety activities will be conducted, including:

- Securing the work perimeter with an eight foot chain link fence;
- On-site air monitoring for worker protection, if warranted;
- Perimeter air monitoring for community protection, if warranted; and
- Using odor, vapor, and dust controls such as water or foam sprays, as required during air monitoring, if needed.

Details on the Site Health and Safety Plan (HASP) and the Community Air Monitoring Plan (CAMP) will be included in the documents generated in support of the remediation.

4.0 SITE INFORMATION

Appendix C contains a map identifying the location of the site.

Site Description

The property is located at 5200 Kings Highway (Site) in the East Flatbush section of Brooklyn, New York, zip code 11234. The Site is trapezoidal in shape and consists of a single tax lot: Block 7969, Lot 9. The Site is approximately 2.28 acres in size. The Site is bordered to the east and southeast by Kings Highway and to the west by Utica Avenue. The Site is bordered to the south by the Premier Ford auto dealership. To the north the Site is bordered by the Favorite Plastics Corporation. The Site is bordered to the northeast at 5226 Kings Highway by the Kristal Auto Mall Used Cars. This Site occupies a different tax lot, has a different owner from 5200 Kings Highway and is not part of the BCP application.

The Site consists of a retail auto dealership known as the Kristal Auto Mall. Approximately 75% of the Site is occupied by the dealership building that includes an auto showroom, administrative offices, service area, parts storeroom, auto body shop, auto storage, auto washing and a staff locker room. The remaining 25% of the Site consists of paved parking lots on the northeast and south sides of the Site. The outdoor space is used for vehicle storage.

The Site is located in an area that is industrial to the northeast, north, northwest, west, and southwest. A warehouse owned by H. Schrier, Inc., a food wholesaler occupies the entire block to the west across Utica Avenue. Farther to the west and north of the Site is continued industrial and commercial land use. To the east and southeast, across Kings Highway, is a residential community consisting of attached one and two family homes. Approximately one-quarter mile (1,250 feet) southeast of the Site is the Parkway Preschool. Paerdegat Basin, a tidal inlet is located approximately 0.6 miles (3,150 feet) southeast of the Site.

History of Site Use, Investigation, and Cleanup

The Site is active and has been in use since 1959. From 1959 to 1968, the Site was occupied by a bowling alley. In 1968, new occupants expanded the existing building and began operation of a retail automobile dealership including sales and auto service. The Site continues to be operated as an auto dealership.

Previous investigations (soil and groundwater sampling) performed at the Site in 2007 and 2008 identified petroleum compounds and chlorinated parts cleaning solvents in soil and groundwater beneath the Site. Based on the analytical data from the initial investigation in 2007, a spill was reported to NYSDEC and spill number 0701186 was assigned to the Site. In 2011, three underground storage tanks that were used to store hydraulic fluid, motor oil and waste oil were cleaned and closed in place as requested by NYSDEC.

5.0 INVESTIGATION AND CLEANUP PROCESS

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Participant. This means that the Applicant was the owner of the Site at the time of the disposal or discharge of contaminants or was otherwise liable for the disposal or discharge of the contaminants. The Participant must fully characterize the nature and extent of contamination onsite, as well as the nature and extent of contamination that has migrated from the Site. The Participant also must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the Site and to contamination that has migrated from the Site.

The Applicant in its Application proposes that the Site will be used for restricted purposes.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the Site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the Site.

Investigation

The Applicant will conduct an investigation of the Site officially called a "remedial investigation" (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation work plan, which is subject to public comment.

The site investigation has several goals:

1) Define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;

2) Identify the source(s) of the contamination;

3) Assess the impact of the contamination on public health and the environment; and

4) Provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the Site poses a significant threat to public health or the environment. If the Site is a "significant threat," it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the Site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the Site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a "Certificate of Completion" (described below) to the Applicant.

   or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a "Remedial Work Plan". The Remedial Work Plan describes the Applicant's proposed remedy for addressing contamination related to the Site.

When the Applicant submits a proposed Remedial Work Plan for approval, NYSDEC would announce the availability of the proposed plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the Site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the Site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management may be conducted by the Applicant under NYSDEC oversight, if contamination will remain in place. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An institutional control is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the Site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that is pumping and treating groundwater. Site management continues until NYSDEC determines that it is no longer needed.

APPENDIX A – PROJECT CONTACTS AND LOCATIONS OF REPORTS AND INFORMATION

Project Contacts
For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Hasan Ahmed
Project Manager
NYSDEC Region 2
Division of Environmental Remediation
47-40 21st Street
Long Island City, New York 11101

Telephone: (718) 482-6405
Email: hrahmed@gw.dec.state.ny.us

Thomas Panzone
Citizen Participation Specialist
NYSDEC Region 2
47-40 21st Street
Long Island City, New York 11101

Telephone: (718) 482-4953
Email: tvpanzon@gw.dec.state.ny.us

New York State Department of Health (NYSDOH):

Bridget Callaghan
Public Health Specialist II - Project Manager
NYSDOH
Bureau of Environmental Exposure Investigation Empire State Plaza
Corning Tower, Room 1787, Albany, New York 12237

Telephone: (518) 402-7860
Email: beei@health.state.ny.us

Locations of Reports and Information:
The facilities identified below are being used to provide the public with convenient access to important project documents:

Brooklyn Public Library
Rugby Branch
1000 Utica Avenue
Brooklyn, New York 11203-4310

Telephone: (718) 566-0054

Hours:
Monday, Wednesday, Thursday,
Friday: 10:00 AM — 6:00 PM
Tuesday: 1:00 PM — 8:00 PM
Saturday-Sunday: Closed

Brooklyn Community Board 18
1097 Bergen Avenue
Brooklyn, New York 11234-4841
Telephone: (718) 241-0422
Fax: (718) 531-3199
Email: bkbrd18@optonline.net
Chair: Saul Needle
District Manager: Dorothy Turano

NYSDEC Region 2
47-40 21st Street
Long Island City, New York 11101

Attention: Hasan Ahmed
Telephone: (718) 482-6405
Hours: (call for appointment)

APPENDIX B – SITE CONTACT LIST

	A	B	C	D	E	F	G	H	I	J
1										
2	Site Contact List									
3	Site #: C224140									
4	Site Name: Kristal Auto Mall			List Last Updated: 5-31-12						
5	Current Occupant	Name, Title	Address 1	Address 2	Address 3	Street Address	City	State	Zip	Site Name (County)
6		Honorable Michael R. Bloomberg	Mayor			City Hall	New York	NY	10007	Kristal Auto Mall (Kings)
7		Honorable Bill DeBlasio	Public Advocate			One Centre Street, 15th Floor	New York	NY	10007	Kristal Auto Mall (Kings)
8		Honorable John Liu	New York City Comptroller			One Centre Street, Room 530	New York	NY	10007	Kristal Auto Mall (Kings)
9		New York Daily News				450 West 33rd Street	New York	NY	10001	Kristal Auto Mall (Kings)
10		Newsday				235 Pinelawn Road	Melville	NY	11747	Kristal Auto Mall (Kings)
11		Amanda M. Burden, Commissioner	NYC Dept. City Planning			22 Reade Street	New York	NY	10007	Kristal Auto Mall (Kings)
12		Dr. Robert Kulikowski	NYC Office of Environmental Coordination			253 Broadway - 14th Floor	New York	NY	10007	Kristal Auto Mall (Kings)
13		New York 1 News				75 Ninth Avenue	New York	NY	10011	Kristal Auto Mall (Kings)
14		Honorable Kirsten Gillibrand	United States Senate			780 Third Avenue, Suite 260	New York	NY	10017	Kristal Auto Mall (Kings)
15		Honorable Charles E. Schumer	United States Senate			757 Third Avenue, Room 17-	New York	NY	10017	Kristal Auto Mall (Kings)
16		Hon. Carter Strickland, Commissioner	NYC Department of Environmental Protection			59-17 Junction Boulevard	Flushing	NY	11373	Kristal Auto Mall (Kings)
17		John Wuthenow, Office of Environmental Ass	NYC Department of Environmental Protection			96-05 Horace Harding Expres	Flushing	NY	11373	Kristal Auto Mall (Kings)
18		Nancy T. Sunshine, Kings County Clerk	Kings County Clerk's Office			360 Adams Street, Room 189	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
19		Brooklyn Chamber of Commerce	Carl Hum, President & CEO			25 Elm Place, Suite 200 2nd F	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
20		New York Post				1211 Avenue of the Americas	New York	NY	10036	Kristal Auto Mall (Kings)
21		Courier-Life Publications				1 Metro-Tech Center North -	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
22		Brooklyn Daily Eagle				30 Henry Street	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
23		The Brooklyn Papers				1 Metrotech Center, Suite 10(	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
24		News 12 Brooklyn				164 20th Street 4th Floor	Brooklyn	NY	11232	Kristal Auto Mall (Kings)
25		Canarsie Courier				1142 East 92nd Street	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
26		El Diario				1 Metrotech Center, 18th Floo	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
27		Jane O'Connell	Regional Cuperfund and Brownfield Progra	NYSDEC		47-40 21st Street	Long Island City	NY	11101	Kristal Auto Mall (Kings)
28		Thomas V. Panzone	Regional Citizen Participation Specialist	NYSDEC		47-40 21st Street	Long Island City	NY	11101	Kristal Auto Mall (Kings)
29		Larry Ennist		NYSDEC		625 Broadway	Albany	NY	12233	Kristal Auto Mall (Kings)
30		Hon. Marty Markowitz	Brooklyn Borough President			209 Joralemon Street	Brooklyn	NY	11201	Kristal Auto Mall (Kings)
31		Brooklyn Community Board 18	Saul Needle, Chair			1097 Bergen Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
32		Brooklyn Community Board 18	Dorothy Turano, District Manager			1097 Bergen Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
33		Hon. Jumane D. Williams	NYC Councilmember			4517 Avenue D	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
34		Hon. Kevin S. Parkers	NYS Senator			1300 Flatbush Avenue	Brooklyn	NY	11210	Kristal Auto Mall (Kings)
35		Hon. Helene E. Weinstein	NYS Assemblymember			3520 Nostrand Ave	Brooklyn	NY	11229	Kristal Auto Mall (Kings)
36		Hon. Edolphus Towns	U.S. House of Representatives			104-08 Flatlands Avenue	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
37		Creative Learning Center (Day Care)	Director			886 East 54th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
38		Parkway Pre-School	Principal			888 East 56th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
39		Glenwood Senior Center	Director			5701 Avenue H	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
40		Decatur Senior Action Center	Director			1588 Schenectady Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
41		Hasan Ahmed	Project Manager	NYSDEC		47-40 21st Street	Long Island City	NY	11101	Kristal Auto Mall (Kings)
42		Bridget Callaghan	Bureau of Environmental Exposure Investig	NYSDOH		Flanigan Square, 547 River S	Troy	NY	12180	Kristal Auto Mall (Kings)
43		Peter Pollack	Irma C. Pollack LLC			205 East 69th Street	New York	NY	10021	Kristal Auto Mall (Kings)
44		Craig A. Werle	Principal Hydrogeologist	Roux Associates, Inc.		209 Shafter Street	Islandia	NY	11749	Kristal Auto Mall (Kings)
45		Jon Schuyler Brooks, Esq.	Phillips Nizer LLP			666 Fifth Avenue	New York	NY	10103	Kristal Auto Mall (Kings)
46		NADIA Development				1589 East 54th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
47		2478 Coney Island Avenue, LLC	C/O Renaissance Realty Group			1950 Coney Island Avenue	Brooklyn	NY	11223	Kristal Auto Mall (Kings)
48		5268 Realty LLC	Diagnostic Auto Center			5268 Kings Highway	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
49		Utica Realty, LLC	Favorite Plastic Corp			1465 Utica Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
50		MTA Long Island Railroad	Attn: Helena E. Williams, President			Jamaica Station	Jamaica	NY	11435	Kristal Auto Mall (Kings)
51		J. Zeluck, Inc.				5300 Kings Highway	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
52		5249 Highway Inc.				1097 West 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
53		Consolidated Edison Company				4 Irving Place	New York	NY	10003	Kristal Auto Mall (Kings)

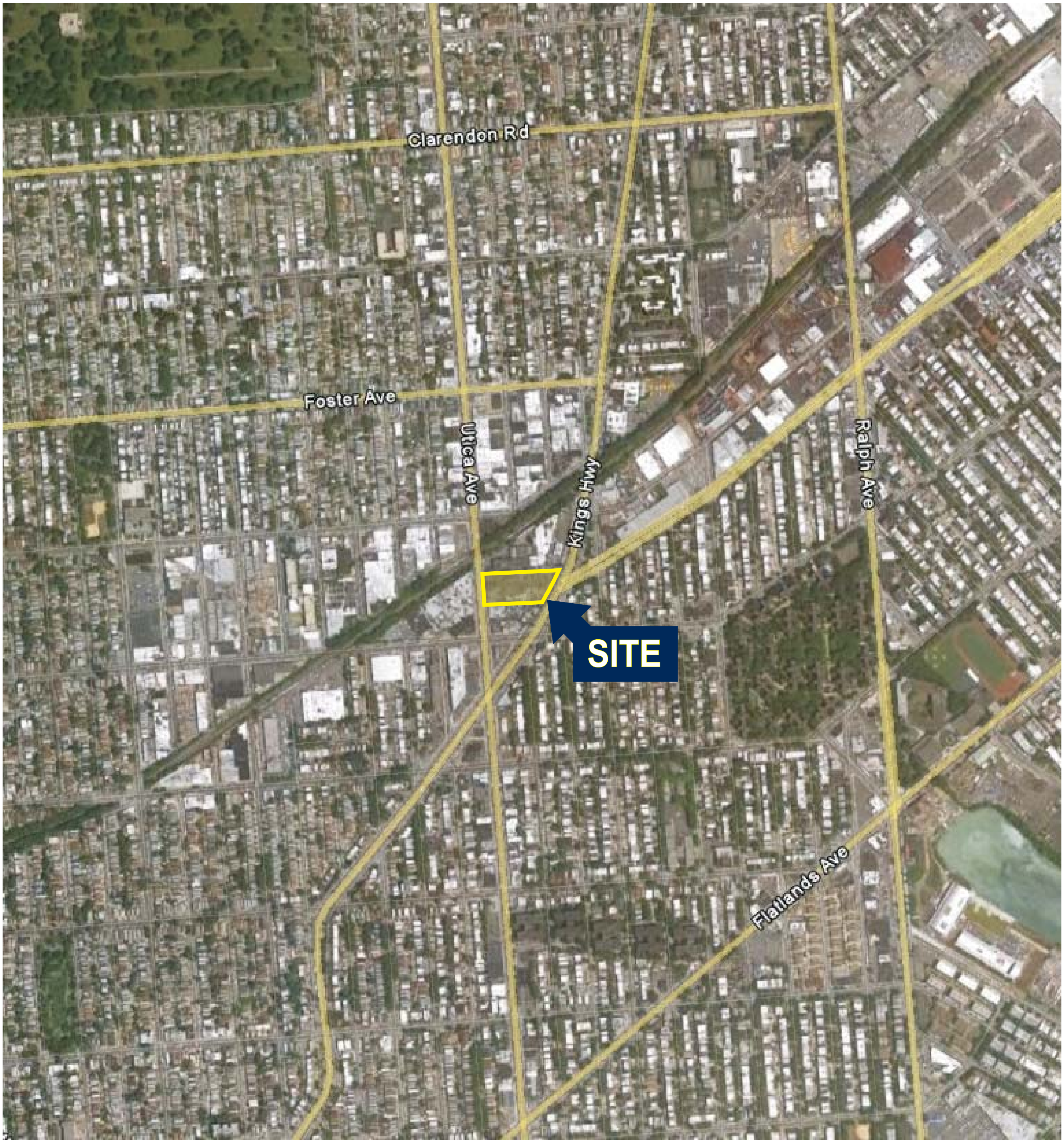
	A	B	C	D	E	F	G	H	I	J
5	Current Occupant	Name, Title	Address 1	Address 2	Address 3	Street Address	City	State	Zip	Site Name (County)
54		Rosamond Walker-Vivao				948 East 53rd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
55		Arlene Cummings				5207 Kings Highway	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
56		Michelle Morancie				5207 Kings Highway	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
57		Nathan and Esther Harewood				995 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
58		Lenora Bullock				997 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
59		Leyson A. Hudson				1001 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
60		Cedric Allison				1003 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
61		Terence and Pearl Noel				1007 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
62		Benjamin and Jessie Woods				1009 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
63		Angus Stephens				1013 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
64		Esther Watson				1015 East 52nd Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
65		Gloria A. Medas				5114 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
66		Kildare Clark				5116 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
67		Judith Gibbs				5118 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
68		Ronald Anderson				5120 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
69		Ethlyn St. Paul				5124 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
70		Sol Linchytz				41 Old Westbury Road	Old Westbury	NY	11568	Kristal Auto Mall (Kings)
71		Premier Ford / Lincoln				5001 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
72		GSI Realty Co.				4901 Glenwood Road	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
73		New York City Department of Environmental	Bureau of Water and Sewer Operations			59-17 Junction Boulevard, 17	Flushing	NY	11373	Kristal Auto Mall (Kings)
74		NYC Department of Education	New York City District #18			1106 East 95 Street	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
75		P.S. 109	Attn: Dwight Chase, Principal			1001 East 45th Street	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
76		P.S. 251 Paedergat School	Attn: Steven Boyer			1037 East 54th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
77		NYC Department of Education	New York City District #22			5619 Flatlands Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
78		P.S. 326	Attn: Colleen M. Ducey			1800 Utica Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
79		South Shore High School	Attn: Principal			6565 Flatlands Avenue	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
80		Flatlands Civic Association				5013 Avenue H	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
81		Sholem of Flatbush (Reform)				2075 E.68th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
82		Temple Hillel of Flatlands (Orthodox)				2164 Ralph Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
83		Holy Family (Catholic)				9719 Flatlands Avenue	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
84		Our Lady of Miracles (Catholic)				757 E. 86th Street	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
85		Mary Queen of Heaven (Catholic)				1395 E. 56th Street	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
86		Brooklyn Public Library - Rugby Branch				1000 Utica Avenue	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
87		Glenwood Houses (NYCHA)	Management Development Office			1660 Ralph Avenue	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
88		Glenwood Houses (NYCHA)	President, Resident's Association			1660 Ralph Avenue	Brooklyn	NY	11236	Kristal Auto Mall (Kings)
89		Mamre Seventh Day Adventist Church	Pastor			1623-27 Utica Avenue	Brooklyn	NY	11234	Kristal Auto Mall (Kings)
90		Beulah Church of God Seventh Day Adventist				1405 Utica Avenue	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
91		Great Oaks Elementary School				4718 Farragut Road	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
92		Celestial Church of Christ				937 East 51st Street	Brooklyn	NY	11203	Kristal Auto Mall (Kings)
93		RESIDENT OR BUSINESS OWNER				1424 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
94		RESIDENT OR BUSINESS OWNER				1434 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
95		RESIDENT OR BUSINESS OWNER				4909 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
96		RESIDENT OR BUSINESS OWNER				4901 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
97		RESIDENT OR BUSINESS OWNER				5017 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
98		RESIDENT OR BUSINESS OWNER				5013 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
99		RESIDENT OR BUSINESS OWNER				1431 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
100		RESIDENT OR BUSINESS OWNER				1421 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
101		RESIDENT OR BUSINESS OWNER				4702 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
102		RESIDENT OR BUSINESS OWNER				4706 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
103		RESIDENT OR BUSINESS OWNER				4718 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
104		RESIDENT OR BUSINESS OWNER				998 EAST 48 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
105		RESIDENT OR BUSINESS OWNER				1006 EAST 48 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
106		RESIDENT OR BUSINESS OWNER				1487 SCHENECTADY AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)

	A	B	C	D	E	F	G	H	I	J
5	Current Occupant	Name, Title	Address 1	Address 2	Address 3	Street Address	City	State	Zip	Site Name (County)
107		RESIDENT OR BUSINESS OWNER				1469 SCHENECTADY AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
108		RESIDENT OR BUSINESS OWNER				1461 SCHENECTADY AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
109		RESIDENT OR BUSINESS OWNER				997 EAST 48 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
110		RESIDENT OR BUSINESS OWNER				4816 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
111		RESIDENT OR BUSINESS OWNER				988 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
112		RESIDENT OR BUSINESS OWNER				994 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
113		RESIDENT OR BUSINESS OWNER				998 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
114		RESIDENT OR BUSINESS OWNER				1004 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
115		RESIDENT OR BUSINESS OWNER				1008 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
116		RESIDENT OR BUSINESS OWNER				4806 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
117		RESIDENT OR BUSINESS OWNER				4812 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
118		RESIDENT OR BUSINESS OWNER				995 EAST 49 STREET	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
119		RESIDENT OR BUSINESS OWNER				4902 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
120		RESIDENT OR BUSINESS OWNER				1440 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
121		RESIDENT OR BUSINESS OWNER				1476 UTICA AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
122		RESIDENT OR BUSINESS OWNER				4801 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
123		RESIDENT OR BUSINESS OWNER				4811 EAST 49 STREET	BROOKLYN	NY	11230	Kristal Auto Mall (Kings)
124		RESIDENT OR BUSINESS OWNER				4900 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
125		RESIDENT OR BUSINESS OWNER				1528 UTICA AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
126		RESIDENT OR BUSINESS OWNER				4919 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
127		RESIDENT OR BUSINESS OWNER				1527 UTICA AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
128		RESIDENT OR BUSINESS OWNER				5030 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
129		RESIDENT OR BUSINESS OWNER				1085 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
130		RESIDENT OR BUSINESS OWNER				1081 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
131		RESIDENT OR BUSINESS OWNER				1079 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
132		RESIDENT OR BUSINESS OWNER				1077 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
133		RESIDENT OR BUSINESS OWNER				1075 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
134		RESIDENT OR BUSINESS OWNER				1073 EAST 51 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
135		RESIDENT OR BUSINESS OWNER				5038 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
136		RESIDENT OR BUSINESS OWNER				5040 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
137		RESIDENT OR BUSINESS OWNER				5042 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
138		RESIDENT OR BUSINESS OWNER				5044 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
139		RESIDENT OR BUSINESS OWNER				5114 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
140		RESIDENT OR BUSINESS OWNER				5116 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
141		RESIDENT OR BUSINESS OWNER				5118 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
142		RESIDENT OR BUSINESS OWNER				5120 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
143		RESIDENT OR BUSINESS OWNER				5124 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
144		RESIDENT OR BUSINESS OWNER				1030 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
145		RESIDENT OR BUSINESS OWNER				1034 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
146		RESIDENT OR BUSINESS OWNER				1036 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
147		RESIDENT OR BUSINESS OWNER				1038 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
148		RESIDENT OR BUSINESS OWNER				1042 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
149		RESIDENT OR BUSINESS OWNER				1044 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
150		RESIDENT OR BUSINESS OWNER				1041 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
151		RESIDENT OR BUSINESS OWNER				1037 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
152		RESIDENT OR BUSINESS OWNER				1035 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
153		RESIDENT OR BUSINESS OWNER				1033 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
154		RESIDENT OR BUSINESS OWNER				1029 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
155		RESIDENT OR BUSINESS OWNER				5202 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
156		RESIDENT OR BUSINESS OWNER				5206 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
157		RESIDENT OR BUSINESS OWNER				5210 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
158		RESIDENT OR BUSINESS OWNER				5212 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
159		RESIDENT OR BUSINESS OWNER				5216 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)

	A	B	C	D	E	F	G	H	I	J
5	Current Occupant	Name, Title	Address 1	Address 2	Address 3	Street Address	City	State	Zip	Site Name (County)
160		RESIDENT OR BUSINESS OWNER				5220 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
161		RESIDENT OR BUSINESS OWNER				5224 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
162		RESIDENT OR BUSINESS OWNER				992 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
163		RESIDENT OR BUSINESS OWNER				994 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
164		RESIDENT OR BUSINESS OWNER				996 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
165		RESIDENT OR BUSINESS OWNER				5115 FARRAGUT ROAD	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
166		RESIDENT OR BUSINESS OWNER				961 FARRAGUT ROAD	BROOKLYN	NY	11210	Kristal Auto Mall (Kings)
167		RESIDENT OR BUSINESS OWNER				5249 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
168		RESIDENT OR BUSINESS OWNER				5255 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
169		RESIDENT OR BUSINESS OWNER				5283 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
170		RESIDENT OR BUSINESS OWNER				720 EAST 56 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
171		RESIDENT OR BUSINESS OWNER				5433 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
172		RESIDENT OR BUSINESS OWNER				31 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
173		RESIDENT OR BUSINESS OWNER				29 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
174		RESIDENT OR BUSINESS OWNER				27 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
175		RESIDENT OR BUSINESS OWNER				25 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
176		RESIDENT OR BUSINESS OWNER				23 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
177		RESIDENT OR BUSINESS OWNER				21 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
178		RESIDENT OR BUSINESS OWNER				19 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
179		RESIDENT OR BUSINESS OWNER				17 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
180		RESIDENT OR BUSINESS OWNER				15 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
181		RESIDENT OR BUSINESS OWNER				13 RESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
182		RESIDENT OR BUSINESS OWNER				32 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
183		RESIDENT OR BUSINESS OWNER				30 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
184		RESIDENT OR BUSINESS OWNER				28 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
185		RESIDENT OR BUSINESS OWNER				26 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
186		RESIDENT OR BUSINESS OWNER				24 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
187		RESIDENT OR BUSINESS OWNER				20 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
188		RESIDENT OR BUSINESS OWNER				18 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
189		RESIDENT OR BUSINESS OWNER				16 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
190		RESIDENT OR BUSINESS OWNER				14 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
191		RESIDENT OR BUSINESS OWNER				8 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
192		RESIDENT OR BUSINESS OWNER				2 PRESTON COURT	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
193		RESIDENT OR BUSINESS OWNER				5501 FOSTER AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
194		RESIDENT OR BUSINESS OWNER				5417 FOSTER AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
195		RESIDENT OR BUSINESS OWNER				5407 FOSTER AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
196		RESIDENT OR BUSINESS OWNER				1503 UTICA AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
197		RESIDENT OR BUSINESS OWNER				5200 UTICA AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
198		RESIDENT OR BUSINESS OWNER				1467 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
199		RESIDENT OR BUSINESS OWNER				1437 UTICA AVENUE	BROOKLYN	NY	11203	Kristal Auto Mall (Kings)
200		RESIDENT OR BUSINESS OWNER				5268 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
201		RESIDENT OR BUSINESS OWNER				5264 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
202		RESIDENT OR BUSINESS OWNER				5262 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
203		RESIDENT OR BUSINESS OWNER				5230 KINGS HIGHWAY	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
204		RESIDENT OR BUSINESS OWNER				1015 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
205		RESIDENT OR BUSINESS OWNER				1013 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
206		RESIDENT OR BUSINESS OWNER				1009 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
207		RESIDENT OR BUSINESS OWNER				1007 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
208		RESIDENT OR BUSINESS OWNER				1003 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
209		RESIDENT OR BUSINESS OWNER				1001 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
210		RESIDENT OR BUSINESS OWNER				997 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
211		RESIDENT OR BUSINESS OWNER				995 EAST 52 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
212		RESIDENT OR BUSINESS OWNER				5203 FOSTER AVENUE	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)

	A	B	C	D	E	F	G	H	I	J
5	Current Occupant	Name, Title	Address 1	Address 2	Address 3	Street Address	City	State	Zip	Site Name (County)
213		RESIDENT OR BUSINESS OWNER				7970 FOSTER AVENUE	BROOKLYN	NY	11236	Kristal Auto Mall (Kings)
214		RESIDENT OR BUSINESS OWNER				948 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
215		RESIDENT OR BUSINESS OWNER				950 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
216		RESIDENT OR BUSINESS OWNER				952 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
217		RESIDENT OR BUSINESS OWNER				954 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
218		RESIDENT OR BUSINESS OWNER				956 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
219		RESIDENT OR BUSINESS OWNER				958 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
220		RESIDENT OR BUSINESS OWNER				960 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
221		RESIDENT OR BUSINESS OWNER				964 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
222		RESIDENT OR BUSINESS OWNER				966 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
223		RESIDENT OR BUSINESS OWNER				968 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
224		RESIDENT OR BUSINESS OWNER				970 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
225		RESIDENT OR BUSINESS OWNER				972 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
226		RESIDENT OR BUSINESS OWNER				974 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
227		RESIDENT OR BUSINESS OWNER				976 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
228		RESIDENT OR BUSINESS OWNER				965 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
229		RESIDENT OR BUSINESS OWNER				963 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
230		RESIDENT OR BUSINESS OWNER				961 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
231		RESIDENT OR BUSINESS OWNER				959 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
232		RESIDENT OR BUSINESS OWNER				955 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
233		RESIDENT OR BUSINESS OWNER				953 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
234		RESIDENT OR BUSINESS OWNER				951 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
235		RESIDENT OR BUSINESS OWNER				949 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
236		RESIDENT OR BUSINESS OWNER				945 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
237		RESIDENT OR BUSINESS OWNER				943 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
238		RESIDENT OR BUSINESS OWNER				941 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
239		RESIDENT OR BUSINESS OWNER				939 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
240		RESIDENT OR BUSINESS OWNER				937 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
241		RESIDENT OR BUSINESS OWNER				935 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
242		RESIDENT OR BUSINESS OWNER				933 EAST 53 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
243		RESIDENT OR BUSINESS OWNER				878 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
244		RESIDENT OR BUSINESS OWNER				882 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
245		RESIDENT OR BUSINESS OWNER				884 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
246		RESIDENT OR BUSINESS OWNER				886 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
247		RESIDENT OR BUSINESS OWNER				888 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
248		RESIDENT OR BUSINESS OWNER				890 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
249		RESIDENT OR BUSINESS OWNER				894 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
250		RESIDENT OR BUSINESS OWNER				896 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
251		RESIDENT OR BUSINESS OWNER				900 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
252		RESIDENT OR BUSINESS OWNER				902 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
253		RESIDENT OR BUSINESS OWNER				904 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
254		RESIDENT OR BUSINESS OWNER				908 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
255		RESIDENT OR BUSINESS OWNER				910 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
256		RESIDENT OR BUSINESS OWNER				912 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
257		RESIDENT OR BUSINESS OWNER				916 EAST 54 STREET	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)
258		RESIDENT OR BUSINESS OWNER				5301 GLENWOOD ROAD	BROOKLYN	NY	11234	Kristal Auto Mall (Kings)

