P.W. GROSSER CONSULTING

February 28, 2014

Alicia Barraza
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau B
625 Broadway
Albany, NY 12233-7016
Aabarraz@gw.dec.state.ny.us

Re: Former Watermark, 491 Wortman Avenue, Brooklyn, NY, Site No. C224139
Supplemental Remedial Investigation Report Revision

Dear Ms. Barraza:

P.W. Grosser Consulting, Inc. (PWGC) is pleased to provide you with a revised Supplemental Remedial Investigation Report (SRIR) for the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Site (BCP) referenced above. The attached SRIR has been updated and modified to address the comments presented in the February 7, 2014 letter prepared by NYSDEC and New York State Department of Health (NYSDOH).

The NYSDEC and NYSDOH comments from the February 7, 2014 letter are detailed below. The individual comments are followed by a brief description of the modification and updates made to the revised SRIR.

NYSDEC Comment: 1.2.2 Phase II ESA Report (1/13/2009) - On page 2, the last paragraph is missing information about specific VOC concentrations that was included in the approved work plan. Please insert this missing information.
Response: This section has been updated to incorporate the requested information.

NYSDEC Comment: 1.2.3 Limited Subsurface Investigation Report (2/1/2009) - On page 3, the second paragraph in this section is missing information about specific VOC concentrations that was included in the approved work plan. Please insert this missing information.
Response: This section has been updated to incorporate the requested information.

NYSDEC Comment: 1.2.4 Draft Site Characterization Report (1/27/2012; incomplete) - On page 4, the fourth paragraph is missing information about specific VOC concentrations that were included in the approved work plan. Please insert this missing information.
Response: This section has been updated to incorporate the requested information.

NYSDEC Comment: 3.0 Supplemental Remedial Investigation - Include a summary of the Community Air Monitoring completed and include the results as an appendix.
Response: This section (3.1) has been updated to incorporate the requested information.

NYSDEC Comment: 3.1.2 Analytical Results - On page 5, fifth paragraph in this section, the last sentence is truncated.
Response: This section (3.2.2) has been updated and the sentence is now complete.

NYSDEC Comment: 3.2.3 Temporary Groundwater Sampling Points Installation - This section and the next section are both numbered 3.2.3.
Response: The Table of Contents and section numbering have been updated accordingly.

NYSDEC Comment: 3.2.4 Groundwater Flow Evaluation - Figure 8 is missing in the report. Figure 7 is duplicated.
Response: Figure 8 has been included.

NYSDEC Comment: Section 3.1.5, Water Table Monitoring Well Sampling Protocol, follows section 3.2.4 and is out of numerical sequence. It is also not included in the table of contents.
Response: The Table of Contents and section numbering have been updated accordingly.

NYSDEC Comment: 3.2.6 Analytical Results - In the last sentence of this section, also reference the figures that show the sampling locations.
Response: This section has been updated and Figure 6 is referenced.

NYSDEC Comment: 3.3.1 Soil Vapor Sampling Protocol - Clarify if SV002 and SV003 were collected from the ground surface or from underneath the concrete sidewalk.
Response: This section has been updated clarify that the soil vapor samples were collected beneath the sidewalk.

NYSDEC Comment: 3.3.3 Indoor and Ambient Air Samples Protocol - Give different labels to IA001 (9/16) and IA002 (9/18) to avoid confusion.
Response: The sample IDs in the text and the figures were labeled with additional suffixes to more clearly differentiate between the two IA001 sample locations.

NYSDEC Comment: 3.3.4 Analytical Results - The Air Guideline Values only apply to indoor air. When sub-slab and indoor air data are both available, the Matrices 1 and 2 should be used to determine the appropriate action to reduce potential and current human exposures. Refer to section 3.4 of *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006* and revise the SRIR accordingly.
Response: This section has been updated to evaluate soil vapor samples to Matrices 1 & 2 of the NYSDOH Guidance as well.

NYSDEC Comment: 3.4 AST Investigation - The AST should be properly drained and removed if not being used.
Response: This section (3.5) has been updated to detail the recent UST removal action.

NYSDEC Comment: 3.5 Floor Drain Investigation - Show the bathroom location on Site Plan figure.
Response: This figure has been updated show the bathrooms.

NYSDEC Comment: 3.6 Data Usability Summary - Include Data Usability Report in Appendix E.
Response: This section (3.7) has been updated to include the summary of the Data Usability Summary.

NYSDEC Comment: 3.6.1 Data Validation - Include summary of Data Validation Reports.
Response: This section (3.7.1) has been updated to include the summary of the Data Validation Reports.

NYSDEC Comment: 3.7 Contaminant Fate and Transport - The third paragraph in this section should also include MW-8.

Response: This section (3.8) has been updated to include MW-8.

NYSDEC Comment: 5.1 Contaminant Source - The fourth paragraph in this section should state the highest concentration of TCE in groundwater, as both TCE and PCE are sources of soil vapor intrusion.
Response: This section has been updated to detail the highest concentrations of TCE in groundwater, and states that both TCE and PCE in groundwater are potential sources of soil vapor intrusion.

NYSDEC Comment: 5.2 Contaminant Release and Transport - The third paragraph in this section should state the highest concentration of TCE in groundwater.
Response: This section has been updated to detail the highest concentrations of TCE in groundwater.

NYSDEC Comment: 5.3 Points and Routes of Exposure
This section should also address the potential exposure to off-site receptors from soil vapor intrusion.
Response: This section has been updated to address the potential exposure from soil vapor intrusion.

NYSDEC Comment: 5.4 Characterization of Potential Receptor Populations - This section should identify and assess all nearby potential receptors. The closest residences are about 250 to 300 feet west of the site. There is school four blocks southwest of the site, along Wortman Avenue and between Warwick and Jerome Streets. There are at least four nearby daycare centers west and south of the site that may still be in operation. Update the table in section 5.5 as appropriate.
Response: This section has been updated to identify the nearby potential receptors. Table 5.5 already lists inhalation of air impacted by on and off-site vapor intrusion as a possible exposure route.

NYSDEC Comment: Appendices - The order of appendices in the report does not match the table of contents.
Response: The order of the appendices has been updated to match the table of content and the text.

NYSDEC Comment: Appendix G, Photolog, is included in the table contents but is not referenced or included in the report.
Response: Appendix G has been attached.

Now that the SRIR is complete, we would like to place the certified SRIR in the document repository and distribute a fact sheet to the site contact list. We would also like to further discuss the proposed Remedial Work Plan (RWP) scope with NYSDEC so that we can prepare and submit a draft RWP in the coming weeks. The BCP volunteer is very eager to move forward with the remediation of the site and is confident that an aggressive onsite remedy will address both on and potential off-site concerns.

Please call, if you have any questions.

Sincerely,
P.W. Grosser Consulting,

Kris Almskog
Vice President

Att: SRIR (February 2014)

491 WORTMAN AVENUE
BROOKLYN, NEW YORK
BCP SITE# C224139

SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT
REV. 1

SUBMITTED TO:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7016

PREPARED FOR:

J&H Holding Company, LLC
350 Dewitt Avenue
Brooklyn, New York 11207

PREPARED BY:

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Kris Almskog, Vice President krisa@pwgrosser.com

PWGC Project Number: WAT1201

FEBRUARY 2014

P.W. GROSSER CONSULTING PC
PROJECT No. WAT1201

SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

SUBMITTED:

FEBRUARY 2014

PREPARED FOR:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

ON BEHALF OF:

J&H Holding Company, LLC
350 Dewitt Avenue
Brooklyn, New York 11207

PREPARED BY:

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SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
491 WORTMAN AVENUE
BROOKLYN, NEW YORK

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LIST OF ACRONYMS

Acronym	Definition
AGV	Air Guidance Value
Alpha	Alpha Analytical Laboratories
ASP	Analytical Services Protocol
AST	Aboveground Storage Tank
AWQS	Ambient Water Quality Standard
BCP	Brownfield Cleanup Program
bgs	Below Grade Surface
CUSCO	Commercial Use Soil Cleanup Objective
CVOC	Chlorinated Volatile Organic Compound
DCE	Cis-1,2-dichloroethene
DNAPL	Dense Non-Aqueous Phase Liquid
DUSR	Data Usability Summary Report
EC	Engineering Control
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
EnvroTrac	EnviroTrac Environmental Services
GC/MS	Gas Chromatography/Mass Spectrometry
IER	Impact Environmental Remediation, Inc.
IS	Internal Standards
IUSCO	Industrial Use Soil Cleanup Objective
LNAPL	Light Non-Aqueous Phase Liquid
LEI	Longshore Environmental, Inc.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MEI	Middleton Environmental, Inc.
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOH Guidance	Guidance for Evaluating Soil Vapor Intrusion in New York State, October 2006
NTU	Nephelometric Turbidity Units
ORP	Oxidation Reduction Potential
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
ppb	parts per billion
PVC	Polyvinyl Chloride
PWGC	P.W. Grosser Consulting Engineer & Hydrogeologist, PC
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted Residential Soil Cleanup Objective
RSCO	Recommended Soil Cleanup Objective
SRI	Supplemental Remedial Investigation
SRIWP	Supplemental Remedial Investigation Work Plan
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series

USCS	Unified Soil Classification System
UST	Underground Storage Tank
UUSCO	Unrestricted Use Soil Cleanup Objective
Vali-Data	Vali-Data of WNY, LLC
VC	Vinyl Chloride
VOC	Volatile Organic Compound

CERTIFICATION

I, _____, certify that I am currently a NYS registered professional engineer, as defined in 6 NYCRR Part 375, and that this Supplemental Remedial Investigation 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) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

I, _____, certify that I am currently a NYS registered professional engineer, as defined in 6 NYCRR Part 375, and that this Interim Remedial Measure Report 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) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

_____
PE Name

_____
PE Signature

_____
Date

1.0 INTRODUCTION

P.W. Grosser Consulting Engineer & Hydrogeologist, PC (PWGC) has prepared this report to document the findings of the Supplemental Remedial Investigation (SRI) performed at the Former Watermark Facility (Site) located at 491 Wortman Avenue in Brooklyn, New York. This work was conducted on behalf of J&H Holding Company, LLC as part of the Remedial Investigation (RI) portion of New York State Department of Environmental Conservation's (NYSDEC's) Brownfield Cleanup Program (BCP).

The investigation was performed in accordance with the NYSDEC-approved SRI Work Plan (SRIWP) dated June 11, 2013. The Site has been accepted into the NYSDEC BCP as a Participant and was assigned NYSDEC BCP No. C224139. The purpose of the SRI was to further delineate potential areas of concern within the property boundary and evaluate if off-site adjacent properties may be impacted.

1.1 Project Background

A Phase I Environmental Site Assessment (ESA) and a Phase II ESA were conducted at the Site in 2008 to facilitate a property transaction. Elevated concentrations of chlorinated volatile organic compounds (VOCs) were detected in soil and groundwater samples in the western portion of the subject property. Based on these elevated concentrations, NYSDEC Spill #08-09879 was assigned to the Site.

An RI was implemented in 2011 to further delineate the extent of VOC impact both on and off-site. Based on the findings of the RI, which confirmed the presence of chlorinated VOCs in the soil, groundwater, sub-slab vapor, and indoor air, the Site was entered into the BCP (Site # C224139).

A Vicinity Map is included as **Figure 1**; a Subject Site Location map is included as **Figure 2,** and a Site Plan map is included as **Figure 3.**

1.2 Previous Investigations

PWGC has reviewed the following environmental reports related to the Site.

1.2.1 Phase I ESA Report (9/30/2008)

Prepared by: Middleton Environmental, Inc.

A Phase I ESA was conducted by Middleton Environmental, Inc. (MEI) in September 2008. The purpose of the Phase I ESA was to facilitate a property transaction. The Phase I site inspection indicated the possible presence of a plating pit in the northwest corner of the building. Also, floor drains were observed in the building. MEI recommended that the potential plating pit be accessed and inspected, and that a dye flush test be performed for the pit and the floor drains to determine their discharge points. If on-site discharge points existed, it was recommended that they be sampled to determine if improper discharge has impacted the subsurface. MEI recommended that a Phase II ESA be performed to determine if the subsurface has been impacted.

A fill port and vent pipe were observed along the outside front wall of the building. The associated storage tank was not located. However, the basement of the building was not available for inspection during the Phase I ESA. MEI recommended that the basement be inspected and that, if an aboveground storage tank (AST) was located in the basement, it be removed if not utilized. Further, MEI recommended that if an underground storage tank (UST) was found to be present, it should be precision tested to determine if it was leaking. It was also recommended that floor drains encountered in the basement be sampled to determine if improper discharge impacted the subsurface.

1.2.2 Phase II ESA Report (1/13/2009)

Prepared by: P. W. Grosser Consulting, Inc.

A Phase II ESA was conducted by PWGC in November 2008. The purpose of the Phase II ESA was to address the recognized environmental conditions specified in the MEI Phase I ESA Report. On November 17, 2008, PWGC conducted the Phase II ESA which consisted of the completion of seven (7) soil borings at the subject Site for the collection of soil and groundwater samples. The soil and groundwater samples were analyzed for VOCs and metals.

PWGC accessed the partial basement located in the middle of the southern portion (front) of the building. The fill and vent lines observed along the front (south side) of the building entered a concrete block containment vault in the basement indicating that a fuel oil aboveground storage tank (AST) was present, but not visible. There was no staining observed outside the block containment vault in the basement.

One boring was performed manually in the partial basement adjacent to the AST utilizing a stainless steel hand auger. One soil sample was collected from the 0 to 2 feet (ft) below ground surface (bgs). The soil was classified as moist, poorly-graded, brown sand with silt. No floor drains were identified in the basement.

Analytical results indicated that the fuel oil AST in the basement has not impacted the subsurface. PWGC recommended that the AST be properly closed.

A floor drain was identified in the warehouse bathroom in the southern portion of the building. Upon inspection, it was determined the drain was clogged. A discharge point for the drain could not be determined.

The potential plating pit could not be accessed during the Phase II ESA. It was later identified by the owner of the property as a loading bay / truck scale which is no longer in use and had been covered over with large steel plates.

Elevated concentrations of chlorinated VOCs were detected in soil and groundwater samples in the western portion of the subject property. Trichloroethene (TCE) in the soil exceeded the RSCO, with the highest concentration detected at 63,000 µg/Kg. MTBE was also detected at a concentration slightly exceeding the RSCO at one sampling location with a concentration of 201µg/Kg. Other detected VOCs in soils were within

RSCOs. The highest concentrations of VOCs in the groundwater were those of TCE (highest concentration of 24,000 µg/L) and PCE (highest concentration of 544 µg/L). Based on these elevated concentrations, NYSDEC Spill #08-09879 was assigned to the Site. It appeared that TCE and tetrachloroethene (PCE) concentrations in the soil and the groundwater were the result of the usage of the compounds in and around a degreasing tank which was reportedly located to the south of the former loading bay / truck scale. Metals were also detected in soils at concentrations exceeding Recommended Soil Cleanup Objectives (RSCOs). The copper, mercury, and zinc concentrations detected would also exceed current Unrestricted Use Soil Cleanup Objectives, but would not exceed Restricted Commercial Use Soil Cleanup Objectives.

PWGC recommended further investigation of the impacted soils and groundwater at the Site, including additional soil borings to delineate the horizontal and vertical extent of on-site soil and groundwater impact. PWGC also recommended that the former loading bay / truck scale be accessed to identify drains which may have acted as conduits for contaminants.

PWGC also recommended that the indoor air quality be addressed with regard to the potential for vapor intrusion at the Site.

1.2.3 Limited Subsurface Investigation Report (2/1/2009)

Prepared by: EnviroTrac Environmental Services

In January 2009, EnviroTrac Environmental Services (EnviroTrac) performed a subsurface soil and groundwater investigation to further delineate chlorinated VOC impact at the subject Site.

Laboratory results identified elevated concentrations of TCE and PCE in the soil and groundwater primarily in the western portion of the Site. . The highest concentration of TCE in soil was 140,000 µg/Kg. The highest concentration of PCE in soil was 5,000 µg/Kg. The highest concentration of TCE in groundwater was 5,700 µg/L. The highest concentration of PCE in groundwater was 510 µg/L. PCE and TCE concentrations in samples collected at 25, 35, and 45 ft bgs were significantly lower than in the groundwater interface samples. Based on the sample location elevations and gradient levels of the TCE concentrations in the soil, EnviroTrac concluded that the subsurface soil contamination was a result of an on-site source area of TCE.

EnviroTrac recommended the preparation and submission of a Remedial Investigation Work Plan (RIWP) to the NYSDEC.

1.2.4 Draft Site Characterization Project Report (1/27/2012; incomplete)

Prepared by: Impact Environmental Remediation, Inc.

In 2011, Impact Environmental Remediation, Inc. (IER) performed subsurface investigation services which included soil, groundwater, sub-slab vapor and indoor air sampling in accordance with IER's NYSDEC-approved Proposed Corrective Action and Remedial Investigation Work Plan.

Draft versions of the Report were submitted to the NYSDEC. NYSDEC comments were not fully addressed by IER and a final Site Characterization Project Report was not completed. However, the NYSDEC obtained enough information from the Draft Report to admit the subject Site into the BCP.

Four (4) indoor air samples (IAQ1 through IAQ4) from the breathing zone in four (4) separate locations in the building and one (1) background air sample (IAQ5) were collected from the air outside of the building, from the roof. The laboratory analyzed the indoor air samples and background air sample for VOCs in accordance with United States Environmental Protection Agency (EPA) Method TO-15. Analytical results indicated that PCE and TCE were detected in each of the indoor air samples. TCE concentrations ranged from 140 to 250 µg/m³. PCE concentrations ranged from 4.3 to 8.5 µg/m³.

Six on-site sub-slab soil vapor monitoring points and three off-site vapor monitoring wells were installed at the subject Site in March 2012. The on-site sub-slab soil vapor monitoring points were identified and labeled as on-site soil vapor monitoring points SV-1, SV-2, SV-3, SV-4, SV-5, and SV-6.

A total of three (3) off-site soil vapor monitoring wells were installed in the subsurface soil profile below the sidewalk outside the western portion of the building. The off-site soil vapor monitoring wells were identified and labeled as soil vapor monitoring wells SV-7, SV-8, and SV-9.

Analytical results indicated elevated concentrations of TCE in each of the sub-slab vapor samples. The most elevated concentration was at SV-2 in the western portion of the building (2,300,000 µg/m³). TCE and PCE were also detected in the off-site soil vapor samples. Off-site TCE concentrations ranged from 130 to 63,000 µg/m³ (SV-7, located on the west sidewalk adjacent to the subject building). Off-site PCE concentrations ranged from not detected to 3,200 µg/m³ (SV-8, located on the south sidewalk adjacent to the building).

The IER soil boring investigation included the collection of 34 soil samples from 29 boring locations utilizing a Geoprobe. Analytical results from soils collected from the western portion of the site indicated elevated concentrations of TCE (highest concentration of 54,000 µg/Kg). The highest concentration of PCE detected was 0.48 µg/Kg. Detected VOC concentrations in samples collected from the perimeter of the Site were relatively low, indicating that significantly impacted soils were most likely limited to the subsurface of the western portion of the building.

The IER groundwater investigation included the installation of six on-site groundwater monitoring wells (MW-1 through MW-5 and MW-3D) and three off-site monitoring wells (MW-6 through MW-8). Each of the monitoring wells, with the exception of MW-3D, is screened at the groundwater interface and is constructed of 2-inch diameter PVC. MW-3D is constructed of 1-inch diameter PVC and is screened between 9 ft and 69 ft below grade.

Analytical data from the monitoring well samples indicated TCE and PCE concentrations above NYSDEC Class GA Standards at each of the sampling locations, with the most elevated concentrations occurring in the western portion of the subject Site. TCE concentrations ranged between 77 and 2,300 µg/L. PCE concentrations ranged between 260 and 3,500 µg/L.

Based on the findings of the investigation, IER recommended implementation of an interim remedial measure (IRM) consisting of remedial soil excavation in the western portion of the Site, groundwater removal, and installation of a soil vapor mitigation system.

1.2.5 Phase I ESA Report (5/16/2012)

Prepared by: P.W. Grosser Consulting, Inc.

A Phase I ESA was conducted by PWGC in May 2012. The purpose of the Phase I ESA was to facilitate the completion of a NYSDEC BCP Application. The property has an extensive industrial history which included a machine shop, a steel tube manufacturer, and a water fixture manufacturer. These historical uses are considered a Recognized Environmental Condition (REC).

The property has an active NYSPILL File (Spill #08-09879) associated with it. A review of the NYSPILL File indicates that chlorinated VOCs have impacted the subsurface at the Site. Based upon the nature of the spill, it is considered a REC.

At the time of the inspection, the basement and the AST in the basement, were not available for inspection. However, the AST was inspected by PWGC during the 2008 Phase II ESA, and a soil sample was collected from beneath the AST. Analytical results of the sample indicated that a release most likely did not occur from the AST. Based upon these conditions, it is no longer a REC.

There is a loading dock / truck scale located in the northwest area of the Site. It is covered by steel plates. This structure is a potential pathway for surface discharge to enter the subsurface, and is therefore considered a REC.

The neighboring properties have a historical industrial background. A historical industrial use has the potential to affect the subsurface. A review of neighboring uses and common knowledge of the area has identified subsurface conditions to be contaminated with historic fill and petroleum constituents. Based upon historical uses and the presence of subsurface contaminants in the neighboring properties, they are considered a REC.

Based upon the findings of the Phase I ESA, PWGC recommended that a RI at the subject Site be conducted in accordance with NYSDEC regulations.

The RI should consist of performing soil and groundwater sampling to further delineate chlorinated VOC contamination.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The subject property is approximately 0.44 acres in area and is improved with a one-story slab-on-grade industrial concrete block, brick, and steel building with a partial basement. The building is 19,000 square ft and occupies the entire area of the property. An open warehouse area exists on the western portion of the property. In the north west corner of the property is truck scale pit that was previously covered by steel plates and timber planks. The pit is "T" shaped and comprised of a 25 ft by seven ft east –west pit connected to a 12 ft by three ft north south pit. The pit is approximately five ft deep and had three to four inches of soils and debris sitting atop a cracked and mostly broken thin concrete mud slab. Two 12 inch by 24 inch by 12 inch high concrete blocks are in the pit that were likely utilized to anchor previous scale equipment.

The subject property is located in a manufacturing zoned area in Kings County, Brooklyn, New York. Wortman Avenue is the southern boundary of the subject property. The subject property is bordered to the east by Essex Street, to the west by Linwood Street, and to the north by a commercial and industrial property. No exposed soil or vegetation is present on the subject property.

A Subject Site Location map is included as **Figure 2,** and a Site Plan map is included as **Figure 3.**

2.2 Site History

J & H Holding Company, LLC has owned and operated the subject property since 1997. J & H Company, a NY General Partnership owned and operated the property from 1984 until 1997. These entities operated at the Site under the names Sepco Industries and Watermark Designs between 1984 and 2007. The Site was used to manufacture, store, package, and ship decorative fixtures and hardware for bathrooms and kitchens. The manufacturing processes at the subject property involved cleaning, painting, plating, etching, polishing, and specific machining of metals and metal products. Hazardous regulated chlorinated solvents, specifically TCE and PCE, were used in the manufacturing process to clean various products. The chlorinated solvents were stored and used in the former cleaning and degreasing area located along the west side of the building.

In 2007, Watermark Designs moved the operation from the subject property. From 2007 through November 2013, the Site has been leased by Crown Ministries International, Inc. for religious activities.

2.3 Regional Geology/Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is a solid and silty clay with few lenses of sand and gravel; abundant lignite and pyrite; and gray, red or white in color.

Above the Raritan Clay lies the Magothy Formation. The Magothy Aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Magothy Aquifer is overlain by the Jameco and Upper Glacial Aquifer systems. The Upper Glacial Aquifer is the water table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the land surface to the top of the Magothy and, therefore, is hydraulically connected to the Magothy Aquifer.

2.4 Site Geology/Hydrogeology

The subject property is located over the Long Island aquifer system, which underlies all of Nassau, Suffolk, Kings (Brooklyn), and Queens Counties. The unconsolidated aquifer formations form a southward-dipping wedge that attains a maximum thickness in Kings County about eight-hundred (800) ft in southeast area of Brooklyn. Overlying bedrock in the area is the Lloyd, Magothy, Jameco, and Upper Glacial aquifer systems. The Upper Glacial aquifer, overlie all underlying units and are found at the surface in nearly all of Kings and Queens Counties. Portions of the Upper Glacial aquifer, which contain a generally thin soil mantle of Holocene age make up most of the Rockaway Peninsula and Coney Island.

The Site overlies an interconnected aquifer system consisting of the upper glacial deposits and the underlying Magothy Formation. Depth to groundwater in the underlying glacial aquifer is approximately 12 ft below land surface (bls). The lithologic description of the sediments from soil borings installed during previous investigations at the Site identifies the materials as fill material to approximately five ft below grade underlain by layers of fine to medium silty sands and silt.

Groundwater elevation data collected by PWGC in May 2012 determined groundwater flow to be toward the south-southwest. The nearest surface water body is the Hendrix Creek, located approximately 0.5-mile south-southwest of the Site.

2.5 Site Features

The project Site elevation is approximately 12 ft above mean sea level, and is generally level. The Site is developed with one manufacturing building which occupies the entire area of the Site. There are no exposed areas of vegetation.

2.6 Current and Future Site Use

The western portion of the building is currently unoccupied. The eastern portion of the building was previously occupied by a religious organization for church-related activities. There are currently no plans to redevelop the Site.

3.0 SUPPLEMENTAL REMEIDLA INVESTIGATION

As previously indicated, the SRI was performed to identify and characterize potential contaminants and delineate potential areas of concern within the property boundary and evaluate if off-site adjacent properties may be impacted. The completed investigation included the following tasks:

- Community air monitoring during invasive sub-surface activities.
- Delineation of soil impact.
- Delineation of on-site groundwater impact.
- Delineation of off-site groundwater impact.
- Characterization of off-site soil vapor quality.

A photolog of the remedial activities has been included as **Appendix A**.

3.1 Community Air Monitoring

Community air monitoring was conducted during invasive sub-surface activities to provide measures for the protection of on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial investigation) from potential airborne contaminant releases resulting while performing the SRI. Community air monitoring was conducted in accordance with the Community Air Monitoring Plan (CAMP) included in the SRIWP. Based on previous investigations at the site, the primary concerns for this site were VOCs and dust particulates.

There were no exceedances of the CAMP action levels detected for VOCs or dust particulates. Air monitoring log sheets are included in **Appendix B**.

3.2 Delineation of Soil Impact

To further delineate the extent of PCE impacted soils, soil borings were conducted throughout the property to quantify the horizontal extent of subsurface impact. A total of eight borings (GP008 through GP012, TS001 through TS003) were conducted across the Site. Boring locations were focused near areas in which impact was detected during previous investigations and to delineate areas not previously sampled. Boring GP012 and TS001 through TS003 were located within the truck scale footprint. Locations of soil borings, both historic and recent, are illustrated on **Figure 4**.

3.2.1 *Sampling Protocol*

Drilling services were provided by Longshore Environmental, Inc. of Holbrook, New York (LEI). A track-mounted Geoprobe™ 7762-DT was utilized to perform the soil borings. Non-disposable sampling equipment was cleaned using distilled water and Alconox detergent with a distilled water rinse prior to the collection of each sample. At

boring locations GP008 through GP012, soil samples were collected continuously from grade to approximately 10 ft bgs. Soil samples were characterized using the Unified Soil Classification System (USCS) and screened in the field for the presence of VOCs using a photo-ionization detector (PID). Soils were generally characterized as historic fill material with fines and pieces of concrete and brick to a depth of five feet above possible native fine to medium sands with some gravel. Groundwater was encountered at a depth of approximately nine (9) to 10.5 ft bgs. Elevated PID responses, upto 996 from the shallow soils from GP011, were observed in each of the five borings. Soil boring logs are included in **Appendix C**.

Two soil samples were submitted for analysis from each boring location. Samples were submitted from the interval exhibiting the highest PID response, and the two foot interval immediately above the water table (approximately 10 ft bgs).

Soil samples were also collected from the base of the truck scale located in the northwest corner of the Site. The steel plates and wood boards covering the scale were removed to facilitate the collection of three additional soil samples (TS001 through TS003) utilizing a hand augers. Samples TS001 through TS003 were collected from 0-2.5 ft below the base of the truck scale base.

Soil samples were collected in laboratory-supplied glassware, stored in a cooler with ice, and transported to Alpha Analytical Laboratories of Westboro, Massachusetts (Alpha) under proper chain-of-custody for analysis of target compound list (TCL) VOCs by EPA Method 8260/5035, TCL Semi-Volatile Organic Compound (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, Pesticides by EPA Method 8081, target analyte list (TAL) Metals by EPA Method 6010, and Cyanide by EPA Method 9010/9012.

3.2.2 *Analytical Results*

Soil analytical results were compared to the Soil Cleanup Objectives (SCOs) specified in NYSDEC Part 375 and CP-51.

VOCs were detected in each of the soil samples. TCE was detected above Unrestricted Use Soil Cleanup Objective (UUSCO) in samples GP008 (7.5-10'), GP009 (7.5-10'), GP010 (0-2.5'), GP010 (7.5-10') and GP012 (0-2.5'). The highest TCE concentration detected to date has been 12,000 ug/Kg from the 0-2.5' sample at boring GP-12 from within the center of the truck scale pit. No VOCs were detected in excess of the Restricted Residential Soil Cleanup Objective (RRSCO). There were no other exceedances of UUSCOs.

Several SVOCs commonly observed in historic urban fill material were observed in several of the shallow samples but all concentrations were within UUSCOs.

Pesticides and PCBs were not detected in any of the soil samples.

Several metals were detected above UUSCOs in samples GP008 (0-2.5'), GP008 (7.5-10'), GP009 (0-2.5'), GP009 (7.5-10'), and GP011 (0-2.5'). In addition, metals in excess of RRSCOs, CUSCOs and IUSCOs, including arsenic,

lead, and mercury were detected in the 0-2' soil samples (TS001 through TS003) collected from within the truck scale pit. The GP-012 samples 0-2.5' and 2.5-5' collected from within the truck pit and the GP-010 samples 0-2.5' and 2.5-5' had no metals detected in excess of the UUSCOs.

Analytical data is summarized in **Table 1-3** and exceedances of the UUSCOs are included on **Figures 5**. Laboratory analytical reports are included as **Appendix D**.

3.3 Delineation of On-Site and Off-Site Groundwater Impact

Three new water table monitoring wells, and two multi-level wells were installed to supplement the existing eight monitoring wells in order to further delineate on-site and off-site groundwater quality. In addition to monitoring well installation, five discrete groundwater samples were collected from the water table at each of the boring locations discussed in the previous section. PWGC collected groundwater samples at the Site in September and October of 2013. Monitoring well locations are indicated on **Figure 6**.

3.3.1 *Water Table Monitoring Well Installation*

In September 2013, PWGC mobilized to the Site with LEI to install three new water table monitoring wells (MW009, MW010, and MW011). Locations of the monitoring wells are indicated on **Figure 6**.

The water table monitoring wells were constructed of two-inch diameter, schedule 40 polyvinyl chloride (PVC) casing and screen with 0.010 inch slot. Monitoring wells were installed with a Geoprobe fitted with hollow stem augers. The monitoring wells were screened across the water table with 10 ft of screen and 7 ft of riser to grade. The bottom of the screen is set approximately 7 ft below the water table. The water table was measured at approximately 10 ft bgs. A gravel pack of No. 2 Morie sand was placed in the annulus around the screen with a two-foot bentonite seal above the gravel pack. Above the bentonite layer, the annulus around the well was filled with a cement/bentonite grout. The monitoring wells were finished with concrete surface pads and flush-mounted curb boxes. Monitoring well construction and development logs are included in **Appendix E**.

3.3.2 *Multi-Level Monitoring Well Installation*

In September 2013, PWGC mobilized to the Site with LEI to install two permanent multi-level monitoring wells (ML001 and ML002). The locations of the monitoring wells are indicated on **Figure 6**.

The monitoring wells were installed with a Geoprobe fitted with hollow stem augers. Monitoring wells were constructed of 1-inch diameter PVC and contained 10 ft of screen and riser to grade. The monitoring well screened intervals were installed at 7-17 ft bgs, 30-40 ft bgs, and 50-60 ft bgs for each well. The annulus around each screened zone was backfilled with #2 Morie sand to 2 ft above the screen. The sand filter was overlain by 3 ft of bentonite pellets which was then overlain by #2 Morie sand up to 2 ft above the next shallower screened zone and so on until the last 10 ft below grade which was backfilled with native sands. The monitoring well construction and development logs are included in **Appendix E.**

3.3.3 *Temporary Groundwater Sampling Points Installation and Protocol (Discrete Groundwater Samples)*

Following the completion of soil borings at SB008 through SB012, LEI installed temporary one-inch diameter PVC monitoring wells in each borehole, screened from 5 to 15 ft bgs. Groundwater was encountered at approximately 10 ft bgs. Disposable polyethylene tubing was inserted into the water bearing zone of the temporary wells. The end of the tubing was connected to a stainless steel check valve and the oscillated to pull groundwater to the surface. Approximately four casing volumes of water were purged from the temporary well prior to the collection of samples.

3.3.4 *Monitoring Well and Multi-Level Well Development*

PWGC returned to the Site on September 18, 2013 to develop the newly-installed monitoring wells and multi-level wells by over-pumping to restore the hydraulic properties of the aquifer. In general, well development continued until the turbidity of the groundwater was less than 50 Nephelometric Turbidity Units (NTUs) or when pH, temperature, and conductivity measurements stabilized. Monitoring well development water was containerized in 55-gallon drums for off-site disposal.

3.3.5 Groundwater Flow Evaluation

On September 24, 2013, PWGC surveyed the nine (9) monitoring wells relative to an arbitrary benchmark. The measuring point on each well casing was marked for future measurements. The well-gauging measurements were utilized to determine groundwater elevations and establish a localized groundwater flow direction. The groundwater table interface gradient across the well network was determined to be less than 0.2 ft over several hundred ft. Based upon these observations, there is no significant flow gradient or dominant flow direction that can be obtained. The regional groundwater flow direction in the area has been noted to be in a southerly direction. A figure identifying relative groundwater elevation values and groundwater flow direction contours is provided as **Figure 8.**

3.3.6 *Water Table Monitoring Well Sampling Protocol*

PWGC returned to the Site October 8, 2013 to collect groundwater samples from each monitoring well. Monitoring of the wells consisted of collecting and recording depth to water, and total well depth. Light non-aqueous phase liquid (LNAPL) nor dense non-aqueous phase liquid (DNAPL) were detected. The two-inch diameter water table wells were purged using a decontaminated submersible pump fitted with disposal polyethylene tubing under low flow conditions. During purging, the groundwater parameters pH, temperature, conductivity, oxidation reduction potential (ORP), turbidity, and dissolved oxygen were measured every three minutes with a Horiba U52 water quality instrument. When measurements stabilized in accordance with the EPA standard operating procedure EQASOP-GW001, purging was completed. Purge water was placed into 55 gallon drums for off-site disposal.

The groundwater sample was then collected directly from the tubing and placed in laboratory-supplied glassware and packed in a cooler with ice and delivered to Alpha under chain-of-custody seal. Each sample was analyzed for the presence of TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, TAL Metals

(Total & Dissolved) by EPA Methods 6010 and 6020, PCBs by EPA Method 8082, Pesticides by EPA Method 8081, and Cyanide by EPA Method 9010/9012. Copies of the groundwater sampling logs containing the recorded field parameters and purge volumes are attached as **Appendix E**.

3.3.7 Multi-Level Monitoring Well Sampling Protocol

Monitoring of the multi-level wells consisted of collecting and recording depth to water, and total well depth. LNAPL was not detected. Prior to sampling, each interval was purged of 3-5 casing volumes using polyethylene tubing fitted with a stainless steel check valve. Purge water was placed into 55 gallon drums for off-site disposal.

Upon collection, groundwater samples were placed in pre-cleaned laboratory supplied glassware and packed in a cooler with ice and delivered to Alpha under chain-of-custody seal. Each sample was analyzed for the presence of TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, TAL Metals (Total & Dissolved) by EPA Methods 6010 and 6020, PCBs by EPA Method 8082, Pesticides by EPA Method 8081, and Cyanide by EPA Method 9010/9012. Copies of the groundwater sampling logs containing the recorded field parameters and purge volumes are attached as **Appendix E**.

3.3.8 Analytical Results

Groundwater analytical results were compared to the NYSDEC Ambient Water Quality Standards (AWQS) for Class GA groundwater, as specified in Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values on Groundwater Effluent Limitations*, June 1998.

Chlorinated volatile organic compounds (CVOCs) were detected above AWQS in each of the groundwater samples collected. PCE concentration exceeded the AWQS in each of the samples, with the exception of ML002-S (The off-site water table sample collected at the southwest corner of Wortman Avenue and Linwood Street). The highest PCE concentration detected was 1,900 µg/L in MW006, located on the sidewalk by the northwest corner of the building.

TCE, Cis-1,2-Dichloroethene (DCE), and vinyl chloride (VC) are anaerobic degradation products of PCE. TCE concentrations exceeded the AWQS in most of the groundwater samples collected. The TCE concentrations in the samples collected from multi-level well ML002 were within AWQS. The highest TCE concentration was 8,700 µg/L in MW001 shallow (7-17' bgs) well, located just to the south of the truck scale pit.

DCE was detected in concentrations exceeding the AWQS in samples from GP011, MW005, MW006, MW008, MW010, and MW011. VC was not detected in any of the groundwater samples in excess of the AWQS.

SVOCs were detected above AWQS in three of the groundwater samples, including MW001, ML001-S, and ML001-D in the vicinity of the truck scale pit.

Metals including antimony, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, sodium and zinc, iron, manganese, and sodium were detected in excess of the AWQS in the total metals sample collected from most locations. However, the dissolved metal analysis for each of the locations detected only iron,

manganese, and sodium in excess of the AWQS with the exception of MW007 which also had an elevated chromium concentration of 167.9 ug/L. MW007 is located off-site on the sidewalk to the west of the subject building. Detected dissolved chromium concentrations in the other samples were within the AWQS. The dissolved metal analysis, which is filtered to remove sediments, is often viewed as more representative of actual groundwater conditions.

PCBs and pesticides were not detected in the collected groundwater samples.

Analytical data is summarized in **Tables 4-7**. Laboratory analytical reports are included as **Appendix D**. Sampling locations are illustrated on **Figure 6.**

3.4 On-Site and Off-Site Soil Vapor and Ambient Air Evaluation

To determine whether soil vapor intrusion may be a potential concern for the proposed redevelopment of the property and adjacent off-site properties, soil vapor and ambient air samples were collected. As part of the SRI, Four indoor ambient air samples were collected on-site, along with three off-site soil vapor samples and one outdoor ambient air sample.

3.4.1 *Soil Vapor Sampling Protocol*

On September 18, 2013, PWGC and LEI mobilized to the Site to install two new permanent soil vapor points (SV002 and SV003) beneath the neighboring sidewalks. Sampling points were installed using Geoprobe® direct-push drill rig to drive rods to five ft below the bottom of the concrete sidewalk. Sampling points were constructed of a dedicated stainless steel screen fitted with inert polyethylene tubing to grade. The stainless steel screens were installed at a depth of five ft bgs. No. 2 washed stone was added to create a sampling zone 2 ft in length. The sampling point was sealed above the sampling zone with bentonite slurry to grade to prevent outdoor air infiltration. The off-site sampling points (SV001 and SV002) were finished with an 8 inch manhole cover.

Sampling was conducted in accordance with the New York State Department of Health (NYSDOH) "Guidance for Evaluating Soil Vapor Intrusion in New York State," (NYSDOH Guidance) October 2006. Soil Vapor samples were collected into 2.7-liter Summa® vacuum canisters fitted with 1-hour flow controllers. The samplers were batch certified clean by the Alpha. Proper quality assurance/quality control (QA/QC) protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. The samples were submitted to Alpha for analysis of VOCs by EPA Method TO-15.

3.4.2 *Sub-Slab Vapor Protocol*

On September 16th 2013 PWGC mobilized to the bordering property to the north of the Site to collect a sub slab vapor sample (SV001). A ½ inch borehole was drilled in the slab using a hammer drill. 1/8th inch diameter sample dedicated polyethylene tubing was inserted one inch below the slab and connected to a 2.7L Summa canister. The borehole was sealed air tight using bentonite. The integrity of the seal was tested using helium and then screened with a helium detector to track any leaks.

Sampling was conducted in accordance with the NYSDOH Guidance. Soil Vapor samples were collected into 2.7-liter Summa® vacuum canisters fitted with 1-hour flow controllers. The samplers were batch certified clean by the Alpha. Proper QA/QC protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. The samples were submitted to Alpha for analysis of VOCs by EPA Method TO-15.

3.4.3 *Indoor and Ambient Air Samples Protocol*

On September 16th and 18th 2013 PWGC mobilized to the Site and bordering Site to the north to collect four (4) indoor air samples (IA001-off site (9/16), IA001-on site (9/18), IA002 (9/18), IA003 (9/18)) and an ambient air sample (OA001).

Sampling was conducted in accordance with the NYSDOH Guidance. Soil Vapor samples were collected into 2.7-liter Summa® vacuum canisters fitted with 1-hour flow controllers. The samplers were batch certified clean by the Alpha. Proper QA/QC protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. The samples were submitted to Alpha for analysis of VOCs by EPA Method TO-15.

3.4.4 *Analytical Results*

The laboratory analytical results were compared to the Air Guideline Values (AGVs) specified in NYSDOH Guidance and a NYSDOH memo to the NYSDEC dated June 25, 2007 "Re: Soil Vapor / Indoor Air Matrices." The NYSDOH memo does not include specific AGVs for the additional compounds added; however, these additional compounds have been assigned to one of the Soil Vapor / Indoor Air Matrices listed on the NYSDOH Guidance document. Based upon their assignment to their respective matrices, a "guidance value" was chosen based upon the minimum sub-slab vapor concentration that recommended the possibility of mitigating soil vapor issues. Analytical results for the soil vapor samples are shown on **Table 8** and exceedances of the AGVs are included on **Figure 7**. The laboratory data report is included as **Appendix D**. In addition, the sub-slab and indoor air samples were evaluated to Matrices 1 and 2 of the NYSDOH Guidance to determine appropriate actions to reduce potential exposures.

Elevated concentrations of several CVOCs were detected at concentrations greater than NYSDOH AGVs in each of the indoor air samples collected with the exception of the indoor air sample (IA001-off site (9/16)) collected from the neighboring property to the north and the ambient air sample (OA001) collected from the sidewalk area to the southwest of the building.

The greatest concentration of TCE was from the SV001 sub-slab soil vapor sample collected from the neighboring property to the north. The two off-site soil vapor samples also had elevated PCE and TCE concentrations. When compared to the Matrices 1 & 2 in the NYSDOH Guidance, the soil vapor sample (IA001-off site (9/16)) and corresponding indoor air sample IA001-off site, collected from the neighboring property to the north, require mitigation based upon sub-slab TCE concentrations. When evaluating the soil vapor sample SV002, from the

exterior sidewalk to the west of Linwood St. and sample SV003, from the exterior sidewalk to the south of Wortman Ave., the PCE and TCE concentrations in the soil vapor samples are just above the guidance values to require mitigation. Because these samples were collected beneath and exterior sidewalk, no corresponding indoor air samples were collected and therefore the evaluation of the Matrices could only be done for sub-slab concentrations.

3.5 AST Investigation

An AST, located within the partial basement in an above grade cinder block vault near the southern side of the building, was inspected as part of the SRI to determine the integrity and condition of the tank. To view the AST, a portion of the block vault wall was removed on September 16, 2013.

At that time, the exterior and bottom of the estimated 1,000 gallon AST was inspected. The AST was intact and sitting on the concrete slab of the basement. No evidence of a release and no evidence of holes in the tank were witnessed. The AST was observed to be full with oily liquid.

On November 14, 2013, Eastern Environmental Solutions, Inc. mobilized to the site to remove the AST. The remainder of the block vault wall was removed. A total of 1,000 gallons of liquids were pumped out of the AST, the AST Cut open, cleaned, and disposed of at a properly permitted recycling facility. A copy of the Affidavit of Abandonment is included as **Appendix F.**

3.6 Floor Drain Investigation

A bathroom with toilet and slop sink were noted within the warehouse near the southern side of the building. In an effort to determine the discharge location of the bathroom drains, PWGC conducted a dye test on September 16, 2013. The dye test included leaving the sloop sink water running for an hour as color dyes were added to the discharge. At the same time, PWGC uncovered two (2) of the four (4) manholes covers of the municipal combined sewer system located within the street adjacent to the Site. The remaining two (2) manholes covers could not be opened to allow for viewing of the subsurface structures. Water in the combined sewer system structure was observed to be flowing in a westerly direction. No colored dye was observed in the manholes.

A vent piped to the exterior of the building outside of the bathroom area was noted and during the dye test, running water could be heard through the vent.

The discharge location of the bathroom drains could not be confirmed.

3.7 Data Usability Summary

Analytical data packages obtained from Alpha were sent to Vali-Data of WNY, LLC (Vali-Data) of West Falls, NY to undergo a systematic data validation to provide assurance that the data was adequate for its intended use. All

data were deemed acceptable by the data validator, incorporating data qualifiers as appropriate. Validation consisted of an evaluation of the following criteria:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Sample Precision
- Laboratory Control Samples
- Matrix Spike (MS)/ Matrix Spike Duplicate (MSD)Compound Quantitation
- Initial Calibration
- Continuing Calibration
- Gas chromatography/mass spectrometry (GC/MS) Performance Check

Vali-Data narratives and the full data validation reports are provided in **Appendix G**.

3.7.1 *Data Validation*

Full data validation was performed on more than 5% of the data generated. Remaining data received a summary validation as detailed in the Data Usability Summary Report (DUSR). The DUSR was prepared in general compliance with NYSDEC Analytical Services Protocol (ASP) and EPA National Functional Guidelines. Significant findings of the individual data packages and recommendations of the Data Validation Reports are summarized as follows:

L1318156

The VOC data are acceptable for use but are qualified in Surrogate Spike Recoveries, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration. Alpha reports concentrations greater than the highest MDL across instruments used. Thus, some target analytes are not recorded as detected even when the concentrations of that individual target analyte is above the MDL for that specific instrument.

The SVOC data are acceptable for use but are qualified in Holding Times, Surrogate Spike Recoveries, and Compound Quantitation.

The PCB data are acceptable for use except where qualified in MS/MSD.

The pesticide data are acceptable for use with no qualifications.

The metals data are acceptable for use but are qualified in Blanks, Duplicate, Serial Dilution and Calibration.

L1318157

The VOC data are acceptable for use but are qualified in Surrogate Spike Recoveries, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration. Alpha reports concentrations greater than the highest MDL across instruments used. Thus, some target analytes are not recorded as detected even when the concentrations of that individual target analyte is above the MDL for that specific instrument.

The SVOC data are acceptable for use but are qualified in Compound Quantitation.

The PCB data are acceptable for use Surrogate Spike Recoveries, MS/MSD and Continuing Calibration.

The pesticide data are acceptable for use with no qualifications.

The metals data are acceptable for use but are qualified in Data Completeness, Narrative and Data Reporting Forms, Blanks, Duplicate, Serial Dilution and Calibration.

L1320138

The VOC data are acceptable for use but are qualified in Surrogate Spike Recoveries, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration. Alpha reports concentrations greater than the highest MDL across instruments used. Thus, some target analytes are not recorded as detected even when the concentrations of that individual target analyte is above the MDL for that specific instrument.

The SVOC data are acceptable for use but are qualified in Surrogate Spike Recoveries, MS/MSD and Compound Quantitation.

The PCB data are acceptable for use with no qualifications.

The pesticide data are acceptable for use with no qualifications.

The metals data are acceptable for use but are qualified in Blanks and Serial Dilution.

L1320243

The VOC data are acceptable for use but are qualified in Surrogate Spike Recoveries, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration. Alpha reports concentrations greater than the highest MDL across instruments used. Thus, some target analytes are not recorded as detected even when the concentrations of that individual target analyte is above the MDL for that specific instrument.

The SVOC data are acceptable for use but are qualified in Holding Times, Surrogate Spike Recoveries, Method Blank and Compound Quantitation.

The PCB data are acceptable for use with no qualifications.

The pesticide data are acceptable for use except where qualified in Surrogate Spike Recoveries, Laboratory Control Samples and Continuing Calibration.

The metals data are acceptable for use but are qualified in Blanks and Compound Quantitation.

3.8 Contaminant Fate and Transport

The fate and transport of contaminants identified during the SRI is a function of the properties of the individual contaminants, the geology and hydrogeology of the Site, and available pathways for the contaminants to migrate. The chemicals of concern include CVOC and SVOCs which are known to be volatile and mobile through soils, groundwater, and soil vapor and metals which are appear limited to the surface soils in the truck scale pit.

As observed from analytical data obtained through this investigation and the previous investigations, soil, groundwater, and soil vapor impact in excess of SCOs, AWQS, and AGVs within the Site have been documented. Soils in the western portion of the Site down to the water table interface have been impacted with CVOCs in excess of their SCOs. Groundwater on and off-site down to at least 60 ft, although the concentrations significantly decrease below 20 ft, have been impacted with CVOCs in excess of their AWQS. Soil vapor on-site and off-site has been determined to be in excess of AGVs.

Based upon the relatively small size of the Site, the concentrations and locations of soil, groundwater, and soil vapor impact on and off-site, and the analytical data collected from off-site locations, impacted groundwater appears to have transported off-site. Groundwater from sample locations MW-6, MW-7, MW-8, MW010, MW011, and ML002, located approximately 100 feet southwest of the Site, have been measured to contain PCE and TCE in excess of AWQS, with ML002 showing PCE in excess of AWQS at a depth down to 60 ft bgs. Soil vapor samples, SV001, SV002, and SV003 to the north, west and south of the Site had detectable concentrations of VOCs in excess of the AGVs.

4.0 CONCEPTUAL TRANSPORT MODEL

Based upon the findings of the previous remedial investigations and the SRI, a conceptual model detailing the transport of the CVOCs has been developed. As a result of long term industrial processes at the Site, occasional small releases of dissolved PCE and TCE throughout the warehouse facility likely occurred during dripping of chemicals degreasers and rinsate waters during the metal fixture manufacturing process. The dissolved PCE that dripped to the concrete slab likely seeped through fractures throughout the concrete slab and drained into the truck scale pit area. After passing through the slab, the dissolved PCE sank through the vadose zone to the water table interface (0-10 ft bgs) into the shallow water table. Overtime, the dissolved PCE in groundwater migrated slowly off-site and slowly sank as a result of additional surface percolation to groundwater occurred and as a result of the assumed slow vertical flow velocity due to the relatively small hydraulic gradient. Although regional groundwater flow has been determined to be in a southerly direction, local groundwater flow could not be determined from the available data.

CVOC impact to soils through the Site are fairly insignificant with the exception of impact within the shallow soils of the truck scale pit and some soil borings in the middle of the warehouse area. No significant single source area was detected and no significant PCE degradation products have been observed in the vadose zone.

4.1 Surface Water

There is no surface water on-site and the nearest body of surface water is the Hendrix Creek, located approximately 0.5-mile south-southwest of the Site. Based upon the distance to the Hendrix Creek, and the lack of significant groundwater elevation gradient observed, it is unlikely that environmental impact observed on the Site would affect the Hendrix Creek.

4.2 Fish and Wildlife Resources

A Fish and Wildlife Resources Impact Analysis is not required for this Site as there are no known or potential adverse impacts to fish and wildlife resources, the Site is a point source of contamination as the result of manufacturing operations, and there are no ecological resources present or the habitat of endangered, threatened, or special concern species. The subject Site is located in an urban area within Brooklyn; therefore, there are no known or potential adverse impacts to fish and wildlife resources. In addition, there are no known environmental resources, such as mining or recreational uses, on the Site or in the vicinity of the Site.

5.0 QUALITATIVE HUMAN EXPOSURE ASSESSMENT

The overall purpose of the Qualitative Human 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 reasonably anticipated future use of the Site. To evaluate if an exposure pathway exists, the exposure assessment should assess the quality, representativeness, and adequacy of the available data. In addition, the qualitative exposure assessment should consider the nature of populations currently exposed or that have the potential to be exposed to Site related contaminants both on-site and off-site and describe the reasonably anticipated future land use of the Site and affected off-site areas.

5.1 Contaminant Source

The subject Site is located at 491 Wortman Avenue in Brooklyn, New York and is approximately 0.44 acres in area and is improved with a one-story slab-on-grade industrial concrete block, brick, and steel building with a partial basement. The Site was used to manufacture, store, package, and ship decorative fixtures and hardware for bathrooms and kitchens. The manufacturing processes at the subject property involved cleaning, painting, plating, etching, polishing, and specific machining of metals and metal products. Hazardous regulated chlorinated solvents, specifically TCE and PCE, were used in the manufacturing process to clean various products. The chlorinated solvents were stored and used in the former cleaning and degreasing area located along the west side of the building.

Soil borings throughout the Site, including in the vicinity truck scale pit and the central portion of the warehouse, indicated impact to the soil and groundwater. Soil sample analytical results identified elevated concentrations of TCE at concentrations exceeding its NYSDEC UUSCO of 470 ppb, but below the RRSCO. The highest TCE concentration detected was 12,000 ppb in a soil sample collected from 0-2.5' bgs within the sunken truck scale pit.

The likely introduction of PCE and TCE and their degradation products to the environment was a result of long term industrial processes at the Site. It is likely that occasional small releases of dissolved PCE and/or TCE throughout the warehouse facility occurred during dripping of chemicals degreasers and rinsate waters during the metal fixture manufacturing process.

Chlorinated volatile organic compounds (CVOCs) were detected above AWQS in each of the groundwater samples collected. PCE concentration exceeded the AWQS in each of the samples, with the exception of ML002-S (The off-site shallow water table sample collected at the southwest corner of Wortman Avenue and Linwood Street). The highest PCE concentration detected was 1,900 µg/L in MW006, located on the sidewalk by the northwest corner of the building, and the highest TCE concentration detected was 8,700 µg/L in ML001-S, located just south of the truck scale. Elevated PCE and TCE in groundwater can represent a potential source for soil vapor intrusion.

5.2 Contaminant Release and Transport

TCE is present in surface and subsurface soils at the Site. The highest TCE concentration detected was 12,000 ppb in a soil sample collected from 0-2.5' bgs within the sunken truck scale pit. Dissolved TCE and/or PCE was likely released throughout the warehouse area at grade surface and then infiltrated subsurface soils and groundwater beneath the Site.

On and off-site samples indicate there are elevated concentrations of TCE and PCE at levels greater than AWQS in groundwater samples from the groundwater interface (approximately 10 ft below grade) down to 60 ft below grade. The highest PCE concentration detected was 1,900 µg/L in MW006, located on the sidewalk by the northwest corner of the building, and the highest TCE concentration detected was 8,700 µg/L in ML001-S, located just south of the truck scale.

The proximity of the subject Site to the coastal waters of the Hendrix Creek, which is approximately one half mile to the south-southwest, means that there is potential for groundwater from underneath the Site to discharge to these waters. Off-site groundwater samples indicated that the TCE and PCE impact have been detected beneath the Site and to the west and south of the Site. Based upon the significant contaminant reduction in the wells to the west, south and east of the truck scale pit area, impact into the Hendrix Creek is unlikely.

The Site and surrounding area is capped with concrete. As a result, impacted shallow soils at the Site could not have been transported as a result of physical processes including wind dispersion and localized surface runoff.

Elevated concentrations of several PE and/or TCE were detected at concentrations greater than NYSDOH AGVs in on and off--site soil vapor samples collected. The soil vapor samples results indicate that soil vapor impact exists beneath the Site and immediately off-site of the property.