APPENDIX C – SITE LOCATION MAP



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SOURCE:
GOOGLE EARTH
IMAGERY DATE: 6/17/2010

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Title:

SITE LOCATION MAP

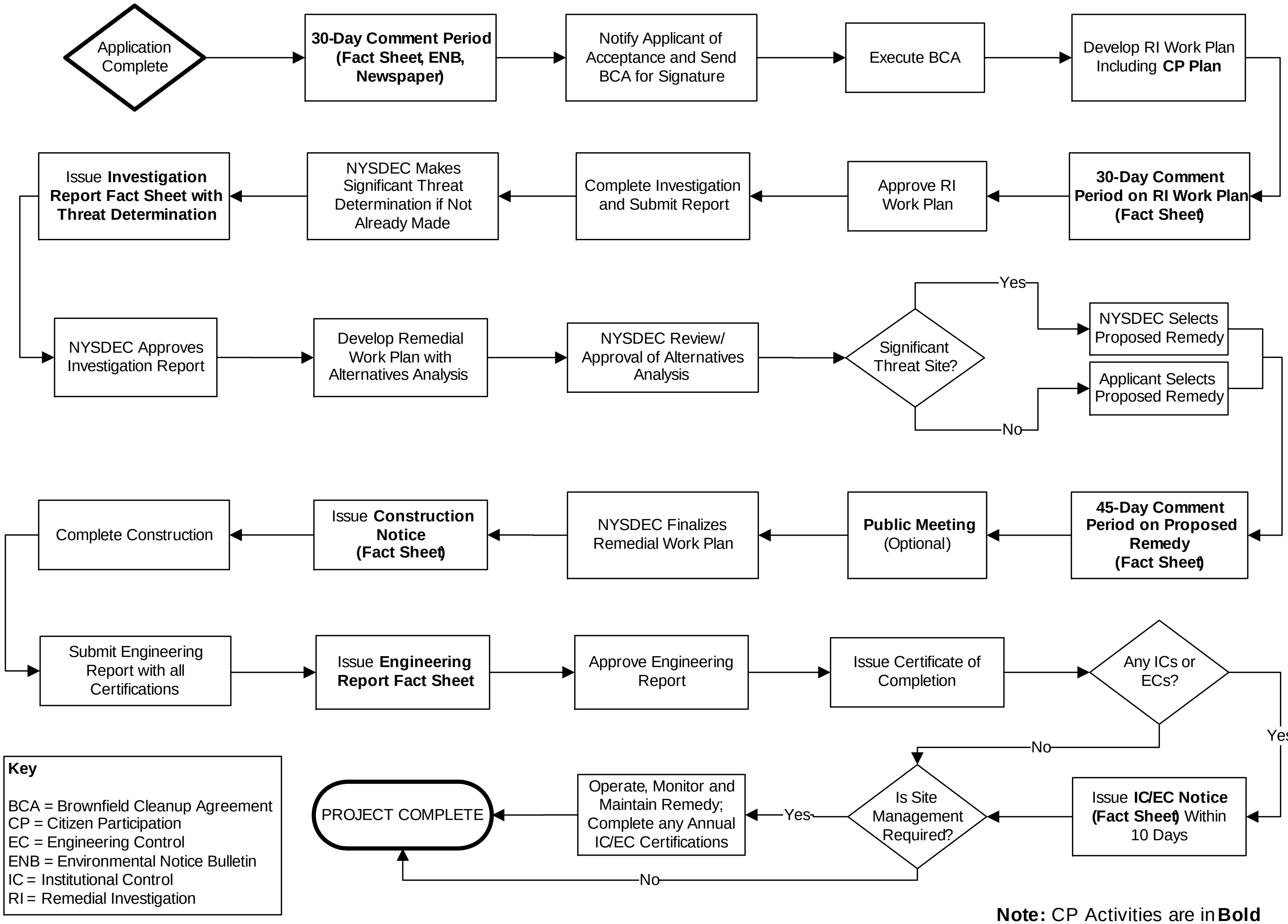
KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN , NEW YORK 11234

Prepared for:

IRMA C. POLLACK, LLC

ROUX ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: W.M.	Date: 15MAY12	FIGURE
	Prepared by: J.A.D.	Scale: AS SHOWN	1
	Project Mgr.: W.M.	Project No.: 1575.0002Y000	
	File: 1575.0002Y105.01.CDR		

APPENDIX D – BROWNFIELD CLEANUP PROGRAM PROCESS



APPENDIX K

Resumes of Key Personnel

Craig A. Werle, P.G.

Principal Hydrogeologist/National Client Manager

TECHNICAL SPECIALTIES

Soil and groundwater investigations, delineation of groundwater flow systems, design and implementation of remedial systems, development of regulatory strategy and regulatory negotiations, environmental due diligence, environmental compliance audits.

EXPERIENCE SUMMARY

Twenty-nine years of experience: Principal Hydrogeologist at Roux; Principal at ERM Northeast; Staff Hydrogeologist at Suffolk County, New York Department of Environmental Control.

CREDENTIALS

B.A. Geography, Clark University, 1974
MA. Geology, SUNY Binghamton, 1978

REGISTRATIONS

Licensed Professional Geologist in New York – No. 000469

KEY PROJECTS

Brownfields/Real Estate Redevelopment

- Principal-in-Charge for taking the 22-acre Former Avis Headquarters site in Westbury, New York through the NYSDEC Brownfield Cleanup Program (BCP) for Equity One Inc. The project was constructed on an expedited basis to meet the deadlines associated with opening a major new shopping center. The project required very close coordination with all members of the construction team to ensure environmental issues didn't delay the demolition of existing buildings or construction of a 312,000 sq. ft. new retail space. The project included submission of the BCP Application, RI Work Plan, implementation of the RI including soil, groundwater and soil vapor sampling. An IRM was implemented that included the excavation of 40,000 tons of soil in support of a Track 1 cleanup. The NYSDEC-approved Remedial Action Work Plan (RAWP) was implemented including an in-situ chemical oxidation (ISCO) remedy for groundwater and soil vapor monitoring. All remedial work was completed on schedule and the Final Engineering Report (FER) was submitted and a Track 1 Certificate of Completion (COC) was issued before the first tenants took possession of their space.
- Principal-in-Charge of all environmental services for Vornado Realty Trust Rego Mall Expansion. Project included Phase II investigation, preparation of Remedial Action Plan for NYCDEP approval. Preparation of three-dimensional sample grid for in-situ waste characterization, conduct 495 sample in-situ characterization plan, provide environmental support to project team evaluation of disposal strategy for 400,000 tons of soil/urban fill. Provide full time oversight of 9-month excavation/waste shipment process. Prepare Remedial Action Summary Report and Groundwater Monitoring Report.
- Principal-In-Charge of NYSDEC BCP project in Brooklyn New York. The site is auto dealership with petroleum and chlorinated solvent contamination in soil and groundwater. The site has been accepted in the NYSDEC BCP and the RIWP submitted. Implementation of the RI is expected late in 2012 followed by a track 4 RAWP in 2013.
- Principal-in-Charge for Equity One development of a site in Bronx NY into an urban mall. Project includes entry in the New York City Office of Environmental Remediation (NYCOER) Voluntary Cleanup Program (VCP), implementation of an RI, submittal of an RI Report and RAWP recommending a soil excavation remedy. Remedial activity is expected to begin in late 2012.

Industry Experience

- Principal-in-Charge/Project Manager for ECRA/ISRA project at a major aerospace facility in New Jersey for Fortune 100 client. Project included development of regulatory strategy, on-site delineation of multiple areas of soil contamination including large scale disposal pits, identification of radiological contamination, delineation of free phase oil body containing PCBs, delineation of multi-constituent contaminant plume containing TCE, UST removal, and RCRA storage pad closure. Designed and implemented comprehensive remedial pilot study to evaluate groundwater treatment technologies, feasibility and treatment of SVE/AS system, oil collection technologies. Aquifer test conducted in conjunction with pilot test. Excavation and off-site disposal of 5,000 tons of contaminated soil from waste pits. Investigation of off-site impact of TCE plume migration including health risk assessment.
- Principal/Project Manager for hydrogeologic investigation of largest private landfill in Connecticut. Including installation of multi-aquifer monitoring network, delineation of flow system and leachate plume.
- Site investigation and design of a multi-aquifer groundwater recovery system at a Connecticut NPL site. Extensive off-site contaminant plume contained TCE, PCE, methylene chloride and assorted chlorinated and aromatic hydrocarbons. Design reviewed and approved by USEPA Region 1.
- Project Manager for investigation of landfill leachate impacts in groundwater/surface water at private landfill in Colchester, Connecticut.

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Conducted soil and groundwater testing in support of landfill expansion permit.

- Investigation of organic chemical impacts to groundwater associated with industrial landfill at major chemical plant in Naugatuck, Connecticut. Included evaluation of hydraulic and geochemical relationship of aquifer system and Naugatuck River.
- Principal-in-Charge/Project Manager for a soil and groundwater investigation at a tool and die manufacturer in Greenfield, Massachusetts. Project included delineation of TCE contamination in soils surrounding a closed dry well. Soils remediation completed through excavation and off-site disposal. Mapped TCE plume on-site and 4,000 feet off-site. Development of regulatory strategy/regulatory negotiation.
- Principal-in-Charge for a soil investigation/removal action and groundwater investigation at a Hicksville, New York State-lead CERCLA site. Project included delineation of TCE/PCE plume in the Upper Glacial Aquifer. Key issues included differentiation of on-site solvent sources from upgradient and downgradient plumes of similar contaminants.
- Project Manager for a soil and groundwater investigation at a solvent recovery facility in Linden, New Jersey. Project included delineation of significant on-site soil contamination from a wide variety of chlorinated and nonchlorinated solvents.
- Project manager for installation of groundwater monitoring network at Acabonac Road Landfill, East Hampton, New York.
- Project Manager for an expedited investigation of a TCE plume migrating through fractured bedrock toward the only on-site source of potable water at a major industrial facility in western New Jersey.
- Principal-in-Charge/Project Manager for the investigation of TCE contamination in groundwater at a Farmingdale, New York manufacturing facility. Project included development and negotiation of a work plan with NYSDEC. Groundwater modeling of potential off-site plume migration was responsible for delisting of the facility.
- Principal/Project Manager for a soil and groundwater investigation at a chemical distribution facility in Norwalk, Connecticut. Project included removal of buried drums and soil containing solvents and waste oils, identification of on-site source areas, delineation of solvent plume in glacial sediments and shoreline deposits adjacent to Long Island Sound. Negotiation of project scope and approach with CTDEP.
- Principal-in-Charge for investigation of a million gallon gasoline spill in a complex glacial environment. Delineation of free phase gasoline plume and multiple dissolved phase plumes, including the installation of 250 monitoring wells. Design/installation/operation of a remedial pumping system responsible for the recovery of over 460,000 gallons of gasoline. Primary technical representative for regulatory, community and media interaction. Installation and routine sampling of vapor well monitoring network to evaluate residential vapor impacts.
- Principal-in-Charge for detailed baseline assessments of six oil terminals in the northeastern United States prior to divestiture by a major U.S. oil company. Assessments included evaluation of compliance issues and implementation of soil and groundwater sampling plans and development of quantitative remedial cost estimates.
- Principal-in-Charge of detailed pre-acquisition environmental assessments of the Come-by-Chance Refinery in Newfoundland and the BORCO Refinery in Grand Bahama Island. Projects included evaluation of compliance and remedial issues based on both local and U.S. regulations and the development of remedial cost estimates.
- Principal-in-Charge of the remediation and divestiture of 28 service stations in New York for an independent petroleum company. This multi-year project included the design/installation/operation of remedial systems including free product recovery; dissolved phase recovery/treatment; and soil vapor extraction/air sparging. Use of risk-based corrective action (RBCA) and intrinsic bioremediation strategies resulted in No Further Action closures of many stations.
- Principal for the design and construction of a 7-acre impermeable cap over an inactive pharmaceutical waste landfill. Through construction of the cap, the landfill was closed in accordance with CTDEP Solid Waste Management regulations. The cap consisted of a 6-inch gas venting/bedding layer; 40-mil HDPE impermeable layer; 18-inch sand drainage layer and 9-inch vegetative layer. Stormwater runoff was collected in a series of riprap drainage swales and a culvert, discharging to a retention basin. The cap construction was completed within the allotted timeframe and budget.

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- Principal-in-Charge for the investigation and remediation of a large gasoline leak at a terminal overlying Long Island's sole source aquifer. Project included the delineation of the 11-acre free phase product plume and the 3,000 foot long dissolved phase plume. Design/construction/operation of a 10 well, 800 gpm recovery system. Over 150,000 gallons of free phase product recovered. Remediation of the dissolved product plume was successfully completed and approved by NYSDEC and the system was dismantled. Design/implementation of a 90-day SVE/AS pilot test. Development of regulatory strategy, regulatory negotiations. Technical representation with the community, media, surrounding landowners and political officials.
- Development and implementation of an underground storage tank management plan for major chemical facilities in West Virginia and New Jersey.
- Principal-in-Charge of a site investigation and remediation project in southern New Jersey conducted under the NJDEP voluntary cleanup program.
- Principal-in-Charge for a groundwater investigation at a major petroleum transshipment terminal on Bonaire. Project included installation of 22 monitoring wells, evaluation of geologic and hydrogeologic setting, determination of groundwater quality and distribution of petroleum in the subsurface.
- Principal-in-Charge for the development of a quantitative environmental baseline assessment at a portion of the former Exxon Lago Refinery in Aruba. Project included installation of monitoring wells, collection and analysis of priority pollutant soil and groundwater samples. Evaluation of contaminant distribution within all environmental media was the basis of establishing remedial responsibility with the Aruban government for new site ownership.
- Principal in Charge of RI/IRM at former dry cleaning facility in Glen Cove, New York. Including negotiation of work plan with NYSDEC and New York State Attorney General's office, delineation of residual DNAPL, PCE plume in groundwater and PCE in soil
- Management of an ISRA project at a plastic injection molding faciltiy in Randolph, New Jersey. Issues include TCE contamination in soil and groundwater and hydrocarbon contamination from an UST release.
- ISRA project at a former fabric dyeing facility in Haledon, New Jersey Including delineation of chlorinated solvents and petroleum in soils and groundwater. Remediation includes soil removal and engineering controls and deed notice.

Litigation Support/Expert Witness

- Expert witness for Wiley Rein & Fielding and Melito & Adolfsen, PC for Glidden Company v. Aetna Casualty & Surety Company, et al. Included preparation of expert report for three Glidden facilities and deposition testimony. Report and testimony related to timing and nature of contaminant releases and reasonability of past costs.
- Claim evaluation for Mendes & Mount and London Market Insurers for Harsco Corporation facility in Fayetteville, New York. Evaluation related to insured's contribution to contamination at a site with sequential ownership. Also, evaluation of timing of releases, and relative importance of various source areas.
- Expert witness for Cuyler Burk, LLP in Selective Insurance Co. v. Parsippany-Troy Hills (Sharkey Landfill site). Included preparation of expert report related to the timing of contamination and the insured's understanding of environmental conditions.
- Claim evaluation for Mendes & Mount, LLP and London Market Insurers for five sites owned by Federal Pacific Electric Corp. and Cornell Dubilier Electric Company. The report evaluated sources of contamination, reasonability of past costs and potential future costs.
- Claim evaluation for Hardin, Kundla, McKeon, Polletto & Polifroni and the Royal Insurance Company for two Mark IV Industries, Inc. (former Rexon Technology Corp.) facilities in New Jersey. The primary issues evaluated were sources of contamination relative to owned property concerns, critical review of past costs and a projection of future costs.
- Claim evaluation for Jackson& Campbell and AIG for two RSR Corporation sites including a battery recycling/secondary lead smelting facility in West Dallas, Texas and a multiparty site on Harbor Island in Seattle, Washington. Both sites are on the National Priority List. The evaluation examined contaminant sources, owned property issues and past and future costs.
- Expert witness for Hardin, Kundla, McKeon, Polletto & Polifroni and CNA on a residential petroleum spill in Saddle Brook, New Jersey. The

expert report evaluated timing of the release, remedial costs and selection of remedial technologies.

- Expert witness in a tax certiorari case at a service station site in Farmingdale, New York. Provided expert testimony related to petroleum release, groundwater impact and remediation costs.
- Fact witness and Principal-in-Charge for an oil company client being sued by a developer related to diminished property value resulting from dissolved phase migration. Provided court testimony related to the nature of the release, migration of free/dissolved phase contaminants, hydrogeologic setting and remedial strategy and efficacy of remedial system operation.
- Fact witness and Principal-in-Charge for an Insured seeking recovery of costs from insurance company at a site in Bay Shore, New York. Provided deposition testimony related to on-site and off-site hydrogeologic investigation, remedial strategy, and off-site recovery system design.
- Fact witness and Principal-in-Charge for a property owner suing a major oil company relative to unremediated environmental impacts from significant gasoline releases at a long term service station lease site.
- Expert witness for The Hartford and Melito & Adolfsen in Gould Electronics, Inc. v. Aetna. Included preparation of expert report and deposition testimony. Expert opinion offered on trichloroethylene contamination of soils and groundwater, DNAPL mechanics and volume
- Expert witness for London Market and Mendes & Mount in TRW Corp. v. London Market Insurers. Included preparation of expert report and deposition testimony. Expert opinion offered on trichloroethylene disposal procedures and state of knowledge concerning TCE toxicity
- Expert witness for Leodori and Napierkowski in Leisure Time Tours v. Continental Insurance Co., et al. Included preparation of expert report related to investigation and remediation of free phase hydrocarbons.
- Expert witness for Rogers Towers Bailey Jones & Gray in Petroleum Products Corp. v. Insurance Company of North America. Included preparation of expert report and deposition testimony related to investigation and remediation of hydrocarbon and PCB contamination
- Principal in Charge of claim evaluation services for Kodak Insurance Defense Group. Includes review and evaluation of environmental reports and invoices related to $298 million claim.
- Claim evaluation for Garrity Graham Favetta & Flinn and Utica Insurance Co. related to North Burlington Regional School District claim. Critical evaluation of documentation for the investigation and remediation of a hydrocarbon release from multiple sources.

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Wendy Shen
Senior Engineer

TECHNICAL SPECIALTIES
Management of construction and remediation projects, including Brownfield redevelopment, building construction, excavation and disposal of impacted soil, engineering services for the investigation, design, construction, and operation and maintenance of remedial systems for the treatment of contaminated soil and groundwater.

EXPERIENCE SUMMARY
Seventeen years of experience: Senior Engineer, Project Engineer, Staff Engineer, and Staff Assistant Engineer with Roux.

CREDENTIALS
M.S. in Environmental Engineering, Polytechnic University, Brooklyn, New York, 2001
B.S. in Chemical Engineering, Universidade Federal do Rio Grande do Sul, Brazil, 1997
OSHA 40 Hour Health and Safety Course, 2000
OSHA 8 Hour Refresher Courses

KEY PROJECTS
- Senior Engineer responsible for the management of investigation and remediation various Brownfields redevelopment sites containing hazardous and nonhazardous soils in New York City and surrounding. These projects included the implementation of in situ waste characterization sampling program and a Remedial Action Work Plan, which included excavation of soils below grade and management of soils including transportation and disposal and coordination with various disposal facilities. Most of these sites were accepted into the New York City Office of Environmental Remediation (NYC OER) Brownfield Cleanup Program (BCP) or the New York State BCP.
- Senior Engineer responsible for scheduling at a large petroleum remediation project in Brooklyn, New York. Responsibilities included management of all present and future tasks to be completed including operations and maintenance, remedial investigation, design and construction, facility upgrades, special operations, permitting and compliance tracking, health and safety, audits/assessments, sampling and regulatory reporting.
- Project Engineer for the remediation of soil and groundwater at 100+ facilities owned and/or operated by various city agencies in New York City. Activities included preparation of administrative/contractual requirements, work plans, and monitoring reports, cost estimates, proposals, engineering support, and construction oversight.
- Project Engineer for the design of an air sparge and soil vapor extraction system in Andover, Massachusetts.
- Project Engineer for the remediation of soil and groundwater at a former chemical manufacturing company in Rensselaer, New York. Activities included construction oversight, preparation of reports including Feasibility Study, Interim Remedial Measures, Community Air Monitoring Plans, Sampling Plans, Bid Review, Invoice Review, and various field investigations.
- Project Engineer for an investigation and remediation at a former petroleum refinery in Buffalo, New York. Responsible for assisting in the preparation of multiple work plans and reports of results for field investigations including soil borings and sampling, well installation, and groundwater sampling. Also responsible for reviewing and assisting in the preparation of activities related to the operation of the remediation systems at the Site, including maps, evaluation summaries, plans and compliance monitoring reports.
- Project Engineer for the closure of an underground storage tank (UST) at a shipping facility in Queens, New York. Activities included preparation of cost estimate, work plans, and field management.
- Project and Resident Engineer for the soil remediation of the Captain's Cove Condominiums Site, a federal NPL site, located in Glen Cove, New York. Activities include: supervision of Contractor's activities, regulatory interaction, compile daily field reports, manage laboratory database for excavated and reclaimed soil, shop drawing review, change order preparation, and Health and Safety compliance. Site remediation was completed in September 2001 to accommodate site redevelopment as a commercial waterfront and operating seaport area. Currently managing OM&M groundwater monitoring program at the Site.
- Staff Engineer for a 450-gpm, dual-phase, product recovery system in Greenpoint, Brooklyn, New York. Tasks include: operation and maintenance of groundwater recovery and treatment system and free product recovery system. Also assisted in reviewing drawings and specs related to installation of aboveground storage tanks.
- Staff Engineer for the remediation of soil and groundwater at a former chemical company facility in Brooklyn, New York using a Soil Vapor Extraction and Air Sparging System. Tasks include: review of performance data for air sparge system, operation and maintenance for the SVE/AS System, progress report preparation, and monthly groundwater sampling.
- Staff Engineer for a divestment assessment at a service station in Stratford, Connecticut. Tasks include: oversight, soil sampling, FOIA investigation, coordination with subcontractor and

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E-mail: wshen@rouxinc.com | Website: http://www.rouxinc.com

regulatory agencies, and preparation of letters and reports.

- Resident Engineer for the soil remediation at a former chemical company facility in Dayton, New Jersey. Activities include: construction oversight, Health and Safety compliance, field sampling, and completion report preparation.
- Responsible for assisting in preparing cost estimates, proposals, feasibility studies, interim remedial measures, remedial action plans, health and safety plans, and technical specifications for a variety of soil and groundwater remedial objectives.
- Student/Research Assistant at Laboratory of Polymers, Universidade Federal do Rio Grande do Sul, POA, Brazil. Performed experiments on the metalization of plastics using polyaniline.
- Intern/Researcher at Laboratory of Research and Development at a petrochemical company, Ipiranga Petroquimica, Brazil. Conducted laboratory tests involving additives used in polymers and responsible for quality control/assurance of products.

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APPENDIX L

BCP Site Sign Requirements

BROWNFIELD CLEANUP PROGRAM

KRISTAL AUTO MALL
5200 KINGS HIGHWAY, BROOKLYN, NY
SITE NUMBER C224140

Governor: Andrew M. Cuomo
NYSDEC Commissioner: Basil Seggos
New York City Mayor: Bill de Blasio

Transform the Past………Build for the Future

SITE SIGNS FOR REMEDIAL PROGRAMS

Instructions

Signs are required at sites where remedial actions are being performed under one of the following remedial programs: State Superfund, Voluntary Cleanup Program (VCP), Brownfield Cleanup Program (BCP), and Environmental Restoration Program (ERP). They will not be required during the investigation and design phases. The cost of the sign will be borne by the parties performing the remedial action based on the legal document the activities are being performed under (i.e. volunteers/participants would pay 100% of the cost under the BCP; municipalities would pay 100% and then would be reimbursed for the cost under the ERP).

Sign Requirements

Size: **Horizontal format - 96" wide by 48" high**

Construction Materials: **Aluminum or wood blank sign boards with vinyl sheeting.**

Inserts: **"Site Name", "Site Number", "Name of Party Performing Remedial Activities" and "Municipal Executive".**
Indicate position, size and topography for specific inserts.

Color Scheme: Copy surrounding DEC logo - "NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION" - PMS 355

DEC logo: **PMS 301 Blue**
PMS 355 Green

Text:

Program (choose one): **PMS 301**
Brownfield Cleanup Program
Voluntary Cleanup Program
State Superfund Program
1996 Clean Water/Clean Air Bond Act - Environmental Restoration Program

Site Name, Site Number, Party Performing Remedial Activities	**PMS 355**
Names of Governor, Commissioner, Municipal Executive	**PMS 301**
Transform the Past.......Build for the Future	**PMS 355**

Type Specifications: **All type is Caslon 540, with the exception of the logotype.**
Format is: center each line of copy with small caps and initial caps.

Production Notes: **96" wide x 48" high aluminum blanks will be covered with vinyl sheeting to achieve background color. Copy and logo will be silk screened on this surface.**

See attached format

APPENDIX M

Engineering Controls Product Sheets

PREPRUFE® 300R Plus & 160R Plus

Pre-applied waterproofing membranes that bond integrally to poured concrete for use below slabs or behind basement walls on confined sites

Description

Preprufe® 300R Plus & 160R Plus membranes are unique composite sheets comprising, a thick HDPE film, an aggressive pressure sensitive adhesive a weather resistant protective coating and an adhesive to adhesive seam overlap.

Unlike conventional non-adhering membranes, which are vulnerable to water ingress tracking between the unbonded membrane and structure, the unique Preprufe bond to concrete prevents ingress or migration of water around the structure.

The Preprufe R Plus System includes:

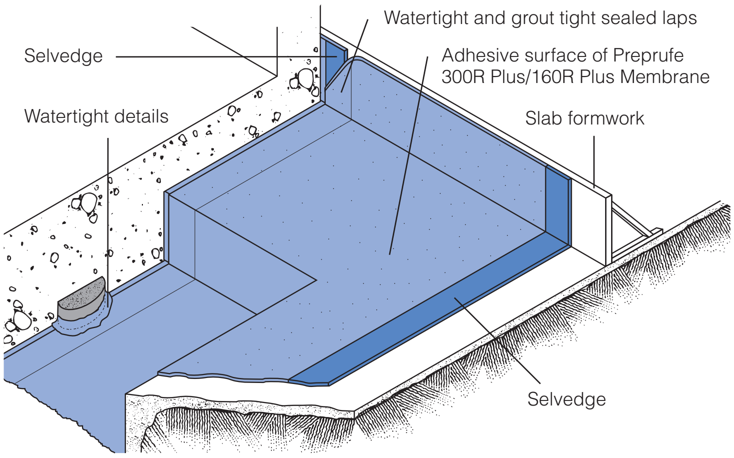
- **Preprufe 300R Plus**—heavy-duty grade for use below slabs and on rafts (i.e. mud slabs). Designed to accept the placing of heavy reinforcement using conventional concrete spacers.
- **Preprufe 160R Plus**—thinner grade for blindside, zero property line applications against soil retention systems.
- **Preprufe Tape LT**—for covering cut edges, roll ends, penetrations and detailing (temperatures between 25°F (-4°C) and 86°F (+30°C)).
- **Preprufe Tape HC**—as above for use in Hot Climates (minimum 50°F (10°C)).
- **Bituthene® Liquid Membrane**—for sealing around penetrations, etc.
- **Adcor™ ES**—waterstop for joints in concrete walls and floors
- **Preprufe Tieback Covers**—preformed cover for soil retention wall tieback heads
- **Preprufe Preformed Corners**—preformed inside and outside corners

Preprufe 300R Plus & 160R Plus membranes are applied either horizontally to smooth prepared concrete, carton forms or well rolled and compacted earth or crushed stone substrate; or vertically to permanent formwork or adjoining structures. Concrete is then cast directly against the adhesive side of the membranes. The specially developed Preprufe adhesive layers work together to form a continuous and integral seal to the structure.