5.3 Points and Routes of Exposure

PCE, TCE, and their degradation products can have adverse effects on human health and can be absorbed after ingestion, inhalation, or dermal exposure. Acute exposure symptoms may include headache, dizziness, unconsciousness, abdominal pain, nausea, diarrhea, and skin and eye irritation among other affects. Chronic exposure may cause harm to the central nervous system, liver, kidneys, and dermatitis among other affects. Many of the compounds are known or probable human carcinogens.

The possible on-site exposure pathways are by ingestion, inhalation, or dermal exposure by a person on the Site. Ingestion, inhalation, and dermal exposure of workers at the Site during construction would not likely be extensive given the intermittent nature of exposure. The facility is and neighboring land use is zoned for industrial and commercial use, although there are residential buildings and sensitive receptors within 1,000 ft of the site as well. Since the Site will not be used as residential there will be no gardening on-site and therefore no route for the contaminants to be ingested by humans via uptake within fruits or vegetables grown on-site. Ingestion and

dermal contact will be further limited by impervious surfaces that exists and will continue to exist at the Site. The concrete slab will prevent direct contact of the impacted soil with human receptors. Exposure through inhalation of soil vapor remains a potential pathway for exposure. A sub-slab depressurization system (SSDS) could be installed as part of a final remedy to reduce the potential for inhalation exposure from impacted soil vapors on site..

There are off-site pathways for inhalation exposure since the constituents of concern have migrated off-site with the natural movement of groundwater. The groundwater pathway is not a complete route of exposure because the Site is within the boundary of New York City (NYC) which is supplied with potable water by surface reservoirs that are located outside of the New York City area. Thus there are no public drinking water wells in the vicinity of the Site that would complete the route of exposure. Inhalation of soil vapor at off-site locations represents a possible exposure pathway which could be minimized through the likely installation of a SSDS as part of a final remedy on the on-site property.

5.4 Characterization of Potential Receptor Populations

The subject Site is located at 491 Wortman Avenue in Brooklyn, New York and is approximately 0.44 acres in area and is improved with a one-story slab-on-grade industrial concrete block, brick, and steel building with a partial basement. The subject property is located in a manufacturing zoned area in Kings County, Brooklyn, New York. Wortman Avenue is the southern boundary of the subject property. The subject property is bordered to the east by Essex Street, to the west by Linwood Street, and to the north by a commercial and industrial property. The surrounding properties are warehouse type structures utilized for commercial and industrial uses.

Based upon a review of the New York State Office of Children and Family Services database, several potential sensitive receptors have been identified in the vicinity of the site. There are two register schools in the vicinity: Boulevard Nursery School, approximately 1,000 ft to the west northwest on the corner of Stanley Ave. and Ashford St., and PS 273 Wortman School approximately 1,200 ft to the west southwest between Wortman Ave. and Cozine Ave. to the west of Warwick St. In addition, there are four registered day care facilities in the vicinity: an unnamed facility operated by Yvone Gardener approximately 775 ft to the south at 1010 Elton Street, an unnamed facility operated by Margaret Finch approximately 660 ft to the north at 844 Stanley Ave., an unnamed facility operated by Shytishea Dunbar approximately 950 ft to the west at 872 Ashford St., and L&g Scholars Day Care approximately 460 ft to the west at 1005 Cleveland St. The nearest residential structures are located approximately 250 to 300 feet to the west of the site.

Because of the relatively small size of the Site, the proximity of the neighboring commercial and industrial properties, and the observed levels of on-site and off-site impact in groundwater and soil vapor, future on-site and current and future off-site neighboring populations are potential receptors if appropriate ICs/ECs are not properly implemented. However, based upon the fairly low soil vapor TCE and PCE concentrations from SV002 and SV003 located below the sidewalk on Linwood St. and Wortman Ave, just in excess of the mitigation guidance value in

Matrices 1 & 2 of the NYSDOH Guidance, it is unlikely that soil vapor and sub-slab TCE and PCE concentrations would be found at concentrations requiring mitigation at the locations of the sensitive receptors listed above.

5.5 Qualitative Human Health Exposure Assessment Summary Table

The following table provides a summary of the routes of exposure.

Environmental Media & Exposure Route	Human Assessment
Direct contact with surface soils	• No exposed soil or vegetation is present on the subject property. • A concrete slab caps the entire Site. • Construction workers can come into contact when remedial activities begins. • Future contact will be prevented by continued engineering controls such as a composite cap system.
Direct contact with subsurface soils	• Workers can come into contact if they complete ground intrusive work at the Site.
Direct contact with groundwater	• Workers can come into contact if they complete ground intrusive work at the Site.
Ingestion of groundwater	• Groundwater is not utilized for drinking water. NYC public drinking water is supplied from reservoirs outside of the New York City area. • There are no known domestic water supply wells in the area.
Inhalation of air	• A potential for on and off-site vapor intrusion exists. • An engineering control will likely be installed on Site as part of the final remedy to mitigate the potential for vapor entering the building.
Direct contact with coastal waters	• Groundwater discharges to Hendrix Creek to the south-southwest are not anticipated based upon the distance to the water body.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Supplemental Remedial Investigation

PWGC prepared an SRI Work Plan, dated June 11, 2013 that was approved by the NYSDEC. The purpose of the SRI was to further delineate soil, groundwater, and soil vapor impact on-site and to determine what, if any, impact may have migrated off-site. To perform this work, the following tasks were completed:

- Eight soil borings were conducted throughout the Site to a depth of 10 ft bgs, soil samples were collected, characterized, and analyzed
- Three new shallow monitoring wells, two multi-level wells were installed to supplement the existing eight monitoring wells, and five discrete groundwater samples were collected from the water table at each of the boring locations.
- Four indoor air samples, three soil vapor samples and one outdoor ambient air sample were installed on and off-site, sampled, and analyzed.
- The vault around the AST was removed to allow for an inspection of the tank.
- A dye test was performed on the drains located in the bathroom along the southern portion of the warehouse.

Based upon a review of the previous environmental investigations and PWGC's SRI, field observations and measurements and of the analytical data generated as part of the SRI, the following conditions currently exist at the Site:

- Soil results indicated that shallow soils within the truck scale pit and soils within the central portion of the warehouse contained TCE in excess of UUSCOs. The highest TCE concentration detected to date has been 12,000 ug/Kg from the 0-2.5' sample at boring GP-12 from within the center of the truck scale pit. No VOCs, SVOCs, pesticides or PCBs were detected in excess of UUSCOs. Metals in excess of RRSCOs, CUSCOs and IUSCOs, including arsenic, lead and mercury were detected in the 0-2' soil samples (TS001 through TS003) collected from within the truck scale pit. None of the other borings nor the 2.5-5' sample collected from within the truck pit had metals detected in excess of the UUSCOs.
- Groundwater results indicated that the highest PCE impact to the groundwater was 1,900 µg/L in MW006, located on the sidewalk by the northwest corner of the building. CVOCs were detected above AWQS in each of the groundwater samples collected on and off-site. SVOCs were detected above AWQS in three of the groundwater samples, including MW001, ML001-S, and ML001-D in the vicinity of the truck scale pit. Metals in excess of the AWQS were detected in both the total and dissolved analysis at each of the locations, however, the dissolved metal analysis for each of the locations detected only iron, manganese, and sodium in excess of the AWQS with the exception of MW007 which also had an elevated chromium concentration. PCBs and pesticides were not detected in the collected groundwater samples.

- Soil vapor and indoor air results indicate elevated concentrations of PCE and its breakdown products in each of the vapor locations in exceedances of AVGs. The indoor air sample collected from the neighboring property to the north did not exceed the AGVs.
- The AST was determined to be intact and no evidence of a release was observed. The tank was observed to be full with liquid.
- The dye test could not definitively confirm the discharge location of the bathroom drains to the municipal combined sewer system.
- The static water table elevation at the Site is between 9 and 10.5 ft bgs,
- There is no significant groundwater flow gradient or dominant flow direction that could be obtained. The regional groundwater flow direction in the area has been noted to be in a southerly direction.
- The fate and transport of contaminants identified during the SRI is a function of the properties of the individual contaminants, the geology and hydrogeology of the Site, and available pathways for the contaminants to migrate. Based upon the Site factors, impacted groundwater on and off-site down to at least 60 ft, although the concentrations significantly decrease below 20 ft, have been impacted with CVOCs in excess of their AWQS. Soil vapor on-site and off-site has been determined to be in excess of AGVs.
- The possible on-site exposure pathways are by ingestion, inhalation, or dermal exposure by a person on or off-site. Ingestion, inhalation, and dermal exposure of workers at the Site during remedial or construction would not likely be extensive given the intermittent nature of exposure. There is an off-site pathway for inhalation exposure since the constituents of concern have been documented in soil vapor off-site and can further migrate with the natural movement of groundwater. The potential pathways to exposure include direct contact with subsurface soils, groundwater, and coastal waters, ingestion of groundwater, and inhalation of air. Because of the relatively small size of the Site, the proximity of the neighboring residential properties, and the observed levels of on-site and off-site impact in groundwater and soil vapor, future on-site and current and future off-site neighboring populations are potential receptors if appropriate ICs/ECs are not properly implemented.

6.2 Recommendations

Based upon the observations and data generated during the SRI, PWGC recommends preparing a Remedial Action Work Plan (RAWP), with an Alternatives Analysis (AA), to address impacted soil, groundwater and soil vapor at the Site.

The RAWP should address the following Remedial Action Objectives (RAOs).

Remedial Action Objectives		
Matrix	**Public Health Protection**	**Environmental Protection**
Soil	Prevent injestion/direct contact with contaminated soil. Prevent inhalation of or exposure to contaminants volatilizing from contaminants in soil.	Prevent migration of contaminants that would result in groundwater or surface water contamination.
Groundwater	Prevent contact with or inhalation of volatiles from contaminated groundwater.	Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable. Prevent the discharge of contaminants to surface water. Remove the source of ground or surface water contamination.
Soil Vapor	Mitigate potential impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings.	

The proposed future use of the Site is a commercial, industrial or manufacturing facility. No extensive redevelopment plans are in place to change the use or the general building layout. The RAWP should address the remediation of on-site soils to concentrations less than CUSCOs in accordance with Part 375, groundwater quality restoration to the extent possible, and mitigation of potential soil vapor intrusion into the existing building and potential off-site buildings.

7.0 REFERENCES

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- Impact Environmental Remediation, Inc., January 27, 2012, Draft Site Characterization Report (Incomplete).
- Middleton Environmental, Inc., September 30, 2008, Phase I ESA - 491 Wortman Ave. Brooklyn, New York.
- P.W. Grosser Consulting, Inc., January 13, 2009, Phase II ESA - 491 Wortman Ave. Brooklyn, New York.
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- NYSDEC, Division of Environmental Restoration, 6 NYCRR Part 375 Subpart 6, Remedial Program Soil Cleanup Objectives.
- NYSDEC, Division of Environmental Remediation, December 2002, Draft DER-10, Technical Guidance for Site Investigation and Remediation.
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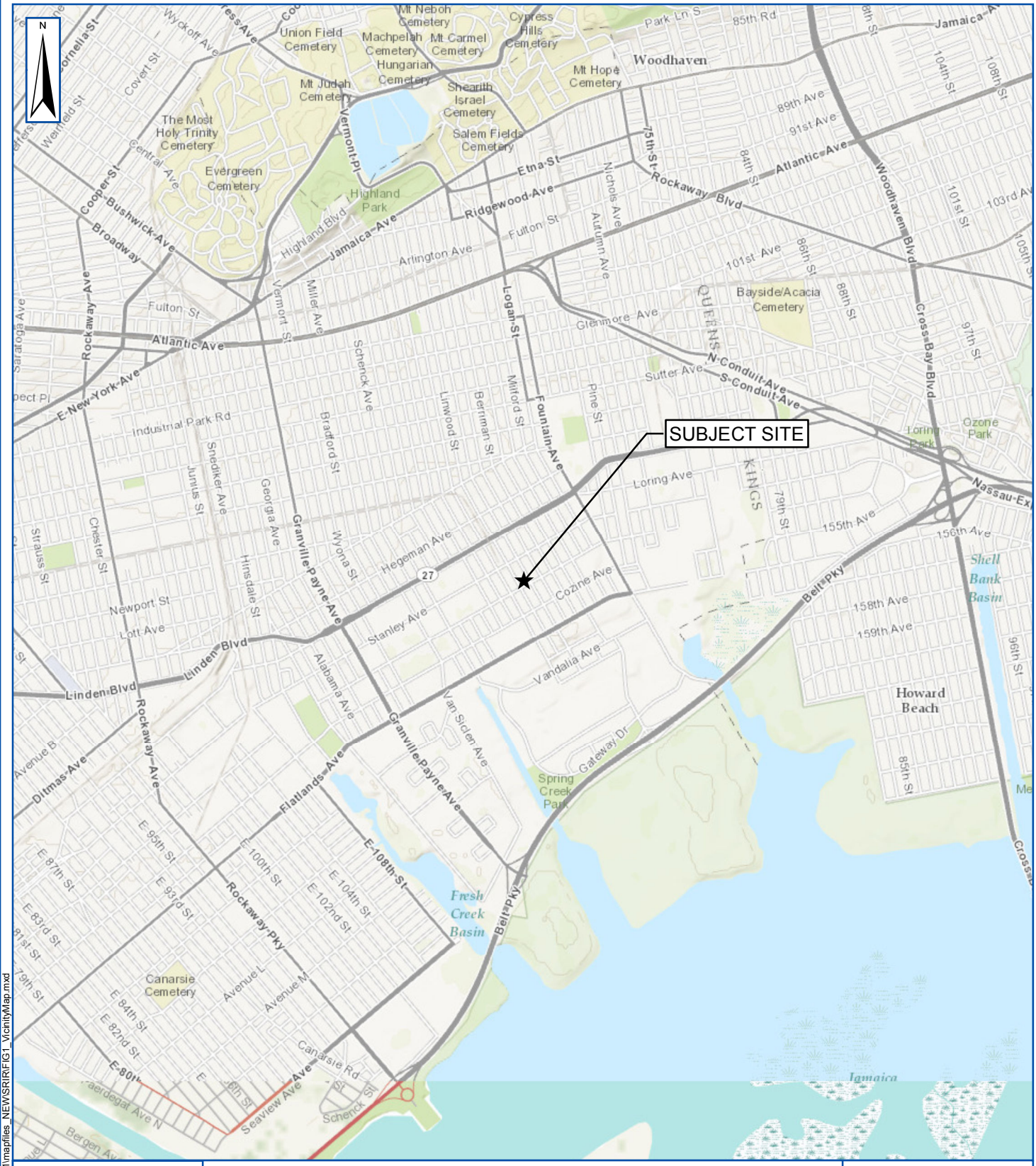
- NYSDEC, Division of Water, June 1998, Addendum April 2000, Technical and Operational Guidance Series 1:1:1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
- NYSDOH, October 2006, Guidance for Evaluating Soil Vapor Intrusion in the State of New York.
- NYSDOH, June 25, 2007, Memo to NYSDEC "Re: Soil Vapor / Indoor Air Matrices."
- EPA, Standard Operating Procedure SOP 2042, Soil Gas Sampling.

Figures



SUBJECT SITE VICINITY

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

0 ½ 1 1½ 2 Miles

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Date:	12/9/2013
Designed by:	BB
Drawn by:	BB
Approved by:	JE
Figure No:	1

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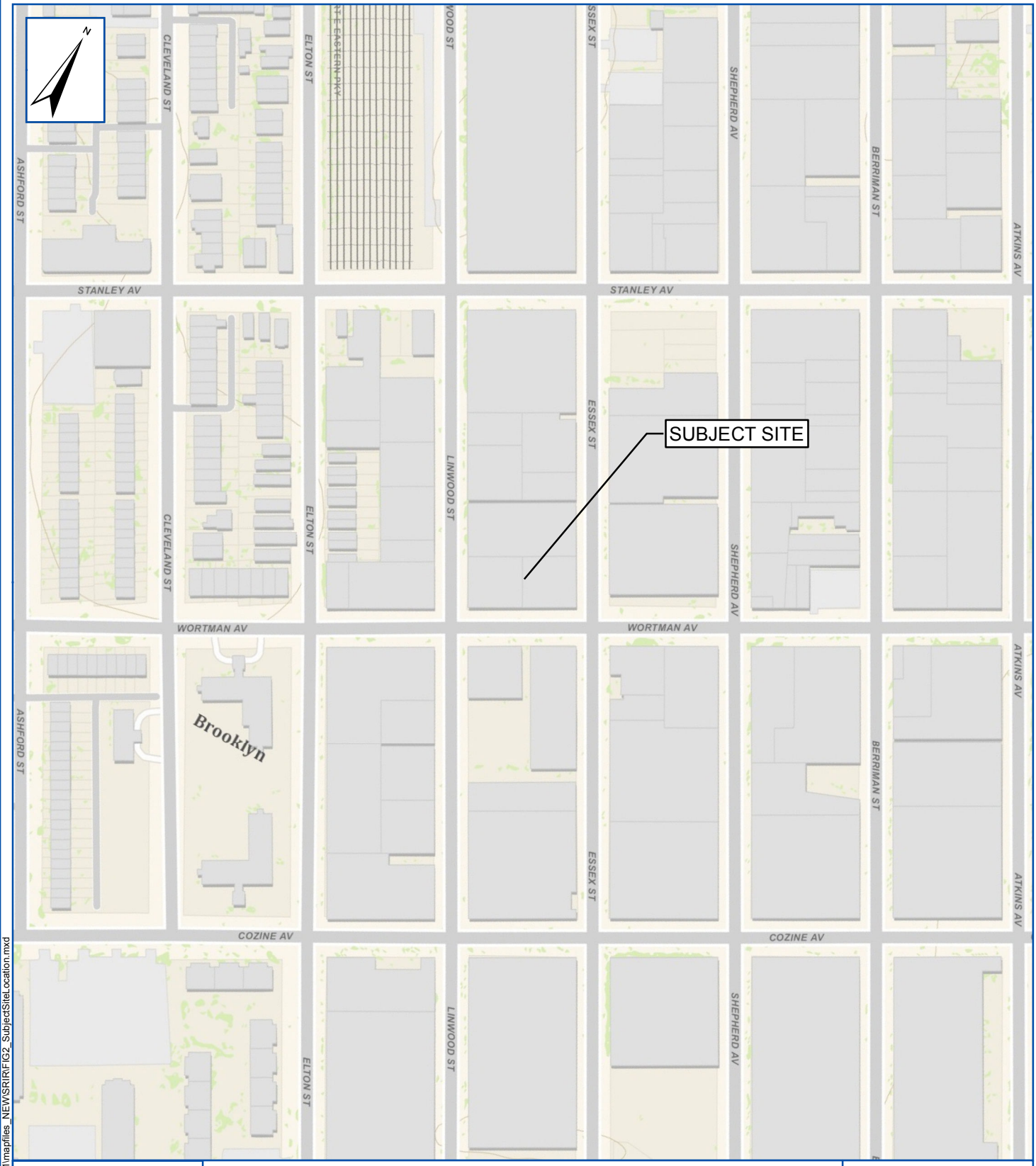

SUBJECT SITE LOCATION

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

0 0.025 0.05 0.075 0.1 0.125 Miles

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Figure No:	2

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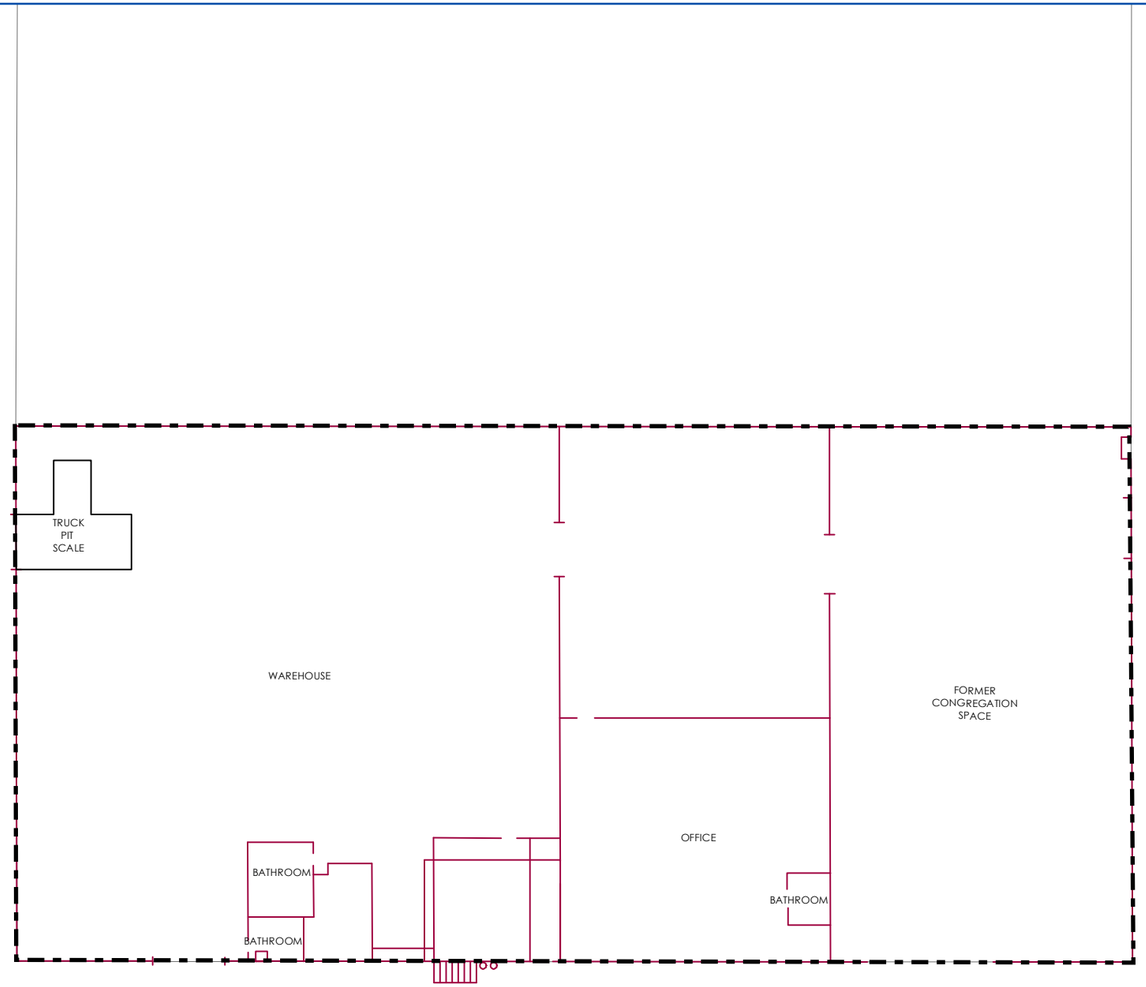
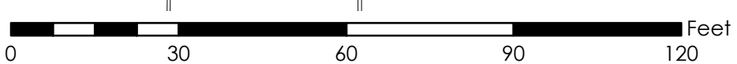
LINWOOD STREET



ESSEX STREET

WORTMAN AVENUE



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REVISION	DATE	INITIAL	COMMENTS

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Scale:	AS SHOWN	Approved by:	BB

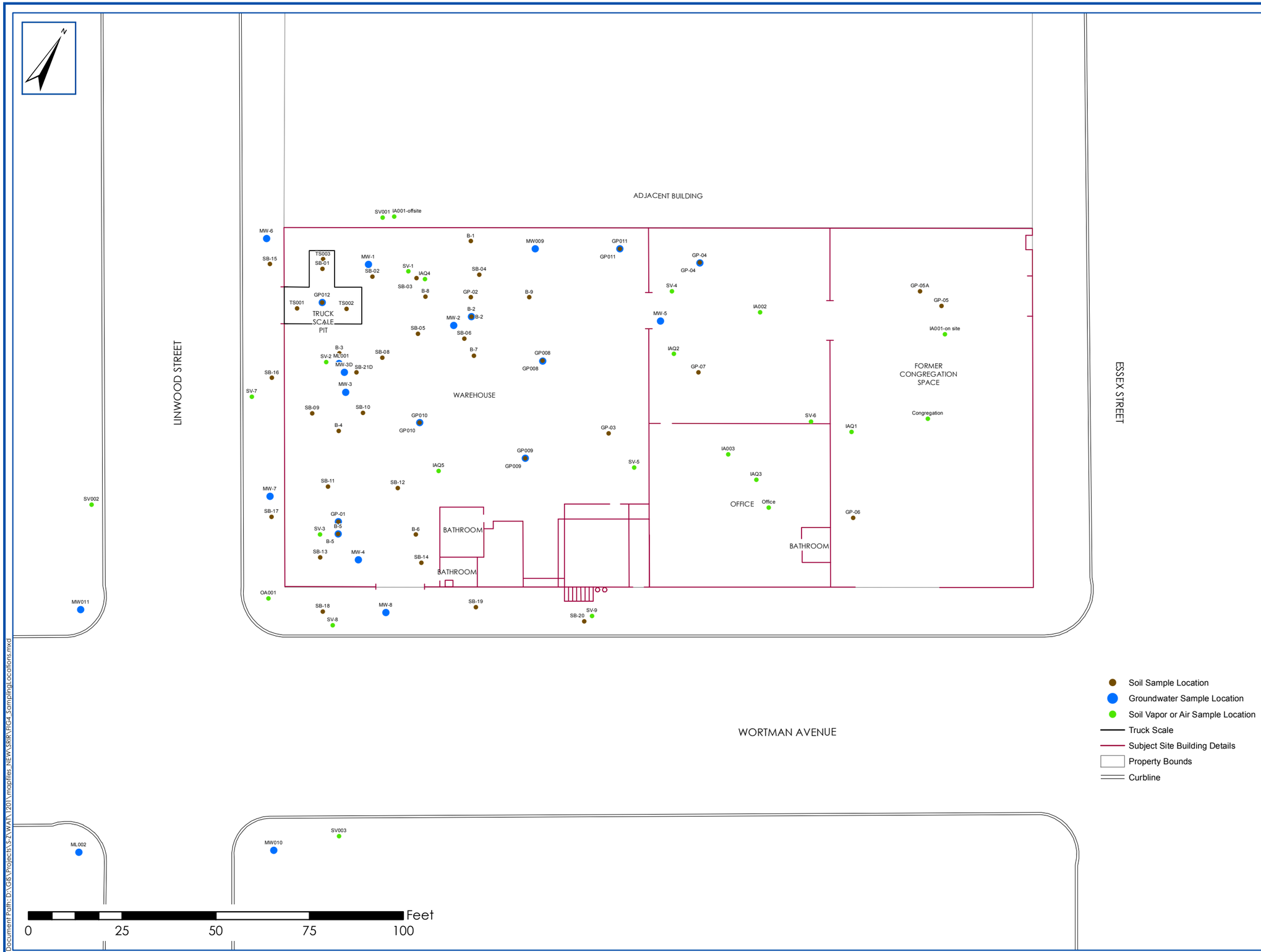
SITE PLAN

491 Wortman Avenue
Brooklyn, NY

FIGURE NO:

3

SHEET:



Soil Sample Location
Groundwater Sample Location
Soil Vapor or Air Sample Location
Truck Scale
Subject Site Building Details
Property Bounds
Curbline

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SAMPLING LOCATIONS

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

FIGURE NO:

4

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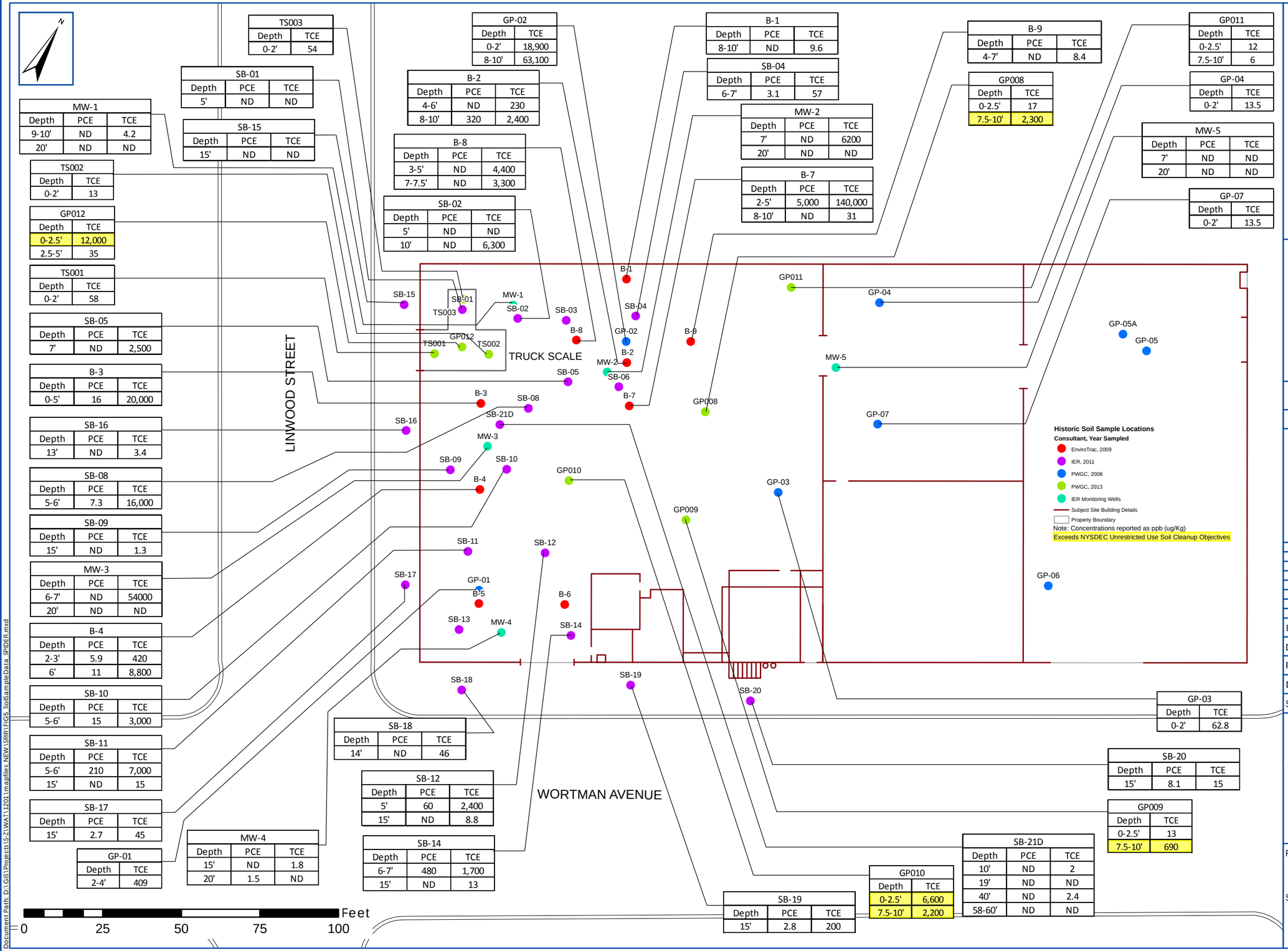

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SOIL SAMPLE LOCATIONS PCE & TCE CONCENTRATIONS

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

FIGURE NO:

5

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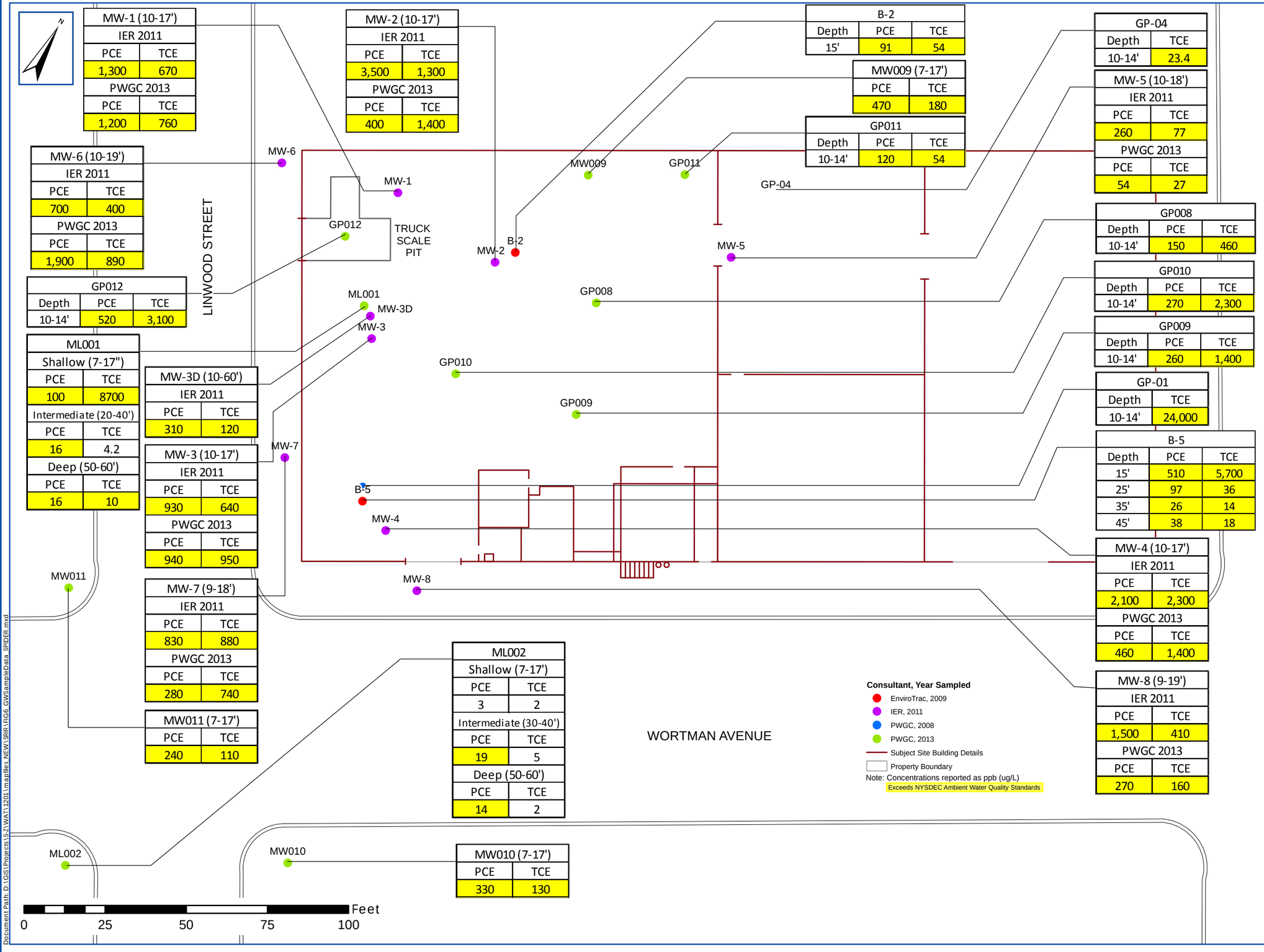

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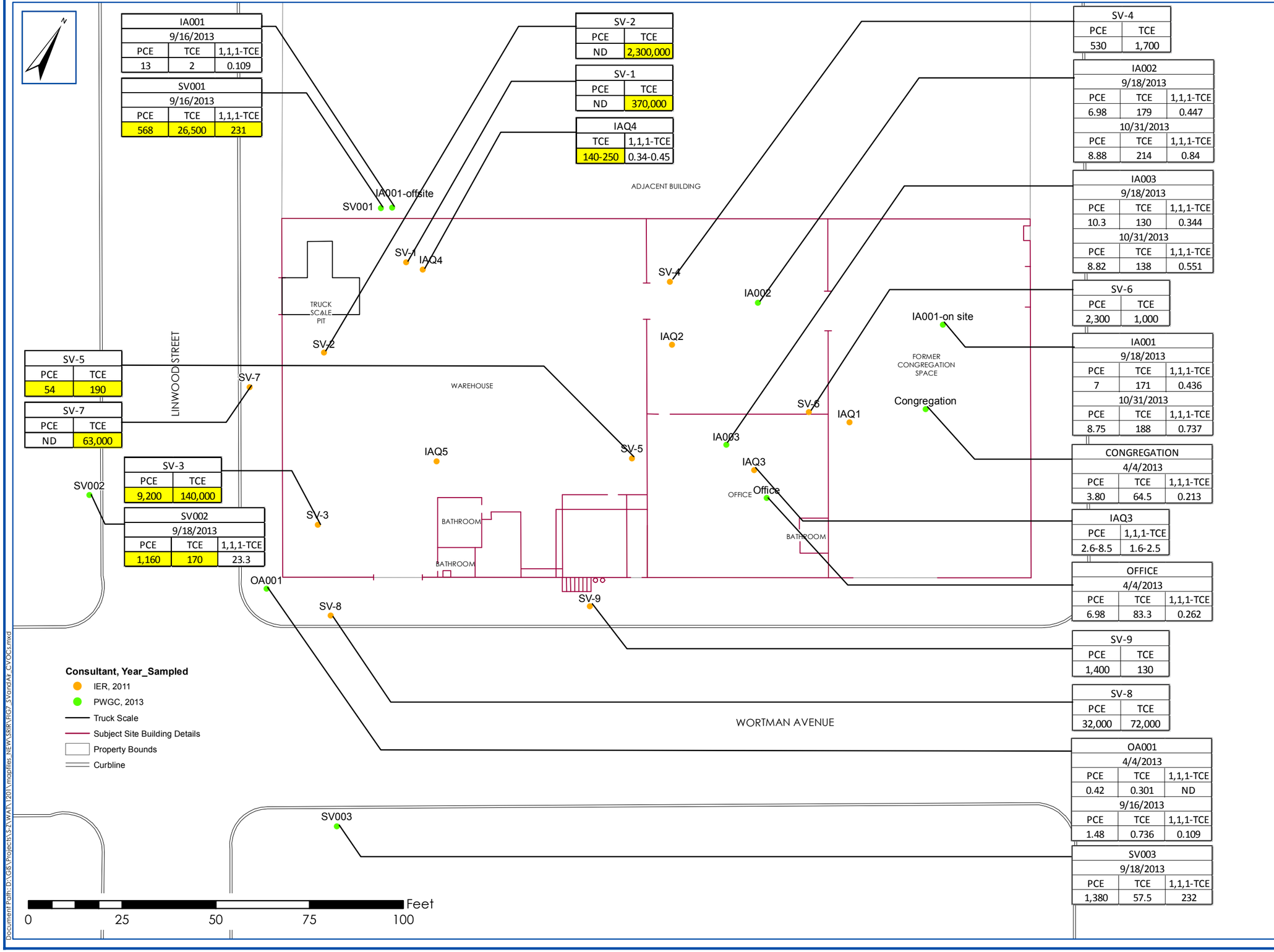
GROUNDWATER SAMPLE LOCATIONS PCE & TCE CONCENTRATIONS

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

FIGURE NO:
6

SHEET:



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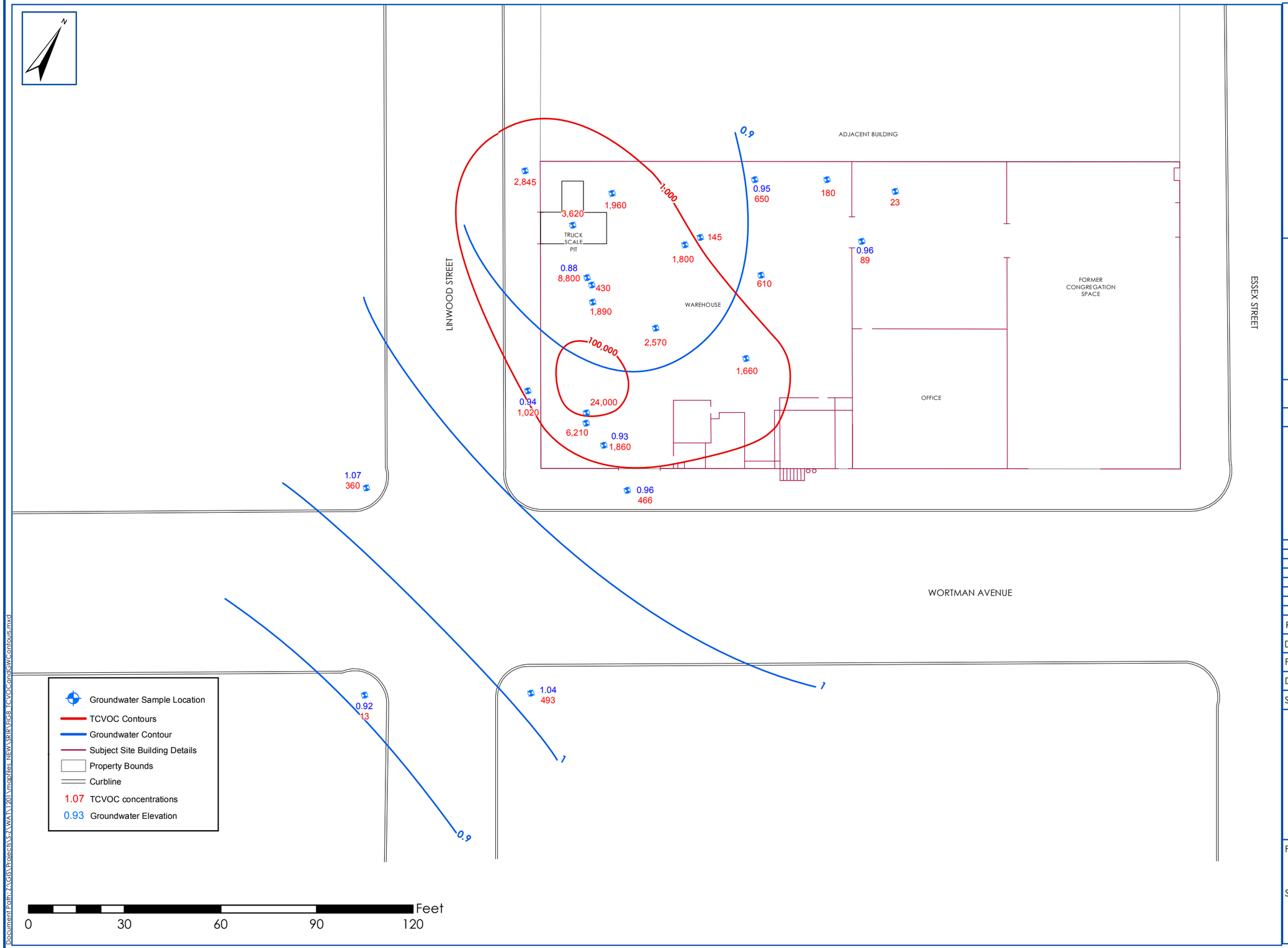
SOIL VAPOR AND AIR SAMPLING LOCATIONS CVOC CONCENTRATIONS

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

FIGURE NO:

7

SHEET:



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GWE AND TCVOC CONCENTRATIONS

491 WORTMAN AVENUE
BROOKLYN, NEW YORK

FIGURE NO:

8

SHEET:

Tables

TABLE 1

Soil Analytical Data Summary - Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, New York

Client Sample ID:	NYSDEC (1)	NYSDEC (2)	NYSDEC (2)	GP008		GP009		GP010		GP011		GP012		TS001	TS002	TS003
Sample Depth:	Soil Cleanup Objectives Unrestricted Use	Soil Cleanup Objectives Restricted Residential	Soil Cleanup Objectives Commercial	0-2.5'	7.5-10'	0-2.5'	7.5-10'	0-2.5'	7.5-10'	0-2.5'	7.5-10'	0-2.5'	2.5-5'	0-2'	0-2'	0-2'
Laboratory ID:				09/12/13 L1318157-01	09/12/13 L1318157-02	09/12/13 L1318157-03	09/12/13 L1318157-04	09/12/13 L1318157-05	09/12/13 L1318157-06	09/12/13 L1318157-07	09/12/13 L1318157-08	09/12/13 L1318157-09	09/12/13 L1318157-10	09/18/13 L1318553-01	09/18/13 L1318553-02	09/18/13 L1318553-03
Sampling Date:																
Volatile Organic Compounds in µg/kg																
1,1,1,2-Tetrachloroethane	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
1,1,1-Trichloroethane	680	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
1,1,2,2-Tetrachloroethane	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
1,1,2 Trichloroethane	NS	NS	NS	3 U	94 U	1.9 U	87 U	130 U	110 U	3 U	2 U	100 U	2 U	4 U	4 U	4 U
1,1 Dichloroethane	270	26,000	240,000	3 U	94 U	1.9 U	87 U	130 U	110 U	3 U	2 U	100 U	2 U	4 U	4 U	4 U
1,1 Dichloroethene	330	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
1,1-Dichloropropene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2,3-Trichlorobenzene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2,3-Trichloropropane	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
1,2,4,5-Tetramethylbenzene	NS	NS	NS	7 U	250 U	5 U	230 U	340 U	300 U	7 U	5 U	270 U	5.2 U	10 U	10 U	9 U
1,2,4-Trichlorobenzene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2,4-Trimethylbenzene	3,600	52,000	190,000	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2 Dibromo 3 chloropropane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2 Dibromoethane	NS	NS	NS	7 U	250 U	5 U	230 U	340 U	300 U	7 U	5 U	270 U	5.2 U	10 U	10 U	9 U
1,2 Dichlorobenzene	1,100	100,000 [a]	500,000 [b]	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,2 Dichloroethane	20 [c]	3,100	30,000	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
1,2 Dichloropropane	NS	NS	NS	6 U	220 U	4.4 U	200 U	300 U	260 U	6 U	4 U	240 U	4.6 U	9 U	9 U	8 U
1,3,5-Trimethylbenzene	8,400	52,000	190,000	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,3 Dichlorobenzene	2,400	49,000	280,000	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,3-Dichloropropane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,4 Dichlorobenzene	1,800	13,000	130,000	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
1,4-Diethylbezene	NS	NS	NS	7 U	250 U	5 U	230 U	340 U	300 U	7 U	5 U	270 U	5.2 U	10 U	10 U	9 U
1,4-Dioxane	NS	NS	NS	180 U	6300 U	120 U	5800 U	8500 U	7400 U	180 U	120 U	6700 U	130 U	250 U	240 U	230 U
2,2-Dichloropropane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
2-Butanone / Methyl Ethyl Ketone	120	100,000 [a]	500,000 [b]	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
2-Hexanone	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
4-Ethyltoluene	NS	NS	NS	7 U	250 U	5 U	230 U	340 U	300 U	7 U	5 U	270 U	5.2 U	10 U	10 U	9 U
4-Methyl-2-pentanone	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Acetone	50	100,000 [a]	500,000 [b]	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Acrylonitrile	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Benzene	60	4,800	44,000	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Bromobenzene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Bromochloromethane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Bromodichloromethane	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Bromoform	NS	NS	NS	7 U	250 U	5 U	230 U	340 U	300 U	7 U	5 U	270 U	5.2 U	10 U	10 U	9 U
Bromomethane	NS	NS	NS	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
Carbon Disulfide	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Carbon Tetrachloride	760	2,400	22,000	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Chlorobenzene	1,100	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Chloroethane	NS	NS	NS	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
Chloroform	370	49,000	350,000	3 U	94 U	1.9 U	87 U	130 U	110 U	3 U	2 U	100 U	2 U	4 U	4 U	4 U
Chloromethane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
c-1,2-Dichloroethene	250	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
c-1,3-Dichloropropene	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Dibromochloromethane	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Dibromoethane	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Dichlordifluoromethane	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Diethy ether	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Ethyl Benzene	1,000	41,000	390,00	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Hexachlorobutadiene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Isopropylbenzene	2,300	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Methyl tert butyl ether	930	100,000 [a]	500,000 [b]	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
Methylene Chloride	50	100,000 [a]	500,000 [b]	18 U	630 U	12 U	580 U	850.0 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
n-Butylbenzene	12,000	NS	NS	2 U	63 U	1.2 U	58.0 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
n-Propylbenzene	3,900	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Naphthalene	12,000	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
o-Chlorotoluene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
o Xylene	260	100,000 [a]	500,000 [b]	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
p/m-Xylene	260	100,000 [a]	500,000 [b]	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
p-Chlorotoluene	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
p-Isopropyltoluene	10,000	NS	NS	4 U	120 U	2.5 U	120.0 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
sec-Butylbenzene	11,000	100,000 [a]	500,000 [b]	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
Styrene	NS	NS	NS	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U
tert-Butylbenzene	5,900	100,000 [a]	500,000 [b]	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Tetrachloroethene	1,300	19,000	150,000	2 U	160	0.54 J	84	52 J	53 J	2 U	1 J	84	1.3 U	3 U	2 U	2 U
Toluene	700	100,000 [a]	500,000 [b]	3 U	94 U	1.9 U	87 U	130 U	110 U	3 U	2 U	100 U	0.53 J	4 U	4 U	4 U
t-1,2-Dichloroethene	190	100,000 [a]	500,000 [b]	3 U	94 U	1.9 U	87 U	130 U	110 U	3 U	2 U	100 U	2 U	4 U	4 U	4 U
t-1,3-Dichloropropene	NS	NS	NS	2 U	63 U	1.2 U	58 U	85 U	74 U	2 U	1 U	67 U	1.3 U	3 U	2 U	2 U
trans-1,4-Dichloro-2-butene	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Trichloroethene	470	21,000	200,000	17	2,300	13	690	6,600	2,200	12	6	12,000	35	58	13	54
Trichlorofluoromethane	NS	NS	NS	9 U	310 U	6.3 U	290 U	430 U	370 U	9 U	6 U	340 U	6.5 U	12 U	12 U	12 U
Vinyl acetate	NS	NS	NS	18 U	630 U	12 U	580 U	850 U	740 U	18 U	12 U	670 U	13 U	25 U	24 U	23 U
Vinyl Chloride	20	900	13,000	4 U	120 U	2.5 U	120 U	170 U	150 U	4 U	3 U	130 U	2.6 U	5 U	5 U	5 U

Notes:
(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestriced Use of Soil Cleanup Objective Table 375-6.8a 12/06
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
NS - No Standard
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.
U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample quantitation limit.
a - The SCOs for unrestricted use were capped at a maximum value of 100 ppm.
b - For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO.
c - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentrationis used as the Track1 SCO value for this use of the site.
d - SCO is the sum of endosulfin I, endosulfin II and endosulfin sulfate.
e - The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f - Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) wish "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
Highlighted text denotes concentrations exceeding NYSDEC Unrestricted Use SCO
Highlighted text denotes concentrations exceeding NYSDEC Restricted Residential Use SCO
Highlighted text denotes concentrations exceeding NYSDEC Commercial Use SCO

TABLE 2

Soil Sample Analytical Data Summary - Semi-Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, NY

SAMPLE ID SAMPLE DEPTH (ft.) SAMPLING DATE LAB SAMPLE ID	Unrestricted Use SCO [1]	Restricted Residential SCO [2]	GP008 0-2.5' 09/12/13 L1318157-01	GP008 7.5-10' 09/12/13 L1318157-02	GP009 0-2.5' 09/12/13 L1318157-03	GP009 7.5-10' 09/12/13 L1318157-04	GP010 0-2.5' 09/12/13 L1318157-05	GP010 7.5-10' 09/12/13 L1318157-06	GP011 0-2.5' 09/12/13 L1318157-07	GP011 7.5-10' 09/12/13 L1318157-08	GP012 0-2.5' 09/12/13 L1318157-09	GP012 2.5-5' 09/12/13 L1318157-10
Semivolatile Organics by EPA 8270C in µg/kg												
2-Methylphenol	NS	NS	220 U	220 U	230 U	220 U	210 U	210 U	220 U	220 U	210 U	210 U
Acenaphthene	20,000	100,000	150 U	150 U	160 U	140 U	140 U	140 U	57 J	140 U	140 U	140 U
Acenaphthylene	100,000	100,000	36 J	150 U	160 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U
Anthracene	100,000	100,000	72 J	110 U	120 U	110 U	110 U	100 U	180	110 U	100 U	100 U
Benzo(a)anthracene	1,000	1,000	320	110 U	160	110 U	67 J	100 U	530	110 U	100 U	100 U
Benzo(a)pyrene	1,000	1,000	320	150 U	150 J	140 U	65 J	140 U	480	140 U	140 U	140 U
Benzo(b)fluoranthene	1,000	1,000	420	110 U	200	110 U	78 J	100 U	650	110 U	100 U	100 U
Benzo(ghi)perylene	100,000	100,000	200	150 U	82 J	140 U	41 J	140 U	270	140 U	140 U	140 U
Benzo(k)fluoranthene	800	3,900	140	110 U	82 J	110 U	110 U	100 U	220	110 U	100 U	100 U
Chrysene	1,000	3,900	380	110 U	140	110 U	77 J	100 U	560	110 U	100 U	100 U
Dibenzo(a,h)anthracene	330	330	51 J	110 U	120 U	110 U	110 U	100 U	80 J	110 U	100 U	100 U
Fluoranthene	100,000	100,000	640	110 U	280	110 U	150	100 U	1,200	110 U	100 U	100 U
Fluorene	30,000	100,000	180 U	180 U	190 U	180 U	180 U	180 U	180 U	180 U	180 U	170 U
Indeno(1,2,3-cd)Pyrene	500	500	210	150 U	98 J	140 U	42 J	140 U	310	140 U	140 U	140 U
Naphthalene	12,000	100,000	180 U	180 U	190 U	180 U	180 U	180 U	180 U	180 U	180 U	170 U
Phenanthrene	100,000	100,000	290	110 U	56 J	110 U	87 J	100 U	650	110 U	100 U	100 U
Pyrene	100,000	100,000	620	110 U	230	110 U	140	100 U	990	110 U	100 U	100 U

Notes:
(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestriced Use of Soil Cleanup Objective Table 375-6.8a 12/06
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
U - Analyte not detected above the laboratory MDL
J - Estimated value
NS - No standard established
Green highlighting indicates exceedance of Unrestricted Use SCO
Orange highlighting indicates exceedance of Restricted Residential SCO

TABLE 3

Soil Sample Analytical Data Summary - Pesticides/PCBs/Metals
491 Wortman Avenue, Brooklyn, NY