Preprufe can be turned up the inside face of slab formwork but is not recommended for conventional twin-sided formwork on walls, etc. Use Bituthene® self-adhesive membrane or Procor® fluid applied membrane to walls after removal of formwork for a fully bonded system to all structural surfaces.

Advantages

- **Forms a unique continuous adhesive bond to concrete poured against it**—prevents water migration and makes it unaffected by ground settlement beneath slabs
- **Fully-adhered adhesive to adhesive watertight laps** and detailing
- **Provides a barrier to water, moisture and gas**—physically isolates the structure from the surrounding ground
- **Easy roll/kick out installation**—reduces installation time and cost
- **Release Liner free**—expedites installation and reduces construction site waste
- **Solar reflective**—reduced temperature gain
- **Simple and quick to install**—requiring no priming or fillets
- **Can be applied to permanent formwork**—allows maximum use of confined sites
- **Self protecting**—can be trafficked immediately after application and ready for immediate placing of reinforcement
- **Unaffected by wet conditions**—cannot activate prematurely
- **Inherently waterproof, non-reactive system:**
  - not reliant on confining pressures or hydration
  - unaffected by freeze/thaw, wet/dry cycling
- **Chemical resistant**—effective in most types of soils and waters, protects structure from salt or sulphate attack



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

Installation

The most current application instructions, detail drawings and technical letters can be viewed at graceconstruction.com. For other technical information contact your local Grace representative.

Preprufe Plus has colored zip strips at the top and bottom of the seam area on the edge of the roll. Both zip strips cover an aggressive adhesive. Once the yellow zip strip on the top of the membrane and the blue zip strip on the bottom of the membrane are removed, a strong adhesive to adhesive bond is achieved in the overlap area.

Substrate Preparation

All surfaces—It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 0.5 in. (12 mm). Grout around all penetrations such as utility conduits, etc. for stability (see Figure 1).

Horizontal—The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. When installing over earth or crushed stone, ensure substrate is well compacted to avoid displacement of substrate due to traffic or concrete pour. The surface does not need to be dry, but standing water must be removed.

Vertical—Use concrete, plywood, insulation or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 0.5 in. (12 mm) out of alignment.

Membrane Installation

Preprufe can be applied at temperatures of 25°F (-4°C) or above. When installing Preprufe in cold or marginal weather conditions <40°F (<4°C) the use of Preprufe Tape LT is recommended at all laps and detailing. Preprufe Tape LT should be applied to clean, dry surfaces and the release liner must be removed immediately after application. Alternatively, Preprufe Plus Low Temperature (LT) is available for low temperature condition applications. Refer to Preprufe Plus LT data sheet for more information.

Horizontal substrates—Kick out or roll out the membrane HDPE film side to the substrate with the yellow zip strip facing towards the concrete pour. End laps should be staggered to avoid a build up of layers. Leave yellow and blue zip strips on the membrane until overlap procedure is completed.

Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge with the blue zip strip on top of the yellow zip strip. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back and remove both the yellow and blue zip strips in the overlap area to achieve an adhesive to adhesive bond at the overlap. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller.

Refer to Grace Tech Letter 15 for information on suitable rebar chairs for Preprufe.

Vertical substrates—Mechanically fasten the membrane vertically using fasteners appropriate to the substrate with the yellow zip strip facing towards the concrete pour. The membrane may be installed in any convenient length. Fastening can be made through the selvedge using a small and low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps. Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge with the blue zip strip on top of the yellow zip strip. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back and remove both the yellow and blue zip strips in the overlap area to achieve an adhesive to adhesive bond at the overlap. Roll firmly to ensure a watertight seal.

Roll ends and cut edges—Overlap all roll ends and cut edges by a minimum 3 in. (75 mm) and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply Preprufe Tape LT (or HC in hot climates) centered over the lap edges and roll firmly (see Figure 2). Immediately remove tinted plastic release liner from the tape.

Details

Refer to Preprufe Field Application Manual, Section V Application Instructions or visit graceconstruction.com. This manual gives comprehensive guidance and standard details.

Membrane Repair

Inspect the membrane before installation of reinforcement steel, formwork and final placement of concrete. The membrane can be easily cleaned by power washing if required. Repair damage by wiping the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. Repair small punctures (0.5 in. (12 mm) or less) and slices by applying Preprufe Tape centered over the damaged area and roll firmly. Remove the release liner from the tape. Repair holes and large punctures by applying a patch of Preprufe membrane, which extends 6 in. (150 mm) beyond the damaged area. Seal all edges of the patch with Preprufe Tape, remove the release liner from the tape and roll firmly. Any areas of damaged adhesive should be covered with Preprufe Tape. Remove tinted plastic release liner from tape. Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and cover with fresh Preprufe Tape, rolling firmly. Alternatively, use a hot air gun or similar to activate adhesive and firmly roll lap to achieve continuity.

Pouring of Concrete

Ensure the plastic release liner is removed from all areas of Preprufe Tape.

It is recommended that concrete be poured within 56 days (42 days in hot climates) of application of the membrane. Following proper ACI guidelines, concrete must be placed carefully and consolidated properly to avoid damage to the membrane. Never use a sharp object to consolidate the concrete. Provide temporary protection from concrete over splash for areas of the Preprufe membrane that are adjacent to a concrete pour.

Removal of Formwork

Preprufe membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. Preprufe membranes are not recommended for conventional twin-sided wall forming systems.

A minimum concrete compressive strength of 1500 psi (10 N/mm^2) is recommended prior to stripping formwork supporting Preprufe membranes. Premature stripping may result in displacement of the membrane and/or spalling of the concrete.

Refer to Grace Tech Letter 17 for information on removal of formwork for Preprufe.

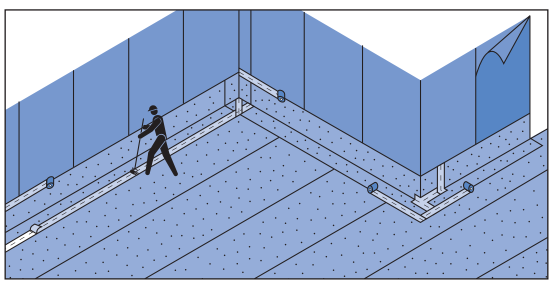


Figure 1

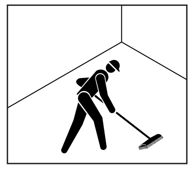
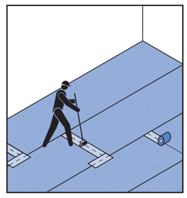


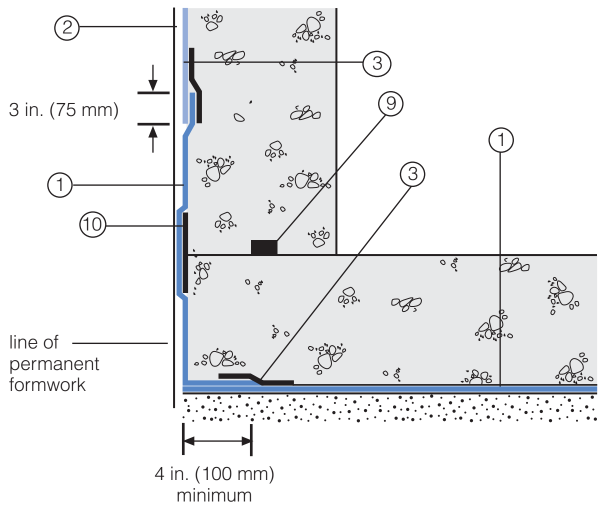
Figure 2



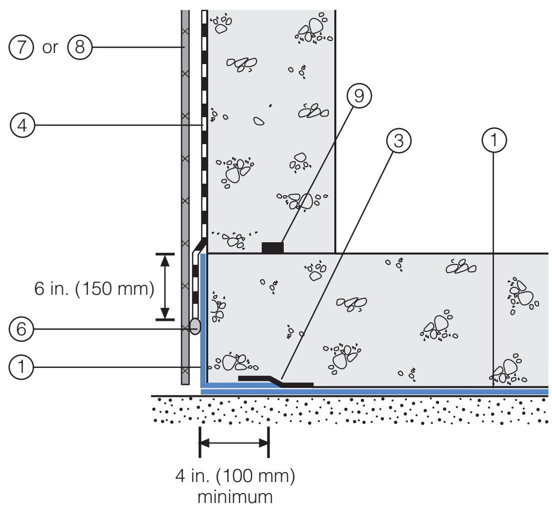
Detail Drawings

Details shown are typical illustrations and not working details. For a list of the most current details, visit us at graceconstruction.com. For technical assistance with detailing and problem solving please call toll free at 866-333-3SBM (3726).

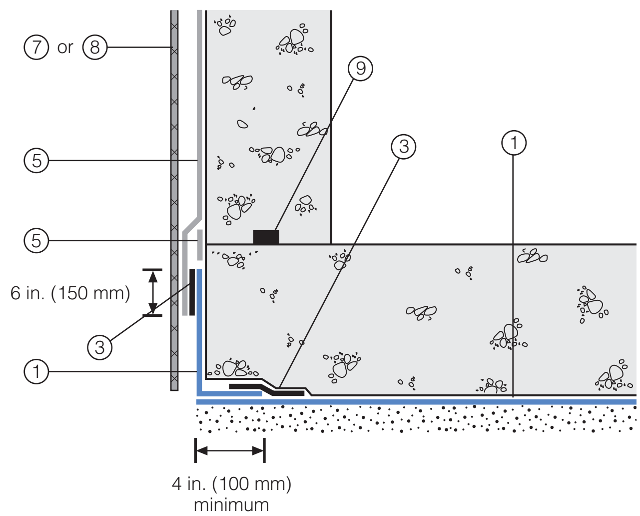
Wall base detail against permanent shutter



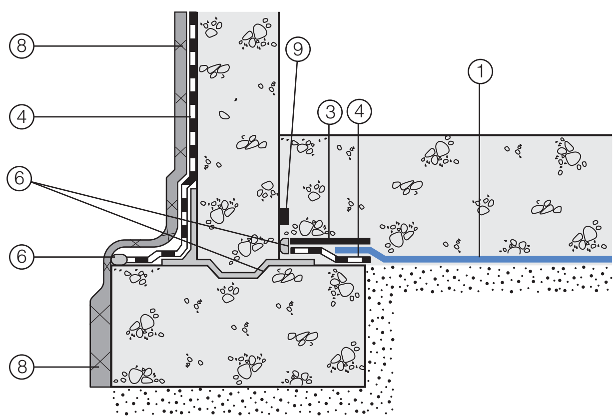
Bituthene wall base detail (Option 1)



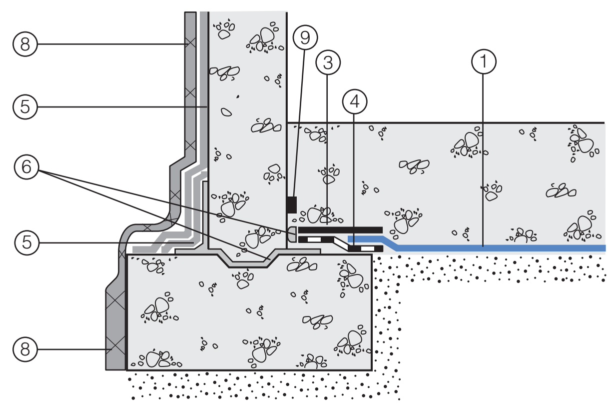
Procor wall base detail (Option 1)



Bituthene wall base detail (Option 2)



Procor wall base detail (Option 2)



1 Preprufe 300R Plus
2 Preprufe 160R Plus
3 Preprufe Tape
4 Bituthene®
5 Procor
6 Bituthene Liquid Membrane
7 Protection
8 Hydroduct®
9 Adcor ES
10 Preprufe CJ Tape

Supply

Dimensions (Nominal)	Preprufe 300R Plus Membrane	Preprufe 160R Plus Membrane	Preprufe Tape (LT or HC*)
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	
Roll size	3 ft. 10 in. x 102 ft. (1.17m x 31.15m)	3 ft. 10 in. x 120 ft. (1.17m x 36.6m)	4 in. x 49 ft (100 mm x 15 m)
Roll area	392 ft^2 (36 m^2)	460 ft^2 (42 m^2)	
Roll weight	108 lbs (50 kg)	92 lbs (42 kg)	4.3 lbs (2 kg)
Minimum side/end laps	3 in. (75 mm)	3 in. (75 mm)	3 in. (75 mm)
* LT denotes Low Temperature (between 25°F (-4°C) and 86°F (+30°C)) HC denotes Hot Climate (50°F (>+10°C))			
Ancillary Products			
Bituthene Liquid Membrane—1.5 US gal (5.7 liter) or 4 US gal (15.1 liter)			

Physical Properties

Property	Typical Value 300R Plus	Typical Value 160R Plus	Test Method
Color	white	white	
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	ASTM D3767
Lateral Water Migration Resistance	Pass at 231 ft (71 m) of hydrostatic head pressure	Pass at 231 ft (71 m) of hydrostatic head pressure	ASTM D5385, modified[1]
Low temperature flexibility	Unaffected at -20°F (-29°C)	Unaffected at -20°F (-29°C)	ASTM D1970
Resistance to hydrostatic head	231 ft (71 m)	231 ft (71 m)	ASTM D5385, modified[2]
Elongation	500%	500%	ASTM D412, modified[3]
Tensile strength, film	4000 psi (27.6 MPa)	4000 psi (27.6 MPa)	ASTM D412
Crack cycling at -9.4°F (-23°C), 100 cycles	Unaffected, Pass	Unaffected, Pass	ASTM C836[4]
Puncture resistance	221 lbs (990 N)	100 lbs (445 N)	ASTM E154
Peel adhesion to concrete	5 lbs/in. (880 N/m)	5 lbs/in. (880 N/m)	ASTM D903, modified[5]
Lap peel adhesion at 72°F (22°C)	8 lbs/in. (1408 N/m)	8 lbs/in. (1408 N/m)	ASTM D1876, modified[6]
Lap peel adhesion at 40°F (4°C)	8 lbs/in. (1408 N/m)	8 lbs/in. (1408 N/m)	ASTM D1876, modified[6]
Permeance to water vapor transmission	0.01 perms (0.6 ng/(Pa x s x m^2))	0.01 perms (0.6 ng/(Pa x s x m^2))	ASTM E96, method B

Footnotes:

1. Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic head pressure with water. The test measures the resistance of lateral water migration between the concrete and the membrane.
2. Hydrostatic head tests of Preprufe Membranes are performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125 in. (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.
3. Elongation of membrane is run at a rate of 2 in. (50 mm) per minute.
4. Concrete is cast against the Preprufe membrane and allowed to cure (7 days minimum)
5. Concrete is cast against the protective coating surface of the membrane and allowed to properly dry (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 2 in. (50 mm) per minute at room temperature.
6. The test is conducted 15 minutes after the lap is formed (per Grace published recommendations) and run at a rate of 2 in. (50 mm) per minute at 72°F (22°C).

Specification Clauses

Preprufe 300R Plus or 160R Plus shall be applied with its adhesive face presented to receive fresh concrete to which it will integrally bond. Only Grace Construction Products approved membranes shall be bonded to Preprufe. All Preprufe system materials shall be supplied by Grace Construction Products, and applied strictly in accordance with their instructions. Specimen performance and formatted clauses are also available.

NOTE: Use Preprufe Tape to tie-in Procor with Preprufe.

Health and Safety

Refer to relevant Material Safety data sheet. Complete rolls should be lifted and carried by a minimum of two persons.

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

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FA/PDF

GRACE

GRACE Construction Products

1. Product Name

Preprufe® 300R and 160R Waterproofing Systems

2. Manufacturer

Grace Construction Products
62 Whittemore Avenue
Cambridge, MA 02140
(866) 333-3SBM (3726)
Fax: (617) 498-4311
www.graceconstruction.com

3. Product Description

BASIC USE

Preprufe® 300R and Preprufe 160R membranes are used in blind side waterproofing applications where positive side waterproofing is desired but the positive side of the structure is not accessible once the concrete is poured.

Preprufe 300R Membrane is used primarily in under slab and below-grade split slab applications. Preprufe 300R Membrane is applied over properly prepared earth, stone or concrete. Concrete is cast against the adhesive side of the membrane. Preprufe 300R Membrane incorporates an exceptionally tough HDPE film and is designed to allow foot traffic directly on the membrane during construction.

Preprufe 160R Membrane is used in vertical applications. It is applied to properly prepared soil retention systems and concrete is cast against the membrane.

COMPOSITION & MATERIALS

Preprufe 300R and Preprufe 160R membranes are multilayered composite sheets consisting of an exceptionally tough HDPE film, a specially formulated synthetic pressure sensitive adhesive and a protective coating.

ACCESSORY COMPONENTS

- Preprufe Tape
- Preprufe Tieback Cover
- Bituthene® Liquid Membrane
- Preprufe CJ Tape

4. Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM C836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
- ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension
- ASTM D570 Standard Test Method for Water Absorption of Plastics
- ASTM D882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
- ASTM D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- ASTM D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
- ASTM D1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- ASTM D3767 Standard Practice for Rubber-Measurement of Dimensions
- ASTM D5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM E154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

PHYSICAL PROPERTIES

For detailed information on the physical properties of Preprufe 300R and Preprufe 160R Membranes, see Table 1.

5. Installation

Apply membranes when ambient temperatures are 25 degrees F (-4 degrees C) or above. Substrates must be smooth and sound with no gaps or voids in excess of 1/2" (13 mm).

FORMING SYSTEMS

It is very important to specify a forming system that is compatible with the Preprufe system. One-sided wall forming systems are clearly the best choice since there are no form ties used in this system. Therefore, there are no penetrations to the waterproofing layer. Other compatible systems include gang forms with load gathering form ties. These systems minimize the number of penetrations.

Hand set forming systems or, more specifically, use of form ties with ultimate load capabilities of less than 10,000 lb (44,500 N) per tie are not recommended. These systems have many form ties that penetrate the waterproofing.

Formwork

On vertical applications, use one-sided wall forming systems to minimize punctures in the membrane after the membrane is installed. Review Technical Letter "Forming Systems for use with Preprufe 160R Membrane."

APPLICATION

Vertical Applications

Apply the membrane with the thick white HDPE film side facing the prepared substrate and the protective coating side facing the concrete to be poured. The membrane may be installed in any convenient length vertically. For lengths of membrane greater than 8' (2.4 m), mechanically fasten the membrane at 2' (0.6 m) intervals centered in the self-adhesive selvedge prior to making the side lap, using small head nails or staples.

Using the lap line as a guide, apply subsequent sheets overlapping the in-place sheet 3" (75 mm) along the self-adhesive selvedge of the membrane. Avoid overlapping membrane beyond the guideline to prevent fishmouths. Should they occur, apply Preprufe Tape centered over the fishmouth, roll firmly to form a tight seal and remove release liner.

It is important that all nail heads be covered with the overlapping sheets of membrane. Side laps must be immediately rolled firmly to ensure a tight seal. A metal seam roller is recommended. To maximize adhesion in colder temperatures or in damp conditions, apply gentle heat to the lap area using a hot air gun (see Technical Letters). Overlap the ends of the membrane a minimum of 3" (75 mm). Remove and discard the release liner from both sheets. Apply Preprufe Tape centered over the end lap and edges of membrane not sealed by selvedge. Roll firmly to form a tight seal. Remove release liner from tape and discard.

For additional protection, Hydroduct® Tape may be applied between the sheets in the end lap area prior to application of the Preprufe Tape. Secure the top termination of the membrane with a termination bar and fasteners.

If the top termination is to be covered by the concrete pour, a strip of Preprufe CJ Tape must be placed over the termination bar and fasteners. Place the termination bar 2" (50 mm) below the top edge of the membrane. If the membrane will tie into subsequent sheets of Preprufe, Bituthene Membrane or other waterproofing, leave an additional 12" (300 mm) length of Preprufe 160R membrane. Protect this length from damage and do not remove the release liner. This length of clean membrane will be used to complete the appropriate waterproofing details after the concrete or lift is poured.

Horizontal Applications

Roll out the membrane with the thick white HDPE film side facing the prepared substrate and the protective coating side facing the concrete to be poured. Remove the clear release liner at the time of installation. Using the lap line as a guide, align and roll out subsequent sheets overlapping the in-place sheet 3" (75 mm) along the self-adhesive selvedge of the membrane. Side laps must be immediately rolled firmly to ensure a tight seal. A heavy metal seam roller is recommended.

Avoid overlapping membrane beyond the guideline to prevent fishmouths. Should this occur, apply Preprufe Tape centered over the fishmouth, roll firmly to form a tight seal and remove release liner. To maximize adhesion in cooler temperatures or in damp conditions, apply gentle heat to the lap area using a hot air gun (see Technical Letters section of website). The membrane may be installed in any convenient length. Overlap the ends of the membrane 3" (75 mm) and remove and discard the release liner from both sheets. Apply Preprufe Tape centered over the end lap and edges of membrane not sealed by selvedge. Roll firmly to form a tight seal. Remove release liner from tape and discard.

For additional protection, Hydroduct Tape may be applied between the sheets in the end lap area prior to application of the Preprufe Tape.

Internal & External Corners

Install the Preprufe Membrane according to standard application instructions detailed for vertical and horizontal applications above. Internal and external corners should be formed as shown in the Detail Drawings returning the membrane a minimum of 4" (100 mm).

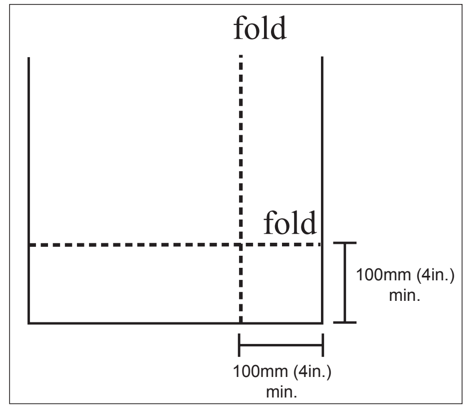

Figure 1

Internal Corners

Fold the membrane as indicated in Figure 1. Crease the fold with nominal hand pressure to ensure a close fit to the substrate profile and avoid hollows. With the white coating facing toward the concrete, ensure that the apex of the corner is covered and sealed with Preprufe Tape. Remove release liner and roll firmly.

External Corners

Fold the membrane as indicated in Figure 1. Crease the fold with nominal hand pressure to

TABLE 1 PHYSICAL PROPERTIES OF PREPRUFE 160R AND PREPRUFE 300R MEMBRANES

	Typical values	
Property & test method	Preprufe 160R Membrane	Preprufe 300R Membrane
Color	White	White
Thickness, ASTM D3767, Method A	0.032" (0.8 mm) nominal	0.046" (1.2 mm) nominal
Low temperature flexibility, ASTM D1970	Unaffected at -10°F (-23°C)	Unaffected at -10°F (-23°C)
Resistance to hydrostatic head, minimum, ASTM D5385, Modified [1]	231' (70 m)	231' (70 m)
Elongation, minimum, ASTM D412, Modified [2]	300%	300%
Tensile strength, film, minimum, ASTM D882	4000 psi (27.6 MPa)	4000 psi (27.6 MPa)
Crack cycling, at -10°F (-23°C), 100 cycles, ASTM C836	Unaffected	Unaffected
Puncture resistance, minimum, ASTM E154	100 lb (445 N)	221 lb (990 N)
Peel adhesion to concrete, minimum, ASTM D903, Modified [3]	5.0 lb/in width (880 N/m)	5.0 lb/in width (880 N/m)
Lap peel adhesion, ASTM D1876, Modified [4]	2.5 lb/in width (440 N/m)	2.5 lb/in width (440 N/m)
Permeance to water vapor transmission, maximum, ASTM D96, Method B	0.01 perms (0.6 ng/(Pa × s × m^2))	0.01 perms (0.6 ng/(Pa × s × m^2))
Water absorption, maximum, ASTM D570	0.5%	0.5%

[1] Hydrostatic head tests of Preprufe Membranes are performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125" (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.

[2] Elongation of membrane is run at a rate of 2" (51 mm) per minute.

[3] Concrete is cast against the protective coating surface of the membrane and allowed to properly dry (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 2" (51 mm) per minute at room temperature.

[4] The test is conducted 15 minutes after the lap is formed (per Grace published recommendations) and run at a rate of 2" (51 mm) per minute at 25°F (-4°C).

ensure a close fit to the substrate profile and avoid hollows. Cut the Preprufe membrane in order to wrap around corner. With the white coating facing toward the concrete, ensure that the apex of the corner is covered and sealed with Preprufe Tape. Remove release liner and roll firmly.

Round Penetrations

For Service Pipes, Lighting Conduit, Piles, etc. - Follow these steps to seal around penetrations:

1. All penetrations must be firmly secured and stable. Grout around all penetrations that are not stable. Clean loose dust or dirt from the penetration surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (50 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release liner. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap, repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
3. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane/Tape and the base of the penetration.
4. Cut a patch of Preprufe Membrane that is a minimum of 12" (300 mm) larger than the diameter or width of the penetration so that the patch extends 6" (150 mm) beyond the penetration in all directions. Remove the release liner and center the patch over penetration and trace/draw the penetration profile onto the patch. Using sheers or a utility knife, make relief cuts through the membrane. Triangles formed by making a relief cut are not to exceed 2" (50 mm) in height when placed over penetration. In other words, penetration diameters greater than 4" (100 mm) need to be trimmed. Remove and discard release liner.
5. Slide the patch over penetration and press into the partially cured Liquid Membrane. Ensure that the patch is pressed firmly into the Liquid Membrane and is positioned directly onto the Preprufe Field Membrane/Tape below. Using a trowel, smooth out any Liquid Membrane that has flowed out of the relief cut.
6. Apply Preprufe Tape centered over the edges of the patch and roll firmly to form a tight seal. Remove release liner from tape and discard.
7. Wrap the penetration with Preprufe Tape, positioning the tape at the base of the patch. Remove enough release liner to overlap Tape onto itself and roll/press firmly into place. Remove remaining release liner and discard.

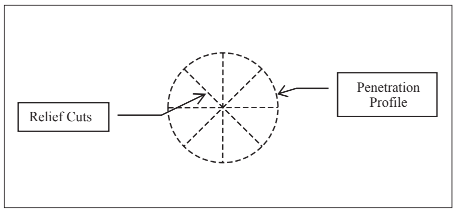

Figure 2

Straight Edge Penetrations

For square piles, steel columns, walers, rakers, etc. - Follow these steps to seal around

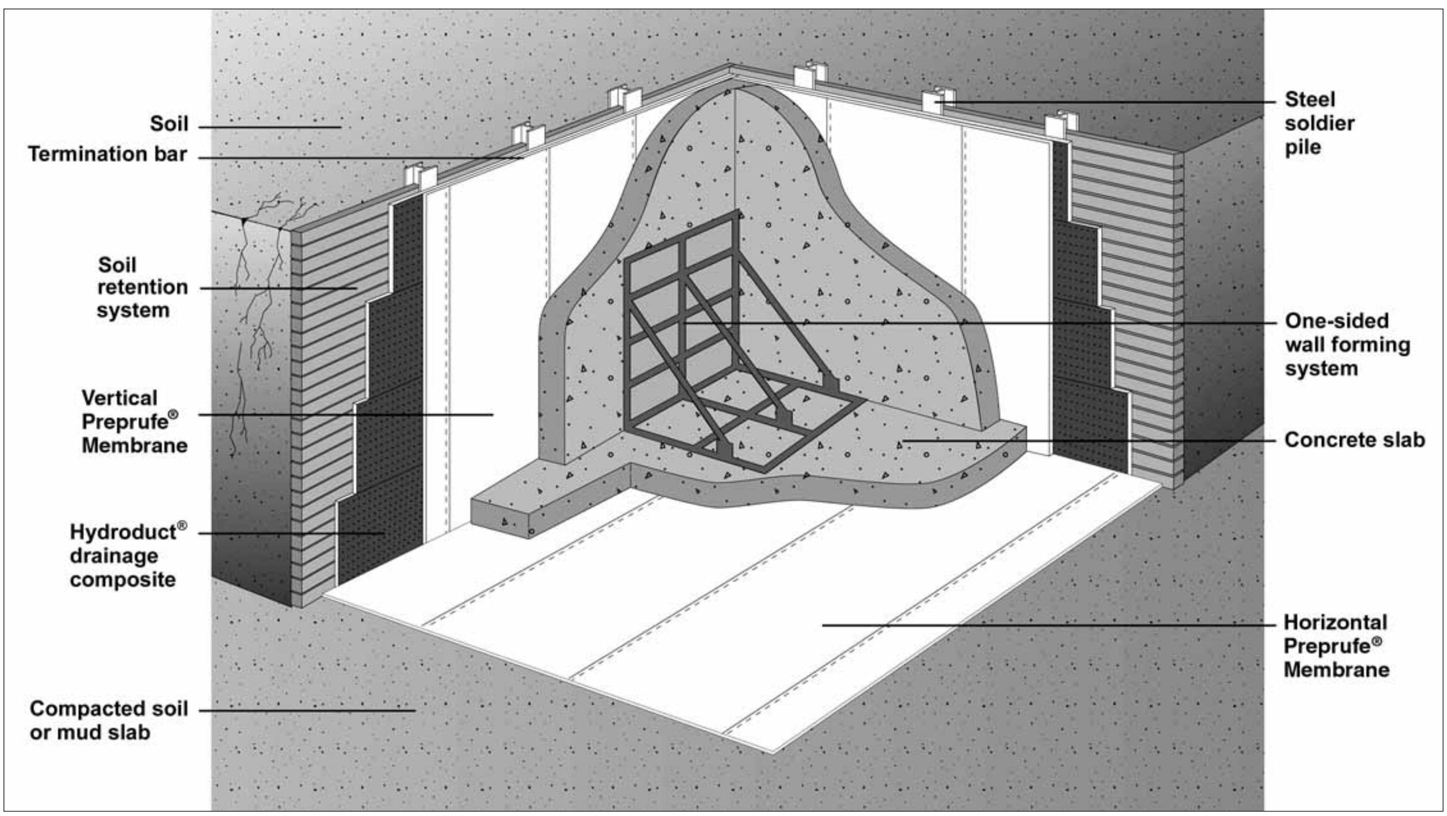

Figure 3 Preprufe® Waterproofing Systems

penetrations:

1. All penetrations must be firmly secured and stable. Grout around all penetrations that are not stable. Clean loose dust or dirt from the penetration surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (51 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release liner. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
3. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane/Tape and the base of the penetration. Apply a 90 mil (2.2 mm) continuous coating overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe Membrane and the penetration.
4. Install a minimum 12" (300 mm) strip of Bituthene Membrane centered over the Preprufe Membrane and the penetration intersection.
5. Install Preprufe Tape to cover the strip of Bituthene Membrane by overlapping a minimum of 1" (25.4 mm) until a minimum of 2" (51 mm) overlap onto the Preprufe Membrane is achieved.
6. Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the penetration with a bead of Bituthene Liquid Membrane.