SAMPLE ID SAMPLE DEPTH (ft.) SAMPLING DATE LAB SAMPLE ID	Unrestricted Use SCO [1]	Restricted Residential SCO [2]	Commercial Use SCO [3]	Industrial SCO [4]	GP008 0-2.5' 09/12/13 L1318157-01	GP008 7.5-10' 09/12/13 L1318157-02	GP009 0-2.5' 09/12/13 L1318157-03	GP009 7.5-10' 09/12/13 L1318157-04	GP010 0-2.5' 09/12/13 L1318157-05	GP010 7.5-10' 09/12/13 L1318157-06	GP011 0-2.5' 09/12/13 L1318157-07	GP011 7.5-10' 09/12/13 L1318157-08	GP012 0-2.5' 09/12/13 L1318157-09	GP012 2.5-5' 09/12/13 L1318157-10	TS001 0-2' 09/18/13 L1318553-01	TS002 0-2' 09/18/13 L1318553-02	TS003 0-2' 09/18/13 L1318553-03
Organochlorine Pesticides by EPA 8081A in µg/kg																	
4,4'-DDD	3.3	13,000	92,000	180,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	1.61 U	NA	NA	NA
4,4'-DDE	3.3	8,900	62,000	120,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
4,4'-DDT	3.3	7,900	47,000	94,000	3.34 U	3.23 U	3.36 U	3.23 U	3.14 U	3.19 U	3.25 U	3.15 U	3.13 U	3 U	NA	NA	NA
Aldrin	5	97	680	1,400	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Alpha-BHC	20	480	3,400	6,800	0.741 U	0.718 U	0.747 U	0.719 U	0.697 U	0.71 U	0.722 U	0.701 U	0.696 U	1 U	NA	NA	NA
Beta-BHC	36	360	3,000	14,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Chlordane	94	4,200	24,000	47,000	14.4 U	14 U	14.6 U	14 U	13.6 U	13.8 U	14.1 U	13.7 U	13.6 U	13 U	NA	NA	NA
cis-Chlordane	NS	NS	NS	NS	2.22 U	2.16 U	2.24 U	2.16 U	2.09 U	2.13 U	2.16 U	2.1 U	2.09 U	2 U	NA	NA	NA
Delta-BHC	40	100,000	500,000	1,000,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Dieldrin	5	200	1,400	2,800	1.11 U	1.08 U	1.12 U	1.08 U	1.04 U	1.06 U	1.08 U	1.05 U	1.04 U	1 U	NA	NA	NA
Endosulfan I	2,400	24,000	200,000	920,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Endosulfan II	2,400	24,000	200,000	920,000	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Endosulfan sulfate	2,400	24,000	200,000	920,000	0.741 U	0.718 U	0.747 U	0.719 U	0.697 U	0.71 U	0.722 U	0.701 U	0.696 U	1 U	NA	NA	NA
Endrin	14	11,000	89,000	410,000	0.741 U	0.718 U	0.747 U	0.719 U	0.697 U	0.71 U	0.722 U	0.701 U	0.696 U	1 U	NA	NA	NA
Endrin ketone	NS	NS	NS	NS	1.78 U	1.72 U	1.79 U	1.72 U	1.67 U	1.7 U	1.73 U	1.68 U	1.67 U	2 U	NA	NA	NA
Heptachlor	42	2,100	15,000	29,000	0.89 U	0.862 U	0.896 U	0.862 U	0.836 U	0.852 U	0.866 U	0.841 U	0.835 U	1 U	NA	NA	NA
Heptachlor epoxide	NS	NS	NS	NS	3.34 U	3.23 U	3.36 U	3.23 U	3.14 U	3.19 U	3.25 U	3.15 U	3.13 U	3 U	NA	NA	NA
Lindane	100	1,300	9,200	23,000	0.741 U	0.718 U	0.747 U	0.719 U	0.697 U	0.71 U	0.722 U	0.701 U	0.696 U	1 U	NA	NA	NA
Methoxychlor	NS	NS	NS	NS	3.34 U	3.23 U	3.36 U	3.23 U	3.14 U	3.19 U	3.25 U	3.15 U	3.13 U	3 U	NA	NA	NA
Toxaphene	NS	NS	NS	NS	33.4 U	32.3 U	33.6 U	32.3 U	31.4 U	31.9 U	32.5 U	31.5 U	31.3 U	30 U	NA	NA	NA
trans-Chlordane	NS	NS	NS	NS	2.22 U	2.16 U	2.24 U	2.16 U	2.09 U	2.13 U	2.16 U	2.1 U	2.09 U	2 U	NA	NA	NA
Polychlorinated Biphenyls by EPA 8082 in µg/kg																	
Aroclor 1016	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1221	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1232	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1242	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1248	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1254	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1260	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1262	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Aroclor 1268	100	1,000	1,000	25,000	36.5 U	36 U	37.2 U	35.9 U	34.4 U	35.4 U	34.9 U	34.3 U	34.9 U	33 U	NA	NA	NA
Total Metals in mg/kg																	
Aluminum	NS	NS	NS	NS	9,900	7,900	7,800	6,000	7,000	6,600	8,200	4,200	7,100	2,300	7,400	5,800	7,400
Antimony	NS	NS	NS	NS	4.3 U	4.2 U	4.4 U	4.4 U	4.1 U	4.1 U	4.2 U	4.2 U	4.2 U	4 U	5 U	3.9 U	5 U
Arsenic	13	16	16	16	4.4	3.9	3	1.7	4	1.8	4	0.95	1.6	0.28 J	8.7	14	19
Barium	350	400	400	10,000	180	39	49	16	50	24	51	8.4	21	4.3	140	270	340
Beryllium	7.2	72	590	2,700	0.45	0.39 J	0.35 J	0.24 J	0.39 J	0.32 J	0.4 J	0.18 J	0.19 J	0.13 J	0.36 J	0.29 J	0 J
Cadmium	2.5	4.3	9.3	60	0.62 J	0.37 J	0.4 J	0.32 J	0.66 J	0.24 J	0.48 J	0.29 J	0.23 J	0.18 J	2.2	2.1	4
Calcium	NS	NS	NS	NS	4400	500	1400	300	1900	390	2,800	620	210	160	7,500	5,900	7,500
Chromium	30	180	1,500	6,800	28	13	13	12	15	9.1	14	9.4	12	5.2	24	220	32
Cobalt	NS	NS	NS	NS	5.9	2.8	4.4	3.2	6.2	2.4	4.8	2.1	2.7	2.2	5.8	7.6	9
Copper	50	270	270	10,000	80	15	15	10	22	7.8	18	7.7	4.3	5	180	130	220
Iron	NS	NS	NS	NS	16,000	12,000	12,000	11,000	19,000	7,900	14,000	9,400	8,300	6,000	21,000	20,000	33,000
Lead	63	400	1,000	3,900	210	130	49	8.5	52	20	68	3.5 J	4.2	1.6 J	320	1,000	750
Magnesium	NS	NS	NS	NS	2,000	930	1,600	870	1,500	720	1,400	680	840	550	1,700	1,500	2,000
Manganese	1,600	2,000	10,000	10,000	330	160	240	95	440	160	320	59	84	110	310	270	430
Mercury	0.18	0.81	2.8	5.7	0.08 U	0.26	1.6	0.73	0.05 J	0.06 J	0.16	0.07 U	0.08 U	0.08 U	1.1	0.55	0.71
Nickel	30	310	310	10,000	15	7.8	12	7.9	11	6.5	11	5.5	5.6	4.1	25	32	24
Potassium	NS	NS	NS	NS	650	220	420	190 J	690	180 J	460	190 J	200 J	150 J	920	940	1,300
Selenium	3.9	180	1,500	6,800	0.34 J	1.7 U	1.8 U	1.7 U	1.6 U	1.6 U	1.7 U	1.7 U	1.7 U	1.6 U	1.3 J	1.5	2 J
Silver	2	180	1,500	6,800	0.87 U	0.85 U	0.89 U	0.87 U	0.82 U	0.82 U	0.84 U	0.83 U	0.84 U	0.81 U	1 U	0.58 J	1 J
Sodium	NS	NS	NS	NS	110 J	38 J	71 J	36 J	110 J	31 J	120 J	140 J	75 J	160 U	1200	290	1,200
Thallium	NS	NS	NS	NS	1.7 U	1.7 U	1.8 U	1.7 U	1.6 U	1.6 U	1.7 U	1.7 U	1.7 U	1.6 U	2 U	1.5 U	2 U
Vanadium	NS	NS	NS	NS	24	17	19	15	26	12	19	11	15	7.1	18	21	29
Zinc	109	10,000	10,000	10,000	93	36	42	23	40	25	46	11	17	7.1	360	390	640

Notes:
(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestriced Use of Soil Cleanup Objective Table 375-6.8a 12/06
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Residential Use of Soil Cleanup Objective Table 375-6.8b 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Commercial Use of Soil Cleanup Objective Table 375-6.8a 12/06
(4) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Industrial Use of Soil Cleanup Objective Table 375-6.8b 12/06
U - Analyte not detected above the laboratory MDL
J - Estimated value
NS - No standard established
NA - Not analyzed
Green highlighting indicates exceedance of Unrestricted Use SCO
Orange highlighting indicates exceedance of Restricted Residential SCO
Blue highlighting indicates exceedance of Commercial Use SCO
Yellow highlighting indicates exceedance of Industrial Use SCO

TABLE 4

Groundwater Sample Analytical Data Summary - Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, New York

Client Sample ID:	NYSDEC (1) Ambient Water Quality Standards	GP008	GP009	GP010	GP011	GP012	MW001	MW002	MW003	MW004	MW005	MW006	MW007	MW008
Sample Depth:		10-14'	10-14'	10-14'	10-14'	10-14'								
Sampling Date:		9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013
Laboratory ID:		L1318156-02	L1318156-03	L1318156-04	L1318156-01	L1318156-05	L1320138-03	L1320138-05	I1320243-02	I1320243-03	L1320138-01	I1320243-07	I1320243-06	I1320243-05
Volatile Organic Compounds in µg/L														
1,1,1,2-Tetrachloroethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,1,1-Trichloroethane	5	25 U	62 U	62 U	0.8 J	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,1,2,2-Tetrachloroethane	5	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
1,1,2-Trichloroethane	1	15 U	38 U	38 U	1.5 U	75 U	30 U	30 U	15 U	30 U	1.5 U	30 U	30 U	1.5 U
1,1-Dichloroethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.4 J
1,1-Dichloroethene	5	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.28 J	10 U	10 U	0.94
1,1-Dichloropropene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2,3-Trichlorobenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2,3-Trichloropropane	0.04	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2,4,5-Tetramethylbenzene	NS	20 U	50 U	50 U	2 U	100 U	40 U	40 U	20 U	40 U	2 U	40 U	40 U	2 U
1,2,4-Trichlorobenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2,4-Trimethylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2-Dibromo-3-chloropropane	0.04	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,2-Dibromoethane	0.0006	20 U	50 U	50 U	2 U	100 U	40 U	40 U	20 U	40 U	2 U	40 U	40 U	2 U
1,2-Dichlorobenzene	3	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	0.71 J
1,2-Dichloroethane	0.6	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
1,2-Dichloropropane	1	10 U	25 U	25 U	1 U	50 U	20 U	20 U	10 U	20 U	1 U	20 U	20 U	1 U
1,3,5-Trimethylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,3-Dichlorobenzene	3	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,3-Dichloropropane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,4-Dichlorobenzene	3	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
1,4-Diethylbenzene	NS	20 U	50 U	50 U	2 U	100 U	40 U	40 U	20 U	40 U	2 U	40 U	40 U	2 U
1,4-Dioxane	NS	2500 U	6200 U	6200 U	250 U	12,000 U	5,000 U	5,000 U	2500 U	5000 U	250 U	5000 U	5000 U	250 U
2,2-Dichloropropane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
2-Butanone	50	50 U	45 J	45 J	5 U	88 J	100 U	100 U	50 U	100 U	5 U	100 U	27 J	5 U
2-Hexanone	50	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
4-Ethyltoluene	NS	20 U	50 U	50 U	2 U	100 U	40 U	40 U	20 U	40 U	2 U	40 U	40 U	2 U
4-Methyl-2-pentanone	NS	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Acetone	50	50 U	84 J	100 J	2.6 J	150 J	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Acrylonitrile	5	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Benzene	1	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
Bromobenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Bromochloromethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Bromodichloromethane	50	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
Bromoform	50	20 U	50 U	50 U	2 U	100 U	40 U	40 U	20 U	40 U	2 U	40 U	40 U	2 U
Bromomethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Carbon disulfide	60	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Carbon tetrachloride	5	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
Chlorobenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Chloroethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Chloroform	7	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Chloromethane	NS	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
cis-1,2-Dichloroethene	5	25 U	62 U	62 U	6	120 U	22 J	16 J	18 J	14 J	8.2	55	50 U	35
cis-1,3-Dichloropropene	0.4	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
Dibromochloromethane	50	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
Dibromomethane	5	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Dichlorodifluoromethane	5	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Ethyl ether	NS	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Ethylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Hexachlorobutadiene	0.5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Isopropylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Methyl tert butyl ether	10	25 U	62 U	62 U	1.7 J	120 U	50 U	50 U	25 U	50 U	2 J	50 U	50 U	2.2 J
Methylene chloride	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
n-Butylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
n-Propylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Naphthalene	10	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
o-Chlorotoluene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
o-Xylene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
p-Chlorotoluene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
p-Isopropyltoluene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
p/m-Xylene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
sec-Butylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Styrene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
tert-Butylbenzene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Tetrachloroethene	5	150	260	270	120	520	1,200	400	940	460	54	1,900	280	270
Toluene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
trans-1,2-Dichloroethene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	0.8 J
trans-1,3-Dichloropropene	0.4	5 U	12 U	12 U	0.5 U	25 U	10 U	10 U	5 U	10 U	0.5 U	10 U	10 U	0.5 U
trans-1,4-Dichloro-2-butene	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Trichloroethene	5	460	1,400	2,300	54	3,100	760	1,400	950	1,400	27	890	740	160
Trichlorofluoromethane	5	25 U	62 U	62 U	2.5 U	120 U	50 U	50 U	25 U	50 U	2.5 U	50 U	50 U	2.5 U
Vinyl acetate	NS	50 U	120 U	120 U	5 U	250 U	100 U	100 U	50 U	100 U	5 U	100 U	100 U	5 U
Vinyl chloride	2	10 U	25 U	25 U	1 U	50 U	20 U	20 U	10 U	20 U	1 U	7 J	20 U	0.49 J
Total VOCs		610	1660	2570	180	3620	1960	1800	1890	1860	89	2845	1020	466

Notes:

(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998

NS - No Standard

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample quantitation limit.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument

Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 4

Groundwater Sample Analytical Data Summary - Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, New York

Client Sample ID: Sample Depth: Sampling Date: Laboratory ID:	NYSDEC (1) Ambient Water Quality Standards	MW009 10/8/2013 L1320138-02	MW010 10/8/2013 l1320243-12	MW011 10/8/2013 l1320243-08	ML001-S 10/8/2013 L1320138-04	ML001-M 10/8/2013 L1320243-01	ML001-D 10/8/2013 L1320243-03	ML002-S 10/8/2013 L1320243-09	ML002-M 10/8/2013 L1320243-10	ML002-D 10/8/2013 L1320243-11
Volatile Organic Compounds in µg/L										
1,1,1,2-Tetrachloroethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1,1-Trichloroethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1,2,2-Tetrachloroethane	5	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1	15 U	6 U	3.8 U	150 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
1,1-Dichloroethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1-Dichloroethene	5	5 U	2	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3-Trichlorobenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3-Trichloropropane	0.04	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,4,5-Tetramethylbenzene	NS	20 U	8 U	5 U	200 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,4-Trimethylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromo-3-chloropropane	0.04	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane	0.0006	20 U	8 U	5 U	200 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	3	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dichloroethane	0.6	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	10 U	4 U	2.5 U	100 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,3-Dichlorobenzene	3	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,3-Dichloropropane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,4-Dichlorobenzene	3	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,4-Diethylbenzene	NS	20 U	8 U	5 U	200 U	2 U	2 U	2 U	2 U	2 U
1,4-Dioxane	NS	2,500 U	1,000 U	620 U	25,000 U	250 U	250 U	250 U	250 U	250 U
2,2-Dichloropropane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Butanone	50	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	50	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
4-Ethyltoluene	NS	20 U	8 U	5 U	200 U	2 U	2 U	2 U	2 U	2 U
4-Methyl-2-pentanone	NS	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Acetone	50	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	5	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Bromochloromethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Bromodichloromethane	50	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	20 U	8 U	5 U	200 U	2 U	2 U	2 U	2 U	2 U
Bromomethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Carbon disulfide	60	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chloroethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chloroform	7	25 U	10 U	6.2 U	250 U	3.4	1.4 J	8.4	6.1	2.5 U
Chloromethane	NS	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
cis-1,2-Dichloroethene	5	10 J	31	10	250 U	2.5 U	2.5 U	3 U	3 U	3 U
cis-1,3-Dichloropropene	0.4	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	50	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	5	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	5	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Ethyl ether	NS	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Hexachlorobutadiene	0.5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Isopropylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl tert butyl ether	10	25 U	10 U	6.2 U	250 U	1.6 J	1.6 J	2.5 U	3.4	2 J
Methylene chloride	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
n-Butylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
n-Propylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Naphthalene	10	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
o-Chlorotoluene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
o-Xylene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
p-Chlorotoluene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
p-Isopropyltoluene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
p/m-Xylene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
sec-Butylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Styrene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Tetrachloroethene	5	470	330	240	100	16	16	3	19	14
Toluene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,2-Dichloroethene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,3-Dichloropropene	0.4	5 U	2 U	1.2 U	50 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Trichloroethene	5	180	130	110	8,700	4.2	10	2	5	2
Trichlorofluoromethane	5	25 U	10 U	6.2 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Vinyl acetate	NS	50 U	20 U	12 U	500 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	2	10 U	4 U	2.5 U	100 U	1 U	1 U	1 U	1 U	1 U
Total VOCs		650	493	360	8800	24	26	13	33	16

Notes:
(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/199
NS - No Standard
J - Data indicates the presence of a compound that meets the identificati
U - The analyte was analyzed for, but was not detected above the reporte
E - Concentration of analyte exceeds the range of the calibration curve a
Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 5a

Groundwater Sample Analytical Data Summary - Semi-Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, NY

Client Sample ID:	NYSDEC [1] Ambient Water Quality Standards	MW001	MW002	MW003	MW004	MW005	MW006	MW007	MW008	MW009	MW010	MW011	ML001-S	ML001-M	ML001-D	ML002-S	ML002-M	ML002-D
Sample Depth:																		
Sampling Date:		10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013
Laboratory ID:		L1320138-03	L1320138-05	L1320243-02	L1320243-04	L1320138-01	L1320243-07	L1320243-06	L1320243-05	L1320138-02	L1320243-12	L1320243-08	L1320138-04	L1320243-01	L1320243-03	L1320243-09	L1320243-10	L1320243-11
Semivolatile Organics by EPA 8270C in µg/L																		
1,2,4,5-Tetrachlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4,5-Trichlorophenol	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	10 (2)	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	10 (2)	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Chlorophenol	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene	NS	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylphenol	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3-Methylphenol/4-Methylphenol	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4,6-Dinitro-o-cresol	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Chloroaniline	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl phenyl ether	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Nitroaniline	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Nitrophenol	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	20 (2)	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 J	0.2 U	0.2 U	2.1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	NS	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.32 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acetophenone	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	50 (2)	0.55 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.18 J	0.2 U	0.2 U	0.94 J	0.2 U	0.07 J	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	0.002 (2)	2.3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.7	0.2 U	0.24	0.09 J	0.2 U	0.2 U
Benzo(a)pyrene	0.002 (2)	1.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.3	0.2 U	0.19 J	0.08 J	0.2 U	0.2 U
Benzo(b)fluoranthene	0.002 (2)	2.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.7	0.2 U	0.3	0.12 J	0.2 U	0.2 U
Benzo(ghi)perylene	NS	1.3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.1	0.2 U	0.15 J	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.002 (2)	1.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.3	0.2 U	0.12 J	0.2 U	0.2 U	0.2 U
Benzoic Acid	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzyl Alcohol	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Biphenyl	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bis(2-chloroethoxy)methane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bis(2-chloroisopropyl)ether	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bis(2-Ethylhexyl)phthalate	5	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Butyl benzyl phthalate	50 (2)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.8	2 U	2 U	2 U	2 U	2 U
Chrysene	0.002 (2)	1.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.6	0.2 U	0.26	0.1 J	0.2 U	0.2 U
Dibenzo(a,h)anthracene	NS	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzofuran	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.3 J	2 U	2 U	2 U	2 U	2 U
Diethyl phthalate	50 (2)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dimethyl phthalate	50 (2)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	50 (2)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	50 (2)	4.8	0.2 U	0.06 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.45	0.2 U	0.2 U	4	0.12 J	0.62	0.22	0.2 U	0.2 U
Fluorene	50 (2)	0.33 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.16 J	0.2 U	0.2 U	1.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorobenzene	0.04	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Hexachlorobutadiene	0.5	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorocyclopentadiene	5	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Hexachloroethane	5	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Indeno(1,2,3-cd)Pyrene	0.002 (2)	1.1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.9 J	0.2 U	0.15 J	0.2 U	0.2 U	0.2 U
Isophorone	50 (2)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	10 (2)	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.09 J	0.2 U	0.2 U	7.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nitrobenzene	0.4	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
NitrosoDiPhenylAmine(NDPA)/DPA	50 (2)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
n-Nitrosodi-n-propylamine	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
P-Chloro-M-Cresol	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Pentachlorophenol	1	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Phenanthrene	50 (2)	2.6	0.2 U	0.06 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.71	0.2 U	0.2 U	4	0.11 J	0.32	0.12 J	0.2 U	0.2 U
Phenol	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Pyrene	50 (2)	3.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.33	0.2 U	0.2 U	3.1	0.09 J	0.4	0.19 J	0.2 U	0.2 U

Notes:
(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998 - Standard
(2) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998 - Guiance Value
NS - No Standard
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.
U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample quantitation limit.
Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 5b

Groundwater Sample Analytical Data Summary - Semi-Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, NY

Client Sample ID:	NYSDEC (1) Ambient Water Quality Standards	GP008		GP009		GP010		GP011		GP012	
Sample Depth:		10-14'		10-14'		10-14'		10-14'		10-14'	
Sampling Date:		9/13/2013		9/13/2013		9/13/2013		9/13/2013		9/13/2013	
Laboratory ID:		L1318156-02		L1318156-03		L1318156-04		L1318156-01		L1318156-05	
Semivolatile Organics by EPA 8270C in µg/L											
2-Methylnaphthalene	NS	0.07	J	0.14	J	0.07	J	0.23		0.2	U
Acenaphthene	20(2)	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Acenaphthylene	NS	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Anthracene	50(2)	0.2	U	0.2	U	0.07	J	0.2	U	0.2	U
Benzo(a)anthracene	0.002(2)	0.2	U	0.13	J	0.2	U	0.2	U	0.07	J
Benzo(a)pyrene	0.002(2)	0.2	U	0.1	J	0.2	U	0.2	U	0.2	U
Benzo(b)fluoranthene	0.002(2)	0.2	U	0.22		0.2	U	0.2	U	0.08	J
Benzo(ghi)perylene	NS	0.2	U	0.1	J	0.2	U	0.2	U	0.2	U
Benzo(k)fluoranthene	0.002(2)	0.2	U	0.1	J	0.2	U	0.2	U	0.2	U
Chrysene	0.002(2)	0.2	U	0.15	J	0.05	J	0.2	U	0.07	J
Dibenzo(a,h)anthracene	NS	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Fluoranthene	50(2)	0.2	U	0.22		0.14	J	0.09	J	0.15	J
Fluorene	50(2)	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Indeno(1,2,3-cd)Pyrene	0.002(2)	0.2	U	0.11	J	0.2	U	0.2	U	0.2	U
Naphthalene	10(2)	0.07	J	0.2	U	0.1	J	0.16	J	0.2	U
Phenanthrene	50(2)	0.12	J	0.14	J	0.41		0.14	J	0.19	J
Pyrene	50(2)	0.2	U	0.17	J	0.11	J	0.07	J	0.13	J

Notes:

(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998 - Standard

(2) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998 - Guiance Value

NS - No Standard

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample

Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 6

Groundwater Sample Analytical Data Summary - Metals
491 Wortman Avenue, Brooklyn, NY

Client Sample ID:	NYSDEC [1] Ambient Water Quality Standards	GP008		GP009		GP010		GP011		GP012		MW001		MW002		MW003		MW004		MW005		MW006		MW007	
Sample Depth:		10-14'		10-14'		10-14'		10-14'		10-14'															
Sampling Date:		9/13/2013		9/13/2013		9/13/2013		9/13/2013		9/13/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013	
Laboratory ID:		L1318156-02		L1318156-03		L1318156-04		L1318156-01		L1318156-05		L1320138-03		L1320138-05		L1320243-02		L1320243-04		L1320138-01		L1320243-07		L1320243-06	
Sample Type:		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Total Metals in µg/L																									
Aluminum	NS	84,200	3 J	48,600	10 U	76,600	8 J	116,000	5 J	83,200	3 J	641	2 J	39	3 J	175	5 J	168	10 J	122	3 J	83	3 J	179	8
Antimony	3	1.2 J	0.69 J	20 U	0.43 J	20 U	0.71 J	20 U	0.59 J	20 U	0.64 J	0.17 J	0.53 J	0.15 J	0.53 J	1 U	0.31 J	1 U	0.41 J	0.11 J	0.41 J	0.11 J	0.17 J	1 U	0.36
Arsenic	25	8.74	0.68	4.19 J	0.51	8.04	0.61	4.82 J	0.54	8.96	0.49 J	0.88	0.35 J	0.55	0.45 J	0.58	0.44 J	0.6	0.51	0.58	0.46 J	0.52	0.3 J	0.75	0.38
Barium	1,000	895.4	43.52	161.9	34.44	348	35.81	512.6	42.97	509.6	44.54	75.34	58.98	40.99	39.14	38.98	36.59	26.48	25.17	34.07	36.15	114.9	105.7	48.66	41.52
Beryllium	3*	4.99 J	0.5 U	2.2 J	0.5 U	4.26 J	0.5 U	5.34	0.5 U	3.85 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5
Cadmium	5	5.72	0.09 J	0.66 J	0.06 J	1.65 J	0.05 J	4.28	0.32	2.06	0.23	0.33	0.29	0.18 J	0.18 J	0.19 J	0.15 J	0.18 J	0.17 J	0.15 J	0.14 J	1.15	0.66	0.19 J	0.14
Calcium	NS	255,000	132,000	97,900	87,700	172,000	113,000	169,000	131,000	89,200	78,100	83,100	80,900	74,300	71,400	89,200	77,600	84,300	70,000	76,200	77,400	112,000	82,800	93,900	72,000
Chromium	50	477.2	1.75 J	383.1	1.7 J	439.3	1.86 J	382	2.26	366	1.61 J	3.81	1.22	1.6	1.24	1.44	0.96 J	1.75	1.25	1.76	1.3	1.41	0.97 J	173.6	167.9
Cobalt	NS	93.12	14.52	38.67	9.03	60.23	4.06	84.28	14.37	110.9	20.44	1.41	0.54	0.79	0.72	0.63	0.45 J	0.72	0.56	1.3	1.29	0.99	0.86	1.74	1.25
Copper	200	4,996	5.01	226.6	3.49	793.3	6.11	591.6	2.97	233.4	1.58	12	2.89	17.33	2.55	7	4.46	4.73	2.19	5.44	1.18	2.31	1.49	5.83	2.77
Iron	300	93,500	807	84,600	769	132,000	501	136,000	657	129,000	382	1,550	400	396	359	637	382	654	369	513	417	653	424	747	455
Lead	25	2,246	1 U	125.4	1 U	285.1	1 U	411.6	1 U	529.1	1 U	6	1 U	4.22	1 U	1 J	1 U	0.94 J	1 U	0.86 J	1 U	1.86	1 U	1.45	1
Magnesium	35,000*	42,500	17,500	25,300	15,600	31,900	15,200	46,000	22,900	33,300	16,400	17,900	16,900	15,100	15,300	15,600	15,300	14,500	14,400	15,800	17,900	17,200	16,000	13,600	12,800
Manganese	300	6,400	3,238	3,120	2,216	3,076	725	5,064	3,336	16,380	10,360	3,718	3,586	1,684	1,592	2,334	2,100	1,229	1,006	1,303	1,238	3,086	2,336	3,080	2,338
Mercury	0.7	2.66	0.2 U	0.23	0.2 U	0.59	0.2 U	1.32	0.2 U	0.8	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2
Nickel	100	315.2	17.2	90.53	16.78	162.8	8.16	140.8	11.92	156.7	20.63	5.13	2.06	3.07	2.03	1.95	1.81	2.44	2.02	3.38	2.58	2.33	1.92	3.08	2.81
Potassium	NS	20,200	13,600	19,700	15,100	27,300	18,900	18,400	12,500	24,100	17,000	12,800	11,700	9,760	9,420	11,000	10,400	11,200	10,900	7,930	8,730	11,500	10,500	10,900	10,100
Selenium	10	10.7 J	2.64 J	4.71 J	2.36 J	10 J	2.68 J	13.7 J	2.62 J	7 J	1.21 J	1.47 J	1.12 J	1.79 J	1.82 J	1.99 J	1.99 J	2.4 J	2.33 J	1.65 J	1.79 J	2.09 J	2.16 J	3.53 J	3.26
Silver	50	1.91 J	0.4 U	1 J	0.4 U	1.21 J	0.4 U	2.59 J	0.4 U	1.16 J	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.5
Sodium	20,000	59,500	60,300	69,100	68,300	80,700	79,800	93,800	93,800	65,500	65,700	83,800	81,900	86,200	81,300	88,000	79,900	89,300	76,500	87,000	86,900	130,000	102,000	116,000	94,900
Thallium	0.5*	1.54 J	0.16 J	0.76 J	0.11 J	0.75 J	0.07 J	1.39 J	0.1 J	1.17 J	0.2 J	0.13 J	0.11 J	0.11 J	0.09 J	0.1 J	0.08 J	0.12 J	0.07 J	0.07 J	0.08 J	0.18 J	0.16 J	0.1 J	0.1
Vanadium	NS	124.7	0.28 J	101.1	0.29 J	167.4	0.46 J	193.1	0.4 J	116.8	0.3 J	1.77 J	0.36 J	0.3 J	0.35 J	0.66 J	0.3 J	0.65 J	0.32 J	0.48 J	0.4 J	0.47 J	0.29 J	1.64 J	0.97
Zinc	2,000*	3,883	14	199	11	656	11	1,154	32	499	14	64	40	33	9 J	25	12	27	14	28	9 J	37	18	32	17
Cyanide	200	15	NA	1 J	NA	4 J	NA	1 J	NA	5 U	NA	2 J	NA	1 J	NA	1 J	NA	5 U	NA	3 J	NA	2 J	NA	1 J	NA

Notes:
(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998
NS - No Standard
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.
U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample quantitation limit.
Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 6

Groundwater Sample Analytical Data Summary - Metals
491 Wortman Avenue, Brooklyn, NY

Client Sample ID:	NYSDEC [1] Ambient Water Quality Standards		MW008		MW009		MW010		MW011		ML001-S		ML001-M		ML001-D		ML002-S		ML002-M		ML002-D	
Sample Depth:																						
Sampling Date:			10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013	
Laboratory ID:			L1320243-05		L1320138-02		L1320243-12		L1320243-08		L1320138-04		L1320243-01		L1320243-03		L1320243-09		L1320243-10		L1320243-11	
Sample Type:			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Total Metals in µg/L																						
Aluminum	NS	J	87	4 J	502	9 J	996	34	274	5 J	14,800	68	83	4 J	829	37	17,000	130	3,910	43	671	11
Antimony	3	J	1 U	0.2 J	0.19 J	0.61 J	0.13 J	0.31 J	0.12 J	0.46 J	3.18	2.38	1 U	0.31 J	0.1 J	0.24 J	3.28	1.2	0.12 J	0.29 J	0.11 J	0.24 J
Arsenic	25	J	0.63	0.34 J	0.76	0.68	0.67	0.66	0.67	0.58	11.65	0.94	0.59	0.5 U	0.54	0.37 J	4.98	0.75	1.11	0.38 J	0.53	0.39 J
Barium	1,000		35.29	33.76	49	47.86	42.63	37.13	80.36	70	2210	68.15	108.7	103.5	94.13	57.93	1096	93.2	119	61.02	82.31	71.94
Beryllium	3*	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.41	0.5 U	0.3 J	0.5 U	0.5 U	0.5 U
Cadmium	5	J	0.21	0.17 J	0.13 J	0.11 J	0.27	0.25	0.14 J	0.13 J	1.87	0.34	0.2 U	0.2 U	0.13 J	0.07 J	1.4	0.07 J	0.09 J	0.2 U	0.06 J	0.2 U
Calcium	NS		69,900	65,700	84,700	83,500	93,100	86,600	63,100	58,400	322,000	283,000	122,000	103,000	119,000	88,100	69,600	36,600	144,000	103,000	105,000	83,300
Chromium	50		1.18	0.93 J	12.6	1.63	9.01	1.27	3.16	0.87 J	43.91	2.57	1.84	1.7	3.57	1.85	50.45	1.83	9.6	1.19	2.52	1.28
Cobalt	NS		1.42	1.33	4.87	4.61	3.88	3.27	7.84	6.73	21.21	1.31	0.69	0.45 J	2.86	0.6	32.74	0.59	6.94	0.51	1.33	0.29 J
Copper	200		3.6	1.77	8.71	2.1	4.35	1.46	1.91	0.48 J	361.2	27.35	35.52	4.52	8.71	1.3	153.3	3.63	12.07	1.15	17	1.3
Iron	300		8,600	397	2,460	987	2,130	524	2,180	1,060	22,300	1,530	589	498	1,820	487	30,100	415	7,520	618	1,300	443
Lead	25	U	0.52 J	1 U	2.52	1 U	3.01	1 U	0.7 J	1 U	1,299	12	10.97	1 U	10.32	0.39 J	655.4	5.6	6.25	1 U	2.55	1 U
Magnesium	35,000*		12,900	13,200	17,100	17,900	16,900	16,500	9,770	9,200	36,000	32,800	32,800	33,900	21,000	18,600	11,000	3,820	30,900	28,700	32,200	33,200
Manganese	300		2,340	2,292	2,766	2,772	2,348	2,270	3,602	3,506	3,342	953	28	7	759	299	5,336	115	1,376	176	167	57
Mercury	0.7	U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.16 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100		2.86	2.66	8.02	7.28	7.17	5.55	4.95	4.25	46.15	7.97	4.55	3.39	7.14	2.91	51.96	1.85	11.79	2.92	5.46	2.5
Potassium	NS		8,000	8,240	10,900	11,300	10,100	10,100	10,900	9,930	17,200	15,900	4,530	4,520	5,990	5,250	5,900	3,640	5,400	4,640	3,390	3,480
Selenium	10	J	1.78 J	1.62 J	2.16 J	2.1 J	1.64 J	1.64 J	1.48 J	1.47 J	8.64	6.32	1.05 J	0.83 J	1.06 J	0.83 J	2.96 J	1.4 J	1.65 J	1.1 J	0.89 J	0.84 J
Silver	50	U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.45	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.65	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Sodium	20,000		79,900	81,700	68,300	68,600	93,400	93,300	150,000	142,000	61,400	58,800	80,000	68,000	106,000	80,900	277,000	221,000	89,600	68,700	103,000	87,300
Thallium	0.5*	J	0.12 J	0.11 J	0.11 J	0.1 J	0.17 J	0.16 J	0.1 J	0.1 J	0.3 J	0.07 J	0.5 U	0.5 U	0.04 J	0.03 J	0.43 J	0.03 J	0.09 J	0.5 U	0.03 J	0.5 U
Vanadium	NS	J	0.39 J	0.16 J	1.27 J	0.3 J	1.83 J	0.2 J	0.74 J	0.16 J	32.13	0.84 J	0.48 J	0.52 J	2.17 J	0.56 J	37.74	1.15 J	7.83	0.52 J	1.59 J	0.6 J
Zinc	2,000*		21	12	26	15	21	4 J	26	12	1,349	89	46	12	31	5 J	382	7 J	33	3 J	23	5 J
Cyanide	200		1 J	NA	2 J	NA	2 J	NA	2 J	NA	1 J	NA	5 U	NA	5 U	NA	2 J	NA	5 U	NA	5 U	NA

Notes:
(1) NYSDEC Ambient Water Quality Stand
NS - No Standard
J - Data indicates the presence of a com
U - The analyte was analyzed for, but was
Highlighted values indicate exceedance

TABLE 7

Groundwater Sample Analytical Data Summary - Pesticides/PCBs
491 Wortman Avenue, Brooklyn, NY

Client Sample ID:	NYSDEC (1) Ambient Water Quality Standards	MW001	MW002	MW003	MW004	MW005	MW006	MW007	MW008	MW009	MW010	MW011	ML001-S	ML001-M	ML001-D	ML002-S	ML002-M	ML002-D
Sample Depth:																		
Sampling Date:		10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013	10/8/2013
Laboratory ID:		L1320138-03	L1320138-05	L1320243-02	L1320243-04	L1320138-01	L1320243-07	L1320243-06	L1320243-05	L1320138-02	L1320243-12	L1320243-08	L1320138-04	L1320243-01	L1320243-03	L1320243-09	L1320243-10	L1320243-11
Organochlorine Pesticides by EPA 8081A in µg/L																		
4,4'-DDD	0.3	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
4,4'-DDE	0.2	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
4,4'-DDT	0.2	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Aldrin	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha-BHC	0.01	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta-BHC	0.04	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chlordane	0.05	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-Chlordane	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Delta-BHC	0.04	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.004	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Endosulfan I	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan II	NS	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Endosulfan sulfate	NS	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Endrin	NS	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Endrin ketone	5	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Heptachlor	0.04	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor epoxide	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Lindane	0.05	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Methoxychlor	35	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	NS	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-Chlordane	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Polychlorinated Biphenyls by EPA 8082 in µg/L																		
Aroclor 1016	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1221	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1232	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1242	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1248	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1254	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1260	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1262	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Aroclor 1268	0.09	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U

Notes:
(1) NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998
NS - No Standard
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.
U - The analyte was analyzed for, but was not detected above the reported sample quantification limit. The assocaited numerical value is the sample quantitation limit.
Highlighted values indicate exceedance of the NYSDEC AWQS

TABLE 8

Soil-Vapor Sample Analytical Data Summary - Volatile Organic Compounds
491 Wortman Avenue, Brooklyn, New York

Client Sample ID	NYSDOH Air Guideline Values [1]	SV001	IA001	OA001	IA001	IA002	IA003	SV002	SV003
Sample Depth:			N/A	N/A	N/A	N/A	N/A		
Sampling Date		9/16/2013	9/16/2013	9/16/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013
Laboratory ID		L1318297-01	L1318297-02	L1318297-03	L1318515-01	L1318515-02	L1318515-03	L1318515-04	L1318515-05
VOCs by TO-15 in µg/m³									
1,1,1-Trichloroethane	100 [2]	231	0.109 U	0.109 U	0.436	0.447	0.344	23.3	232
1,1,2,2-Tetrachloroethane	NS	98.2 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	2.75 U	4.58 U
1,1,2- Trichloroethane	NS	78 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	2.18 U	3.64 U
1,1 Dichloroethane	100 [2]	57.9 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	1.62 U	5.75
1,1 Dichloroethene	NS	56.7 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	1.59 U	2.64 U
1,2,4-Trichlorobenzene	NS	106 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	2.97 U	4.95 U
1,2,4-Trimethylbenzene	NS	70.3 U	6.29	0.983 U	1.96	3.26	2.19	95.9	90.5
1,2 Dibromoethane	NS	110 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	3.07 U	5.13 U
1,2 Dichlorobenzene	NS	86 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4 U	4.01 U
1,2 Dichloroethane	NS	57.9 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	1.62 U	2.7 U
1,2 Dichloropropane	NS	66.1 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	1.85 U	3.08 U
1,3,5-Trimethylbenzene	NS	70.3 U	2.01	0.983 U	0.983 U	1.03	0.983 U	48.6	46.2
1,3 Butadiene	NS	31.6 U	0.442 U	0.442 U	0.442 U	0.442 U	0.442 U	0.894	3.52
1,3 Dichlorobenzene	NS	86 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4 U	4.01 U
1,4 Dichlorobenzene	NS	86 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4 U	4.01 U
1,4-Dioxane	NS	51.5 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	1.44 U	2.4 U
2,2,4-Trimethylpentane	NS	66.8 U	2.14	1.06	1.23	1.26	0.953	1.87 U	3.12 U
2-Butanone	NS	42.2 U	2.33	1.21	2.19	2.45	2.13	5.57	9.53
2-Hexanone	NS	58.6 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	1.64 U	2.73 U
3-Chloropropene	NS	44.8 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	1.25 U	2.09 U
p-Ethyltoluene	NS	70.3 U	1.14	0.983 U	0.983 U	0.983 U	0.983 U	75.7	73.3
4-Methyl-2-pentanone	NS	58.6 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	1.76	2.73 U
Acetone	NS	170 U	34	10	21.9	22.1	38	34.4	81.5
Benzene	NS	45.7 U	2.19	0.92	0.93	1.02	0.732	16.7	21.4
Benzyl Chloride	NS	74 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	2.07 U	3.45 U
Bromodichloromethane	NS	95.8 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	2.68 U	4.47 U
Bromoform	NS	148 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	4.14 U	6.9 U
Bromomethane	NS	55.5 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	1.55 U	2.59 U
Carbon disulfide	NS	44.5 U	10.1	0.623 U	0.623 U	0.623 U	0.623 U	19.3	27.8
Carbon Tetrachloride	5 [2]	90 U	0.428	0.434	0.34	0.365	0.258	2.52 U	4.2 U
Chlorobenzene	NS	65.9 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	1.84 U	3.07 U
Chloroethane	NS	37.7 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	1.06 U	1.76 U
Chloroform	NS	69.8 U	0.977 U	0.977 U	0.996	1.05	2.12	21.7	133
Chloromethane	NS	29.5 U	1.25	1.04	1.39	1.39	1.64	0.826 U	1.38 U
c-1,2-Dichloroethene	100 [2]	56.7 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	4.28	2.64 U
c-1,3Dichloropropene	NS	64.9 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	1.82 U	3.03 U
Cyclohexane	NS	49.2 U	0.774	0.688 U	0.688 U	0.688 U	0.688 U	5.54	7.43
Dibromochloromethane	NS	122 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.41 U	5.68 U
Dichlorodifluoromethane (Freon 12)	NS	70.7 U	1.45	1.79	2.45	2.63	2.8	2.63	3.3 U
Ethanol	NS	337 U	27.9	10.9	80.5	76.5	200	9.42 U	15.7 U
Ethyl Acetate	NS	129 U	1.8 U	1.8 U	8	7.42	6.92	3.6 U	6.02 U
Ethyl Benzene	NS	62.1 U	3.72	0.869 U	0.869 U	0.877	0.869 U	95.6	80.4
Freon 113	NS	110 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	3.07 U	5.11 U
Freon 114	NS	100 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	2.8 U	4.66 U
Heptane	NS	58.6 U	1.29	0.82 U	0.996	0.979	2.02	34.6	40.2
Hexachlorobutadiene	NS	153 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	4.27 U	7.11 U
Isopropanol	NS	88 U	5.53	3.39	5.51	5.21	9.22	2.46 U	4.1 U
ter.ButylMethylEther	NS	51.6 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	1.44 U	2.4 U
Methylene Chloride	60	249 U	3.47 U	3.47 U	3.47 U	3.68	3.47 U	6.95 U	11.6 U
n-Hexane	NS	50.4 U	1.64	0.796	1.12	1.44	1.15	23.2	32.1
o Xylene	NS	62.1 U	4.6	0.869 U	1.2	1.41	1.3	142	108
m + p Xylene	NS	124 U	14	1.74 U	2.92	3.36	2.98	385	305
Propylene	NS	61.6 U	2.31	1	1.49	1.86	1.72	8.09	34.2
Styrene	NS	60.9 U	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	1.7 U	2.84 U
Tetrachloroethene	30 [3]	568	13	1.48	7	6.98	10.3	1,160	1,380
Tetrahydrofuran	NS	42.2 U	0.59 U	0.59 U	1.35	1.65	1.33	3.75	3.78
Toluene	NS	54 U	9	4	8	8	6	313	326
t-1,2-Dichloroethene	NS	56.7 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	1.59 U	2.64 U
t-1,3Dichloropropene	NS	64.9 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	1.82 U	3.03 U
Trichloroethene	5	26,500	2	0.736	171	179	130	171	57.5
Trichlorofluoromethane (Freon 11)	NS	80.4 U	2.07	1.85	1.4	1.49	1.43	6.13	3.75 U
Vinyl Acetate	NS	50.4 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	1.41 U	2.35 U
Vinyl Bromide	NS	62.5 U	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U	1.75 U	2.92 U
Vinyl Chloride	5 [2]	36.6 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	1.02 U	1.71 U

Notes:

(1) New York State Department of Health "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" October 2006 Table 3.1.

(2) New York State Department of Health Memo Re: Soil Vapor/Indoor Air Matrices, dated June 25, 2007. Values are based on minimum sub-slab vapor concentration that may trigger mitigation.

(3) New York State Department of Health Memo Re: New Ambient Air Guideline and Revised Fact Sheet for Tetrachloroethene, dated September 13, 2013.

NS - No Standard

U - The compound was not detected at the indicated concentration.

R - Analytical results are from sample re-analysis

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

E - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

Highlighted values indicate exceedance higher than NYSDOH standard

Appendix A

Photolog

Front (south) side of building

Fuel Oil Tank in concrete vault in basement

Truck scale

Drilling equipment and drums for investigation-derived waste

Monitoring well installation

Appendix B

Air Monitoring Log Sheets

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Wednesday, September 11, 2013

Instrument make & model MiniRAE 2000, PDR 1000

Calibration date 9/11/13

Task of day/Locations Monitored

- Coredrill through Sidewalk at Monitoring Well locations.
- Hand clearing Well locations

Remarks:

PID in parts per million (ppm)

Dust Meter miligrams per meters cubed

Weather condition: 90°

Wind direction: S @ 10mph

Sky cover: Clear

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00								
Hour 1	8:00								
Hour 2	9:00	0.0	0.039	0.0	0.057	0.0	0.029	0.0	0.030
Hour 3	10:00	0.0	0.030	0.0	0.051	0.0	0.021	0.0	0.031
Hour 4	11:00	0.0	0.021	0.0	0.052	0.0	0.050	0.0	0.039
Hour 5	12:00								
Hour 6	13:00	0.0	0.026	0.0	0.041	0.0	0.044	0.0	0.036
Hour 7	14:00	0.0	0.022	0.0	0.046	0.0	0.047	0.0	0.032
Hour 8	15:00								
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:

None

Monitoring results and comments:

Performed every hour During Concrete Cutting / Hand clearing

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Thursday, September 12, 2013

Instrument make & model MiniRAE 2000, PDR 1000

Calibration date 9/12/13

Task of day/Locations Monitored
Soil borings, Drilling & Collections

Remarks:
PID in parts per million (ppm)
Dust Meter miligrams per meters cubed

Weather condition: 80°
Wind direction: SW @ 5
Sky cover: Partly Cloudy

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00								
Hour 1	8:00	0.0	0.012	0.0	0.015	0.0	0.014	0.0	0.012
Hour 2	9:00	0.0	0.006	0.0	0.008	0.0	0.011	0.0	0.017
Hour 3	10:00	0.0	0.009	0.0	0.011	0.0	0.015	0.0	0.013
Hour 4	11:00	0.0	0.002	0.0	0.007	0.0	0.016	0.0	0.010
Hour 5	12:00								
Hour 6	13:00	0.0	0.012	0.0	0.009	0.0	0.008	0.0	0.008
Hour 7	14:00	0.0	0.019	0.0	0.013	0.0	0.022	0.0	0.013
Hour 8	15:00								
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:
None

Monitoring results and comments:
Camp performed during [illegible] and air monitor.

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Friday, September 13, 2013

Instrument make & model MiniRAE 2000, PDR 1000

Calibration date 9/13/13

Task of day/Locations Monitored
- Installing Multi-level monitoring well.

Remarks:
PID in parts per million (ppm)
Dust Meter miligrams per meters cubed

Weather condition: 70°
Wind direction: N @ 10mph
Sky cover: Clear

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00	0.0	0.025	0.0	0.022	0.0	0.021	0.0	0.021
Hour 1	8:00	0.0	0.018	0.0	0.017	0.0	0.010	0.0	0.009
Hour 2	9:00	0.0	0.012	0.0	0.010	0.0	0.013	0.0	0.015
Hour 3	10:00	0.0	0.021	0.0	0.026	0.0	0.029	0.0	0.027
Hour 4	11:00	0.0	0.028	0.0	0.029	0.0	0.012	0.0	0.013
Hour 5	12:00								
Hour 6	13:00	0.0	0.017	0.0	0.009	0.0	0.011	0.0	0.011
Hour 7	14:00								
Hour 8	15:00								
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:
None

Monitoring results and comments:
Comp performed [illegible]

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Monday, September 16, 2013

Instrument make & model: MiniRAE 2000, PDR 1000

Calibration date: 9/16/13

Task of day/Locations Monitored
- Install outside monitoring wells

Remarks:
PID in parts per million (ppm)
Dust Meter miligrams per meters cubed

Weather condition: 70°
Wind direction: NW @ 10mph
Sky cover: Mostly Cloudy

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00								
Hour 1	8:00								
Hour 2	9:00								
Hour 3	10:00								
Hour 4	11:00	0.0	0.001	0.0	0.005	0.0	0.006	0.0	0.007
Hour 5	12:00								
Hour 6	13:00	0.0	0.003	0.0	0.001	0.0	0.004	0.0	0.008
Hour 7	14:00	0.0	0.007	0.0	0.006	0.0	0.004	0.0	0.010
Hour 8	15:00	0.0	0.011	0.0	0.012	0.0	0.05	0.0	0.010
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:
None

Monitoring results and comments:
Comp performed during well installation
Tour - 10:45 - No [illegible]

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Wednesday September 18, 2013

Instrument make & model MiniRAE 2000, PDR 1000

Calibration date 9/18/13

Task of day/Locations Monitored
Installed Soil vapor points

Remarks:
PID in parts per million (ppm)
Dust Meter miligrams per meters cubed

Weather condition: 70
Wind direction: SW @ 10mph
Sky cover: Cloudy

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00								
Hour 1	8:00								
Hour 2	9:00								
Hour 3	10:00								
Hour 4	11:00								
Hour 5	12:00								
Hour 6	13:00	0.0	0.079	0.0	0.070	0.0	0.081	0.0	0.089
Hour 7	14:00	0.0	0.074	0.0	0.086	0.0	0.086	0.0	0.091
Hour 8	15:00								
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:
None

Monitoring results and comments:
Comp performed during Super post installation

Daily Air Monitoring Record Form

491 Wortman Ave. Brooklyn NY

Site safety officer: Ryan Morley Date/time: Tuesday September 17, 2013

Instrument make & model MiniRAE 2000, PDR 1000

Calibration date 9/17/13

Task of day/Locations Monitored
Installed Multilevel Monitoring Well to 60'

Remarks:
PID in parts per million (ppm)
Dust Meter miligrams per meters cubed

Weather condition: 65°
Wind direction: NW @ 5mph
Sky cover: Clear

Air Monitoring Locations

	Time	North		West		South		East	
		PID	Dust	PID	Dust	PID	Dust	PID	Dust
Pre-start	7:00	0.0	0.061	0.0	0.057	0.0	0.055	0.0	0.066
Hour 1	8:00	0.0	0.050	0.0	0.052	0.0	0.050	0.0	0.051
Hour 2	9:00	0.0	0.052	0.0	0.050	0.0	0.049	0.0	0.049
Hour 3	10:00	0.0	0.049	0.0	0.049	0.0	0.049	0.0	0.049
Hour 4	11:00	0.0	0.038	0.0	0.035	0.0	0036	0.0	0.035
Hour 5	12:00								
Hour 6	13:00	0.0	0.021	0.0	0.022	0.0	0022	0.0	0.022
Hour 7	14:00	0.0	0020	0.0	0.020	0.0	0020	0.0	0.020
Hour 8	15:00								
Hour 9	16:00								
Hour 10									

Dust suppressant necessary: Yes or (No)

Dust Suppression technique used:
None

Monitoring results and comments:
Comp performed during M1002 installation

Appendix C

Soil Boring Logs

P.W. GROSSER CONSULTING

Boring Designation:	GP008	**Logged By:**	RM
Site Address:	491 Wortman Ave, Brooklyn, NY	**Project Manager:**	JE
Project Name:	Watermark	**Project Number:**	WAT1201
Drilling Contractor:	Longshore Environmental	**Driller Name:**	Jose + Juan
Drilling Method:	Geoprobe	**Borehole Diameter:**	3.0"
Sampling Method:	Direct Push	**Borehole Depth:**	10'
Start Time:	12:50	**Completion Time:**	13:30
Start Date:	9/12/2013	**Completion Date:**	9/12/2013

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	Notes
0	5	5.0			Brown	Dry	Historical Fill, Fines, pieces of concrete and brick.	PID = 321 ppm
				SW	Brown		Fine-Medium sand with trace of gravel. Wet at 10' bgs.	PID = 231 ppm
5	5	3.0						PID = 111 ppm
					Dark Brown			
								PID = 91.2 ppm
						Wet		

P.W. GROSSER CONSULTING

Boring Designation:	GP009	**Logged By:**	RM
Site Address:	491 Wortman Ave, Brooklyn, NY	**Project Manager:**	JE
Project Name:	Watermark	**Project Number:**	WAT1201
Drilling Contractor:	Longshore Environmental	**Driller Name:**	Jose + Juan
Drilling Method:	Geoprobe	**Borehole Diameter:**	3.0"
Sampling Method:	Direct Push	**Borehole Depth:**	10'
Start Time:	13:30	**Completion Time:**	14:00
Start Date:	9/12/2013	**Completion Date:**	9/12/2013

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	Notes
0	5	5.0			Brown	Dry	Historical Fill, Fines, pieces of concrete and brick.	PID = 401 ppm
				SW	Brown		Fine-Medium sand with trace of gravel. Wet at 10' bgs.	PID = 372 ppm
5	5	3.5						PID = 305 ppm
					Dark Brown			
								PID = 111 ppm
						Wet		

P.W. GROSSER CONSULTING

Boring Designation:	GP010	**Logged By:**	RM
Site Address:	491 Wortman Ave, Brooklyn, NY	**Project Manager:**	JE
Project Name:	Watermark	**Project Number:**	WAT1201
Drilling Contractor:	Longshore Environmental	**Driller Name:**	Jose + Juan
Drilling Method:	Geoprobe	**Borehole Diameter:**	3.0"
Sampling Method:	Direct Push	**Borehole Depth:**	10'
Start Time:	14:00	**Completion Time:**	14:15
Start Date:	9/12/2013	**Completion Date:**	9/12/2013

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	Notes
0	5	5.0			Brown	Dry	Historical Fill, Fines, pieces of concrete and brick.	PID = 398 ppm
				SW	Dark Brown		Fine-Medium sand with trace of gravel. Wet at 10' bgs.	PID = 354 ppm
5	5	4.0						PID = 305 ppm
					Dark Brown			
								PID = 30.5 ppm
						Wet		

P.W. GROSSER CONSULTING

Boring Designation:	GP011	**Logged By:**	RM
Site Address:	491 Wortman Ave, Brooklyn, NY	**Project Manager:**	JE
Project Name:	Watermark	**Project Number:**	WAT1201
Drilling Contractor:	Longshore Environmental	**Driller Name:**	Jose + Juan
Drilling Method:	Geoprobe	**Borehole Diameter:**	3.0"
Sampling Method:	Direct Push	**Borehole Depth:**	10'
Start Time:	11:45	**Completion Time:**	12:00
Start Date:	9/12/2013	**Completion Date:**	9/12/2013

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	Notes
0	5	5.0			Brown	Dry	Historical Fill, Fines, pieces of concrete and brick.	PID = 996 ppm
				SW	Dark Brown		Fine-Medium sand with trace of gravel. Wet at 10' bgs.	PID = 419 ppm
5	5	4.0						PID = 220 ppm
					Dark Brown			
								PID = 29.7 ppm
						Wet		

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Boring Designation:	GP012	**Logged By:**	RM
Site Address:	491 Wortman Ave, Brooklyn, NY	**Project Manager:**	JE
Project Name:	Watermark	**Project Number:**	WAT1201
Drilling Contractor:	Longshore Environmental	**Driller Name:**	Jose + Juan
Drilling Method:	Geoprobe	**Borehole Diameter:**	3.0"
Sampling Method:	Direct Push	**Borehole Depth:**	5'
Start Time:	15:00	**Completion Time:**	15:15
Start Date:	9/12/2013	**Completion Date:**	9/12/2013

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	Notes
0	5	5.0		SW	Dark Brown	Dry	Fine-Medium sand with trace of gravel. Wet at 10' bgs.	PID = 73.2 ppm
					Dark Brown			PID = 39.9 ppm
						Wet		

Appendix D

Laboratory Analytical Data Reports

Included as an electronic attachement due to file size

Appendix E

Monitoring Well Construction and Development Logs

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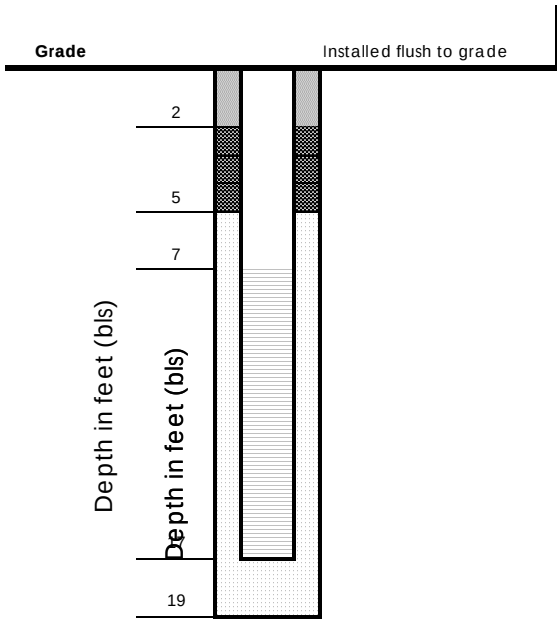
Monitoring Well Construction and Development Log