Wall Penetrations

For Rebar, All-Thread, Metal Dowels, etc. - Follow these steps to seal around penetrations:

1. Clean loose dust or dirt from the penetration and the surrounding substrate surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the substrate and the base of the penetration.
3. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (51 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
4. Position the field membrane snug to the penetration so that it is a maximum of 1/2" (12 mm) from the base of the penetration and press firmly into the partially cured Liquid Membrane.
5. Apply Liquid Membrane to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane and the base of the penetration. Extend a 90 mil (2.2 mm) continuous coating of Liquid Membrane overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe Membrane and 6" (150 mm) onto the penetration.
6. Wrap the penetration with Preprufe Tape, positioning the tape at the base of the penetration. Remove enough release liner to overlap tape onto itself and roll/press firmly into place. Remove remaining release liner and discard.

Tiebacks

The Preprufe Tieback Cover is a specially designed, two-part cover used to maintain waterproofing integrity at soil retention tieback heads. The Preprufe Tieback Cover consists of a rigid ABS plastic base and prefabricated Preprufe membrane cover.

1. Install Preprufe Membrane within 2" of tieback as per standard installation instructions.
2. Center the base over tieback head and secure base to soil retention system using appropriate fasteners. Fasteners should have a low profile head.
3. Apply Preprufe Tape centered over the edge of the base flange and roll firmly to form a tight seal. Remove release liner and discard.
4. Position the membrane cover over the base taking care to ensure the cover flange sits flat onto the Preprufe Membrane.
5. Apply Preprufe Tape centered over the edge of the cover flange and roll firmly to form a tight seal. Remove release liner and discard.

Note: All Preprufe Tape should overlap onto surfaces of tape, membrane, base, cover, etc., a minimum of 50 mm (2").

Columns

There are 2 common methods to create a waterproof seal under columns.

- Column Option 1 - Preprufe Membrane is placed over the column footing and directly under the column. Tie-in penetrations such as rebar and threaded rod that penetrate the membrane should be sealed with Bituthene Liquid Membrane. Cut the membrane tight to the penetration. If membrane is not within 1/2" (12 mm) of penetration, apply Preprufe Tape to cover the gap. Mix and apply Bituthene Liquid Membrane around the penetration. Bituthene Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet around the penetration at the point of penetration. Bituthene Liquid Membrane should be applied as a 90 mil (2.2 mm) continuous coating overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe membrane.
- Column Option 2 - Preprufe Membrane is placed below the column footing before it is poured. The membrane is installed following the vertical and horizontal application instructions described earlier in this section. When placing the membrane, it is important to leave sufficient length of Preprufe 300R beyond the footing to allow for tie-in to the Preprufe Membrane that will be laid to waterproof the general slab area. The release liner must not be removed from this extra length, and it should be protected from damage until the tie-in details are completed.

Grade Beam Pile Caps

The preferred methods to waterproof pile caps are to either "tank" or "cover" the pile cap.

- Pile Cap Option 1 (Tanking Option) - Install Preprufe Membrane over the prepared substrate as instructed in horizontal applications above. Preprufe Membrane is placed in the area formed for the pile cap before the concrete is poured. When placing the membrane, it is important to leave sufficient length of Preprufe beyond the pile cap area to allow for tie-in to the Preprufe Membrane that will be laid to waterproof the general slab area. Cut membrane tight to each pile and complete detail around each pile as instructed earlier in this section for a Penetration Detail.
- Pile Cap Option 2 (Covering Option) - For mud slabs, clean loose dust or dirt from the

pile cap and mud slab surface using a clean, dry cloth or brush. Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor over the top of the pile cap. Place a 1" (25.4 mm) bead of Liquid Membrane or Procor around all penetrations at the point of penetration through the pile cap. Prime along the edge of the mud slab a minimum of 6" (150 mm) from the edge of pile cap with a Bituthene Primer and allow to dry. Align a 9" (225 mm) strip of Bituthene Membrane centered over the edge of the pile cap. Remove release liner and roll firmly onto the Liquid Membrane and primed mud slab. Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Pile Cap Option 2 for Compacted Earth

Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor over the top of the pile cap. Place a 1" (25.4 mm) bead of Liquid Membrane or Procor around all penetrations at the point of penetration through the pile cap. Remove compacted earth away from the sides of pile cap. Clean loose dust or dirt from the pile cap surface using a clean, dry cloth or brush.

Prime the sides of the pile cap a minimum of 6" (150 mm) from the top of pile cap with a Bituthene Primer and allow to dry. Align a 9" (225 mm) strip of Bituthene Membrane centered over the outside edge (outside corner) of the pile cap. Remove release liner and roll firmly onto the Liquid Membrane and primed sides of pile cap. Align a 12" (300 mm) strip of Bituthene Membrane centered over the outside edge (outside corner) of the pile cap. Remove half of release liner by scoring release liner along the center of the strip.

Roll firmly onto the sides of pile cap with the 9" (225 mm) strip of Bituthene Membrane and the remaining primed pile cap. Leave the other half of the 12" (300 mm) strip with the release liner still intact in order to receive the Preprufe Membrane. Replace earth/fill and compact per standard back-filling instructions being careful not to damage the Bituthene strip including the non-bonded portion. Invert the Bituthene strip, and remove the remaining release liner to expose the adhesive portion of the Bituthene.

Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Roll firmly onto the inverted Bituthene strip. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Pile Cap Option 2 for Non-Continuous Covering

If the Structural Engineer or the design does not allow for the waterproofing to "cover" the pile cap, there must be a minimum 6" (150 mm) continuous shoulder along the perimeter of the pile cap to allow for a proper termination. Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor onto the top of the pile cap along the outside edge.

Apply a 6" (150 mm) strip of Bituthene Membrane onto the Bituthene Liquid Membrane or Procor along the edge of the pile cap. Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Construction Joints

Install the Preprufe membrane according to standard horizontal and vertical application instructions detailed above. Preprufe CJ Tape should be applied to the surface of the Preprufe membrane and centered along the line of all concrete joints. Remove release liner and roll firmly.

Tie-Ins

Preprufe 160R to Preprufe 300R Sub Slab Waterproofing - Install Preprufe 300R Membrane over the prepared substrate as detailed in horizontal and vertical applications above. Continue onto the vertical surface of the prepared soil retention system a minimum of 18" (450 mm) above the finished elevation of the structural floor slab.

Secure the top of the membrane to temporarily hold it in place on the vertical substrate. Care should be taken to prevent damage to this exposed membrane from concrete back-splash as well as slag from rebar welding in wall forms. The exposed membrane on the vertical surface can be protected with protection board, plywood or other materials.

Following the vertical application instructions detailed above, install Preprufe 160R Membrane over the prepared vertical soil retention system. Unfasten the vertical length of the Preprufe 300R Membrane and tuck the Preprufe 160R behind the 18" (450 mm) length of Preprufe 300R, ensuring a minimum 3" (75 mm) lap. Complete the detail by installing Preprufe Tape centered over the lap being careful to seal any holes from fasteners. Roll firmly and remove the release liner.

Preprufe 300R to Post-Applied Wall Waterproofing - There are 2 options available to tie Preprufe 300R Membrane into wall waterproofing. In Option 1, the Preprufe 300R Membrane is installed under the concrete slab and the footing. Option 2 is intended for applications where the Preprufe 300R Membrane and wall waterproofing are connected through the wall and footing junction.

- Option 1 - Install Preprufe 300R Membrane over the prepared horizontal substrate and extend it up the vertical surface of the slab formwork. Terminate the membrane 6" (150 mm) above the top elevation of the structural floor slab or wall footing. Once the slab or footing is poured and cured for 7 days, remove the forms and trim the excess membrane above the slab (see Technical Letters). Install the wall membrane according to standard application procedures of the post-applied waterproofing manufacturer. Ensure that the wall membrane overlaps onto the surface of the Preprufe 300R by a minimum of 6" (150 mm).
- Option 2 - Prior to the pouring of the wall, apply a 90 mil (2.2 mm) coating of Bituthene Liquid Membrane on top of the footing area using standard application procedures. Extend the Bituthene Liquid Membrane 3" (75 mm) beyond the proposed wall width in each direction. Install the wall membrane according to standard application procedures of the post-applied waterproofing manufacturer. Ensure that the wall membrane overlaps onto the surface of the Preprufe 300R by a minimum of 6" (150 mm). On the inside of the wall, install a minimum 9" (225 mm) strip of Bituthene sheet membrane over the Bituthene Liquid Membrane that extends beyond the footing area. Install Bituthene Membrane by removing the release liner and firmly rolling the product in place. Install Preprufe 300R Membrane over the prepared substrate and terminate it at the center of the Bituthene sheet membrane strip. Apply Preprufe CJ Tape centered over the Preprufe

300R Membrane termination. Remove the release liner and roll firmly.

Preprufe 160R to Plaza Deck Waterproofing - Install Preprufe 160R over the prepared vertical surface following the standard vertical application instructions above. Terminate the Preprufe 160R Membrane 6" (150 mm) above the proposed height of the finished wall. Once the wall is poured and properly cured, remove temporary forming and trim the excess Preprufe 160R remaining above the wall. Install the plaza deck waterproofing according to the manufacturer's standard installation procedures. Ensure that the plaza deck waterproofing overlaps the 160R membrane a minimum of 9" (225 mm) and terminate it onto the Preprufe 160R using a bead of Bituthene Liquid Membrane.

Preprufe 160R to Post-Applied Wall Waterproofing - Install Preprufe 160R over the prepared vertical surface following the standard vertical application instructions above. Extend the Preprufe 160R Membrane 12" (300 mm) beyond the end of the blind-side wall. As the foundation wall formwork is installed, fold the 12" (300 mm) piece of Preprufe 160R Membrane to form a sharp corner. Secure it to the inside face of the exterior form panel. Once the wall is poured and cured for seven days, remove the formwork and install the post-applied waterproofing according to the manufacturer's standard installation procedures.

Preprufe 300R Membrane Wall Termination

- Option 1 (Liquid Membrane Detail) - Install Preprufe 300R Membrane over a mud slab as detailed in horizontal applications above. For compacted earth, contact a local Grace representative. Install Preprufe 300R Membrane tight to all vertical and horizontal intersections. At the termination of the membrane, place a 1" (25.4 mm) fillet of Bituthene liquid membrane and trowel a 90 mil (2.2 mm) coating a minimum of 3" (75 mm) onto vertical and horizontal surfaces. Remove the release liner and install a minimum 12" (300 mm) strip of Bituthene Membrane centered over the horizontal termination. Install Preprufe Tape to cover the strip of Bituthene Membrane by overlapping a minimum of 1" (25.4 mm) until a minimum of 2" (51 mm) overlap onto the Preprufe Membrane is achieved. Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the wall with a bead of Bituthene Liquid Membrane.
- Option 2 (Sheet Membrane Detail) - Install Preprufe 300R Membrane over the prepared substrate as detailed in horizontal applications above. Install Preprufe 300R Membrane tight to all vertical and horizontal intersections. Install a minimum 6" (150 mm) strip of Bituthene Membrane on the vertical surface along the joint. Mix and apply Bituthene Liquid Membrane to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane and the wall. Install Preprufe CJ Tape 6" (150 mm) from the edge of the wall onto the Preprufe Membrane and terminate 2" (51 mm) onto the strip of Bituthene Membrane. Install Preprufe CJ Tape onto the strip of Bituthene Membrane and overlap onto the previous Preprufe CJ Tape a minimum of 2" (51 mm). Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the wall with a bead of Bituthene Liquid Membrane.

Membrane Repair

Inspect the membrane for damage before placement of reinforcing steel, formwork and concrete. Repair small punctures 1/2" (12 mm), or less, and slices by applying Preprufe Tape centered over the damaged area and roll firmly. Remove the release liner from the tape. Repair holes and large punctures by applying a patch of Preprufe membrane, which extends 6" (150 mm) beyond the damaged area. Seal all edges of the patch with Preprufe Tape, remove the release liner from the tape and roll firmly.

CONCRETE PLACEMENT

Lightly soiled membrane should be cleaned with air blower and heavily soiled membrane should be cleaned with a power-washer. Cast concrete within 56 days (42 days in hot climates) of application of the membrane. Concrete must be placed carefully to avoid damage to the membrane. Never use a sharp object to consolidate concrete.

REMOVAL OF FORMWORK

Preprufe Membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured, the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. Preprufe Membranes are not recommended for conventional twin-sided wall forming systems.

A minimum concrete compressive strength of 1500 psi (10 N/mm²) is recommended prior to stripping formwork supporting Preprufe Membranes. Premature stripping may result in displacement of the membrane and/or spalling of the concrete.

As a guide, to reach the minimum compressive strength stated above, a structural concrete mix with an ultimate strength of 6000 psi (40 N/mm²) will typically require a cure time of approximately 6 days at an average ambient temperature of 25 degrees F (-4 degrees C) or 2 days at 70 degrees F (21 degrees C).

6. Availability & Cost

AVAILABILITY

A network of distributors carries Preprufe and Bituthene products for prompt delivery to project sites.

COST

For specific information, contact a local distributor or a Grace Construction Products representative.

7. Warranty

A 5 year material warranty for Preprufe and Bituthene membrane products is available from the manufacturer upon request.

8. Maintenance

Preprufe 300R and Preprufe 160R membranes will not require maintenance when installed in accordance with Grace's recommendations.

9. Technical Services

Support is provided by full-time, technically trained Grace field sales representatives and technical service personnel, backed by a central research and development staff.

10. Filing Systems

- Reed First Source
- Additional product information is available from the manufacturer.

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Section 071326
Pre-Applied Sheet Membrane Waterproofing

PART 1 — GENERAL

1.01 SUMMARY

A. The Work of this Section includes, but is not limited to, pre-applied sheet membrane waterproofing that forms an integral bond to poured concrete for the following applications:

1. Vertical Applications: Membrane applied against soil retention system prior to placement of concrete foundation walls;
2. Horizontal Applications: Membrane applied on prepared subbase prior to placement of concrete slabs.

B. Related sections include, but are not limited to, the following:

1. Section 031000 - Concrete Forming
2. Section 312000 – Earth Moving
3. Section 031500 – Concrete Accessories
4. Section 031500 – Hydrophilic Waterstop
5. Section 316200 - Driven Piles
6. Section 316400 - Caissons
1. Section 032000 - Concrete Reinforcing
2. Section 033000 – Cast-In-Place Concrete

NOTE TO SPECIFIER: For vertical applications, coordinate with concrete formwork section to require one-sided wall forming system to minimize punctures to the sheet membrane waterproofing during formwork installation.

1.02 SUBMITTALS

A. Submit manufacturer's product data, installation instructions and membrane samples for approval.

1.03 REFERENCE STANDARDS

A. The following standards and publications are applicable to the extent referenced in the text.

B. American Society for Testing and Materials (ASTM):

C 836 Standard Specification for High Solids, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course

D 412 Standard Test Methods for Rubber Properties in Tension

D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds

D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)

D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

D 3767 Standard Practice for Rubber - Measurements of Dimensions

D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes

E 96 Standard Test Methods for Water Vapor Transmission of Materials

E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

1.04 QUALITY ASSURANCE

A. Manufacturer: Sheet membrane waterproofing system shall be manufactured and marketed by a firm with a minimum of 20 years experience in the production and sales of sheet membrane waterproofing. Manufacturers proposed for use but not named in these specifications shall submit evidence of ability to meet all requirements specified, and include a list of projects of similar design and complexity completed within the past 5 years.

B. Installer: A firm which has at least 3 years experience in work of the type required by this section.

C. Materials: For each type of material required for the work of this section, provide primary materials which are the products of one manufacturer.

D. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing.

E. Schedule Coordination: Schedule work such that membrane will not be left exposed to weather for longer than that recommended by the manufacturer.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer’s instructions. Protect from damage from weather, excessive temperature and construction operations. Remove and dispose of damaged material in accordance with applicable regulations.

1.06 PROJECT CONDITIONS

A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials used. Proceed with installation only when the substrate construction and preparation work is complete and in condition to receive sheet membrane waterproofing.

1.07 WARRANTY

A. Sheet Membrane Waterproofing: Provide written five year material warranty issued by the membrane manufacturer upon completion of work.

PART 2 — PRODUCTS

2.01 MATERIALS

A. Pre-applied Integrally Bonded Sheet Waterproofing Membrane: Preprufe® 300R Plus Membrane [or Preprufe 300LT Plus Membrane for application temperatures between 25°F (-4°C) and 60°F (+16°C)] by Grace Construction Products, a 1.2mm (0.046 in) nominal thickness composite sheet membrane comprising 0.8 mm (0.030 in.) of high density polyethylene film, layers of specially formulated synthetic adhesive layers, release liner free with an adhesive to adhesive bond at the side laps. The membrane shall form an integral and permanent bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete. Provide membrane with the following physical properties:

NOTE TO SPECIFIER: Preprufe 300R Plus and Preprufe 300LT can both be installed at temperatures 25°F (-4°C) and above. For temperatures 25°F (-4°C) to 40°F (4°C) the use of Preprufe LT Tape is recommended at all side laps when using Preprufe 300R Plus. Alternatively, contractors may elect the use of Preprufe 300LT Plus, which does not require the use of Preprufe LT Tape at side laps in temperature ranges 25°F (-4°C) to 40°F (4°C). For this reason, Grace suggests that both products be incorporated into the specification.

PHYSICAL PROPERTIES FOR PREPRUFE 300R Plus (or 300LT Plus) MEMBRANE:

Property	Test Method	Typical Value
Color		White with Yellow and Blue Zip Strips in the Side Lap Area
Thickness	ASTM D 3767 Method A	0.046 in. (1.2 mm) nominal
Lateral Water Migration Resistance	ASTM D 5385 Modified[1]	Pass at 231 ft (71m) of hydrostatic head pressure
Low Temperature Flexibility	ASTM D 1970	Unaffected at -20°F (-29°C)
Resistance to Hydrostatic Head	ASTM D 5385 Modified[2]	231 ft (71m)
Elongation	ASTM D 412 Modified[3]	500%
Tensile Strength, film	ASTM D 412	4,000 psi (27.6 MPa)
Crack Cycling at -9.4°F (-23°C), 100 Cycles	ASTM C 836	Unaffected, Pass
Puncture Resistance	ASTM E 154	221 lbs (990 N)
Peel Adhesion to Concrete	ASTM D 903 Modified[4]	5.0 lbs/in. (880 N/m)
Lap Peel Adhesion at 72°F (22°C)	ASTM D 1876 Modified[5]	8.0 lbs/in. (1408 N/m)
Lap Peel Adhesion at 40°F (4°C)	ASTM D 1876 Modified[5]	8.0 lbs/in. (1408 N/m)
Permeance to water vapor transmission	ASTM E 96 Method B	0.01 perms (0.6 ng/Pa x s x m^2)

Footnotes:

1. *Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic head pressure with water. The test measures the resistance of lateral water migration between the concrete and the blind side waterproofing membrane. A hydrostatic head pressure of 71 m (231 ft) of water is the limit of the apparatus.*
2. *Hydrostatic head tests are performed by casting concrete against the membrane with a lap. Before the concrete sets a 3 mm (0.125 in.) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to a head of 71 m (231 ft) of water which is the limit of the apparatus.*
3. *Elongation of membrane is run at a rate of 50 mm (2 in.) per minute.*
4. *Concrete is cast against the protective coating surface of the membrane and allowed to cure (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 50 mm (2 in.) per minute at room temperature.*
5. *The test is conducted 15 minutes after the lap is formed as per manufacturer's instructions and run at a rate of 50 mm (2 in.) per minute at 72°F (22°C).*

B. Pre-applied Integrally Bonded Sheet Waterproofing Membrane: Preprufe® 160R Plus Membrane [or Preprufe 160LT Plus Membrane for application temperatures between 25°F (-4°C) and 60°F (+16°C)] by Grace Construction Products, a 1.0mm (0.032 in) nominal thickness composite sheet membrane comprising 0.4 mm (0.016 in.) of high density polyethylene film, layers of specially formulated synthetic adhesive layers, release liner free with an adhesive to adhesive bond at the side laps.. The membrane shall form an integral and permanent bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete. Provide membrane with the following physical properties:

NOTE TO SPECIFIER: Preprufe 160R Plus and Preprufe 160LT Plus can both be installed at temperatures 25°F (-4°C) and above. For temperatures 25°F (-4°C) to 40°F (4°C) the use of Preprufe LT Tape is recommended at all side laps when using Preprufe 160R Plus. Alternatively, contractors may elect the use of Preprufe 160LT Plus, which does not require the use of Preprufe LT Tape at side laps in temperature ranges 25°F (-4°C) to 40°F (4°C). For this reason, Grace suggests that both products be incorporated into the specification.

PHYSICAL PROPERTIES FOR PREPRUFE 160R (or 160LT) MEMBRANE:

Property	Test Method	Typical Value
Color		White with Yellow and Blue Zip Strips in the Side Lap Area
Thickness	ASTM D 3767 Method A	0.032 in. (0.8 mm) nominal
Lateral Water Migration Resistance	ASTM D 5385 Modified[1]	Pass at 231 ft (71m) of hydrostatic head pressure
Low Temperature Flexibility	ASTM D 1970	Unaffected at -20°F (-29°C)
Resistance to Hydrostatic Head	ASTM D 5385 Modified[2]	231 ft (71m)
Elongation	ASTM D 412 Modified[3]	500%
Tensile Strength, film	ASTM D 412	4,000 psi (27.6 MPa)
Crack Cycling at -9.4°F (-23°C), 100 Cycles	ASTM C 836	Unaffected, Pass
Puncture Resistance	ASTM E 154	100 lbs (445 N)
Peel Adhesion to Concrete	ASTM D 903 Modified[4]	5.0 lbs/in. (880 N/m)
Lap Peel Adhesion at 72°F (22°C)	ASTM D 1876 Modified[5]	8.0 lbs/in. (1408 N/m)
Lap Peel Adhesion at 40°F (4°C)	ASTM D 1876 Modified[5]	8.0 lbs/in. (1408 N/m)
Permeance to water vapor transmission	ASTM E 96 Method B	0.01 perms (0.6 ng/Pa $_x$ s $_x$ m^2)

Footnotes:

1. *Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic head pressure with water. The test measures the resistance of lateral water migration between the concrete and the blind side waterproofing membrane. A hydrostatic head pressure of 71 m (231 ft) of water is the limit of the apparatus.*
2. *Hydrostatic head tests are performed by casting concrete against the membrane with a lap. Before the concrete sets a 3 mm (0.125 in.) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to a head of 71 m (231 ft) of water which is the limit of the apparatus.*
3. *Elongation of membrane is run at a rate of 50 mm (2 in.) per minute.*
4. *Concrete is cast against the protective coating surface of the membrane and allowed to cure (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 50 mm (2 in.) per minute at room temperature.*
5. *The test is conducted 15 minutes after the lap is formed as per manufacturer's instructions and run at a rate of 50 mm (2 in.) per minute at 72°F (22°C).*

C. Waterstop: Adcor™ ES hydrophilic non-bentonite waterstop by Grace Construction Products for non-moving concrete construction joints.

PHYSICAL PROPERTIES FOR GRACE ADCOR™ ES HYDROPHYLIC WATERSTOP:

Property	Typical Value
Color	Green
Size	1.0 in. x ½ in. x 16 ft. rolls (25.4 mm x 12.7 mm x 4.9 m)
Hydrostatic Head Resistance	70 m (231 ft)
Wet - Dry Cycling [25 Cycles @ 231 ft. (70 m)]	No Effect
Adhesion to Concrete using Adcor ES Adhesive	Excellent

D. Preformed Soil Retention Wall Tieback Cover: Preprufe Tieback Cover by Grace Construction Products as a prefabricated detail for soil retention wall tiebacks.

E. Preformed Inside and Outside Corners: Preprufe Preformed Corners by Grace Construction Products as prefabricated inside and outside corners.

F. Tape for covering cut edges, roll ends, penetrations and detailing: Preprufe Tape LT (for temperatures between 25°F (-4°C) and 86°F (30°C)) and Preprufe Tape HC (for use in Hot Climates, minimum 50°F (10°C))

G. Miscellaneous Materials: accessories specified or acceptable to manufacturer of pre-applied waterproofing membrane.

PART 3 — EXECUTION

3.01 EXECUTION

A. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the Contractor, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.

3.02 SUBSTRATE PREPARATION

A. It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 0.5 in. (12 mm). Grout around all penetrations such as utility conduits, etc. for stability.

1. Horizontal Surfaces - The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. When installing over earth or crushed stone, ensure substrate is well compacted to avoid displacement of substrate due to traffic or concrete pour. The surface does not need to be dry, but standing water must be removed.
2. Vertical Surfaces - Use concrete, plywood, insulation or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 0.5 in. (12 mm) out of alignment.

3.03 INSTALLATION, HORIZONTAL APPLICATIONS

A. Strictly comply with installation instructions in manufacturer's published literature, including but not limited to, the following:

1. Place the membrane HDPE film side to the substrate with the yellow zip strip facing towards the concrete pour. End laps should be staggered to avoid a build-up of layers.
2. Leave the yellow and blue zip strips in position until overlap procedure is completed.
3. Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge. The blue zip strip on the underside of the membrane shall be positioned on top of the yellow zip strip on the top of the succeeding sheet. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.
4. Peel back and remove both the yellow and blue zip strips in the overlap area to achieve and adhesive to adhesive bond at the overlap.
5. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller.

3.04 INSTALLATION, VERTICAL APPLICATIONS

A. Strictly comply with installation instructions in manufacturer's published literature, including but not limited to, the following:

1. Mechanically fasten the membrane vertically using fasteners appropriate to the substrate with the yellow zip strip facing towards the concrete pour. The membrane may be installed in any convenient length.
2. Fasten through the selvedge using a small and low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps.
3. Leave the yellow and blue zip strips in position until overlap procedure is completed.
4. Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge. The blue zip strip on the underside of the membrane shall be positioned on top of the yellow zip strip on the top of the succeeding sheet. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.
5. Peel back and remove both the yellow and blue zip strips in the overlap area to achieve and adhesive to adhesive bond at the overlap.
6. Roll firmly to ensure a watertight seal.

3.05 INSTALATION, ROLL ENDS AND CUT EDGES

1. Overlap all roll ends and cut edges by a minimum 3 in. (75 mm) and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary.
2. Allow to dry and apply Preprufe Tape LT (or HC in hot climates) centered over the lap edges and roll firmly.
3. Immediately remove printed plastic release liner from the Preprufe Tape.

3.06 WATERSTOP INSTALLATION

A. Strictly comply with installation instructions in manufacturer's published literature, including but not limited to, the following:

1. Secure Adcor ES using masonry nails 1½ in. - 2 in. (40 mm – 50 mm) long with a washer ¾ in. (20 mm) in diameter. Hilti EM6-20-12 FP8 shot fired fixings with ¼ in. (6 mm) nuts

and ¾ in. (20 mm) diameter washers may also be used. Fixings should be spaced at a maximum of 12 in. (300 mm) centers with a minimum spacing that ensures proper contact to substrate.

2. On irregular concrete faces, or on vertical surfaces, apply a ½ in. (12 mm) bead of Adcor ES Adhesive as bedding for Adcor ES.
3. Adcor ES joints should overlap a minimum of 4 in. (100 mm), ensuring full contact between jointed pieces.