MW Designation:	**MW009**	**Logged By:**	RM
Site Address:	491 Wortman Ave. Brooklyn, NY	**Project Manager:**	JE
Project Name:	Former Watermark	**PWGC Project Number:**	WAT1201
Drilling Contractor:	Longshore Env.	**Driller Name:**	Juan & Aco
Drilling Method:	Hollow Stem Augers	**Borehole Diameter:**	4 inches
Soil Sampling Method:	Direct Push	**Total Borehole Depth (bls):**	17 feet
Drilling Fluid:	NA	**Fluid Loss During Drilling:**	NA
Start Time:	8:15	**Completion Time:**	9:30
Start Date:	9/12/2013	**Completion Date:**	9/12/2013
Surveyor:	PWGC	**Survey Date:**	NA



Legend:

- #2 sand filter pack
- bentonite pellets
- native fill
- 0.010 slot well screen
- well riser

Notes:

bls = below level surface

bmp = below measuring point

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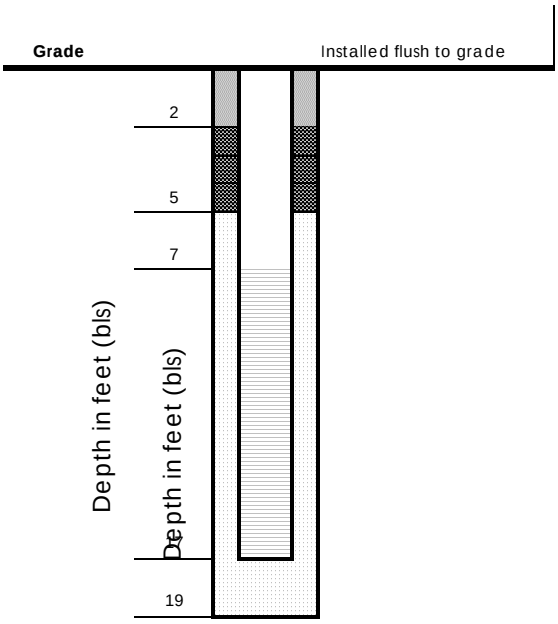
Monitoring Well Construction and Development Log

MW Designation:	**MW010**	**Logged By:**	RM
Site Address:	491 Wortman Ave. Brooklyn, NY	**Project Manager:**	JE
Project Name:	Former Watermark	**PWGC Project Number:**	WAT1201
Drilling Contractor:	Longshore Env.	**Driller Name:**	Juan & Aco
Drilling Method:	Direct Push	**Borehole Diameter:**	4 inches
Soil Sampling Method:	NA	**Total Borehole Depth (bls):**	17 feet
Drilling Fluid:	NA	**Fluid Loss During Drilling:**	NA
Start Time:	13:00	**Completion Time:**	14:00
Start Date:	9/16/2013	**Completion Date:**	9/16/2013
Surveyor:	PWGC	**Survey Date:**	NA



Legend:

- #2 sand filter pack
- bentonite pellets
- native fill
- 0.010 slot well screen
- well riser

Notes:

bls = below level surface

bmp = below measuring point

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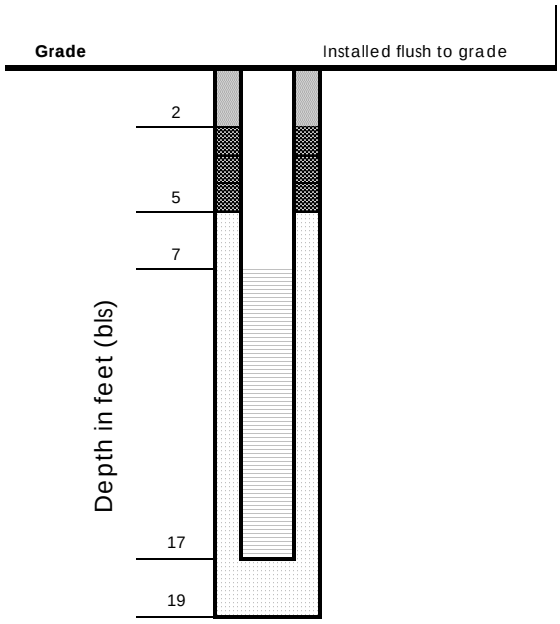
Monitoring Well Construction and Development Log

MW Designation:	**MW011**	**Logged By:**	RM
Site Address:	491 Wortman Ave. Brooklyn, NY	**Project Manager:**	JE
Project Name:	Former Watermark	**PWGC Project Number:**	CIR1201
Drilling Contractor:	Longshore Env.	**Driller Name:**	Juan & Aco
Drilling Method:	Direct Push	**Borehole Diameter:**	4 inches
Soil Sampling Method:	NA	**Total Borehole Depth (bls):**	17 feet
Drilling Fluid:	NA	**Fluid Loss During Drilling:**	NA
Start Time:	11:05	**Completion Time:**	12:45
Start Date:	9/16/2013	**Completion Date:**	9/16/2013
Surveyor:	PWGC	**Survey Date:**	NA



Legend:

- #2 sand filter pack
- bentonite pellets
- native fill
- 0.010 slot well screen
- well riser

Notes:

bls = below level surface

bmp = below measuring point

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Monitoring Well Construction and Development Log

MW Designation:	ML001	**Logged By:**	RM
Site Address:	481 Wortman Ave. Brooklyn, NY	**Project Manager:**	JE
Project Name:	Former Watermark	**PWGC Project Number:**	WAT1201
Drilling Contractor:	Longshore Env	**Driller Name:**	Juan & Aco
Drilling Method:	Hollow Stem Augers	**Borehole Diameter:**	8 inches
Soil Sampling Method:	None	**Total Borehole Depth (bls):**	60 feet
Drilling Fluid:	NA	**Fluid Loss During Drilling:**	NA
Start Time:	7:00	**Completion Time:**	14:00
Start Date:	9/13/2013	**Completion Date:**	9/13/2013
Surveyor:	PWGC	**Survey Date:**	NA

Notes:

bls = below level surface

bmp = below measuring point

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Well Sampling Log

Well Designation:	MW001	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	10.35	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.66	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	9:45
Sample Time:	10:20	**Complete Purge Time:**	10:15
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	3.50	**Purge Time (min):**	30.0
Sample Appearance:	Turbid	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	*turbid appearance
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	9:45	20.01	6.39	128	1.04	0.0*	4.49		
	9:48	19.78	6.15	139	1.06	0.0*	2.60		
	9:51	19..89	6.14	145	1.06	1000	1.79		
	9:54	19.90	6.14	152	1.06	347	1.15		
	9:57	19.99	6.13	155	1.06	199	0.94		
	10:00	20.12	6.15	157	1.06	75.9	0.72		
	10:03	20.50	6.14	153	1.07	59.7	0.58		
	10:06	21.13	6.14	146	1.07	219	0.51		
	10:09	21.29	6.20	146	1.08	225	0.45		
	10:12	21.97	6.15	142	1.07	102	0.41		
	10:15	21.90	6.16	141	1.08	98.7	0.41		

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Well Sampling Log

Well Designation:	MW002	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	10.20	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.34	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	10:37
Sample Time:	10:55	**Complete Purge Time:**	10:49
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.50	**Purge Time (min):**	12.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	10:37	21.15	6.66	123	0.955	98.6	2.42		
	10:40	20.15	6.12	155	0.980	22.7	0.73		
	10:43	20.30	6.11	164	0.982	12.4	0.50		
	10:46	20.33	6.10	170	0.981	6.9	0.42		
	10:49	20.33	6.10	175	0.979	6.6	0.37		

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Well Sampling Log

Well Designation:	MW003	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.94	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.49	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	11:40
Sample Time:	12:00	**Complete Purge Time:**	11:55
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	2.50	**Purge Time (min):**	15.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	11:40	20.93	6.37	168	1.00	15.4	4.06		
	11:43	20.92	6.14	183	1.01	3.6	2.39		
	11:46	21.12	6.13	184	1.01	0.0	1.79		
	11:49	21.16	6.13	184	1.01	0.0	1.51		
	11:52	21.42	6.15	183	1.01	0.0	0.97		
	11:55	21.19	6.16	182	1.01	0.0	0.88		

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Well Sampling Log

Well Designation:	MW004	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.86	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.85	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	12:21
Sample Time:	12:40	**Complete Purge Time:**	12:36
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	2	**Purge Time (min):**	15.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	12:21	20.52	6.45	163	0.000	79.7	7.83		
	12:24	20.58	6.10	180	0.950	31.3	1.32		
	12:27	20.96	6.08	182	0.952	13.0	0.85		
	12:30	21.14	6.10	183	0.954	11.9	0.62		
	12:33	21.05	6.05	188	0.956	41.5	0.67		
	12:36	21.62	6.08	182	0.953	41.3	0.61		

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Well Sampling Log

Well Designation:	MW005 / MS / MSD	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	10.37	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	18.23	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	7:50
Sample Time:	8:20	**Complete Purge Time:**	8:14
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	3.00	**Purge Time (min):**	24.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	7:50	21.22	5.10	274	1.01	419	2.53		
	7:53	20.84	5.94	216	1.00	260	1.61		
	7:56	21.02	6.05	201	1.00	186	1.37		
	7:59	21.07	6.07	191	0.998	90.0	1.13		
	8:02	21.25	6.08	183	1.00	55.6	0.96		
	8:05	21.33	6.12	174	1.00	31.4	0.84		
	8:08	21.43	6.14	168	1.00	19.0	0.72		
	8:11	21.59	6.14	163	1.01	15.3	0.66		
	8:14	21.93	6.15	157	1.01	11.3	0.65		

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Well Sampling Log

Well Designation:	MW006	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	10.50	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	19.75	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	14:37
Sample Time:	14:55	**Complete Purge Time:**	14:49
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	2.00	**Purge Time (min):**	12.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	14:37	22.98	6.65	142	1.220	139.0	2.14		
	14:40	20.31	6.15	165	1.230	95.2	0.80		
	14:43	20.79	6.14	166	1.190	53.2	0.39		
	14:46	20.90	6.15	167	1.180	23.3	0.31		
	14:49	21.06	6.16	168	1.17	20.4	0.26		

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Well Sampling Log

Well Designation:	MW007	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.34	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	18.03	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	14:05
Sample Time:	14:20	**Complete Purge Time:**	14:17
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.50	**Purge Time (min):**	12.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	14:05	21.11	6.24	162	0.971	40.8	2.38		
	14:08	21.42	6.22	169	0.995	17.5	0.82		
	14:11	21.54	6.23	171	1.010	7.9	0.52		
	14:14	21.50	6.23	172	1.010	7.7	0.48		
	14:17	21.68	6.23	173	1.01	6.6	0.45		

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Well Sampling Log

Well Designation:	MW008	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.48	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	19.11	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	13:05
Sample Time:	13:50	**Complete Purge Time:**	13:45
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	5.00	**Purge Time (min):**	40.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	Grundfos stopped @ 13:14. Restart purging.
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	13:05	21.03	6.42	140	0.908	176	6.21		
	13:08	21.60	6.22	152	0.911	139	2.69		
	13:11	22.30	6.46	129	0.906	136	2.65		
	13:14	24.04	6.22	144	0.914	136	1.19		
	13:24	21.46	6.63	129	0.902	0.0	1.75		
	13:27	20.75	6.23	139	0.909	765	0.75		
	13:30	20.86	6.20	142	0.908	518	0.56		
	13:33	20.82	6.19	148	0.908	294	0.46		
	13:36	20.82	6.19	154	0.907	188	0.40		
	13:39	20.66	6.17	161	0.906	62.4	0.32		
	13:42	20.66	6.17	164	0.906	34.8	0.28		
	13:45	20.68	6.17	167	0.905	18.8	0.25		

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Well Sampling Log

Well Designation:	MW009 / BLIND DUP	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	10.25	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.12	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	6.87	**Well Diameter (in):**	2"
Standing Water Volume (gal):	#VALUE!	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	8:49
Sample Time:	9:15	**Complete Purge Time:**	9:10
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	3	**Purge Time (min):**	21.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp.	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	8:49	21.24	6.36	157	0.571	892	7.64		
	8:52	19.96	6.33	66	0.994	702	2.86		
	8:55	20.23	6.30	49	0.992	220	1.70		
	8:58	20.29	6.28	43	0.982	101	1.21		
	9:01	20.37	6.27	41	0.980	40.2	0.82		
	9:04	20.39	6.26	41	0.980	31.3	0.75		
	9:07	20.43	6.25	44	0.974	21.3	0.66		
	9:10	20.51	6.24	44	0.971	19.3	0.58		

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Well Sampling Log

Well Designation:	MW010	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.14	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.12	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	7.98	**Well Diameter (in):**	2"
Standing Water Volume (gal):	#VALUE!	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	17:45
Sample Time:	18:05	**Complete Purge Time:**	18:00
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	3	**Purge Time (min):**	15.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	17:45	20.50	6.56	108	1.08	201	4.50		
	17:48	21.31	6.11	117	1.08	44.2	1.97		
	17:51	21.45	6.10	120	1.08	32.9	1.37		
	17:54	21.79	6.11	117	1.08	22.7	0.63		
	17:57	21.85	6.12	115	1.09	23.3	0.57		
	18:00	21.79	6.13	113	1.09	22.7	0.54		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	MW011	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	8.89	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	17.03	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	15:11
Sample Time:	15:30	**Complete Purge Time:**	15:26
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	3.00	**Purge Time (min):**	15.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	15:11	20.72	6.54	35	1.24	152	3.18		
	15:14	20.81	6.50	19	1.25	116	1.83		
	15:17	21.56	6.56	18	1.22	51.3	1.02		
	15:20	21.00	6.60	3	1.25	43.4	0.89		
	15:23	20.70	6.54	10	1.24	20.2	0.59		
	15:26	21.72	6.50	7	1.23	11.1	0.50		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML001-S (7-17')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.95 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	10:20
Sample Time:	10:40	**Complete Purge Time:**	10:38
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.00	**Purge Time (min):**	18.0
Sample Appearance:	Turbid	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	*Turbid appearance
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	10:20	18.29	4.34	256	1.63	0.0	3.40		
	10:23	18.52	6.41	213	1.55	0.0	2.24		
	10:26	18.59	6.85	210	1.56	0.0	1.93		
	10:29	18.69	6.98	204	1.58	0.0	5.43		
	10:32	18.60	7.01	201	1.61	0.0	5.04		
	10:35	18.55	7.05	196	1.65	0.0	5.46		
	10:38	18.52	7.07	194	1.67	0.0*	5.21		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML001-M (30-40')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.95 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	11:26
Sample Time:	11:45	**Complete Purge Time:**	11:41
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.00	**Purge Time (min):**	15.0
Sample Appearance:	Clear	**Odors Observed:**	No Odors
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	11:26	18.76	7.85	110	0.167	320	3.74		
	11:29	17.92	7.89	117	0.180	97.9	1.86		
	11:32	17.34	7.81	126	0.295	21.7	1.12		
	11:35	17.00	7.43	146	1.01	9.7	0.79		
	11:38	16.84	7.47	145	1.08	14.7	0.68		
	11:41	16.81	7.47	146	1.08	11.2	0.62		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML001-D (50-60')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.95 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	12:03
Sample Time:	12:20	**Complete Purge Time:**	12:15
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.00	**Purge Time (min):**	12.0
Sample Appearance:	Clear	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	12:03	17.78	7.65	128	0.752	53.0	10.40		
	12:06	17.31	7.25	147	1.000	0.0	0.96		
	12:09	17.24	7.24	147	1.010	0.0	0.85		
	12:12	17.21	7.22	147	1.020	0.0	0.72		
	12:15	17.11	7.20	147	1.01	0.0	0.61		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML002-S (7-17')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.2 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	15:49
Sample Time:	16:15	**Complete Purge Time:**	16:10
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	2.50	**Purge Time (min):**	21.0
Sample Appearance:	Turbid	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	*Turbid appearance
Date Shipped:	10/8/2013		

Analyses Requested:

VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	15:49	21.67	6.81	-32	1.27	0.0	3.49		
	15:52	21.30	7.22	-7	1.31	0.0	2.48		
	15:55	21.28	7.35	10	1.34	0.0	2.04		
	15:58	21.23	7.40	26	1.35	0.0	1.82		
	16:01	21.18	7.38	38	1.36	0.0	1.75		
	16:04	21.11	7.40	42	1.36	0.0	1.71		
	16:07	21.06	7.40	51	1.36	0.0	1.65		
	16:10	21.03	7.39	56	1.36	0.0*	1.61		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML002-M (30-40')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.2 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	16:33
Sample Time:	16:55	**Complete Purge Time:**	16:48
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.50	**Purge Time (min):**	15.0
Sample Appearance:	Turbid	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	16:33	20.90	7.47	76	0.806	724	2.87		
	16:36	20.53	7.58	69	0.346	137	1.23		
	16:39	20.43	7.58	68	0.321	99.2	1.22		
	16:42	20.33	7.52	70	0.422	32.0	0.73		
	16:45	20.16	7.34	75	0.633	26.0	0.51		
	16:48	20.08	7.21	79	0.676	26.6	0.54		

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation:	ML002-D (50-60')	**Sampled By:**	RM & AR
Site Address:	491 Wortman Avenue, Brooklyn	**Project Manager:**	John Eichler
Project Name:	Former Watermark	**Project Number:**	WAT1201

Reference Elevation (ft):	NM	**Well Use:**	Monitoring/Observation
Depth to Product (ft):	NA	**Product Elevation (ft):**	NM
Depth to Water (ft):	9.2 (S)	**Groundwater Elevation (ft):**	NM
Depth to Bottom (ft):	NA	**Bottom Elevation (ft):**	NM
Height of Water Column (ft):	NM	**Well Diameter (in):**	2"
Standing Water Volume (gal):	NM	**Calculated Purge Volume (gal):**	NA
Sample Date:	10/8/2013	**Begin Purge Time:**	17:09
Sample Time:	17:30	**Complete Purge Time:**	17:24
Purge Method:	Low-Flow	**Sample Method:**	Low-Flow
Actual Purge Volume (gal):	1.50	**Purge Time (min):**	15.0
Sample Appearance:	Slightly Turbid	**Odors Observed:**	No Odor
Analytical Laboratory:	Alpha Analytical	**Notes:**	
Date Shipped:	10/8/2013		
Analyses Requested:			
VOC 8260, SVOC 8270, PCB, Pesticides, TAL Metals (LF, UF), Cyanide.			

	Time	Temp. (ºC)	pH	ORP	Cond. (mS/cm)	Turb (NTU)	D.O.		
	17:09	19.76	7.52	88	1.02	85.5	3.49		
	17:12	19.86	7.57	88	1.05	109	2.74		
	17:15	18.30	7.48	89	1.08	36.2	0.70		
	17:18	18.22	7.47	89	1.08	35.2	0.61		
	17:21	18.02	7.47	88	1.09	41.1	0.48		
	17:24	18.05	7.47	89	1.09	40.9	0.45		

Appendix F

Affidavit of Tank Abandonnent

Eastern
ENVIRONMENTAL SOLUTIONS, INC.

258 Line Road
Manorville, New York 11949
Office: (631) 727-2700 / Fax: (631) 727-2777

November 22, 2013

Attn: Angel Cruz (3E-102-K)
City of New York Fire Department
Bureau of Fire Prevention
9 Metrotech Center
New York, NY 11201-3857

Re: Affidavit of Abandonment of (1) 1,000 Gallon AST (#2Fuel oil)
At 491 Wortman Avenue, Brooklyn, New York

Dear Mr. Cruz:

This is a letter of affidavit regarding the abandonment of (1) 1,000 gallon AST fuel oil storage tank containing No. 2 fuel oil storage the above referenced location. **Tank was cleaned and abandon in accordance with the guidelines described in FC3404.2.13 and FC3404.2.14.** Tank was cut open and cleaned and all tank contents were disposed of at a permitted disposal facility. All associated piping was removed and transported to a permitted scrap metal facility. Tank was marked permanently taken out of service and left empty.

All work was completed on November 14, 2013

Please find the following enclosed additional information:

(1) A sketch of site showing location of tank.

Should you have any additional questions, please do not hesitate to contact me at (631)727-2700 or (631)774-9681.

Sincerely,

Douglas Schrimpf
Vice President
Certificate of Fitness Number (86389525) Exp 09/16
License to Install, Test, Repair Buried Tank

Appendix G

Data Usability Report

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

491 Wortman Ave
Alpha Analytical #L1318156
November 22, 2013
Sampling date: 9/13/2013

Prepared by
Jodi Zimmerman, B.S.
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for PW Grosser Consulting, 491 Wortman Ave. project, Alpha Analytical (Alpha) SDG ID#L1318156, submitted to Vali-Data of WNY, LLC on November 6, 2013. This DUSR has been prepared in general compliance with NYSDEC Analytical Services Protocol (ASP) and USEPA National Functional Guidelines (NFG). Alpha performed the analyses using USEPA methods, 8260 (Volatile Organics), 8270C (Semi-Volatile Organics), 8081 (Pesticides), 8082 (Aroclors), 6020A (Inorganics), 7470A (Mercury) and in accordance with standard wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use but are qualified below in Surrogate Spike Recoveries, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration.

Alpha only reports concentrations greater than the highest MDL across all instruments used, thus some target analytes are not recorded as detected even when the concentration of that individual target analyte is above the MDL for that specific instrument.

DATA COMPLETENESS

All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.
The narrative state that, 'The unacceptable percent recoveries are attributed to the elevated concentration of target compounds...” in regards to 4-Methyl-2-pentanone. This target analyte was not detected in GP011 (10-14')MSD so the narrative should read, 'due to the concentration falling below the reporting limit.'

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
The IS did meet criteria.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of 1,2-Dichloroethane-d_4 was outside QC limits, high, in GP011 (10-14')MS/MSD. The %Rec of 1,2-Dichloroethane-d_4 was outside ASP QC limits, high, in GP008 (10-14')D and GP011 (10-14'). Associated target analytes that were detected in these samples should be qualified as estimated.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of Chloromethane was outside QC limits, low, in WG638313-1 LCS. The %Rec of Acetone was outside QC limits, high, in WG638313-2 LCSD. The %Rec of Bromomethane was outside QC limits, low, in WG638313-7 LCSD. No further action is required because the associated QC samples were within limits for each of the outliers.

MS/MSD
All criteria were met except the %Rec of Chloroform, Carbon Tetrachloride, Dibromochloromethane, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Bromodichloromethane, Methyl tert butyl ether and Acetone were outside QC limits, high, in GP011 (10-14')MS/MSD. Detects of these target analytes in GP011 (10-14') should be qualified as estimated.
The %Rec of Trichloroethene and Tetrachloroethene were outside QC limits, low, in GP011 (10-14')MS/MSD and should be qualified as estimated in GP011 (10-14').
The %Rec of several target analytes fell outside QC limits in the MS or MSD. No further action is required because the associated QC sample was within limits.

The %RPD of Bromomethane, Acetone, Hexachlorobutadiene, 1,4-Diethylbenzene and 4-Ethyltoluene were outside QC limits. Detects of these target analytes in GP011 (10-14') should be qualified as estimated.

COMPOUND QUANTITATION

All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION

All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the initial calibration performed on VOA105. ASP allows for up to two target analytes to fall outside QC limits without further action.

The RRF of 1,4-Dioxane was outside ASP outer QC limits in the initial calibrations and should be qualified as estimated in the blanks, spikes and samples.

The RRF of Bromomethane, Trichloroethene and 1,1,2,2-Tetrachloroethane were outside QC limits in the initial calibration performed on VOA101. These target analytes should be qualified as estimated in the associated samples, spikes and blank.

Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION

All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the continuing calibration file # 0920A04, 0924A02 and 0923A03, performed on the instrument, VOA105. The RRF of Bromomethane was outside ASP QC limits in the continuing calibration file #0923A03 and 0924A02, performed on the instrument, VOA105. The %D of Bromomethane was outside QC limits in continuing calibration file #0920A02, performed on the instrument, VOA101. ASP allows for up to two target analytes to fall outside QC limits without further action.

The RRF of Bromomethane, Trichloroethene and 1,1,2,2-Tetrachloroethane was outside ASP QC limits in the continuing calibration file # 0920A02, performed on the instrument, VOA101. The %D of Bromomethane, Acetone and 1,4-Dioxane was outside ASP outer QC limits in the continuing calibration file #0920A04, performed on the instrument, VOA105. The %D of Bromomethane was outside ASP outer QC limits in the continuing calibration file #0924A02 and #0923A03, performed on the instrument, VOA105.

The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the continuing calibrations. These target analytes should be qualified as estimated in the associated blanks, spikes and samples.

GC/MS PERFORMANCE CHECK

All criteria were met.

SEMIVOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Holding Times, Surrogate Spike Recoveries and Compound Quantitation.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met except the Blind Dupe was analyzed outside of QC limits. All data for Blind Dupe is unusable.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of Terphenyl-d_{14} was outside QC limits, high in the Blind Dupe. Associated, detected target analytes should be qualified as estimated in this sample.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in a couple of samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

The Blind Dupe was analyzed outside of the 12 hour analysis window. Results should be considered unusable.

INITIAL CALIBRATION
All criteria were met. An alternate form of regression was used on Pentachlorophenol.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

PCB'S

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries

- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in MS/MSD.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of DCBP was outside QC limits in GP011 (10-14')MS and WG636547-3LCSD off column CLP-Pesticide II. Results from the conforming column should be used.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of Aroclor 1260 was outside QC limits in WG636547-3LCSD. The %Rec of Aroclor 1016 was outside ASP QC limits in WG636547-3LCSD. No further action is required because the LCS was compliant.

MS/MSD
All criteria were met except the %Rec of Aroclor 1016 was outside QC limits, high in GP011 (10-14')MS. The %Rec of Aroclor 1260 was outside ASP QC limits, high in GP011 (10-14')MS. The %RPD between GP011 (10-14')MS and GP011 (10-14')MSD was outside ASP QC limits for Aroclor 1016 and Aroclor 1260. Aroclor 1016 and Aroclor 1260 should be qualified is estimated in GP011 (10-14'), GP011 (10-14')MS and GP011 (10-14')MSD.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met except the %D of TCMX was outside QC limits off column, CLP-Pesticide in the continuing calibration. The %D of Aroclor 1260 peak 5 was outside QC limits off column, CLP-PesticideII in the continuing calibration. Results from the compliant column should be used.

PESTICIDES

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %RPD between WG637423-2LCS and WG637423-3LCSD was outside QC limits for beta-BHC, Endrin, Endrin Ketone, 4,4'-DDT, Endosulfan II, Endosulfan Sulfate and Methoxychlor.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
Alternate forms of regression were used for Toxaphene on the first column and Chlordane and Toxaphene on the second column of instrument, Pest11.

CONTINUING CALIBRATION
All criteria were met except the %D of delta-BHC and Endosulfan Sulfate was outside QC limits in file #09200024 of the first column and 4,4'-DDT, Chlordane peaks 2 and 4 and Toxaphene peaks 2 and 4 was outside QC limits in file #09200002, 09200003,09200004 of the second column. Results from the confirmatory columns should be used for the associated samples, blanks and spikes.