3.07 PROTECTION

A. Protect membrane in accordance with manufacturer's recommendations until placement of concrete. Inspect for damage just prior to placement of concrete and make repairs in accordance with manufacturer's recommendations.

END OF SECTION

W.R. Grace & Co.-Conn. 62 Whittemore Avenue Cambridge, MA 02140

Document Code: GSWP-010A Updated: 2/2013

BITUTHENE® SYSTEM 4000

Self-adhesive HDPE waterproofing membrane with super tacky compound for use with patented, water-based System 4000 Surface Conditioner

Description

Bituthene® System 4000 is a 1.5 mm (1⁄16 in.) flexible, pre-formed waterproof membrane which combines a high performance, cross laminated, HDPE carrier film with a unique, super tacky, self-adhesive rubberized asphalt compound.

System 4000 Surface Conditioner is a unique, water-based, latex surface treatment which imparts an aggressive, high tack finish to the treated substrate. It is specifically formulated to bind site dust and concrete efflorescence, thereby providing a suitable surface for the Bituthene System 4000 Waterproofing Membrane.

Conveniently packaged in each roll of membrane, System 4000 Surface Conditioner promotes good initial adhesion and, more importantly, excellent permanent adhesion of the Bituthene System 4000 Waterproofing Membrane. The VOC (Volatile Organic Compound) content of this product is 100 g/L.

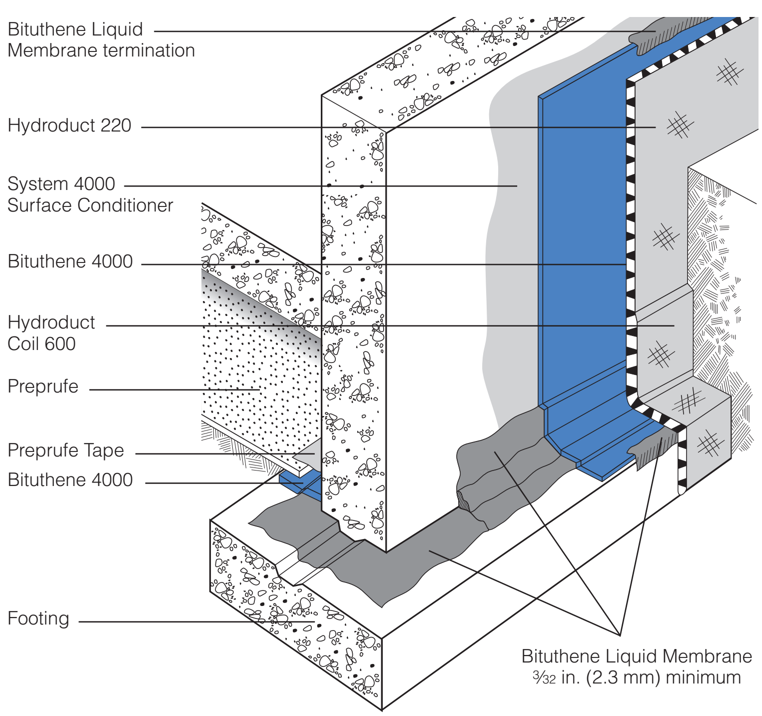
Product Advantages

- Excellent adhesion
- Cold applied
- Reduced inventory and handling costs
- Wide application temperature range
- Overlap security
- Cross laminated, high density polyethylene carrier film
- Flexible
- Ripcord

Architectural and Industrial Maintenance Regulations limit the VOC content in products classified as Architectural Coatings. Refer to Technical Letters at graceconstruction.com for most current list of allowable limits.

Advantages

- **Excellent adhesion—**special adhesive compound engineered to work with high tack System 4000 Surface Conditioner
- **Cold applied—**simple application to substrates, especially at low temperatures
- **Reduced inventory and handling costs—** System 4000 Surface Conditioner is included with each roll of membrane
- **Wide application temperature range—** excellent bond to self and substrate from 25°F (-4°C) and above



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

- **Overlap security—**minimizes margin for error under site conditions
- **Cross laminated, high density polyethylene carrier film—**provides high tear strength, puncture and impact resistance
- **Flexible—**accommodates minor structural movements and will bridge shrinkage cracks
- **Ripcord®—**this split release on demand feature allows the splitting of the release paper into two (2) pieces for ease of installation in detailed areas

Use

Bituthene is ideal for waterproofing concrete, masonry and wood surfaces where in-service temperatures will not exceed 135°F (57°C). It can be applied to foundation walls, tunnels, earth sheltered structures and split slab construction, both above and below grade. (For above grade applications, see *Above Grade Waterproofing Bituthene System 4000*.)

Bituthene is 1⁄16 in. (1.5 mm) thick, 3 ft (0.9 m) wide and 66.7 ft (20 m) long and is supplied in rolls. It is unrolled sticky side down onto concrete slabs or applied onto vertical concrete faces primed with System 4000 Surface Conditioner. Continuity is achieved by overlapping a minimum 2 in. (50 mm) and firmly rolling the joint.

Bituthene is extremely flexible. It is capable of bridging shrinkage cracks in the concrete and will accommodate minor differential movement throughout the service life of the structure.

Application Procedures

Safety, Storage and Handling Information

Bituthene products must be handled properly. Vapors from solvent-based primers and mastic are harmful and flammable.
For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. Material Safety Data Sheets (MSDS) are available at graceconstruction.com and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the MSDS before use.

Surface Preparation

Surfaces should be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Concrete must be properly dried (minimum 7 days for normal structural concrete and 14 days for lightweight structural concrete).

If time is critical, Bituthene Primer B2 or Bituthene Primer B2 LVC may be used to allow priming and installation of membrane on damp surfaces or green concrete. Priming may begin in this case as soon as the concrete will maintain structural integrity. Use form release agents which will not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane. Cure concrete with clear, resin-based curing compounds which do not contain oil, wax or pigment. Except with Bituthene Primer B2 or Bituthene Primer B2 LVC, allow concrete to thoroughly dry following rain. Do not apply any products to frozen concrete.

Repair defects such as spalled or poorly consolidated areas. Remove sharp protrusions and form match lines. On masonry surfaces, apply a parge coat to rough concrete block and brick walls or trowel cut mortar joints flush to the face of the concrete blocks.

Temperature

- Apply Bituthene System 4000 Membrane and Conditioner only in dry weather and when air and surface temperatures are 25°F (-4°C) or above.
- Apply Bituthene Primer B2 or Bituthene Primer B2 LVC in dry weather above 25°F (-4°C). (See separate product information sheet.)

Conditioning

Bituthene System 4000 Surface Conditioner is ready to use and can be applied by spray or roller. For best results, use a pump-type air sprayer with fan tip nozzle, like the Bituthene System 4000 Surface Conditioner Sprayer, to apply the surface conditioner.

Apply Bituthene System 4000 Surface Conditioner to clean, dry, frost-free surfaces at a coverage rate of 300 ft^2/gal (7.4 m^2/L). Coverage should be uniform. Surface conditioner should not be applied so heavily that it puddles or runs. **Do not apply conditioner to Bituthene membrane.**

Allow Bituthene System 4000 Surface Conditioner to dry one hour or until substrate returns to its original color. At low temperatures or in high humidity conditions, dry time may be longer.

Bituthene System 4000 Surface Conditioner is clear when dry and may be slightly tacky. In general, conditioning should be limited to what can be covered within 24 hours. In situations where long dry times may prevail, substrates may be conditioned in advance. Substrates should be reconditioned if significant dirt or dust accumulates.

Before surface conditioner dries, tools should be cleaned with water. After surface conditioner dries, tools should be cleaned with mineral spirits. Mineral spirits is a combustible liquid which should be used only in accordance with manufacturer's recommendations. **Do not use solvents to clean hands or skin.**

Corner Details

The treatment of corners varies depending on the location of the corner. For detailed information on Bituthene Liquid Membrane, see separate product information sheet.

- At wall to footing inside corners—
  Option 1: Apply membrane to within 1 in. (25 mm) of base of wall. Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 2½ in. (65 mm) onto footing, and 2½ in. (65 mm) onto wall membrane.

  Option 2: Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Apply 12 in. (300 mm) wide strip of sheet membrane centered over fillet. Apply wall membrane over inside corner and extend 6 in. (150 mm) onto footing. Apply 1 in. (25 mm) wide troweling of Bituthene Liquid Membrane over all terminations and seams within 12 in. (300 mm) of corner.
- At footings where the elevation of the floor slab is 6 in. (150 mm) or more above the footing, treat the inside corner either by the above two methods or terminate the membrane at the base of the wall. Seal the termination with Bituthene Liquid Membrane.

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. Bituthene membranes are not intended to function as the primary joint seal. Allow sealants to fully cure. Pre-strip all slab and wall cracks over 1⁄16 in. (1.5 mm) wide and all construction and control joints with 9 in. (230 mm) wide sheet membrane strip.

Application on Horizontal Surfaces

(Note: Preprufe® pre-applied membranes are strongly recommended for below slab or for any application where the membrane is applied before concreting. See Preprufe product information sheets.)

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 in. (50 mm). Stagger all end laps. Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30 in. (760 mm) wide, weighing a minimum of 75 lbs (34 kg) when filled. Cover the face of the roller with a resilient material such as a ½ in. (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Seal all T-joints and membrane terminations with Bituthene Liquid Membrane at the end of the day.

Protrusions and Drains

Apply membrane to within 1 in. (25 mm) of the base of the protrusion. Apply Bituthene Liquid Membrane 0.1 in. (2.5 mm) thick around protrusion. Bituthene Liquid Membrane should extend over the membrane a minimum of 2½ in. (65 mm) and up the penetration to just below the finished height of the wearing course.

Vertical Surfaces

Apply membrane in lengths up to 8 ft (2.5 m). Overlap all seams at least 2 in. (50 mm). On higher walls apply membrane in two or more sections with the upper overlapping the lower by at least 2 in. (50 mm). Roll all membrane with a hand roller.

Terminate the membrane at grade level. Press the membrane firmly to the wall with the butt end of a hardwood tool such as a hammer handle or secure into a reglet. Failure to use heavy pressure at terminations can result in a poor seal. A termination bar may be used to ensure a tight seal. Terminate the membrane at the base of the wall if the bottom of the interior floor slab is at least 6 in. (150 mm) above the footing. Otherwise, use appropriate inside corner detail where the wall and footing meet.

Membrane Repairs

Patch tears and inadequately lapped seams with membrane. Clean membrane with a damp cloth and dry. Slit fishmouths and repair with a patch extending 6 in. (150 mm) in all directions from the slit and seal edges of the patch with Bituthene Liquid Membrane. Inspect the membrane thoroughly before covering and make any repairs.

Drainage

Hydroduct® drainage composites are recommended for both active drainage and protection of the membrane. See Hydroduct product information sheets.

Protection of Membrane

Protect Bituthene membranes to avoid damage from other trades, construction materials or backfill. Place protection immediately in temperatures above 77°F (25°C) to avoid potential for blisters.

- On vertical applications, use Hydroduct 220 Drainage Composite. Adhere Hydroduct 220 Drainage Composite to membrane with Preprufe Detail Tape. Alternative methods of protection are to use 1 in. (25 mm) expanded polystyrene or ¼ in. (6 mm) extruded polystyrene that has a minimum compressive strength of 8 lbs/in.^{2} (55 kN/m^2). Such alternatives do not provide

System 4000 Surface Conditioner Sprayer

The Bituthene System 4000 Surface Conditioner Sprayer is a professional grade, polyethylene, pump-type, compressed air sprayer with a brass fan tip nozzle. It has a 2 gal (7.6 L) capacity. The nozzle orifice and spray pattern have been specifically engineered for the optimum application of Bituthene System 4000 Surface Conditioner.

Hold nozzle 18 in. (450 mm) from substrate and squeeze handle to spray. Spray in a sweeping motion until substrate is uniformly covered.

Sprayer should be repressurized by pumping as needed. For best results, sprayer should be maintained at high pressure during spraying.

To release pressure, invert the sprayer and spray until all compressed air is released.

Maintenance

The Bituthene System 4000 Surface Conditioner Sprayer should perform without trouble for an extended period if maintained properly.

Sprayer should not be used to store Bituthene System 4000 Surface Conditioner. The sprayer should be flushed with clean water immediately after spraying. For breaks in the spray operation of one hour or less, invert the sprayer and squeeze the spray handle until only air comes from the nozzle. This will avoid clogging.

Should the sprayer need repairs or parts, call the maintenance telephone number on the sprayer tank (800-323-0620).

positive drainage to the system. If ¼ in. (6 mm) extruded polystyrene protection board is used, backfill should not contain sharp rock or aggregate over 2 in. (50 mm) in diameter. Adhere polystyrene protection board with Preprufe Detail Tape.

- In mud slab waterproofing, or other applications where positive drainage is not desired and where reinforced concrete slabs are placed over the membrane, the use of ¼ in. (6 mm) hardboard or 2 layers of ⅛ in. (3 mm) hardboard is recommended.

Insulation

Always apply Bituthene membrane directly to primed or conditioned structural substrates. Insulation, if used, must be applied over the membrane. Do not apply Bituthene membranes over lightweight insulating concrete.

Backfill

Place backfill as soon as possible. Use care during backfill operation to avoid damage to the waterproofing system. Follow generally accepted practices for backfilling and compaction. Backfill should be added and compacted in 6 in. (150 mm) to 12 in. (300 mm) lifts.

For areas which cannot be fully compacted, a termination bar is recommended across the top termination of the membrane.

Placing Steel

When placing steel over properly protected membrane, use concrete bar supports (dobies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.

Approvals

- City of Los Angeles Research Report RR 24386
- Miami-Dade County Code Report NOA 04-0114.03
- U.S. Department of Housing and Urban Development (HUD) HUD Materials Release 628E
- Bituthene 4000 Membranes carry a Underwriters' Laboratory Class A Fire Rating (Building Materials Directory, File #R7910) when used in either of the following constructions:

  —Limited to noncombustible decks at inclines not exceeding ¼ in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of Bituthene waterproofing membrane, followed by one layer of ⅛ in. (3 mm) protection board, encased in 2 in. (50 mm) minimum concrete monolithic pour.

  —Limited to noncombustible decks at inclines not exceeding ¼ in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of Bituthene waterproofing membrane, followed by one layer of DOW Styrofoam PD Insulation Board [2 in. (50 mm) thick]. This is covered with one layer of 2 ft x 2 ft x 2 in. (0.6 m x 0.6 m x 50 mm) of concrete paver topping.

Warranty

Five year material warranties covering Bituthene and Hydroduct products are available upon request. Contact your Grace sales representative for details.

Technical Services

Support is provided by full time, technically trained Grace representatives and technical service personnel, backed by a central research and development staff.

Supply

Bituthene System 4000	3 ft x 66.7 ft roll (200 ft²) [0.9 m x 20 m (18.6 m²)]
Roll weight	83 lbs (38 kg) gross
Palletization	25 rolls per pallet
Storage	Store upright in dry conditions below 95°F (+35°C).
System 4000 Surface Conditioner	1 x 0.625 gal (2.3 L) bottle in each roll of System 4000 Membrane
Ancillary Products	
Surface Conditioner Sprayer	2 gal (7.6 L) capacity professional grade sprayer with specially engineered nozzle
Bituthene Liquid Membrane	1.5 gal (5.7 L) pail/125 pails per pallet or 4 gal (15.1 L) pail/48 pails per pallet
Preprufe Detail Tape	2 in. x 50 ft (50 mm x 15 m) roll/16 rolls per carton
Bituthene Mastic	Twelve 30 oz (0.9 L) tubes/carton or 5 gal (18.9 L) pail/36 pails per pallet
Complementary Material	
Hydroduct	See separate data sheets

Equipment by others: Soft broom, utility knife, brush or roller for priming

Physical Properties for Bituthene 4000 Membrane

Property	Typical Value	Test Method
Color	Dark gray-black	
Thickness	1⁄16 in. (1.5 mm) nominal	ASTM D3767—method A
Flexibility, 180° bend over 1 in. (25 mm) mandrel at -25°F (-32°C)	Unaffected	ASTM D1970
Tensile strength, membrane, die C	325 lbs/in.² (2240 kPa) minimum	ASTM D412 modified[1]
Tensile strength, film	5,000 lbs/in.² (34.5 MPa) minimum	ASTM D882 modified[1]
Elongation, ultimate failure of rubberized asphalt	300% minimum	ASTM D412 modified[1]
Crack cycling at -25°F (-32°C), 100 cycles	Unaffected	ASTM C836
Lap adhesion at minimum application temperature	5 lbs/in. (880 N/m)	ASTM D1876 modified[2]
Peel strength	9 lbs/in. (1576 N/m)	ASTM D903 modified[3]
Puncture resistance, membrane	50 lbs (222 N) minimum	ASTM E154
Resistance to hydrostatic head	210 ft (70 m) of water	ASTM D5385
Permeance	0.05 perms (2.9 ng/m²sPa) maximum	ASTM E96, section 12—water method
Water absorption	0.1% maximum	ASTM D570

Footnotes:
1. The test is run at a rate of 2 in. (50 mm) per minute.
2. The test is conducted 15 minutes after the lap is formed and run at a rate of 2 in. (50 mm) per minute at 40°F (5°C).
3. The 180° peel strength is run at a rate of 12 in. (300 mm) per minute.

Physical Properties for System 4000 Surface Conditioner

Property	Typical Value
Solvent type	Water
Flash point	>140°F (>60°C)
VOC* content	91 g/L
Application temperature	25°F (-4°C) and above
Freeze thaw stability	5 cycles (minimum)
Freezing point (as packaged)	14°F (-10°C)
Dry time (hours)	1 hour**

* Volatile Organic Compound
** Dry time will vary with weather conditions

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

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GRACE

SECTION 071326

SELF-ADHERING SHEET WATERPROOFING

Grace Bituthene® System 4000 and Hydroduct® Drainage Composites

PART 1 — GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.

1.02 SUMMARY

A. The work of this section includes, but is not limited to, the following:

1. Rubberized asphalt sheet membrane waterproofing system
2. Prefabricated drainage composite
3. Protection board

B. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:

1. Section 033000 – Cast-In-Place Concrete
2. Section 042000 – Unit Masonry
3. Section 071100 – Dampproofing
4. Section 076000 – Flashing and Sheet Metal
5. Section 079200 – Joint Sealants
6. Section 079500 – Expansion Control
7. Section 334600 – Subdrainage

1.03 REFERENCE STANDARDS

A. The following standards and publications are applicable to the extent referenced in the text.

B. American Society for Testing and Materials (ASTM)

C 836 Standard Specification for High Solids, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course

D 412 Standard Test Methods for Rubber Properties in Tension

D 570 Standard Test Method for Water Absorption of Plastics

D 882 Standard Test Methods for Tensile Properties of Thin Plastic Sheeting

D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds

D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)

D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

D 3767 Standard Practice for Rubber - Measurements of Dimensions

D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes

E 96 Standard Test Methods for Water Vapor Transmission of Materials

E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations. Include certification of data indicating VOC (Volatile Organic Compound) content of all components of waterproofing system.

B. Samples: Submit representative samples of the following for approval:

1. Sheet membrane
2. Protection board
3. Prefabricated drainage composite

1.05 QUALITY ASSURANCE

A. Manufacturer: Sheet membrane waterproofing system shall be manufactured and marketed by a firm with a minimum of 20 years experience in the production and sales of self-adhesive sheet membrane waterproofing. Manufacturers proposed for use but not named in these specifications shall submit evidence of ability to meet all requirements specified, and include a list of projects of similar design and complexity completed within the past 5 years.

B. Installer: A firm which has at least 3 years experience in work of the type required by this section.

C. Materials: For each type of material required for the work of this section, provide primary materials which are the products of one manufacturer.

D. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in labeled packages. Store and handle in strict compliance with manufacturer's instructions, recommendations and material safety data sheets. Protect from damage from sunlight, weather, excessive temperatures and construction operations. Remove damaged material from the site and dispose of in accordance with applicable regulations.

1. Do not double-stack pallets of membrane on the job site. Provide cover on top and all sides, allowing for adequate ventilation.
2. Protect mastic and adhesive from moisture and potential sources of ignition.
3. Store drainage composite or protection board flat and off the ground. Provide cover on top and all sides.
4. Protect surface conditioner from freezing.

B. Sequence deliveries to avoid delays, but minimize on-site storage.

1.07 PROJECT CONDITIONS

A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.

B. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive sheet membrane waterproofing.

1.08 WARRANTY

A. Sheet Membrane Waterproofing: Provide written 5 year material warranty issued by the membrane manufacturer upon completion of the work.

PART 2 — PRODUCTS

2.01 MATERIALS

A. Sheet Membrane Waterproofing System: Bituthene® System 4000 Membrane by Grace Construction Products; a self-adhesive, cold-applied composite sheet consisting of a thickness of 1.4 mm (0.056 in.) of rubberized asphalt and 0.1 mm (0.004 in.) of cross-laminated, high density polyethylene film specially formulated for use with water-based surface conditioner. Provide rubberized asphalt membrane covered with a release sheet which is removed during installation. No special adhesive or heat shall be required to form laps.

B. Sheet Membrane Waterproofing

PHYSICAL PROPERTIES FOR BITUTHENE SYSTEM 4000 MEMBRANE:

Property	Test Method	Typical Value
Color		Dark gray-black
Thickness	ASTM D 3767 Method A	1.5 mm (0.060 in.) nominal
Flexibility, 180° bend over 25 mm (1 in.) mandrel at -43°C (-45°F)	ASTM D 1970	Unaffected
Tensile Strength, Membrane Die C	ASTM D 412 Modified[1]	2240 kPa (325 lbs/in.^{2}) minimum
Tensile Strength, Film	ASTM D 882 Modified[1]	34.5 MPa (5,000 lbs/in.^{2}) minimum
Elongation, Ultimate Failure of Rubberized Asphalt	ASTM D 412 Modified[1]	300% minimum
Crack Cycling at -32°C (-25°F), 100 Cycles	ASTM C 836	Unaffected
Lap Adhesion at Minimum Application Temperature	ASTM D 1876 Modified[2]	880 N/m (5 lbs/in.)
Peel Strength	ASTM D 903 Modified[3]	1576 N/m (9 lbs/in.)
Puncture Resistance, Membrane	ASTM E 154	222 N (50 lbs) minimum
Resistance to Hydrostatic Head	ASTM D 5385	70 m (231 ft) of water
Permeance	ASTM E 96, Section 12 – Water Method	2.9 ng/m^{2}sPa (0.05 perms) maximum
Water Absorption	ASTM D 570	0.1% maximum

Footnotes:
1. *The test is run at a rate of 50 mm (2 in.) per minute.*
2. *The test is conducted 15 minutes after the lap is formed and run at a rate of 50 mm (2 in.) per minute at -4°C (25°F).*
3. *The 180° peel strength is run at a rate of 300 mm (12 in.) per minute.*

C. Prefabricated Drainage Composite: (Hydroduct® 220) (Hydroduct® 660) Drainage Composite by Grace Construction Products. Drainage Composite shall be designed to promote positive drainage while serving as a protection course.

NOTE TO SPECIFIER: The following are product selection guidelines for Hydroduct Drainage Composites. Consult the “Product Summary” and “System Components” section of the Waterproofing Systems Manual North American Edition for complete information. Hydroduct 220: All vertical applications. Hydroduct 660: All horizontal applications. THE APPROPRIATE HYDRODUCT DRAINAGE COMPOSITE MAY ALSO SERVE AS PROTECTION FOR ALL BITUTHENE MEMBRANES.

D. Protection Board:

1. Expanded Polystyrene Protection Board: 25 mm (1 in.) thick for vertical applications with the following characteristics. Adhere to waterproofing membrane with Bituthene Protection Board Adhesive.

   Normal Density: 16 kg/m^3 (1.0 lb/ft^3)

   Thermal Conductivity, K factor: 0.24 at 5°C (40°F), 0.26 at 24°C (75°F)

   Thermal Resistance, R-Value: 4 per 25 mm (1 in.) of thickness.

2. Asphalt Hardboard: A premolded semi-rigid protection board consisting of bitumen, mineral core and reinforcement. Provide 3 mm (0.125 in.) thick hardboard on horizontal surfaces not receiving steel reinforced slab. Where steel reinforcing bars are to be used, apply two layers of 3 mm (0.125 in.) thick hardboard or one layer of 6 mm (0.25 in.) thick hardboard.

E. Waterstop: Adcor™ ES hydrophilic non-bentonite waterstop by Grace Construction Products for non-moving concrete construction joints.

F. Miscellaneous Materials: Surface conditioner, mastic, liquid membrane, tape and accessories specified or acceptable to manufacturer of sheet membrane waterproofing.

PART 3 — EXECUTION

3.01 EXAMINATION

A. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the contractor, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.

3.02 PREPARATION OF SUBSTRATES

A. Refer to manufacturer’s literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of sheet membrane waterproofing.

B. Cast-In-Place Concrete Substrates:

1. Do not proceed with installation until concrete has properly cured and dried (minimum 7 days for normal structural concrete and minimum 14 days for lightweight structural concrete).

NOTE TO SPECIFIER: If time is critical Bituthene® Primer B2 may be used to allow priming and installation of membrane sooner than 7 days. Priming may begin in this case as soon as the concrete will maintain structural integrity.

---

2. Fill form tie rod holes with concrete and finish flush with surrounding surface.
3. Repair bugholes over 13 mm (0.5 in.) in length and 6 mm (0.25 in.) deep and finish flush with surrounding surface.
4. Remove scaling to sound, unaffected concrete and repair exposed area.
5. Grind irregular construction joints to suitable flush surface.

C. Masonry Substrates: Apply waterproofing over concrete block and brick with smooth trowel-cut mortar joints or parge coat.

D. Wood Substrates: Apply waterproofing membrane over securely fastened sound surface. All joints and fasteners shall be flush to create a smooth surface.

E. Related Materials: Treat joints and install flashing as recommended by waterproofing manufacturer.

3.03 INSTALLATION

A. Refer to manufacturer's literature for recommendations on installation, including but not limited to, the following:

1. Apply surface conditioner at rate recommended by manufacturer. Recoat areas not waterproofed if contaminated by dust. Mask and protect adjoining exposed finish surfaces to protect those surfaces from excessive application of surface conditioner.
2. Delay application of membrane until surface conditioner is completely dry. Dry time will vary with weather conditions.
3. Seal daily terminations with troweled bead of mastic.
4. Apply protection board and related materials in accordance with manufacturer's recommendations.

3.04 CLEANING AND PROTECTION

A. Remove any masking materials after installation. Clean any stains on materials which would be exposed in the completed work.

B. Protect completed membrane waterproofing from subsequent construction activities as recommended by manufacturer.

W.R. Grace & Co.-Conn. 62 Whittemore Avenue Cambridge, MA 02140

Document Code: GSWP-004A Updated: 4/2012

REDOX TECH, LLC

"Providing Innovative In Situ Soil and Groundwater Treatment"

Oxygen BioChem (OBC)®

Recent applications of in situ chemical oxidation (ISCO) have shown that ISCO can be a cost-effective remedial strategy for organic contaminants in groundwater and soil. The application of ISCO to contaminated source areas usually results in an immediate benefit to groundwater in the area. In addition, further contaminant flux can be reduced or eliminated mitigating further contaminant plume issues. Redox Tech has recently formulated a mixture of sodium persulfate and calcium peroxide that can be employed for ISCO applications using FMC's patent-pending Klozur™ activation chemistry.

The mixture in Oxygen BioChem™ supports a two-fold mechanism for destroying the contaminant of concern, delivering one of the strongest chemical oxidants for short term ISCO, as well as delivering electron acceptors (oxygen and sulfate) for longer-term biological oxidation.

Sodium persulfate has emerged recently as an important oxidant for in situ remediation of volatile and semi-volatile organic compounds. Persulfate is the strongest oxidant within the peroxygen family, with an electromotive force of 2.12 volts. As illustrated below, the direct oxidation half-cell reaction for persulfate involves a two-electron transfer:

$$2\ S_2O_8^{2-} + 2\ H^{+2} + 2e^- \rightarrow 2HSO_4^-$$

However in most cases, rapid destruction of the contaminant of concern requires that the persulfate be activated in order to generate sulfate radicals. Sulfate radicals are powerful oxidizing agents, with an electromotive force of 2.6 volts. There are several methods available to activate persulfate including the addition of alkalinity, chelated iron, heat, or hydrogen peroxide.

$$S_2O_8^{2-} + \text{activator} \rightarrow 2SO4^{\bullet}$$

Activated persulfate can remain available in the subsurface for months providing an unrivaled combination of power and stability.

The addition of calcium peroxide provides several benefits. First, it imparts the alkalinity needed to activate the persulfate using FMC's Klozur™ activation chemistry. Second, when mixed with water it provides a long-term slow release source of hydrogen peroxide and calcium hydroxide.

$$CaO_2 + 2\ H_2O \rightarrow Ca(OH)_2 + H_2O_2$$

The hydrogen peroxide that is slowly formed decomposes to oxygen and water, providing an extended oxygen source for subsequent bioremediation of petroleum hydrocarbons.

200 QUADE DRIVE, CARY, NC 27513 TEL 919.678.0140 FAX 919.678.0150
WWW.REDOX-TECH.COM E-MAIL: HASELOW@REDOX-TECH.COM

The resultant calcium hydroxide (hydrated lime) that is produced serves several purposes. First of all, it increases the total dissolved ion concentration, which makes the solution less likely to leach metals from the soil into the groundwater. Secondly, the calcium from the hydrated lime will precipitate the sulfate that is produced during the consumption of the persulfate. The calcium sulfate (gypsum) precipitation helps to reduce sulfate groundwater concentrations, which may impact the secondary drinking water standard of 250 ppm.

The mixture in OBC® provides chemical oxidation as well as electron acceptors (oxygen and sulfate) for longer term biological oxidation. The predominant short-term reaction is chemical oxidation, while the longer-term remediation process is biological oxidation. OBC® has the advantages over more traditional oxygen compounds used for bioremediation in that is works on a broader range of contaminants.

Table 1. Contaminants Treated by Oxygen BioChem (OBC)®

CONTAMINANTS TREATED	
BTEX	1,4-dioxane
MTBE	PCBs
PAHs	Pentachlorophenol
Chlorinated Alkenes	Chlorinated Alkanes

Table 2 summarizes the advantages of OBC® over other oxygenating compounds. OBC® works on a wider range of contaminants than other oxygenates because provides chemical oxidation and electron acceptors for bioremediation. The amount of oxygen in OBC® assumes that all of the oxygen in the sulfate is consumed through sulfate reduction processes.

Table 2. Advantages of Oxygen BioChem (OBC)®

OBC®	COMPETITORS
Greater oxygen – as much as 43 wt %	Typically 10 to 20 wt %
Both chemical oxidation and bioremediation	Predominantly bioremediation
Greater solubility – typically 40 wt %	Typically less than 5% soluble
Better value - $2.75 per pound	Typically $4 to $10 per pound

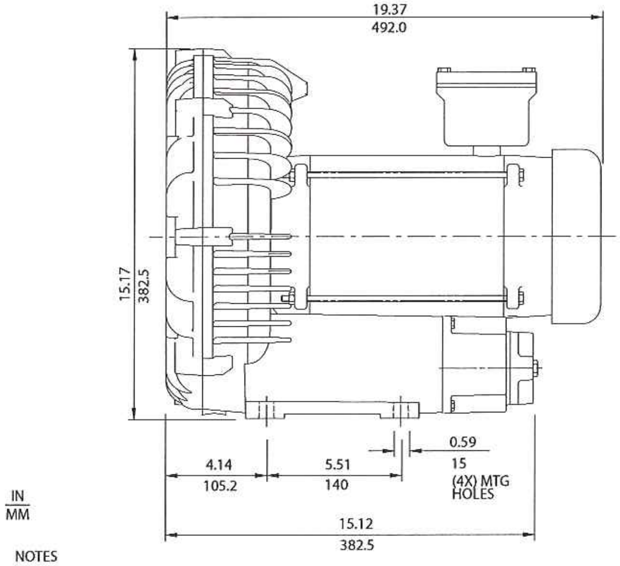
CONTACT:

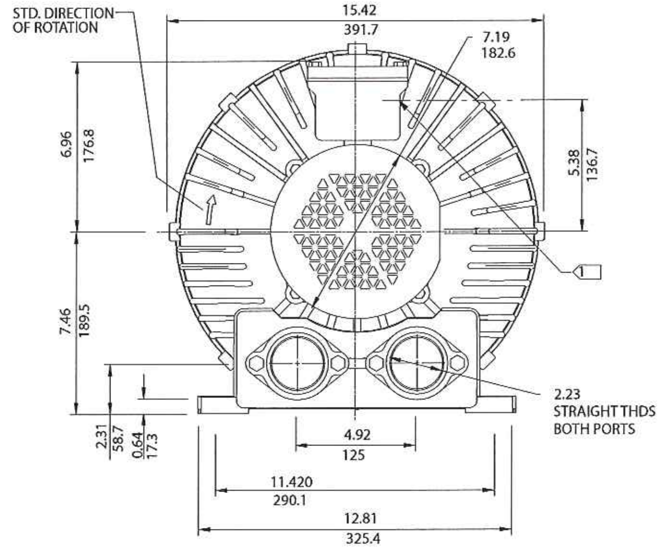
John Haselow, PhD, PE
Redox Tech, LLC
200 Quade Drive
Cary, NC 27513
Phone: 919-678-0140
www.redox-tech.com

ROTRON®

EN 656 & CP 656

3.0 HP Sealed Regenerative w/Explosion-Proof Motor





NOTES
1. TERMINAL BOX CONNECTOR HOLE 3/4" NPT.
2. DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
3. CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

		Part/Model Number			
		EN656M5XL	EN656M72XL	EN656M86XL	CP656FU72XLR
Specification	Units	080060	080059	080058	080142
Motor Enclosure - Shaft Mtl.	-	3	3	3	3
Horsepower	-	Explosion-proof-CS	Explosion-proof-CS	Explosion-proof-CS	Chem XP-SS
Phase - Frequency	-	Single-60 hz	Three-60 hz	Three-60 hz	Three-60 hz
Voltage	AC	208-230	208-230/460	575	208-230/460
Motor Nameplate Amps	Amps (A)	15.5-14.5	7.4/3.7	3.0	7.4/3.7
Max. Blower Amps	Amps (A)	17	10/5	4.1	10/5
Inrush Amps	Amps (A)	95-86	54/27	21.6	54/27
Service Factor	-	1	0/0	0	0/0
Starter Size	-	1.0	1.0	1.0	1.0
Thermal Protection	-	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty
XP Motor Class - Group	-	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G
Shipping Weight	Lbs	142	117	117	117
	Kg	64.4	53.1	53.1	53.1

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

XP Motor Class - Group - See Explosive Atmosphere Classification Chart in Section I

AMETEK TECHNICAL & INDUSTRIAL PRODUCTS
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AMETEK® TECHNICAL & INDUSTRIAL PRODUCTS

Environmental / Chemical Processing Blowers

EN 656 & CP 656

ROTRON®

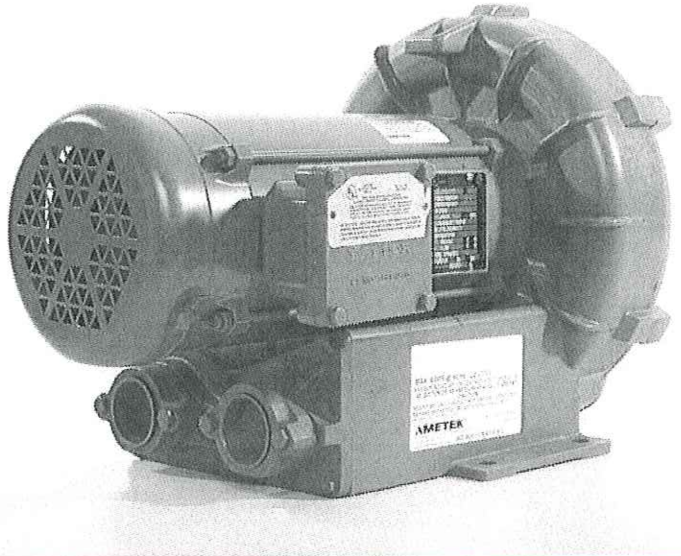
3.0 HP Sealed Regenerative w/Explosion-Proof Motor

FEATURES
- Manufactured in the USA - ISO 9001 and NAFTA compliant
- Maximum flow: 212 SCFM
- Maximum pressure: 75 IWG
- Maximum vacuum: 73 IWG
- Standard motor: 3.0 HP, explosion-proof
- Cast aluminum blower housing, impeller , cover & manifold; cast iron flanges (threaded); teflon® lip seal
- UL & CSA approved motor with permanently sealed ball bearings for explosive gas atmospheres Class I Group D minimum
- Sealed blower assembly
- Quiet operation within OSHA standards

MOTOR OPTIONS
- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

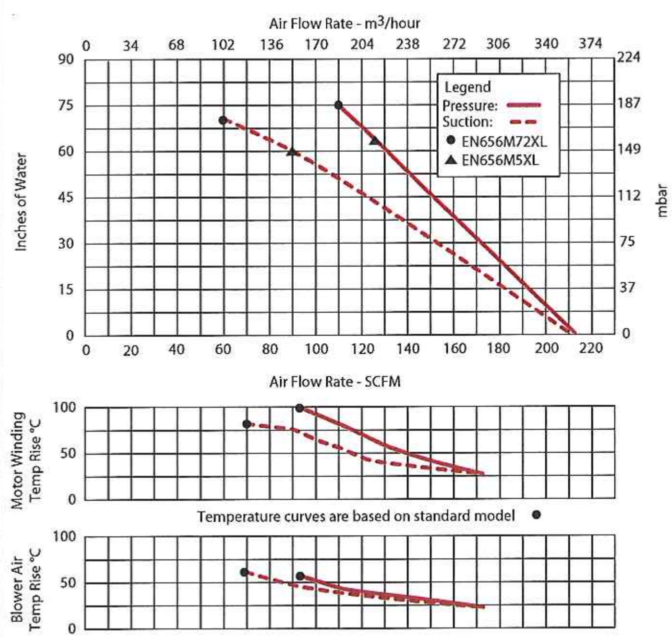
BLOWER OPTIONS
- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

ACCESSORIES
- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges, & relief valves
- Switches - air flow, pressure, vacuum, or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
- Variable frequency drive package

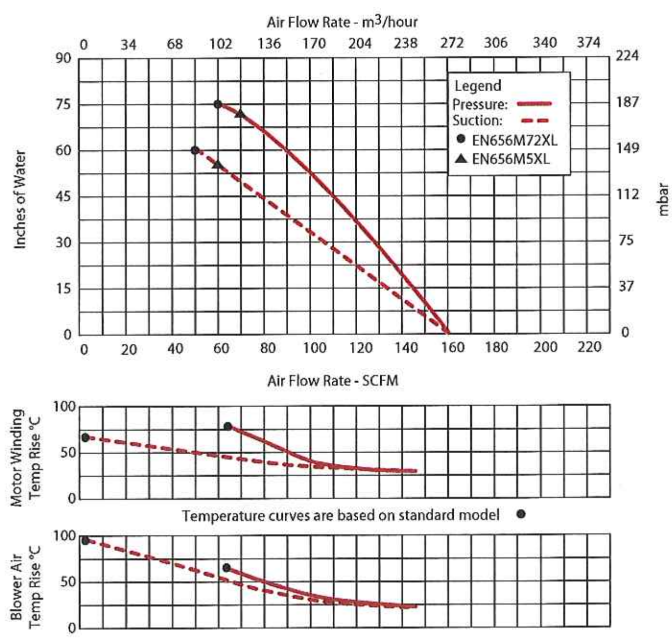


Blower Performance at Standard Conditions

60 Hz



50 Hz



This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

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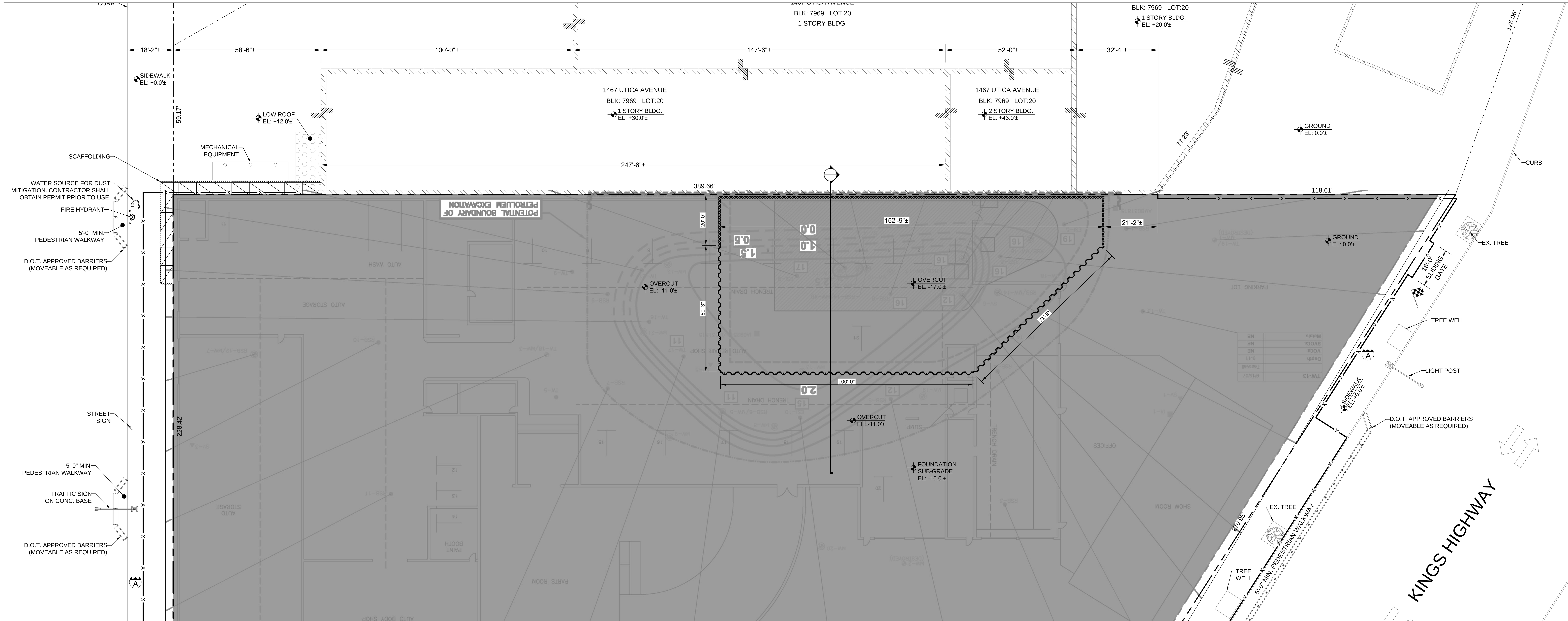
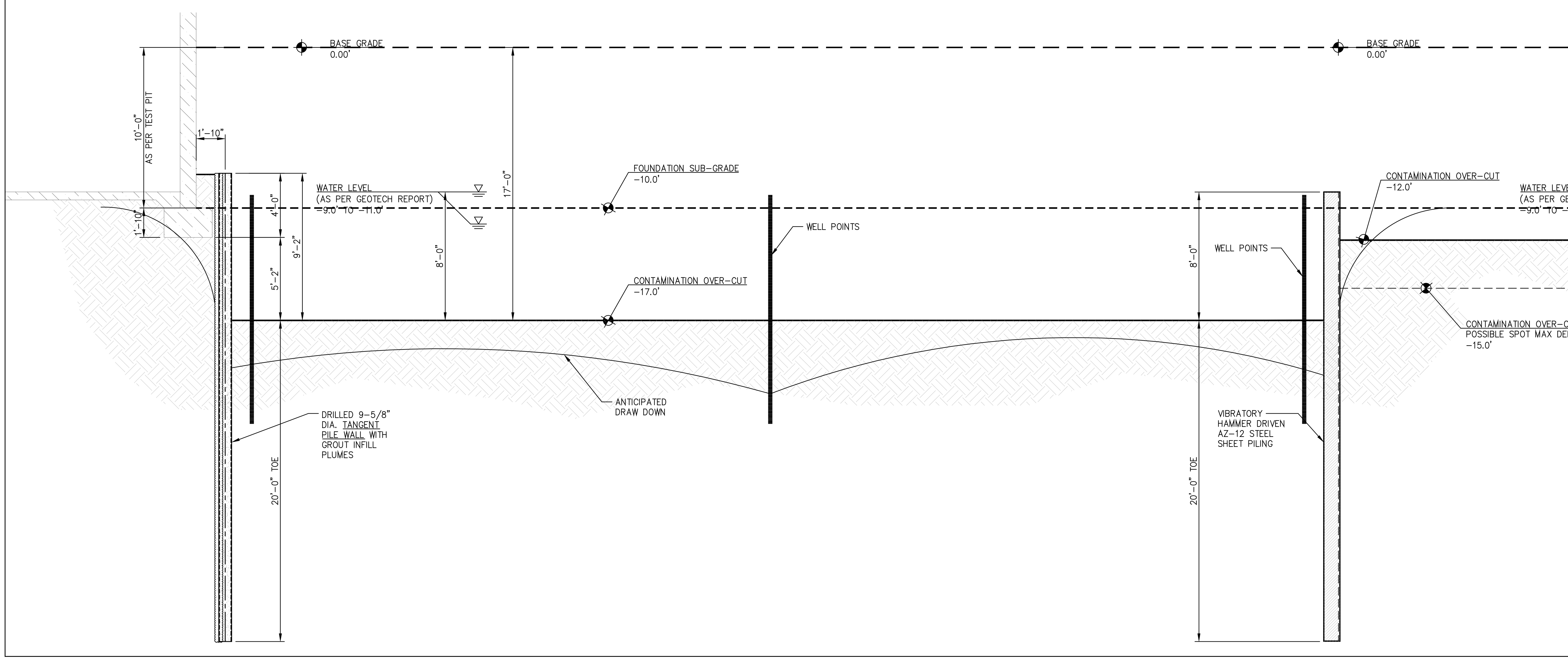
AMETEK® TECHNICAL & INDUSTRIAL PRODUCTS

APPENDIX N

Proposed Support of Excavation



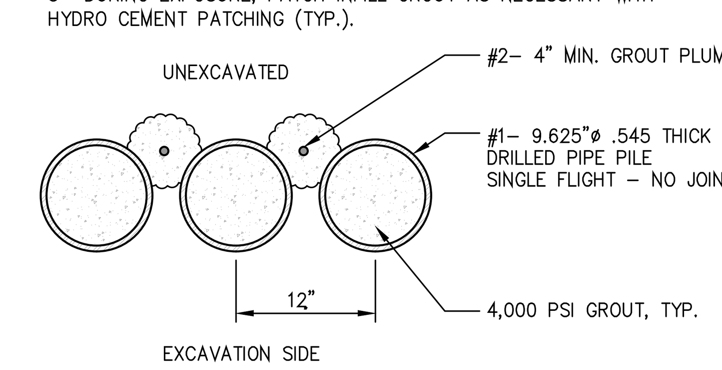


TANGENT PILE WALL INSTALLATION SEQUENCE:

1- INSTALL DRILLED PIPE PILES USING DUPLEX DRILLING METHOD AS PER 2/400. FOLLOW SOE PLAN FOR LOCATION.

2- AFTER DRILLED PILES ARE INSTALLED, DRILL/ HOLLOW STEM AUGER DRILL AND PUMP GROUT PLUME INFILL.

3- DURING EXPOSURE, PATCH INFILL GROUT AS NECESSARY WITH HYDRO CEMENT PATCHING (TYP.).



ENGINEER / DESIGNER

ANCORA ENGINEERING
260 WEST 36TH STREET, 3RD FL.
NEW YORK, NY 10018
(212) 461-1987

OWNER

CONTRACTOR

SUPPORT OF EXCAVATION
5200 KINGS HIGHWAY BROOKLYN , NY 11234
CONCEPT

REVISIONS

DATE	DESCRIPTION

LOCATION INFO

DOB ADDRESS: 5200 KINGS HIGHWAY BROOKLYN , NY 11234
BLOCK: 7969
LOT: 9
ZONING DISTRICT: M1-1
MAP: 23A
BIN #: 3223073
HEIGHT: XX STORIES AT ##'-#" ±

DOB USE ONLY

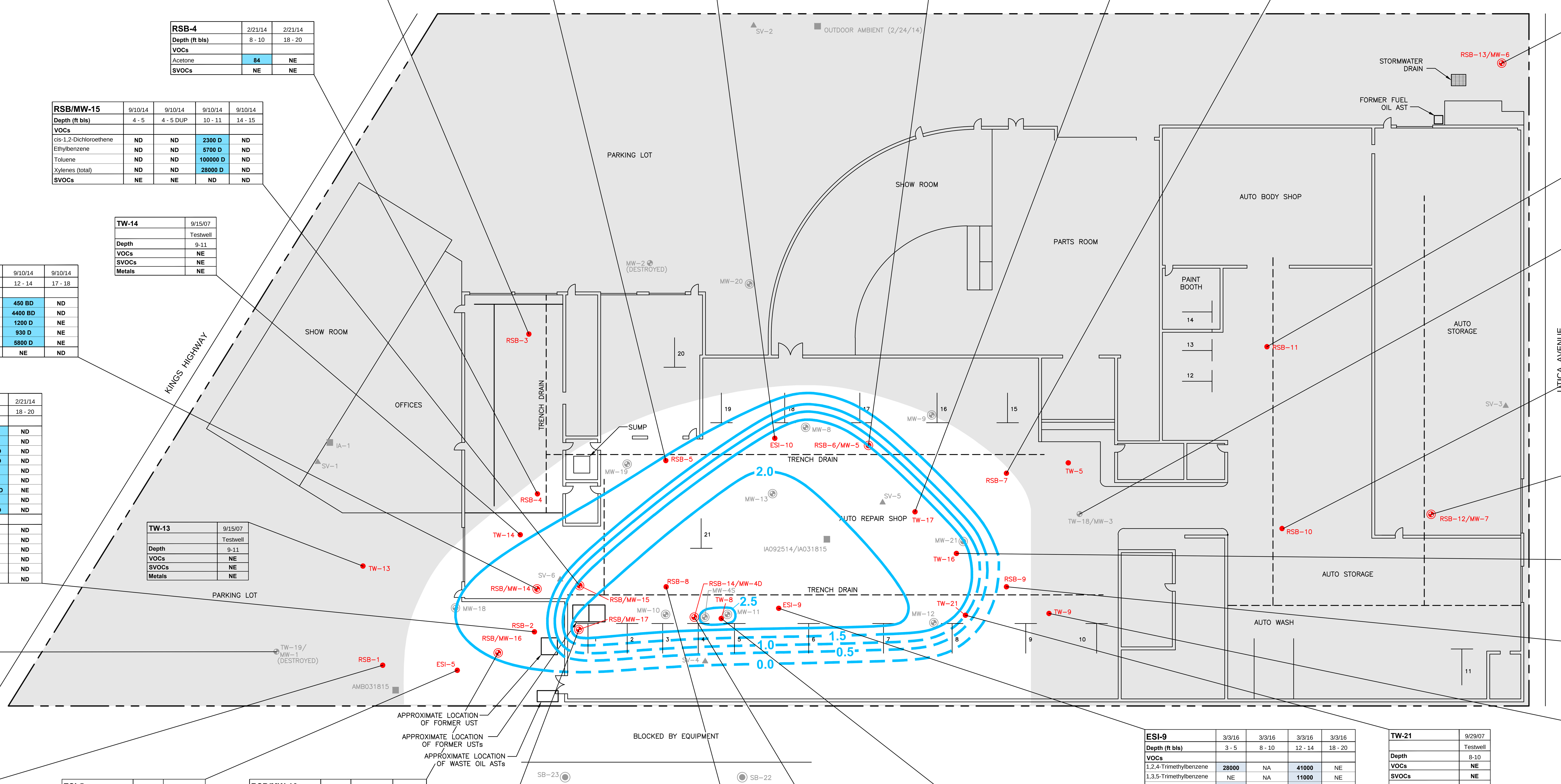
SUPPORT OF EXCAVATION - PLAN

APPLICANT: ENGINEER OF RECORD

DATE: 3/16/18
PROJECT NO: ########
DRAWN BY: GCM
CHECKED BY: GCM
DWG NUMBER:
SOE-100.00
CADD FILE NAME:
of

B-SCAN JOB STICKER

PLATES



RSB-3	2/20/14	2/20/14
Depth (ft bls)	8 - 10	18 - 20
VOCs	No Exceedances	
SVOCs		

RSB-5	2/18/14	2/18/14
Depth (ft bls)	8.5 - 10.5	18.5 - 20.5
VOCs	No Exceedances	
SVOCs		

ESI-10	3/3/16	3/3/16	3/3/16
Depth (ft bls)	12 - 14	16 - 18	18 - 20
VOCs			
1,2,4-Trimethylbenzene	10000	NE	ND
Acetone	880	NE	NE
Ethylbenzene	2100	NE	ND
Xylenes (total)	9800	Ne	ND
SVOCs	NA	NA	NA
Metals			
Chromium	12.5	NA	NA

RSB-6	2/18/14	2/18/14
Depth (ft bls)	9 - 11	19 - 21
VOCs	No Exceedances	
SVOCs		

TW-17	9/15/07
	Testwell
Depth	10-12
VOCs	NE
SVOCs	NE
Metals	NE

RSB-7	2/19/14	2/19/14
Depth (ft bls)	8.5 - 10.5	18.5 - 20.5
VOCs	No Exceedances	
SVOCs		

RSB-13	2/12/14	2/12/14	2/12/14
Depth (ft bls)	9 - 11	9 - 11 DUP	19 - 21
VOCs	No Exceedances		
SVOCs			

RSB-4	2/21/14	2/21/14
Depth (ft bls)	8 - 10	18 - 20
VOCs		
Acetone	84	NE
SVOCs	NE	NE

RSB/MW-15	9/10/14	9/10/14	9/10/14	9/10/14
Depth (ft bls)	4 - 5	4 - 5 DUP	10 - 11	14 - 15
VOCs				
cis-1,2-Dichloroethene	ND	ND	2300 D	ND
Ethylbenzene	ND	ND	5700 D	ND
Toluene	ND	ND	100000 D	ND
Xylenes (total)	ND	ND	28000 D	ND
SVOCs	NE	NE	ND	ND

TW-14	9/15/07
	Testwell
Depth	9-11
VOCs	NE
SVOCs	NE
Metals	NE

RSB/MW-14	9/9/14	9/10/14	9/10/14
Depth (ft bls)	1 - 3	12 - 14	17 - 18
VOCs			
2-Butanone (MEK)	NE	450 BD	ND
Acetone	NE	4400 BD	ND
Ethylbenzene	ND	1200 D	NE
Toluene	ND	930 D	NE
Xylenes (total)	ND	5800 D	NE
SVOCs	ND	NE	ND

RSB-2	2/21/14	2/21/14	2/21/14	2/21/14
Depth (ft bls)	1 - 3	5 - 7	11 - 13	18 - 20
VOCs				
2-Butanone (MEK)	NE	ND	800 JD	ND
Benzene	NE	ND	470 JD	ND
cis-1,2-Dichloroethene	ND	ND	12000 D	ND
Ethylbenzene	ND	ND	12000 D	ND
MTBE	ND	ND	2000 D	ND
Tetrachloroethene	NE	NE	6100 D	ND
Toluene	NE	ND	340000 D	NE
Trichloroethene	ND	ND	760 JD	ND
Xylenes (total)	NE	ND	51000 D	ND
SVOCs				
Benzo[a]anthracene	4750 D	NE	ND	ND
Benzo[a]pyrene	5500 D	1120 JD	ND	ND
Benzo[b]fluoranthene	4110 JD	NE	ND	ND
Benzo[k]fluoranthene	5080 D	1070 JD	ND	ND
Chrysene	4760 D	NE	ND	ND
Indeno[1,2,3-cd]pyrene	1280 JD	ND	ND	ND

TW-13	9/15/07
	Testwell
Depth	9-11
VOCs	NE
SVOCs	NE
Metals	NE

TW-18	9/15/07
	Testwell
Depth	12-14
VOCs	NE
SVOCs	NE
Metals	NE

RSB-11	2/20/14	2/20/14	2/20/14
Depth (ft bls)	7.5 - 9.5	7.5 - 9.5 DUP	17.5 - 19.5
VOCs			
Acetone	NE	NE	94
SVOCs	NE	NE	NE

RSB-10	2/20/14	2/20/14
Depth (ft bls)	7.5 - 9.5	17.5 - 19.5
VOCs	No Exceedances	
SVOCs		

RSB-12	2/12/14	2/12/14
Depth (ft bls)	9 - 11	18 - 20
VOCs	No Exceedances	
SVOCs		

TW-16	9/15/07
	Testwell
Depth	10-12
VOCs	NE
SVOCs	NE
Metals	NE

RSB-9	2/19/14	2/19/14
Depth (ft bls)	8.5 - 10.5	18.5 - 20.5
VOCs		
Acetone	64 B	NE
SVOCs	NE	NE

TW-19	9/16/07
	Testwell
Depth	10-12
VOCs	NE
SVOCs	NE
Metals	NE

RSB-1	2/20/14	2/20/14
Depth (ft bls)	10 - 12	20 - 22
VOCs	No Exceedances	
SVOCs		

ESI-5	3/3/16	3/3/16
Depth (ft bls)	10 - 12	16 - 18
VOCs		
1,2,4-Trimethylbenzene	NE	NE
1,3,5-Trimethylbenzene	ND	NE
2-Butanone (MEK)	ND	ND
Acetone	ND	720
Benzene	ND	ND
Ethylbenzene	ND	NE
MTBE	ND	ND
n-Propylbenzene	ND	NE
Toluene	NE	1600
Xylenes (total)	ND	4000
SVOCs	NA	NA
Metals		
Copper	NE	51.3
Lead	828	179
Mercury	ND	0.505
Zinc	120	269

RSB/MW-16	9/9/14	9/9/14	9/9/14
Depth (ft bls)	1 - 3	11 - 13	17 - 18
VOCs			
cis-1,2-Dichloroethene	ND	4100 D	NE
Ethylbenzene	ND	4500 D	ND
Toluene	ND	70000 D	NE
Xylenes (total)	NE	20000 D	ND
SVOCs	NE	ND	ND