METALS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Blanks
- Laboratory Control Sample
- MS/MSD
- Field Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Blanks, Duplicate, Serial Dilution and Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except Cr, Mn, Ni, Ba, Ca and Ag were detected above the MDL, below the reporting limit and should be qualified as estimated in WG636632-1blank. Sb, As, Cr, Cu, Mn, Ni, Na, Tl and Zn were detected above the MDL, below the reporting limit and should be qualified as estimated in WG636651-1blank. Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated. Some of these target

analytes should be recorded as estimated but were recorded as undetected. (See Narrative and Data Reporting Forms, above)
Na was detected above the reporting limit in WG636632-1blank. Associated samples in which this target analyte was detected above the MDL and below the reporting limit should be reported as 'undetected'. Associated samples in which this target analyte was detected above the reporting limit but below the blank concentration should be reported at the concentration of the blank, as 'undetected'. Associated samples in which this target analyte was detected above the concentration of the blank should be qualified as estimated.

Sb was detected in the ICB above the MDL, below the reporting limit and is qualified as estimated.
Mn was detected in CCB3, CCB4, CCB7 and CCB9 above the MDL, below the reporting limit and is qualified as estimated.
Ca was detected in CCB4-CCB6 above the MDL, below the reporting limit and is qualified as estimated.
Na was detected in CCB4 above the MDL, below the reporting limit and is qualified as estimated.
Ag was detected in CCB5 above the MDL, below the reporting limit and is qualified as estimated.
Tl was detected in CCB4 and CCB5 above the MDL, below the reporting limit and is qualified as estimated.
Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD
All criteria were met except the %Rec of several target analytes was outside QC limits. The post digest spikes yielded acceptable results for those target analytes, so no further action is required.

FIELD DUPLICATE
All criteria were met.

SERIAL DILUTION
All criteria were met except the %D of Fe was outside QC limits in GP011 (10-14')SER total and should be qualified as estimated in the associated samples. The %D of Mg and K was outside QC limits in GP011 (10-14')SER soluble and should be qualified as estimated in the associated samples.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in the samples but not recorded. (See Narrative and Data Reporting Forms, above)

CALIBRATION
All criteria were met.

GENERAL CHEMISTY

The following items/criteria were reviewed for this analytical suite:

- Cyanide

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

CYANIDE
All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

491 Wortman Ave
Alpha Analytical #L1318157
December 4, 2013
Sampling date: 9/12/2013

Prepared by
Jodi Zimmerman, B.S.
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West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for PW Grosser Consulting, 491 Wortman Ave. project, Alpha Analytical (Alpha) SDG ID#L1318157, submitted to Vali-Data of WNY, LLC on November 6, 2013. This DUSR has been prepared in general compliance with NYSDEC Analytical Services Protocol (ASP) and USEPA National Functional Guidelines (NFG). Alpha performed the analyses using USEPA methods, 8260 (Volatile Organics), 8270C (Semi-Volatile Organics), 8081 (Pesticides), 8082 (Aroclors), 6010C and 6020A (Inorganics), 7470A and 7471B (Mercury) and in accordance with standard wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use but are qualified below in Data Completeness, Method Blank, Compound Quantitation, Initial Calibration and Continuing Calibration.

Alpha only reports concentrations greater than the highest MDL across all instruments used, thus some target analytes are not recorded as detected even when the concentration of that individual target analyte is above the MDL for that specific instrument.

DATA COMPLETENESS
All criteria were met except where mentioned below in MS/MSD.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. The file #'s in the sequence log for instrument Voa 104 were mislabeled. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
The IS did meet criteria.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met except 1,2,3-Trichlorbenzene was detected in WG637606-3Blank above the MDL, below the reporting limit and is qualified as estimated. This target analyte was not detected in the samples, so no further action is required.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of Acetone was outside QC limits, high, in WG638232-1 LCS and WG638233-1 LCS. No further action is required because the associated QC sample was within limits for Acetone.

MS/MSD
An MS/MSD was analyzed but no raw data or summary was reported in the original data package. This information was requested but not received prior to the completion of this DUSR.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)
Acetone was detected above the MDL, below the reporting limit in Trip Blank and Soil Field Blank. Methylene Chloride was detected above the MDL, below the reporting limits in Soil Field

Blank.

INITIAL CALIBRATION

All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the initial calibrations performed on VOA105 and VOA100. ASP allows for up to two target analytes to fall outside QC limits without further action.

The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the initial calibrations and should be qualified as estimated in the blanks, spikes and samples.

Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION

All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the continuing calibration file # 0920A04, performed on the instrument, VOA105. ASP allows for up to two target analytes to fall outside QC limits without further action.

The %D of Acetone was outside ASP outer QC limits in continuing calibration file #0920A01, performed on the instrument, VOA104. The %D of Bromomethane, Acetone and 1,4-Dioxane was outside ASP outer QC limits in the continuing calibration file #0920A04, performed on the instrument, VOA105. The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the continuing calibrations.

These target analytes should be qualified as estimated in the associated blanks, spikes and samples.

GC/MS PERFORMANCE CHECK

All criteria were met.

SEMIVOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Compound Quantitation.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of Hexachlorobutadiene was outside QC limits, low in WG636953-3LCSD. No further action is required because the associated QC sample was within limits for Hexachlorobutadiene.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in a couple of samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

PCB'S

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use Surrogate Spike Recoveries, MS/MSD and Continuing Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of DCBP was outside QC limits in GP008 (0-2.5'), GP009 (0-2.5') and GP011 (0-2.5') off column CLP-Pesticide II. Results from the conforming column should be used.
All surrogate recoveries and RPD's were outside QC limits in GP011(7.5-10')MS/MSD. All target analytes and surrogates should be qualified as estimated in GP011(7.5-10')MS/MSD.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met except the %Rec of Aroclor 1260 and Aroclor 1016 were outside QC limits, low in GP011(7.5-10')MS/MSD. Aroclor 1260 and Aroclor 1016 should be qualified as estimated in GP011(7.5-10').

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met except the %D of TCMX was outside QC limits off column, CLP-Pesticide in the continuing calibration file #12130919-64. The %D of Aroclor 1016 peaks 3 and 4 were outside QC limits off column, CLP-Pesticide I in the continuing calibration file #13130919-43. The %D of Aroclor 1016 peaks 2-4 and Aroclor 1260 peak 4 were outside QC limits off column, CLP-Pesticide I in the continuing calibration file #13130919-64. Results from the compliant column should be used.

The %D of DCBP was outside QC limits off both columns in the continuing calibration file #p2130920-22. DCBP and associated target analytes should be qualified as estimated in associated samples, blank and spikes.

PESTICIDES

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %RPD between WG637423-2LCS and WG637423-3LCSD was outside QC limits for beta-BHC, Endrin, Endrin Ketone, 4,4'-DDT, Endosulfan II, Endosulfan Sulfate and Methoxychlor.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except an alternate form of regression was used for Toxaphene, Chlordane and DCBP on the second column of instrument, Pest10. Alternate forms of regression were used for Toxaphene on the first column and Chlordane and Toxaphene on the second column of instrument, Pest11.

CONTINUING CALIBRATION
All criteria were met except the %D of delta-BHC and Endosulfan Sulfate was outside QC limits in file #09200024 of the first column and 4,4'-DDT, Chlordane peaks 2 and 4 and Toxaphene peaks 2 and 4 was outside QC limits in file #09200002, 09200003,09200004 of the second column. The %D of Chlordane peak 1 and Toxaphene peak 3 in file #0918N003 and 0918N004 of the first column and Dieldrin, Endrin, 4,4'-DDT, DCBP, Chlordane peak 2 and Toxaphene peaks 1 and 4 in file # 0918N002, 0918N003 and 0918N004 were outside QC limits. Results from the confirmatory columns should be used for the associated samples, blanks and spikes.

METALS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times

- Blanks
- Laboratory Control Sample
- MS/MSD
- Field Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Data Completeness, Narrative and Data Reporting Forms, Blanks, Duplicate, Serial Dilution and Calibration.

DATA COMPLETENESS
All criteria were met except where mentioned below in Calibration.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except no MDL's for metals from soil samples were provided. The lowest calibration point should be used as the MDL.
The dilution factor for Soil Field Blank was reported as 20x in the sequence log, but was actually not run at a dilution. An updated sequence log was requested but not received prior to the completion of this DUSR.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except Al and Ca were detected above the MDL, below the reporting limit in WG636801-1blank. Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

Cr, Mn, Ni, Ba, Ca and Ag were detected above the MDL, below the reporting limit and should be qualified as estimated in WG636632-1blank. Sb, As, Cr, Cu, Mn, Ni, Na, Tl and Zn were detected above the MDL, below the reporting limit and should be qualified as estimated in WG636651-1blank. Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and

'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated. Some of these target analytes should be recorded as estimated but were recorded as undetected. (See Narrative and Data Reporting Forms, above)
Na was detected above the reporting limit in WG636632-1blank. Associated samples in which this target analyte was detected above the MDL and below the reporting limit should be reported as 'undetected'. Associated samples in which this target analyte was detected above the reporting limit but below the blank concentration should be reported at the concentration of the blank, as 'undetected'. Associated samples in which this target analyte was detected above the concentration of the blank should be qualified as estimated.

In regards to the ICPMS analysis:
Sb was detected in the ICB above the MDL, below the reporting limit and is qualified as estimated.
Mn was detected in CCB3, CCB4, CCB7 and CCB9 above the MDL, below the reporting limit and is qualified as estimated.
Ca was detected in CCB4-CCB6 above the MDL, below the reporting limit and is qualified as estimated.
Na was detected in CCB4 above the MDL, below the reporting limit and is qualified as estimated.
Ag was detected in CCB5 above the MDL, below the reporting limit and is qualified as estimated.
Tl was detected in CCB4 and CCB5 above the MDL, below the reporting limit and is qualified as estimated.
Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD
All criteria were met except the %Rec of Ca, Mn and Na was outside QC limits in GP011(7.5-10')MS and GP011(7.5-10')MSD. The RPD of Ca and Na was outside QC limits between GP011(7.5-10')MS and GP011(7.5-10')MSD. The post digest spikes yielded acceptable results for Na, so no further action is required for Na.
The %Rec of Hg was outside QC limits, high, in GP011(7.5-10')MS and GP011(7.5-10')MSD and should be considered biased high in GP011(7.5-10').

FIELD DUPLICATE
All criteria were met.

SERIAL DILUTION
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

CALIBRATION
All criteria were met except the recalibrations for Hg were not reported, so manual calculations are not consistent with the results provided by the laboratory. The recalibration was requested but not received prior to the completion of this DUSR.

GENERAL CHEMISTY

The following items/criteria were reviewed for this analytical suite:

- Cyanide
- Total Solids

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

CYANIDE
All criteria were met except no preparation log was included for the Blind Dupe. That page is attached.

TOTAL SOLIDS
All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

491 Wortman Ave
Alpha Analytical #L1320138
December 8, 2013
Sampling date: 10/8/2013

Prepared by
Jodi Zimmerman, B.S.
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for PW Grosser Consulting, 491 Wortman Ave. project, Alpha Analytical (Alpha) SDG ID#L1320138, submitted to Vali-Data of WNY, LLC on November 6, 2013. This DUSR has been prepared in general compliance with NYSDEC Analytical Services Protocol (ASP) and USEPA National Functional Guidelines (NFG). Alpha performed the analyses using USEPA methods, 8260 (Volatile Organics), 8270C (Semi-Volatile Organics), 8081 (Pesticides), 8082 (Aroclors), 6020A (Inorganics), 7470A (Mercury) and in accordance with standard wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use but are qualified below in Surrogate Spike Recoveries, Laboratory Control Samples, MS/MSD, Compound Quantitation, Initial Calibration and Continuing Calibration.

Alpha only reports concentrations greater than the highest MDL across all instruments used, thus some target analytes are not recorded as detected even when the concentration of that individual target analyte is above the MDL for that specific instrument.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
The IS did meet criteria.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of Toluene-d_8 was outside ASP QC limits, high, in Trip Blank-3. The %Rec of 1,2-Dichloroethane-d_4 was outside ASP QC limits, high, in Blind Dupe, WG643813-2LCSD, WG643813-1LCS, WG643813-8BLK, ML001-5, MW001, MW002, MW005, MW009, Trip Blank-1, Trip Blank-3 and Trip Blank-4. Associated target analytes that were detected in these samples should be qualified as estimated.

METHOD BLANK
All criteria were met except no raw data or Form 1 were provided for WG643813-8Blank. This blank was associated with MW005MSD. The raw data is attached.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of Acetone was outside QC limits, high, in WG643813-6/7 LCS/LCSD. The %Rec of Dichlorodifluoromethane was outside QC limits, high, in WG643813-2LCSD. The RPD of Dichlorodifluoromethane was outside QC limits between WG643813-1LCS and WG643813-2LCSD. The RPD was outside QC limits for Bromomethane and Chloroethane between WG643813-6LCS and WG643813-7LCSD.

MS/MSD
All criteria were met except the %Rec of Bromomethane was outside QC limits, low, in MW005MS. The RPD of Vinyl Acetate, 2,2-Dichloropropane, Bromomethane and Chloroethane was outside QC limits between MW005MS and MW005MSD. These target analytes should be qualified as estimated in MW005.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION
All criteria were met except the RRF of Trichloroethene and Bromomethane was outside ASP QC limits in the initial calibration. ASP allows for up to two target analytes to fall outside QC limits without further action.
The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the initial calibrations and should be qualified as estimated in the blanks, spikes and samples.
Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION
All criteria were met except the RRF of Trichloroethene and Bromomethane was outside ASP QC limits in the continuing calibrations. ASP allows for up to two target analytes to fall outside QC limits without further action.
The %D of Vinyl Acetate in file#1014A01 and Bromomethane in file#1015A01 was outside ASP QC limits. ASP allows for up to two target analytes to fall outside QC limits without further action.
The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the continuing calibrations.
The RRF of Acetone was outside ASP outer QC limits in continuing calibration file#1015A01.
These target analytes should be qualified as estimated in the associated blanks, spikes and samples.

GC/MS PERFORMANCE CHECK
All criteria were met.

SEMIVOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation

- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Surrogate Spike Recoveries, MS/MSD and Compound Quantitation.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of 2,4,6-Tribromophenol was outside QC limits, high, in WG642706-2/3LCS/LCSD, ML001-5, MW005, MW009 and MW005MS/MSD off instrument SV103 or GCMS7. The %Rec of 2,4,6-Tribromophenol was outside QC limits, high, in WG642707-2/3LCS/LCSD, MW009 and MW005MS/MSD off instrument Mindy. Associated target analytes that were detected in these samples should be qualified as estimated.
The %Rec of 2-Fluorophenol was outside QC limits, low, in MW005 off instrument Mindy. Associated target analytes should be qualified as estimated in this sample.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of 2,4-Dinitrotoluene was outside QC limits, high in WG642706-2/3LCS/LCSD. The %Rec of p-Chloro-m-Cresol was outside QC limits, high, in WG642706-2LCS. The %Rec of Benzoic acid was outside QC limits, low, in WG642706-2/3LCS/LCSD.

MS/MSD
All criteria were met except the %Rec of 2,4-Dinitrotoluene was outside QC limits, high in MW005MS/MSD off instrument SV103. 2,4-Dinitrotoluene was not detected in MW005, so no further action is required.
The %Rec of p-Chloro-m-Cresol was outside QC limits, high, in MW005MSD off instrument SV103. P-Chloro-m-Cresol was within limits in MW005MS, so no further action is required.
The %Rec of Benzoic acid was outside QC limits, low, in MW005MS/MSD, off instrument SV103, and should be qualified as estimated in the samples due to its consistent exceedence of QC parameters.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION
All criteria were met except the RRF of 2-Chloronaphthalene and 2,6-Dinitrotoluene were outside QC limits in the initial calibration performed on instrument, GCMS7. The RRF of 2,4,6-Trichlorophenol and 2,6-Dinitrotoluene were outside QC limits in the initial calibration performed on instrument SV103. The RRF of 2-Chloronaphthalene and Acenaphthalene were outside QC limits in the initial calibration performed on instrument, Mindy. ASP allows for up to four target analytes to be outside QC limits without further action.

Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

PCB'S

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met except the %D of TCMX was outside QC limits off both columns in the continuing calibration file #12131011n-01. TCMX should be qualified as estimated in associated samples, blank and spikes. The %D of Aroclor 1260 peak 3 was outside QC limits off column, CLP-Pesticide II in the continuing calibration file #12131011n-01. Results from the compliant column should be used.

PESTICIDES

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except an alternate form of regression was used for Toxaphene, Chlordane and DCBP on the second column of instrument, Pest10.

CONTINUING CALIBRATION
All criteria were met except the %D of Toxaphene peaks 1, 2 and 4 was outside QC limits in file #1011N004 of the first column. The %D of Endrin Ketone, Chlordane peaks 2 and 3 and Toxaphene peaks 2 and 4 in file #1011N004 of the second column were outside QC limits. Results from the confirmatory columns should be used for the associated samples, blanks and spikes.

METALS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Blanks
- Laboratory Control Sample
- MS/MSD
- Field Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Blanks and Serial Dilution.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except WG643449-1-6 were mislabeled on the raw data and sequence log, as WG643466-1-6. The injection log has the correct identification. Updated pages were not provided.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except Sb, Cr and Ni were detected above the MDL, below the reporting limit in WG643449-1blank. Sb, Cr, Zn, Ni, Tl and Ba were detected above the MDL, below the reporting limit in WG643466-1blank. Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated. Some of these target analytes should be

recorded as estimated but were recorded as undetected. (See Narrative and Data Reporting Forms, above)

Sb was detected in the ICB, CCB1-3, CCB7 and CCB9 above the MDL, below the reporting limit and is qualified as estimated.
Ag was detected in the ICB, CCB6 and CCB7 above the MDL, below the reporting limit and is qualified as estimated.
Tl was detected in CCB1, CB2, CCB5-CCB7, CCB9 and CCB10 above the MDL, below the reporting limit and is qualified as estimated.
Ca was detected in CCB2 and CCB10 above the MDL, below the reporting limit and is qualified as estimated.
Mn was detected in CCB8 and CCB9 above the MDL, below the reporting limit and is qualified as estimated.
Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD
All criteria were met except the %Rec of Ca and Na was outside QC limits, high, and the %Rec of Sb and Ag was outside QC limits, low, in MW005MSD(total) . The RPD of Sb and Ag was outside QC limits between MW005MS(total) and MW005MSD(total). The %Rec of Ca was outside QC limits, low, and the %Rec of Fe was outside QC limits, high in MW005MS/MSD(soluble). The post digest spikes yielded acceptable results, so no further action is required.

FIELD DUPLICATE
All criteria were met.

SERIAL DILUTION
All criteria were met except the %D of Ba, Mg and K were outside QC limits in MW005SER(total). These target analytes should be qualified in the samples.

COMPOUND QUANTITATION
All criteria were met.

CALIBRATION
All criteria were met.

GENERAL CHEMISTY

The following items/criteria were reviewed for this analytical suite:

- Cyanide

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use but is qualified below.

CYANIDE

All criteria were met except due to rounding the Form 1 and raw data do not correlate for sample ML001-5. The correct concentration should be .00165mg/L.

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

491 Wortman Ave
Alpha Analytical #L1320243
December 12, 2013
Sampling date: 10/8/2013

Prepared by
Jodi Zimmerman, B.S.
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for PW Grosser Consulting, 491 Wortman Ave. project, Alpha Analytical (Alpha) SDG ID#L1320243, submitted to Vali-Data of WNY, LLC on November 6, 2013. This DUSR has been prepared in general compliance with NYSDEC Analytical Services Protocol (ASP) and USEPA National Functional Guidelines (NFG). Alpha performed the analyses using USEPA methods, 8260 (Volatile Organics), 8270C (Semi-Volatile Organics), 8081 (Pesticides), 8082 (Aroclors), 6020A (Inorganics), 7470A (Mercury) and in accordance with standard wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use but are qualified below in Surrogate Spike Recoveries, Compound Quantitation, Initial Calibration and Continuing Calibration.

Alpha only reports concentrations greater than the highest MDL across all instruments used, thus some target analytes are not recorded as detected even when the concentration of that individual target analyte is above the MDL for that specific instrument.

DATA COMPLETENESS

All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

INTERNAL STANDARD (IS)
The IS did meet criteria.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of Bromofluorobenzene was outside ASP QC limits, low, in Trip Blank 5, MW004 and Trip Blank 9. Associated target analytes in these samples should be qualified as estimated.
The %Rec of 1,2-Dichloroethane-d_4 was outside ASP QC limits, high, in ML002-S, MW003, MW004, MW006, MW007, MW008D, MW010, MW011, Trip Blank 5, Trip Blank 7, Trip Blank 8 and Trip Blank 9. Associated target analytes that were detected in these samples should be qualified as estimated.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
No MS/MSD was performed.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION
All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the initial calibrations. The RRF of Bromomethane was outside ASP QC limits in the initial calibration off instrument Elaine. ASP allows for up to two target analytes to fall outside QC limits without further action.

The RRF of 1,4-Dioxane was outside ASP outer QC limits in the initial calibrations and should be qualified as estimated in the blanks, spikes and samples.
Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION
All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the continuing calibrations. The RRF of Bromomethane was outside ASP QC limits in the continuing calibration file #1015A02. ASP allows for up to two target analytes to fall outside QC limits without further action.
The %D of Bromomethane in file#1015A02 was outside ASP QC limits. ASP allows for up to two target analytes to fall outside QC limits without further action.
The RRF of 1,4-Dioxane was outside ASP outer QC limits in all of the continuing calibrations. This target analyte should be qualified as estimated in the associated blanks, spikes and samples.

GC/MS PERFORMANCE CHECK
All criteria were met.

SEMIVOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Holding Times, Surrogate Spike Recoveries, Method Blank and Compound Quantitation.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except data was not reported to 3 significant figures. This does not affect the usability of the data.
Fluoranthene was not recorded as part of the MDL study. The lowest calibration point should be used as the MDL.
The injection log for the initial calibration performed on the instrument, Buffy, was not included in the original package. That page is attached.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met except the Field Blank off the instrument, Dakota, was run outside QC limits and should be considered unusable.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of Nitrobenzene-d_5 was outside ASP QC limits, high, in WG643435-2LCS. Detected associated target analytes should be qualified as estimated.
The %Rec of 2,4,6-Tribromophenol was outside laboratory QC limits in MS001-M. No further action is required because it was within ASP QC limits.

METHOD BLANK
All criteria were met except Hexachloroethane and Naphthalene were detected above the MDL, below the reporting limit and should be qualified as estimated in WG643435-1blank. (See Overall Evaluation of Data and Potential Usability Issues, above)

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of 2,4-Dinitrotoluene and p-Chloro-m-Cresol was outside QC limits, high in WG643433-2/3LCS/LCSD. The %Rec of Hexachlorocyclopentadiene was outside QC limits, low, in WG643433-2LCS. The %Rec of Pentachlorophenol was outside QC

limits, high, in WG643435-2/3LCS/LCSD. The %RPD of Hexachloroethane was outside QC limits between WG643435-2LCS and WG643435-3LCSD.

MS/MSD
No MS/MSD was performed.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

INITIAL CALIBRATION
All criteria were met except the RRF of 2-Chloronaphthalene and 2,6-Dinitrotoluene were outside QC limits in the initial calibration performed on instrument, GCMS7. The RRF of 2,4,6-Trichlorophenol, 2-Chloronaphthalene and 2,6-Dinitrotoluene were outside QC limits in the initial calibration performed on instrument Buffy. The RRF of 2-Chloronaphthalene was outside QC limits in the initial calibration performed on instrument, Dakota. ASP allows for up to four target analytes to be outside QC limits without further action.

Alternate forms of regression were used on target analytes whose %RSD >20%, with compliant results.

CONTINUING CALIBRATION
All criteria were met except the RRF of 2-Chloronaphthalene was outside QC limits in continuing calibration file #131014.b. The RRF of 2-Chloronaphthalene and 2,6-Dinitrotoluene was outside QC limits in continuing calibration file #131016n.b. The RRF of 2-Chloronaphthalene was outside QC limits in the continuing calibration performed on instrument, Dakota. ASP allows for up to four target analytes to be outside QC limits without further action.

GC/MS PERFORMANCE CHECK
All criteria were met.

PCB'S

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank

- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
No MS/MSD was performed on these samples.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met except the %D of TCMX was outside QC limits off both columns in the continuing calibration file #12131011n-01. TCMX should be qualified as estimated in associated samples, blank and spikes. The %D of DCBP was outside QC limits off column, CLP-Pesticide II in the continuing calibration file #1313101-22 and 13131012-42. Results from the compliant column should be used.

PESTICIDES

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Surrogate Spike Recoveries
- Method Blank
- Field Duplicate Precision
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in Surrogate Spike Recoveries, Laboratory Control Samples and Continuing Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except an Internal Standard summary form was not included due to software limitations.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the samples were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of DCBP was outside QC limits, high, in ML001-M off both columns and in MW004 off the second column. Detected, associated target analytes and DCBP should be qualified as estimated in ML001-M

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met except the %RPD of Aldrin was outside QC limits between WG643130-2/3LCS/LCSD and should be qualified as estimated in the associated samples.

MS/MSD
No MS/MSD was performed on these samples.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except an alternate form of regression was used for Toxaphene, Chlordane and DCBP on the second column of instrument, Pest10. Alternate forms of regression were used for Toxaphene on the first column and Chlordane and Toxaphene on the second column of instrument, Pest11.

CONTINUING CALIBRATION
All criteria were met except the %D of Toxaphene peaks 1, 2 and 4 and DCBP off the first column and Endrin Ketone, Chlordane peaks 2 and 3, and Toxaphene peaks 2, 3 and 4 off the second column was outside QC limits in file #1011N002.
The %D of delta-BHC and Methoxychlor off the first column and Heptachlor, Chlordane peaks 2 and 4 and Toxaphene peaks 1 and 4 off the second column in file #1011D002 were outside QC limits.
The %D of delta-BHC, TCMX, 4,4'-DDD and Endosulfan Sulfate off the first column and delta-BHC, Endosulfan II and Endosulfan Sulfate off the second column in file #1011D025 were outside QC limits.

The %D of delta-BHC off the first column and Chlordane peaks 3 and 4 and Toxaphene peaks 2 and 4 off the second column in file #10130002 were outside QC limits.
The %D of delta-BHC, TCMS, cis-Chlordane and Endosulfan Sulfate off the first column and Heptachlor, cis-Chlordane, Dieldrin and Methoxychlor off the second column in file #10130024 were outside QC limits.
Results from the confirmatory columns should be used for the associated samples, blanks and spikes. In case in which the target analyte was outside QC limits off both columns those target analytes should be qualified as estimated in the associated blank, spikes and samples.

METALS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Blanks
- Laboratory Control Sample
- MS/MSD
- Field Duplicate
- Serial Dilution
- Compound Quantitation
- Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Blanks and Compound Quantitation.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except the CCB prior to the diluted run of MW002-D and the run of MW006 was not recorded on the sequence log but was recorded on the run log. Updated pages were not provided.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except Sb, Cr, Cu, Fe, Mn, Na and Ni were detected above the MDL, below the reporting limit in WG643920-1blank. Al, Sb, Cr, Cu, Fe, Mn, Se, Na, Zn and Ni were detected above the MDL, below the reporting limit in WG643961-1blank. Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

Sb was detected in the ICB, CCB1 and CCB4 above the MDL, below the reporting limit and is qualified as estimated.
Ca was detected in the ICB and CCB3-5 above the MDL, below the reporting limit and is qualified as estimated.
Tl was detected in CCB2-9 above the MDL, below the reporting limit and is qualified as estimated.
Mn was detected in CCB7-10 above the MDL, below the reporting limit and is qualified as estimated.
Na was detected in CCB9 above the MDL, below the reporting limit and is qualified as estimated.
Associated samples in which these target analytes were detected above the MDL and below the reporting limit should be reported with the reporting limit and 'undetected'. Associated samples in which these target analytes were detected above the reporting limit should be qualified as estimated.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD
All criteria were met.

FIELD DUPLICATE
No field duplicate was acquired.

SERIAL DILUTION
All criteria were met.

COMPOUND QUANTITATION
All criteria were met except some target analytes were detected in several samples above the MDL, below the reporting limit and should be recorded as estimated but were recorded as undetected. (See Overall Evaluation of Data and Potential Usability Issues, above)

CALIBRATION
All criteria were met.

GENERAL CHEMISTY

The following items/criteria were reviewed for this analytical suite:

- Cyanide

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

CYANIDE
All criteria were met.