RSB/MW-17	9/10/14	9/10/14	9/10/14
Depth (ft bls)	1 - 3	13 - 15	17 - 18
VOCs			
Acetone	NE	330 JD	NE
Ethylbenzene	NE	2900 D	ND
Toluene	NE	27000 D	NE
Xylenes (total)	NE	14000 D	ND
SVOCs			
Chrysene	1050 JV	ND	ND

RSB-8	2/19/14	2/19/14	2/19/14	2/19/14
Depth (ft bls)	1.5 - 3.5	5 - 7	8.5 - 10.5	18.5 - 20.5
VOCs				
Acetone	NE	680 JD	99	NE
SVOCs				
Benzo[a]anthracene	2580 D	3430 D	1680 JD	ND
Benzo[a]pyrene	2710 D	3510 D	1690 JD	ND
Benzo[b]fluoranthene	2080 D	2750 D	1410 JD	ND
Benzo[k]fluoranthene	2530 D	3490 D	1690 JD	ND
Chrysene	2540 D	3420 D	1650 JD	ND
Dibenzo[a,h]anthracene	ND	510 JD	ND	ND
Indeno[1,2,3-cd]pyrene	929 JD	1050 JD	522 JD	ND

RSB-14/4D	2/10/14	2/10/14	2/10/14	2/10/14
Depth (ft bls)	2.5 - 3	5 - 7	10 - 11	38 - 40
VOCs				
2-Butanone (MEK)	NE	ND	1800 D	ND
Benzene	ND	ND	1200 D	ND
cis-1,2-Dichloroethene	ND	ND	2900 D	ND
Ethylbenzene	ND	ND	6700 D	ND
Toluene	NE	ND	30000 D	NE
Trichloroethene	ND	ND	590 D	ND
Xylenes (total)	ND	ND	32000 D	NE
SVOCs				
Benzo[a]anthracene	1480 JD	1730 D	ND	ND
Benzo[a]pyrene	1470 JD	1560 JD	ND	ND
Benzo[b]fluoranthene	1990 D	1410 JD	ND	ND
Benzo[k]fluoranthene	1660 JD	1780 D	ND	ND
Chrysene	1610 JD	1900 D	ND	ND
Indeno[1,2,3-cd]pyrene	557 JD	NE	ND	ND

TW-8	3/10/07	3/10/07
	Testwell	Roux
Depth	10-12	10-12
VOCs		
1,2,4 Trimethylbenzene	*24000*	*9000*
1,3,5 Trimethylbenzene	*22000*	NE
Acetone	*580*	NE
Benzene	*180*	NE
Cis-1,2-Dichloroethene	*1600*	*2000*
Ethylbenzene	*4200*	*2700*
Tetrachloroethene	*16000*	*13000*
Toluene	*6900*	*5200*
Total xylenes	*27800*	1490
Trichloroethene	*2300*	*1200*
SVOCs	NE	NE
Metals	NE	NE

ESI-9	3/3/16	3/3/16	3/3/16	3/3/16
Depth (ft bls)	3 - 5	8 - 10	12 - 14	18 - 20
VOCs				
1,2,4-Trimethylbenzene	28000	NA	41000	NE
1,3,5-Trimethylbenzene	NE	NA	11000	NE
2-Butanone (MEK)	2900	NA	2200	NE
Acetone	3000	NA	5500	110
Benzene	ND	NA	2100	NE
cis-1,2-Dichloroethene	740	NA	5900	NE
Ethylbenzene	6400	NA	13000	NE
MTBE	ND	NA	1900	NE
n-Propylbenzene	NE	NA	5700	NE
Tetrachloroethene	29000	NA	39000	NE
Toluene	18000	NA	60000	NE
Trichloroethene	880	NA	11000	ND
Xylenes (total)	39000	NA	72000	NE
SVOCs				
Chrysene	NA	NA	3560	NA
Metals				
Chromium	16.5	184	14.8	NA
Copper	103	NE	NE	NA
Lead	232	758	NE	NA
Mercury	0.65	0.34	ND	NA
Zinc	408	150	248	NA

TW-21	9/29/07
	Testwell
Depth	8-10
VOCs	NE
SVOCs	NE
Metals	NE

TW-9	3/10/07	3/10/07
	Testwell	Roux
Depth	12-14	12-14
VOCs	NE	NE
SVOCs	NE	NE
Metals	NE	NE

Parameter (Concentrations in µg/kg)	Standards* (µg/kg)	Standards** (µg/kg)	Standards*** (µg/kg)
VOCs			
1,2,4-Trimethylbenzene	3600	190000	3600
1,3,5-Trimethylbenzene	8400	190000	8400
2-Butanone (MEK)	120	500000	120
Acetone	50	500000	50
Benzene	60	44000	60
cis-1,2-Dichloroethene	250	500000	250
Ethylbenzene	1000	390000	1000
MTBE	930	500000	930
n-Propylbenzene	3900	500000	3900
Tetrachloroethene	1300	150000	1300
Toluene	700	500000	700
Trichloroethene	470	200000	470
Xylenes (total)	260	500000	1600
SVOCs			
Benzo[a]anthracene	1000	5600	1000
Benzo[a]pyrene	1000	1000	22000
Benzo[b]fluoranthene	1000	5600	1700
Benzo[k]fluoranthene	800	56000	1700
Chrysene	1000	56000	1000
Indeno[1,2,3-cd]pyrene	500	5600	8200
Metals	mg/kg	mg/kg	mg/kg
Chromium	1	400	19
Copper	50	270	1720
Lead	63	1000	450
Mercury	0.18	2.8	0.73
Nickel	30	310	130
Zinc	109	10000	2480

Concentrations in µg/kg
mg/kg - Milligrams per kilogram
µg/kg -Micrograms per kilogram
*NYSDEC Part 375 Unrestricted Use Standards
**NYSDEC Part 375 Commercial Standards
***NYSDEC Part 375 Protection of Groundwater Standards
Bold results exceed both NYSDEC Unrestricted Use and Protection of Groundwater Standards
NYSDEC - New York State Department of Environmental Conservation
J - Estimated value
DUP - Duplicate Sample
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
NE - No exceedance
ND - No detection
NA - Not analyzed for by laboratory
ft bls - Feet below land surface
D - a secondary analysis after dilution due to exceedance of the calibration range in the original sample.
B - The analyte was found in an associated blank as well as in the sample

LEGEND

- MW-1 — EXISTING MONITORING WELL
- MW-4 — EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
- RSB-5 — EXISTING SOIL SAMPLE
- SV-1 — EXISTING SOIL VAPOR SAMPLE POINT
- SB-22 — SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
- IA-1 — INDOOR/AMBIENT AIR SAMPLE
- 16 — NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION
- SITEWIDE EXCAVATION TO 9' BLS

DATA BOX KEY

SAMPLE LOCATION — SAMPLE DATE

RSB/MW-14	9/9/14	9/10/14	9/10/14
Depth (ft bls)	1 - 3	12 - 14	17 - 18
VOCs			
2-Butanone (MEK)	NE	450 BD	ND
Acetone	NE	4400 BD	ND
Ethylbenzene	ND	1200 D	NE
Toluene	ND	930 D	NE
Xylenes (total)	ND	5800 D	NE
SVOCs	ND	NE	ND

ANALYTE — CONCENTRATION IN µg/kg

NOTES

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. RSB-14/MW-4D IS A DEEP WELL SCREENED FROM 30-40' BELOW LAND SURFACE. THIS WELL DOES NOT HAVE ANY FREE-PHASE PRODUCT.
3. EXCEEDANCES OF PROTECTION OF GROUNDWATER AND COMMERCIAL SCOs ARE SHOWN.
4. BORINGS ESI-5, ESI-9, AND ESI-10 INSTALLED BY ECOSYSTEMS STRATEGIES, INC. (MARCH 2016)
5. BORINGS TW-5, TW-9, TW-13, TW-14, TW-16 THROUGH TW-19, AND TW-21 INSTALLED BY TESTWELL (MARCH AND SEPTEMBER 2007) WITH SPLIT SAMPLES COLLECTED BY ROUX ASSOCIATES, INC. IN MARCH 2007.

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

20' 0 20'

Title:

SOIL CHEMISTRY RESULTS NOVEMBER 2016

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:
BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	PLATE
Prepared by: J.A.D.	Scale: AS SHOWN	1
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.05.DWG		

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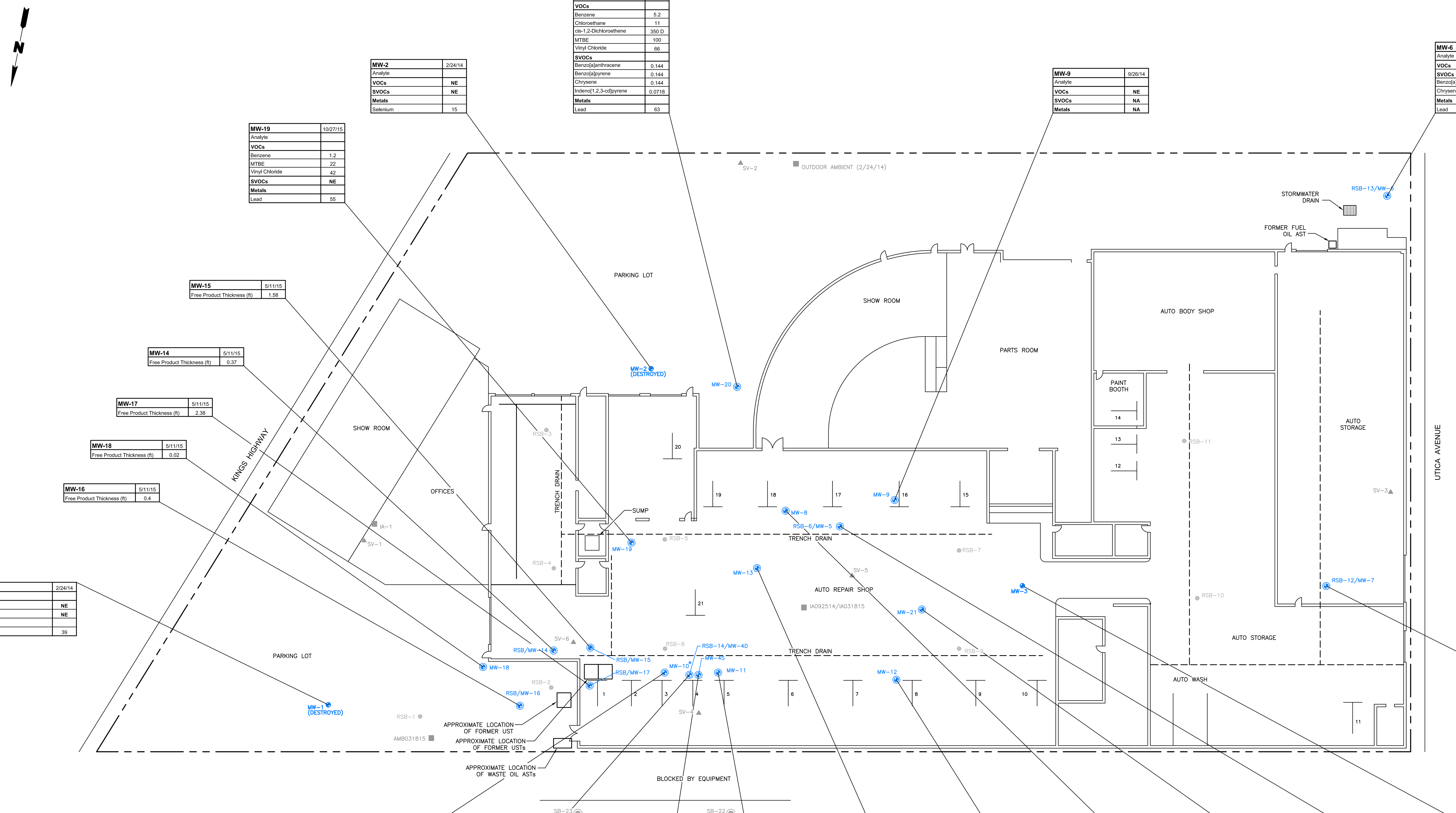

MW-20	10/27/15
Analyte	
VOCs	
Benzene	5.2
Chloroethane	11
cis-1,2-Dichloroethene	350 D
MTBE	100
Vinyl Chloride	66
SVOCs	
Benzo[a]anthracene	0.144
Benzo[a]pyrene	0.144
Chrysene	0.144
Indeno[1,2,3-cd]pyrene	0.0718
Metals	
Lead	63

MW-2	2/24/14
Analyte	
VOCs	NE
SVOCs	NE
Selenium	15

MW-19	10/27/15
Analyte	
VOCs	
Benzene	1.2
MTBE	22
Vinyl Chloride	42
SVOCs	NE
Metals	
Lead	55

MW-9	9/26/14
Analyte	
VOCs	NE
SVOCs	NA
Metals	NA

MW-6	2/24/14
Analyte	
VOCs	NE
SVOCs	
Benzo[a]anthracene	0.0686
Chrysene	0.0686
Metals	
Lead	27

MW-15	5/11/15
Free Product Thickness (ft)	1.58

MW-14	5/11/15
Free Product Thickness (ft)	0.37

MW-17	5/11/15
Free Product Thickness (ft)	2.38

MW-18	5/11/15
Free Product Thickness (ft)	0.02

MW-16	5/11/15
Free Product Thickness (ft)	0.4

MW-1	2/24/14
Analyte	
VOCs	NE
SVOCs	NE
Metals	
Lead	39

MW-7	2/24/14	2/24/14
Analyte		DUP
VOCs	NE	NE
SVOCs		
Bis(2-ethylhexyl) phthalate	39.6	6.98
Metals	NE	NE

MW-10	5/11/15
Free Product Thickness (ft)	*

MW-4D	2/24/14
Analyte	
VOCs	NE
SVOCs	NE
Metals	NE

MW-4S	5/11/15
Free Product Thickness (ft)	2.59

MW-11	5/11/15
Free Product Thickness (ft)	2.72

MW-13	5/11/15
Free Product Thickness (ft)	2.22

MW-12	5/11/15
Free Product Thickness (ft)	1.96

MW-8	5/11/15
Free Product Thickness (ft)	1.73

MW-21	5/11/15
Free Product Thickness (ft)	1.55

MW-5	5/11/15
Free Product Thickness (ft)	1.52

MW-3	2/24/14	9/26/14	9/26/14
Analyte			DUP
VOCs	NE	NE	NE
SVOCs	NE	NA	NA
Metals	NE	NA	NA

LEGEND

- MW-1 EXISTING MONITORING WELL
- MW-4 EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
- RSB-5 EXISTING SOIL SAMPLE
- SV-1 EXISTING SOIL VAPOR SAMPLE POINT
- SB-22 SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
- IA-1 INDOOR/AMBIENT AIR SAMPLE
- 16 NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION
- * PRODUCT THICKNESS NOT MEASURED AT MW-10 DUE TO INTERFACE PROBE MALFUNCTION

DATA BOX KEY

SAMPLE LOCATION — SAMPLE DATE

MW-9	9/26/14
Analyte	
VOCs	NE
SVOCs	NA
Metals	NA

ANALYTE — CONCENTRATION IN µg/L

Parameter	Standards* (µg/L)
VOCs	
Benzene	1
Methylene chloride	5
MTBE	10
Vinyl Chloride	2
SVOCs	
Benzo[a]anthracene	0.002
Benzo[a]pyrene	0
Bis(2-ethylhexyl) phthalate	5
Chrysene	0.002
Indeno[1,2,3-cd]pyrene	0.002
Metals	
Lead	25
Selenium	10

CONCENTRATIONS IN µg/L

µg/L – MICROGRAMS PER LITER
* – NYSDEC AWQSGVS
NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AWQSGVs – AMBIENT WATER-QUALITY STANDARDS AND GUIDANCE VALUES
DUP – DUPLICATE SAMPLE
VOCs – VOLATILE ORGANIC COMPOUNDS
SVOCs – SEMIVOLATILE ORGANIC COMPOUNDS
NE – NO EXCEEDANCES
NA – NOT ANALYZED

NOTE

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. RSB-14/MW-4D IS A DEEP WELL SCREENED FROM 30-40' BELOW LAND SURFACE. THIS WELL DOES NOT HAVE ANY FREE-PHASE PRODUCT.

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC. PHASE II ESA, DATE: 9/5/07

20' 0 20'

Title:
GROUNDWATER SAMPLE RESULTS

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:
BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	PLATE
Prepared by: G.M.	Scale: AS SHOWN	2
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.08.DWG		

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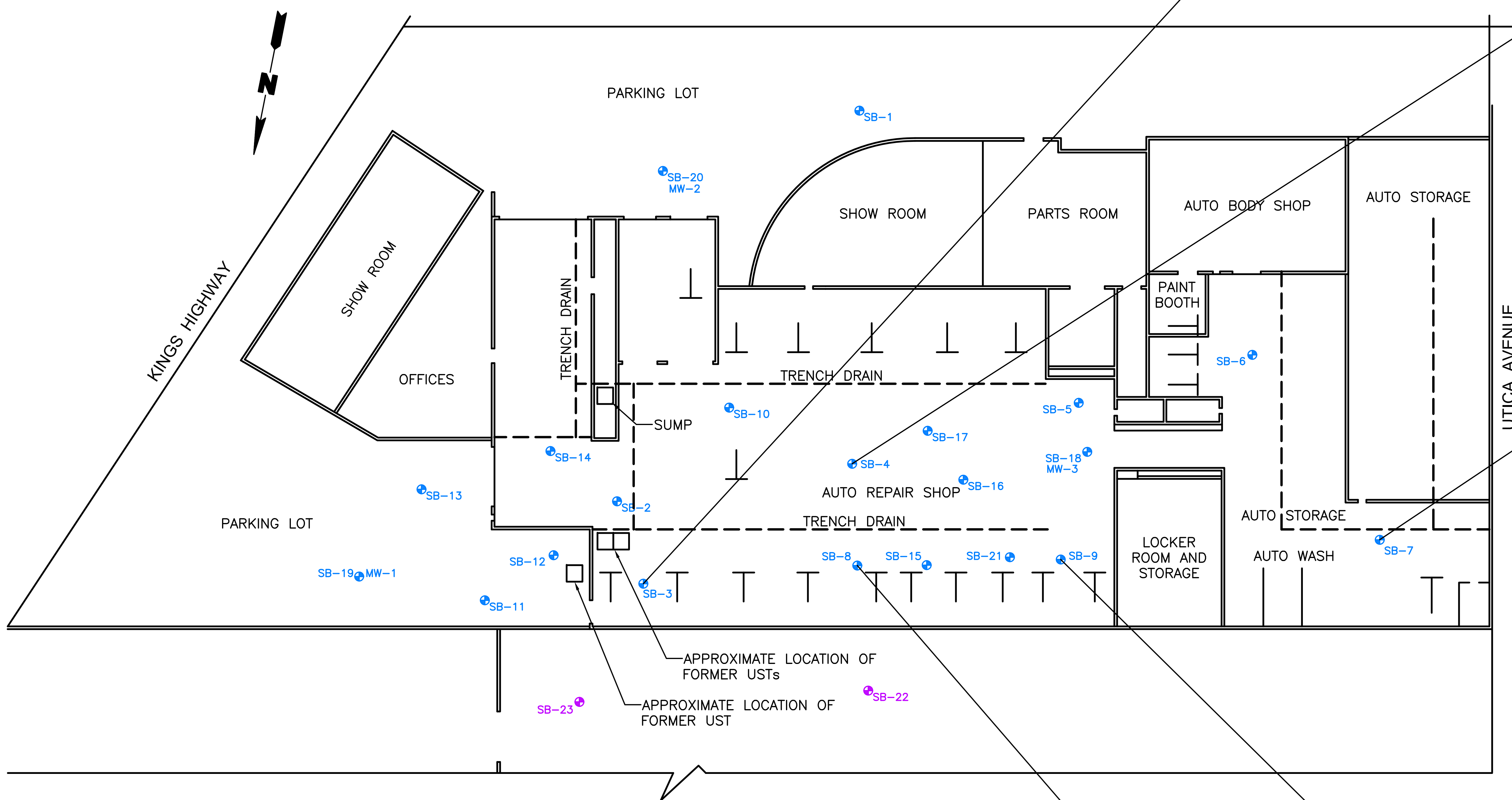
SB-3	3/3/07
VOCs	
1,2,4-Trimethylbenzene	36
1,2-Dichloroethene (Total)	68
1,3,5-Trimethylbenzene	11
Ethylbenzene	26
m+p-Xylene	82
MTBE	15
Naphthalene	25
o-Xylene	32
Toluene	300
SVOCs	NA

SB-4	3/3/07
VOCs	
1,2-Dichloroethene (Total)	2300
MTBE	3200
SVOCs	NA

SB-7	3/3/07
VOCs	NE
SVOCs	NE



SB-8	3/3/07
VOCs	
1,2,4-Trimethylbenzene	210
1,2-Dichloroethene (Total)	480
1,3,5-Trimethylbenzene	57
Benzene	43
Ethylbenzene	63
m+p-Xylene	220
MTBE	440
Naphthalene	110
n-Butylbenzene	16
n-Propylbenzene	25
o-Xylene	120
Tetrachloroethene	330
Toluene	240
SVOCs	NE

SB-9	3/3/07
VOCs	NE
SVOCs	NE

LEGEND

SB-2 SOIL BORING LOCATIONS

SB-23 SOIL BORINGS LOCATED ON ADJACENT PROPERTY (FAVORITE PLASTIC CORP.)

APPROXIMATE LOCATION OF FORMER USTs

NON-FUNCTIONING HYDRAULIC LIFTS

Parameter (Concentrations in µg/L)	Standards* (µg/L)
VOCs	
1,2,4-Trimethylbenzene	5
1,2-Dichloroethene (Total)	5
1,3,5-Trimethylbenzene	5
Benzene	1
Ethylbenzene	5
m+p-Xylene	5
MTBE	10
Naphthalene	10
n-Butylbenzene	5
n-Propylbenzene	5
o-Xylene	5
Tetrachloroethene	5
Toluene	5

µg/L – MICROGRAMS PER LITER

* – NYSDEC AWQSGVs

NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AWQSGVs – AMBIENT WATER-QUALITY STANDARDS AND GUIDANCE VALUES

VOCs – VOLATILE ORGANIC COMPOUNDS

NE – NO EXEEDANCE

NA – NOT ANALYZED

NOTE

GROUNDWATER SAMPLES SHOWN ON THIS PLATE WERE COLLECTED BY ROUX ASSOCIATES AS GRAB SAMPLES FROM SOIL BORING BOREHOLES DURING BORING/SAMPLING ACTIVITIES CONDUCTED BY TESTWELL LABORATORIES, INC. IN 2007.

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

40' 0 40'

Title:

HISTORICAL GROUNDWATER SAMPLE RESULTS

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	PLATE
Prepared by: G.M.	Scale: AS SHOWN	3
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.11.DWG		

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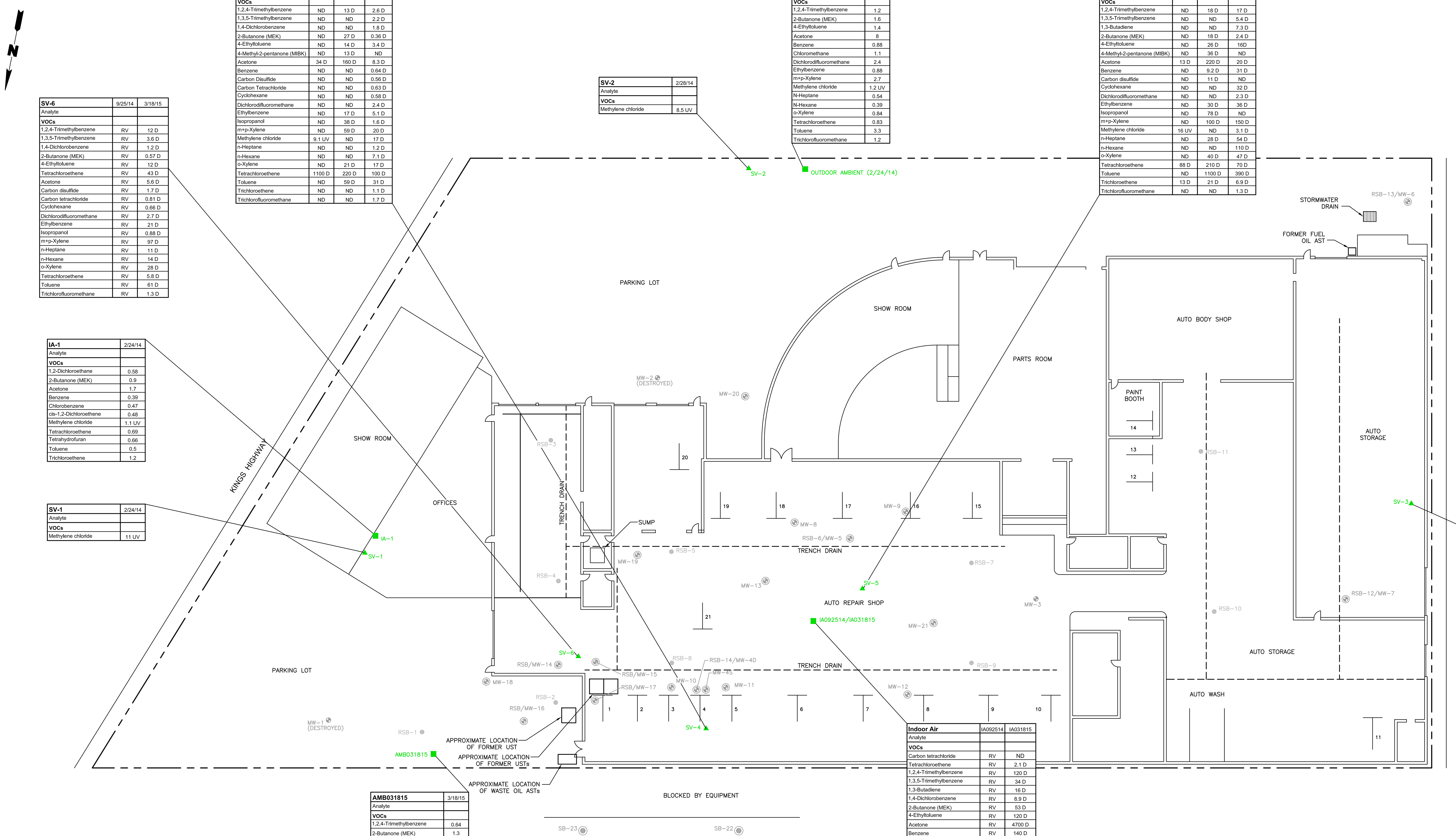

SV-6	9/25/14	3/18/15
Analyte		
VOCs		
1,2,4-Trimethylbenzene	RV	12 D
1,3,5-Trimethylbenzene	RV	3.6 D
1,4-Dichlorobenzene	RV	1.2 D
2-Butanone (MEK)	RV	0.57 D
4-Ethyltoluene	RV	12 D
Tetrachloroethene	RV	43 D
Acetone	RV	5.6 D
Carbon disulfide	RV	1.7 D
Carbon tetrachloride	RV	0.81 D
Cyclohexane	RV	0.66 D
Dichlorodifluoromethane	RV	2.7 D
Ethylbenzene	RV	21 D
Isopropanol	RV	0.88 D
m+p-Xylene	RV	97 D
n-Heptane	RV	11 D
n-Hexane	RV	14 D
o-Xylene	RV	28 D
Tetrachloroethene	RV	5.8 D
Toluene	RV	61 D
Trichlorofluoromethane	RV	1.3 D

SV-4	2/24/14	9/25/14	3/18/15
Analyte			
VOCs			
1,2,4-Trimethylbenzene	ND	13 D	2.6 D
1,3,5-Trimethylbenzene	ND	ND	2.2 D
1,4-Dichlorobenzene	ND	ND	1.8 D
2-Butanone (MEK)	ND	27 D	0.36 D
4-Ethyltoluene	ND	14 D	3.4 D
4-Methyl-2-pentanone (MIBK)	ND	13 D	ND
Acetone	34 D	160 D	8.3 D
Benzene	ND	ND	0.64 D
Carbon Disulfide	ND	ND	0.56 D
Carbon Tetrachloride	ND	ND	0.63 D
Cyclohexane	ND	ND	0.58 D
Dichlorodifluoromethane	ND	ND	2.4 D
Ethylbenzene	ND	17 D	5.1 D
Isopropanol	ND	38 D	1.6 D
m+p-Xylene	ND	59 D	20 D
Methylene chloride	9.1 UV	ND	17 D
n-Heptane	ND	ND	1.2 D
n-Hexane	ND	ND	7.1 D
o-Xylene	ND	21 D	17 D
Tetrachloroethene	1100 D	220 D	100 D
Toluene	ND	59 D	31 D
Trichloroethene	ND	ND	1.1 D
Trichlorofluoromethane	ND	ND	1.7 D

SV-2	2/28/14
Analyte	
VOCs	
Methylene chloride	8.5 UV

Outdoor Ambient	2/24/14
Analyte	
VOCs	
1,2,4-Trimethylbenzene	1.2
2-Butanone (MEK)	1.6
4-Ethyltoluene	1.4
Acetone	8
Benzene	0.88
Chloromethane	1.1
Dichlorodifluoromethane	2.4
Ethylbenzene	0.88
m+p-Xylene	2.7
Methylene chloride	1.2 UV
N-Heptane	0.54
N-Hexane	0.39
o-Xylene	0.84
Tetrachloroethene	0.83
Toluene	3.3
Trichlorofluoromethane	1.2

SV-5	2/24/14	9/25/14	3/18/15
Analyte			
VOCs			
1,2,4-Trimethylbenzene	ND	18 D	17 D
1,3,5-Trimethylbenzene	ND	ND	5.4 D
1,3-Butadiene	ND	ND	7.3 D
2-Butanone (MEK)	ND	18 D	2.4 D
4-Ethyltoluene	ND	26 D	16D
4-Methyl-2-pentanone (MIBK)	ND	36 D	ND
Acetone	13 D	220 D	20 D
Benzene	ND	9.2 D	31 D
Carbon disulfide	ND	11 D	ND
Cyclohexane	ND	ND	32 D
Dichlorodifluoromethane	ND	ND	2.3 D
Ethylbenzene	ND	30 D	36 D
Isopropanol	ND	78 D	ND
m+p-Xylene	ND	100 D	150 D
Methylene chloride	16 UV	ND	3.1 D
n-Heptane	ND	28 D	54 D
n-Hexane	ND	ND	110 D
o-Xylene	ND	40 D	47 D
Tetrachloroethene	88 D	210 D	70 D
Toluene	ND	1100 D	390 D
Trichloroethene	13 D	21 D	6.9 D
Trichlorofluoromethane	ND	ND	1.3 D

IA-1	2/24/14
Analyte	
VOCs	
1,2-Dichloroethane	0.58
2-Butanone (MEK)	0.9
Acetone	1.7
Benzene	0.39
Chlorobenzene	0.47
cis-1,2-Dichloroethene	0.48
Methylene chloride	1.1 UV
Tetrachloroethene	0.69
Tetrahydrofuran	0.66
Toluene	0.5
Trichloroethene	1.2

SV-1	2/24/14
Analyte	
VOCs	
Methylene chloride	11 UV

SV-3	2/24/14
Analyte	
VOCs	
Acetone	13 D
m+p-Xylene	31 D
Methylene chloride	7.5 UV
o-Xylene	8.6 D
Toluene	24 D

AMB031815	3/18/15
Analyte	
VOCs	
1,2,4-Trimethylbenzene	0.64
2-Butanone (MEK)	1.3
4-Ethyltoluene	0.54
Acetone	20
Benzene	0.99
Chloromethane	1.6
Dichlorodifluoromethane	2.4
Ethylbenzene	1.1
Isopropanol	6.1
m+p-Xylene	3.5
Methylene chloride	32
N-Hexane	8.3
o-Xylene	1.1
Toluene	5.7
Trichlorofluoromethane	1.9

Indoor Air	IA092514	IA031815
Analyte		
VOCs		
Carbon tetrachloride	RV	ND
Tetrachloroethene	RV	2.1 D
1,2,4-Trimethylbenzene	RV	120 D
1,3,5-Trimethylbenzene	RV	34 D
1,3-Butadiene	RV	16 D
1,4-Dichlorobenzene	RV	8.9 D
2-Butanone (MEK)	RV	53 D
4-Ethyltoluene	RV	120 D
Acetone	RV	4700 D
Benzene	RV	140 D
Carbon disulfide	RV	ND
Chloromethane	RV	1.2 D
Cyclohexane	RV	130 D
Dichlorodifluoromethane	RV	1.7 D
Ethylbenzene	RV	200 D
Isopropanol	RV	15 D
m+p-Xylene	RV	780 D
Methylene chloride	RV	3.7 D
n-Heptane	RV	270 D
n-Hexane	RV	350 D
o-Xylene	RV	240 D
Toluene	RV	1800 D
Trichlorofluoromethane	RV	1.2 D

LEGEND

- MW-1 — EXISTING MONITORING WELL
- MW-4 — EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
- RSB-5 — EXISTING SOIL SAMPLE
- SV-1 — EXISTING SOIL VAPOR SAMPLE POINT
- SB-22 — SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
- IA-1 — INDOOR/AMBIENT AIR SAMPLE
- 16 — NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION

DATA BOX KEY

SAMPLE LOCATION

SAMPLE DATE

RSB-14/4D	2/10/14	2/10/14	2/10/14	2/10/14
Depth (ft bls)	2.5 - 3	5 - 7	10 - 11	38 - 40
VOCs	NE	NE	NE	NE
SVOCs				
Benzo[a]pyrene	1470 JD	1560 JD	ND	ND

ANALYTE

CONCENTRATION IN $\mu g/L$

Parameter (Concentrations in µg/kg)	Standards* (µg/kg)
SVOCs	
Benzo[a]pyrene	1000

CONCENTRATIONS IN $\mu g/m^3$

- $\mu g/m^3$ – MICROGRAMS PER CUBIC METER
- VOCs – VOLATILE ORGANIC COMPOUNDS
- J – ESTIMATED VALUE
- U – INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED
- D – A SECONDARY ANALYSIS AFTER DILUTION DUE TO EXCEEDANCE OF THE CALIBRATION RANGE IN THE ORIGINAL SAMPLE
- V – VALUE ALTERED OR QUALIFIER ADDED DURING DATA VALIDATION
- R – SAMPLE RESULTS REJECTED BY VALIDATOR

NOTE

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. RSB-14/MW-4D IS A DEEP WELL SCREENED FROM 30-40' BELOW LAND SURFACE. THIS WELL DOES NOT HAVE ANY FREE-PHASE PRODUCT.

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

20' 0 20'

Title:

SOIL VAPOR CHEMISTRY RESULTS

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 27MAR18	PLATE
Prepared by: G.M.	Scale: AS SHOWN	4
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.08.DWG		

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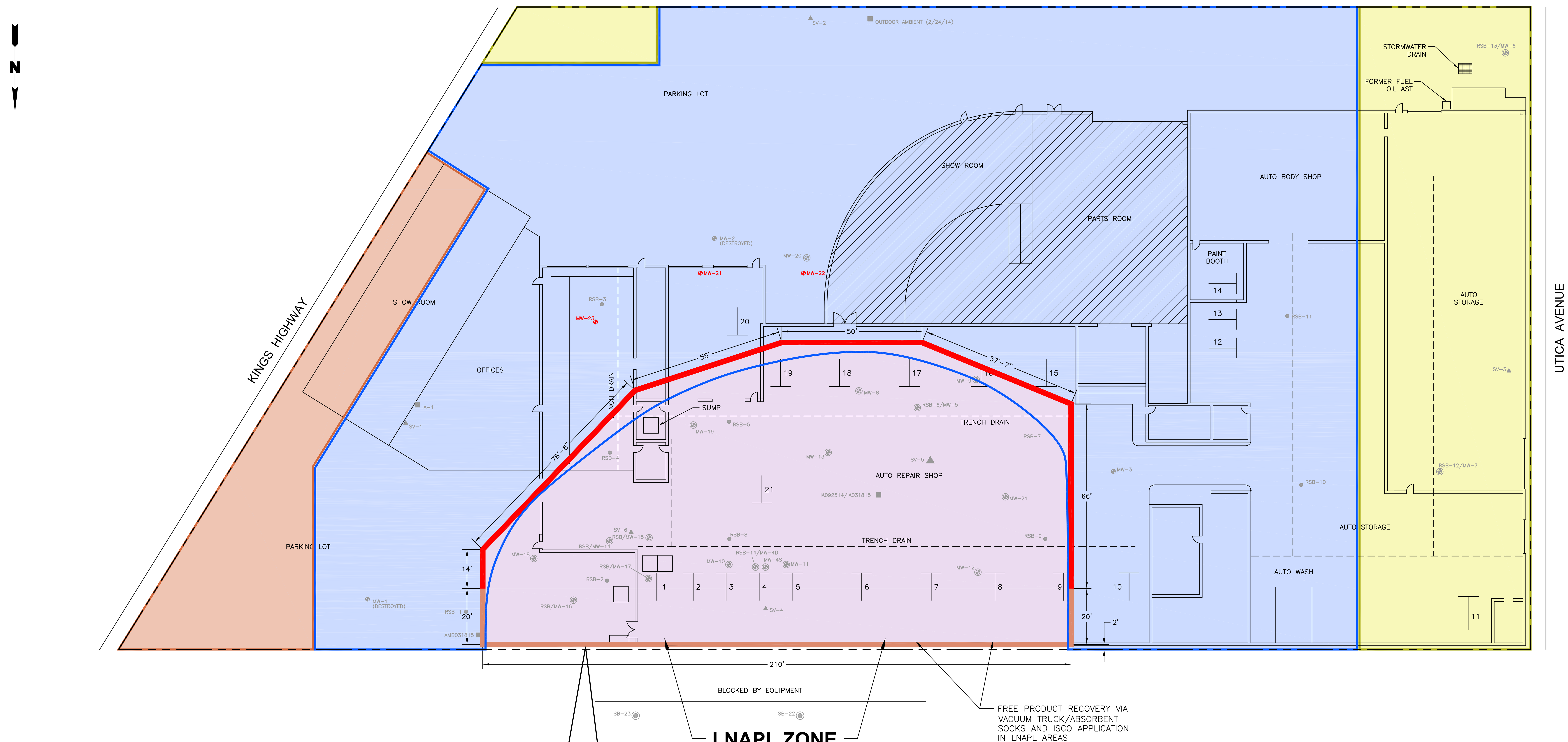

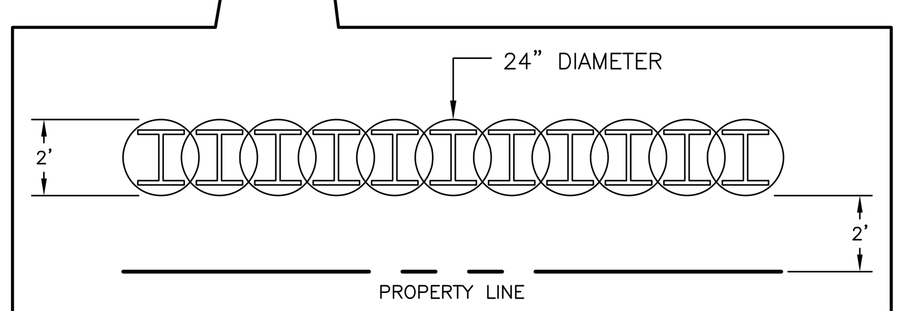

SOE DETAIL
NOT TO SCALE

LEGEND

- MW-21 — PROPOSED MONITORING WELL
- MW-1 — EXISTING MONITORING WELL
- MW-4 — EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
- RSB-5 — EXISTING SOIL SAMPLE
- SV-1 — EXISTING SOIL VAPOR SAMPLE POINT
- SB-22 — SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
- IA-1 — INDOOR/AMBIENT AIR SAMPLE
- 16 — NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION
- AREA NOT EXCAVATED (PENDING PRE-DELINEATION SAMPLING)
- AREA TO BE EXCAVATED TO 9 FEET BELOW GRADE (CELLAR)
- AREA TO BE EXCAVATED UP TO 19 FEET BELOW GRADE (LNAPL PETROLEUM ZONE)
- AREA TO BE EXCAVATED TO 4 FEET BELOW GRADE
- PROPOSED SOE
- PROPOSED SHEETING PLAN

SOURCE

BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC, PHASE II ESA, DATE: 9/5/07

30' 0 30'

Title:

REMEDIAL ALTERNATIVE 1
TRACK 1 UNRESTRICTED

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

BRIDGES DEVELOPMENT GROUP

ROUX

Compiled by: W.S.	Date: 12APR18	PLATE
Prepared by: G.M.	Scale: AS SHOWN	5
Project Mgr: W.S.	Project: 2861.0001Y000	
File: 2861.0001Y102.12.DWG		

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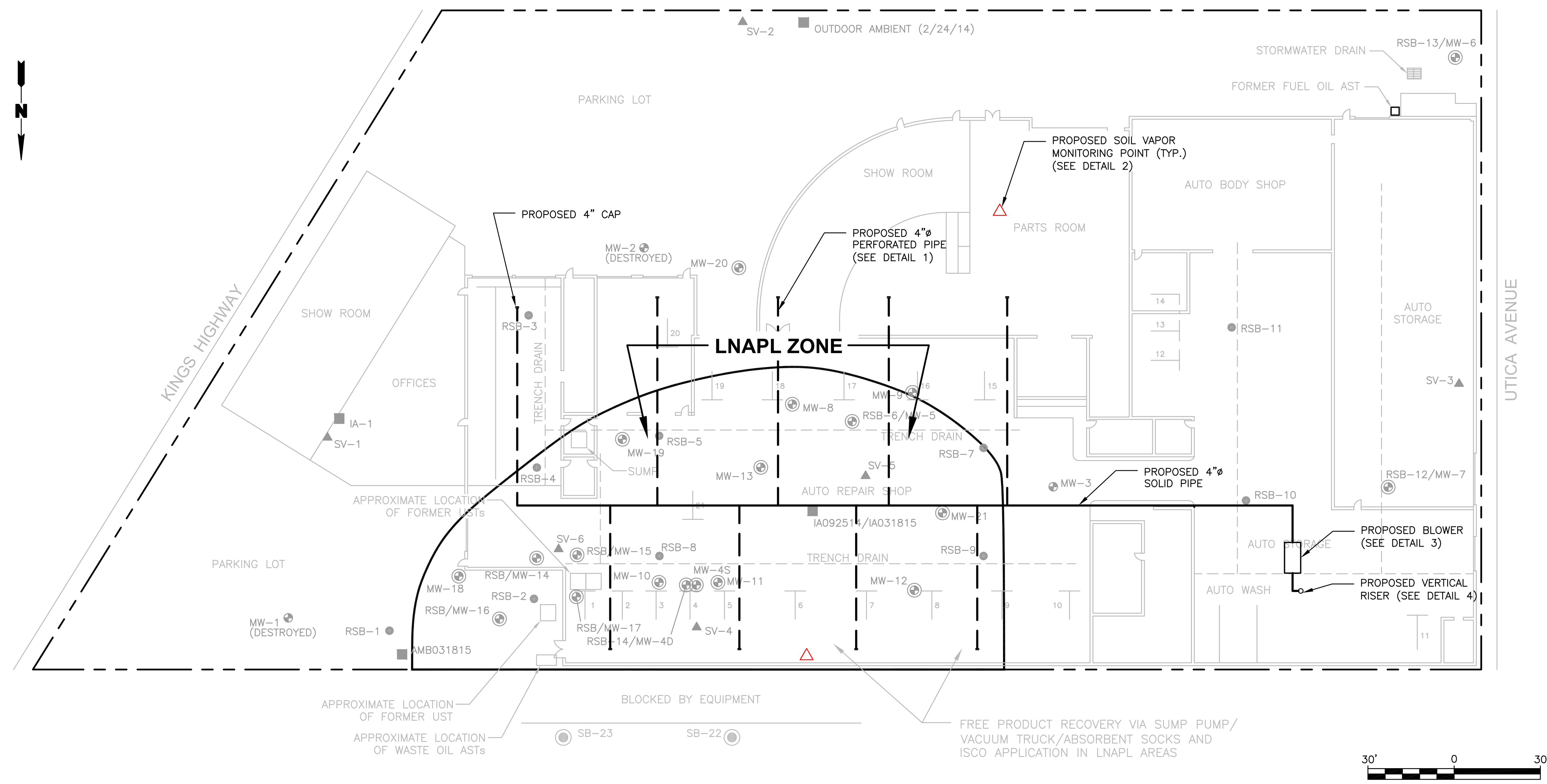
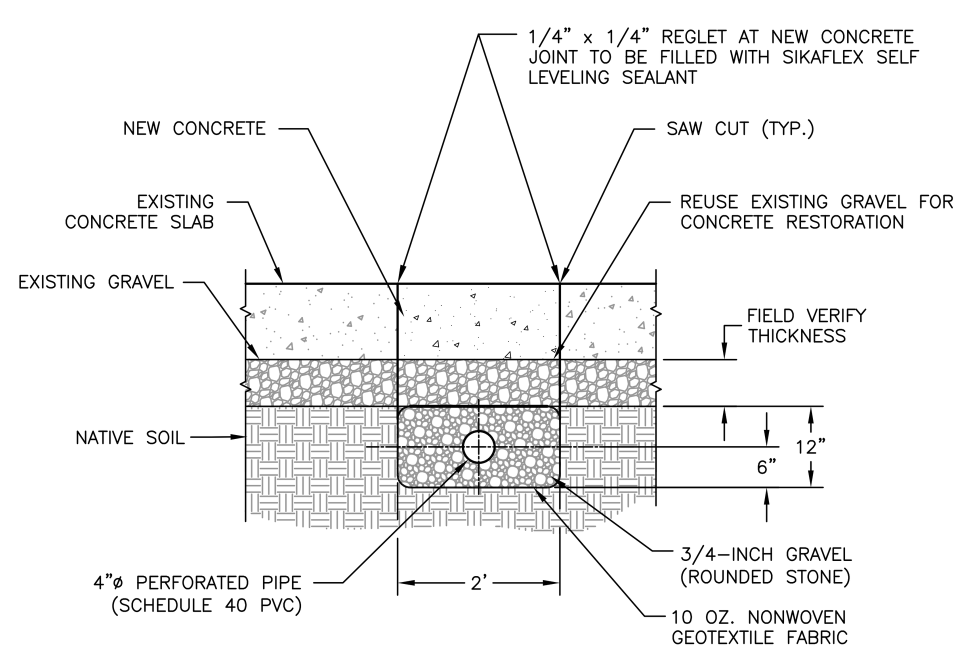
LEGEND

MW-1	EXISTING MONITORING WELL
MW-4	EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES
RSB-5	EXISTING SOIL SAMPLE
SV-1	EXISTING SOIL VAPOR SAMPLE POINT
SB-22	SB-22 AND SB-23 HISTORICAL SOIL BORINGS INSTALLED BY TESTWELL LABORATORIES, INC. 2007
IA-1	INDOOR/AMBIENT AIR SAMPLE
16	NON FUNCTIONING HYDRAULIC LIFTS WITH DESIGNATION

SOURCE

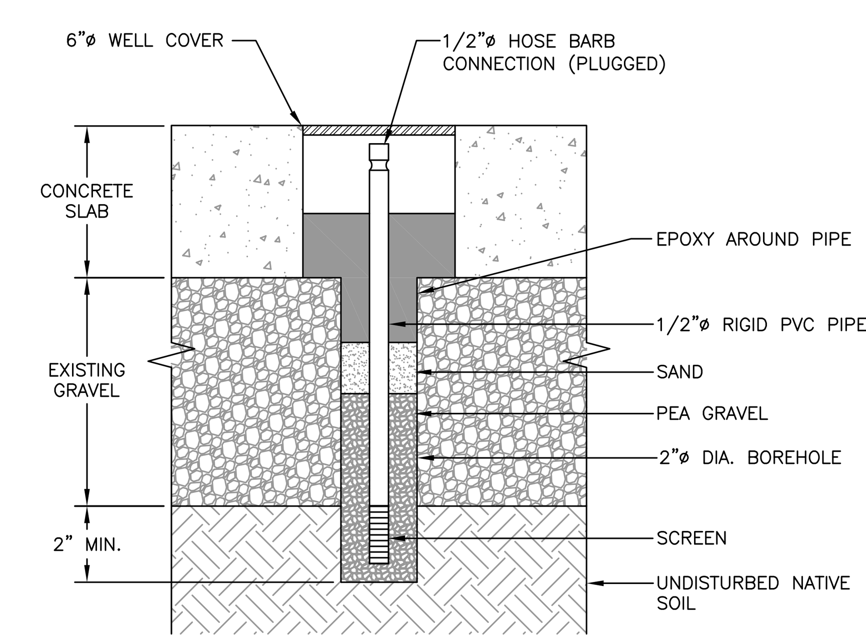
BASEMAP ADAPTED FROM TESTWELL LABORATORIES, INC. PHASE II ESA, DATE: 9/5/07





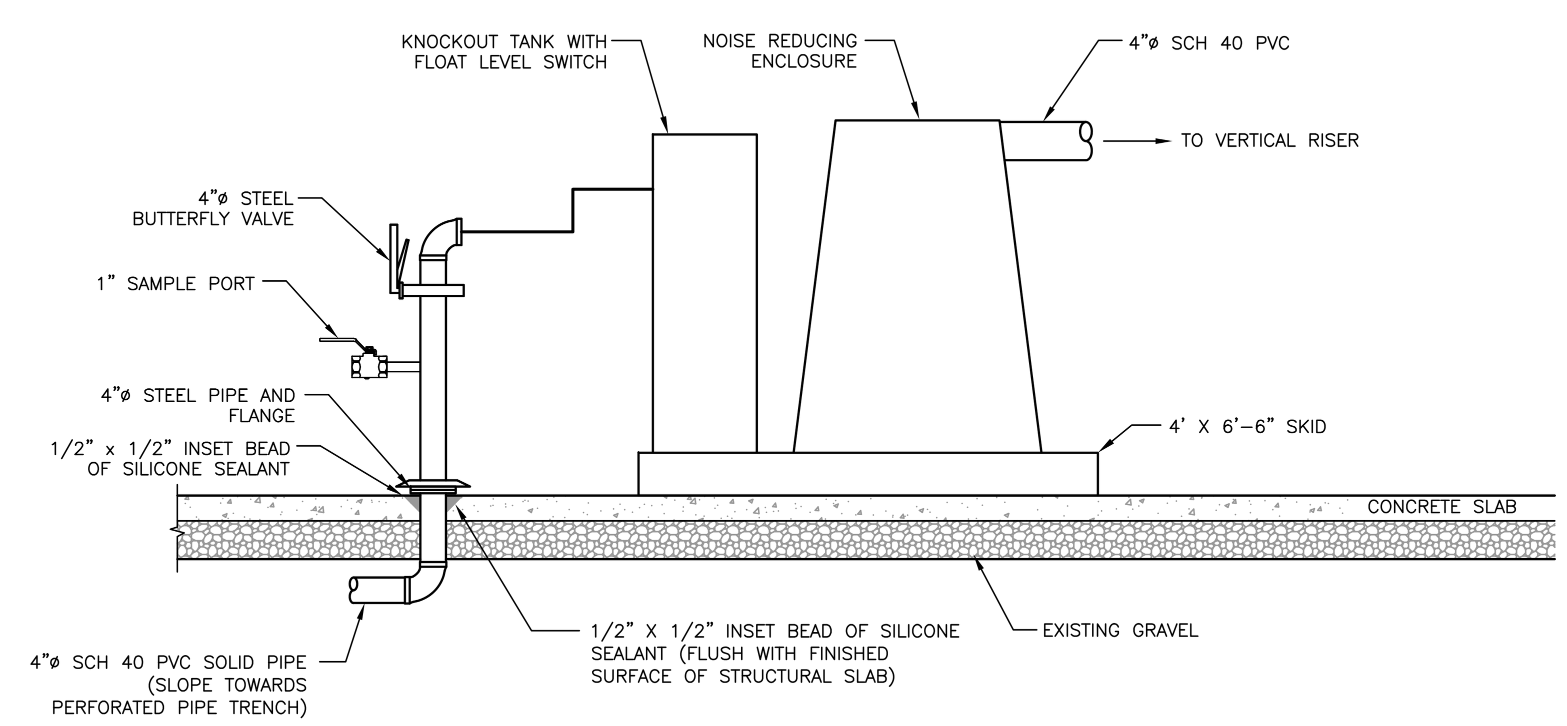
1/6 SUB-SLAB DEPRESSURIZATION SYSTEM – PIPE DETAIL

SCALE: NOT TO SCALE



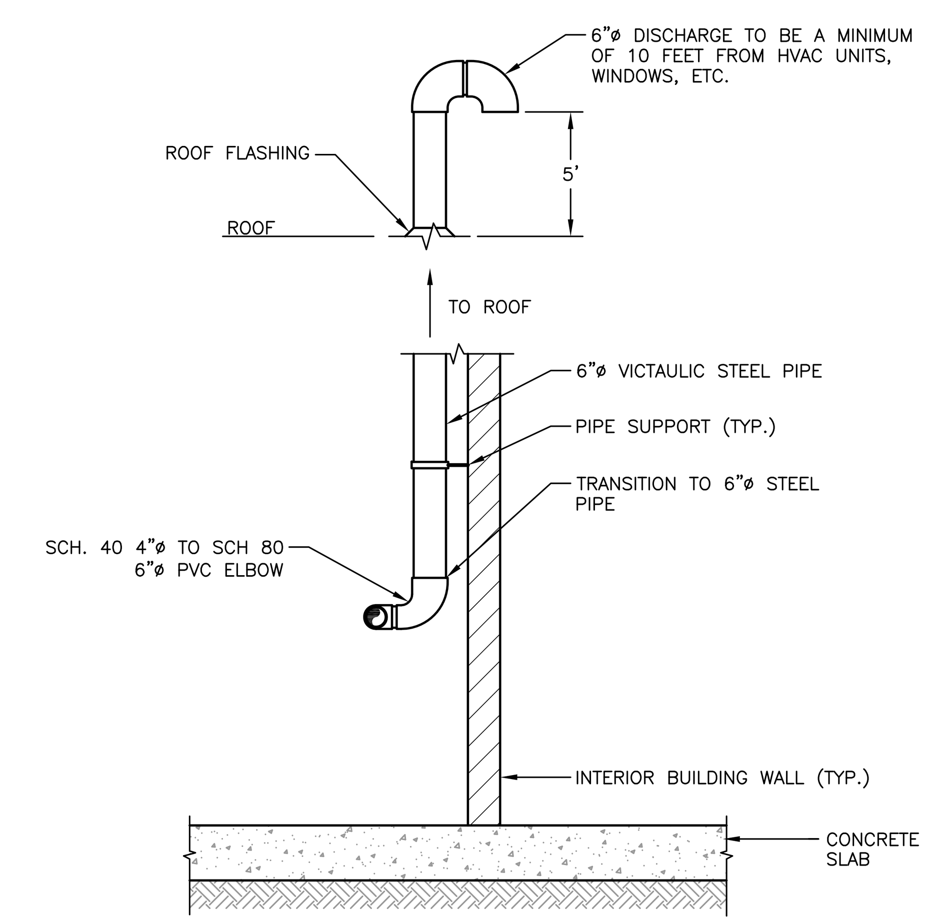
2/6 SOIL VAPOR MONITORING POINT DETAIL

SCALE: 1" = 4'



3/6 BLOWER SKID DETAIL

SCALE: NOT TO SCALE



4/6 VERTICAL RISER TO ROOF DETAIL

NOT TO SCALE

BLOWER NOTES

1. PROVIDE ELECTRICAL/CONTROL CONDUIT TO BLOWER. COORDINATE WITH ELECTRICAL CONTRACTOR.
2. ELECTRICAL CONDUIT SHALL BE SIZED FOR 230/460 VOLT, THREE PHASE, 20 AMPS 60 HZ, FOR BLOWER MOTOR.
3. THE BLOWER SHALL BE A 3 HP, AMETEK ROTRON MODEL OR APPROVED EQUAL.
4. THE BLOWER SHALL BE PROVIDED WITH A NOISE REDUCING ENCLOSURE MODEL SAE30W72F WITH 1/3 Hp VENTILATION FAN OR APPROVED EQUAL.
5. THE BLOWER SKID SHALL INCLUDE THE NOISE REDUCING ENCLOSURE, CONTROL PANEL, AMETEK ROTRON MODEL MS300DS KNOCKOUT TANK (WITH HIGH LEVEL ALARM), LOW VACUUM SWITCH (0 TO 5 INCHES OF WATER), VACUUM RELIEF VALVE, MANUAL DILUTION VALVE WITH INLET FILTER, INLINE FILTER GAUGES, AND INTERCONNECTING PIPING/FITTINGS.
6. THE CONTROL PANEL SHALL HAVE GREEN (OPERATION) AND RED (ALARM) INDICATOR LIGHTS, E-STOP, AND MANUAL RESET BUTTON.
7. THE SYSTEM ALARMS TO BE TRIGGERED BY LACK OF ELECTRICAL POWER, LOW VACUUM AND HIGH LEVEL IN KNOCKOUT TANK.
8. PROVIDE ALARM LIGHT INDICATING SYSTEM SHUT DOWN. SPECIFIC LOCATION TO BE COORDINATED AND CONFIRMED WITH ROUX ASSOCIATES.

Title:

SSDS PIPING CONTINGENCY

KRISTAL AUTO MALL
5200 KINGS HIGHWAY
BROOKLYN, NEW YORK 11234

Prepared For:

BRIDGES DEVELOPMENT GROUP

ROUX	Compiled by: W.S.	Date: 27MAR18	PLATE
	Prepared by: G.M.	Scale: AS SHOWN	6
	Project Mgr: W.S.	Project: 2861.0001Y000	
	File: 2861.0001Y102.10.DWG		

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